WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

BARRE TOWN ROUNDABOUT PROJECT
ROUTES 302 AND 110 AND
COBBLE HILL RD
BARRE TOWN, VT

Prepared for:
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Project No. 08-209449.05
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EXECUTIVE SUMMARY

Environmental Compliance Services, Inc. (ECS) has conducted an Initial Site Investigation (ISI) at the Vermont Agency of Transportation (VTrans) Barre Town HES 026-1(38) Roundabout Project site at the intersection of Routes 302 and 110 and East Cobble Hill Road in East Barre, Vermont (Figure 1).The ISI was performed following the discovery of petroleum contaminated soil (PCS) during construction activities in the summer of 2008, and was conducted in general conformance with an ECS work plan dated 11 February 2009. This ISI included a historical file review, the drilling of 18 soil borings (SB-A through SB-R) and subsequent installation and sampling of five monitoring wells (MW-1 through MW-5), and an evaluation of potential threats to nearby sensitive receptors.

Sanborn fire insurance maps depict two circa 1950 gasoline service stations with petroleum underground storage tanks (USTs) located at the intersection of Routes 302 and 110 in the area of the roundabout, now owned by VTrans. One gasoline station was located on the east side of Route 302, and one gasoline station was located on the west side of Route 302. There is no information to suggest that the USTs are still present at the site, but there is no information documenting the removal of the USTs. PCS was discovered during roundabout construction activities in 2008 in close proximity to the gasoline station and USTs formerly located on the east side of Route 302. 90 cubic yards of PCS was excavated and properly disposed of, but not all of the PCS could be excavated due to the ongoing construction project; and therefore, the full extent of PCS and potential impact to groundwater was not determined.

Olfactory, visual, and photoionization detector (PID) evidence of petroleum contamination was observed in several soil borings on both the east and west side of Route 302 at the roundabout. PID soil head space readings ranged from non detect to 22.1 parts per million (ppm). The State of Vermont's 1,000 millgram per kilogram (mg/kg) guidance for Total Petroleum Hydrocarbons in soils was exceeded in soil collected from two soil borings installed on the east and west side of the roundabout. A sheen and free phase product were noted in a groundwater sample from MW-3 installed near the banks of the Jail Branch River; however, the groundwater sample laboratory results showed very minor petroleum contamination. A likely explanation for the minor groundwater contamination observed during the ISI is that the majority of groundwater gasoline contamination has degraded over the past 50 years since the gasoline station/USTs have been out of service. No visual impacts to the river were observed.

Groundwater from monitoring well MW-5 located crossgradient and just north of the Roundabout exceeded the Vermont Groundwater Enforcement Standard (VGES) for naphthalene. This contamination may be related to the two former gasoline service stations. There is one spring in the immediate vicinity that local residents use to fill jugs of water. No petroleum-related compounds have been detected in the spring water.

Because of the documented soil contamination on both the east and west side of Route 302 future workers that may be involved subsurface utility work should be made aware of the potential exposure to petroleum contamination. This could be initiated through a notice to the land records. ECS recommends a confirmatory groundwater sampling event via EPA 8260 in Fall 2009, to include sampling of available monitoring wells, and the catch basin in the source area.

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1.0 INTRODUCTION

This report details the results of an Initial Site Investigation (ISI) performed by Environmental Compliance Services (ECS) at the Vermont Agency of Transportation Barre Town HES 026-1(38) Roundabout Project site at the intersection of Routes 302 and 110 and East Cobble Hill Road in East Barre, Vermont (Figure 1).

The ISI was performed following the discovery of petroleum contaminated soils (PCS) during road construction activities during the summer of 2008. Historic fire insurance maps indicated that two gasoline service stations and a garage were formerly located at the intersection. One gasoline station was located on the east side of the roundabout and a second was located on the west side.

This ISI included the drilling of 18 soil borings (SB-A through SB-R) and subsequent installation of five monitoring wells (MW-1 through MW-5), and an evaluation of potential threats to nearby sensitive receptors. This work was conducted in general conformance with an ECS work plan dated 11 February 2009.

1.1 SITE DESCRIPTION AND PHYSICAL SETTING

The roundabout is being constructed over the course of the 2008 and 2009 construction seasons, and is at the intersections of Vermont Routes 302 and 110, and East Cobble Hill Road in Barre Town (East Barre), Vermont. The roundabout is located approximately 100 feet from the Jail Branch River.

There is one spring reportedly located approximately 75 feet crossgradient from where PCS was discovered during installation of a catch basin in 2008. Local residents reportedly fill containers for personal consumption. According to the Vermont Agency of Natural Resources Internet Mapping Site of Private Wells, there are two private water supply wells located with a ½-mile of the site; however, they are located upgradient.

1.2 SITE HISTORY & CONCEPTUAL SITE MODEL

In September 2008, construction crews encountered petroleum odors during excavation activities on the east side of the roundabout. Historic Sanborn Fire Insurance maps indicated that a gasoline station was once located within the current roadway and near where the petroleum odors were noted. Route 302 was re-routed in the 1950s, and the State of Vermont purchased the land that the gasoline station formerly occupied. The gasoline station is shown on the maps with two underground storage tanks (USTs) which are in close proximity to where the petroleum odors were encountered. It was unknown whether the USTs had been removed.

On 12 September 2008, VTrans and ECS attempted to locate any USTs that could potentially still be present on the east side of the roundabout. A survey was performed with a metal detector, and several test pits were excavated, but no USTs were located, and all soils were backfilled. Soil headspace photoionization detector (PID) readings ranged from 4.3 to 2,020 parts per million (ppm). The highest PID readings were recorded at the groundwater table approximately 10 feet below grade.

On 22 September 2008, ECS oversaw the excavation of approximately 90 cubic yards of petroleum impacted soils. Soils were removed to the extent necessary for road construction; original engineering specifications for the road were followed. Soils were excavated down to approximately 2 to 4 feet below grade within the contaminated area, except for one location where soils were excavated to 11 feet below

grade for the installation of a catch basin. The most grossly contaminated soils were discovered at 11 feet below grade within this excavation. Groundwater was not encountered on 22 September 2008. Soils remaining inground had a petroleum odor, were stained black, and exhibited PID headspace readings up to 640 ppm.

Suspected gasoline contaminated soils were temporarily stockpiled at the VTrans Orange, Vermont garage. Soils were segregated into two piles ("Pile A" and "Pile B") for disposal purposes, and both piles were disposed of as daily cover or waste at the Interstate Waste Services Landfill in Moretown, Vermont on 30 October 2008.

"Pile A" consisted of approximately 30 cubic yards of soils with PID readings ranging from zero to 59.3 ppm. Naphthalene (120 micrograms per kilogram (µg/kg)) and trimethylbenzenes (159 µg/kg) were detected in a soil sample. Other target volatile organic compounds (VOCs) were below laboratory reporting limits. Additionally, an unidentified "other oil" in the diesel range was detected at 65.3 milligrams per kilogram (mg/kg).

"Pile B" consisted of approximately 60 cubic yards of soils with PID readings ranging from 60 to 640 ppm. The average PID reading from this pile was 275 ppm. The following VOCs were detected: n-Butylbenzene (1,450 µg/kg), 4-Isopropyltoluene (3,060 µg/kg), Naphthalene (2,730 µg/kg), Trimethylbenzenes (21,500 µg/kg), and Xylenes (15,460 µg/kg). Additionally, an unidentified oil in the diesel range was detected at 364 milligrams per kilogram (mg/kg). All results are below the EPA Region 9 Preliminary Remediation Goals (PRGs) for these compounds in residential soils.

In addition to this gasoline source, there are several other USTs shown on historical Sanborn maps, in the informal "Park and Ride" area in the southwest corner of the intersection, located across Route 302 from where the PCS was excavated.

1.3 OBJECTIVES AND SCOPE OF WORK

The objectives of this initial site investigation were to:

- Evaluate the degree and extent of petroleum contamination in soil and groundwater in the vicinity of the petroleum contaminated soils;
- Qualitatively assess the risks to environmental and public health via relevant sensitive receptors and potential contaminant migration pathways; and,
- Identify appropriate monitoring and/or remedial actions based on the site conditions.

To accomplish these objectives, ECS has:

- Supervised the advancement of 18 soil borings and subsequent installation of five water-table monitoring wells (MW-1 through MW-5);
- Screened subsurface soils from soil borings for the possible presence of VOCs using a PID;
- Identified sensitive receptors in the area, and assessed the risk posed by the contamination to these potential receptors; and,
- Prepared this summary report, which details the work performed, qualitatively assesses risks, provides conclusions, and offers recommendations for further action.

2.0 INVESTIGATIVE PROCEDURES AND RESULTS

2.1 SOIL BORING / MONITORING WELL INSTALLATION

On 24 and 25 March 2009, ECS supervised the completion of 18 soil borings (SB-A through SB-R) and subsequent installation of five monitoring wells (MW-1 through MW-5) to initially characterize contaminant and hydrogeologic conditions in the vicinity of the two former gasoline service stations and garage located on both sides of Route 302. Soil boring and monitoring well locations are presented on Figure 2. Borings were installed using Geoprobe, hydraulic direct push methodology by ECS of Agawam, Massachusetts. Soils were collected and screened continuously.

During drilling activities, groundwater was encountered between approximately 6 to 8 feet below ground surface (bgs). Many of the borings within the "Park and Ride" are in the southwest corner of the intersection were met with refusal. Historical fire insurance maps show buildings in this location, and old foundations may have been encountered during drilling. Additionally, the Jail Branch is adjacent to this Park and Ride, and its banks are reinforced with large granite boulders. The soils were fill material (sand, gravel) overlying gravel river deposits.

MW-4 was installed on the east side of Route 302 in the area where the highest soil headspace PID readings were observed during the 2008 excavation, which is referred to as the " source area" in this investigation. MW-5 was installed in the northwest corner of the intersection. MW-1, 2, and 3 were installed in the presumed downgradient direction from the source area. MW-2 and 4 were installed as temporary wells, as they are in areas slated for major construction. MW-1, 3, and 5 will be maintained as long term monitoring wells, and finished with flush-mounted road boxes once construction is completed and these areas are brought to finished grade.

The monitoring wells were constructed with one-inch diameter polyvinyl chloride (PVC) casing and factory-slotted 0.010-inch slot screen. The screen sections were set approximately 5 feet above and below the presumed groundwater level. Sections of solid PVC riser were added to bring the tops of the well casings to approximately 0.5 feet bgs. Clean silica #1 filter sand was placed in the borehole annulus around each well approximately two feet above the slotted interval. A granular bentonite seal, approximately 6 inches thick, was set above the sand pack and the remainder of the annular space was backfilled with sand or native material. Each well was capped with a watertight plug. The wells were developed using a bailer on 25 March 2009.

On 26 March 2009, the monitoring wells and soil boring locations were surveyed relative to existing site features, with an azimuth accuracy of ± 1.0 feet and an elevation accuracy of ± 0.01 feet. A benchmark on the bridge over the Jail Branch was used as a reference elevation. Monitoring-well construction details are included on the soil-boring and well-construction logs in Appendix A. Field notes are also presented in Appendix A. Photodocumentation is presented in Appendix B.

2.2 SOIL-SCREENING RESULTS

During the soil-boring program on 24 and 25 March 2009, PID headspace readings ranging from zero to 22.1 ppm were obtained from soil samples collected from the soil borings. The highest PID reading of 22.1 ppm was recorded in the source area below the water at approximately 8 feet bgs in SB-K/MW-4. The second highest PID reading was 17.1 ppm in downgradient well SB-J/MW-3. SB-N, installed downgradient of the source area between these two monitoring wells, exhibited a petroleum odor and a PID reading of 6.8 ppm between 8 and 9.5 ft bgs.

SB-O/MW-5 and SB-P exhibited a "mothball" naphthalene odor within soils between 4 and 12 ft bgs, with PID readings up to 2.0 ppm. According to the VTrans engineer onsite, this was possibly due to residual treated gravel curb that was used up until the 1950s at the site. A "mothball" naphthalene odor was also noted in SB-A, the furthest upgradient well to the south.

SB-G/MW-2 was advanced in a location which showed additional USTs on a historic fire insurance map, within the Park and Ride area. Between 8 and 12 ft bgs, there was visual evidence of contamination. Soils were stained black with a petroleum odor, but there was no PID evidence of contamination due to the potential age of this material.

An ECS field scientist screened soil samples from discrete intervals in each soil boring for the possible presence of VOCs using a Thermo 580B portable PID. The PID was calibrated in the field with an isobutylene standard gas to a benzene reference. Soil samples were placed into a polyethylene bag, which was then sealed, agitated, and allowed to equilibrate. The PID probe was inserted into the headspace, and the highest reading was recorded. PID screening results are included on the boring logs in Appendix A.

2.3 SOIL ANALYTICAL RESULTS

Soil samples exhibiting the highest PID readings from SB-K/MW-4 and SB-G/MW-2 were submitted for laboratory analysis via EPA method 8260 and EPA method 8100. No VOCs were detected in either sample via EPA 8260. However, unidentified Total Petroleum Hydrocarbons were detected in SB-K/MW-4 at 1,040 mg/kg and in SB-G/MW-2 at 1,040 mg/kg. These concentrations exceed the VT DEC's guideline of 1,000 mg/kg total petroleum hydrocarbons (TPH) in soils. Soil laboratory results are summarized in Table 2 and a full laboratory report is included as Appendix C.

The soil samples were transported under chain-of-custody in an ice-filled cooler to Spectrum Analytical, Inc. of Agawam, Massachusetts.

2.4 GROUNDWATER CHARACTERISTICS

Based on the hydrogeologic data, the groundwater in the unconfined surficial aquifer at the site appears to flow generally west toward the Jail Branch (Figure 3). The vertical groundwater flow components at the site, and the hydraulic relationship between the shallow unconfined aquifer and the bedrock aquifer, are currently unknown.

Fluid levels were measured in the monitoring wells on 26 March 2009 to calculate the groundwater flow direction. Depths to groundwater in the on-site monitoring wells ranged from 5.91 feet in MW-5 to 12.4 feet in MW-3 below top-of-casing.

Static water-table elevations were computed for each monitoring well by subtracting the measured depth-to-water readings from the surveyed top-of-casing elevations, which are relative to a known benchmark elevation on the bridge over the Jail Branch. Water-level measurements and elevation calculations are presented in Table 1. The groundwater flow direction map was prepared using these data (Figure 3).

2.5 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected on 26 March 2009 from the five newly installed monitoring wells and analyzed for the possible presence of VOCs and TPH-DRO (Figure 4). Results are summarized on Table 3 and a full laboratory report is included as Appendix D.

The only exceedance of the Vermont Groundwater Enforcement Standards (VGES) was naphthalene in MW-5, a downgradient well to the northwest of the source area. Several other petroleum-related compounds were detected in this well, that include: benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes, naphthalene, acetone, and styrene, but at levels below the VGES. An unidentified TPH was detected at 0.7 mg/L.

In source area well MW-4, which exhibited the highest PID readings, no VOCs or TPH were detected. In downgradient well MW-2, where unidentified TPH was detected in soil at 1,040 mg/kg, no VOCs or TPH were detected in groundwater. In downgradient well MW-3, which exhibited the second highest PID reading, and a sheen on groundwater with some noticeable free product adhering to a bailer, trimethylbenzenes were detected at levels below the VGES, and unidentified TPH was detected at 4.6 mg/kg. Napthalene was detected in crossgradient well MW-1 at 5.4 µg/L.

Prior to groundwater sample collection, the monitoring wells were bailed of three times their volume and sampled in accordance with ECS' standard operating procedures. Purge water was discharged directly to the ground in the vicinity of each well. A trip blank and a blind duplicate sample from MW-1 were collected to ensure that adequate quality assurance/quality control (QA/QC) standards were maintained.

All samples were transported under chain-of-custody in an ice-filled cooler to Spectrum Analytical, Inc. of Agawam, Massachusetts, where they were analyzed for the possible presence of VOCs by EPA Method 8260 and for TPH by EPA Method 8100.

Analytical results of the blind duplicate sample, collected from MW-1, were all reported below detection limits. No petroleum-related compounds were detected in the trip blank. Analytical results are included in Table 2 and the laboratory analytical reports are presented in Appendix D.

The drinking water spring was also sampled; this is discussed in section 3.0.

3.0 SENSITIVE RECEPTOR SURVEY AND RISK ASSESSMENT

3.1 SENSITIVE RECEPTOR SURVEY

ECS conducted a survey to identify sensitive receptors in the vicinity of the former UST that could potentially be impacted by contamination associated with the site. The following sensitive receptors were identified in the vicinity of the property.

- The soil and groundwater beneath the former UST excavation area;
- A drinking water spring;
- The Jail Branch River; and
- Underground utilities.

3.2 RISK ASSESSMENT

ECS qualitatively assessed the risks that the residual soil and dissolved-phase subsurface contamination poses to the receptors identified above. In general, human exposure to petroleum-related contamination is possible through inhalation, ingestion, or direct contact while impacts to environmental receptors are due either to a direct release or contaminant migration through one receptor to another or along a preferential pathway.

- Soil and Groundwater Beneath the Former UST Excavation - Elevated VOCs just up to 22.1 ppm were detected by PID in soil samples collected from a boring within the source area. Access to impacted soils in this area is prevented by pavement, and the risk of human exposure is very low. Groundwater analytical results indicate that groundwater contamination within the source area is minor and does not exceed State standards.

- Drinking Water Spring – There is a spring with its source beneath Route 302 which discharges to the Jail Branch, located approximately 75 feet upgradient (south) of the source area. This spring is used by local residents to fill jugs of drinking water. ECS collected a drinking water sample for analysis for VOCs in September 2008 via EPA 8260 for the Vermont 8021B list of petroleum-related contaminants. A confirmatory drinking water sample was collected on 26 March 2009 for analysis for VOCs via EPA 524.2. No target contaminants were detected above laboratory reporting limits in either sample. Results are included in Appendix D and summarized on Table 3.

- Jail Branch – The Jail Branch is located adjacent to the site. No obvious evidence of contamination was noted during inspection of its banks.

- Underground Utilities – An underdrain is installed parallel to Route 302 within the Park and Ride area, at approximately 7 ft below ground surface. Perforated pipe leads to an underdrain catchbasin. Water within this catchbasin was sampled on 25 March 2009 for the possible presence of VOCs and TPH. No VOCs or TPH were detected. Results are included in Appendix D and summarized on Table 3.

  It was not possible to sample the catchbasin located directly in the source area, as Route 302 had been temporarily re-routed directly over it for the winter.

Water and sewer lines runs parallel to Route 302 near the source area. Because there was no evidence of contamination in soil borings installed to the north and south of the source area along Route 302 (SB-L and SB-M), backfill from these lines is not likely acting as a preferential pathway.

A stormwater underground line was installed at approximately 14 feet below ground surface in 2008 across Route 302 to the north of the source area. According to VTrans, there was no evidence of petroleum contamination.

4.0 CONCLUSIONS

Based on the results of the site investigation described above, ECS concludes the following:

Sanborn fire insurance maps depict two former gasoline stations with petroleum USTs located at the intersection of Routes 302 and 110 in the area of the roundabout. One gasoline station was located on the east side of Route 302 and one gasoline station was located on the west side of Route 302. PCS discovered during roundabout construction activities in 2008 was observed in close proximity to the USTs and gasoline station on the east side of Route 302 and 90 cubic yards was excavated and properly disposed of. Not all of the PCS could be excavated due to the ongoing construction project; and therefore, the full extent of PCS and potential impact to groundwater was not determined.

Eighteen soil borings were advanced on 24 and 25 March 2009 to further investigate the nature and extent of suspected historical gasoline contamination with five borings completed as groundwater monitoring wells. Most soil borings met with refusal on suspected bedrock or boulders before encountering groundwater. Monitoring wells were installed in those borings that could be advanced to a sufficient depth or if evidence of contamination was observed.

The highest soil headspace PID reading of 22.1 ppm was detected in soil boring/monitoring well SB-K/MW-4 at a depth of 8-10 ft bgs installed in close proximity to the 2008 PCS excavation on the east side of Route 302 PH was detected in SB-K/MW-4 at 1,170 mg/kg, which exceeds the State of Vermont's 1000 mg/kg guidance level. However, no VOCs or TPH were detected above laboratory reporting limits in the groundwater sample collected from this well. A likely explanation for the lack of groundwater contamination is that the majority of groundwater gasoline contamination has degraded over the past 50 years since the gasoline station/USTs have been out of service.

