



SUBSURFACE INVESTIGATION REPORT

**Heritage Mobil Service Station No. 01-L6V
U.S. Route 100 N
Waterbury, Vermont**

March 23, 2001

Prepared for:

Mr. Achebe Hope
EXXONMOBIL REFINING & SUPPLY COMPANY
1800 West Park Drive, Suite 450
Westborough, MA 01581

Prepared by:

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.
429B Hayden Station Road
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Written/Prepared by:

A handwritten signature in black ink, appearing to read 'Melissa D. Davis', written in a cursive style.

Melissa D. Davis
Junior Environmental Scientist

Reviewed/Approved by:

A handwritten signature in black ink, appearing to read 'Glen D. Stefaniak', written in a cursive style.

Glen D. Stefaniak
Staff Geologist



**Groundwater
& Environmental Services, Inc.**

429B Hayden Station Road • Windsor, Connecticut 06095 • (860) 688-9023 • FAX (860) 688-9278

March 23, 2001

Mr. Richard F. Spiese
State of Vermont
Agency of Natural Resources
Department of Environmental Conservation
Sites Management Section
103 South Main Street, West Building
Waterbury, Vermont 05671

Re: Subsurface Investigation Report
Heritage Mobil Service Station No. 01-L6V
U.S. Route 100 N
Waterbury, Vermont
SMS No. 99-2666

Dear Mr. Spiese:

Enclosed is the Subsurface Investigation Report prepared for the above-referenced Waterbury, Vermont location.

Please contact Mr. Achebe Hope of ExxonMobil Refining & Supply Company at 508/389-1885, or either of the undersigned if you have any questions regarding the status of the site.

Sincerely,
GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Melissa D. Davis
Junior Environmental Scientist

Glen D. Stefaniak
Staff Geologist

MDD/GDS

Enclosure

cc: A. Hope – ExxonMobil Refining & Supply Company



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1.0 INTRODUCTION

Groundwater & Environmental Services, Inc. (GES) was retained by ExxonMobil Refining & Supply Company (ExxonMobil) to conduct a subsurface investigation at the Mobil Service Station No. 01-L6V located along U.S. Route 100 N in Waterbury, Vermont (the Site). The objective of the investigation was to evaluate current soil and groundwater quality at the Site by installing five (5) 4-inch diameter groundwater monitoring wells. This report presents the results of the subsurface investigation.

2.0 SITE DESCRIPTION

The Site is located along U.S. Route 100 N in Waterbury, Vermont. A Site Locus is provided as **Figure 1**. The Site is currently operated as a Mobil service station facility and includes a Mobil Mart building. Gasoline is stored in three (3) double-walled, fiberglass-reinforced plastic (FRP) underground storage tanks (USTs) of 10,000-gallon (super), 10,000-gallon (premium), and 12,000-gallon (regular) capacity, which were installed in 1989. Gasoline is dispensed at two (2) dispenser pump islands each containing two pump dispensers. Diesel fuel is stored in a steel aboveground storage tank (AST) located on the eastern portion of the Site property, and dispensed at one pump dispenser located next to the AST. In addition, one (1) fuel-oil UST is located to the southeast of the service station building and one used-oil UST is located to the southeast of the station building. The service station is supplied with municipal water and sewer services. The topography at the Site is generally flat, with the terrain sloping essentially downward to the south and slopes steeply toward the south and east beyond the property boundary. A Site Plan illustrating current Site features is provided as **Figure 2**.

3.0 SUBSURFACE INVESTIGATION

3.1 Objective

The purpose of this subsurface investigation was to evaluate current soil and groundwater quality at the Site following a gasoline release at a flex connector at the pump islands and a No. 2 diesel fuel release from a tank overfill in the vicinity of the diesel fuel pump dispenser.

3.2 Soil Borings

On November 6, 2000 and November 7, 2000, GES personnel supervised the advancement of five (5) soil borings identified as B-1, B-2, B-3, B-4 and B-5 on the Site Plan provided as **Figure 2**. All borings were advanced by GeoSearch, Inc. (GeoSearch) of Leominster, Massachusetts utilizing hollow-stem auger drilling methods. Prior to auger advancement, GeoSearch personnel utilized hand clearing procedures to ensure that the boring locations were clear of underground utilities. Soil borings were advanced into unconsolidated overburden to depths ranging from 22-to-30 feet below grade (fbg) utilizing a 6-1/4 inch inside diameter (I.D.) hollow-stem auger.

Soil samples were collected at 2-foot intervals beginning at 4 fbg using a 1 3/8-inch diameter, 24-inch long split-spoon sampler in accordance with American Society for Testing and Materials [(ASTM) D-1586]. Samples were examined by the supervising GES field technician for lithologic characterization, color, density, and moisture content. In addition, soil samples were screened in the field for the presence of volatile organic compounds (VOCs) utilizing a photoionization detector (PID) with a 10.0 eV lamp calibrated to an isobutylene standard.

PID headspace readings were recorded for soil samples collected from each soil boring.

Recorded PID readings were as follows:

- Soil boring B-1 0.0 parts per million [(ppm) (4-to-6 fbg)]
to 16.2 ppm (24-to-26 fbg);

- Soil boring B-2 8.3 ppm (7-to-9 fbg) to 13.8 ppm (27-to-29 fbg);
- Soil boring B-3 0.8 ppm (8-to-10 fbg) to 2.0 ppm (19-to-21 fbg);
- Soil boring B-4 0.0 ppm (5-to-22 fbg); and,
- Soil boring B-5 0.0 ppm (5-to-27 fbg).

Boring logs detailing lithology, PID readings, and well construction details are included as **Appendix A**.

3.3 Groundwater Monitoring Well Installation

All five (5) borings were completed as 4-inch diameter groundwater monitoring wells. These wells are identified as MW-1, MW-2, MW-4, MW-5 and MW-6 on the Site Plan provided as **Figure 2**. All five (5) monitoring wells were constructed of 10-to-15 feet of 4-inch (ID), schedule-40 poly vinyl chloride (PVC) 0.020 slot sized screen, with 10-to-15 feet of 4-inch ID schedule 40 PVC solid riser extending to grade. The annulus of each boring was filled with number 2-silica sand from the base to 1-foot above the screened interval. A 1-foot bentonite seal was installed above the sand-pack to prevent intrusion of surface water into the monitoring wells. The remaining portion of the well was backfilled with native soil. All monitoring wells were completed with a locking gripper cap and an 8-inch diameter roadbox set at grade within a 2-foot by 2-foot concrete pad.

3.4 Groundwater Gauging and Elevation Surveying

On December 6, 2000, GES personnel visited the Site to perform gauging and purging of monitoring wells MW-1, MW-2, MW-4, MW-5 and MW-6. Groundwater samples were collected from monitoring wells MW-2, MW-4 and MW-5. Prior to sample collection, the wells were developed through repetitive surging and bailing prior to sampling.

Groundwater gauging was performed using an electronic interface probe (IP) capable of measuring non aqueous-phase liquid (NAPL) to an accuracy 0.01 feet. Measured depths to groundwater across the Site ranged from 17.09 fbg in MW-4 to 21.88 fbg in MW-2. Monitoring well MW-1 was gauged dry and MW-6 contained insufficient water for sample collection on

December 6, 2000. NAPL was not detected in any of the monitoring wells during the gauging event.

Prior to the collection of groundwater samples, each monitoring well was purged an equivalent of approximately 3-to-5 well volumes. Following purging, groundwater sampling was performed using individually wrapped, single-use, polyethylene bailers. Groundwater samples were placed into pre-acidified laboratory-supplied glassware, packaged with ice and delivered by overnight courier to Lancaster Laboratories (Lancaster) located in Lancaster, Pennsylvania. The samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl-tertiary-butyl-ether (MTBE), naphthalene, and trimethylbenzenes in accordance with U.S. Environmental Protection Agency (EPA) Method 8021B.

3.5 Site Survey

On December 6, 2000, GES personnel conducted a survey of the Site. Relative monitoring well casing elevations were determined by surveying via optical instrumentation to a common datum of 100.00 feet. Data collected during the Site survey included the location of pertinent Site features and the relative locations and elevations of the monitoring wells installed on November 6 and 7, 2000.

The measured depth to groundwater at each monitoring well location, along with the top of well casing elevation, was used to determine groundwater elevations. Based upon initial gauging data, groundwater is interpreted to flow in a southerly direction under a calculated hydraulic gradient of 0.04 feet per foot (ft/ft). Depths to groundwater, and relative groundwater elevations for the December 6, 2000 gauging event are summarized in **Table 2**.

3.6 Soil Analytical Results

Following the completion of well installation, one (1) representative soil sample was collected from each boring and submitted for laboratory analysis. Confirmatory soil samples were collected from the interval exhibiting the highest PID response in each boring. In the absence of PID response, a confirmatory soil sample was collected from the interval of the apparent

soil/groundwater interface. Samples were submitted to Lancaster and analyzed for volatile organic compounds (VOCs) including BTEX, MTBE, trimethylbenzenes, and naphthalene according to EPA Method 8021B. In addition, soil samples were submitted to Lancaster for analysis of TPH including gasoline range organics (GROs) and diesel range organics (DROs) according to EPA Method 8015. Laboratory analysis detected DRO concentrations in soil samples B-3, B-4, and B-5 at concentrations of 100 parts per million (ppm), 11 ppm, and 12 ppm, respectively. All other target analytes were BDL. Soil analytical results are summarized in **Table 1**. A copy of the soil laboratory analytical report is provided as **Appendix B**.

