



ENVIRONMENTAL MANAGEMENT, INC.

Release # 3431  
TEXACO- MAPLE VALLEY  
(Now) Shell  
MAPLE VALLEY  
UST # 3358

April 1, 2003  
Project No. A81-21641 Maple Valley

Mr. John Weitfeld  
Washington State Department of Ecology  
Northwest Regional Office  
Toxics Cleanup Program, UST Division  
3190 160<sup>th</sup> Ave SE  
Bellevue, Washington 98008-5452

**Re: GRASP Site Assessment Report**  
**Shell Service Station (SAP No. 120891)**  
**21641 Maple Valley Highway**  
**Maple Valley, Washington**  
**Ecology Site ID: 3358**

Dear Mr. Weitfeld:

KHM Environmental Management, Inc. (KHM) on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) has prepared this *GRASP Site Assessment Report* for the above referenced site (Figure 1). The Groundwater Assessment Program (GRASP) activities initiated at the above referenced site on December 10, 2002 did not reveal concentrations of petroleum hydrocarbons in the subsurface soil and groundwater above Washington State Model Toxics Control Act (MTCA) Method A cleanup levels. The findings from the GRASP activities are summarized in this report.

**BACKGROUND**

GRASP is a voluntary initiative by Shell to install groundwater monitoring wells at 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 to protect public wells from this impact.

## **GRASP WELL INSTALLATION**

On December 10, 2002, KHM supervised the drilling and installation of two groundwater monitoring wells (MW-1b, and MW-2b) near the site's fuel pumping islands and underground storage tanks. The boring logs, illustrating sampling intervals, lithologic descriptions, and well completion details are included in Attachment A.

Following installation, the wellhead elevations of the newly installed wells (MW-1b and MW-2b) and two existing monitoring wells on site (identified as MW-12 and MW-13) were surveyed by a state licensed surveyor. The locations of the groundwater monitoring wells, relative to existing site features, are shown on Figure 2. Wellhead survey elevation data is included in Attachment B.

Soil cuttings generated during the subsurface soil investigation were placed into eleven 55-gallon steel drums, profiled and disposed at TPS Technologies, Inc. of Lakewood, Washington. One soil sample from the soil cuttings was submitted to the laboratory for profiling purposes. The soil sample was transported using strict chain-of-custody protocols to SPL of Houston, Texas, for analysis. Certified analytical results and chain-of-custody documentation for the soil sample are presented in Attachment C.

## **GROUNDWATER MONITORING**

On December 19, 2002, the newly installed wells and existing monitoring wells were monitored for chemical constituents associated with gasoline and diesel fuels. Prior to sample collection, depth to groundwater was measured in MW-1b, MW-2b, MW-12, and MW-13. Groundwater samples were collected from each of the wells in accordance with the sampling procedures described in Attachment D. The approximate groundwater flow direction appears to be to the southwest. Depth to groundwater and groundwater elevations are included in Table 1. Groundwater elevation contours are presented in Figure 2. Groundwater field sheets are included in Attachment E.

## **ANALYTICAL FINDINGS**

Field screening of soil samples collected during drilling activities included visual observation, sheen testing, and vapor headspace analysis using a photoionization detector (PID). No subsurface soil impacts were observed in the field; therefore, soil samples collected during drilling activities were not submitted to the laboratory for quantitative analysis.

April 1, 2003

Page 3

Concentrations of total petroleum hydrocarbons (TPH) in the gasoline, diesel, and oil ranges were not detected at or above Method Reporting Limits (MRLs) in groundwater sampled from the four monitoring wells. Additionally, concentrations of benzene, ethylbenzene, xylenes, and methyl tert-butyl ether (MTBE) were not detected at or above the MRLs in groundwater from each of the sampled wells. A concentration of toluene was detected at 0.69 micrograms per liter ( $\mu\text{g}/\text{l}$ ) in groundwater from MW-13, which is below the MTCA Method A cleanup level. Toluene was not detected in Monitoring Wells MW-1b, MW-2b, and MW-12. Analytical results for groundwater are summarized in Table 1 and presented on Figure 3. Certified analytical results and chain-of-custody documentation for groundwater samples are presented in Attachment F.

If you have any questions regarding this site, please contact Tena Seeds (KHM) at (425) 558-0134 or Tony Palagyi (Shell) at (425) 377-8530.

Sincerely,

**KHM Environmental Management, Inc.**

*Tena Seeds*

Tena Seeds  
Staff Engineer



Ward Crell, R.G.  
Principal Geologist



Edward Crell

Attachments: Table 1 – Groundwater Gauging and Analytical Data  
Figure 1 – Site Location Map  
Figure 2 – Groundwater Elevation Contour Map  
Figure 3 – Hydrocarbon Distribution in Groundwater  
Attachment A – Boring Logs  
Attachment B – Wellhead Elevation Survey Data  
Attachment C – Laboratory Analytical Report and Chain-of-Custody Documentation - Soil  
Attachment D – Groundwater Monitoring and Sampling Procedures  
Attachment E – Groundwater Sampling Field Sheets  
Attachment F – Laboratory Analytical Report and Chain-of-Custody Documentation - Groundwater

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

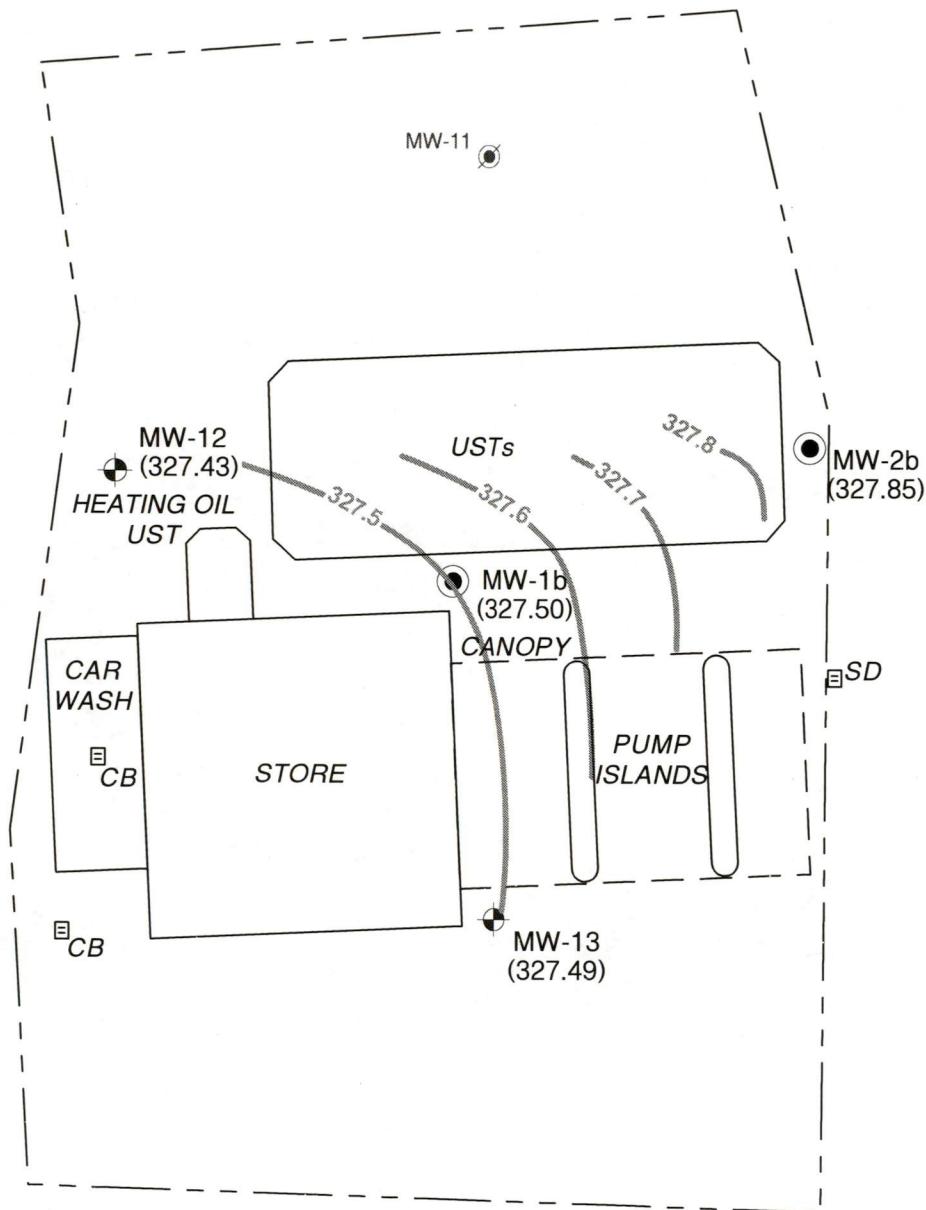
**TABLE 1**  
**GROUNDWATER GAUGING AND ANALYTICAL DATA**  
 21641 Maple Valley Highway  
 Maple Valley, Washington

