release 3431
Texaco Maple Valley
Maple Valley

Delta
Environmental
Consultants, Inc.

Solving environment-related business problems worldwide

www.deltaenv.com

17720 NE 65th Street • Suite 201
Redmond , Washington 98052 USA

425.558.0134 800.477.7411
Fax 425.869.7494

January 30, 2004
Project A81-21641 Maple Valley

Mr. John Wietfeld
Washington State Department of Ecology
Northwest Regional Office
Toxics Cleanup Program, UST Division
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Re: SHELL GRASP MONITORING REPORT
Shell Service Station
21641 Maple Valley Highway
Maple Valley, Washington 98038

Dear Mr. Wietfeld:

Delta Environmental Consultants, Inc. (Delta), formerly KHM Environmental Management, Inc. (KHM), on behalf of Equilon Enterprises LLC dba Shell Oil Products US (SHELL), has prepared this Shell GRASP Monitoring Report for the above referenced site.

GRASP (GRoundwater ASsessment Program) is a voluntary initiative by SHELL to install groundwater monitoring wells at numerous retail service stations nationwide that do not have any active release cases but have been identified to be in close proximity to one or more public water supply wells. The purpose of this program is to proactively monitor the groundwater beneath these sites and, in the event of a subsurface release, to respond quickly to protect public wells from this impact.

If you have any questions regarding this site, please contact Mr. Brian Pletcher (Delta) at (503) 639-8098 or Mr. Tony Palagyi (SHELL) at (425) 377-8530.

RECEIVED
FEB 04 2004
DEPT OF ECOLOGY

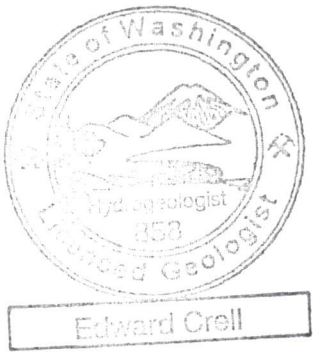
entered
CM
2/11/04

Sincerely,
DELTA ENVIRONMENTAL CONSULTANTS, INC.

Tena Seeds

Tena Seeds, E.I.T.
Project Engineer

Ward Crell, R.G.
Senior Geologist



Attachments: Shell GRASP Monitoring Report

cc: Mr. Tony Palagyi, Shell Oil Products US, Seattle, Washington

January 30, 2004

SHELL GRASP MONITORING REPORT

Station Address:	21641 Maple Valley Highway Maple Valley, Washington
SHELL GRASP Incident No.:	97420022
DELTA Project No.:	A81-21641 Maple Valley/ST21-641
SHELL Environmental Engin./Phone No.:	Tony Palagyi/(425) 377-8530
DELTA Project Manager/Phone No.:	Brian Pletcher/(503) 639-8098

Current Phase of Project:	GRASP Groundwater Monitoring
Frequency of Sampling:	Quarterly
Frequency of Monitoring:	Quarterly
Is Separate Phase Hydrocarbon Present On-site (Well #'s):	☐ Yes ☒ No
Cumulative SPH Recovered to Date :	None
SPH Recovered This Quarter :	None
Sensitive Receptor(s) Information:	Nearest production well is a municipal supply well, approximately 845 ft east of the site
Approximate Depth to Groundwater:	11.32 to 12.66 feet
Groundwater Gradient	WSW @ approximately 0.004 ft/ft
Summary of Unusual Activity:	None

Brian Pletcher
Project Manager (Delta)

ATTACHED:

- Table 1 – Groundwater Gauging and Analytical Results
- Figure 1 – Site Location Map
- Figure 2 – Groundwater Elevation Contour Map
- Figure 3 – Hydrocarbon Distribution in Groundwater Map
- Appendix A – Field Data Sheets
- Appendix B – Field Procedures
- Appendix C – Laboratory Report and Chain-of-Custody Documents

TABLE

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
21641 Maple Valley Highway
Maple Valley, Washington