3.7 Groundwater Quality

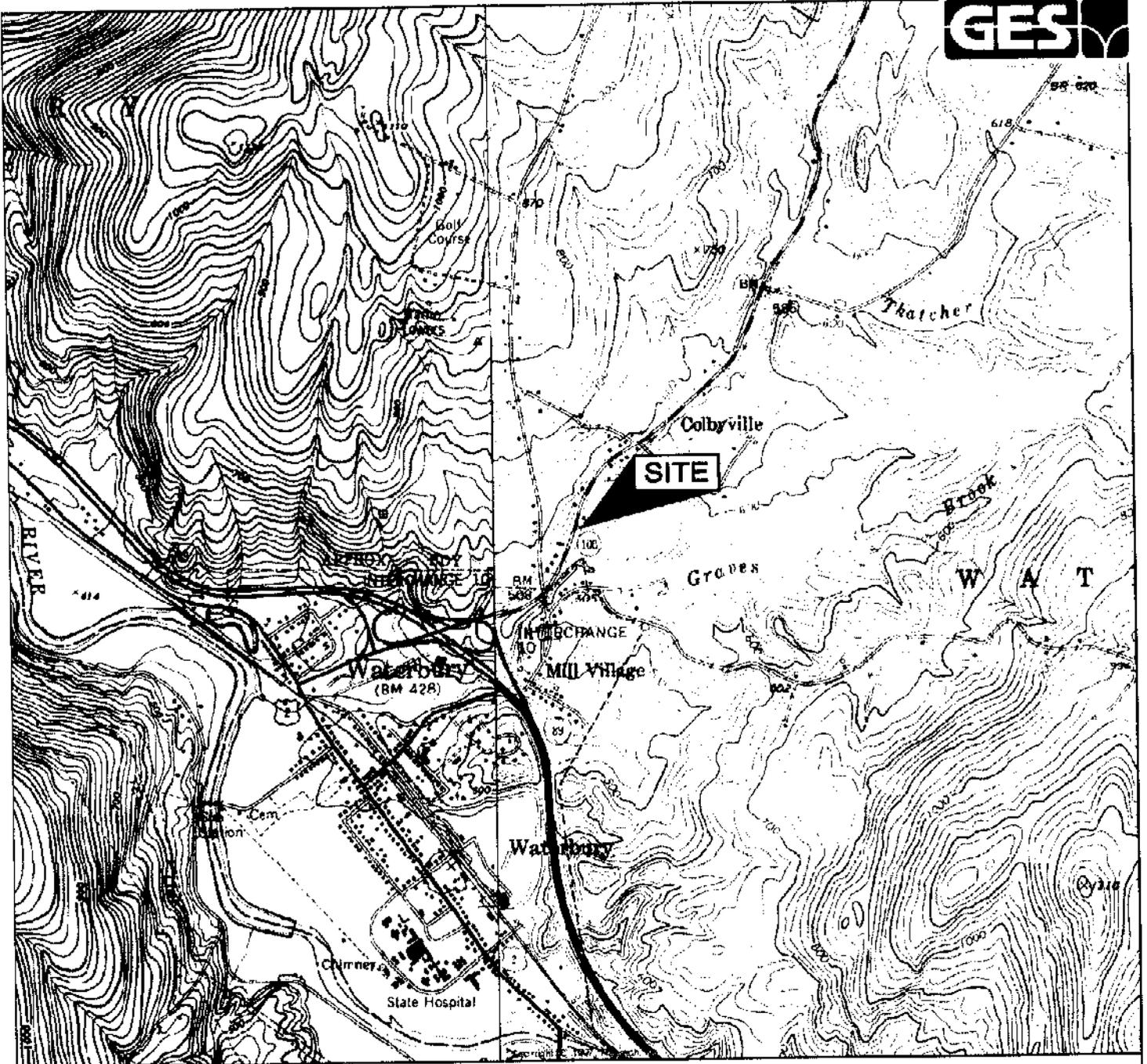
Laboratory analytical results for groundwater samples collected on December 6, 2000 from monitoring wells MW-2, MW-4 and MW-5 according to EPA Method 8021B were BDL for all analytes in all three wells.

A summary of the laboratory analytical results for groundwater for the December 6, 2000 sampling event is provided in **Table 2**. A Groundwater Gradient and BTEX/MTBE Concentrations Map from the December 6, 2000 sampling event is provided as **Figure 3**. A copy of the laboratory analytical report for groundwater is provided as **Appendix C**.

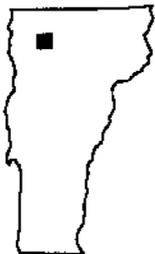
4.0 SUMMARY AND CONCLUSIONS

GES was retained by ExxonMobil to conduct a subsurface investigation at the Mobil Service Station No. 01-L6V located along U.S. Route 100 North in Waterbury, Vermont. The purpose of the investigation was to evaluate the current groundwater and soil quality at the Site by installing five (5) 4-inch diameter soil borings/groundwater monitoring wells. The results of the investigation indicate the presence of no dissolved-phase concentrations at levels above the Vermont Department of Environmental Conservation (VTDEC) Primary Ground Water Quality Standards (PGWQS).

FIGURES



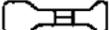
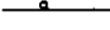
SOURCE: USGS 7.5 MINUTE SERIES
 TOPOGRAPHIC QUADRANGLE 1980
 WATERBURY, VT
 CONTOUR INTERVAL = 20'

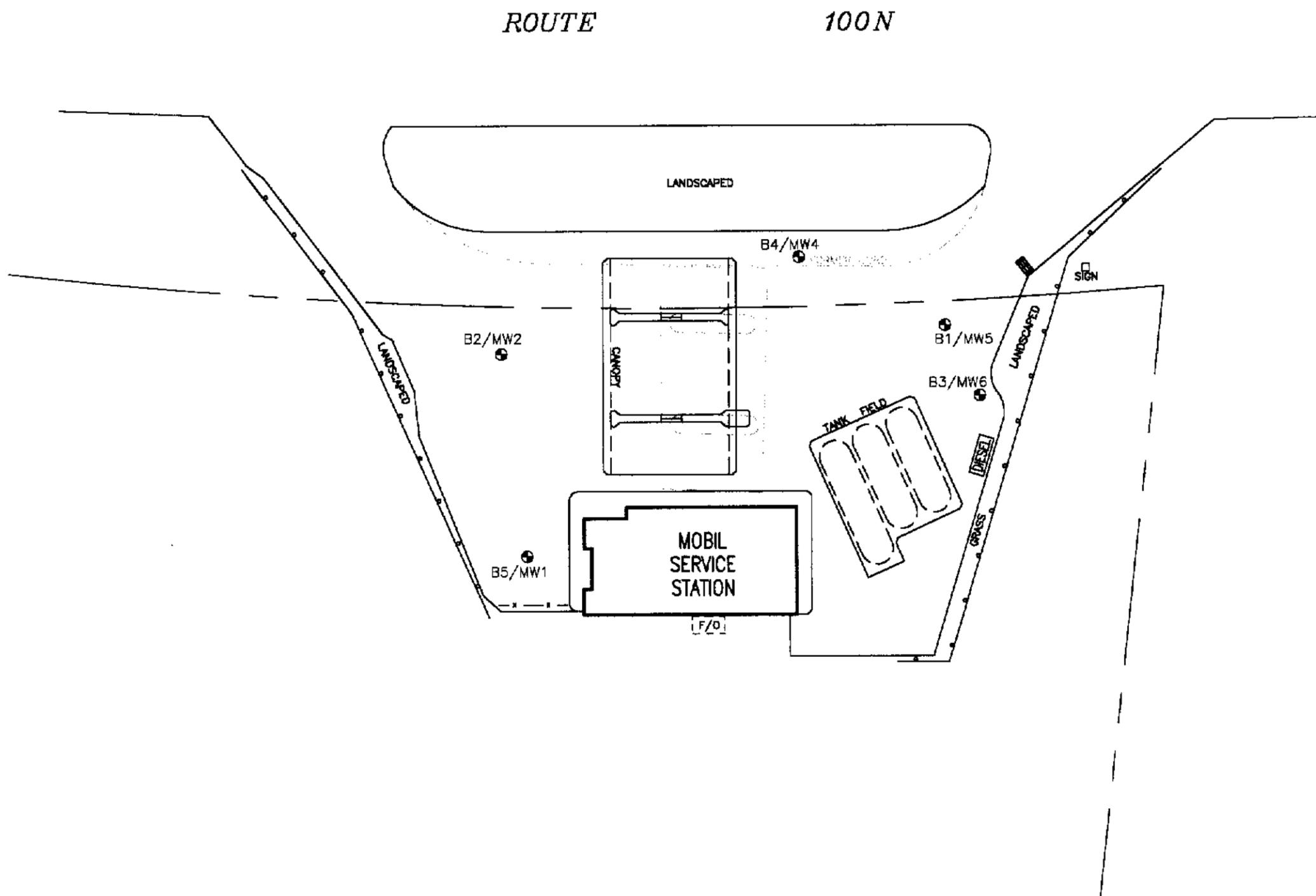


QUADRANGLE LOCATION

DRAFTED BY: WAW (NJ)	SITE LOCUS MAP					
CHECKED BY: MD				EXXONMOBIL REFINING & SUPPLY COMPANY MOBIL SERVICE STATION #01-L6V U.S. ROUTE 100 NORTH WATERBURY, VERMONT		
REVIEWED BY:				Groundwater & Environmental Services, Inc. 429B HAYDEN STATION ROAD, WINDSOR, CT 06095		
NORTH 	SCALE IN FEET 	DATE 02-21-01	FIGURE 1			

LEGEND

-  FUEL OIL TANK
-  EXISTING PUMP ISLAND
-  FORMER PUMP ISLAND
-  ABOVEGROUND DIESEL FUEL TANK
-  CATCH BASIN
-  GUARD RAIL
-  GUARD RAIL
-  MONITORING WELL



DRAFTED BY:
JM
(WALL)
CHECKED BY:
MD
REVIEWED BY:

SITE PLAN

EXXONMOBIL REFINING & SUPPLY COMPANY
MOBIL SERVICE STATION #01-16V
U. S. ROUTE 100N
WATERBURY, VERMONT

Groundwater & Environmental Services, Inc.
429B HAYDEN STATION ROAD WINDSOR, CT 06095



SCALE IN FEET
0 30

DATE
03-24-01

FIGURE
2

TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS

Heritage Mobil Service Station No. 01-L6V

U.S. Route 100 North
 Waterbury, Vermont

November 6, 2000

Sample ID	Sample Depth (feet)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl-benzene (ug/Kg)	Xylenes (ug/Kg)	Total BTEX (ug/Kg)	MTBE (ug/Kg)	TPH GRO (mg/Kg)	TPH DRO (mg/Kg)
B-1	24-26	<27	<27	<27	<27	ND	<27	<1.2	<14
B-2	27-29	<27	<27	<27	<27	ND	<27	<1.2	<7
B-3	19-21	<29	<29	<29	<29	ND	<29	<1.1	100
B-4	18-22	<30	<30	<30	<30	ND	<30	<1.1	11
B-5	18-20	<31	<31	<31	<31	ND	<31	<1.1	12

Notes:

ug/Kg = micrograms per kilograms

mg/Kg = milligrams per kilograms

ND = not detected.