Sample I.D. TOC <sup>1</sup>	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)	Depth to GW (feet)	SPH (feet)	GW Elev. <sup>1</sup> (feet)
<b>MW-1b</b> 340.03	12/19/02	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	12.53	0.00	327.50
<b>MW-2b</b> 339.42	12/19/02	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	11.57	0.00	327.85
<b>MW-12</b> 340.38	12/19/02	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	12.95	0.00	327.43
<b>MW-13</b> 340.19	12/19/02	<250	<250	<750	<0.5	<b>0.69</b>	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	12.70	0.00	327.49

<b>MTCA Method A Cleanup Levels:</b>	<b>1000<sup>2</sup></b>	<b>500</b>	<b>500</b>	<b>5</b>	<b>1000</b>	<b>700</b>	<b>1000</b>	<b>20</b>	-	-	-	-	-	-	-	-
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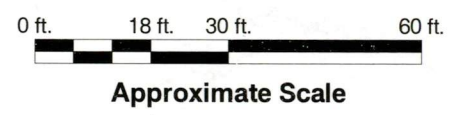
**Notes:**  
 µg/l = micrograms per liter  
 TOC = Top of well casing elevation (feet)  
 SPH = Separate-phase hydrocarbons  
 TPH-G = Total Petroleum Hydrocarbons as Gasoline  
 TPH-D = Total Petroleum Hydrocarbons as Diesel  
 TPH-O = Total Petroleum Hydrocarbons as Oil  
 MTBE = Methyl tert-butyl 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  
<sup>1</sup>TOC elevation and groundwater elevation relative to Mean Sea Level  
<sup>2</sup>MTCA Method A Cleanup Level for TPH-Gasoline is 800 ppb if benzene is detectable in groundwater.





**Legend**

- Groundwater Monitoring Well Installed by KHM
- ⊕ Groundwater Monitoring Well Installed by Others
- ⊙ Abandoned Groundwater Monitoring Well
- (327.50) Groundwater Elevation, December 19, 2002
- 327.6 — Groundwater Elevation Contour, December 19, 2002



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

	<b>GROUNDWATER ELEVATION CONTOUR MAP</b>		
	<b>Shell/Equiva Site - SAP 120891</b> 21641 Maple Valley Highway Maple Valley, Washington		
	DATE 4/1/03	PROJECT A81-21641 Maple Valley	FIGURE 2

MW-12	
TPH-G/D/O	ND/ND/ND
B	ND
T	ND
E	ND
X	ND
MTBE	ND
TBA	ND




MW-1b	
TPH-G/D/O	ND/ND/ND
B	ND
T	ND
E	ND
X	ND
MTBE	ND
TBA	ND

MW-13	
TPH-G/D/O	ND/ND/ND
B	ND
T	0.69
E	ND
X	ND
MTBE	ND
TBA	ND

MW-2b	
TPH-G/D/O	ND/ND/ND
B	ND
T	ND
E	ND
X	ND
MTBE	ND
TBA	ND



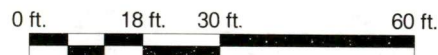
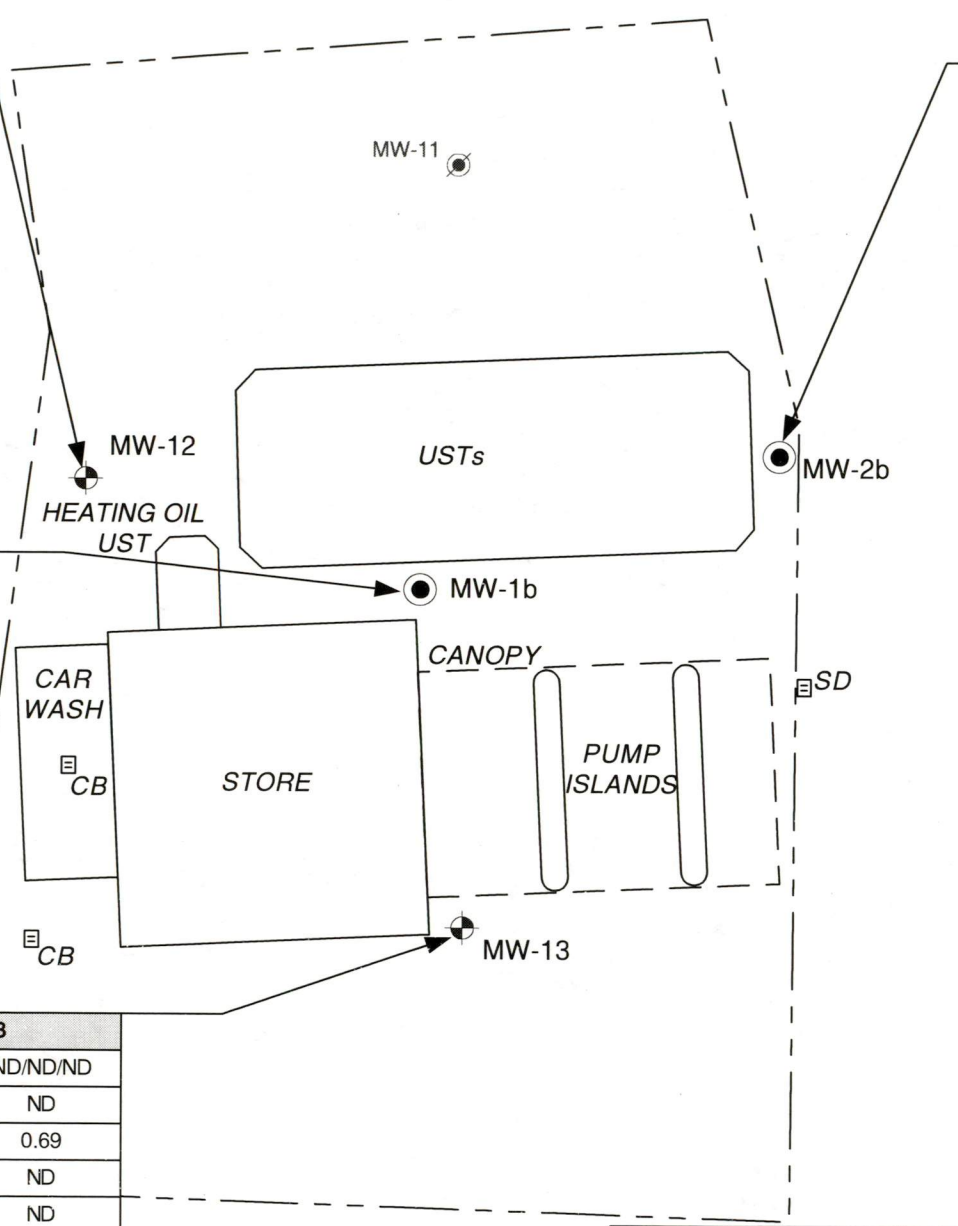
**Legend**

-  Groundwater Monitoring Well Installed by KHM
-  Groundwater Monitoring Well Installed by Others
-  Abandoned Monitoring Well

TPH-G/D/O Total Petroleum Hydrocarbons as Gasoline/Diesel/Oil

- B Benzene
- T Toluene
- E Ethylbenzene
- X Total Xylenes
- MTBE Methyl tert-Butyl Ether
- TBA Tert-Butyl Alcohol
- ND Not Detected

Note: All concentrations reported in micrograms per liter (ug/l).