TPH was also detected above the State of Vermont guidance level at 1,040 mg/kg in downgradient soil boring/monitoring well SB-G/MW-2, which is located on the west side of Route 302 and in the approximate location where other USTs are shown on the Sanborn fire insurance maps. However, no soil headspace PID readings were detected above 0.1 ppm and no VOCs or TPH were detected in groundwater from this well.

In downgradient boring/monitoring well SB-J/MW-3, located on the west side of Route 302 approximately 30 feet from the Jail Branch River bank, stained sand with a PID reading of 17.1 ppm was observed from 8 to 12 feet bgs. Free product of an immeasurable thickness was noted adhering to groundwater sampling equipment, and an oily sheen was noted on groundwater from this well and a petroleum odor. However, trimethylbenzenes were the only VOCs detected in groundwater, at low levels below the VGES and unidentified TPH was detected at 4.6 mg/L.

In cross gradient soil boring SB-B/MW-1, located on the west side of Route 302 a slight sweet odor was noted during drilling, and PID readings ranged up to 0.4 ppm. Napthalene was detected in groundwater at 5.4 µg/L. A naphthalene odor and a PID reading of 0.9 ppm were noted in SB-A during drilling activities, which is upgradient of SB-B and upgradient of all known sources of contamination. Napthalene was the only VOC detected in groundwater, at low levels below the VGES.

In crossgradient monitoring well SB-O/MW-5, a naphthalene odor and a PID reading of 1.1 were noted above the groundwater table. Napthalene was detected at 36.6 µg/L in groundwater from this well exceeding the VGES of 20 µg/L. Various other petroleum-related contaminants such as benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes were detected as well, at low levels below VGES. Acetone and

styrene were also detected, and according to Spectrum Analytical Laboratories, cannot be attributable to laboratory contamination.

Petroleum contamination throughout the site is likely due to leakage from former USTs at historic gasoline stations.

5.0 RECOMMENDATIONS

Because of the documented soil contamination on both the east and west side of Route 302 future workers that may be involved subsurface utility work should be made aware of the potential exposure to petroleum contamination. This could be initiated through a notice to the land records.

ECS recommends a confirmatory groundwater sampling event via EPA 8260 in Fall 2009, to include sampling of available monitoring wells, and the catch basin in the source area.

FIGURES

Environmental Compliance Services, Inc.
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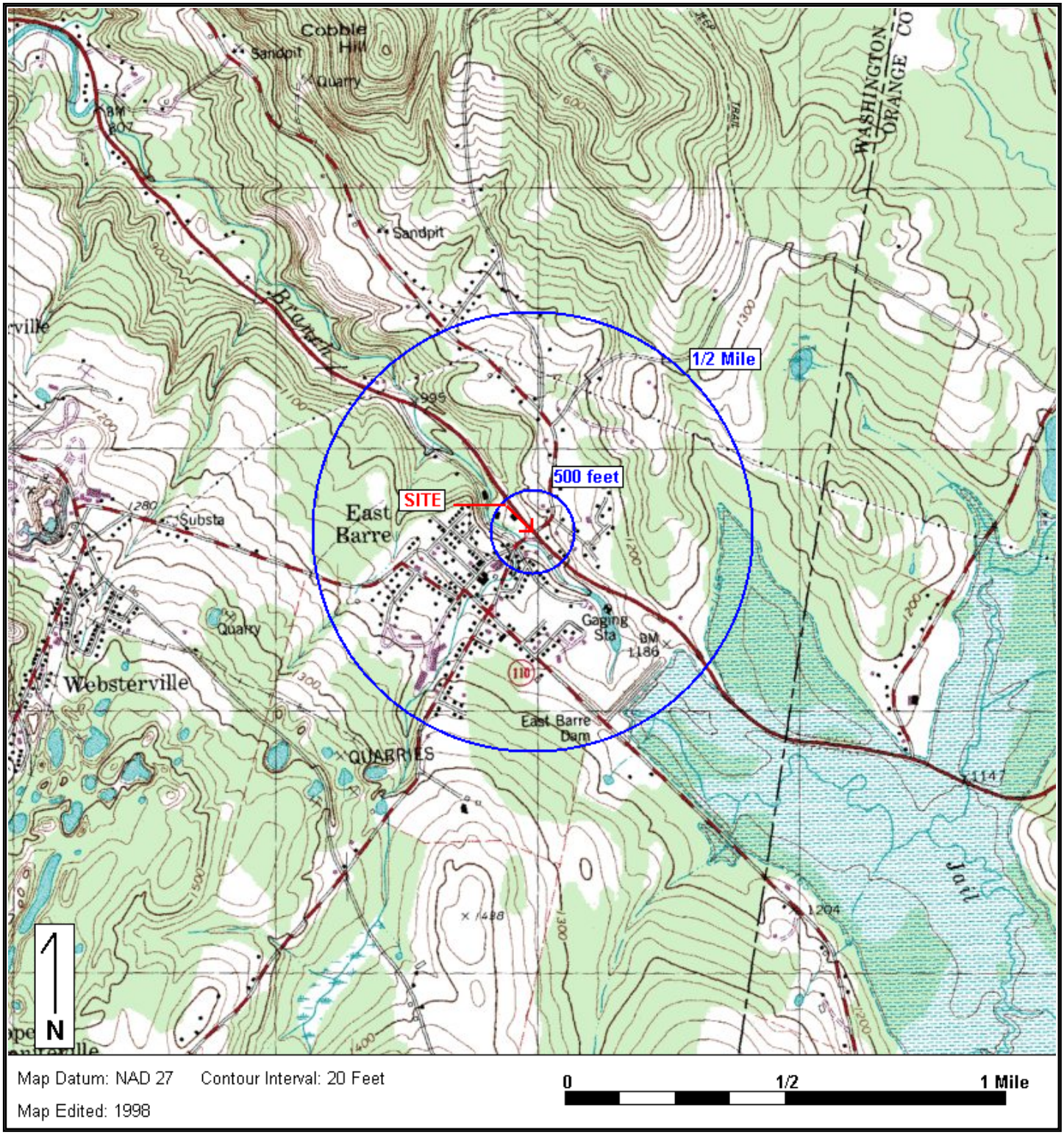
Barre Town Roundabout
Routes 302 and 110 and Cobble Hill Rd
Barre Town, VT 05641

Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Barre East, VT
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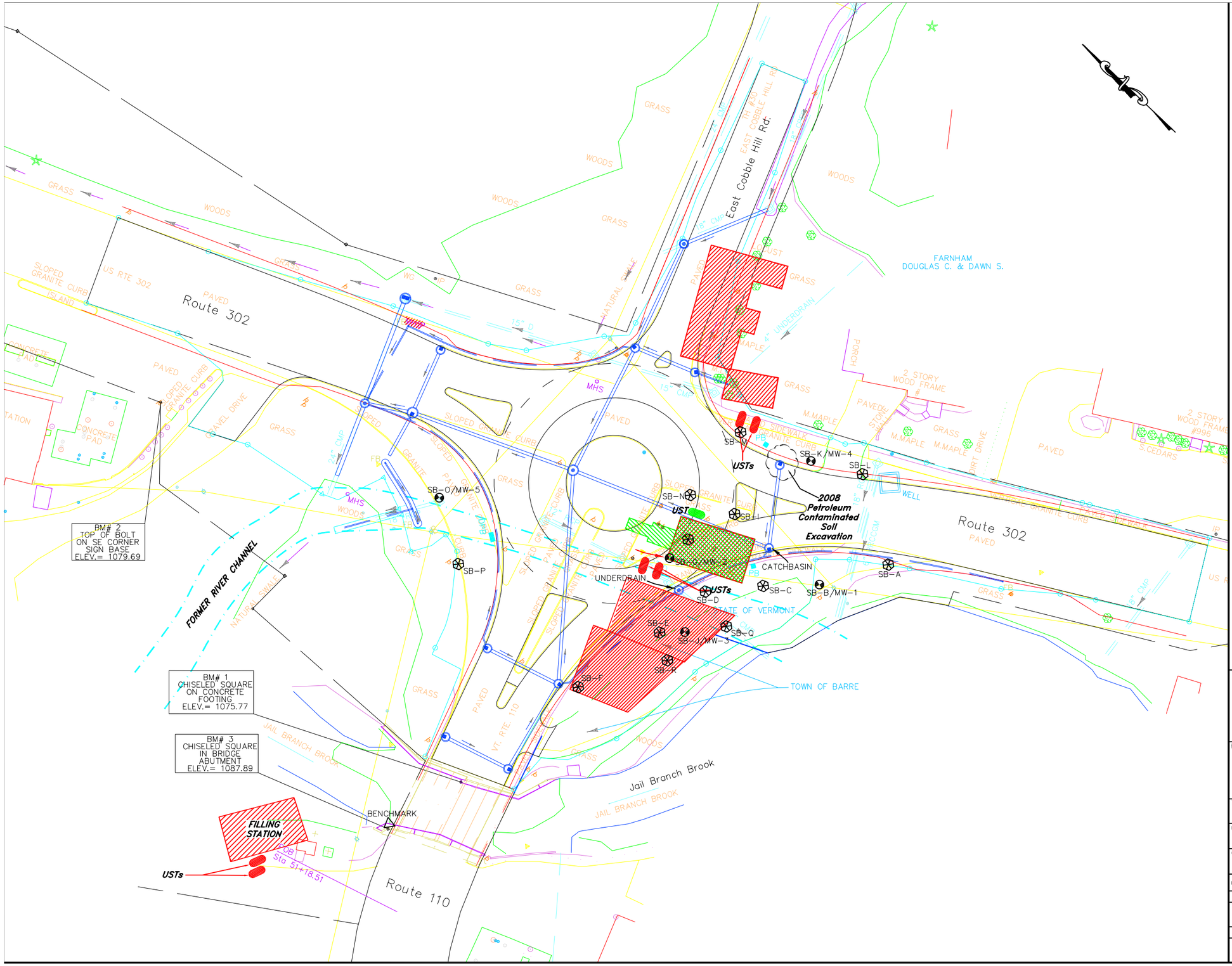
Generated By: Kevin Collins



Legend

- Historical Underground Storage Tank (1925)
- Historical Building/Gas Station (1925)
- Historical Underground Storage Tank (1948)
- Historical Building/Gas Station (1948)
- SB-P — Soil Boring
- Monitoring Well
- SB-O/MW-5 — Soil Boring and Monitoring Well
- Catch Basin

General Notes:

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

Base plan was provided by the Vermont Agency of Transportation; file z046b198nus.dwg.

Sanborn Fire Insurance Maps were used for historical information and were provided by Environmental FirstSearch Technology Corporation of Norwood, Massachusetts.

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PROJECT:
VTRANS_BARRE_TOWN_ROUNDABOUT
ROUTES_320&110
EAST_BARRE,_VT

TITLE:
SITE_PLAN

CLIENT:
VTRANS

GRAPHIC SCALE: 50 25 0 25 50

CADFILE: CADFILES\Z04B198NU2.DWG

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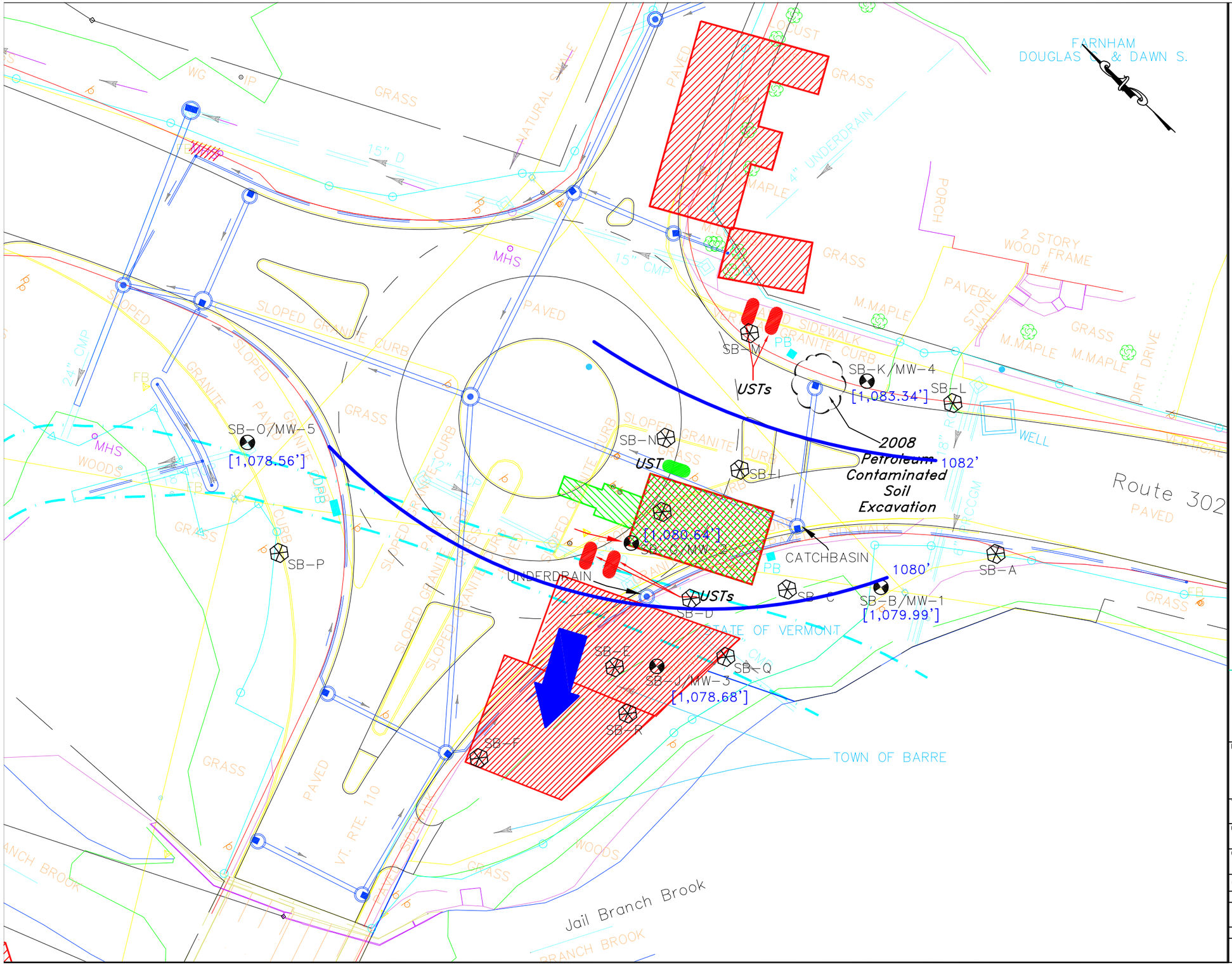

Legend

- Historical Underground Storage Tank (1925)
- Historical Building/Gas Station (1925)
- Historical Underground Storage Tank (1948)
- Historical Building/Gas Station (1948)
- SB-P — Soil Boring
- SB-O/MW-5 — Soil Boring and Monitoring Well
- Catch Basin
- [1083.34'] — Groundwater Elevation
- Groundwater Elevation Contour
- Assumed Direction of Groundwater Flow

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PROJECT:
VTRANS_BARRE_TOWN_ROUNDABOUT
ROUTES_320&110
EAST_BARRE,_VT

TITLE:
GROUNDWATER_ELEVATION_CONTOUR_MAP

CLIENT:
VTRANS

GRAPHIC SCALE: 30 15 0 15 30

CADFILE: CADFILES\Z048198NU2.DWG

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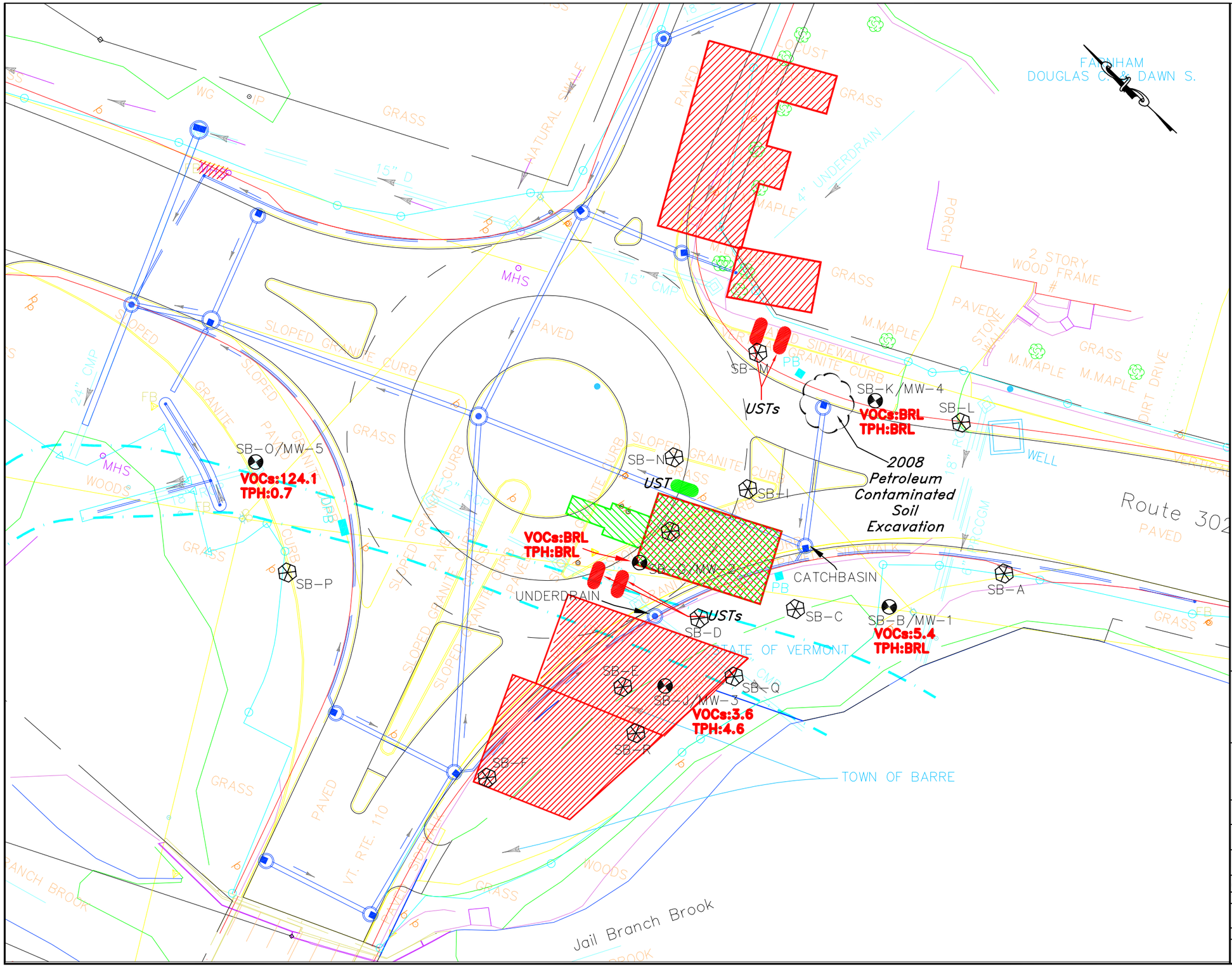

Legend

- Historical Underground Storage Tank (1925)
- Historical Building/Gas Station (1925)
- Historical Underground Storage Tank (1948)
- Historical Building/Gas Station (1948)
- SB-P — Soil Boring
- SB-O/MW-5 — Soil Boring and Monitoring Well
- Catch Basin
- VOCs — Total Volatile Organic Compounds (ppb)
- TPH — Total Petroleum Hydrocarbons (ppm)
- BRL — Below Laboratory Reporting Limit

General Notes:

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PROJECT:
VTRANS_BARRE_TOWN_ROUNDABOUT
ROUTES_320&110
EAST_BARRE,_VT

TITLE:
CONTAMINANT_DISTRIBUTION_MAP

CLIENT:
VTRANS

GRAPHIC SCALE: 30 15 0 15 30

CADFILE: CADFILES\Z04B198NU2.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
ABC	RSW	EE	EE
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=30'	3/26/09	08-209449.05	4

TABLES

TABLE 1.
Groundwater Elevation Data

Monitoring Date: 26 March 2009

Well ID	TOC Elevation (ft asl)	Depth to Ground-water (ft BTOC)	Ground-water Elevation (ft asl)
MW-1	1088.25	8.26	1079.99
MW-2	1089.56	8.92	1080.64
MW-3	1091.08	12.4	1078.68
MW-4	1089.85	6.51	1083.34
MW-5	1084.47	5.91	1078.56

Elevations relative to 1087.89' benchmark on bridge
ft asl - feet above sea level
TOC - top of casing
ft BTOC - feet below top of casing