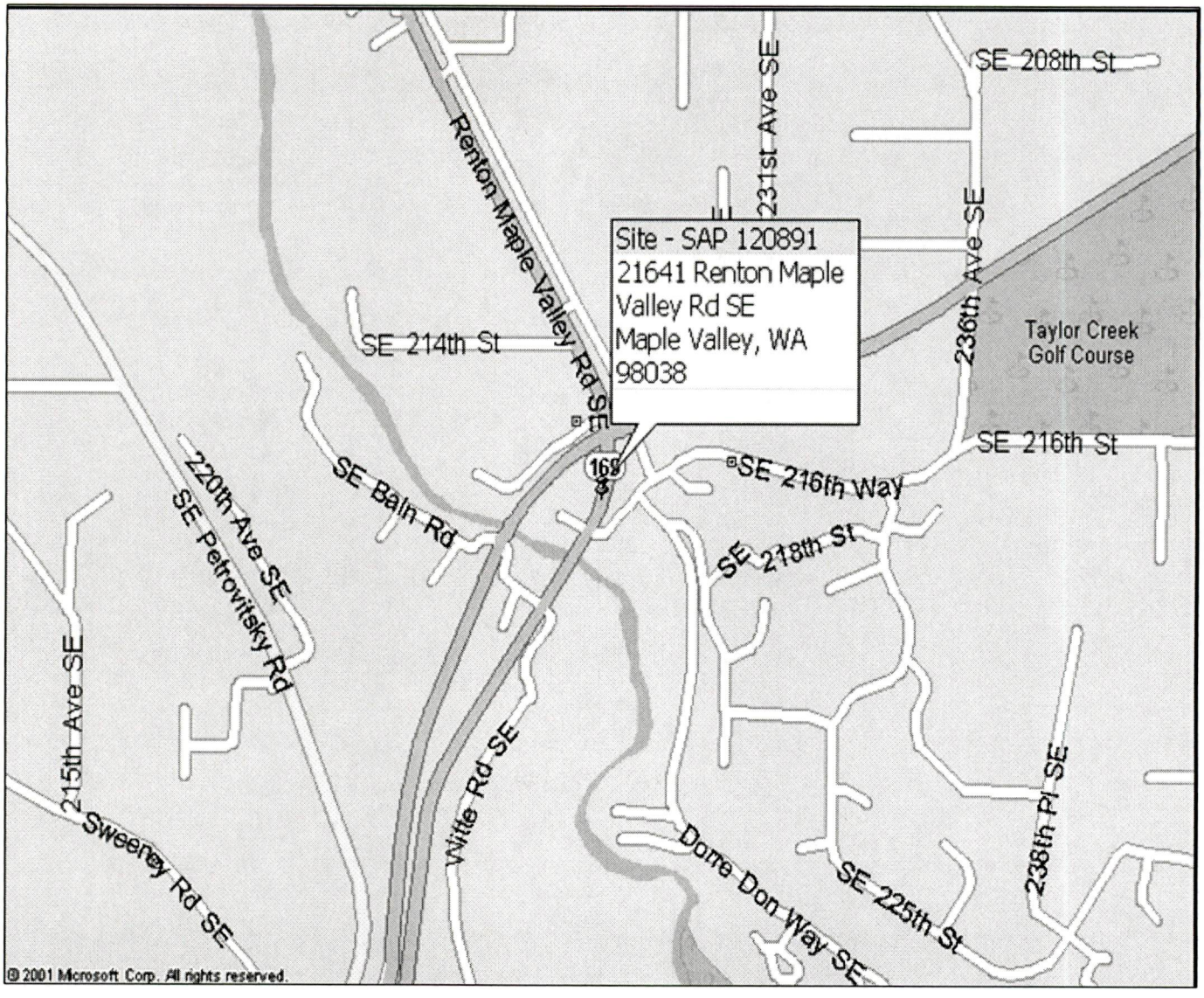
Sample I.D. TOC[1]	Sample Date	TPH-G (µg/l)	TPH-D (µg/l)	TPH-O (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	TBA (µg/l)	Ethanol (µg/l)	Depth to GW (feet)	SPH (feet)	GW Elev.[1] (feet)
MW-1b	12/19/02	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	NA	12.53	0.00	327.50
340.03	05/13/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	NA	12.47	0.00	327.56
	08/20/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	<5,000	13.10	0.00	326.93
	12/10/03	**530**	<250	<500	**240**	**180**	**5.7**	**21.2**	<1	<5	<5	<5	<50	<5,000	12.25	0.00	327.78
	1/08/2004[2]	<1,000	NA	NA	<0.25	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA	12.35	0.00	327.68
MW-2b	12/19/02	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	NA	11.57	0.00	327.85
339.42	05/13/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	NA	11.51	0.00	327.91
	08/20/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	<5,000	12.50	0.00	326.92
	12/10/03	<250	<250	<500	**3.2**	**2.6**	<1	<1	<1	<5	<5	<5	<50	<5,000	11.32	0.00	328.10
	1/08/2004[2]	<1,000	NA	NA	<0.25	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA	11.41	0.00	328.01
MW-12	12/19/02	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	NA	12.95	0.00	327.43
340.38	05/13/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	NA	12.90	0.00	327.48
	08/20/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	<5,000	13.21	0.00	327.17
	12/10/03	<250	<250	<500	**32**	**24**	<1	**2.3**	<1	<5	<5	<5	<50	<5,000	12.66	0.00	327.72
	1/08/2004[2]	<1,000	NA	NA	**0.326**	**2.14**	<0.5	<1	NA	NA	NA	NA	NA	NA	12.83	0.00	327.55
MW-13	12/19/02	<250	<250	<750	<0.5	**0.69**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	NA	12.70	0.00	327.49
340.19	05/13/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	NA	12.62	0.00	327.57
	08/20/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	<5,000	13.52	0.00	326.67
	12/10/03	<250	<250	<500	<1	<1	<1	<1	<1	<5	<5	<5	<50	<5,000	12.37	0.00	327.82
	1/08/2004[2]	<1,000	NA	NA	<0.25	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA	12.54	0.00	327.65