TPH=total petroleum hydrocarbons

GRO=gasoline range organics

DRO=diesel range organics

MTBE=methyl-tertiary-butyl-ether

TABLE 2
HISTORICAL GROUNDWATER MONITORING DATA

ExxonMobil Refining and Supply Company
 Heritage Mobil Service Station No. 01-L6V
 ROUTE 100 N, WATERBURY, VERMONT

[Results reported in micrograms per liter (µg/L) equivalent to parts per billion (ppb)]

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	NAPL Thickness (feet)	Relative Groundwater Elevation (feet)	Benzene	Toluene	Ethyl-Benzene	Xylenes	Total BTEX	MTBE	Napthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene
MW-1	12/06/2000	99.03	DRY	ND	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-2	12/06/2000	98.15	21.88	ND	76.27	<1.0	<1.0	<1.0	<3.0	ND	<1.0	<5.0	<1.0	<1.0
MW-4	12/06/2000	98.61	17.09	ND	81.52	<1.0	<1.0	<1.0	<3.0	ND	<1.0	<5.0	<1.0	<1.0
MW-5	12/06/2000	98.90	19.96	ND	78.94	<1.0	<1.0	<1.0	<3.0	ND	<1.0	<5.0	<1.0	<1.0
MW-6	12/06/2000	99.10	21.01	ND	78.09	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vermont Primary Groundwater Quality Enforcement Standards:						5.0	1,000	700	10,000	NE	40	5.0	4.0	20

Notes:

- NAPL = non aqueous-phase liquid
- MTBE = methyl-tertiary-butyl-ether
- ND = not detected or below detection limits
- NA = not applicable.
- NS = not sampled
- NE = no established standard for this parameter.





APPENDIX A

Well Construction Logs



Groundwater & Environmental Services, Inc.

Well Construction

Boring/Well No. B-1/MW-5

Project 1500179

Client ExxonMobil Refining and Supply Company

Log

Sketch Map

Location Heritage Mobil Service Station No.01-L6V,

U.S. Route 100 N, Waterbury, VT

Permit No. NA

Total Depth 30' Diameter 4"

See Site Plan

Casing Elevation

Water Level: Initial 20' Static NA

Drilling Method HSA

Sample Method Split Spoon

Driller GeoSearch

Log By JMS Date 11/6/00

Depth (feet)	Sample No.	Well Const.	PID (ppm)	Blow Count	Recovery	Lithology
0	(0-4')		NA	Hand auger to 4'	NA	Paved at surface.
1						
2						
3						
4	(4-6')		0.0	7-9-10-11	20"	Brown, fine grained SAND, trace fine gravel.
5						
6	(6-8')		10.1	12-10-11-12	18"	SAA.
7						
8	(8-10')		10.9	13-14-12-12	16"	Brown, fine grained SAND.
9						
10	(10-12')		10.8	12-14-15-16	17"	Brown, fine grained SAND, little fine to medium gravel.
11						
12	(12-14')		11.3	17-20-19-22	24"	Brown, fine grained SAND, little fine to coarse gravel, trace cobbles.
13						
14	(14-16')		12.7	14-16-20-24	21"	Brown, fine grained SAND, little coarse sand, trace fine gravel.
15						
16	(16-18')		12.4	23-24-20-24	24"	Brown, fine grained SAND.
17						
18	(18-20')		11.9	3-5-4-5	20"	SAA, wet at the tip.
19						
20	(20-22')		11.9	4-6-5-8	8"	0-4": Brown, wet, fine grained SAND. 4-8": Dark gray, wet, SANDY SILT, trace coarse sand.
21						
22	(22-24')		15.2	12-12-10-13	14"	0-7": SAA. 7-14": Gray, wet, SILT.
23						
24	(24-26')		16.2	18-23-24-25	20"	0-15": Gray, wet, SILT with very fine sand lenses. 15-20": Gray, wet, fine SAND, some silt, little fine to medium gravel, trace cobbles.
25						



GROUT



NATIVE FILL



BENTONITE



#1 SAND



SCREEN



CONCRETE PAD



ROAD BOX

SAA= Same As Above NA=Not Available HSA=Hollow Stem Auger



Groundwater & Environmental Services, Inc.

Well Construction Log

Boring/Well No. B-1/MW-5 (cont.)

Project 1500179

Client ExxonMobil Refining and Supply Company

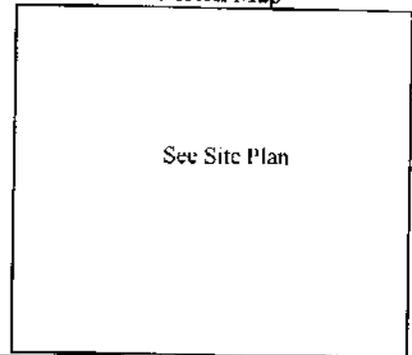
Sketch Map

Location Heritage Mobil Service Station No. 01-L6V,

U.S. Route 100 N, Waterbury, VT

Permit No. NA

Total Depth 30' Diameter 4"



Casing Elevation

Water Level: Initial 20' Static NA

Drilling Method HSA

Sample Method Split Spoon

Driller GeoSearch

Log By JMS Date 11/6/00

Depth (feet)	Sample No.	Well Const.	PII (ppm)	Blow Count	Recovery	Lithology
26	(26-28')		11.5	17-20-19-22	16"	0-7": Brown, wet, fine grained SAND with trace silt.
27						7-10": Weathered rock.
28						10-13": Gray, wet, SILT.
29						13-16": Tan, wet, fine to medium SAND.
30	(28-30')		13.5	18-18-18-18	12"	Gray, wet, SILTY SAND, trace fine gravel.
31						
32						
33						
34						
35						
36						End of Boring @30'.
37						Well set @ 30'.
38						0-12 native fill
39						12-13 bentonite
40						13-30 morie sand
41						15' x 4" ID PVC Sch 40, 0.020 slot screen.
42						15' x 4" ID PVC Sch 40 riser.
43						
44						
45						
46						
47						
48						
49						
50						
51						

Grout
 Native Fill
 Bentonite
 #1 Sand
 Screen
 Concrete Pad
 Road Box

SAA= Same As Above
 NA=Not Available
 HSA=Hollow Stem Auger



Groundwater & Environmental Services, Inc.

Well Construction Log

Boring/Well No. B-2/MW-2

Project 1500179

Client ExxonMobil Refining and Supply Company

Sketch Map

Location Heritage Mobil Service Station No.01-L6V,

U.S. Route 100 N, Waterbury, VT

Permit No. NA

Total Depth 28.5' Diameter 4"

See Site Plan

Casing Elevation

Water Level: Initial 20' Static NA

Drilling Method HSA

Sample Method Split Spoon

Driller GeoSearch

Log By JMS Date 11/6/00

Depth (feet)	Sample No.	Well Const.	PID (ppm)	Blow Count	Recovery	Lithology
0	(0-4')		NA	Hand auger to 4'	NA	Paved at surface.
1						
2						
3						
4	(4-6')		9.4	10-9-11-10	16"	Brown, fine grained SAND, trace cobbles.
5						
6	(6-8')		9.4	15-18-35-16	13"	Brown, fine to medium grained SAND, little fine to medium gravel, trace cobbles.
7						
8						
9	(9-11')		8.3	7-9-8-10	11"	SAA.
10						
11	(11-13')		9.1	11-13-10-14	12"	Brown, fine grained SAND, trace fine gravel.
12						
13	(13-15')		9.7	17-15-14-16	16"	Brown, fine grained SAND.
14						
15	(15-17')		9.6	12-18-15-21	8"	SAA.
16						
17	(17-19')		9.4	21-20-25-21	14"	Brown, moist, fine grained SAND, trace fine gravel.
18						
19	(19-21')		12	7-6-8-7	18"	0-12": Brown, moist, fine SAND. 12-18": Gray, wet, fine SAND.
20						
21	(21-23')		12.3	12-11-10-12	20"	Gray, wet, fine SAND.
22						
23	(23-25')		12.5	7-9-8-4	24"	0-7": SAA. 7-11": Gray, wet, SILT. 11-24": Dark gray, wet, fine SAND.
24						
25						



Grout Native Fill Bentonite #1 Sand Screen Concrete Pad Road Box
 SAA= Same As Above NA=Not Available HSA=Hollow Stem Auger



Groundwater & Environmental Services, Inc.

Well Construction Log

Boring/Well No. B-2/MW-2 (cont.)

Project 1500179

Client ExxonMobil Refining and Supply Company

Sketch Map

Location Heritage Mobil Service Station No. 01-I.6V,

U.S. Route 100 N, Waterbury, VT

Permit No. NA

Total Depth 28.5' Diameter 4"

See Site Plan

Casing Elevation

Water Level: Initial 20' Static NA

Drilling Method HSA

Sample Method Split Spoon

Driller GeoSearch

Log By JMS Date 11/6/00

Depth (feet)	Sample No.	Well Const.	PID (ppm)	Blow Count	Recovery	Lithology
26	(25-27')		10.9	9-11-10-10	12"	SAA.
27	(27-29')		13.8	9-40-100/3	24"	SAA, refusal @28.5'.
28						
29						
30						
31						
32						
33						
34						
35						
36						End of Boring @28.5'.
37						Well set @ 28'.
38						0-10 native fill
39						10-11 bentonite
40						11-28 morie sand
41						15' x 4" ID PVC Sch 40, 0.020 slot screen.
42						13' x 4" ID PVC Sch 40 riser.
43						
44						
45						
46						
47						
48						
49						
50						
51						



Grout Native Fill Bentonite #1 Sand Screen Concrete Pad Road Box
 SAA= Same As Above NA=Not Available HSA= Hollow Stem Auger

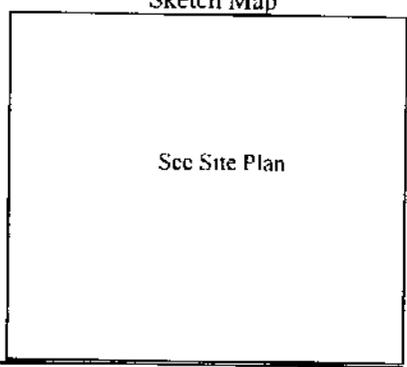


Groundwater & Environmental Services, Inc. Well Construction

Boring/Well No. B-3/MW-6

Project 1500179 Client ExxonMobil Refining and Supply Company Log

Location Heritage Mobil Service Station No.01-L6V,
U.S. Route 100 N, Waterbury, VT
 Permit No. NA Total Depth 22' Diameter 4"



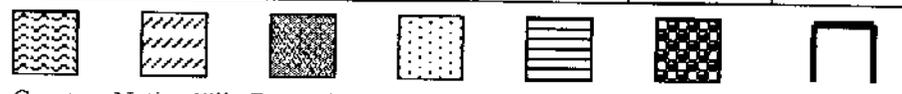
Casing Elevation Water Level: Initial 20' Static NA

Drilling Method HSA Sample Method Split Spoon

Driller GeoSearch Log By JMS Date 11/7/00

Depth (feet)	Sample No.	Well Const.	PID (ppm)	Blow Count	Recovery	Lithology
0	(0-4')		NA	Hand auger to 4'	NA	Paved at surface.
1						
2						
3						
4	(4-6')		1.4	6-8-11-12	16"	Brown, fine to medium grained SAND, trace fine gravel, cobbles.
5						
6	(6-8')		1.3	11-11-13-12	13"	Brown, fine grained SAND, trace cobbles.
7						
8	(8-10')		0.8	14-12-12-13	8"	SAA.
9						
10						
11						
12						
13						
14						
15	(15-17')		1.0	18-24-25-26	15"	Brown, fine SAND.
16						
17	(17-19')		1.6	33-44-100/0	14"	Brown, fine grained SAND, trace fine gravel.
18						
19	(19-21')		2	24-29-34-100/1	16"	0-2": SAA. 2-16": Gray, wet, SILT, little cobbles, trace fine gravel.
20						
21						
22						Refusal @ 22'. Well set @ 22'.
23						0-9 native fill
24						9-10 bentonite
25						10-22 moric sand 10' x 4" ID PVC Sch 40, 0.020 slot screen. 12' x 4" ID PVC Sch 40 riser.