TABLE 2
SOIL QUALITY RESULTS SUMMARY
Monitoring Dates: 24 and 25 March 2009

Well I.D.	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2,4-TMB	1,3,5-TMB	Naphthalene	TPH (mg/kg)
SB-G/MW-2	BRL<82.7	BRL<82.7	BRL<82.7	BRL<247.7	BRL<82.7	BRL<82.7	BRL<82.7	BRL<82.7	**1,040**
SB-K/MW-4	BRL<58.2	BRL<58.2	BRL<58.2	BRL<174.2	BRL<58.2	BRL<58.2	BRL<58.2	BRL<58.2	**1,170**
RSL	***1,100***	***5,000,000***	***5,700***	***600,000***	***39,000***	***67,000***	***47,000***	***39,000***	**--**
Vermont soil std	--	--	--	--	--	--	--	--	***1,000***

Notes:
Results given in micrograms per liter (µg/L), except TPH given in milligrams per liter (mg/L)
BTEX - a sum of benzene, toluene, ethylbenzene, and total xylenes
VOCs - sum of volatile organic compounds via EPA 8260
MTBE - methyl tertiary butyl ether
TMB - trimethyl benzene
BRL - Below Reporting Limit
RSL - EPA Regional Screening Level for residential soils (interim guidelines for State of Vermont, per George Desch of VT DEC 4/09)
Vermont soil std. - screening level for Vermont soils
All samples collected by ECS and analyzed by Spectrum Analytical, Inc.
TPH - Total Petroleum Hydrocarbons; results given in milligrams per liter (mg/kg)
NA - not analyzed

TABLE 3
GROUNDWATER QUALITY RESULTS SUMMARY
Monitoring Date: 26 March 2009

Well I.D.	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	Total TMB	Naphthalene	Acetone	Styrene	Total BTEX	Total VOCs	TPH (mg/L)
MW-1	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL<1.0	BRL<2.0	**5.4**	BRL<10.0	BRL<1.0	BRL	**5.4**	BRL<0.3
MW-2	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL<1.0	BRL<2.0	BRL<1.0	BRL<10.0	BRL<1.0	BRL	BRL	BRL<0.2
MW-3	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL<1.0	**3.6**	BRL<1.0	BRL<10.0	BRL<1.0	BRL	**3.6**	**4.6**
MW-4	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL<1.0	BRL<2.0	BRL<1.0	BRL<10.0	BRL<1.0	BRL	BRL	BRL<0.2
MW-5	**4.2**	**15.9**	**14.6**	**27.7**	BRL<1.0	**12.5**	**36.6**	**11.3**	**1.3**	**62.4**	**124.1**	**0.7**
Underdrain Catchbasin	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL<1.0	BRL<2.0	BRL<1.0	BRL<10.0	BRL<1.0	BRL	BRL	BRL<0.2
Spring	BRL<0.5	BRL<0.5	BRL<0.5	BRL<1.0	BRL<0.5	BRL<1.0	BRL<0.5	BRL<10.0	BRL<0.5	BRL	BRL	NA
Duplicate (MW-4)	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL<1.0	BRL<2.0	BRL<1.0	BRL<10.0	BRL<1.0	BRL	BRL	NA
Trip Blank	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL<1.0	BRL<2.0	BRL<1.0	BRL<10.0	BRL<1.0	BRL	BRL	NA
VGES	***5***	***1,000***	***700***	***10,000***	***40***	***350***	***20***	***700***	***100***	**--**	**--**	**--**

Notes:
Results given in micrograms per liter (µg/L), except TPH given in milligrams per liter (mg/L)
BTEX - a sum of benzene, toluene, ethylbenzene, and total xylenes
VOCs - sum of volatile organic compounds via EPA 8260 or 524.2
MTBE - methyl tertiary butyl ether
TMB - trimethyl benzene
BRL - Below Reporting Limit
VGES - Vermont Groundwater Enforcement Standards
All samples collected by ECS and analyzed by Spectrum Analytical, Inc.
TPH - Total Petroleum Hydrocarbons; results given in milligrams per liter (mg/L)
NA - not analyzed

APPENDIX A

BORING LOGS/MONITORING WELL CONSTRUCTION DIAGRAMS AND FIELD NOTES

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BORING / WELL IDENTIFICATION: **SB-A**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**4.5**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**N/A**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Southern end of Park and Ride updgradient of spring and source area				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 – 4	3	Sand fill, dry, no odor	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4	4 – 4.5		Black stained soil, naphthalene odor on top of refusal, weathered, old	0.9		Riser
5			Refusal at 4.5’			Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 4.5 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: Thermo 580B calibrated to isobutylene ref. to benzene
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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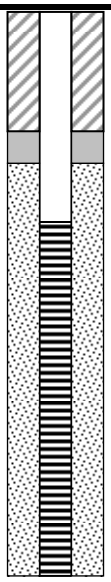
BORING / WELL IDENTIFICATION: **SB-B/MW-1**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:	**8'**	*Boring Depth:*	**8'**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):	**6 – 7**			*Drilling Company:*	**ECS**
Screen Diameter:	**1"**	*Depth:*	**3 – 8'**		
Screen Type/Size:	**10 slot PVC**			*Sampling Method:*	**Geoprobe**
Riser Diameter:	**1"**	*Depth:*	**2' ags – 3' bgs**	*Reference Point (RP):*	**Ground surface**
Riser Type/Size:	**PVC**			*Elevation of RP:*	**Not measured**
Remarks:	Upgradient of spring discharge point, between power pole and spring				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)
0	0 - 4	3'	Moist sand fill, slight sweet odor	0.4
1				
2				
3				
4	4 – 8'	2'	Very wet sand, some silt, dark brown, no odor	0.3
5			2 boring attempts – first attempt refusal on cobbles and boulders	
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17			End of Sampling = 8 feet Well set @ 8 feet	

Well Profile



Legend

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

Proportions Used	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

Blow Count (Cohesive Soils)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

Blow Count (Granular Soils)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo 580B calibrated to isobutylene, ref. to benzene

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BORING / WELL IDENTIFICATION: **SB-C**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**5**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**N/A**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Downhill of source area and catchbasin				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 – 4’	3’	Sand and gravel fill material. Dry, no odor	0.0		Concrete
1			Made 3 attempts in a 10 ft radius, all refusal 4 – 5’ bgs			Native Material
2						Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 5 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	very soft	0-4	very loose	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	soft	4-10	loose	
LITTLE	10-20%	4-8	medium stiff	10-30	medium dense	
TRACE	0-10%	8-15	stiff	30-50	dense	
		15-30	very stiff	>50	very dense	
		>30	hard			

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BORING / WELL IDENTIFICATION: **SB-D**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**4**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**N/A**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Downgradient of source area, north of SB-C				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 – 4’	3’	Sand fill, dry, no odor	0.0		Concrete
1			Made 6 attempts, hit refusal from 2 – 4’ bgs			Native Material
2						Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 4 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	very soft	0-4	very loose	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	soft	4-10	loose	
LITTLE	10-20%	4-8	medium stiff	10-30	medium dense	
TRACE	0-10%	8-15	stiff	30-50	dense	
		15-30	very stiff	>50	very dense	
		>30	hard			

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BORING / WELL IDENTIFICATION: **SB-E**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**4**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**N/A**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Downgradient of USTs in Park and Ride shown on 1948 Sanborn Map				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 – 4’		Sand fill, dry, no odor	0.1		Concrete
1			Made 3 attempts, refusal at 3 – 4’			Native Material
2						Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 4 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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BORING / WELL IDENTIFICATION: **SB-F**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**3'**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**N/A**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	In Park and Ride nearest to Bridge				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 - 3'		Sand fill. Refusal 3 ft bgs	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 3 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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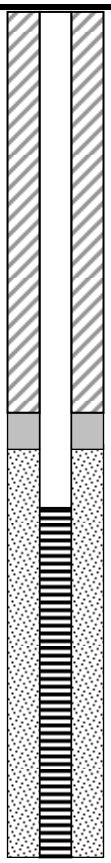
BORING / WELL IDENTIFICATION: **SB-G/MW-2**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:	**12**	*Boring Depth:*	**14**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):	**8**			*Drilling Company:*	**ECS**
Screen Diameter:	**1”**	*Depth:*	**7 – 12’**		
Screen Type/Size:	**10 slot PVC**			*Sampling Method:*	**Geoprobe**
Riser Diameter:	**1”**	*Depth:*	**2’ ags – 7’ bgs**	*Reference Point (RP):*	**Ground surface**
Riser Type/Size:	**PVC**			*Elevation of RP:*	**Not measured**
Remarks:	At USTs shown on 1948 Sanborn within the Park and Ride				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)
0	0 - 4	3’	0 – 2 densely packed stone and sand fill	0.0
1			2 – 4 sand fill from Summer 2008 construction	
2				
3				
4	4 – 8’	3.5’	4 – 6’ sand fill as above	0.0
5			6 – 7’ gravel from 1959 road construction (per AOT)	
6			7 – 8’ sand fill from 1959 road construction, wet at tip 8’ bgs	
7				
8	8 -12	1	Wet sand with black, old, weathered petroleum stained	0.1
9				
10				
11				
12	12 - 14	1	Wet sand above dense till material, refusal at 14’	0.0
13				
14				
15				
16				
17			End of Sampling = 14 feet Well set @ 12 feet	

Well Profile



Legend

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

Proportions Used	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

Blow Count (Cohesive Soils)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

Blow Count (Granular Soils)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo 580B calibrated to isobutylene, ref. to benzene

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BORING / WELL IDENTIFICATION: **SB-H**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**8**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**7.5**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Upgradient of SB-G within Park and Ride				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 – 4’	4	Fill material as in SB-G	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4	4 – 8		Fill material, wet at 7.5 ft, no odor, no staining	0.0		Riser
5			2 attempts, refusal at 7 ft, 8 ft			Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 8 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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BORING / WELL IDENTIFICATION: **SB-I**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**3**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):				*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Near corner of Park and Ride, near intersection downgrad. of source				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			Refusal 3 ft	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 3 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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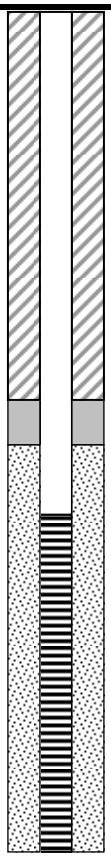
BORING / WELL IDENTIFICATION: **SB-J/MW-3**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/24/09**
Job Number:	**08-209449.05**

Well Depth:	**12**	*Boring Depth:*	**12**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):	**7**			*Drilling Company:*	**ECS**
Screen Diameter:	**1”**	*Depth:*	**7 – 12’**		
Screen Type/Size:	**10 slot PVC**			*Sampling Method:*	**Geoprobe**
Riser Diameter:	**1”**	*Depth:*	**3’ ags – 7’ bgs**	*Reference Point (RP):*	**Ground surface**
Riser Type/Size:	**PVC**			*Elevation of RP:*	**Not measured**
Remarks:	Downgradient of SB-G ~20 ft from river bank				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)
0	0 -8	0.5	Lost most of the sample, sand fill	0.0
1				
2				
3				
4				
5				
6				
7				
8	8 – 12’	2	Wet sand fill, stained at 11 ft bgs, odor	17.1
9				
10				
11				
12				
13				
14				
15				
16				
17			End of Sampling = 12 feet Well set @ 12 feet	

Well Profile



Legend

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

Proportions Used	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

Blow Count (Cohesive Soils)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

Blow Count (Granular Soils)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo 580B calibrated to isobutylene, ref. to benzene

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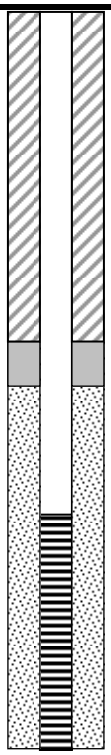
BORING / WELL IDENTIFICATION: **SB-K/MW-4**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:	**10.5**	*Boring Depth:*	**10.5**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):	**~6**			*Drilling Company:*	**ECS**
Screen Diameter:	**1”**	*Depth:*	**5.5 – 10.5**		
Screen Type/Size:	**10 slot PVC**			*Sampling Method:*	**Geoprobe**
Riser Diameter:	**1”**	*Depth:*	**0.5 ags – 5.5 bgs**	*Reference Point (RP):*	**Ground surface**
Riser Type/Size:	**PVC**			*Elevation of RP:*	**Not measured**
Remarks:	Just off Farnham’s lawn – south of catchbasin in source area				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)
0	0 -4	3.5	Gravel fill and sand fill	0.0
1			Moist at tip, slight odor	6.0
2				
3				
4	4 - 8	3.75	Sand fill, moist, stained black with sheen from 6 – 8’ bgs	14.5
5				
6				
7				
8	8 – 12’	2.5	8 – 10 wet sand, some silt, stained black from 8 – 9’.	22.1
9			9 – 10’ transitions out of staining	
10			10 – 10.5 wet coarse angular river gravel and sand	0.8
11			Refusal at 10.5	
12				
13				
14				
15				
16				
17			End of Sampling = 10.5 feet Well set @ 10.5 feet	

Well Profile



Legend

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

Proportions Used	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

Blow Count (Cohesive Soils)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

Blow Count (Granular Soils)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo 580B calibrated to isobutylene, ref. to benzene

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BORING / WELL IDENTIFICATION: **SB-L**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**12'**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):				*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Between source area and spring, to south of Farnham driveway				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 - 4	3.75	Pavement, gravel fill, sand fill	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4	4 -8'		Sand fill, wet at 6' bgs, no odor, no staining	0.0		Riser
5			6.5 – 8 coarse river gravel angular, no odors, no staining	0.0		Screen
6						Water Level
7						
8	8 -12'		Coarse angular river gravel to 12', wet, no odors, no staining	0.0		
9			Refusal at 7' first attempt, very hard time getting through this material, stopped at 12' bgs			
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 12 feet Well set @ 12 feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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BORING / WELL IDENTIFICATION: **SB-M**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**12'**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**6'**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	North of source area off Farnham lawn at intersection of Cobble Hill rd and 302				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 - 4	3.5	Construction fill, sand and road gravel	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4	4 -8'	2'	sand and gravel fill 4 – 6'	0.0		Riser
5			6 – 8' wet silty sand, no odor, no staining, angular gravel	0.0		Screen
6			8' peat at tip, organic odor	0.0		Water Level
7						
8	8 -12'		8 – 10' peat, organic odor	0.0		
9			10 – 12' river gravel, angular coarse sand to fine gravel, no odor	0.0		
10			Very hard time getting geoprobe in, refusals at 9' and 5' first 2 tries			
11						
12						
13						
14						
15						
16						
17			End of Sampling = 12 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
and	33-50%	<2	very soft	0-4	very loose	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
some	20-33%	2-4	soft	4-10	loose	
little	10-20%	4-8	medium stiff	10-30	medium dense	
trace	0-10%	8-15	stiff	30-50	dense	
		15-30	very stiff	>50	very dense	
		>30	hard			

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BORING / WELL IDENTIFICATION: **SB-N**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**9.5**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**8**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Downgradient of source at intersection within park and ride, between SB-K and SB-G				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 - 4	3.5	Gravel and sand fill from 2008 construction	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4	4 -8	3	Sand and gravel fill from 1959 road construction	0.0		Riser
5						Screen
6						Water Level
7						
8	8 - 9.5	0.5	Very wet river gravel, petroleum odor	6.8		
9			Refusal at 9.5’			
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 9.5 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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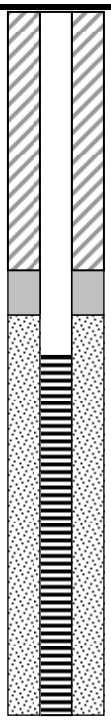
BORING / WELL IDENTIFICATION: **SB-O/MW-5**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:	**10**	*Boring Depth:*	**10**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):	**8**			*Drilling Company:*	**ECS**
Screen Diameter:	**1”**	*Depth:*	**5 – 10**		
Screen Type/Size:	**10 slot PVC**			*Sampling Method:*	**Geoprobe**
Riser Diameter:	**1”**	*Depth:*	**0.5 ags – 5 bgs**	*Reference Point (RP):*	**Ground surface**
Riser Type/Size:	**PVC**			*Elevation of RP:*	**Not measured**
Remarks:	Downgradient across intersection to north towards Roland’s				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)
0	0 -4	3	Sand and gravel fill, brick chunks	0.0
1				
2				
3				
4	4 - 8	3	Moist sand fill, transitions to river gravel as in other borings	
5			Slight mothball/naphthalene odor? Treated gravel curb from 1950’s?	1.1
6				
7				
8	8 – 10’	2	Wet gravel, black in color but no odor	0.5
9				
10			Refusal at 10 ft. Refusal at 7 ft first attempt.	
11				
12				
13				
14				
15				
16				
17			End of Sampling = 10 feet Well set @ 10 feet	

Well Profile



Legend

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)	
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE
SOME	20-33%	2-4	SOFT	4-10	LOOSE
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE
TRACE	0-10%	8-15	STIFF	30-50	DENSE
		15-30	VERY STIFF	>50	VERY DENSE
		>30	HARD		

Notes:

PID used: Thermo 580B calibrated to isobutylene, ref. to benzene

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BORING / WELL IDENTIFICATION: **SB-P**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**12**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**8**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	~25 ft west of SB-O/MW-5 towards bridge				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 - 4	3	Fill material – sand, gravel, brick	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4	4 - 8	2.5	4 – 6 sand fill	0.0		Riser
5			6 – 8 sand fill with creosote/naphthalene odor (not gas source)	2.0		Screen
6						Water Level
7						
8	8 - 12		Wet river gravel, naphthalene odor from 8 - 9	1.2		
9			No odor from 9 – 12’	0.0		
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 12 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
and	33-50%	<2	very soft	0-4	very loose	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
some	20-33%	2-4	soft	4-10	loose	
little	10-20%	4-8	medium stiff	10-30	medium dense	
trace	0-10%	8-15	stiff	30-50	dense	
		15-30	very stiff	>50	very dense	
		>30	hard			

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BORING / WELL IDENTIFICATION: **SB-Q**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**10**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):		**~ 8**		*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Between MW-1 and MW-3 near river in Park and Ride				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 - 4	3	Sand and gravel fill – dry, no odor	0.0		Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4	4 - 8	3	Sorted sand (fill?) some rounded gravel	0.0		Riser
5			Mottling at 8’			Screen
6						Water Level
7						
8	8 - 10		Very wet sand, no odor	0.0		
9			9 – 10’ glass chunks, rusty metal	0.0		
10			Refusal at 10’			
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
and	33-50%	<2	very soft	0-4	very loose	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
some	20-33%	2-4	soft	4-10	loose	
little	10-20%	4-8	medium stiff	10-30	medium dense	
trace	0-10%	8-15	stiff	30-50	dense	
		15-30	very stiff	>50	very dense	
		>30	hard			

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BORING / WELL IDENTIFICATION: **SB-R**

Site Name:	**Barre Town Roundabout**
Site Location:	**East Barre, Vermont**
Installation Date:	**3/25/09**
Job Number:	**08-209449.05**

Well Depth:		*Boring Depth:*	**2.5**	*ECS Representative:*	**Beth Erickson**
Depth to Water (during drilling):				*Drilling Company:*	**ECS**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Geoprobe**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Downgradient of MW-2 towards bridge closer to river				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0 – 2.5	2.5	Crushed stone and sand	0.0		Concrete
1			Refusal on granite 2.5’			Native Material
2						Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 2.5 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	very soft	0-4	very loose	PID used: Thermo 580B calibrated to isobutylene, ref. to benzene
SOME	20-33%	2-4	soft	4-10	loose	
LITTLE	10-20%	4-8	medium stiff	10-30	medium dense	
TRACE	0-10%	8-15	stiff	30-50	dense	
		15-30	very stiff	>50	very dense	
		>30	hard			

08-2094449.05
AOT Roundabout
3/24/09

- Beth Ericksen onsite 8:30 am, met w/ Jason Rowell and Andy Shively of AOT, looked at boring locations
- Harry Hendricksen, Barre Town Engineer, getting out plans to show utilities
- Installing borings + mon. wells in a line parallel to river for now. SB-A to the furthest south, SB-B closer to Rolaids etc.
- Getting flaggers to do a source area boring tomorrow

08 2094449.05 ee

- See boring logs for more details on individual borings.
- Installed SB-A through SB-J, all w/in Park+Ride. Most were refusal.
  Completed SB-B as MW-1
  SB-G as MW-2/will be temporary
  SB-J as MW-3
  Contam. found @ ~11 ft bgs in SBJ/MW-3
  Similar to contam from source area, similar weathered gross gasoline odor.
  Contam in SB-G from other source - old weathered stuff.