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
21641 Maple Valley Highway
Maple Valley, Washington

Sample I.D. TOC[1]	Sample Date	TPH-G (µg/l)	TPH-D (µg/l)	TPH-O (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	TBA (µg/l)	Ethanol (µg/l)	Depth to GW (feet)	SPH (feet)	GW Elev.[1] (feet)
MTCA Method A Cleanup Levels:		**1000[3]**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Notes:
µg/l = micrograms per liter
TOC = Top of well casing elevation (feet)
SPH = Separate-phase hydrocarbons
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-O = Total Petroleum Hydrocarbons as Oil
MTBE = Methyl tert-butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = tert-Amyl methyl ether
TBA = t-Butyl Alcohol
NA = Not analyzed
<n = Below the detection limit
TPH-D and TPH-O quantified using Northwest Method NWTPH-Dx
TPH-G quantified using Northwest Method NWTPH-Gx
BTEX Compounds, MTBE, DIPE, ETBE, TAME, and TBA analyzed using EPA Method 8260B
[1]TOC elevation and groundwater elevation relative to Mean Sea Level
[2]Well was purged prior to groundwater sampling on January 8, 2004
[3]MTCA Method A Cleanup Level for TPH-Gasoline is 800 µg/l if benzene is detectable in groundwater.

FIGURES



North

NOT TO SCALE

FIGURE 1

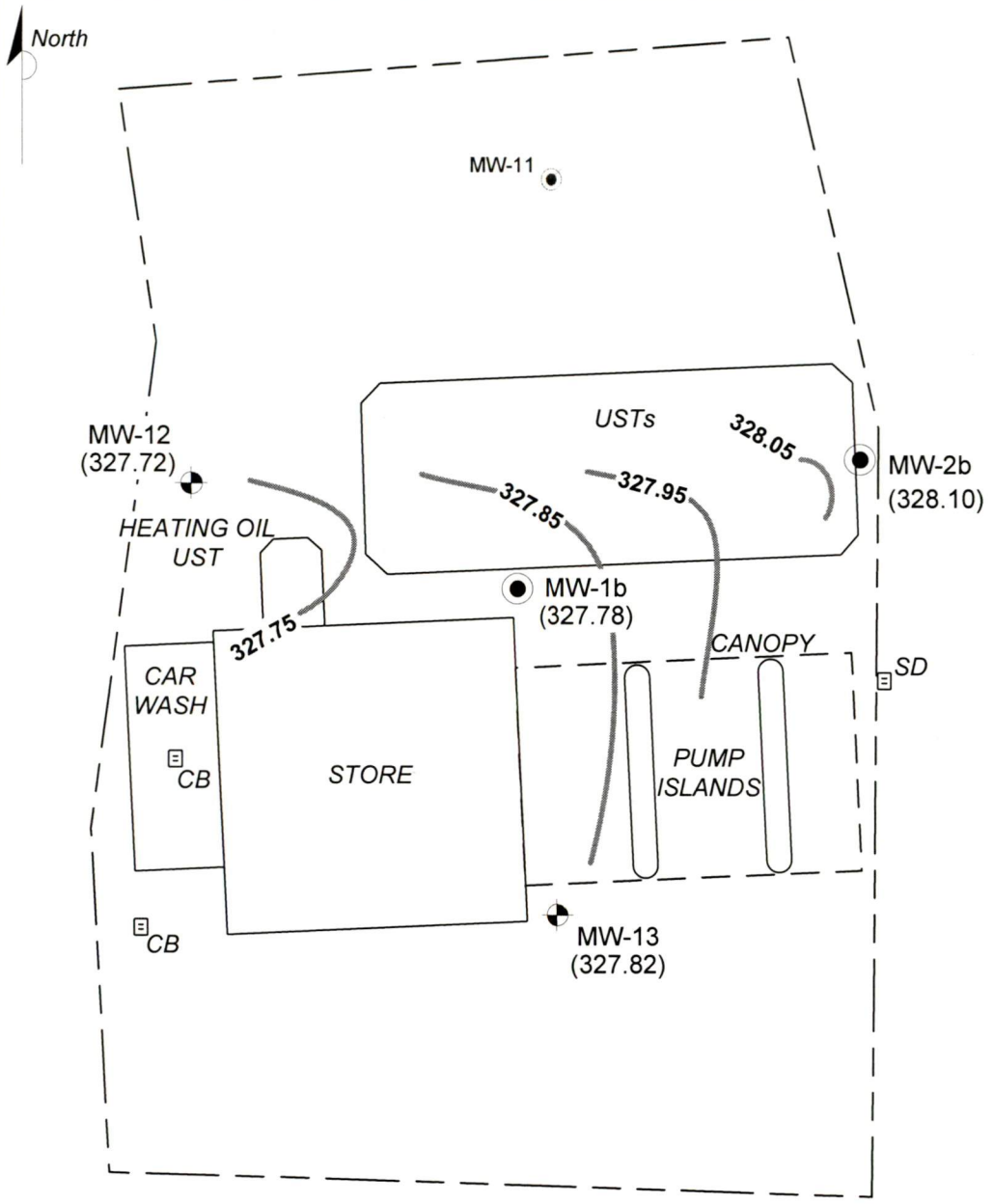
SITE LOCATION MAP

Shell / Equiva Site - SAP 120891
21641 Maple Valley Highway
Maple Valley, Washington

PROJECT NO. A81-21641 Maple Valley	DRAWN BY SB 1-05-04
FILE NO. 1	PREPARED BY SB
REVISION NO. 1	REVIEWED BY DL

Delta
Environmental Consultants, Inc.

GENERAL NOTES:
BASE MAP FROM MICROSOFT STREETS & TRIPS 2003



Legend

- Groundwater Monitoring Well Installed by KHM
- Groundwater Monitoring Well Installed by Others
- Abandoned Groundwater Monitoring Well
- (328.10) Groundwater Elevation, December 10, 2003
- 328.05 Groundwater Elevation Contour, December 10, 2003

0 30 FT

APPROX. SCALE

Site map based on drawing prepared by WGR Southwest, Inc. dated 7/00

FIGURE 2
GROUNDWATER ELEVATION CONTOUR MAP
DECEMBER 10, 2003

Shell / Equiva Site - SAP 120891
21641 Maple Valley Highway
Maple Valley, Washington

PROJECT NO. A81-21641 Maple Valley	DRAWN BY SB 12-19-03
FILE NO. 1	PREPARED BY SB
REVISION NO. 1	REVIEWED BY DL

Delta Environmental Consultants, Inc.