Approximate Scale

**KHM**  
ENVIRONMENTAL  
MANAGEMENT,  
INC.

**HYDROCARBON DISTRIBUTION IN  
GROUNDWATER**

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

DATE 4/1/03

PROJECT A81-21641 Maple Valley

FIGURE 3

**ATTACHMENT A**

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**BORING LOGS**

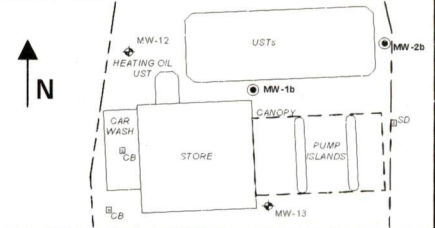


ENVIRONMENTAL  
MANAGEMENT  
INCORPORATED

PROJECT NO: A81-21641 Maple Valley CLIENT: Shell  
 LOGGED BY: O. Popova/J. North LOCATION: 21641 Maple Valley Hwy, WA  
 DRILLER: Cascade Drilling Inc. DATE DRILLED: 12/10/2002  
 DRILLING METHOD: ODEX HOLE DIAMETER: 7"  
 SAMPLING METHOD: Grab HOLE DEPTH: 25'  
 CASING TYPE: PVC WELL DIAMETER: 2"  
 SLOT SIZE: 0.010" WELL DEPTH: 25'  
 GRAVEL PACK: 2-12 CASING STICKUP: 0

BORING/WELL NO: MW-1b  
 PAGE 1 OF 2

LOCATION MAP



ELEVATION

NORTHING

EASTING

Well Completion

Backfill  
Casing

Static  
Water  
Level

Moisture  
Content

PID Reading  
(ppm)

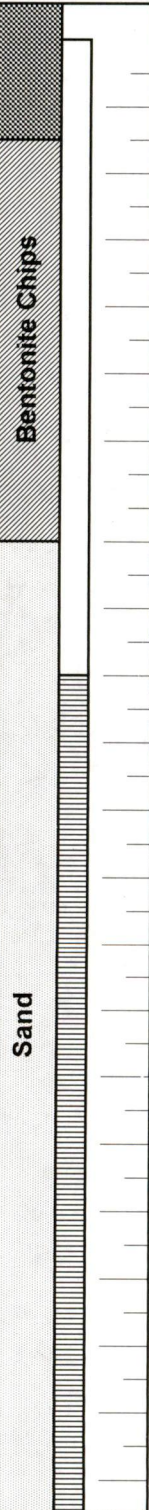
Penetration  
(blows/6")

Depth (feet)

Sample  
Recovery  
Interval

Soil Type

LITHOLOGY / DESCRIPTION



Depth (feet)	Soil Type
0	
1	
2	
3	
4	
5	
6	GP
7	
8	
9	
10	
11	
12	
13	
14	GP-GM
15	
16	
17	
18	
19	
20	
21	
22	

0 - 3" ASPHALT

Airknifed to 6' through peagravel [fill]

**Gravelly SAND/Sandy GRAVEL with cobbles;**  
subrounded/ subangular, medium to coarse grained  
sand, moist, dense

(sand increasing, trace silt)

**Poorly Graded GRAVEL;** gravel - sand - silt mixture

(moisture increasing)

(free water in return)

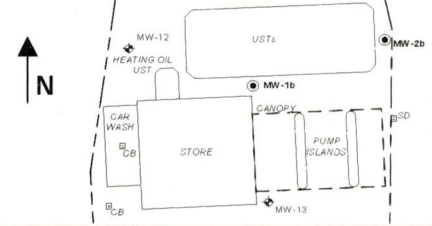
# KHM

ENVIRONMENTAL  
MANAGEMENT  
INCORPORATED

PROJECT NO: A81-21641 Maple Valley CLIENT: Shell  
 LOGGED BY: O. Popova/J. North LOCATION: 21641 Maple Valley Hwy, WA  
 DRILLER: Cascade Drilling Inc. DATE DRILLED: 12/10/2002  
 DRILLING METHOD: ODEX HOLE DIAMETER: 7"  
 SAMPLING METHOD: Grab HOLE DEPTH: 25'  
 CASING TYPE: PVC WELL DIAMETER: 2"  
 SLOT SIZE: 0.010" WELL DEPTH: 25'  
 GRAVEL PACK: 2-12 CASING STICKUP: 0

BORING/WELL NO: MW-1b  
PAGE 2 OF 2

LOCATION MAP



ELEVATION                      NORTHING                      EASTING

Well Completion		Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill	Casing								
Sand	[Hatched Box]					23		GP-GM	(As above)
						24			
						25			
						26			
						27			<b>BOTTOM OF BORING @ 25ft</b>
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			
						41			
						42			
						43			
						44			

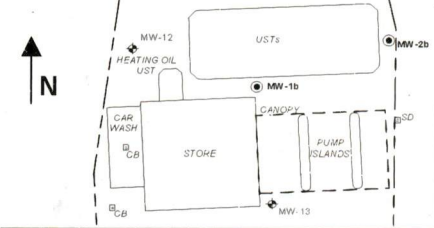




PROJECT NO: A81-21641 Maple Valley CLIENT: Shell  
 LOGGED BY: O. Popova/J. North LOCATION: 21641 Maple Valley Hwy, WA  
 DRILLER: Cascade Drilling Inc. DATE DRILLED: 12/10/2002  
 DRILLING METHOD: ODEX HOLE DIAMETER: 7"  
 SAMPLING METHOD: Grab HOLE DEPTH: 25'  
 CASING TYPE: PVC WELL DIAMETER: 2"  
 SLOT SIZE: 0.010" WELL DEPTH: 25'  
 GRAVEL PACK: 2-12 CASING STICKUP: 0

BORING/WELL NO: MW-2b  
 PAGE 2 OF 2

LOCATION MAP



ELEVATION	NORTHING	EASTING
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Well Completion		Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample		Soil Type	LITHOLOGY / DESCRIPTION
Backfill	Casing						Recovery	Interval		
						23			SW	(As above)
						24				
						25				
						26				
						27				<b>BOTTOM OF BORING @ 25ft</b>
						28				
						29				
						30				
						31				
						32				
						33				
						34				
						35				
						36				
						37				
						38				
						39				
						40				
						41				
						42				
						43				
						44				

**ATTACHMENT B**

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**WELLHEAD ELEVATION SURVEY DATA**

**Shell Service Station  
21641 Maple Valley Highway  
Maple Valley, Washington**

Project : 30310

Coordinate System US State Plane 1983      Zone Washington North 4601  
Project Datum NAD 1983 (Conus)  
Vertical Datum NAVD88  
Coordinate Units US survey feet  
Distance Units US survey feet  
Elevation Units US survey feet

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION	LATITUDE	LONGITUDE
10022	150954.42	1341914.16	340.38	MW-12	47-24-26.72293	122-02-19.77912
10023	150926.77	1342008.09	339.42	MW-2B	47-24-26.46463	122-02-18.40751
10024	150922.91	1341959.57	340.03	MW-1B	47-24-26.41905	122-02-19.11191
10025	150874.96	1341944.83	340.19	MW-13	47-24-25.94354	122-02-19.31530

**ATTACHMENT C**

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**LABORATORY ANALYTICAL REPORT AND  
CHAIN-OF-CUSTODY DOCUMENTATION - SOIL**



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TX 77054  
(713) 660-0901

RECEIVED  
JAN 11 2003  
BY: \_\_\_\_\_

Shell Oil Products US

Certificate of Analysis Number:  
**02120833**

<b>Report To:</b> KHM Environmental Management, Inc. Tena Seeds 17720 NE 65th Street Suite 201 Redmond WA 98052- ph: (425) 558-0134      fax:	<b>Project Name:</b> INC#97420022 <b>Site:</b> 21641 Maple Valley Highway <b>Site Address:</b> 21641 Maple Valley Highway Maple Valley WA <b>PO Number:</b> <b>State:</b> Washington <b>State Cert. No.:</b> C156 <b>Date Reported:</b> 1/7/2003
---	---