08-20944.05 ee 3/24/09

Andy back onsite 3 pm
(left ~ 10 am)

Andy talked to Gerold
~ 3 pm about what
we had done, the refusal,
and told him tomorrow
we would

A. Install source area well

B. Install borings/wells
across intersection toward
Roland's

C. More borings in Park + Ride.

(Andy spoke to Gerold prior
to the discovery of
contam. in SBJ/MW-3)

I was concerned about
Gerold wanting us to
come back a 2nd day,
but he was OK with it.

Andy + Jason Lowell from
AOT offsite ~ 4 pm

Beth + Neal from ECS offsite
~ 4:15 pm

TO DO:
- Charge PID overnight
- samples → fridge
- clipboard + boring logs
notes
- empty trash, find trash bags
- bailers + WL meter

08-2094449.05 ee

- Beth + Neal onsite 845 met w/ flaggers from AOT orange garage
- Sunny - high 40's °F predicted
- Jason Rowell AOT Engineer onsite - 9 am
- Installed 3 borings K thru M by Farnham House
- N w/in port side
- O + P across intersection towards Rolands
- collected underdrain catchbasin sample.
- Perforated pipe ~7 ft bgs runs parallel to 302 collects in Underdrain catchbasin prior

3/25/09

- to discharge to river. Collected 1 L + 3 VOAs - see i/c Gerald wants to analyze 11 am 3/25 "underdrain catchbasin"
- Installed 6 wells total, only 4 in budget for sampling - get OK from Gerald - see i/c DRO on all & just 8021 B for some of them
- Plan to sample + survey tomorrow, construction may start next wk

MW-2, + 4 ~~are~~ are temporary will pull after sampling

1, 3 + 5 permanent left as stickup PVC for now AOT will finish w/

08-209449.05 ee

roadboxes after surface brought to grade

MW-2 +5 are within corse of old river channel shown on old Sanborns

3/25/09

Water levels

	BTP	TD	stick up height
MW-1			
MW-2	12.4	14.6	
MW-3			
MW-4			
MW-5			

DNAPL on bailer + WLM, don't have IP w/ me today

did not get measurements got product on WLM

- Developed wells
- offsite 3 pm
- called Andy to report Free Product, had me call Gerold to report. Got Gerold's permission to do FP fingerprint 8100

3/26/09 AOT Roundabout

- Beth Ericksen onsite 11:50 (no one @ field office · did not check in)
- JG meeting me at site to help survey

to do:

- Sample wells + spring
- perform survey
- remove MW-2 + 4 (temporary)
- wells - 8100 + 8260 (OK per G. Noyes)
- product from MW-3 - 8100
- spring 52½ underdrain
- Catchbasin sampled yesterday, OK per G. Noyes - 8100 + 8260

ee/JG

overcast, 40° F

08-20944 9.05 AOT Roundabout ee/JG 3/26/09

Well ID	(ft bgs) Depth to product	(ft bgs) depth to water	(ft) total depth	stickup	(ft ags) height	sample time	analysis
MW-1	—	8.26	9.6	1.88		1220	8100, 8260
MW-3	sheen, not measurable	12.40	14.8	3,11		1300	8100, 8260, 8100 Product ID
MW-2	—	8.92	13.8	1.60		1300	8100, 8260
MW-4	—	6.51	10.1	0.70		1320	8100, 8260
MW-5	—	5.91	9.3	0.60		1245	8100, 8260
Duplicate MW-4	—	—	—	—	—	—	8260
Trip Blank	—	—	—	—	—	—	8260
Spring	—	—	—	—	—	1345	524.2

08-209449.05 AOT Roundabout - Survey 3/26/09

Location	Top	Mid	Bottom	∠	
SB-A	4.33	3.86	3.40	255	
SB-B/MW-1	4.31	4.01	3.72	267	
SB-C	5.27	5.11	4.95	282	
SB-D	4.79	4.69	4.60	349	
SB-E	5.25	5.01	4.77	15	
SB-F	7.09	6.60	6.12	27	
SB-G/MW-2	3.69	3.59	3.48	68	
SB-H	5.13	5.06	4.99	108	
SB-I	4.89	4.76	4.64	193	
SB-J/MW-3	2.28	2.07	1.86	0°	1ST location
SB-K/MW-4	3.66	3.30	2.94	209	
SB-L	3.94	3.49	3.04	224	
SB-M	4.76	4.43	4.10	176	
SB-N	4.35	4.19	4.02	144	
SB-O/MW-5	9.38	8.68	7.94	84	
SB-P	8.63	7.98	7.32	70	
SB-Q	5.87	5.68	5.49	329	
SB-R	6.42	6.12	5.83	4	
Catch-basin 1	3.79	3.64	3.49	245	
Underdrain Catchbasin	4.15	4.05	3.94	21	
Benchmark	6.32	5.26	4.16	32	

(See 11×17 map-site plan for approx. locations of features + soil borings)

Survey is of top of casing (wells are stickups) see previous page for stickup heights - these stickups will be finished as flushmounts after road construx - except MW-2 + 4 are temporary

offsite 230 - ~~left~~

08-2094/49.05 AOT Roundabout ee/JG 3/26/09

Well ID	(ft bgs) Depth to product	(ft bgs) depth to water	(ft) total depth	stickup (ft ags)	height	sample time	analysis
MW-1	—	8.26	9.6	1.88		1220	8100, 8260
MW-3	sheen, not measurable	12.40	14.8	3.11		1300	8100, 8260, 8100 Product ID
MW-2	—	8.92	13.8	1.60		1300	8100, 8260
MW-4	—	6.51	10.1	0.70		1320	8100, 8260
MW-5	—	5.91	9.3	0.60		1245	8100, 8260
Duplicate MW-4	—						8260
Trip Blank	—						8260
Spring	—			—		1345	524.2

08-209449.05 AOT Roundabout Survey 3/26/09

Location	Top	Mid	Bottom	Δ	
SB-A	4.33	3.86	3.40	255	
SB-B/MW-1	4.31	4.01	3.72	267	
SB-C	5.27	5.11	4.95	282	
SB-D	4.79	4.69	4.60	349	
SB-E	5.25	5.01	4.77	15	
SB-F	7.09	6.60	6.12	27	
SB-G/MW-2	3.69	3.59	3.48	68	
SB-H	5.13	5.06	4.99	108	
SB-I	4.89	4.76	4.64	143	
SB-J/MW-3	2.28	2.07	1.86	0°	1ST location
SB-K/MW-4	3.66	3.30	2.94	209	
SB-L	3.94	3.49	3.04	224	
SB-M	4.76	4.43	4.10	176	
SB-N	4.35	4.19	4.02	144	
SB-O/MW-5	9.38	8.68	7.94	84	
SB-P	8.63	7.98	7.32	70	
SB-Q	5.87	5.68	5.49	329	
SB-R	6.42	6.12	5.83	4	
Catch-basin 1	3.79	3.64	3.49	245	
Inderdrain Catchbasin	4.15	4.05	3.94	21	
Benchmark	6.32	5.26	4.16	32	

(See 11x17 map-site plan for approx. locations of features + soil borings)

Survey is of TOP of casing (wells are stickups) see previous page for stickup heights - these stickups will be finished as flushmounts after road construction - except MW-2 + 4 are temporary

offsite 230 - ~~6~~

APPENDIX B

PHOTODOCUMENTATION

Barre Town Roundabout ISI Photos
March 24 and 25, 2009

Installation of SB-B/MW-1, facing northwest

Location of SB-K/MW-4, facing east

Location of SB-M, facing North

Barre Town Roundabout ISI Photos
March 24 and 25, 2009

Location of SB-O/MW-5, facing east

Location of SB-Q

APPENDIX C

SOIL LABORATORY ANALYTICAL RESULTS

Report Date:
03-Apr-09 16:15

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
1 Elm St. Suite 3
Waterbury, VT 05676
Attn: Beth Erickson

Project: AOT Roundabout-East Barre, VT
Project 08-209449.05

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA92677-01	SB-G/MW-2	Soil	24-Mar-09 15:00	27-Mar-09 09:41
SA92677-02	SB-K/MW-4	Soil	25-Mar-09 09:00	27-Mar-09 09:41

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes.
Please note that this report contains 18 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 3.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt.
An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

+SW846 8100Mod.

Duplicates:

9031949-DUP2 *Source: SA92665-01*

Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.

Total Petroleum Hydrocarbons
Unidentified

SW846 8260B

Blanks:

9032086-BLK1

Analyte quantified by quadratic equation type calibration.

trans-1,4-Dichloro-2-butene

Laboratory Control Samples:

9032086-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

Vinyl chloride

Analyte quantified by quadratic equation type calibration.

trans-1,4-Dichloro-2-butene

9032086-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

Vinyl chloride

Analyte quantified by quadratic equation type calibration.

trans-1,4-Dichloro-2-butene

LCS/LCSD were analyzed in place of MS/MSD.

Samples:

S902863-CCV1

Analyte quantified by quadratic equation type calibration.

trans-1,4-Dichloro-2-butene

SA92677-01 *SB-G/MW-2*

Analyte quantified by quadratic equation type calibration.

trans-1,4-Dichloro-2-butene

SA92677-02 *SB-K/MW-4*

Analyte quantified by quadratic equation type calibration.

trans-1,4-Dichloro-2-butene

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-G/MW-2 SA92677-01	08-209449.05	Soil	24-Mar-09 15:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
	VOC Extraction	Field extracted		N/A		1	VOC Soil Extraction	27-Mar-09	27-Mar-09	9031909	
Volatile Organic Compounds						Initial weight: 19.12 g					
Prepared by method SW846 5030 Soil (high level)											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg dry	82.7	50	SW846 8260B	31-Mar-09	01-Apr-09	9032086	X
67-64-1	Acetone	BRL		µg/kg dry	827	50	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/kg dry	82.7	50	"	"	"	"	X
71-43-2	Benzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
74-97-5	Bromochloromethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/kg dry	82.7	50	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/kg dry	165	50	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/kg dry	827	50	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-15-0	Carbon disulfide	BRL		µg/kg dry	413	50	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/kg dry	82.7	50	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/kg dry	165	50	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/kg dry	82.7	50	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/kg dry	165	50	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
106-43-4	4-Chlorotoluene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/kg dry	165	50	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/kg dry	82.7	50	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/kg dry	165	50	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/kg dry	827	50	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/kg dry	82.7	50	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/kg dry	827	50	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/kg dry	827	50	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/kg dry	82.7	50	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-G/MW-2 SA92677-01	08-209449.05	Soil	24-Mar-09 15:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds						Initial weight: 19.12 g					
Prepared by method SW846 5030 Soil (high level)											
103-65-1	n-Propylbenzene	BRL		µg/kg dry	82.7	50	SW846 8260B	31-Mar-09	01-Apr-09	9032086	X
100-42-5	Styrene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
108-88-3	Toluene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/kg dry	82.7	50	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/kg dry	82.7	50	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/kg dry	82.7	50	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/kg dry	165	50	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/kg dry	82.7	50	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/kg dry	827	50	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/kg dry	82.7	50	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/kg dry	82.7	50	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	BRL		µg/kg dry	82.7	50	"	"	"	"	
108-20-3	Di-isopropyl ether	BRL		µg/kg dry	82.7	50	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/kg dry	827	50	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/kg dry	1650	50	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL	CAL1	µg/kg dry	413	50	"	"	"	"	
64-17-5	Ethanol	BRL		µg/kg dry	33100	50	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*96*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*103*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*107*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3550B											
8006-61-9	Gasoline	BRL		mg/kg dry	62.5	1	+SW846 8100Mod.	30-Mar-09	31-Mar-09	9031949	
68476-30-2	Fuel Oil #2	BRL		mg/kg dry	62.5	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/kg dry	62.5	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/kg dry	62.5	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/kg dry	62.5	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/kg dry	62.5	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/kg dry	62.5	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/kg dry	62.5	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/kg dry	62.5	1	"	"	"	"	
	Unidentified	1,040		mg/kg dry	62.5	1	"	"	"	"	
	Other Oil	Calculated as		mg/kg dry	62.5	1	"	"	"	"	
	Total Petroleum Hydrocarbons	1,040		mg/kg dry	62.5	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*87*		*40-140 %*			"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-G/MW-2 SA92677-01	08-209449.05	Soil	24-Mar-09 15:00	27-Mar-09

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Cert.*
General Chemistry Parameters											
	% Solids	67.2		%		1	SM2540 G Mod.	27-Mar-09	27-Mar-09	9031895	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-K/MW-4	08-209449.05	Soil	25-Mar-09 09:00	27-Mar-09
SA92677-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
	VOC Extraction	Field extracted		N/A		1	VOC Soil Extraction	27-Mar-09	27-Mar-09	9031909	
Volatile Organic Compounds						Initial weight: 19.18 g					
Prepared by method SW846 5030 Soil (high level)											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg dry	58.2	50	SW846 8260B	31-Mar-09	01-Apr-09	9032086	X
67-64-1	Acetone	BRL		µg/kg dry	582	50	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/kg dry	58.2	50	"	"	"	"	X
71-43-2	Benzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
74-97-5	Bromochloromethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/kg dry	58.2	50	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/kg dry	116	50	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/kg dry	582	50	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
75-15-0	Carbon disulfide	BRL		µg/kg dry	291	50	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/kg dry	58.2	50	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/kg dry	116	50	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/kg dry	58.2	50	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/kg dry	116	50	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
106-43-4	4-Chlorotoluene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/kg dry	116	50	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/kg dry	58.2	50	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/kg dry	116	50	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/kg dry	582	50	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/kg dry	58.2	50	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/kg dry	582	50	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/kg dry	582	50	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/kg dry	58.2	50	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-K/MW-4 SA92677-02	08-209449.05	Soil	25-Mar-09 09:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds						Initial weight: 19.18 g					
Prepared by method SW846 5030 Soil (high level)											
103-65-1	n-Propylbenzene	BRL		µg/kg dry	58.2	50	SW846 8260B	31-Mar-09	01-Apr-09	9032086	X
100-42-5	Styrene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
108-88-3	Toluene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/kg dry	58.2	50	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/kg dry	58.2	50	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	226		µg/kg dry	58.2	50	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/kg dry	58.2	50	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/kg dry	116	50	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/kg dry	58.2	50	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/kg dry	582	50	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/kg dry	58.2	50	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/kg dry	58.2	50	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	BRL		µg/kg dry	58.2	50	"	"	"	"	
108-20-3	Di-isopropyl ether	BRL		µg/kg dry	58.2	50	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/kg dry	582	50	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/kg dry	1160	50	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL	CAL1	µg/kg dry	291	50	"	"	"	"	
64-17-5	Ethanol	BRL		µg/kg dry	23300	50	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*104*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*104*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3550B											
8006-61-9	Gasoline	BRL		mg/kg dry	45.6	1	+SW846 8100Mod.	30-Mar-09	31-Mar-09	9031949	
68476-30-2	Fuel Oil #2	BRL		mg/kg dry	45.6	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/kg dry	45.6	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/kg dry	45.6	1	"	"	"	"	
M09800000	Motor Oil	Calculated as		mg/kg dry	45.6	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/kg dry	45.6	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/kg dry	45.6	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/kg dry	45.6	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/kg dry	45.6	1	"	"	"	"	
	Unidentified	1,170		mg/kg dry	45.6	1	"	"	"	"	
	Other Oil	Calculated as		mg/kg dry	45.6	1	"	"	"	"	
	Total Petroleum Hydrocarbons	1,170		mg/kg dry	45.6	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*83*		*40-140 %*			"	"	"	"	

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* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-K/MW-4 SA92677-02	08-209449.05	Soil	25-Mar-09 09:00	27-Mar-09