Σ



Grout Native Fill Bentonite #1 Sand Screen Concrete Pad Road Box
 SAA= Same As Above NA=Not Available HSA=Hollow Stem Auger

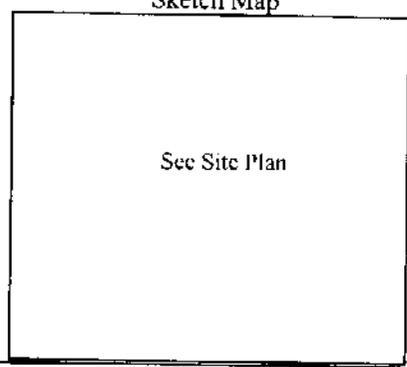


Groundwater & Environmental Services, Inc. Well Construction

Boring/Well No. B-4/MW-4

Project 1500179 Client ExxonMobil Refining and Supply Company Log

Location Heritage Mobil Service Station No.01-J.6V.
U.S. Route 100 N. Waterbury, VT
 Permit No. NA Total Depth 23' Diameter 4"



Casing Elevation Water Level: Initial 20' Static NA

Drilling Method HSA Sample Method Split Spoon

Driller GeoSearch Log By JMS Date 11/7/00

Depth (feet)	Sample No.	Well Const.	PID (ppm)	Blow Count	Recovery	Lithology
0	(0-4')		NA	Hand auger to 4'	NA	Paved at surface.
1						
2						
3						
4						
5	(5-7')		0.0	10-9-14-15	17"	Brown, fine to medium grained SAND, trace fine gravel, cobbles.
6						
7						
8						
9						
10	(10-12')		0.0	15-15-14-15	18"	Brown, fine to medium SAND, little fine gravel, cobbles.
11						
12						
13						
14						
15	(15-17')		0.0	9-8-9-8	16"	0-8": Brown, fine SAND. 8-11": Gray, SILT. 11-16": Brown, fine SAND, trace fine gravel.
16						
17						
18	(18-20')		0.0	2-2-3-3	5"	Wet, SANDY SILT, trace fine gravel.
19						
20	(20-22')		0.0	5-4-5-5	4"	SAA.
21						
22						Refusal @ 23'. Well set @ 23'.
23						0-10 native fill 10-11 bentonite 11-23 morie sand 10' x 4" ID PVC Sch 40, 0.020 slot screen. 13' x 4" ID PVC Sch 40 riser.
24						
25						

Grout
 Native Fill
 Bentonite
 #1 Sand
 Screen
 Concrete Pad
 Road Box
 SAA= Same As Above NA=Not Available HSA=Hollow Stem Auger



Groundwater & Environmental Services, Inc.

Well Construction

Boring/Well No. B-5/MW-1

Project 1500179

Client ExxonMobil Refining and Supply Company

Log

Sketch Map

Location Heritage Mobil Service Station No.01-L6V,

U.S. Route 100 N, Waterbury, VT

Permit No. NA

Total Depth 27' Diameter 4"

See Site Plan

Casing Elevation

Water Level: Initial 20' Static NA

Drilling Method HSA

Sample Method Split Spoon

Driller GeoSearch

Log By JMS Date 11/7/00

Depth (feet)	Sample No.	Well Const.	PID (ppm)	Blow Count	Recovery	Lithology
0	(0-4')		NA	Hand auger to 4'	NA	Paved at surface.
1						
2						
3						
4						
5	(5-7')		0.0	5-7-8-7	10"	Brown, fine to medium grained SAND, trace cobbles.
6						
7						
8						
9						
10	(10-12')		0.0	19-23-24-22	12"	Brown, fine to medium grained SAND, trace fine gravel, cobbles.
11						
12						
13						
14						
15	(15-17')		0.0	12-11-13-12	10"	0-5": SAA. 5-10": Gray, SILT, trace cobbles.
16						
17						
18	(18-20')		0.0	24-20-18-19	13"	0-6": Brown, fine SAND, little medium sand, trace fine gravel. 6-13": Gray, moist, SILT, some fine sand, trace cobbles.
19						
20						
21	(20-22')		0.0	37-54-100/6"	4"	Brown, wet, fine grained SAND, little silt, trace cobbles.
22						
23						
24						
25	(25-27')		0.0	4-5-6-8	11"	Brown, wet, fine grained SAND, little silt.



Grout Native Fill Bentonite #1 Sand Screen Concrete Pad Road Box
 SAA= Same As Above NA=Not Available HSA=Hollow Stem Auger



Groundwater & Environmental Services, Inc.

Well Construction Log

Boring/Well No. B-5/MW-1 (cont.)

Project 1500179

Client ExxonMobil Refining and Supply Company

Sketch Map

Location Heritage Mobil Service Station No. 01-I.6V,

U.S. Route 100 N, Waterbury, VT

Permit No. NA

Total Depth 27' Diameter 4"

See Site Plan

Casing Elevation

Water Level: Initial 20' Static NA

Drilling Method HSA

Sample Method Split Spoon

Driller GeoSearch

Log By JMS Date 11/7/00

Depth (feet)	Sample No.	Well Const.	PID (ppm)	Blow Count	Recovery	Lithology
26						Refusal @ 27'. End of Boring @27'. Well set @ 25'. 0-12 native fill 12-13 bentonite 13-25 morie sand 10' x 4" ID PVC Sch 40, 0.020 slot screen. 15' x 4" ID PVC Sch 40 riser.
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						



Grout Native Fill Bentonite #1 Sand Screen Concrete Pad Road Box
 SAA= Same As Above NA=Not Available HSA=Hollow Stem Auger



APPENDIX B

Laboratory Analytical Chemistry Report for Soil



Lancaster Laboratories

Where quality is a science.

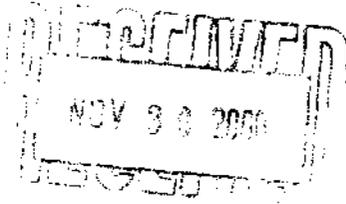
ANALYTICAL RESULTS

Prepared for:

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425



SAMPLE GROUP

The sample group for this submittal is 739091. Samples arrived at the laboratory on Friday, November 10, 2000.

Client Description

<u>Client Description</u>	<u>Lancaster Labs Number</u>
B-1/MW-5 (24-26') Composite Soil Sample	3499143
B-1/MW-5 (24-26') Composite Soil Sample	3499144
B-2/MW-2 (27-29') Composite Soil Sample	3499145
B-2/MW-2 (27-29') Composite Soil Sample	3499146
B-3/MW-6 (19-21') Composite Soil Sample	3499147
B-3/MW-6 (19-21') Composite Soil Sample	3499148
B-4/MW-4 (18-22') Composite Soil Sample	3499149
B-4/MW-4 (18-22') Composite Soil Sample	3499150
B-5/MW-1 (18-20') Composite Soil Sample	3499151
B-5/MW-1 (18-20') Composite Soil Sample	3499152

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO

Groundwater & Env. Svcs.

Attn: M. Davis



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717-656-2300 Fax: 717-656-2681



Lancaster Laboratories

Where quality is a science.

Questions? Contact your Client Services Representative
De Brooks at (717) 656-2300.

Respectfully Submitted,

Michael M. Turner



Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
/17-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. SW 3499143

Collected: 11/06/2000 12:50 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

ExxonMobil

Reported: 11/23/00 at 12:02 AM

1800 West Park Dr.; Suite 450

Discard: 12/24/00

Westborough MA 01581

B-1/MW-5 (24-26') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

B1-M5

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Units	Dilution Factor
00111	Moisture	n.a.	15.8	0.50	% by wt.	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The result reported above is on an as-received basis.						
05321	TPH-DRO API (Soils)	n.a.	< 17.	17.	mg/kg	1
According to the API Protocol, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of a ten component diesel range reference standard (between C10 and C28 normal hydrocarbons). Due to insufficient sample size, we were unable to report our usual quantitation limits. The values reported represent the lowest quantitation limits obtainable.						
05325	TPH-GRO API (Soils)					
05326	TPH by GC - GRO (Soils)	n.a.	< 1.2	1.2	mg/kg	25
According to the API Protocol, the quantitation for Gasoline Range Organics was performed using the total peak area of the sample pattern between 2-methylpentane and 1,2,4-trimethylbenzene. The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.						