This Report Contains A Total Of 14 Pages

Excluding This Page

And

Chain Of Custody



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TX 77054  
(713) 660-0901

Case Narrative for:  
**Shell Oil Products US**

Certificate of Analysis Number:  
**02120833**

<b>Report To:</b>  KHM Environmental Management, Inc. Tena Seeds 17720 NE 65th Street Suite 201 Redmond WA 98052- ph: (425) 558-0134      fax:	<b>Project Name:</b> INC#97420022 <b>Site:</b> 21641 Maple Valley Highway <b>Site Address:</b> 21641 Maple Valley Highway Maple Valley WA <b>PO Number:</b> <b>State:</b> Washington <b>State Cert. No.:</b> C156 <b>Date Reported:</b> 1/7/2003
---	---

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Bernadette Fini  
Customer Service Manager

1/7/2003

Date



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

**Shell Oil Products US**

**Certificate of Analysis Number:**

**02120833**

**Report To:** KHM Environmental Management, Inc.  
 Tena Seeds  
 17720 NE 65th Street  
 Suite 201  
 Redmond  
 WA  
 98052-  
 ph: (425) 558-0134 fax: (425) 869-7494

**Project Name:** INC#97420022  
**Site:** 21641 Maple Valley Highway  
**Site Address:** 21641 Maple Valley Highway  
 Maple Valley WA  
**PO Number:**  
**State:** Washington  
**State Cert. No.:** C156  
**Date Reported:** 1/7/2003

**Fax To:**

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
Waste Characterization	02120833-01	Soil	12/10/2002 3:20:00 PM	12/23/2002 9:30:00 AM		<input type="checkbox"/>
Waste Characterization	02120833-02	Soil	12/10/2002 11:05:00 AM	12/23/2002 9:30:00 AM		<input checked="" type="checkbox"/>

1/7/2003

Bernadette Fini  
 Customer Service Manager

Date

Joel Grice  
 Laboratory Director  
 Ted Yen  
 Quality Assurance Officer



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

Client Sample ID Waste Characterization Collected: 12/10/2002 15:20 SPL Sample ID: 02120833-01

Site: 21641 Maple Valley Highway

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>DIESEL RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-DX</b>	<b>Units: mg/Kg</b>		
Diesel Range Organics	ND	25	1		01/03/03 16:24	AR	1453721
Motor Oil	ND	100	1		01/03/03 16:24	AR	1453721
Surr: n-Pentacosane	74.3	% 50-150	1		01/03/03 16:24	AR	1453721

Prep Method	Prep Date	Prep Initials
SW3550B	12/24/2002 11:17	HH

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>GASOLINE RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-GX</b>	<b>Units: mg/kg</b>		
Gasoline Range Organics	ND	5	1		12/23/02 15:41	FB	1440566
Surr: 1,4-Difluorobenzene	92.7	% 72-153	1		12/23/02 15:41	FB	1440566
Surr: 4-Bromofluorobenzene	80.3	% 51-149	1		12/23/02 15:41	FB	1440566

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>MERCURY, TOTAL</b>			<b>MCL</b>	<b>SW7471A</b>	<b>Units: mg/Kg</b>		
Mercury	ND	0.033	1		12/31/02 10:55	R_T	1448544

Prep Method	Prep Date	Prep Initials
SW7471A	12/30/2002 7:45	R_T

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>METALS BY METHOD 6010B, TOTAL</b>			<b>MCL</b>	<b>SW6010B</b>	<b>Units: mg/Kg</b>		
Arsenic	3.53	0.5	1		01/02/03 15:00	NS	1450561
Lead	1.29	0.5	1		12/31/02 19:43	NS	1449475
Selenium	0.869	0.5	1		12/31/02 19:43	NS	1449475
Barium	38.7	0.5	1		01/02/03 15:27	EG	1452500
Cadmium	ND	0.5	1		01/02/03 15:27	EG	1452500
Chromium	12.8	1	1		01/02/03 15:27	EG	1452500
Silver	ND	1	1		01/02/03 15:27	EG	1452500

Prep Method	Prep Date	Prep Initials
SW3050B	12/26/2002 10:00	MW

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>PURGEABLE AROMATICS</b>			<b>MCL</b>	<b>SW8021B</b>	<b>Units: ug/Kg</b>		
Benzene	ND	1	1		12/23/02 15:41	FB	1440558
Ethylbenzene	ND	1	1		12/23/02 15:41	FB	1440558
Methyl tert-butyl ether	ND	1	1		12/23/02 15:41	FB	1440558
Toluene	ND	1	1		12/23/02 15:41	FB	1440558
m,p-Xylene	ND	1	1		12/23/02 15:41	FB	1440558
o-Xylene	ND	1	1		12/23/02 15:41	FB	1440558
Xylenes, Total	ND	1	1		12/23/02 15:41	FB	1440558
Surr: 1,4-Difluorobenzene	95.6	% 59-127	1		12/23/02 15:41	FB	1440558
Surr: 4-Bromofluorobenzene	102	% 48-156	1		12/23/02 15:41	FB	1440558

**Qualifiers:** ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)  
 B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution  
 \* - Surrogate Recovery Outside Advisable QC Limits MI - Matrix Interference  
 J - Estimated Value between MDL and PQL

# *Quality Control Documentation*



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

INC#97420022

Analysis: Diesel Range Organics
Method: NWTPH-Dx

WorkOrder: 02120833
Lab Batch ID: 24511

Method Blank

Samples in Analytical Batch:

RunID: VARG\_030103A-1453727 Units: mg/Kg
Analysis Date: 01/03/2003 19:35 Analyst: AR
Preparation Date: 12/24/2002 11:17 Prep By: HH Method SW3550B

Lab Sample ID: 02120833-01A
Client Sample ID: Waste Characterization

Table with 3 columns: Analyte, Result, Rep Limit. Rows include Diesel Range Organics, Motor Oil, and Surr: n-Pentacosane.

Laboratory Control Sample (LCS)

RunID: VARG\_030103A-1453725 Units: mg/Kg
Analysis Date: 01/03/2003 18:57 Analyst: AR
Preparation Date: 12/24/2002 11:17 Prep By: HH Method SW3550B

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Row for Diesel Range Organics.

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120833-01
RunID: VARG\_030103A-1453723 Units: mg/Kg
Analysis Date: 01/03/2003 17:40 Analyst: AR
Preparation Date: 12/24/2002 11:17 Prep By: HH Method SW3550B

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Row for Diesel Range Organics.

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US
INC#97420022

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 02120833
Lab Batch ID: R73975

Method Blank

Samples in Analytical Batch:

RunID: HP\_O\_021223A-1439995 Units: ug/Kg
Analysis Date: 12/23/2002 14:43 Analyst: FB

Lab Sample ID: 02120833-01A
Client Sample ID: Waste Characterization

Table with 3 columns: Analyte, Result, Rep Limit. Rows include Benzene, Ethylbenzene, Methyl tert-butyl ether, Toluene, m,p-Xylene, o-Xylene, Xylenes, Total, Surr: 1,4-Difluorobenzene, Surr: 4-Bromofluorobenzene.

Laboratory Control Sample (LCS)

RunID: HP\_O\_021223A-1439992 Units: ug/Kg
Analysis Date: 12/23/2002 11:19 Analyst: FB

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Rows include Benzene, Ethylbenzene, Methyl tert-butyl ether, Toluene, m,p-Xylene, o-Xylene, Xylenes, Total.

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120813-16
RunID: HP\_O\_021223A-1439993 Units: ug/Kg
Analysis Date: 12/23/2002 12:46 Analyst: FB

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Row for Benzene.

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

INC#97420022

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 02120833
Lab Batch ID: R73975

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120813-16
RunID: HP\_O\_021223A-1439993 Units: ug/Kg
Analysis Date: 12/23/2002 12:46 Analyst: FB

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Rows include Ethylbenzene, Methyl tert-butyl ether, Toluene, m,p-Xylene, o-Xylene, and Xylenes, Total.