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Cert.*
General Chemistry Parameters											
	% Solids	82.3		%		1	SM2540 G Mod.	27-Mar-09	27-Mar-09	9031895	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032086 - SW846 5030 Soil (high level)										
Blank (9032086-BLK1)										
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg wet	1.0						
Acetone	BRL		µg/kg wet	10.0						
Acrylonitrile	BRL		µg/kg wet	1.0						
Benzene	BRL		µg/kg wet	1.0						
Bromobenzene	BRL		µg/kg wet	1.0						
Bromochloromethane	BRL		µg/kg wet	1.0						
Bromodichloromethane	BRL		µg/kg wet	1.0						
Bromoform	BRL		µg/kg wet	1.0						
Bromomethane	BRL		µg/kg wet	2.0						
2-Butanone (MEK)	BRL		µg/kg wet	10.0						
n-Butylbenzene	BRL		µg/kg wet	1.0						
sec-Butylbenzene	BRL		µg/kg wet	1.0						
tert-Butylbenzene	BRL		µg/kg wet	1.0						
Carbon disulfide	BRL		µg/kg wet	5.0						
Carbon tetrachloride	BRL		µg/kg wet	1.0						
Chlorobenzene	BRL		µg/kg wet	1.0						
Chloroethane	BRL		µg/kg wet	2.0						
Chloroform	BRL		µg/kg wet	1.0						
Chloromethane	BRL		µg/kg wet	2.0						
2-Chlorotoluene	BRL		µg/kg wet	1.0						
4-Chlorotoluene	BRL		µg/kg wet	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/kg wet	2.0						
Dibromochloromethane	BRL		µg/kg wet	1.0						
1,2-Dibromoethane (EDB)	BRL		µg/kg wet	1.0						
Dibromomethane	BRL		µg/kg wet	1.0						
1,2-Dichlorobenzene	BRL		µg/kg wet	1.0						
1,3-Dichlorobenzene	BRL		µg/kg wet	1.0						
1,4-Dichlorobenzene	BRL		µg/kg wet	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/kg wet	2.0						
1,1-Dichloroethane	BRL		µg/kg wet	1.0						
1,2-Dichloroethane	BRL		µg/kg wet	1.0						
1,1-Dichloroethene	BRL		µg/kg wet	1.0						
cis-1,2-Dichloroethene	BRL		µg/kg wet	1.0						
trans-1,2-Dichloroethene	BRL		µg/kg wet	1.0						
1,2-Dichloropropane	BRL		µg/kg wet	1.0						
1,3-Dichloropropane	BRL		µg/kg wet	1.0						
2,2-Dichloropropane	BRL		µg/kg wet	1.0						
1,1-Dichloropropene	BRL		µg/kg wet	1.0						
cis-1,3-Dichloropropene	BRL		µg/kg wet	1.0						
trans-1,3-Dichloropropene	BRL		µg/kg wet	1.0						
Ethylbenzene	BRL		µg/kg wet	1.0						
Hexachlorobutadiene	BRL		µg/kg wet	1.0						
2-Hexanone (MBK)	BRL		µg/kg wet	10.0						
Isopropylbenzene	BRL		µg/kg wet	1.0						
4-Isopropyltoluene	BRL		µg/kg wet	1.0						
Methyl tert-butyl ether	BRL		µg/kg wet	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/kg wet	10.0						
Methylene chloride	BRL		µg/kg wet	10.0						
Naphthalene	BRL		µg/kg wet	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032086 - SW846 5030 Soil (high level)										
Blank (9032086-BLK1)										
Prepared & Analyzed: 31-Mar-09										
n-Propylbenzene	BRL		µg/kg wet	1.0						
Styrene	BRL		µg/kg wet	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/kg wet	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/kg wet	1.0						
Tetrachloroethene	BRL		µg/kg wet	1.0						
Toluene	BRL		µg/kg wet	1.0						
1,2,3-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,2,4-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,3,5-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,1,1-Trichloroethane	BRL		µg/kg wet	1.0						
1,1,2-Trichloroethane	BRL		µg/kg wet	1.0						
Trichloroethene	BRL		µg/kg wet	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/kg wet	1.0						
1,2,3-Trichloropropane	BRL		µg/kg wet	1.0						
1,2,4-Trimethylbenzene	BRL		µg/kg wet	1.0						
1,3,5-Trimethylbenzene	BRL		µg/kg wet	1.0						
Vinyl chloride	BRL		µg/kg wet	1.0						
m,p-Xylene	BRL		µg/kg wet	2.0						
o-Xylene	BRL		µg/kg wet	1.0						
Tetrahydrofuran	BRL		µg/kg wet	10.0						
Ethyl ether	BRL		µg/kg wet	1.0						
Tert-amyl methyl ether	BRL		µg/kg wet	1.0						
Ethyl tert-butyl ether	BRL		µg/kg wet	1.0						
Di-isopropyl ether	BRL		µg/kg wet	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/kg wet	10.0						
1,4-Dioxane	BRL		µg/kg wet	20.0						
trans-1,4-Dichloro-2-butene	BRL	CAL1	µg/kg wet	5.0						
Ethanol	BRL		µg/kg wet	400						
Surrogate: 4-Bromofluorobenzene	*29.0*		µg/kg wet		*30.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*29.9*		µg/kg wet		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.6*		µg/kg wet		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/kg wet		*30.0*		*102*	*70-130*		
LCS (9032086-BS1)										
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.4		µg/kg wet		20.0		122	70-130		
Acetone	6.4		µg/kg wet		20.0		32	7.9-168		
Acrylonitrile	20.3		µg/kg wet		20.0		101	70-130		
Benzene	20.0		µg/kg wet		20.0		100	70-130		
Bromobenzene	20.7		µg/kg wet		20.0		103	70-130		
Bromochloromethane	20.6		µg/kg wet		20.0		103	70-130		
Bromodichloromethane	16.6		µg/kg wet		20.0		83	70-130		
Bromoform	15.7		µg/kg wet		20.0		79	70-130		
Bromomethane	18.8		µg/kg wet		20.0		94	50-134		
2-Butanone (MEK)	13.7		µg/kg wet		20.0		68	44.6-130		
n-Butylbenzene	20.6		µg/kg wet		20.0		103	70-130		
sec-Butylbenzene	22.5		µg/kg wet		20.0		112	70-130		
tert-Butylbenzene	21.4		µg/kg wet		20.0		107	70-130		
Carbon disulfide	20.0		µg/kg wet		20.0		100	70-130		
Carbon tetrachloride	15.4		µg/kg wet		20.0		77	70-130		
Chlorobenzene	20.0		µg/kg wet		20.0		100	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032086 - SW846 5030 Soil (high level)										
LCS (9032086-BS1)										
Prepared & Analyzed: 31-Mar-09										
Chloroethane	17.7		µg/kg wet		20.0		88	59.2-130		
Chloroform	19.2		µg/kg wet		20.0		96	70-130		
Chloromethane	16.5		µg/kg wet		20.0		82	70-130		
2-Chlorotoluene	20.9		µg/kg wet		20.0		105	70-130		
4-Chlorotoluene	21.0		µg/kg wet		20.0		105	70-130		
1,2-Dibromo-3-chloropropane	15.2		µg/kg wet		20.0		76	70-130		
Dibromochloromethane	15.7		µg/kg wet		20.0		78	63.8-130		
1,2-Dibromoethane (EDB)	20.6		µg/kg wet		20.0		103	70-130		
Dibromomethane	18.7		µg/kg wet		20.0		94	70-130		
1,2-Dichlorobenzene	20.8		µg/kg wet		20.0		104	70-130		
1,3-Dichlorobenzene	22.4		µg/kg wet		20.0		112	70-130		
1,4-Dichlorobenzene	19.7		µg/kg wet		20.0		99	70-130		
Dichlorodifluoromethane (Freon12)	19.0		µg/kg wet		20.0		95	41.8-130		
1,1-Dichloroethane	19.5		µg/kg wet		20.0		97	70-130		
1,2-Dichloroethane	18.8		µg/kg wet		20.0		94	70-130		
1,1-Dichloroethene	20.5		µg/kg wet		20.0		102	70-130		
cis-1,2-Dichloroethene	20.6		µg/kg wet		20.0		103	70-130		
trans-1,2-Dichloroethene	20.0		µg/kg wet		20.0		100	70-130		
1,2-Dichloropropane	19.5		µg/kg wet		20.0		97	70-130		
1,3-Dichloropropane	20.3		µg/kg wet		20.0		101	70-130		
2,2-Dichloropropane	18.0		µg/kg wet		20.0		90	70-130		
1,1-Dichloropropene	20.3		µg/kg wet		20.0		101	70-130		
cis-1,3-Dichloropropene	15.2		µg/kg wet		20.0		76	70-130		
trans-1,3-Dichloropropene	14.6		µg/kg wet		20.0		73	70-130		
Ethylbenzene	21.1		µg/kg wet		20.0		105	70-130		
Hexachlorobutadiene	19.4		µg/kg wet		20.0		97	68.3-130		
2-Hexanone (MBK)	15.6		µg/kg wet		20.0		78	70-130		
Isopropylbenzene	17.6		µg/kg wet		20.0		88	70-130		
4-Isopropyltoluene	21.4		µg/kg wet		20.0		107	70-130		
Methyl tert-butyl ether	20.3		µg/kg wet		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	19.1		µg/kg wet		20.0		96	53.1-132		
Methylene chloride	19.0		µg/kg wet		20.0		95	70-130		
Naphthalene	20.1		µg/kg wet		20.0		101	70-130		
n-Propylbenzene	20.3		µg/kg wet		20.0		102	70-130		
Styrene	21.3		µg/kg wet		20.0		106	70-130		
1,1,1,2-Tetrachloroethane	14.3		µg/kg wet		20.0		71	70-130		
1,1,2,2-Tetrachloroethane	24.4		µg/kg wet		20.0		122	70-130		
Tetrachloroethene	20.7		µg/kg wet		20.0		104	70-130		
Toluene	20.0		µg/kg wet		20.0		100	70-130		
1,2,3-Trichlorobenzene	20.2		µg/kg wet		20.0		101	70-130		
1,2,4-Trichlorobenzene	19.9		µg/kg wet		20.0		99	70-130		
1,3,5-Trichlorobenzene	19.4		µg/kg wet		20.0		97	70-130		
1,1,1-Trichloroethane	17.3		µg/kg wet		20.0		86	70-130		
1,1,2-Trichloroethane	21.6		µg/kg wet		20.0		108	70-130		
Trichloroethene	19.9		µg/kg wet		20.0		100	70-130		
Trichlorofluoromethane (Freon 11)	22.6		µg/kg wet		20.0		113	68.2-130		
1,2,3-Trichloropropane	22.8		µg/kg wet		20.0		114	70-130		
1,2,4-Trimethylbenzene	19.9		µg/kg wet		20.0		99	70-130		
1,3,5-Trimethylbenzene	20.0		µg/kg wet		20.0		100	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032086 - SW846 5030 Soil (high level)										
LCS (9032086-BS1)										
Prepared & Analyzed: 31-Mar-09										
Vinyl chloride	13.6	QC2	µg/kg wet		20.0		68	70-130		
m,p-Xylene	42.6		µg/kg wet		40.0		107	70-130		
o-Xylene	21.4		µg/kg wet		20.0		107	70-130		
Tetrahydrofuran	24.0		µg/kg wet		20.0		120	70-130		
Ethyl ether	20.9		µg/kg wet		20.0		104	70-130		
Tert-amyl methyl ether	19.7		µg/kg wet		20.0		98	70-130		
Ethyl tert-butyl ether	20.5		µg/kg wet		20.0		102	70-130		
Di-isopropyl ether	18.7		µg/kg wet		20.0		93	70-130		
Tert-Butanol / butyl alcohol	199		µg/kg wet		200		100	70-130		
1,4-Dioxane	256		µg/kg wet		200		128	48.7-130		
trans-1,4-Dichloro-2-butene	18.5	CAL1	µg/kg wet		20.0		92	70-130		
Ethanol	400		µg/kg wet		400		100	70-130		
Surrogate: 4-Bromofluorobenzene	*30.2*		µg/kg wet		*30.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*30.3*		µg/kg wet		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*29.0*		µg/kg wet		*30.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*31.2*		µg/kg wet		*30.0*		*104*	*70-130*		
LCS Dup (9032086-BSD1)		QM10								
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	22.6		µg/kg wet		20.0		113	70-130	8	25
Acetone	8.6		µg/kg wet		20.0		43	7.9-168	29	50
Acrylonitrile	21.5		µg/kg wet		20.0		107	70-130	6	25
Benzene	19.5		µg/kg wet		20.0		98	70-130	3	25
Bromobenzene	20.8		µg/kg wet		20.0		104	70-130	0.8	25
Bromochloromethane	20.6		µg/kg wet		20.0		103	70-130	0.3	25
Bromodichloromethane	17.0		µg/kg wet		20.0		85	70-130	2	25
Bromoform	15.7		µg/kg wet		20.0		79	70-130	0	25
Bromomethane	18.5		µg/kg wet		20.0		93	50-134	2	50
2-Butanone (MEK)	15.5		µg/kg wet		20.0		77	44.6-130	12	50
n-Butylbenzene	20.0		µg/kg wet		20.0		100	70-130	3	25
sec-Butylbenzene	22.4		µg/kg wet		20.0		112	70-130	0.5	25
tert-Butylbenzene	21.4		µg/kg wet		20.0		107	70-130	0.1	25
Carbon disulfide	21.9		µg/kg wet		20.0		110	70-130	9	25
Carbon tetrachloride	14.9		µg/kg wet		20.0		75	70-130	3	25
Chlorobenzene	19.8		µg/kg wet		20.0		99	70-130	1	25
Chloroethane	17.9		µg/kg wet		20.0		90	59.2-130	1	50
Chloroform	19.2		µg/kg wet		20.0		96	70-130	0.05	25
Chloromethane	16.1		µg/kg wet		20.0		80	70-130	2	25
2-Chlorotoluene	20.1		µg/kg wet		20.0		101	70-130	4	25
4-Chlorotoluene	21.0		µg/kg wet		20.0		105	70-130	0	25
1,2-Dibromo-3-chloropropane	14.6		µg/kg wet		20.0		73	70-130	3	25
Dibromochloromethane	15.6		µg/kg wet		20.0		78	63.8-130	0.4	50
1,2-Dibromoethane (EDB)	20.6		µg/kg wet		20.0		103	70-130	0.2	25
Dibromomethane	19.1		µg/kg wet		20.0		95	70-130	2	25
1,2-Dichlorobenzene	20.5		µg/kg wet		20.0		102	70-130	1	25
1,3-Dichlorobenzene	22.2		µg/kg wet		20.0		111	70-130	0.7	25
1,4-Dichlorobenzene	19.0		µg/kg wet		20.0		95	70-130	4	25
Dichlorodifluoromethane (Freon12)	16.8		µg/kg wet		20.0		84	41.8-130	12	50
1,1-Dichloroethane	19.3		µg/kg wet		20.0		97	70-130	0.8	25
1,2-Dichloroethane	19.1		µg/kg wet		20.0		96	70-130	1	25
1,1-Dichloroethene	20.6		µg/kg wet		20.0		103	70-130	0.3	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032086 - SW846 5030 Soil (high level)										
LCS Dup (9032086-BSD1)		QM10								
Prepared & Analyzed: 31-Mar-09										
cis-1,2-Dichloroethene	20.1		µg/kg wet		20.0		101	70-130	2	25
trans-1,2-Dichloroethene	19.9		µg/kg wet		20.0		100	70-130	0.6	25
1,2-Dichloropropane	19.3		µg/kg wet		20.0		97	70-130	0.8	25
1,3-Dichloropropane	20.2		µg/kg wet		20.0		101	70-130	0.3	25
2,2-Dichloropropane	17.2		µg/kg wet		20.0		86	70-130	5	25
1,1-Dichloropropene	19.6		µg/kg wet		20.0		98	70-130	3	25
cis-1,3-Dichloropropene	15.7		µg/kg wet		20.0		78	70-130	3	25
trans-1,3-Dichloropropene	14.8		µg/kg wet		20.0		74	70-130	1	25
Ethylbenzene	20.6		µg/kg wet		20.0		103	70-130	2	25
Hexachlorobutadiene	18.6		µg/kg wet		20.0		93	68.3-130	4	50
2-Hexanone (MBK)	17.1		µg/kg wet		20.0		85	70-130	9	25
Isopropylbenzene	17.3		µg/kg wet		20.0		86	70-130	2	25
4-Isopropyltoluene	20.8		µg/kg wet		20.0		104	70-130	3	25
Methyl tert-butyl ether	20.8		µg/kg wet		20.0		104	70-130	3	25
4-Methyl-2-pentanone (MIBK)	19.7		µg/kg wet		20.0		98	53.1-132	3	50
Methylene chloride	19.8		µg/kg wet		20.0		99	70-130	4	25
Naphthalene	19.9		µg/kg wet		20.0		99	70-130	1	25
n-Propylbenzene	20.5		µg/kg wet		20.0		103	70-130	1	25
Styrene	22.1		µg/kg wet		20.0		111	70-130	4	25
1,1,1,2-Tetrachloroethane	14.7		µg/kg wet		20.0		73	70-130	3	25
1,1,2,2-Tetrachloroethane	26.0		µg/kg wet		20.0		130	70-130	6	25
Tetrachloroethene	20.3		µg/kg wet		20.0		101	70-130	2	25
Toluene	19.2		µg/kg wet		20.0		96	70-130	4	25
1,2,3-Trichlorobenzene	20.0		µg/kg wet		20.0		100	70-130	1	25
1,2,4-Trichlorobenzene	19.3		µg/kg wet		20.0		96	70-130	3	25
1,3,5-Trichlorobenzene	18.8		µg/kg wet		20.0		94	70-130	4	25
1,1,1-Trichloroethane	17.1		µg/kg wet		20.0		86	70-130	0.9	25
1,1,2-Trichloroethane	22.2		µg/kg wet		20.0		111	70-130	2	25
Trichloroethene	19.7		µg/kg wet		20.0		98	70-130	1	25
Trichlorofluoromethane (Freon 11)	21.1		µg/kg wet		20.0		105	68.2-130	7	50
1,2,3-Trichloropropane	23.7		µg/kg wet		20.0		118	70-130	4	25
1,2,4-Trimethylbenzene	20.1		µg/kg wet		20.0		101	70-130	1	25
1,3,5-Trimethylbenzene	19.7		µg/kg wet		20.0		98	70-130	1	25
Vinyl chloride	13.5	QC2	µg/kg wet		20.0		68	70-130	0.3	25
m,p-Xylene	42.2		µg/kg wet		40.0		105	70-130	1	25
o-Xylene	21.2		µg/kg wet		20.0		106	70-130	0.8	25
Tetrahydrofuran	23.6		µg/kg wet		20.0		118	70-130	1	25
Ethyl ether	20.7		µg/kg wet		20.0		103	70-130	1	50
Tert-amyl methyl ether	20.3		µg/kg wet		20.0		101	70-130	3	25
Ethyl tert-butyl ether	20.9		µg/kg wet		20.0		104	70-130	2	25
Di-isopropyl ether	18.9		µg/kg wet		20.0		95	70-130	1	25
Tert-Butanol / butyl alcohol	211		µg/kg wet		200		105	70-130	6	25
1,4-Dioxane	239		µg/kg wet		200		120	48.7-130	7	25
trans-1,4-Dichloro-2-butene	18.8	CAL1	µg/kg wet		20.0		94	70-130	2	25
Ethanol	440		µg/kg wet		400		110	70-130	10	30
Surrogate: 4-Bromofluorobenzene	*30.7*		µg/kg wet		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/kg wet		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*29.8*		µg/kg wet		*30.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*31.1*		µg/kg wet		*30.0*		*104*	*70-130*		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032086 - SW846 5030 Soil (high level)										
Matrix Spike (9032086-MS1) **Source: SA92757-05**										
Prepared: 31-Mar-09 Analyzed: 01-Apr-09										
Benzene	22.0		µg/kg dry		20.0	BRL	110	70-130		
Chlorobenzene	21.2		µg/kg dry		20.0	BRL	106	70-130		
1,1-Dichloroethene	19.7		µg/kg dry		20.0	BRL	99	70-130		
Toluene	22.4		µg/kg dry		20.0	0.6	109	70-130		
Trichloroethene	20.0		µg/kg dry		20.0	BRL	100	70-130		
Surrogate: 4-Bromofluorobenzene	*31.1*		µg/kg dry		*30.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*31.2*		µg/kg dry		*30.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*34.4*		µg/kg dry		*30.0*		*115*	*70-130*		
Surrogate: Dibromofluoromethane	*32.8*		µg/kg dry		*30.0*		*109*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031949 - SW846 3550B										
Blank (9031949-BLK1)										
Prepared & Analyzed: 30-Mar-09										
Gasoline	BRL		mg/kg wet	13.3						
Fuel Oil #2	BRL		mg/kg wet	13.3						
Fuel Oil #4	BRL		mg/kg wet	13.3						
Fuel Oil #6	BRL		mg/kg wet	13.3						
Motor Oil	BRL		mg/kg wet	13.3						
Ligroin	BRL		mg/kg wet	13.3						
Aviation Fuel	BRL		mg/kg wet	13.3						
Hydraulic Oil	BRL		mg/kg wet	13.3						
Dielectric Fluid	BRL		mg/kg wet	13.3						
Unidentified	BRL		mg/kg wet	13.3						
Other Oil	BRL		mg/kg wet	13.3						
Total Petroleum Hydrocarbons	BRL		mg/kg wet	13.3						
Surrogate: 1-Chlorooctadecane	*2.90*		mg/kg wet		*3.33*		*87*	*40-140*		
LCS (9031949-BS2)										
Prepared & Analyzed: 30-Mar-09										
Fuel Oil #2	466		mg/kg wet	13.3	667		70	40-140		
Surrogate: 1-Chlorooctadecane	*2.64*		mg/kg wet		*3.33*		*79*	*40-140*		
Duplicate (9031949-DUP1) **Source: SA92626-20**										
Prepared: 30-Mar-09 Analyzed: 31-Mar-09										
Gasoline	BRL		mg/kg dry	27.1		BRL				50
Fuel Oil #2	BRL		mg/kg dry	27.1		BRL				50
Fuel Oil #4	BRL		mg/kg dry	27.1		BRL				50
Fuel Oil #6	BRL		mg/kg dry	27.1		BRL				50
Motor Oil	BRL		mg/kg dry	27.1		BRL				50
Ligroin	BRL		mg/kg dry	27.1		BRL				50
Aviation Fuel	BRL		mg/kg dry	27.1		BRL				50
Hydraulic Oil	BRL		mg/kg dry	27.1		BRL				50
Dielectric Fluid	BRL		mg/kg dry	27.1		BRL				50
Unidentified	BRL		mg/kg dry	27.1		BRL				50
Other Oil	BRL		mg/kg dry	27.1		BRL				50
Total Petroleum Hydrocarbons	BRL		mg/kg dry	27.1		BRL				50
Surrogate: 1-Chlorooctadecane	*3.04*		mg/kg dry		*3.39*		*90*	*40-140*		
Duplicate (9031949-DUP2) **Source: SA92665-01**										
Prepared: 30-Mar-09 Analyzed: 31-Mar-09										
Gasoline	BRL		mg/kg dry	27.6		BRL				50
Fuel Oil #2	BRL		mg/kg dry	27.6		BRL				50
Fuel Oil #4	BRL		mg/kg dry	27.6		BRL				50
Fuel Oil #6	BRL		mg/kg dry	27.6		BRL				50
Motor Oil	BRL		mg/kg dry	27.6		BRL				50
Ligroin	BRL		mg/kg dry	27.6		BRL				50
Aviation Fuel	BRL		mg/kg dry	27.6		BRL				50
Hydraulic Oil	BRL		mg/kg dry	27.6		BRL				50
Dielectric Fluid	BRL		mg/kg dry	27.6		BRL				50
Unidentified	129	QM4	mg/kg dry	27.6		71.1			58	50
Other Oil	Calculated as		mg/kg dry	27.6		BRL				50
Total Petroleum Hydrocarbons	129	QM4	mg/kg dry	27.6		71.1			58	50
Surrogate: 1-Chlorooctadecane	*3.35*		mg/kg dry		*3.46*		*97*	*40-140*		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031895 - General Preparation										
Duplicate (9031895-DUP1)	**Source: SA92662-06**									
Prepared & Analyzed: 27-Mar-09										
% Solids	76.7		%			77.1			0.4	20

Notes and Definitions

CAL1	Analyte quantified by quadratic equation type calibration.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM10	LCS/LCSD were analyzed in place of MS/MSD.
QM4	Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.
Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
Fuel Oil #4 - includes #4 fuel oil
Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
Motor Oil - includes virgin and waste automobile oil
Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
Aviation Fuel - includes kerosene, Jet A and JP-4
Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as *TPH (Calculated as).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Validated by:
Hanibal C. Tayeh, Ph.D.
Rebecca Merz

SA92677 CL

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☑ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS
1 Elm St Suite 3
Waterbury VT

Project Mgr.: Beth Ericksen

Invoice To: _____

P.O. No.: _____ RQN: 0002

Project No.: 08-209449.05
Site Name: AOT Roundabout
Location: East Barre State: VT
Sampler(s): Beth Ericksen

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 8260	8100	QA Reporting Notes: (check if needed)
SA92677-01	SB-G/MW-2	3/24/09	1500	G	SO	4°C	1	1			✓	✓	☐ Provide MA DEP MCP CAM Report ☐ Provide CT DPH RCP Report **QA/QC Reporting Level** ☐ Standard ☐ No QC ☐ Other _____ State specific reporting standards:
-02	SB-K/MW-4	3/25/09	900	G	SO	4°C	1	1			✓	✓	

☐ Fax results when available to (____) _____
☑ E-mail to eericksen@ecsconsult.com
EDD Format _____
Condition upon receipt: ☑ Iced ☐ Ambient ☐ °C 3

Relinquished by:	Received by:	Date:	Time:
Elizabeth Ericksen		3/26/09	900
UPS	[illegible]	3/27/09	941

11 Almgren Drive • Agawam, Massachusetts 01001 • 413-789-9018 • Fax 413-789-4076 • www.spectrum-analytical.com

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WATERBURY VT 05676

10 LBS

1 OF 1

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11 ALMGREN DRIVE
AGAWAM MA 01001-3831

MA 011 9-02

UPS NEXT DAY AIR

1

TRACKING #: 1Z F31 7E5 01 9098 9770

BILLING: F/C BILL RECEIVER

Location Reference: 0008
Project Number: FT

CS 311.55

WS08370 07.0A 01/2009

TM

APPENDIX D

GROUNDWATER LABORATORY ANALYTICAL RESULTS

Report Date:
07-Apr-09 15:19

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
1 Elm St. Suite 3
Waterbury, VT 05676
Attn: Beth Erickson

Project: AOT Roundabout-East Barre, VT
Project 08-209449.05

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA92753-01	Underdrain Catchbasin	Ground Water	25-Mar-09 11:00	27-Mar-09 10:48
SA92753-02	MW-1	Ground Water	26-Mar-09 12:20	27-Mar-09 10:48
SA92753-03	MW-2	Ground Water	26-Mar-09 12:00	27-Mar-09 10:48
SA92753-04	MW-3	Ground Water	26-Mar-09 13:00	27-Mar-09 10:48
SA92753-05	MW-4	Ground Water	26-Mar-09 13:20	27-Mar-09 10:48
SA92753-06	MW-5	Ground Water	26-Mar-09 12:45	27-Mar-09 10:48
SA92753-07	Duplicate	Ground Water	26-Mar-09 00:00	27-Mar-09 10:48
SA92753-08	Spring	Ground Water	26-Mar-09 00:00	27-Mar-09 10:48
SA92753-09	Trip Blank	Deionized Water	26-Mar-09 00:00	27-Mar-09 10:48

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes.
Please note that this report contains 39 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 2.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt.
An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 524.2

Laboratory Control Samples:

9032061-BS1

Analyte out of acceptance range.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Vinyl chloride

LCS/LCSD were analyzed in place of MS/MSD.