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
05321	TPH-DRO API (Soils)	API Diesel Range Organics	1	11/17/2000 04:45	Dawn Boley	1
05325	TPH-GRO API (Soils)	API Rev G/5035	1	11/16/2000 21:03	Steven A. Skiles	25
07004	Extraction - DRO (Soils)	SW-846 3550B	1	11/15/2000 19:00	Desiree J. Wann	1



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Lancaster, PA 17605-2425
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Lancaster Laboratories Sample No. SW 3499144

Collected: 11/06/2000 12:50 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-1/MW-5 (24-26') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil

1800 West Park Dr.; Suite 450

Westborough MA 01581

B1M5-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00118	Moisture	n.a.	15.8	0.50	% by wt.	1
07584	PPL + Xylene (total) by 8260					
02016	Methyl t-butyl ether	1634-04-4	N.D.	32.	ug/kg	27.16
05444	Chloromethane	74-87-3	N.D.	64.	ug/kg	27.16
05445	Vinyl Chloride	75-01-4	N.D.	32.	ug/kg	27.16
05446	Bromomethane	74-83-9	N.D.	64.	ug/kg	27.16
05447	Chloroethane	75-00-3	N.D.	64.	ug/kg	27.16
05448	Trichlorofluoromethane	75-69-4	N.D.	64.	ug/kg	27.16
05449	1,1-Dichloroethene	75-35-4	N.D.	32.	ug/kg	27.16
05450	Methylene Chloride	75-09-2	N.D.	64.	ug/kg	27.16
05451	trans-1,2-Dichloroethane	156-60-5	N.D.	32.	ug/kg	27.16
05452	1,1-Dichloroethane	75-34-3	N.D.	32.	ug/kg	27.16
05454	cis-1,2-Dichloroethene	156-59-2	N.D.	32.	ug/kg	27.16
05455	Chloroform	67-66-3	N.D.	32.	ug/kg	27.16
05457	1,1,1-Trichloroethane	71-55-6	N.D.	32.	ug/kg	27.16
05458	Carbon Tetrachloride	56-23-5	N.D.	32.	ug/kg	27.16
05460	Benzene	71-43-2	N.D.	32.	ug/kg	27.16
05461	1,2-Dichloroethane	107-06-2	N.D.	32.	ug/kg	27.16
05462	Trichloroethene	79-01-6	N.D.	32.	ug/kg	27.16
05463	1,2-Dichloropropane	78-87-5	N.D.	32.	ug/kg	27.16
05465	Bromodichloromethane	75-27-4	N.D.	32.	ug/kg	27.16
05466	Toluene	108-88-3	N.D.	32.	ug/kg	27.16
05467	1,1,2-Trichloroethane	79-00-5	N.D.	32.	ug/kg	27.16
05468	Tetrachloroethene	127-18-4	N.D.	32.	ug/kg	27.16
05470	Dibromochloromethane	124-48-1	N.D.	32.	ug/kg	27.16
05472	Chlorobenzene	108-90-7	N.D.	32.	ug/kg	27.16
05474	Ethylbenzene	100-41-4	N.D.	32.	ug/kg	27.16
05478	Bromoform	75-25-2	N.D.	32.	ug/kg	27.16
05480	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	32.	ug/kg	27.16
06297	trans-1,3 Dichloropropene	10061-02-6	N.D.	32.	ug/kg	27.16
06298	cis-1,3-Dichloropropene	10061-01-5	N.D.	32.	ug/kg	27.16
06301	Xylene (Total)	1330-20-7	N.D.	32.	ug/kg	27.16
07585	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	64.	ug/kg	27.16
07586	Acrolein	107-02-8	N.D.	640.	ug/kg	27.16



Lancaster Laboratories Sample No. SW 3499144

Collected: 11/06/2000 12:50 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10
 Reported: 11/23/00 at 12:02 AM
 Discard: 12/24/00
 B-1/MW-5 (24-26') Composite Soil Sample
 LOC# 01-L6V WBS#
 MOBIL: Waterbury, VT

ExxonMobil
 1800 West Park Dr.; Suite 450
 Westborough MA 01581

B1M5-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
07587	Acrylonitrile	107-13-1	N.D.	130.	ug/kg	27.16
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

Poor surrogate recoveries were observed for the GC/MS volatile fraction. The analysis was repeated and poor surrogate recoveries were again observed indicating a significant matrix effect.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00118	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
07584	PPL + Xylene (total) by 8260	SW-846 8260B	1	11/13/2000 01:42	Kelly L. Hoffer	27.16



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Lancaster Laboratories Sample No. SW 3499145

Collected: 11/06/2000 17:00 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-2/MW-2 (27-29') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

B2-M2

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Units	Dilution Factor
00111	Moisture "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The result reported above is on an as-received basis.	n.a.	13.3	0.50	% by wt.	1
05321	TPH-DRO API (Soils) According to the API Protocol, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of a ten component diesel range reference standard (between C10 and C28 normal hydrocarbons).	n.a.	< 8.1	8.1	mg/kg	1
05325	TPH-GRO API (Soils)					
05326	TPH by GC - GRO (Soils) According to the API Protocol, the quantitation for Gasoline Range Organics was performed using the total peak area of the sample pattern between 2-methylpentane and 1,2,4-trimethylbenzene. The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.	n.a.	< 1.2	1.2	mg/kg	25

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
05321	TPH-DRO API (Soils)	API Diesel Range Organics	1	11/17/2000 04:24	Dawn Boley	1
05325	TPH-GRO API (Soils)	API Rev 6/5035	1	11/16/2000 21:43	Steven A. Skiles	25
07004	Extraction - DRO (Soils)	SW-846 3550B	1	11/15/2000 19:00	Desiree J. Wann	1



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Lancaster Laboratories Sample No. SW 3499146

Collected: 11/06/2000 17:00 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-2/MW-2 (27-29') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

B2M2 -

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00118	Moisture	n.a.	13.3	0.50	% by wt.	1
07584	PPL + Xylene (total) by 8260					
02016	Methyl t-butyl ether	1634-04-4	N.D.	31.	ug/kg	26.54
05444	Chloromethane	74-87-3	N.D.	61.	ug/kg	26.54
05445	Vinyl Chloride	75-01-4	N.D.	31.	ug/kg	26.54
05446	Bromomethane	74-83-9	N.D.	61.	ug/kg	26.54
05447	Chloroethane	75-00-3	N.D.	61.	ug/kg	26.54
05448	Trichlorofluoromethane	75-69-4	N.D.	61.	ug/kg	26.54
05449	1,1-Dichloroethene	75-35-4	N.D.	31.	ug/kg	26.54
05450	Methylene Chloride	75-09-2	N.D.	61.	ug/kg	26.54
05451	trans-1,2-Dichloroethene	156-60-5	N.D.	31.	ug/kg	26.54
05452	1,1-Dichloroethane	75-34-3	N.D.	31.	ug/kg	26.54
05454	cis-1,2-Dichloroethene	156-59-2	N.D.	31.	ug/kg	26.54
05455	Chloroform	67-66-3	N.D.	31.	ug/kg	26.54
05457	1,1,1-Trichloroethane	71-55-6	N.D.	31.	ug/kg	26.54
05458	Carbon Tetrachloride	56-23-5	N.D.	31.	ug/kg	26.54
05460	Benzene	71-43-2	N.D.	31.	ug/kg	26.54
05461	1,2-Dichloroethane	107-06-2	N.D.	31.	ug/kg	26.54
05462	Trichloroethene	79-01-6	N.D.	31.	ug/kg	26.54
05463	1,2-Dichloropropane	78-87-5	N.D.	31.	ug/kg	26.54
05465	Bromodichloromethane	75-27-4	N.D.	31.	ug/kg	26.54
05466	Toluene	108-88-3	N.D.	31.	ug/kg	26.54
05467	1,1,2-Trichloroethane	79-00-5	N.D.	31.	ug/kg	26.54
05468	Tetrachloroethene	127-18-4	N.D.	31.	ug/kg	26.54
05470	Dibromochloromethane	124-48-1	N.D.	31.	ug/kg	26.54
05472	Chlorobenzene	108-90-7	N.D.	31.	ug/kg	26.54
05474	Ethylbenzene	100-41-4	N.D.	31.	ug/kg	26.54
05478	Bromoform	75-25-2	N.D.	31.	ug/kg	26.54
05480	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	31.	ug/kg	26.54
06297	trans-1,3-Dichloropropene	10061-02-6	N.D.	31.	ug/kg	26.54
06298	cis-1,3-Dichloropropene	10061-01-5	N.D.	31.	ug/kg	26.54
06301	Xylene (Total)	1330-20-7	N.D.	31.	ug/kg	26.54
07595	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	61.	ug/kg	26.54
07586	Acrolein	107-02-8	N.D.	610.	ug/kg	26.54



Lancaster Laboratories Sample No. SW 3499146

Collected: 11/06/2000 17:00 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-2/MW-2 (27-29') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

B2M2-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
07587	Acrylonitrile	107-13-1	N.D.	120.	ug/kg	26.54
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date	Time		
00118	Moisture	EPA 160.3 modified	1	11/14/2000	15:46	Susan A. Engle	1
07584	FPL + Xylene (total) by 8260	SW-846 8260B	1	11/13/2000	02:10	Kelly L. Hoffer	26.54



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Lancaster Laboratories Sample No. SW 3499147

Collected: 11/07/2000 09:40 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-3/MW-6 (19-21') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

B3-M6

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Units	Dilution Factor
00111	Moisture	n.a.	9.68	0.50	% by wt.	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The result reported above is on an as-received basis.						
05321	TPH-DRO API (Soils)	n.a.	120.	7.8	mg/kg	1
According to the API Protocol, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of a ten component diesel range reference standard (between C10 and C28 normal hydrocarbons).						
05325	TPH-GRO API (Soils)					
05326	TPH by GC - GRO (Soils)	n.a.	< 1.1	1.1	mg/kg	25
According to the API Protocol, the quantitation for Gasoline Range Organics was performed using the total peak area of the sample pattern between 2-methylpentane and 1,2,4-trimethylbenzene. The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.						