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US
INC#97420022

Analysis: Gasoline Range Organics
Method: NWTPH-Gx

WorkOrder: 02120833
Lab Batch ID: R73977

Method Blank

Samples in Analytical Batch:

RunID: HP\_O\_021223C-1440021 Units: mg/Kg
Analysis Date: 12/23/2002 14:43 Analyst: FB

Lab Sample ID: 02120833-01A
Client Sample ID: Waste Characterization

Table with 3 columns: Analyte, Result, Rep Limit. Rows include Gasoline Range Organics, Surr: 1,4-Difluorobenzene, and Surr: 4-Bromofluorobenzene.

Laboratory Control Sample (LCS)

RunID: HP\_O\_021223C-1440018 Units: mg/Kg
Analysis Date: 12/23/2002 11:48 Analyst: FB

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Row for Gasoline Range Organics.

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120813-16
RunID: HP\_O\_021223C-1440019 Units: mg/Kg
Analysis Date: 12/23/2002 13:44 Analyst: FB

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Row for Gasoline Range Organics.

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

INC#97420022

Analysis: Metals by Method 6010B, Total
Method: SW6010B

WorkOrder: 02120833
Lab Batch ID: 24533-T

Method Blank

Samples in Analytical Batch:

RunID: TJAT\_021231D-1449472 Units: mg/Kg
Analysis Date: 12/31/2002 19:29 Analyst: NS
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Lab Sample ID: 02120833-01A
Client Sample ID: Waste Characterization

Table with 3 columns: Analyte, Result, Rep Limit. Rows: Lead (ND, 0.5), Selenium (ND, 0.5)

Laboratory Control Sample (LCS)

RunID: TJAT\_021231D-1449473 Units: mg/Kg
Analysis Date: 12/31/2002 19:36 Analyst: NS
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Rows: Lead (100, 97.96, 98, 80, 120), Selenium (100, 95.74, 96, 80, 120)

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120833-01
RunID: TJAT\_021231D-1449476 Units: mg/Kg
Analysis Date: 12/31/2002 19:50 Analyst: NS
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Rows: Lead, Selenium

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

INC#97420022

Analysis: Metals by Method 6010B, Total
Method: SW6010B

WorkOrder: 02120833
Lab Batch ID: 24533A

Method Blank

Samples in Analytical Batch:

RunID: TJA\_030102F-1452498 Units: mg/Kg
Analysis Date: 01/02/2003 15:14 Analyst: EG
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Lab Sample ID: 02120833-01A
Client Sample ID: Waste Characterization

Table with 3 columns: Analyte, Result, Rep Limit. Rows: Barium, Cadmium, Chromium, Silver.

Laboratory Control Sample (LCS)

RunID: TJA\_030102F-1452499 Units: mg/Kg
Analysis Date: 01/02/2003 15:19 Analyst: EG
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Table with 7 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Rows: Barium, Cadmium, Chromium, Silver.

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120833-01
RunID: TJA\_030102F-1452501 Units: mg/Kg
Analysis Date: 01/02/2003 15:32 Analyst: EG
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Table with 13 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Rows: Barium, Cadmium, Chromium, Silver.

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US
INC#97420022

Analysis: Metals by Method 6010B, Total
Method: SW6010B

WorkOrder: 02120833
Lab Batch ID: 24533C-T

Method Blank

Samples in Analytical Batch:

RunID: TJAT\_030102C-1450558 Units: mg/Kg
Analysis Date: 01/02/2003 14:45 Analyst: NS
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Table with 3 columns: Analyte, Result, Rep Limit. Row: Arsenic, ND, 0.5

Laboratory Control Sample (LCS)

RunID: TJAT\_030102C-1450559 Units: mg/Kg
Analysis Date: 01/02/2003 14:51 Analyst: NS
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Row: Arsenic, 100, 105.6, 106, 80, 120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120833-01
RunID: TJAT\_030102C-1450563 Units: mg/Kg
Analysis Date: 01/02/2003 15:05 Analyst: NS
Preparation Date: 12/26/2002 10:00 Prep By: MW Method SW3050B

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Row: Arsenic, 3.528, 100, 94.47, 90.94, 100, 95.92, 92.39, 1.577, 20, 75, 125

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

INC#97420022

Analysis: Mercury, Total
Method: SW7471A

WorkOrder: 02120833
Lab Batch ID: 24576

Method Blank

Samples in Analytical Batch:

RunID: HGLB\_021231A-1448521 Units: mg/kg
Analysis Date: 12/31/2002 9:57 Analyst: R\_T
Preparation Date: 12/30/2002 7:45 Prep By: R\_T Method SW7471A

Lab Sample ID: 02120833-01A
Client Sample ID: Waste Characterization

Table with 3 columns: Analyte, Result, Rep Limit. Row: Mercury, ND, 0.033

Laboratory Control Sample (LCS)

RunID: HGLB\_021231A-1448522 Units: mg/kg
Analysis Date: 12/31/2002 10:00 Analyst: R\_T
Preparation Date: 12/30/2002 7:45 Prep By: R\_T Method SW7471A

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Row: Mercury, 0.3, 0.2925, 98, 80, 120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120572-01
RunID: HGLB\_021231A-1448524 Units: mg/kg-dry
Analysis Date: 12/31/2002 10:05 Analyst: R\_T
Preparation Date: 12/30/2002 7:45 Prep By: R\_T Method SW7471A

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Row: Mercury, ND, 0.3151, 0.3196, 101.4, 0.3151, 0.3091, 98.09, 3.355, 20, 75, 125

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

*Sample Receipt Checklist  
And  
Chain of Custody*



HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TX 77054  
(713) 660-0901

Sample Receipt Checklist

Workorder:	02120833	Received By:	NB
Date and Time Received:	12/23/2002 9:30:00 AM	Carrier name:	FedEx
Temperature:	3	Chilled by:	Water Ice

- 1. Shipping container/cooler in good condition? Yes  No  Not Present
- 2. Custody seals intact on shipping container/cooler? Yes  No  Not Present
- 3. Custody seals intact on sample bottles? Yes  No  Not Present
- 4. Chain of custody present? Yes  No
- 5. Chain of custody signed when relinquished and received? Yes  No
- 6. Chain of custody agrees with sample labels? Yes  No
- 7. Samples in proper container/bottle? Yes  No
- 8. Sample containers intact? Yes  No
- 9. Sufficient sample volume for indicated test? Yes  No
- 10. All samples received within holding time? Yes  No
- 11. Container/Temp Blank temperature in compliance? Yes  No
- 12. Water - VOA vials have zero headspace? Yes  No  Not Applicable
- 13. Water - pH acceptable upon receipt? Yes  No  Not Applicable

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SPL Representative:	<input type="text"/>	Contact Date & Time:	<input type="text"/>
Client Name Contacted:	<input type="text"/>		
Non Conformance Issues:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

---

02120833

8880 Interchange  
Houston, TX 77054

713-660-0901 800-969-6775

Shell Project Manager to be invoiced:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- CRMT-HOUSTON

INCIDENT NUMBER (S&E ONLY)

474 20022

SAP or CRMT NUMBER (TS/CRMT)

120891

DATE: 12/20/02

PAGE: 1 of 1

CONSULTANT COMPANY: **ISHM ENVIRONMENTAL MGMT, INC.**

ADDRESS: **17720 NE 105th St. Ste 201**

CITY: **Redmond Washington**

TELEPHONE: **425 558 0134** FAX: **425 869 7494** E-MAIL: **Tsuedsc@ishmi.com**

TURNAROUND TIME (BUSINESS DAYS):  
 10 DAYS  5 DAYS  72 HOURS  48 HOURS  24 HOURS  LESS THAN 24 HOURS

LA - RWQCB REPORT FORMAT  UST AGENCY: \_\_\_\_\_

GC/MS MTBE CONFIRMATION: HIGHEST \_\_\_\_\_ HIGHEST per BORING \_\_\_\_\_ ALL \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES: \_\_\_\_\_ TEMPERATURE ON RECEIPT °C **32**