9032061-BSD1

LCS/LCSD were analyzed in place of MS/MSD.

Spikes:

9032061-MS1 *Source: SA92770-04*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

1,1-Dichloroethene
Benzene
Toluene
Trichloroethene

Samples:

SA92753-08 *Spring*

Analyte quantified by quadratic equation type calibration.

Styrene

SW846 8260B

Laboratory Control Samples:

9032069-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,4-Dioxane
Ethanol
Tert-Butanol / butyl alcohol
trans-1,4-Dichloro-2-butene

9032069-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,4-Dioxane
Ethanol
trans-1,4-Dichloro-2-butene

RPD out of acceptance range.

Tert-Butanol / butyl alcohol

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Underdrain Catchbasin SA92753-01	08-209449.05	Ground Water	25-Mar-09 11:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	02-Apr-09	02-Apr-09	9040126	X
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Underdrain Catchbasin	08-209449.05	Ground Water	25-Mar-09 11:00	27-Mar-09
SA92753-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW846 8260B	02-Apr-09	02-Apr-09	9040126	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*87*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3510C											
8006-61-9	Gasoline	BRL		mg/l	0.2	1	+SW846 8100Mod.	02-Apr-09	06-Apr-09	9040103	
68476-30-2	Fuel Oil #2	BRL		mg/l	0.2	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/l	0.2	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/l	0.2	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/l	0.2	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/l	0.2	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/l	0.2	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/l	0.2	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/l	0.2	1	"	"	"	"	
	Unidentified	BRL		mg/l	0.2	1	"	"	"	"	
	Other Oil	BRL		mg/l	0.2	1	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*86*		*40-140 %*			"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1 SA92753-02	08-209449.05	Ground Water	26-Mar-09 12:20	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	02-Apr-09	02-Apr-09	9040126	X
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	5.4		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1 SA92753-02	08-209449.05	Ground Water	26-Mar-09 12:20	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW846 8260B	02-Apr-09	02-Apr-09	9040126	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*88*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3510C											
8006-61-9	Gasoline	BRL		mg/l	0.3	1	+SW846 8100Mod.	02-Apr-09	06-Apr-09	9040103	
68476-30-2	Fuel Oil #2	BRL		mg/l	0.3	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/l	0.3	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/l	0.3	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/l	0.3	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/l	0.3	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/l	0.3	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/l	0.3	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/l	0.3	1	"	"	"	"	
	Unidentified	BRL		mg/l	0.3	1	"	"	"	"	
	Other Oil	BRL		mg/l	0.3	1	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL		mg/l	0.3	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*81*		*40-140 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-2	08-209449.05	Ground Water	26-Mar-09 12:00	27-Mar-09
SA92753-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-2	08-209449.05	Ground Water	26-Mar-09 12:00	27-Mar-09
SA92753-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*101*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*98*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3510C											
8006-61-9	Gasoline	BRL		mg/l	0.2	1	+SW846 8100Mod.	02-Apr-09	06-Apr-09	9040103	
68476-30-2	Fuel Oil #2	BRL		mg/l	0.2	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/l	0.2	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/l	0.2	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/l	0.2	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/l	0.2	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/l	0.2	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/l	0.2	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/l	0.2	1	"	"	"	"	
	Unidentified	BRL		mg/l	0.2	1	"	"	"	"	
	Other Oil	BRL		mg/l	0.2	1	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*93*		*40-140 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-3 SA92753-04	08-209449.05	Ground Water	26-Mar-09 13:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-3	08-209449.05	Ground Water	26-Mar-09 13:00	27-Mar-09
SA92753-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	1.9		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	1.7		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*100*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3510C											
8006-61-9	Gasoline	BRL		mg/l	0.3	1	+SW846 8100Mod.	02-Apr-09	06-Apr-09	9040103	
68476-30-2	Fuel Oil #2	BRL		mg/l	0.3	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/l	0.3	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/l	0.3	1	"	"	"	"	
M09800000	Motor Oil	Calculated as		mg/l	0.3	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/l	0.3	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/l	0.3	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/l	0.3	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/l	0.3	1	"	"	"	"	
	Unidentified	4.6		mg/l	0.3	1	"	"	"	"	
	Other Oil	Calculated as		mg/l	0.3	1	"	"	"	"	
	Total Petroleum Hydrocarbons	4.6		mg/l	0.3	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*103*		*40-140 %*			"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4 SA92753-05	08-209449.05	Ground Water	26-Mar-09 13:20	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4 SA92753-05	08-209449.05	Ground Water	26-Mar-09 13:20	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*100*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3510C											
8006-61-9	Gasoline	BRL		mg/l	0.2	1	+SW846 8100Mod.	02-Apr-09	06-Apr-09	9040103	
68476-30-2	Fuel Oil #2	BRL		mg/l	0.2	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/l	0.2	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/l	0.2	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/l	0.2	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/l	0.2	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/l	0.2	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/l	0.2	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/l	0.2	1	"	"	"	"	
	Unidentified	BRL		mg/l	0.2	1	"	"	"	"	
	Other Oil	BRL		mg/l	0.2	1	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*88*		*40-140 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-5 SA92753-06	08-209449.05	Ground Water	26-Mar-09 12:45	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
67-64-1	Acetone	11.7		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	4.2		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	14.6		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	36.6		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-5 SA92753-06	08-209449.05	Ground Water	26-Mar-09 12:45	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	1.3		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	15.9		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	9.4		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	3.1		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	18.1		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	9.6		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*100*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3510C											
8006-61-9	Gasoline	BRL		mg/l	0.2	1	+SW846 8100Mod.	02-Apr-09	06-Apr-09	9040103	
68476-30-2	Fuel Oil #2	BRL		mg/l	0.2	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/l	0.2	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/l	0.2	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/l	0.2	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/l	0.2	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/l	0.2	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/l	0.2	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/l	0.2	1	"	"	"	"	
	Unidentified	0.7		mg/l	0.2	1	"	"	"	"	
	Other Oil	Calculated as		mg/l	0.2	1	"	"	"	"	
	Total Petroleum Hydrocarbons	0.7		mg/l	0.2	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*85*		*40-140 %*			"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Duplicate SA92753-07	08-209449.05	Ground Water	26-Mar-09 00:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Duplicate SA92753-07	08-209449.05	Ground Water	26-Mar-09 00:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*99*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*97*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Spring	08-209449.05	Ground Water	26-Mar-09 00:00	27-Mar-09
SA92753-08				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
524.2 Purgeable Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	0.5	1	EPA 524.2	31-Mar-09	31-Mar-09	9032061	
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	
71-43-2	Benzene	BRL		µg/l	0.5	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	0.5	1	"	"	"	"	X
74-97-5	Bromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	0.5	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	0.5	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	
104-51-8	n-Butylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X
75-15-0	Carbon disulfide	BRL		µg/l	0.5	1	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL		µg/l	0.5	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	0.5	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	0.5	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	0.5	1	"	"	"	"	X
106-43-4	4-Chlorotoluene	BRL		µg/l	0.5	1	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	0.5	1	"	"	"	"	
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	
74-95-3	Dibromomethane	BRL		µg/l	0.5	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	0.5	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	0.5	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	0.5	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	0.5	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	0.5	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	0.5	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	0.5	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	0.5	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	0.5	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	0.5	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	
98-82-8	Isopropylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	0.5	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	0.5	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	
75-09-2	Methylene chloride	BRL		µg/l	0.5	1	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/l	0.5	1	"	"	"	"	
103-65-1	n-Propylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Spring SA92753-08	08-209449.05	Ground Water	26-Mar-09 00:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
524.2 Purgeable Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL	CAL1	µg/l	0.5	1	EPA 524.2	31-Mar-09	31-Mar-09	9032061	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	0.5	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	0.5	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	0.5	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	0.5	1	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	0.5	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	0.5	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	0.5	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	0.5	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	0.5	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	0.5	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	0.5	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	0.5	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	0.5	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	0.5	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*90*		*80-120 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*80-120 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*80-120 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*80-120 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank SA92753-09	08-209449.05	Deionized Water	26-Mar-09 00:00	27-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	X
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	X
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	X
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	X
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	X
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	X
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	X
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	X
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	X
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	X
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	X
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	X
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	X
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	X
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	X
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	X
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	X
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	X
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank SA92753-09	08-209449.05	Deionized Water	26-Mar-09 00:00	27-Mar-09