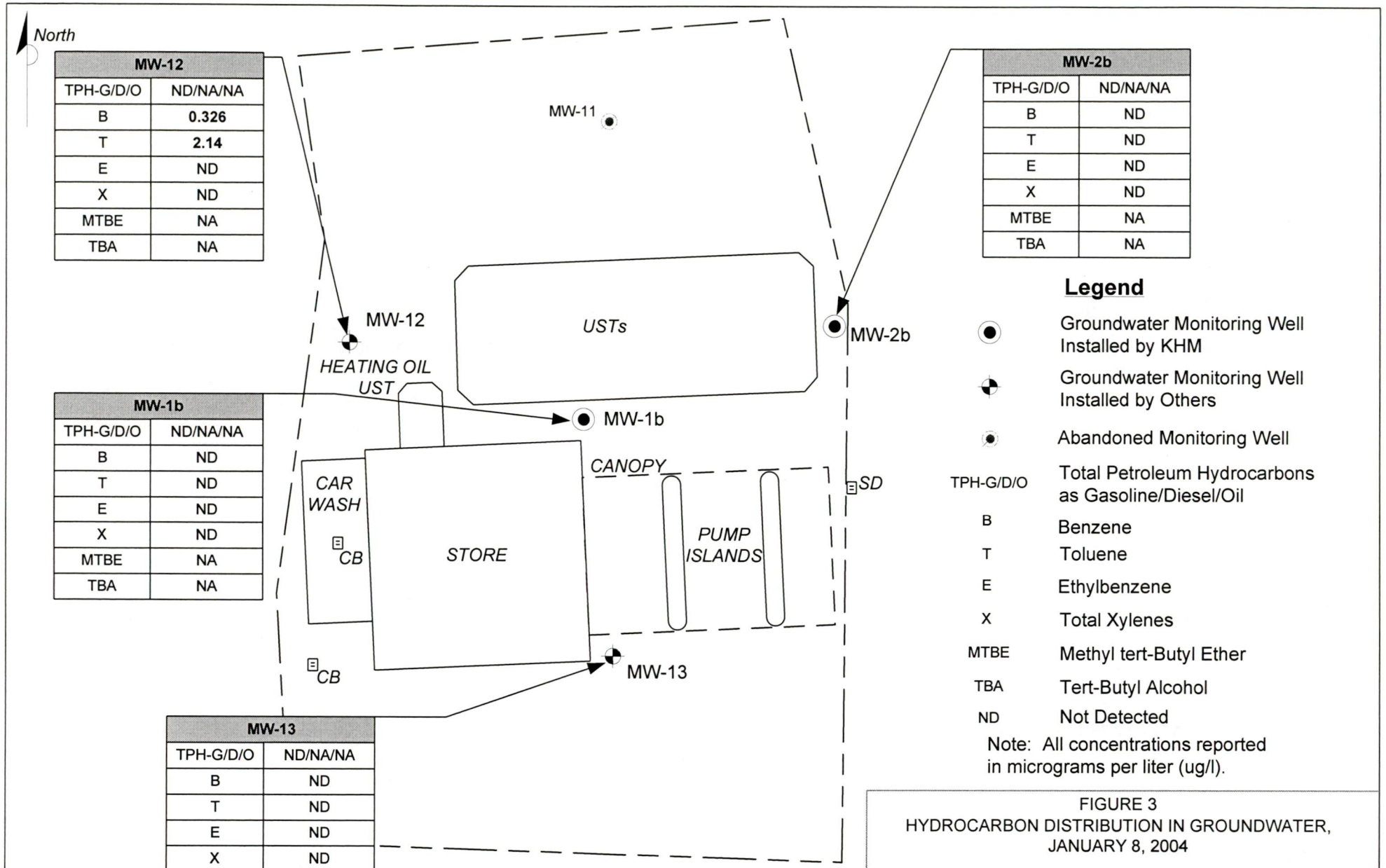


FIGURE 3
HYDROCARBON DISTRIBUTION IN GROUNDWATER, JANUARY 8, 2004

Shell / Equiva Site - SAP 120891
21641 Maple Valley Highway
Maple Valley, Washington

PROJECT NO. A81-21641 Maple Valley	DRAWN BY SB 1-30-04
FILE NO. 1	PREPARED BY SB
REVISION NO. 1	REVIEWED BY DL

Delta Environmental Consultants, Inc.