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture					
05321	TPH-DRO API (Soils)	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
		API Diesel Range Organics	1	11/17/2000 16:04	Dawn Boley	1
05325	TPH-GRO API (Soils)	API Rev 6/5035	1	11/16/2000 22:23	Steven A. Skiles	25
07004	Extraction - DRO (Soils)	SW-846 3550B	1	11/15/2000 19:00	Desiree J. Wann	1



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Lancaster Laboratories Sample No. SW 3499148

Collected: 11/07/2000 09:40 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-3/MW-6 (19-21') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil

1800 West Park Dr.; Suite 450

Westborough MA 01581

B3M6-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00118	Moisture	n.a.	9.68	0.50	% by wt.	1
07584	PPL + Xylene (total) by 8260					
02016	Methyl t-butyl ether	1634-04-4	N.D.	32.	ug/kg	29.33
05444	Chloromethane	74-87-3	N.D.	65.	ug/kg	29.33
05445	Vinyl Chloride	75-01-4	N.D.	32.	ug/kg	29.33
05446	Bromomethane	74-83-9	N.D.	65.	ug/kg	29.33
05447	Chloroethane	75-00-3	N.D.	65.	ug/kg	29.33
05448	Trichlorofluoromethane	75-69-4	N.D.	65.	ug/kg	29.33
05449	1,1-Dichloroethene	75-35-4	N.D.	32.	ug/kg	29.33
05450	Methylene Chloride	75-09-2	N.D.	65.	ug/kg	29.33
05451	trans-1,2-Dichloroethene	156-60-5	N.D.	32.	ug/kg	29.33
05452	1,1-Dichloroethane	75-34-3	N.D.	32.	ug/kg	29.33
05454	cis-1,2-Dichloroethene	156-59-2	N.D.	32.	ug/kg	29.33
05455	Chloroform	67-66-3	N.D.	32.	ug/kg	29.33
05457	1,1,1-Trichloroethane	71-55-6	N.D.	32.	ug/kg	29.33
05458	Carbon Tetrachloride	56-23-5	N.D.	32.	ug/kg	29.33
05460	Benzene	71-43-2	N.D.	32.	ug/kg	29.33
05461	1,2-Dichloroethane	107-06-2	N.D.	32.	ug/kg	29.33
05462	Trichloroethene	79-01-6	N.D.	32.	ug/kg	29.33
05463	1,2-Dichloropropane	78-87-5	N.D.	32.	ug/kg	29.33
05465	Bromodichloromethane	75-27-4	N.D.	32.	ug/kg	29.33
05466	Toluene	108-88-3	N.D.	32.	ug/kg	29.33
05467	1,1,2-Trichloroethane	79-00-5	N.D.	32.	ug/kg	29.33
05468	Tetrachloroethene	127-18-4	N.D.	32.	ug/kg	29.33
05470	Dibromochloromethane	124-48-1	N.D.	32.	ug/kg	29.33
05472	Chlorobenzene	108-90-7	N.D.	32.	ug/kg	29.33
05474	Ethylbenzene	100-41-4	N.D.	32.	ug/kg	29.33
05478	Bromoform	75-25-2	N.D.	32.	ug/kg	29.33
05480	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	32.	ug/kg	29.33
06297	trans-1,3-Dichloropropene	10061-02-6	N.D.	32.	ug/kg	29.33
06298	cis-1,3-Dichloropropene	10061-01-5	N.D.	32.	ug/kg	29.33
06301	Xylene (Total)	1330-20-7	N.D.	32.	ug/kg	29.33
07585	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	65.	ug/kg	29.33
07586	Acrolein	107-02-8	N.D.	650.	ug/kg	29.33



Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. SW 3499148

Collected: 11/07/2000 09:40 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-3/MW-6 (19-21') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil

1800 West Park Dr.; Suite 450

Westborough MA 01581

B3M6-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
07587	Acrylonitrile	107-13-1	N.D.	130.	ug/kg	29.33
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00118	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
07584	PPL + Xylene (total) by 8260	SW-846 8260B	1	11/13/2000 02:38	Kelly L. Hoffer	29.33



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Lancaster Laboratories Sample No. SW 3499149

Collected: 11/07/2000 12:30 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

ExxonMobil

Reported: 11/23/00 at 12:02 AM

1800 West Park Dr.; Suite 450

Discard: 12/24/00

Westborough MA 01581

B-4/MW-4 (18-22') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

B4-M4

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Units	Dilution Factor
00111	Moisture	n.a.	10.0	0.50	% by wt.	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The result reported above is on an as-received basis.						
05321	TPH-DRO API (Soils)	n.a.	12.	7.8	mg/kg	1
According to the API Protocol, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of a ten component diesel range reference standard (between C10 and C28 normal hydrocarbons).						
05325	TPH-GRO API (Soils)					
05326	TPH by GC - GRO (Soils)	n.a.	< 1.1	1.1	mg/kg	25
According to the API Protocol, the quantitation for Gasoline Range Organics was performed using the total peak area of the sample pattern between 2-methylpentane and 1,2,4-trimethylbenzene.						
The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.						

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
05321	TPH-DRO API (Soils)	API Diesel Range Organics	1	11/17/2000 06:11	Dawn Boley	1
05325	TPH-GRO API (Soils)	API Rev 6/5035	1	11/16/2000 23:03	Steven A. Skiles	25
07004	Extraction - DRO (Soils)	SW-846 3550B	1	11/15/2000 19:00	Desiree J. Wann	1



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 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. SW 3499150

Collected: 11/07/2000 12:30 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

Reported: 11/23/00 at 12:02 AM

Discard: 12/24/00

B-4/MW-4 (18-22') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

ExxonMobil

1800 West Park Dr.; Suite 450

Westborough MA 01581

B4M4-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00118	Moisture	n.a.	10.0	0.50	% by wt.	1
07584	PPL + Xylene (total) by 8260					
02016	Methyl t-butyl ether	1634-04-4	N.D.	33.	ug/kg	29.92
05444	Chloromethane	74-87-3	N.D.	67.	ug/kg	29.92
05445	Vinyl Chloride	75-01-4	N.D.	33.	ug/kg	29.92
05446	Bromomethane	74-83-9	N.D.	67.	ug/kg	29.92
05447	Chloroethane	75-00-3	N.D.	67.	ug/kg	29.92
05448	Trichlorofluoromethane	75-69-4	N.D.	67.	ug/kg	29.92
05449	1,1-Dichloroethene	75-35-4	N.D.	33.	ug/kg	29.92
05450	Methylene Chloride	75-09-2	N.D.	67.	ug/kg	29.92
05451	trans-1,2-Dichloroethene	156-60-5	N.D.	33.	ug/kg	29.92
05452	1,1-Dichloroethane	75-34-3	N.D.	33.	ug/kg	29.92
05454	cis-1,2-Dichloroethene	156-59-2	N.D.	33.	ug/kg	29.92
05455	Chloroform	67-66-3	N.D.	33.	ug/kg	29.92
05457	1,1,1-Trichloroethane	71-55-6	N.D.	33.	ug/kg	29.92
05458	Carbon Tetrachloride	86-23-5	N.D.	33.	ug/kg	29.92
05460	Benzene	71-43-2	N.D.	33.	ug/kg	29.92
05461	1,2-Dichloroethane	107-06-2	N.D.	33.	ug/kg	29.92
05462	Trichloroethene	79-01-6	N.D.	33.	ug/kg	29.92
05463	1,2-Dichloropropane	78-87-5	N.D.	33.	ug/kg	29.92
05465	Bromodichloromethane	75-27-4	N.D.	33.	ug/kg	29.92
05466	Toluene	108-88-3	N.D.	33.	ug/kg	29.92
05467	1,1,2-Trichloroethane	79-00-5	N.D.	33.	ug/kg	29.92
05468	Tetrachloroethene	127-18-4	N.D.	33.	ug/kg	29.92
05470	Dibromochloromethane	124-48-1	N.D.	33.	ug/kg	29.92
05472	Chlorobenzene	108-90-7	N.D.	33.	ug/kg	29.92
05474	Ethylbenzene	100-41-4	N.D.	33.	ug/kg	29.92
05478	Bromoform	75-25-2	N.D.	33.	ug/kg	29.92
05480	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	33.	ug/kg	29.92
06297	trans-1,3-Dichloropropene	10061-02-6	N.D.	33.	ug/kg	29.92
06298	cis-1,3-Dichloropropene	10061-01-5	N.D.	33.	ug/kg	29.92
06301	Xylene (Total)	1330-20-7	N.D.	33.	ug/kg	29.92
07585	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	67.	ug/kg	29.92
07586	Acrolein	107-02-8	N.D.	660.	ug/kg	29.92



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Lancaster Laboratories Sample No. SW 3499150

Collected: 11/07/2000 12:30 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

ExxonMobil

Reported: 11/23/00 at 12:02 AM

1800 West Park Dr.; Suite 450

Discard: 12/24/00

Westborough MA 01581

B-4/MW-4 (18-22') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

B4M4-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
07587	Acrylonitrile	107-13-1	N.D.	130.	ug/kg	29.92
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00118	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
07584	PPL + Xylene (total) by 8260	SW-846 8260B	1	11/13/2000 03:06	Kelly L. Hoffer	29.92



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2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
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Lancaster Laboratories Sample No. SW 3499151

Collected: 11/07/2000 14:45 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

ExxonMobil

Reported: 11/23/00 at 12:02 AM

1800 West Park Dr.; Suite 450

Discard: 12/24/00

Westborough MA 01581

B-5/MW-1 (18-20') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

B5-M1

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Units	Dilution Factor
00111	Moisture	n.a.	7.55	0.50	% by wt.	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The result reported above is on an as-received basis.						
05321	TPH-DRO API (Soils)	n.a.	13.	8.1	mg/kg	1
According to the API Protocol, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of a ten component diesel range reference standard (between C10 and C28 normal hydrocarbons). Due to insufficient sample size, we were unable to report our usual quantitation limits. The values reported represent the lowest quantitation limits obtainable.						
05325	TPH GRO API (Soils)					
05326	TPH by GC - GRO (Soils)	n.a.	< 1.1	1.1	mg/kg	25
According to the API Protocol, the quantitation for Gasoline Range Organics was performed using the total peak area of the sample pattern between 2-methylpentane and 1,2,4-trimethylbenzene. The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.						

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
05321	TPH-DRO API (Soils)	API Diesel Range Organics	1	11/17/2000 15:42	Dawn Boley	1
05325	TPH-GRO API (Soils)	API Rev 6/5035	1	11/16/2000 23:43	Steven A. Skiles	25
07004	Extraction - DRO (Soils)	SW-846 3550B	1	11/15/2000 19:00	Desiree J. Wann	1



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Lancaster Laboratories Sample No. SW 3499152

Collected: 11/07/2000 14:45 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10
 Reported: 11/23/00 at 12:02 AM
 Discard: 12/24/00
 B-5/MW-1 (18-20') Composite Soil Sample
 LOC# 01-L6V WBS#
 MOBIL: Waterbury, VT