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Cert.*
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW846 8260B	31-Mar-09	31-Mar-09	9032069	X
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	X
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	X
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	X
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	X
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	X
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	X
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	X
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	X
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	X
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*100*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032061 - SW846 5030 Water MS										
Blank (9032061-BLK1)										
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	0.5						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	0.5						
Bromobenzene	BRL		µg/l	0.5						
Bromochloromethane	BRL		µg/l	0.5						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	0.5						
Bromomethane	BRL		µg/l	0.5						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	0.5						
sec-Butylbenzene	BRL		µg/l	0.5						
tert-Butylbenzene	BRL		µg/l	0.5						
Carbon disulfide	BRL		µg/l	0.5						
Carbon tetrachloride	BRL		µg/l	0.5						
Chlorobenzene	BRL		µg/l	0.5						
Chloroethane	BRL		µg/l	0.5						
Chloroform	BRL		µg/l	0.5						
Chloromethane	BRL		µg/l	0.5						
2-Chlorotoluene	BRL		µg/l	0.5						
4-Chlorotoluene	BRL		µg/l	0.5						
1,2-Dibromo-3-chloropropane	BRL		µg/l	0.5						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	0.5						
1,2-Dichlorobenzene	BRL		µg/l	0.5						
1,3-Dichlorobenzene	BRL		µg/l	0.5						
1,4-Dichlorobenzene	BRL		µg/l	0.5						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	0.5						
1,1-Dichloroethane	BRL		µg/l	0.5						
1,2-Dichloroethane	BRL		µg/l	0.5						
1,1-Dichloroethene	BRL		µg/l	0.5						
cis-1,2-Dichloroethene	BRL		µg/l	0.5						
trans-1,2-Dichloroethene	BRL		µg/l	0.5						
1,2-Dichloropropane	BRL		µg/l	0.5						
1,3-Dichloropropane	BRL		µg/l	0.5						
2,2-Dichloropropane	BRL		µg/l	0.5						
1,1-Dichloropropene	BRL		µg/l	0.5						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	0.5						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	0.5						
4-Isopropyltoluene	BRL		µg/l	0.5						
Methyl tert-butyl ether	BRL		µg/l	0.5						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	0.5						
Naphthalene	BRL		µg/l	0.5						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032061 - SW846 5030 Water MS										
Blank (9032061-BLK1)										
Prepared & Analyzed: 31-Mar-09										
n-Propylbenzene	BRL		µg/l	0.5						
Styrene	BRL		µg/l	0.5						
1,1,1,2-Tetrachloroethane	BRL		µg/l	0.5						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	0.5						
Toluene	BRL		µg/l	0.5						
1,2,3-Trichlorobenzene	BRL		µg/l	0.5						
1,2,4-Trichlorobenzene	BRL		µg/l	0.5						
1,1,1-Trichloroethane	BRL		µg/l	0.5						
1,1,2-Trichloroethane	BRL		µg/l	0.5						
Trichloroethene	BRL		µg/l	0.5						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	0.5						
1,2,3-Trichloropropane	BRL		µg/l	0.5						
1,2,4-Trimethylbenzene	BRL		µg/l	0.5						
1,3,5-Trimethylbenzene	BRL		µg/l	0.5						
Vinyl chloride	BRL		µg/l	0.5						
m,p-Xylene	BRL		µg/l	0.5						
o-Xylene	BRL		µg/l	0.5						
Tetrahydrofuran	BRL		µg/l	10.0						
Tert-amyl methyl ether	BRL		µg/l	0.5						
Ethyl tert-butyl ether	BRL		µg/l	0.5						
Di-isopropyl ether	BRL		µg/l	0.5						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
Surrogate: 4-Bromofluorobenzene	*45.5*		µg/l		*50.0*		*91*	*80-120*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*52.7*		µg/l		*50.0*		*105*	*80-120*		
Surrogate: Dibromofluoromethane	*54.2*		µg/l		*50.0*		*108*	*80-120*		
LCS (9032061-BS1)		QM10								
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	13.1	QC1	µg/l		10.0		131	80-120		
Acetone	12.1		µg/l		10.0		121	70-130		
Acrylonitrile	10.2		µg/l		10.0		102	70-130		
Benzene	10.6		µg/l		10.0		106	80-120		
Bromobenzene	10.5		µg/l		10.0		105	80-120		
Bromochloromethane	10.6		µg/l		10.0		106	80-120		
Bromodichloromethane	11.9		µg/l		10.0		119	80-120		
Bromoform	12.0		µg/l		10.0		120	80-120		
Bromomethane	11.5		µg/l		10.0		115	80-120		
2-Butanone (MEK)	10.2		µg/l		10.0		102	70-130		
n-Butylbenzene	9.8		µg/l		10.0		98	80-120		
sec-Butylbenzene	10.0		µg/l		10.0		100	80-120		
tert-Butylbenzene	9.9		µg/l		10.0		99	80-120		
Carbon disulfide	10.6		µg/l		10.0		106	70-130		
Carbon tetrachloride	11.0		µg/l		10.0		110	80-120		
Chlorobenzene	10.7		µg/l		10.0		107	80-120		
Chloroethane	11.0		µg/l		10.0		110	80-120		
Chloroform	11.0		µg/l		10.0		110	80-120		
Chloromethane	10.6		µg/l		10.0		106	80-120		
2-Chlorotoluene	10.4		µg/l		10.0		104	80-120		
4-Chlorotoluene	10.3		µg/l		10.0		103	80-120		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032061 - SW846 5030 Water MS										
LCS (9032061-BS1)		QM10								
Prepared & Analyzed: 31-Mar-09										
1,2-Dibromo-3-chloropropane	10.2		µg/l		10.0		102	80-120		
Dibromochloromethane	11.1		µg/l		10.0		111	80-120		
1,2-Dibromoethane (EDB)	10.4		µg/l		10.0		104	80-120		
Dibromomethane	10.6		µg/l		10.0		106	80-120		
1,2-Dichlorobenzene	11.3		µg/l		10.0		113	80-120		
1,3-Dichlorobenzene	11.2		µg/l		10.0		112	80-120		
1,4-Dichlorobenzene	10.7		µg/l		10.0		107	80-120		
Dichlorodifluoromethane (Freon12)	9.9		µg/l		10.0		99	80-120		
1,1-Dichloroethane	11.2		µg/l		10.0		112	80-120		
1,2-Dichloroethane	10.5		µg/l		10.0		105	80-120		
1,1-Dichloroethene	10.6		µg/l		10.0		106	80-120		
cis-1,2-Dichloroethene	11.2		µg/l		10.0		112	80-120		
trans-1,2-Dichloroethene	10.8		µg/l		10.0		108	80-120		
1,2-Dichloropropane	10.7		µg/l		10.0		107	80-120		
1,3-Dichloropropane	10.6		µg/l		10.0		106	80-120		
2,2-Dichloropropane	11.4		µg/l		10.0		114	80-120		
1,1-Dichloropropene	10.8		µg/l		10.0		108	80-120		
cis-1,3-Dichloropropene	10.8		µg/l		10.0		108	80-120		
trans-1,3-Dichloropropene	10.7		µg/l		10.0		107	80-120		
Ethylbenzene	10.9		µg/l		10.0		109	80-120		
Hexachlorobutadiene	10.5		µg/l		10.0		105	80-120		
2-Hexanone (MBK)	8.6		µg/l		10.0		86	70-130		
Isopropylbenzene	8.8		µg/l		10.0		88	80-120		
4-Isopropyltoluene	10.4		µg/l		10.0		104	80-120		
Methyl tert-butyl ether	11.3		µg/l		10.0		113	80-120		
4-Methyl-2-pentanone (MIBK)	8.7		µg/l		10.0		87	70-130		
Methylene chloride	10.6		µg/l		10.0		106	80-120		
Naphthalene	9.1		µg/l		10.0		91	80-120		
n-Propylbenzene	9.5		µg/l		10.0		95	80-120		
Styrene	10.9		µg/l		10.0		109	80-120		
1,1,1,2-Tetrachloroethane	11.4		µg/l		10.0		114	80-120		
1,1,2,2-Tetrachloroethane	9.4		µg/l		10.0		94	80-120		
Tetrachloroethene	11.2		µg/l		10.0		112	80-120		
Toluene	11.0		µg/l		10.0		110	80-120		
1,2,3-Trichlorobenzene	10.2		µg/l		10.0		102	80-120		
1,2,4-Trichlorobenzene	10.5		µg/l		10.0		105	80-120		
1,1,1-Trichloroethane	11.1		µg/l		10.0		111	80-120		
1,1,2-Trichloroethane	10.8		µg/l		10.0		108	80-120		
Trichloroethene	12.0		µg/l		10.0		120	80-120		
Trichlorofluoromethane (Freon 11)	11.7		µg/l		10.0		117	80-120		
1,2,3-Trichloropropane	11.3		µg/l		10.0		113	80-120		
1,2,4-Trimethylbenzene	9.8		µg/l		10.0		98	80-120		
1,3,5-Trimethylbenzene	9.7		µg/l		10.0		97	80-120		
Vinyl chloride	12.2	QC1	µg/l		10.0		122	80-120		
m,p-Xylene	20.8		µg/l		20.0		104	80-120		
o-Xylene	10.5		µg/l		10.0		105	80-120		
Tetrahydrofuran	9.9		µg/l		10.0		99	70-130		
Tert-amyl methyl ether	10.9		µg/l		10.0		109	70-130		
Ethyl tert-butyl ether	10.2		µg/l		10.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032061 - SW846 5030 Water MS										
LCS (9032061-BS1)		QM10								
Prepared & Analyzed: 31-Mar-09										
Di-isopropyl ether	10.0		µg/l		10.0		100	70-130		
Tert-Butanol / butyl alcohol	93.6		µg/l		100		94	70-130		
Surrogate: 4-Bromofluorobenzene	*50.3*		µg/l		*50.0*		*101*	*80-120*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*48.8*		µg/l		*50.0*		*98*	*80-120*		
Surrogate: Dibromofluoromethane	*50.1*		µg/l		*50.0*		*100*	*80-120*		
LCS Dup (9032061-BSD1)		QM10								
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	12.0		µg/l		10.0		120	80-120	8	20
Acetone	12.0		µg/l		10.0		120	70-130	0.7	30
Acrylonitrile	9.6		µg/l		10.0		96	70-130	6	30
Benzene	10.2		µg/l		10.0		102	80-120	4	20
Bromobenzene	10.6		µg/l		10.0		106	80-120	0.4	20
Bromochloromethane	10.6		µg/l		10.0		106	80-120	0	20
Bromodichloromethane	11.1		µg/l		10.0		111	80-120	7	20
Bromoform	11.7		µg/l		10.0		117	80-120	2	20
Bromomethane	11.7		µg/l		10.0		117	80-120	2	20
2-Butanone (MEK)	10.4		µg/l		10.0		104	70-130	2	30
n-Butylbenzene	9.4		µg/l		10.0		94	80-120	4	20
sec-Butylbenzene	10.3		µg/l		10.0		103	80-120	3	20
tert-Butylbenzene	10.3		µg/l		10.0		103	80-120	4	20
Carbon disulfide	9.2		µg/l		10.0		92	70-130	14	30
Carbon tetrachloride	10.5		µg/l		10.0		105	80-120	4	20
Chlorobenzene	10.6		µg/l		10.0		106	80-120	0.9	20
Chloroethane	9.7		µg/l		10.0		97	80-120	12	20
Chloroform	10.9		µg/l		10.0		109	80-120	1	20
Chloromethane	9.5		µg/l		10.0		95	80-120	10	20
2-Chlorotoluene	10.3		µg/l		10.0		103	80-120	0.8	20
4-Chlorotoluene	10.1		µg/l		10.0		101	80-120	2	20
1,2-Dibromo-3-chloropropane	9.8		µg/l		10.0		98	80-120	4	20
Dibromochloromethane	10.8		µg/l		10.0		108	80-120	3	20
1,2-Dibromoethane (EDB)	10.1		µg/l		10.0		101	80-120	3	20
Dibromomethane	10.3		µg/l		10.0		103	80-120	3	20
1,2-Dichlorobenzene	11.2		µg/l		10.0		112	80-120	0.2	20
1,3-Dichlorobenzene	11.5		µg/l		10.0		115	80-120	2	20
1,4-Dichlorobenzene	10.4		µg/l		10.0		104	80-120	3	20
Dichlorodifluoromethane (Freon12)	9.0		µg/l		10.0		90	80-120	10	20
1,1-Dichloroethane	10.5		µg/l		10.0		105	80-120	6	20
1,2-Dichloroethane	10.2		µg/l		10.0		102	80-120	3	20
1,1-Dichloroethene	10.2		µg/l		10.0		102	80-120	5	20
cis-1,2-Dichloroethene	11.2		µg/l		10.0		112	80-120	0.09	20
trans-1,2-Dichloroethene	9.6		µg/l		10.0		96	80-120	12	20
1,2-Dichloropropane	10.0		µg/l		10.0		100	80-120	7	20
1,3-Dichloropropane	10.3		µg/l		10.0		103	80-120	3	20
2,2-Dichloropropane	10.8		µg/l		10.0		108	80-120	5	20
1,1-Dichloropropene	10.1		µg/l		10.0		101	80-120	6	20
cis-1,3-Dichloropropene	10.4		µg/l		10.0		104	80-120	4	20
trans-1,3-Dichloropropene	10.4		µg/l		10.0		104	80-120	2	20
Ethylbenzene	10.6		µg/l		10.0		106	80-120	4	20
Hexachlorobutadiene	9.7		µg/l		10.0		97	80-120	8	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032061 - SW846 5030 Water MS										
LCS Dup (9032061-BSD1)		QM10								
Prepared & Analyzed: 31-Mar-09										
2-Hexanone (MBK)	8.3		µg/l		10.0		83	70-130	4	30
Isopropylbenzene	8.8		µg/l		10.0		88	80-120	0.1	20
4-Isopropyltoluene	10.3		µg/l		10.0		103	80-120	0.7	20
Methyl tert-butyl ether	10.8		µg/l		10.0		108	80-120	4	20
4-Methyl-2-pentanone (MIBK)	8.6		µg/l		10.0		86	70-130	1	30
Methylene chloride	9.7		µg/l		10.0		97	80-120	9	20
Naphthalene	8.8		µg/l		10.0		88	80-120	4	20
n-Propylbenzene	9.7		µg/l		10.0		97	80-120	1	20
Styrene	10.7		µg/l		10.0		107	80-120	1	20
1,1,1,2-Tetrachloroethane	11.2		µg/l		10.0		112	80-120	2	20
1,1,2,2-Tetrachloroethane	9.0		µg/l		10.0		90	80-120	4	20
Tetrachloroethene	10.8		µg/l		10.0		108	80-120	4	20
Toluene	10.3		µg/l		10.0		103	80-120	7	20
1,2,3-Trichlorobenzene	10.4		µg/l		10.0		104	80-120	2	20
1,2,4-Trichlorobenzene	10.4		µg/l		10.0		104	80-120	1	20
1,1,1-Trichloroethane	10.5		µg/l		10.0		105	80-120	5	20
1,1,2-Trichloroethane	10.4		µg/l		10.0		104	80-120	4	20
Trichloroethene	11.2		µg/l		10.0		112	80-120	6	20
Trichlorofluoromethane (Freon 11)	10.7		µg/l		10.0		107	80-120	9	20
1,2,3-Trichloropropane	11.4		µg/l		10.0		114	80-120	0.5	20
1,2,4-Trimethylbenzene	10.1		µg/l		10.0		101	80-120	3	20
1,3,5-Trimethylbenzene	10.0		µg/l		10.0		100	80-120	3	20
Vinyl chloride	11.2		µg/l		10.0		112	80-120	9	20
m,p-Xylene	20.5		µg/l		20.0		102	80-120	2	20
o-Xylene	10.6		µg/l		10.0		106	80-120	0.3	20
Tetrahydrofuran	9.7		µg/l		10.0		97	70-130	2	30
Tert-amyl methyl ether	10.5		µg/l		10.0		105	70-130	4	30
Ethyl tert-butyl ether	10.1		µg/l		10.0		101	70-130	0.9	30
Di-isopropyl ether	10.4		µg/l		10.0		104	70-130	3	30
Tert-Butanol / butyl alcohol	89.3		µg/l		100		89	70-130	5	30
Surrogate: 4-Bromofluorobenzene	*50.9*		µg/l		*50.0*		*102*	*80-120*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*47.5*		µg/l		*50.0*		*95*	*80-120*		
Surrogate: Dibromofluoromethane	*50.5*		µg/l		*50.0*		*101*	*80-120*		
Matrix Spike (9032061-MS1)	**Source: SA92770-04**									
Prepared & Analyzed: 31-Mar-09										
Benzene	15.3	QM7	µg/l		20.0	BRL	76	80-120		
Chlorobenzene	17.4		µg/l		20.0	BRL	87	80-120		
1,1-Dichloroethene	14.0	QM7	µg/l		20.0	BRL	70	80-120		
Toluene	15.8	QM7	µg/l		20.0	0.2	78	80-120		
Trichloroethene	14.9	QM7	µg/l		20.0	BRL	75	80-120		
Surrogate: 4-Bromofluorobenzene	*51.3*		µg/l		*50.0*		*103*	*80-120*		
Surrogate: Toluene-d8	*49.0*		µg/l		*50.0*		*98*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*52.5*		µg/l		*50.0*		*105*	*80-120*		
Surrogate: Dibromofluoromethane	*51.7*		µg/l		*50.0*		*103*	*80-120*		
Batch 9032069 - SW846 5030 Water MS										
Blank (9032069-BLK1)										
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032069 - SW846 5030 Water MS										
Blank (9032069-BLK1)										
Prepared & Analyzed: 31-Mar-09										
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032069 - SW846 5030 Water MS										
Blank (9032069-BLK1)										
Prepared & Analyzed: 31-Mar-09										
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/l		*50.0*		*99*	*70-130*		
LCS (9032069-BS1)										
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	23.1		µg/l		20.0		115	70-130		
Acetone	23.6		µg/l		20.0		118	45.7-161		
Acrylonitrile	18.3		µg/l		20.0		91	70-130		
Benzene	19.1		µg/l		20.0		95	70-130		
Bromobenzene	19.6		µg/l		20.0		98	70-130		
Bromochloromethane	19.4		µg/l		20.0		97	70-130		
Bromodichloromethane	20.0		µg/l		20.0		100	70-130		
Bromoform	17.4		µg/l		20.0		87	70-130		
Bromomethane	18.2		µg/l		20.0		91	39.7-172		
2-Butanone (MEK)	19.2		µg/l		20.0		96	50.8-149		
n-Butylbenzene	18.6		µg/l		20.0		93	70-130		
sec-Butylbenzene	19.5		µg/l		20.0		98	70-130		
tert-Butylbenzene	19.4		µg/l		20.0		97	70-130		
Carbon disulfide	18.1		µg/l		20.0		90	70-130		
Carbon tetrachloride	19.1		µg/l		20.0		96	70-130		
Chlorobenzene	19.4		µg/l		20.0		97	70-130		
Chloroethane	19.1		µg/l		20.0		95	70-136		
Chloroform	20.5		µg/l		20.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032069 - SW846 5030 Water MS										
LCS (9032069-BS1)										
Prepared & Analyzed: 31-Mar-09										
Chloromethane	20.3		µg/l		20.0		102	70-130		
2-Chlorotoluene	19.6		µg/l		20.0		98	70-130		
4-Chlorotoluene	19.4		µg/l		20.0		97	70-130		
1,2-Dibromo-3-chloropropane	17.8		µg/l		20.0		89	70-130		
Dibromochloromethane	18.4		µg/l		20.0		92	59.7-133		
1,2-Dibromoethane (EDB)	19.8		µg/l		20.0		99	70-130		
Dibromomethane	19.4		µg/l		20.0		97	70-130		
1,2-Dichlorobenzene	19.8		µg/l		20.0		99	70-130		
1,3-Dichlorobenzene	19.8		µg/l		20.0		99	70-130		
1,4-Dichlorobenzene	19.8		µg/l		20.0		99	70-130		
Dichlorodifluoromethane (Freon12)	18.0		µg/l		20.0		90	43-134		
1,1-Dichloroethane	19.6		µg/l		20.0		98	70-130		
1,2-Dichloroethane	20.3		µg/l		20.0		101	70-130		
1,1-Dichloroethene	19.2		µg/l		20.0		96	70-130		
cis-1,2-Dichloroethene	20.2		µg/l		20.0		101	70-130		
trans-1,2-Dichloroethene	18.8		µg/l		20.0		94	70-130		
1,2-Dichloropropane	19.4		µg/l		20.0		97	70-130		
1,3-Dichloropropane	19.8		µg/l		20.0		99	70-130		
2,2-Dichloropropane	18.8		µg/l		20.0		94	70-130		
1,1-Dichloropropene	19.5		µg/l		20.0		98	70-130		
cis-1,3-Dichloropropene	19.2		µg/l		20.0		96	70-130		
trans-1,3-Dichloropropene	18.8		µg/l		20.0		94	70-130		
Ethylbenzene	18.8		µg/l		20.0		94	70-130		
Hexachlorobutadiene	17.9		µg/l		20.0		90	50.9-165		
2-Hexanone (MBK)	19.5		µg/l		20.0		97	70-130		
Isopropylbenzene	16.4		µg/l		20.0		82	70-130		
4-Isopropyltoluene	20.0		µg/l		20.0		100	70-130		
Methyl tert-butyl ether	19.2		µg/l		20.0		96	70-130		
4-Methyl-2-pentanone (MIBK)	18.4		µg/l		20.0		92	52.8-134		
Methylene chloride	18.2		µg/l		20.0		91	70-130		
Naphthalene	18.8		µg/l		20.0		94	70-130		
n-Propylbenzene	18.7		µg/l		20.0		94	70-130		
Styrene	19.3		µg/l		20.0		96	70-130		
1,1,1,2-Tetrachloroethane	18.9		µg/l		20.0		95	70-130		
1,1,2,2-Tetrachloroethane	16.6		µg/l		20.0		83	70-130		
Tetrachloroethene	20.1		µg/l		20.0		100	70-130		
Toluene	19.4		µg/l		20.0		97	70-130		
1,2,3-Trichlorobenzene	19.3		µg/l		20.0		97	70-130		
1,2,4-Trichlorobenzene	18.4		µg/l		20.0		92	70-130		
1,3,5-Trichlorobenzene	18.5		µg/l		20.0		92	70-130		
1,1,1-Trichloroethane	19.7		µg/l		20.0		99	70-130		
1,1,2-Trichloroethane	19.6		µg/l		20.0		98	70-130		
Trichloroethene	21.8		µg/l		20.0		109	70-130		
Trichlorofluoromethane (Freon 11)	21.7		µg/l		20.0		109	60-147		
1,2,3-Trichloropropane	20.2		µg/l		20.0		101	70-130		
1,2,4-Trimethylbenzene	19.1		µg/l		20.0		95	70-130		
1,3,5-Trimethylbenzene	19.0		µg/l		20.0		95	70-130		
Vinyl chloride	21.7		µg/l		20.0		109	70-130		
m,p-Xylene	39.0		µg/l		40.0		98	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032069 - SW846 5030 Water MS										
LCS (9032069-BS1)										
Prepared & Analyzed: 31-Mar-09										
o-Xylene	19.8		µg/l		20.0		99	70-130		
Tetrahydrofuran	17.4		µg/l		20.0		87	70-130		
Ethyl ether	19.2		µg/l		20.0		96	67.1-130		
Tert-amyl methyl ether	19.6		µg/l		20.0		98	70-130		
Ethyl tert-butyl ether	19.2		µg/l		20.0		96	70-130		
Di-isopropyl ether	19.1		µg/l		20.0		96	70-130		
Tert-Butanol / butyl alcohol	297	QC2	µg/l		200		149	70-130		
1,4-Dioxane	637	QC2	µg/l		200		319	56.4-130		
trans-1,4-Dichloro-2-butene	95.6	QC2	µg/l		20.0		478	70-130		
Ethanol	1410	QC2	µg/l		400		354	70-130		
Surrogate: 4-Bromofluorobenzene	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*50.2*		µg/l		*50.0*		*100*	*70-130*		
LCS Dup (9032069-BSD1)										
Prepared & Analyzed: 31-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	20.8		µg/l		20.0		104	70-130	10	25
Acetone	23.3		µg/l		20.0		116	45.7-161	1	50
Acrylonitrile	19.2		µg/l		20.0		96	70-130	5	25
Benzene	18.7		µg/l		20.0		94	70-130	2	25
Bromobenzene	19.2		µg/l		20.0		96	70-130	2	25
Bromochloromethane	19.6		µg/l		20.0		98	70-130	0.8	25
Bromodichloromethane	19.7		µg/l		20.0		99	70-130	1	25
Bromoform	17.4		µg/l		20.0		87	70-130	0.06	25
Bromomethane	18.5		µg/l		20.0		93	39.7-172	2	50
2-Butanone (MEK)	19.8		µg/l		20.0		99	50.8-149	3	50
n-Butylbenzene	18.3		µg/l		20.0		92	70-130	2	25
sec-Butylbenzene	19.3		µg/l		20.0		97	70-130	0.9	25
tert-Butylbenzene	19.4		µg/l		20.0		97	70-130	0.2	25
Carbon disulfide	17.4		µg/l		20.0		87	70-130	4	25
Carbon tetrachloride	18.5		µg/l		20.0		92	70-130	3	25
Chlorobenzene	19.2		µg/l		20.0		96	70-130	2	25
Chloroethane	19.6		µg/l		20.0		98	70-136	3	50
Chloroform	19.9		µg/l		20.0		99	70-130	3	25
Chloromethane	19.2		µg/l		20.0		96	70-130	6	25
2-Chlorotoluene	19.3		µg/l		20.0		96	70-130	1	25
4-Chlorotoluene	19.3		µg/l		20.0		96	70-130	0.8	25
1,2-Dibromo-3-chloropropane	17.5		µg/l		20.0		88	70-130	2	25
Dibromochloromethane	17.9		µg/l		20.0		90	59.7-133	2	50
1,2-Dibromoethane (EDB)	19.7		µg/l		20.0		98	70-130	0.8	25
Dibromomethane	19.4		µg/l		20.0		97	70-130	0.3	25
1,2-Dichlorobenzene	19.6		µg/l		20.0		98	70-130	1	25
1,3-Dichlorobenzene	19.5		µg/l		20.0		97	70-130	2	25
1,4-Dichlorobenzene	19.3		µg/l		20.0		97	70-130	3	25
Dichlorodifluoromethane (Freon12)	17.8		µg/l		20.0		89	43-134	0.9	50
1,1-Dichloroethane	19.0		µg/l		20.0		95	70-130	3	25
1,2-Dichloroethane	20.1		µg/l		20.0		100	70-130	1	25
1,1-Dichloroethene	18.6		µg/l		20.0		93	70-130	3	25
cis-1,2-Dichloroethene	19.9		µg/l		20.0		100	70-130	1	25
trans-1,2-Dichloroethene	18.1		µg/l		20.0		91	70-130	4	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032069 - SW846 5030 Water MS										
LCS Dup (9032069-BSD1)										
Prepared & Analyzed: 31-Mar-09										
1,2-Dichloropropane	18.9		µg/l		20.0		95	70-130	2	25
1,3-Dichloropropane	19.2		µg/l		20.0		96	70-130	3	25
2,2-Dichloropropane	18.1		µg/l		20.0		90	70-130	4	25
1,1-Dichloropropene	18.8		µg/l		20.0		94	70-130	4	25
cis-1,3-Dichloropropene	18.5		µg/l		20.0		92	70-130	4	25
trans-1,3-Dichloropropene	18.4		µg/l		20.0		92	70-130	3	25
Ethylbenzene	18.7		µg/l		20.0		93	70-130	0.8	25
Hexachlorobutadiene	17.8		µg/l		20.0		89	50.9-165	0.6	50
2-Hexanone (MBK)	18.1		µg/l		20.0		91	70-130	7	25
Isopropylbenzene	16.3		µg/l		20.0		81	70-130	0.9	25
4-Isopropyltoluene	19.6		µg/l		20.0		98	70-130	2	25
Methyl tert-butyl ether	19.0		µg/l		20.0		95	70-130	1	25
4-Methyl-2-pentanone (MIBK)	18.1		µg/l		20.0		90	52.8-134	2	50
Methylene chloride	18.1		µg/l		20.0		90	70-130	0.3	25
Naphthalene	18.2		µg/l		20.0		91	70-130	3	25
n-Propylbenzene	18.4		µg/l		20.0		92	70-130	1	25
Styrene	19.1		µg/l		20.0		95	70-130	1	25
1,1,1,2-Tetrachloroethane	18.9		µg/l		20.0		95	70-130	0	25
1,1,2,2-Tetrachloroethane	16.8		µg/l		20.0		84	70-130	1	25
Tetrachloroethene	19.4		µg/l		20.0		97	70-130	4	25
Toluene	18.8		µg/l		20.0		94	70-130	3	25
1,2,3-Trichlorobenzene	19.1		µg/l		20.0		95	70-130	1	25
1,2,4-Trichlorobenzene	18.3		µg/l		20.0		91	70-130	0.6	25
1,3,5-Trichlorobenzene	18.2		µg/l		20.0		91	70-130	1	25
1,1,1-Trichloroethane	19.2		µg/l		20.0		96	70-130	3	25
1,1,2-Trichloroethane	19.2		µg/l		20.0		96	70-130	2	25
Trichloroethene	21.1		µg/l		20.0		105	70-130	3	25
Trichlorofluoromethane (Freon 11)	21.1		µg/l		20.0		106	60-147	3	50
1,2,3-Trichloropropane	20.2		µg/l		20.0		101	70-130	0.05	25
1,2,4-Trimethylbenzene	19.0		µg/l		20.0		95	70-130	0.7	25
1,3,5-Trimethylbenzene	18.8		µg/l		20.0		94	70-130	0.8	25
Vinyl chloride	18.6		µg/l		20.0		93	70-130	15	25
m,p-Xylene	38.8		µg/l		40.0		97	70-130	0.6	25
o-Xylene	19.6		µg/l		20.0		98	70-130	1	25
Tetrahydrofuran	17.3		µg/l		20.0		86	70-130	0.9	25
Ethyl ether	19.1		µg/l		20.0		95	67.1-130	0.4	50
Tert-amyl methyl ether	19.5		µg/l		20.0		97	70-130	0.6	25
Ethyl tert-butyl ether	18.8		µg/l		20.0		94	70-130	2	25
Di-isopropyl ether	18.7		µg/l		20.0		93	70-130	2	25
Tert-Butanol / butyl alcohol	207	QR5	µg/l		200		103	70-130	36	25
1,4-Dioxane	464	QC2	µg/l		200		232	56.4-130	32	25
trans-1,4-Dichloro-2-butene	94.0	QC2	µg/l		20.0		470	70-130	2	25
Ethanol	737	QC2	µg/l		400		184	70-130	63	30
Surrogate: 4-Bromofluorobenzene	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Matrix Spike (9032069-MS1)	**Source: SA92753-02**									
Prepared & Analyzed: 31-Mar-09										
Benzene	4.6		µg/l		5.00	BRL	92	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9032069 - SW846 5030 Water MS										
Matrix Spike (9032069-MS1)	**Source: SA92753-02**									
Prepared & Analyzed: 31-Mar-09										
Chlorobenzene	4.6		µg/l		5.00	BRL	91	70-130		
1,1-Dichloroethene	4.5		µg/l		5.00	BRL	89	70-130		
Toluene	4.6		µg/l		5.00	BRL	91	70-130		
Trichloroethene	4.6		µg/l		5.00	BRL	92	70-130		
Surrogate: 4-Bromofluorobenzene	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Matrix Spike Dup (9032069-MSD1)	**Source: SA92753-02**									
Prepared & Analyzed: 31-Mar-09										
Benzene	4.5		µg/l		5.00	BRL	90	70-130	2	30
Chlorobenzene	4.6		µg/l		5.00	BRL	92	70-130	0.7	30
1,1-Dichloroethene	4.6		µg/l		5.00	BRL	91	70-130	2	30
Toluene	4.5		µg/l		5.00	BRL	90	70-130	0.9	30
Trichloroethene	4.7		µg/l		5.00	BRL	93	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Batch 9040126 - SW846 5030 Water MS										
Blank (9040126-BLK1)										
Prepared & Analyzed: 02-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9040126 - SW846 5030 Water MS										
Blank (9040126-BLK1)										
Prepared & Analyzed: 02-Apr-09										
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9040126 - SW846 5030 Water MS										
Blank (9040126-BLK1)										
Prepared & Analyzed: 02-Apr-09										
Surrogate: 4-Bromofluorobenzene	*43.9*		µg/l		*50.0*		*88*	*70-130*		
Surrogate: Toluene-d8	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*50.6*		µg/l		*50.0*		*101*	*70-130*		
LCS (9040126-BS1)										
Prepared & Analyzed: 02-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	23.4		µg/l		20.0		117	70-130		
Acetone	20.7		µg/l		20.0		104	45.7-161		
Acrylonitrile	19.9		µg/l		20.0		100	70-130		
Benzene	20.5		µg/l		20.0		103	70-130		
Bromobenzene	19.7		µg/l		20.0		99	70-130		
Bromochloromethane	20.3		µg/l		20.0		101	70-130		
Bromodichloromethane	22.2		µg/l		20.0		111	70-130		
Bromoform	16.0		µg/l		20.0		80	70-130		
Bromomethane	18.9		µg/l		20.0		94	39.7-172		
2-Butanone (MEK)	17.8		µg/l		20.0		89	50.8-149		
n-Butylbenzene	20.0		µg/l		20.0		100	70-130		
sec-Butylbenzene	21.6		µg/l		20.0		108	70-130		
tert-Butylbenzene	21.4		µg/l		20.0		107	70-130		
Carbon disulfide	18.8		µg/l		20.0		94	70-130		
Carbon tetrachloride	20.7		µg/l		20.0		103	70-130		
Chlorobenzene	21.1		µg/l		20.0		106	70-130		
Chloroethane	18.8		µg/l		20.0		94	70-136		
Chloroform	20.8		µg/l		20.0		104	70-130		
Chloromethane	19.6		µg/l		20.0		98	70-130		
2-Chlorotoluene	19.8		µg/l		20.0		99	70-130		
4-Chlorotoluene	21.2		µg/l		20.0		106	70-130		
1,2-Dibromo-3-chloropropane	20.4		µg/l		20.0		102	70-130		
Dibromochloromethane	20.4		µg/l		20.0		102	59.7-133		
1,2-Dibromoethane (EDB)	20.5		µg/l		20.0		102	70-130		
Dibromomethane	20.3		µg/l		20.0		101	70-130		
1,2-Dichlorobenzene	22.7		µg/l		20.0		114	70-130		
1,3-Dichlorobenzene	20.5		µg/l		20.0		102	70-130		
1,4-Dichlorobenzene	21.3		µg/l		20.0		106	70-130		
Dichlorodifluoromethane (Freon12)	17.8		µg/l		20.0		89	43-134		
1,1-Dichloroethane	21.1		µg/l		20.0		106	70-130		
1,2-Dichloroethane	20.7		µg/l		20.0		104	70-130		
1,1-Dichloroethene	19.7		µg/l		20.0		98	70-130		
cis-1,2-Dichloroethene	21.6		µg/l		20.0		108	70-130		
trans-1,2-Dichloroethene	19.8		µg/l		20.0		99	70-130		
1,2-Dichloropropane	20.6		µg/l		20.0		103	70-130		
1,3-Dichloropropane	20.7		µg/l		20.0		104	70-130		
2,2-Dichloropropane	19.7		µg/l		20.0		98	70-130		
1,1-Dichloropropene	20.7		µg/l		20.0		104	70-130		
cis-1,3-Dichloropropene	21.1		µg/l		20.0		106	70-130		
trans-1,3-Dichloropropene	20.1		µg/l		20.0		101	70-130		
Ethylbenzene	21.1		µg/l		20.0		105	70-130		
Hexachlorobutadiene	18.4		µg/l		20.0		92	50.9-165		
2-Hexanone (MBK)	20.0		µg/l		20.0		100	70-130		
Isopropylbenzene	17.6		µg/l		20.0		88	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9040126 - SW846 5030 Water MS										
LCS (9040126-BS1)										
Prepared & Analyzed: 02-Apr-09										
4-Isopropyltoluene	23.3		µg/l		20.0		117	70-130		
Methyl tert-butyl ether	20.1		µg/l		20.0		101	70-130		
4-Methyl-2-pentanone (MIBK)	19.9		µg/l		20.0		100	52.8-134		
Methylene chloride	20.1		µg/l		20.0		100	70-130		
Naphthalene	18.9		µg/l		20.0		95	70-130		
n-Propylbenzene	20.1		µg/l		20.0		101	70-130		
Styrene	20.9		µg/l		20.0		104	70-130		
1,1,1,2-Tetrachloroethane	21.0		µg/l		20.0		105	70-130		
1,1,2,2-Tetrachloroethane	21.6		µg/l		20.0		108	70-130		
Tetrachloroethene	18.3		µg/l		20.0		91	70-130		
Toluene	19.4		µg/l		20.0		97	70-130		
1,2,3-Trichlorobenzene	18.9		µg/l		20.0		94	70-130		
1,2,4-Trichlorobenzene	18.1		µg/l		20.0		91	70-130		
1,3,5-Trichlorobenzene	19.1		µg/l		20.0		96	70-130		
1,1,1-Trichloroethane	20.5		µg/l		20.0		102	70-130		
1,1,2-Trichloroethane	21.5		µg/l		20.0		108	70-130		
Trichloroethene	20.3		µg/l		20.0		101	70-130		
Trichlorofluoromethane (Freon 11)	22.3		µg/l		20.0		112	60-147		
1,2,3-Trichloropropane	22.8		µg/l		20.0		114	70-130		
1,2,4-Trimethylbenzene	20.9		µg/l		20.0		104	70-130		
1,3,5-Trimethylbenzene	21.3		µg/l		20.0		106	70-130		
Vinyl chloride	20.4		µg/l		20.0		102	70-130		
m,p-Xylene	41.3		µg/l		40.0		103	70-130		
o-Xylene	21.2		µg/l		20.0		106	70-130		
Tetrahydrofuran	18.6		µg/l		20.0		93	70-130		
Ethyl ether	20.5		µg/l		20.0		102	67.1-130		
Tert-amyl methyl ether	19.6		µg/l		20.0		98	70-130		
Ethyl tert-butyl ether	19.6		µg/l		20.0		98	70-130		
Di-isopropyl ether	19.7		µg/l		20.0		98	70-130		
Tert-Butanol / butyl alcohol	195		µg/l		200		97	70-130		
1,4-Dioxane	173		µg/l		200		87	56.4-130		
trans-1,4-Dichloro-2-butene	14.0		µg/l		20.0		70	70-130		
Ethanol	407		µg/l		400		102	70-130		
Surrogate: 4-Bromofluorobenzene	*48.0*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*49.9*		µg/l		*50.0*		*100*	*70-130*		
LCS Dup (9040126-BSD1)										
Prepared & Analyzed: 02-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	21.8		µg/l		20.0		109	70-130	7	25
Acetone	21.1		µg/l		20.0		105	45.7-161	2	50
Acrylonitrile	18.8		µg/l		20.0		94	70-130	6	25
Benzene	19.1		µg/l		20.0		96	70-130	7	25
Bromobenzene	18.7		µg/l		20.0		94	70-130	5	25
Bromochloromethane	19.1		µg/l		20.0		96	70-130	6	25
Bromodichloromethane	21.0		µg/l		20.0		105	70-130	5	25
Bromoform	15.3		µg/l		20.0		77	70-130	4	25
Bromomethane	17.8		µg/l		20.0		89	39.7-172	6	50
2-Butanone (MEK)	17.7		µg/l		20.0		88	50.8-149	0.7	50
n-Butylbenzene	18.6		µg/l		20.0		93	70-130	8	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9040126 - SW846 5030 Water MS										
LCS Dup (9040126-BSD1)										
Prepared & Analyzed: 02-Apr-09										
sec-Butylbenzene	20.1		µg/l		20.0		100	70-130	7	25
tert-Butylbenzene	19.9		µg/l		20.0		100	70-130	7	25
Carbon disulfide	17.3		µg/l		20.0		86	70-130	8	25
Carbon tetrachloride	18.5		µg/l		20.0		92	70-130	11	25
Chlorobenzene	20.1		µg/l		20.0		101	70-130	5	25
Chloroethane	17.6		µg/l		20.0		88	70-136	7	50
Chloroform	19.3		µg/l		20.0		96	70-130	8	25
Chloromethane	17.9		µg/l		20.0		90	70-130	9	25
2-Chlorotoluene	18.6		µg/l		20.0		93	70-130	6	25
4-Chlorotoluene	19.3		µg/l		20.0		97	70-130	9	25
1,2-Dibromo-3-chloropropane	18.9		µg/l		20.0		94	70-130	7	25
Dibromochloromethane	18.9		µg/l		20.0		94	59.7-133	8	50
1,2-Dibromoethane (EDB)	19.7		µg/l		20.0		99	70-130	4	25
Dibromomethane	19.3		µg/l		20.0		97	70-130	5	25
1,2-Dichlorobenzene	21.6		µg/l		20.0		108	70-130	5	25
1,3-Dichlorobenzene	18.7		µg/l		20.0		94	70-130	9	25
1,4-Dichlorobenzene	20.6		µg/l		20.0		103	70-130	3	25
Dichlorodifluoromethane (Freon12)	16.5		µg/l		20.0		82	43-134	8	50
1,1-Dichloroethane	19.7		µg/l		20.0		98	70-130	7	25
1,2-Dichloroethane	19.5		µg/l		20.0		98	70-130	6	25
1,1-Dichloroethene	18.1		µg/l		20.0		91	70-130	8	25
cis-1,2-Dichloroethene	20.2		µg/l		20.0		101	70-130	7	25
trans-1,2-Dichloroethene	17.9		µg/l		20.0		89	70-130	10	25
1,2-Dichloropropane	19.9		µg/l		20.0		100	70-130	3	25
1,3-Dichloropropane	19.2		µg/l		20.0		96	70-130	8	25
2,2-Dichloropropane	18.4		µg/l		20.0		92	70-130	7	25
1,1-Dichloropropene	19.0		µg/l		20.0		95	70-130	9	25
cis-1,3-Dichloropropene	19.6		µg/l		20.0		98	70-130	8	25
trans-1,3-Dichloropropene	18.9		µg/l		20.0		94	70-130	6	25
Ethylbenzene	19.8		µg/l		20.0		99	70-130	6	25
Hexachlorobutadiene	16.2		µg/l		20.0		81	50.9-165	13	50
2-Hexanone (MBK)	19.3		µg/l		20.0		96	70-130	3	25
Isopropylbenzene	16.4		µg/l		20.0		82	70-130	7	25
4-Isopropyltoluene	21.9		µg/l		20.0		109	70-130	6	25
Methyl tert-butyl ether	19.5		µg/l		20.0		98	70-130	3	25
4-Methyl-2-pentanone (MIBK)	19.4		µg/l		20.0		97	52.8-134	3	50
Methylene chloride	19.0		µg/l		20.0		95	70-130	5	25
Naphthalene	16.7		µg/l		20.0		84	70-130	12	25
n-Propylbenzene	18.9		µg/l		20.0		94	70-130	6	25
Styrene	19.7		µg/l		20.0		98	70-130	6	25
1,1,1,2-Tetrachloroethane	19.3		µg/l		20.0		96	70-130	9	25
1,1,2,2-Tetrachloroethane	21.2		µg/l		20.0		106	70-130	2	25
Tetrachloroethene	17.1		µg/l		20.0		85	70-130	7	25
Toluene	18.3		µg/l		20.0		91	70-130	6	25
1,2,3-Trichlorobenzene	15.8		µg/l		20.0		79	70-130	18	25
1,2,4-Trichlorobenzene	15.9		µg/l		20.0		80	70-130	13	25
1,3,5-Trichlorobenzene	17.8		µg/l		20.0		89	70-130	7	25
1,1,1-Trichloroethane	19.1		µg/l		20.0		96	70-130	7	25
1,1,2-Trichloroethane	20.5		µg/l		20.0		103	70-130	5	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9040126 - SW846 5030 Water MS										
LCS Dup (9040126-BSD1)										
Prepared & Analyzed: 02-Apr-09										
Trichloroethene	18.6		µg/l		20.0		93	70-130	8	25
Trichlorofluoromethane (Freon 11)	20.7		µg/l		20.0		104	60-147	7	50
1,2,3-Trichloropropane	22.0		µg/l		20.0		110	70-130	4	25
1,2,4-Trimethylbenzene	19.8		µg/l		20.0		99	70-130	5	25
1,3,5-Trimethylbenzene	19.8		µg/l		20.0		99	70-130	7	25
Vinyl chloride	18.8		µg/l		20.0		94	70-130	8	25
m,p-Xylene	38.9		µg/l		40.0		97	70-130	6	25
o-Xylene	19.9		µg/l		20.0		99	70-130	7	25
Tetrahydrofuran	18.6		µg/l		20.0		93	70-130	0.1	25
Ethyl ether	19.2		µg/l		20.0		96	67.1-130	6	50
Tert-amyl methyl ether	18.4		µg/l		20.0		92	70-130	6	25
Ethyl tert-butyl ether	18.7		µg/l		20.0		93	70-130	5	25
Di-isopropyl ether	18.4		µg/l		20.0		92	70-130	7	25
Tert-Butanol / butyl alcohol	184		µg/l		200		92	70-130	5	25
1,4-Dioxane	171		µg/l		200		85	56.4-130	2	25
trans-1,4-Dichloro-2-butene	15.5		µg/l		20.0		77	70-130	10	25
Ethanol	404		µg/l		400		101	70-130	0.6	30
Surrogate: 4-Bromofluorobenzene	*48.3*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Matrix Spike (9040126-MS1)	**Source: SA92762-07**									
Prepared & Analyzed: 02-Apr-09										
Benzene	16.8		µg/l		20.0	BRL	84	70-130		
Chlorobenzene	18.2		µg/l		20.0	BRL	91	70-130		
1,1-Dichloroethene	17.7		µg/l		20.0	BRL	88	70-130		
Toluene	17.1		µg/l		20.0	BRL	85	70-130		
Trichloroethene	17.4		µg/l		20.0	BRL	87	70-130		
Surrogate: 4-Bromofluorobenzene	*48.0*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*50.5*		µg/l		*50.0*		*101*	*70-130*		
Matrix Spike Dup (9040126-MSD1)	**Source: SA92762-07**									
Prepared & Analyzed: 02-Apr-09										
Benzene	16.4		µg/l		20.0	BRL	82	70-130	3	30
Chlorobenzene	17.4		µg/l		20.0	BRL	87	70-130	4	30
1,1-Dichloroethene	17.6		µg/l		20.0	BRL	88	70-130	0.7	30
Toluene	16.3		µg/l		20.0	BRL	81	70-130	5	30
Trichloroethene	16.8		µg/l		20.0	BRL	84	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*47.4*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*50.4*		µg/l		*50.0*		*101*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9040103 - SW846 3510C										
Blank (9040103-BLK1)										
Prepared: 02-Apr-09 Analyzed: 06-Apr-09										
Gasoline	BRL		mg/l	0.1						
Fuel Oil #2	BRL		mg/l	0.1						
Fuel Oil #4	BRL		mg/l	0.1						
Fuel Oil #6	BRL		mg/l	0.1						
Motor Oil	BRL		mg/l	0.1						
Ligroin	BRL		mg/l	0.1						
Aviation Fuel	BRL		mg/l	0.1						
Hydraulic Oil	BRL		mg/l	0.1						
Dielectric Fluid	BRL		mg/l	0.1						
Unidentified	BRL		mg/l	0.1						
Other Oil	BRL		mg/l	0.1						
Total Petroleum Hydrocarbons	BRL		mg/l	0.1						
Surrogate: 1-Chlorooctadecane	*0.0344*		mg/l		*0.0500*		*69*	*40-140*		
LCS (9040103-BS1)										
Prepared: 02-Apr-09 Analyzed: 06-Apr-09										
Fuel Oil #2	8.1		mg/l	0.1	10.0		81	40-140		
Surrogate: 1-Chlorooctadecane	*0.0447*		mg/l		*0.0500*		*89*	*40-140*		