APPENDIX A

FIELD DATA SHEETS

GROUNDWATER SAMPLING INFORMATION SHEET

Project No: ST21-641 Location: 21641 Mapple Valley Hwy Page 1 of 1

Client: Shell Field Personal O.P. Date: 01/08/04

Well ID	Time	Well Diam. (in.)	Depth to Bottom (ft.)	Depth to Water (ft.)	Depth to LPH (ft.)	LPH Thickness (ft.)	Dissolved Oxygen (mg/L)	Calc. Purge (gal.)	Actual Purge (gal.)	Sample Appearance
MW-1b	9:00	2	24.70	12.35	No LPH	0	4.8	5.9	6	Cloudy
MW-9b	10:00	2	24.25	11.41	↓	↓	4.7	6.4	6.4	↓
MW-12	11:00	4	20.25	12.83	↓	↓	5.2	12	12	↓
MW-13	11:30	4	20.10	12.54	↓	↓	5.1	12	12	↓

Comments:

Measuring Device: _____

APPENDIX B

FIELD PROCEDURES

GROUNDWATER MONITORING AND SAMPLING

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with an electronic water level meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Samples were withdrawn from each well using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

APPENDIX C

LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTS

00001

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

TRANSMITTAL MEMORANDUM

DATE: January 12, 2004

TO: Tena Seeds
Delta Environmental
17720 NE 65th Street Ste 201
Redmond, WA 98052

PROJECT: ST21-641 Maple Valley

REPORT NUMBER: 118732

TOTAL NUMBER OF PAGES: _____

Enclosed are the test results for four samples received at STL Seattle on January 8, 2004.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Tom Coyner
Project Manager

STL Seattle

Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
118732-1	MW-1b	01-08-04 09:00	Liquid
118732-2	MW-2b	01-08-04 10:00	Liquid
118732-3	MW-12	01-08-04 11:00	Liquid
118732-4	MW13	01-08-04 11:30	Liquid

00003

STL Seattle

Client Name	Delta Environmental
Client ID:	MW-1B
Lab ID:	118732-01
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	118		82	120
Bromofluorobenzene	112		84	135
Pentafluorobenzene	112		90	121

Analyte		**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND		0.0005	0.00025	
Toluene	ND		0.001	0.0005	
Ethylbenzene	ND		0.001	0.0005	
m&p-Xylene	ND		0.002	0.001	
o-Xylene	ND		0.001	0.0005	

00004

STL Seattle

Client Name	Delta Environmental
Client ID:	MW-2B
Lab ID:	118732-02
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	118		82	120
Bromofluorobenzene	113		84	135
Pentafluorobenzene	111		90	121

Analyte		**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND		0.0005	0.00025	
Toluene	ND		0.001	0.0005	
Ethylbenzene	ND		0.001	0.0005	
m&p-Xylene	ND		0.002	0.001	
o-Xylene	ND		0.001	0.0005	

00005

STL Seattle

Client Name	Delta Environmental
Client ID:	MW-12
Lab ID:	118732-03
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	117		82	120
Bromofluorobenzene	111		84	135
Pentafluorobenzene	111		90	121

Analyte		**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene		0.000326	0.0005	0.00025	J
Toluene		0.00214	0.001	0.0005	
Ethylbenzene	ND		0.001	0.0005	
m&p-Xylene	ND		0.002	0.001	
o-Xylene	ND		0.001	0.0005	

00006

STL Seattle

Client Name	Delta Environmental
Client ID:	MW13
Lab ID:	118732-04
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	117		82	120
Bromofluorobenzene	112		84	135
Pentafluorobenzene	112		90	121

Analyte		**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND		0.0005	0.00025	
Toluene	ND		0.001	0.0005	
Ethylbenzene	ND		0.001	0.0005	
m&p-Xylene	ND		0.002	0.001	
o-Xylene	ND		0.001	0.0005	

00007

STL Seattle

Client Name	Delta Environmental
Client ID:	MW-1B
Lab ID:	118732-01
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	112		50	150
Bromofluorobenzene	108		50	150
Pentafluorobenzene	103		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

00008

STL Seattle

Client Name	Delta Environmental
Client ID:	MW-2B
Lab ID:	118732-02
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	112		50	150
Bromofluorobenzene	106		50	150
Pentafluorobenzene	102		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