ExxonMobil
 1800 West Park Dr.; Suite 450
 Westborough MA 01581

B5M1-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00118	Moisture	n.a.	7.55	0.50	% by wt.	1
07584	PPL + Xylene (total) by 8260					
02016	Methyl t-butyl ether	1634-04-4	N.D.	34.	ug/kg	30.75
05444	Chloromethane	74-87-3	N.D.	67.	ug/kg	30.75
05445	Vinyl Chloride	75-01-4	N.D.	34.	ug/kg	30.75
05446	Bromomethane	74-83-9	N.D.	67.	ug/kg	30.75
05447	Chloroethane	75-00-3	N.D.	67.	ug/kg	30.75
05448	Trichlorofluoromethane	75-69-4	N.D.	67.	ug/kg	30.75
05449	1,1-Dichloroethene	75-35-4	N.D.	34.	ug/kg	30.75
05450	Methylene Chloride	75-09-2	N.D.	67.	ug/kg	30.75
05451	trans-1,2-Dichloroethene	156-60-5	N.D.	34.	ug/kg	30.75
05452	1,1-Dichloroethane	75-34-3	N.D.	34.	ug/kg	30.75
05454	cis-1,2-Dichloroethene	156-59-2	N.D.	34.	ug/kg	30.75
05455	Chloroform	67-66-3	N.D.	34.	ug/kg	30.75
05457	1,1,1-Trichloroethane	71-55-6	N.D.	34.	ug/kg	30.75
05458	Carbon Tetrachloride	56-23-5	N.D.	34.	ug/kg	30.75
05460	Benzene	71-43-2	N.D.	34.	ug/kg	30.75
05461	1,2-Dichloroethane	107-06-2	N.D.	34.	ug/kg	30.75
05462	Trichloroethene	79-01-6	N.D.	34.	ug/kg	30.75
05463	1,2-Dichloropropane	78-87-5	N.D.	34.	ug/kg	30.75
05465	Bromodichloromethane	75-27-4	N.D.	34.	ug/kg	30.75
05466	Toluene	108-88-3	N.D.	34.	ug/kg	30.75
05467	1,1,2-Trichloroethane	79-00-5	N.D.	34.	ug/kg	30.75
05468	Tetrachloroethene	127-18-4	N.D.	34.	ug/kg	30.75
05470	Dibromochloromethane	124-48-1	N.D.	34.	ug/kg	30.75
05472	Chlorobenzene	108-90-7	N.D.	34.	ug/kg	30.75
05474	Ethylbenzene	100-41-4	N.D.	34.	ug/kg	30.75
05478	Bromoform	75-25-2	N.D.	34.	ug/kg	30.75
05480	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	34.	ug/kg	30.75
06297	trans-1,3-Dichloropropene	10061-02-6	N.D.	34.	ug/kg	30.75
06298	cis-1,3-Dichloropropene	10061-01-5	N.D.	34.	ug/kg	30.75
06301	Xylene (Total)	1330-20-7	N.D.	34.	ug/kg	30.75
07585	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	67.	ug/kg	30.75
07586	Acrolein	107-02-8	N.D.	670.	ug/kg	30.75



Lancaster Laboratories Sample No. SW 3499152

Collected: 11/07/2000 14:45 by JS

Account Number: 09612

Submitted: 11/10/2000 09:10

ExxonMobil

Reported: 11/23/00 at 12:02 AM

1800 West Park Dr.; Suite 450

Discard: 12/24/00

Westborough MA 01581

B-5/MW-1 (18-20') Composite Soil Sample

LOC# 01-L6V WBS#

MOBIL: Waterbury, VT

B5M1-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
07587	Acrylonitrile	107-13-1	N.D.	130.	ug/kg	30.75
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00118	Moisture	EPA 160.3 modified	1	11/14/2000 15:45	Susan A. Engle	1
07584	PPL + Xylene (total) by 8260	SW-846 8260B	1	11/13/2000 03:33	Kelly L. Hoffer	30.75



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Quality Control Summary

Client Name: ExxonMobil
Reported: 11/23/00 at 12:03 AM

Group Number: 739091

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCS Limits	RPD	RPD Max
Batch number: 00319820005A Moisture	Sample number(s): 3499143-3499152							
				100	100	99-101	0	4
Batch number: 003200015A TPH-DRO API (Soils)	Sample number(s): 3499143, 3499145, 3499147, 3499149, 3499151							
< 7.	7.		mg/kg	105	108	60-120	2	20
Batch number: 00321A35 TPH by GC - GRO (Soils)	Sample number(s): 3499143, 3499145, 3499147, 3499149, 3499151							
< 1.	1.		mg/kg	62		47-76		
Batch number: Q003171AB	Sample number(s): 3499144, 3499146, 3499148, 3499150, 3499152							
Methyl t-butyl ether	< 250.	250.	ug/kg	97	100	65-125	3	30
Chloromethane	< 250.	250.	ug/kg	75	79	47-135	5	30
Vinyl Chloride	< 250.	250.	ug/kg	76	82	53-134	7	30
Bromomethane	< 250.	250.	ug/kg	78	81	40-135	3	30
Chloroethane	< 250.	250.	ug/kg	75	80	38-143	6	30
Trichlorofluoromethane	< 250.	250.	ug/kg	61	62	34-146	2	30
1,1-Dichloroethene	< 250.	250.	ug/kg	84	91	70-140	8	30
Methylene Chloride	< 250.	250.	ug/kg	99	94	76-129	5	30
trans-1,2-Dichloroethene	< 250.	250.	ug/kg	95	93	78-131	1	30
1,1-Dichloroethane	< 250.	250.	ug/kg	96	97	82-130	1	30
cis-1,2-Dichloroethene	< 250.	250.	ug/kg	101	98	85-127	3	30
Chloroform	< 250.	250.	ug/kg	92	95	84-123	3	30
1,1,1-Trichloroethane	< 250.	250.	ug/kg	90	92	79-133	1	30
Carbon Tetrachloride	< 250.	250.	ug/kg	91	93	72-137	3	30
Benzene	< 250.	250.	ug/kg	99	100	85-125	1	30
1,2-Dichloroethane	< 250.	250.	ug/kg	95	98	81-128	3	30
Trichloroethene	< 250.	250.	ug/kg	97	97	84-128	1	30
1,2-Dichloropropane	< 250.	250.	ug/kg	97	100	81-126	3	30
Bromodichloromethane	< 250.	250.	ug/kg	96	97	80-123	1	30
Toluene	< 250.	250.	ug/kg	98	99	84-125	1	30
1,1,2-Trichloroethane	< 250.	250.	ug/kg	101	102	82-121	0	30
Tetrachloroethene	< 250.	250.	ug/kg	96	98	76-141	2	30
Dibromochloromethane	< 250.	250.	ug/kg	99	98	75-123	1	30
Chlorobenzene	< 250.	250.	ug/kg	99	101	86-122	2	30
Ethylbenzene	< 250.	250.	ug/kg	98	99	86-127	0	30
Bromoform	< 250.	250.	ug/kg	97	98	66-128	2	30
1,1,2,2-Tetrachloroethane	< 250.	250.	ug/kg	100	98	69-125	1	30
trans-1,3-Dichloropropene	< 250.	250.	ug/kg	98	99	79-121	1	30
cis-1,3-Dichloropropene	< 250.	250.	ug/kg	97	98	82-122	2	30
Xylene (Total)	< 250.	250.	ug/kg	100	102	87-127	2	30
2-Chloroethyl Vinyl Ether	< 500.	500.	ug/kg	78	80	73-130	2	30
Acrolein	< 5000.	5000.	ug/kg	97	103	38-154	6	30
Acrylonitrile	< 1000.	1000.	ug/kg	93	95	58-138	2	30

Sample Matrix Quality Control

MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD
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*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681



Lancaster Laboratories

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Quality Control Summary

Client Name: ExxonMobil Group Number: 739091
 Reported: 11/23/00 at 12:03 AM

Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: 00319820005A Moisture	Sample number(s): 3499143-3499152								
						28.0	26.5	6	16
Batch number: 003200015A TPH-DRO API (Soils)	Sample number(s): 3499143, 3499145, 3499147, 3499149, 3499151								
	87		50-150						
Batch number: 00321A35 TPH by GC - GRO (Soils)	Sample number(s): 3499143, 3499145, 3499147, 3499149, 3499151								
	56	53	34-71	6	30				

Surrogate Quality Control

Analysis Name: TPH-DRO API (Soils)
 Batch number: 003200015A
 Orthoterphenyl

3499143	89
3499145	90
3499147	127
3499149	101
3499151	89
Blank	89
LCS	108
LCSD	110
MS	89
Limits: 50-150	

Analysis Name: TPH-GRO API (Soils)
 Batch number: 00321A35
 Trifluorotoluene-F

3499143	92
3499145	95
3499147	91
3499149	88
3499151	94
Blank	103
LCS	115
MS	106
MSD	105
Limits: 50-131	

Analysis Name: PPL + Xylene (total) by 8260
 Batch number: Q003171A2

	Dibromofluoromethane	Toluene-d8	4-Bromofluorobenzene	1,2-Dichloroethane-d4
3499144	78*	76*	79	81
3499146	84	82	84	86
3499148	81	81	82	83
3499150	98	96	98	99

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681



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Quality Control Summary

Client Name: ExxonMobil

Group Number: 739091

Reported: 11/23/00 at 12:03 AM

Surrogate Quality Control

3499152	90	86	88	90
Blank	105	104	105	106
LCS	92	94	97	94
LCSD	94	95	98	99
Limits:	80-120	81-117	74-121	80-120

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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Acct. #: 9612 Sample #: 3499143-52

SCR#: 1142802

Mobil Consultant: GROUNDWATER + ENVIRONMENTAL SER
 Consultant Project Manager: M. DAVIS
 Consultant Phone #: 860-688-9023 Fax #: _____
 Location Code #: 01-26V WBS #: _____
 Site Address: WATERBURY State: VT
 Sampler: J. STANLEWICZ
 Mobil Engineer: A. HOPE

Please print.

Matrix

Potable
 NPDES
 Water
 Oil
 Air

Analyses Requested List total number of containers in the box under each analysis.