SITE ADDRESS (Street and City): **21641 MAPLE VALLEY HIGHWAY**

PROJECT CONTACT (Report to): **TENA SEEDS**

CONSULTANT PROJECT NO.: \_\_\_\_\_

SAMPLER NAME(S) (Print): **O. POPUCA**

LAB USE ONLY  
**BAF**

REQUESTED ANALYSIS

BTEX / MTBE (8021B)	BTEX / MTBE + Oxygenates (8260B)	VOCs Full List + Oxygenates (8260B)	MTBE (8260B) Confirmation, See Not	TPH Total	TPH-Divd, Extractable	PCOA & METALS
X				X	X	X
X				X	X	X

FIELD NOTES:  
Container/Preservative or PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.
		DATE	TIME		
	WASTE CHARACTERIZATION	12/10/02	7520	SOIL	1
	WASTE CHARACTERIZATION	12/10/02	1105	SOIL	1

Mold - BAF 12/23

Relinquished by: (Signature)	Received by: (Signature) _____	Date: 12/20/02	Time: 1000
Relinquished by: (Signature) _____	Received by: (Signature) _____	Date: _____	Time: _____
Relinquished by: (Signature) _____	Received by: (Signature) <b>Mary Barrera</b>	Date: 12/23/02	Time: 0930

**ATTACHMENT D**

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**GROUNDWATER MONITORING AND SAMPLING PROCEDURES**

## **GROUNDWATER MONITORING AND SAMPLING**

---

Before the sampling event, KHM 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. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were withdrawn 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.

**ATTACHMENT E**

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**GROUNDWATER SAMPLING FIELD SHEETS**



**ATTACHMENT F**

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**LABORATORY ANALYTICAL REPORT AND  
CHAIN-OF-CUSTODY DOCUMENTATION - GROUNDWATER**







HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

**Shell Oil Products US**

Certificate of Analysis Number:

**02120827**

**Report To:** KHM Environmental Management, Inc.  
 Tena Seeds  
 17720 NE 65th Street  
 Suite 201  
 Redmond  
 WA  
 98052-  
 ph: (425) 558-0134 fax: (425) 869-7494

**Project Name:** INC#97420022  
**Site:** 21641 Maple Valley Highway  
**Site Address:** 21641 Maple Valley Highway  
 Maple Valley WA  
**PO Number:**  
**State:** Washington  
**State Cert. No.:** C156  
**Date Reported:** 1/2/2003

**Fax To:**

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
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MW-1b	02120827-01	Water	12/19/2002 9:15:00 AM	12/23/2002 9:30:00 AM		<input type="checkbox"/>
MW-2b	02120827-02	Water	12/19/2002 8:50:00 AM	12/23/2002 9:30:00 AM		<input type="checkbox"/>
MW-12	02120827-03	Water	12/19/2002 10:30:00 AM	12/23/2002 9:30:00 AM		<input type="checkbox"/>
MW-13	02120827-04	Water	12/19/2002 9:50:00 AM	12/23/2002 9:30:00 AM		<input type="checkbox"/>
Trip Blank	02120827-05	Water	12/19/2002	12/23/2002 9:30:00 AM		<input type="checkbox"/>

Bernadette Fini  
 Customer Service Manager

1/2/2003

Date

Joel Grice  
 Laboratory Director

Ted Yen  
 Quality Assurance Officer



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

Client Sample ID MW-1b

Collected: 12/19/2002 9:15

SPL Sample ID: 02120827-01

Site: 21641 Maple Valley Highway

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>DIESEL RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-DX</b>	<b>Units: mg/L</b>		
Diesel Range Organics	ND	0.25	1		12/30/02 15:35	AR	1450225
Motor Oil	ND	0.75	1		12/30/02 15:35	AR	1450225
Surr: n-Pentacosane	56.0	% 20-131	1		12/30/02 15:35	AR	1450225

Prep Method	Prep Date	Prep Initials
SW3510C	12/24/2002 8:32	KL

<b>GASOLINE RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-GX</b>	<b>Units: mg/L</b>		
Gasoline Range Organics	ND	0.25	1		12/27/02 12:34	D_R	1444907
Surr: 1,4-Difluorobenzene	108	% 62-144	1		12/27/02 12:34	D_R	1444907
Surr: 4-Bromofluorobenzene	89.0	% 44-153	1		12/27/02 12:34	D_R	1444907

<b>VOLATILE ORGANICS BY METHOD 8260B</b>			<b>MCL</b>	<b>SW8260B</b>	<b>Units: ug/L</b>		
Benzene	ND	0.5	1		12/29/02 23:28	DO	1448725
Diisopropyl Ether	ND	0.5	1		12/29/02 23:28	DO	1448725
Ethyl tert-butyl ether	ND	0.5	1		12/29/02 23:28	DO	1448725
Ethylbenzene	ND	0.5	1		12/29/02 23:28	DO	1448725
Methyl tert-butyl ether	ND	0.5	1		12/29/02 23:28	DO	1448725
t-Butyl Alcohol	ND	2.5	1		12/29/02 23:28	DO	1448725
tert-Amyl methyl ether	ND	0.5	1		12/29/02 23:28	DO	1448725
Toluene	ND	0.5	1		12/29/02 23:28	DO	1448725
m,p-Xylene	ND	1	1		12/29/02 23:28	DO	1448725
o-Xylene	ND	0.5	1		12/29/02 23:28	DO	1448725
Xylenes, Total	ND	0.5	1		12/29/02 23:28	DO	1448725
Surr: 1,2-Dichloroethane-d4	105	% 70-130	1		12/29/02 23:28	DO	1448725
Surr: 4-Bromofluorobenzene	102	% 70-130	1		12/29/02 23:28	DO	1448725
Surr: Toluene-d8	98.7	% 70-130	1		12/29/02 23:28	DO	1448725

**Qualifiers:** ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)  
 B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution  
 \* - Surrogate Recovery Outside Advisable QC Limits MI - Matrix Interference  
 J - Estimated Value between MDL and PQL



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

Client Sample ID MW-2b

Collected: 12/19/2002 8:50

SPL Sample ID: 02120827-02

Site: 21641 Maple Valley Highway

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>DIESEL RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-DX</b>	<b>Units: mg/L</b>		
Diesel Range Organics	ND	0.25	1		12/30/02 17:30	AR	1450228
Motor Oil	ND	0.75	1		12/30/02 17:30	AR	1450228
Surr: n-Pentacosane	54.6 %	20-131	1		12/30/02 17:30	AR	1450228

Prep Method	Prep Date	Prep Initials
SW3510C	12/24/2002 8:32	KL

<b>GASOLINE RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-GX</b>	<b>Units: mg/L</b>		
Gasoline Range Organics	ND	0.25	1		12/27/02 13:01	D_R	1444908
Surr: 1,4-Difluorobenzene	98.7 %	62-144	1		12/27/02 13:01	D_R	1444908
Surr: 4-Bromofluorobenzene	82.7 %	44-153	1		12/27/02 13:01	D_R	1444908

<b>VOLATILE ORGANICS BY METHOD 8260B</b>			<b>MCL</b>	<b>SW8260B</b>	<b>Units: ug/L</b>		
Benzene	ND	0.5	1		12/29/02 23:57	DO	1448726
Diisopropyl Ether	ND	0.5	1		12/29/02 23:57	DO	1448726
Ethyl tert-butyl ether	ND	0.5	1		12/29/02 23:57	DO	1448726
Ethylbenzene	ND	0.5	1		12/29/02 23:57	DO	1448726
Methyl tert-butyl ether	ND	0.5	1		12/29/02 23:57	DO	1448726
t-Butyl Alcohol	ND	2.5	1		12/29/02 23:57	DO	1448726
tert-Amyl methyl ether	ND	0.5	1		12/29/02 23:57	DO	1448726
Toluene	ND	0.5	1		12/29/02 23:57	DO	1448726
m,p-Xylene	ND	1	1		12/29/02 23:57	DO	1448726
o-Xylene	ND	0.5	1		12/29/02 23:57	DO	1448726
Xylenes, Total	ND	0.5	1		12/29/02 23:57	DO	1448726
Surr: 1,2-Dichloroethane-d4	103 %	70-130	1		12/29/02 23:57	DO	1448726
Surr: 4-Bromofluorobenzene	102 %	70-130	1		12/29/02 23:57	DO	1448726
Surr: Toluene-d8	97.3 %	70-130	1		12/29/02 23:57	DO	1448726