00009

STL Seattle

Client Name	Delta Environmental
Client ID:	MW-12
Lab ID:	118732-03
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	113		50	150
Bromofluorobenzene	107		50	150
Pentafluorobenzene	102		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

00010

STL Seattle

Client Name	Delta Environmental
Client ID:	MW13
Lab ID:	118732-04
Date Received:	1/8/2004
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	111		50	150
Bromofluorobenzene	106		50	150
Pentafluorobenzene	102		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

STL Seattle

Lab ID:	Method Blank - GB3701
Date Received:	-
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	103		82	120
Bromofluorobenzene	106		84	135
Pentafluorobenzene	99.4		90	121

Analyte		**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND		0.0005	0.00025	
Toluene	ND		0.001	0.0005	
Ethylbenzene	ND		0.001	0.0005	
m&p-Xylene	ND		0.002	0.001	
o-Xylene	ND		0.001	0.0005	

00012

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	GB3701
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
QC Batch ID:	GB3701

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8260B

Compound Name	Blank Result (mg/L)	Spike Amount (mg/L)	BS Result (mg/L)	BS % Rec.	BSD Result (mg/L)	BSD % Rec.	RPD	Flag
Benzene	0	0.0155	0.0171	110	0.0175	113	2.7	
Toluene	0	0.0945	0.085	89.9	0.0825	87.3	-2.9	
Ethylbenzene	0	0.0223	0.0214	95.8	0.0208	93.3	-2.6	
m&p-Xylene	0	0.0782	0.0741	94.8	0.072	92.1	-2.9	
o-Xylene	0	0.0314	0.0301	95.8	0.0293	93.3	-2.6	

00013

STL Seattle

Duplicate Report

Client Sample ID:	MW-1B
Lab ID:	118732-01
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
QC Batch ID:	GB3701

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8260B

Parameter Name	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD %	Flag
Benzene	0	0	NC	
Toluene	0	0	NC	
Ethylbenzene	0	0	NC	
m&p-Xylene	0	0	NC	
o-Xylene	0	0	NC	

00014

STL Seattle

Lab ID:	Method Blank - GB3701
Date Received:	-
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	98.5		50	150
Bromofluorobenzene	101		50	150
Pentafluorobenzene	93		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

00015

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	GB3701
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
QC Batch ID:	GB3701

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

Compound Name	Blank Result (mg/L)	Spike Amount (mg/L)	BS Result (mg/L)	BS % Rec.	BSD Result (mg/L)	BSD % Rec.	RPD	Flag
Gasoline by NWTPH-G	0	1.25	1.29	103	1.26	101	-2	

00016

STL Seattle

Duplicate Report

Client Sample ID:	MW-1B
Lab ID:	118732-01
Date Prepared:	1/9/2004
Date Analyzed:	1/9/2004
QC Batch ID:	GB3701

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

Parameter Name	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD %	Flag
Gasoline by NWTPH-G	0	0	NC	

00017

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.

C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be ≤ 30%.

C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The original analysis was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

MRL: Method Reporting Limit

N: See analytical narrative

ND: Not Detected

PQL: Practical Quantitation Limit

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL

Client: Shell Delta Inc. Consultant	Project Manager	Date: 01/08/04	Chain of Custody Number: 01585
Address: 17720 NE 65th St #201	Telephone Number (Area Code)/Fax Number: (425) 0134-558 Attn. Tena Seeds	Lab Number: 18732	Page 1 of 1
City: Redmond / State: WA / Zip Code: 98052	Site Contact	Lab Contact	
Project Name and Location (State): ST21-641 Maple Valley	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: Incident Number 97420022 / SAP 120891			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: NW TPH-Gx	BTEX (8021B)	Special Instructions/ Conditions of Receipt
MW-16	1/8/04	9:00		X						3			X	X	
MW-26	"	10:00		↓						↓			↓	↓	
MW-12	"	11:00		↓						↓			↓	↓	
MW-13	"	11:30		↓						↓			↓	↓	

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☒ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By: C. [illegible] Geologist	Date: 01/08/04	Time: 350p	1. Received By: [signature]	Date: 1/8/04	Time: 350p
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

STL8274-580 (12/02)