Preservation Codes	
BTEX 602 <input type="checkbox"/> +MTBE <input type="checkbox"/> +NAPH <input type="checkbox"/> +TBA <input type="checkbox"/>	0
BTEX 8020 <input type="checkbox"/> +MTBE <input type="checkbox"/> +NAPH <input type="checkbox"/> +TBA <input type="checkbox"/>	
TPH API GRO <input checked="" type="checkbox"/> DRO <input type="checkbox"/>	
TPH Mobil DRO <input type="checkbox"/> MRO <input type="checkbox"/>	
TPH 418.1 <input type="checkbox"/>	
BTEX 8021 <input type="checkbox"/> MTBE <input type="checkbox"/> NAPH <input type="checkbox"/>	
STARS GAS <input type="checkbox"/> STARS FUEL <input type="checkbox"/>	
8270 BNA <input type="checkbox"/> STARS PAH <input type="checkbox"/>	
TPH MAVPH <input type="checkbox"/>	
MA EPH <input type="checkbox"/>	
MOISTURE	
8260	

Preservative Codes
 H = HCl T = Thiosulfate
 N = HNO₃ B = NaOH
 S = H₂SO₄ O = Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil	Air
B-1/MW-5 24-26	11-6-00	12:50	✓	✓	✓			
B-2/MW-2 27-29	11-6-00	17:00	✓	✓	✓			
B-3/MW-6 19-21	11-7-00	9:40	✓	✓	✓			
B-4/MW-4 18-22	↓	12:30	✓	✓	✓			
B-5/MW-1 18-20	↓	14:45	✓	✓	✓			

Remarks

Turnaround Time Requested (TAT) (please circle):
MOBIL STD. TAT 72 hour 48 hour
 24 hour other ____ day Do not FAX

Data Package Options (please circle if requested) SDG Complete? Yes No
 QC Summary GLP
 Type I (Tier I) Other
 Type II (Tier II) Disk
 Type III (NJ) Red. Del.
 Type IV (CLP)
 Type VI (Raw Data)
 Site-specific QC required? Yes NO (If yes, indicate QC sample and submit triplicate volume.)
 Internal Chain of Custody required? Yes NO

Relinquished by:	Date	Time	Received by:	Date	Time
_____	11/9/00	10:30	_____		
<u>Josh Stawling</u>	<u>11/9/00</u>	<u>6:00</u>	<u>M. G.</u>	<u>11/9/00</u>	<u>10:00</u>
_____	<u>11/9/00</u>	<u>10:00</u>	_____		
Relinquished by Commercial Carrier:	Date	Time	Received by:	Date	Time
UPS <u>FedEx</u> Other _____			<u>Kathy Binkley</u>	<u>11-10-00</u>	<u>0910</u>
			Temperature Upon Receipt	<u>4</u>	°C

APPENDIX C

Laboratory Analytical Chemistry Report for Groundwater



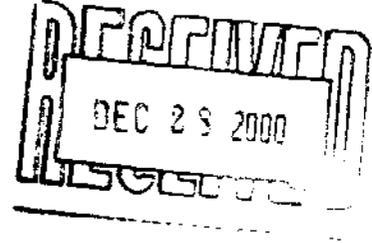
ANALYTICAL RESULTS

Prepared for:

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425



SAMPLE GROUP

The sample group for this submittal is 742744. Samples arrived at the laboratory on Friday, December 08, 2000. The PO# for this group is 4500170510-0500 and the release number is 00090.

Client Description

MW-2 Grab Water Sample
MW-4 Grab Water Sample
MW-5 Grab Water Sample

Lancaster Labs Number

3516299
3516300
3516301

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO Groundwater & Env. Svcs.

Attn: Melissa Davis

Questions? Contact your Client Services Representative
De Brooks at (717) 656-2300.

Respectfully Submitted,

Dale R. Rhodes
S- Chemist/Coordinator



Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717 656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. WW 3516299

Collected: 12/06/2000 14:25 by JMS

Account Number: 09612

Submitted: 12/08/2000 10:10

ExxonMobil

Reported: 12/20/00 at 06:19 PM

1800 West Park Dr.; Suite 450

Discard: 1/20/01

Westborough MA 01581

MW-2 Grab Water Sample

LOC# 01-L6V WBS# 26

MOBIL: Route 100N - Waterbury, VT

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
02290	MI UST by GC waters					
00776	Benzene	71-43-2	< 1.0	1.0	ug/l	1
00777	Toluene	108-88-3	< 1.0	1.0	ug/l	1
00778	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
00779	Total Xylenes	1330-20-7	< 3.0	3.0	ug/l	1
00780	Methyl tert-Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
00781	Naphthalene	91-20-3	< 5.0	5.0	ug/l	1
02292	1,2,4-Trimethylbenzene	95-63-6	< 1.0	1.0	ug/l	1
02293	1,3,5-Trimethylbenzene	108-67-8	< 1.0	1.0	ug/l	1

Sufficient sample volume was not available to perform a MSD for this analysis. However, a MS was performed. In addition, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02290	MI UST by GC waters	SW-846 8021B/9030B	1	12/12/2000 10:53	Linda C. Pape	1



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 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. WW 3516300

Collected: 12/06/2000 14:15 by JMS

Account Number: 09612

Submitted: 12/08/2000 10:10

Reported: 12/20/00 at 06:19 PM

Discard: 1/20/01

MW-4 Grab Water Sample

LOC# 01-L6V WBS# 26

MOBIL: Route 100N - Waterbury, VT

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
02290	MI UST by GC waters					
00776	Benzene	71-43-2	< 1.0	1.0	ug/l	1
00777	Toluene	108-88 3	< 1.0	1.0	ug/l	1
00778	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
00779	Total Xylenes	1330-20-7	< 3.0	3.0	ug/l	1
00780	Methyl tert-Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
00781	Naphthalene	91-20-3	< 5.0	5.0	ug/l	1
02292	1,2,4-Trimethylbenzene	95-63-6	< 1.0	1.0	ug/l	1
02293	1,3,5-Trimethylbenzene	108 67-8	< 1.0	1.0	ug/l	1

Sufficient sample volume was not available to perform a MSD for this analysis. However, a MS was performed. In addition, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02290	MI UST by GC waters	SW-846 8021B/5030B	1	12/12/2000 11:29	Linda C. Pape	1



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717-656 2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. **WW 3516301**

Collected: 12/06/2000 14:20 by **JMS**

Account Number: 09612

Submitted: 12/08/2000 10:10

Reported: 12/20/00 at 06:19 PM

Discard: 1/20/01

MW-5 Grab Water Sample

LOC# 01-L6V WBS# 26

MOBIL: Route 100N - Waterbury, VT

ExxonMobil
1800 West Park Dr.; Suite 450
Westborough MA 01581

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
02290	MI UST by GC waters					
00776	Benzene	71-43-2	< 1.0	1.0	ug/l	1
00777	Toluene	108-88-3	< 1.0	1.0	ug/l	1
00778	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
00779	Total Xylenes	1330-20-7	< 3.0	3.0	ug/l	1
00780	Methyl tert-Butyl Ether	1634-04-4	< 1.0	1.0	ug/l	1
00781	Naphthalene	91-20-3	< 5.0	5.0	ug/l	1
02292	1,2,4-Trimethylbenzene	95-63-6	< 1.0	1.0	ug/l	1
02293	1,3,5-Trimethylbenzene	108-67-8	< 1.0	1.0	ug/l	1

Sufficient sample volume was not available to perform a MSD for this analysis. However, a MS was performed. In addition, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02290	MI UST by GC waters	SW-846 8021B/5030B	1	12/12/2000 12:05	Linda C. Pape	1



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Quality Control Summary

Client Name: ExxonMobil
Reported: 12/20/00 at 06:19 PM

Group Number: 742744

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 00346A02								
Sample number(s): 3516299-3516301								
Benzene	< 1.	1.	ug/l	111	110	79-119	0	30
Toluene	< 1.	1.	ug/l	107	108	81-118	1	30
Ethylbenzene	< 1.	1.	ug/l	108	109	80-118	0	30
Total Xylenes	< 3.	3.	ug/l	106	107	81-118	0	30
Methyl tert-Butyl Ether	< 1.	1.	ug/l	108	103	77-123	5	30
Naphthalene	< 5.	5.	ug/l	93	97	49-138	5	30
1,2,4-Trimethylbenzene	< 1.	1.	ug/l	94	92	70-130	2	30
1,3,5-Trimethylbenzene	< 1.	1.	ug/l	99	98	70-130	1	30

Sample Matrix Quality Control

Analysis Name	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup
	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD
Batch number: 00346A02								
Sample number(s): 3516299-3516301								
Benzene	113		77-129					
Toluene	111		77-131					
Ethylbenzene	113		80-130					
Total Xylenes	111		75-133					
Methyl tert-Butyl Ether	108		58-143					
Naphthalene	91		49-142					
1,2,4-Trimethylbenzene	99		70-130					
1,3,5-Trimethylbenzene	104		70-130					

Surrogate Quality Control

Analysis Name: MI UST by GC waters
Batch number: 00346A02
Trifluorotoluene-P

3516299	109
3516300	109
3516301	107
Blank	108
LCS	112
LCSD	108
MS	109
Limits:	69-132

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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PO Box 12425
Lancaster, PA 17605-2425
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Acct. #: 9612 Sample #: 3516249-30

SCR#: 1146276

Analyses Requested List total number of containers in the box under each analysis.

Please print.

Mobil Consultant: GES
 Consultant Project Manager: MELISSA DAVIS / DAVID SHERMAN
 Consultant Phone #: 860-688-9023 Fax #: _____
 Location Code #: 01-L6V WBS #: 26
 Site Address: ROUTE 100N, WATERBURY State: VT
 Sampler: JOE H. STANWICZ / T. CAABRESE
 Mobil Engineer: ACHEBE HORE

Matrix		Preservation Codes												
Water	Air	BTEX 6021	BTEX 8020	TPH API	TPH Mobil	TPH 418.1	BTEX 8021	STARS GAS	8270 BNA	TPH MA VPH	MA EPH	8021B	TRINETHYLBENZENE	NAPHTHALENE
<input type="checkbox"/>														

Preservative Codes
 H = HCl T = Thiosulfate
 N = HNO₃ B = NaOH
 S = H₂SO₄ O = Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Air	Oil	BTEX 6021	BTEX 8020	TPH API	TPH Mobil	TPH 418.1	BTEX 8021	STARS GAS	8270 BNA	TPH MA VPH	MA EPH	8021B	TRINETHYLBENZENE	NAPHTHALENE	Remarks
MW-2	12-6-00	14:25	✓			✓														X	X	
MW-4	12-6	14:15	✓			✓														X	X	
MW-5	12-6	14:20	✓			✓														X	X	

Turnaround Time Requested (TAT) (please circle):
MOBIL STD. TAT 72 hour 48 hour
 24 hour other _____ day Do not FAX

Relinquished by: <u>J. Munkle</u>	Date: <u>11-21-00</u>	Time: <u>10:05</u>	Received by: <u>Liziana Calabrese</u>	Date: <u>12-5</u>	Time: <u>18:00</u>
Relinquished by: <u>Liziana Calabrese</u>	Date: <u>12-6</u>	Time: <u>16:35</u>	Received by: <u>L. Eron</u>	Date: <u>12/1/00</u>	Time: <u>4:45</u>
Relinquished by: <u>L. Eron</u>	Date: <u>12/1/00</u>	Time: <u>4:45</u>	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: <u>Liziana Calabrese</u>	Date: <u>12/1/00</u>	Time: <u>10:10</u>

Relinquished by Commercial Carrier: _____
 UPS FedEx Other _____
 Temperature Upon Receipt: 3.5 °C

Data Package Options (please circle if requested) SDG Complete? Yes No

QC Summary GLP
 Type I (Tier I) Other
 Type II (Tier II) Disk
 Type III (NJ Red. Del.)
 Type IV (CLP)
 Type VI (Raw Data)

Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.)
 Internal Chain of Custody required? Yes No