**Qualifiers:** ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)  
 B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution  
 \* - Surrogate Recovery Outside Advisable QC Limits MI - Matrix Interference  
 J - Estimated Value between MDL and PQL



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

Client Sample ID MW-12 Collected: 12/19/2002 10:30 SPL Sample ID: 02120827-03

Site: 21641 Maple Valley Highway

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>DIESEL RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-DX</b>	<b>Units: mg/L</b>		
Diesel Range Organics	ND	0.25	1		12/30/02 18:09	AR	1450229
Motor Oil	ND	0.75	1		12/30/02 18:09	AR	1450229
Surr: n-Pentacosane	56.8 %	20-131	1		12/30/02 18:09	AR	1450229

Prep Method	Prep Date	Prep Initials
SW3510C	12/24/2002 8:32	KL

<b>GASOLINE RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-GX</b>	<b>Units: mg/L</b>		
Gasoline Range Organics	ND	0.25	1		12/27/02 18:27	D_R	1444910
Surr: 1,4-Difluorobenzene	105 %	62-144	1		12/27/02 18:27	D_R	1444910
Surr: 4-Bromofluorobenzene	71.0 %	44-153	1		12/27/02 18:27	D_R	1444910

<b>VOLATILE ORGANICS BY METHOD 8260B</b>			<b>MCL</b>	<b>SW8260B</b>	<b>Units: ug/L</b>		
Benzene	ND	0.5	1		12/30/02 0:25	DO	1448727
Diisopropyl Ether	ND	0.5	1		12/30/02 0:25	DO	1448727
Ethyl tert-butyl ether	ND	0.5	1		12/30/02 0:25	DO	1448727
Ethylbenzene	ND	0.5	1		12/30/02 0:25	DO	1448727
Methyl tert-butyl ether	ND	0.5	1		12/30/02 0:25	DO	1448727
t-Butyl Alcohol	ND	2.5	1		12/30/02 0:25	DO	1448727
tert-Amyl methyl ether	ND	0.5	1		12/30/02 0:25	DO	1448727
Toluene	ND	0.5	1		12/30/02 0:25	DO	1448727
m,p-Xylene	ND	1	1		12/30/02 0:25	DO	1448727
o-Xylene	ND	0.5	1		12/30/02 0:25	DO	1448727
Xylenes, Total	ND	0.5	1		12/30/02 0:25	DO	1448727
Surr: 1,2-Dichloroethane-d4	104 %	70-130	1		12/30/02 0:25	DO	1448727
Surr: 4-Bromofluorobenzene	103 %	70-130	1		12/30/02 0:25	DO	1448727
Surr: Toluene-d8	99.4 %	70-130	1		12/30/02 0:25	DO	1448727

**Qualifiers:** ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)  
 B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution  
 \* - Surrogate Recovery Outside Advisable QC Limits MI - Matrix Interference  
 J - Estimated Value between MDL and PQL



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

Client Sample ID MW-13 Collected: 12/19/2002 9:50 SPL Sample ID: 02120827-04

Site: 21641 Maple Valley Highway

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>DIESEL RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-DX</b>	<b>Units: mg/L</b>		
Diesel Range Organics	ND	0.25	1		12/30/02 18:47	AR	1450230
Motor Oil	ND	0.75	1		12/30/02 18:47	AR	1450230
Surr: n-Pentacosane	53.0	% 20-131	1		12/30/02 18:47	AR	1450230

Prep Method	Prep Date	Prep Initials
SW3510C	12/24/2002 8:32	KL

<b>GASOLINE RANGE ORGANICS</b>			<b>MCL</b>	<b>NWTPH-GX</b>	<b>Units: mg/L</b>		
Gasoline Range Organics	ND	0.25	1		12/27/02 18:54	D_R	1444911
Surr: 1,4-Difluorobenzene	104	% 62-144	1		12/27/02 18:54	D_R	1444911
Surr: 4-Bromofluorobenzene	65.3	% 44-153	1		12/27/02 18:54	D_R	1444911

<b>VOLATILE ORGANICS BY METHOD 8260B</b>			<b>MCL</b>	<b>SW8260B</b>	<b>Units: ug/L</b>		
Benzene	ND	0.5	1		12/30/02 0:54	DO	1448728
Diisopropyl Ether	ND	0.5	1		12/30/02 0:54	DO	1448728
Ethyl tert-butyl ether	ND	0.5	1		12/30/02 0:54	DO	1448728
Ethylbenzene	ND	0.5	1		12/30/02 0:54	DO	1448728
Methyl tert-butyl ether	ND	0.5	1		12/30/02 0:54	DO	1448728
t-Butyl Alcohol	ND	2.5	1		12/30/02 0:54	DO	1448728
tert-Amyl methyl ether	ND	0.5	1		12/30/02 0:54	DO	1448728
Toluene	0.69	0.5	1		12/30/02 0:54	DO	1448728
m,p-Xylene	ND	1	1		12/30/02 0:54	DO	1448728
o-Xylene	ND	0.5	1		12/30/02 0:54	DO	1448728
Xylenes, Total	ND	0.5	1		12/30/02 0:54	DO	1448728
Surr: 1,2-Dichloroethane-d4	103	% 70-130	1		12/30/02 0:54	DO	1448728
Surr: 4-Bromofluorobenzene	104	% 70-130	1		12/30/02 0:54	DO	1448728
Surr: Toluene-d8	97.6	% 70-130	1		12/30/02 0:54	DO	1448728

**Qualifiers:** ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)  
 B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution  
 \* - Surrogate Recovery Outside Advisable QC Limits MI - Matrix Interference  
 J - Estimated Value between MDL and PQL



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

Client Sample ID Trip Blank Collected: 12/19/2002 0:00 SPL Sample ID: 02120827-05

Site: 21641 Maple Valley Highway

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
<b>VOLATILE ORGANICS BY METHOD 8260B</b>			<b>MCL</b>	<b>SW8260B</b>	<b>Units: ug/L</b>		
Benzene	ND	0.5	1		12/29/02 14:57	DO	1448710
Diisopropyl Ether	ND	0.5	1		12/29/02 14:57	DO	1448710
Ethyl tert-butyl ether	ND	0.5	1		12/29/02 14:57	DO	1448710
Ethylbenzene	ND	0.5	1		12/29/02 14:57	DO	1448710
Methyl tert-butyl ether	ND	0.5	1		12/29/02 14:57	DO	1448710
t-Butyl Alcohol	ND	2.5	1		12/29/02 14:57	DO	1448710
tert-Amyl methyl ether	ND	0.5	1		12/29/02 14:57	DO	1448710
Toluene	ND	0.5	1		12/29/02 14:57	DO	1448710
m,p-Xylene	ND	1	1		12/29/02 14:57	DO	1448710
o-Xylene	ND	0.5	1		12/29/02 14:57	DO	1448710
Xylenes, Total	ND	0.5	1		12/29/02 14:57	DO	1448710
Surr: 1,2-Dichloroethane-d4	102	% 70-130	1		12/29/02 14:57	DO	1448710
Surr: 4-Bromofluorobenzene	104	% 70-130	1		12/29/02 14:57	DO	1448710
Surr: Toluene-d8	98.9	% 70-130	1		12/29/02 14:57	DO	1448710

**Qualifiers:** ND/U - Not Detected at the Reporting Limit >MCL - Result Over Maximum Contamination Limit(MCL)  
 B - Analyte detected in the associated Method Blank D - Surrogate Recovery Unreportable due to Dilution  
 \* - Surrogate Recovery Outside Advisable QC Limits MI - Matrix Interference  
 J - Estimated Value between MDL and PQL

# *Quality Control Documentation*



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US
INC#97420022

Analysis: Diesel Range Organics
Method: NWTPH-Dx

WorkOrder: 02120827
Lab Batch ID: 24507

Method Blank

Samples in Analytical Batch:

RunID: HP\_V\_021230B-1450224 Units: mg/L
Analysis Date: 12/30/2002 14:57 Analyst: AR
Preparation Date: 12/24/2002 8:32 Prep By: KL Method SW3510C

Lab Sample ID Client Sample ID
02120827-01B MW-1b
02120827-02B MW-2b
02120827-03B MW-12
02120827-04B MW-13

Table with 3 columns: Analyte, Result, Rep Limit. Rows include Diesel Range Organics, Motor Oil, and Surr. n-Pentacosane.