Notes and Definitions

CAL1	Analyte quantified by quadratic equation type calibration.
QC1	Analyte out of acceptance range.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM10	LCS/LCSD were analyzed in place of MS/MSD.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR5	RPD out of acceptance range.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.
Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
Fuel Oil #4 - includes #4 fuel oil
Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
Motor Oil - includes virgin and waste automobile oil
Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
Aviation Fuel - includes kerosene, Jet A and JP-4
Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as *TPH (Calculated as).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Validated by:
Hanibal C. Tayeh, Ph.D.

SA92753 Cb

SPECTRUM ANALYTICAL, INC.
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HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☑ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS Waterbury VT

Invoice To: _____

Project Mgr.: Beth Ericksen

P.O. No.: _____ RQN: 0002

Project No.: 08-209449.05
Site Name: AOT Roundabout
Location: East Bare State: VT
Sampler(s): Beth Ericksen

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1=deionized water X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	Containers: # of VOA Vials HCl	# of Amber Glass	# of Clear Glass	# of Plastic	VOA vials unpreserved	Analyses: 8260	8100	Product 8100	524.2	QA Reporting Notes: (check if needed)
SA92753-01	Underdrain Catchbasin	3/25/09	1100	G	GW	2	3	1				✓	✓			☐ Provide MA DEP MCP CAM Report
02	MW-1	3/26/09	1220				3	1				✓	✓			☐ Provide CT DPH RCP Report
03	MW-2		1200				3	1				✓	✓			**QA/QC Reporting Level**
04	MW-3		1300				3	1			2	✓	✓	✓		☐ Standard ☐ No QC
05	MW-4		1320				3	1				✓	✓			☐ Other _____
06	MW-5		1245				3	1				✓	✓			State specific reporting standards:
07	Duplicate		—				3					✓				
08	Spring	↓			↓		3								✓	
09	Trip Blank	—	—	↓	X1	↓	1					✓				

See attached

☐ Fax results when available to (____) _____
☑ E-mail to eericksen@ecsconsult.com
EDD Format _____

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 2

Relinquished by:	Received by:	Date:	Time:
		3/26/09	1530
ups		3/27/09	1048

APPENDIX E

SOIL LABORATORY ANALYTICAL RESULTS