Laboratory Control Sample (LCS)

RunID: HP\_V\_021230B-1450223 Units: mg/L
Analysis Date: 12/30/2002 14:19 Analyst: AR
Preparation Date: 12/24/2002 8:32 Prep By: KL Method SW3510C

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Row for Diesel Range Organics.

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120827-01
RunID: HP\_V\_021230B-1450226 Units: mg/L
Analysis Date: 12/30/2002 16:14 Analyst: AR
Preparation Date: 12/24/2002 8:32 Prep By: KL Method SW3510C

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Row for Diesel Range Organics.

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US

INC#97420022

Analysis: Gasoline Range Organics
Method: NWTPH-Gx

WorkOrder: 02120827
Lab Batch ID: R74243

Method Blank

Samples in Analytical Batch:

RunID: HP\_J\_021227B-1444896 Units: mg/L
Analysis Date: 12/27/2002 5:57 Analyst: D\_R

Lab Sample ID Client Sample ID
02120827-01A MW-1b
02120827-02A MW-2b
02120827-03A MW-12
02120827-04A MW-13

Table with 3 columns: Analyte, Result, Rep Limit. Rows include Gasoline Range Organics, Surr: 1,4-Difluorobenzene, and Surr: 4-Bromofluorobenzene.

Laboratory Control Sample (LCS)

RunID: HP\_J\_021227B-1444895 Units: mg/L
Analysis Date: 12/27/2002 5:30 Analyst: D\_R

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Row for Gasoline Range Organics.

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 02120636-02
RunID: HP\_J\_021227B-1444897 Units: mg/L
Analysis Date: 12/27/2002 7:17 Analyst: D\_R

Table with 12 columns: Analyte, Sample Result, MS Spike Added, MS Result, MS % Recovery, MSD Spike Added, MSD Result, MSD % Recovery, RPD, RPD Limit, Low Limit, High Limit. Row for Gasoline Range Organics.

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Quality Control Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Shell Oil Products US
INC#97420022

Analysis: Volatile Organics by Method 8260B
Method: SW8260B

WorkOrder: 02120827
Lab Batch ID: R74437

Method Blank

Samples in Analytical Batch:

RunID: MDSVOA2\_021229A-14487 Units: ug/L
Analysis Date: 12/29/2002 6:40 Analyst: DO

Lab Sample ID Client Sample ID
02120827-01C MW-1b
02120827-02C MW-2b
02120827-03C MW-12
02120827-04C MW-13
02120827-05A Trip Blank

Table with 3 columns: Analyte, Result, Rep Limit. Rows include Benzene, Diisopropyl Ether, Ethyl tert-butyl ether, Ethylbenzene, Methyl tert-butyl ether, t-Butyl Alcohol, tert-Amyl methyl ether, Toluene, m,p-Xylene, o-Xylene, Xylenes, Total, and various Surr. entries.

Laboratory Control Sample (LCS)

RunID: MDSVOA2\_021229A-14487 Units: ug/L
Analysis Date: 12/29/2002 6:11 Analyst: DO

Table with 6 columns: Analyte, Spike Added, Result, Percent Recovery, Lower Limit, Upper Limit. Rows include Benzene, Diisopropyl Ether, Ethyl tert-butyl ether, Ethylbenzene, Methyl tert-butyl ether, t-Butyl Alcohol, tert-Amyl methyl ether, Toluene, m,p-Xylene, o-Xylene, and Xylenes, Total.

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Qualifiers: ND/U - Not Detected at the Reporting Limit MI - Matrix Interference
B - Analyte detected in the associated Method Blank D - Recovery Unreportable due to Dilution
J - Estimated value between MDL and PQL \* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



**Quality Control Report**

**HOUSTON LABORATORY**  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

**Shell Oil Products US**

INC#97420022

**Analysis:** Volatile Organics by Method 8260B  
**Method:** SW8260B

**WorkOrder:** 02120827  
**Lab Batch ID:** R74437

Sample Spiked: 02120840-01  
 RunID: MDSVOA2\_021229A-14487 Units: ug/L  
 Analysis Date: 12/29/2002 15:54 Analyst: DO

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	20.8	104	20	21.7	108	3.86	20	70	130
Diisopropyl Ether	ND	20	20.8	104	20	21.7	108	4.00	20	70	130
Ethyl tert-butyl ether	ND	20	20.2	101	20	21	105	3.59	20	70	130
Ethylbenzene	ND	20	21.4	107	20	22.1	110	2.94	20	70	130
Methyl tert-butyl ether	ND	20	20.1	100	20	20.8	104	3.67	20	70	130
t-Butyl Alcohol	ND	100	137	135 *	100	121	119	13.0	20	70	130
tert-Amyl methyl ether	ND	20	20	100	20	20.8	104	3.82	20	70	130
Toluene	ND	20	21.5	107	20	22.3	111	3.71	20	70	130
m,p-Xylene	ND	40	44.1	110	40	44.8	112	1.62	20	70	130
o-Xylene	ND	20	21.6	108	20	21.7	108	0.555	20	70	130
Xylenes, Total	ND	60	65.7	110	60	66.5	111	1.21	20	70	130

**Qualifiers:** ND/U - Not Detected at the Reporting Limit      MI - Matrix Interference  
 B - Analyte detected in the associated Method Blank      D - Recovery Unreportable due to Dilution  
 J - Estimated value between MDL and PQL      \* - Recovery Outside Advisable QC Limits  
 N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

*Sample Receipt Checklist  
And  
Chain of Custody*



HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TX 77054  
 (713) 660-0901

Sample Receipt Checklist

Workorder:	02120827	Received By:	NB
Date and Time Received:	12/23/2002 9:30:00 AM	Carrier name:	FedEx
Temperature:	3	Chilled by:	Water Ice

1. Shipping container/cooler in good condition? Yes  No  Not Present
2. Custody seals intact on shipping container/cooler? Yes  No  Not Present
3. Custody seals intact on sample bottles? Yes  No  Not Present
4. Chain of custody present? Yes  No
5. Chain of custody signed when relinquished and received? Yes  No
6. Chain of custody agrees with sample labels?  
     1. Client sent Trip Blank but not written on COC. Yes  No
7. Samples in proper container/bottle? Yes  No
8. Sample containers intact? Yes  No
9. Sufficient sample volume for indicated test? Yes  No
10. All samples received within holding time? Yes  No
11. Container/Temp Blank temperature in compliance? Yes  No
12. Water - VOA vials have zero headspace? Yes  No  Not Applicable
13. Water - pH acceptable upon receipt? Yes  No  Not Applicable

SPL Representative:

Contact Date & Time:

Client Name Contacted:

Non Conformance Issues:

Client Instructions:

8880 Interchange

Houston, TX 77054

713-660-0901

800-969-6775

Shell Project Manager to be invoiced:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- CRMT-HOUSTON

INCIDENT NUMBER (S&E ONLY)

97420022

SAP or CRMT NUMBER (TS/CRMT)

120891

DATE: 12/20/02

PAGE: 1 of 1

CONSULTANT COMPANY: <b>KHM Environmental Mgmt, Inc.</b>			SITE ADDRESS (Street and City): <b>21641 Maple Valley Highway, Maple Valley, WA</b>		
ADDRESS: <b>17720 NE 65th Street, Suite 201</b>			PROJECT CONTACT (Report to): <b>Tena Seeds</b>		CONSULTANT PROJECT NO.: <b>AS1-21641 Maple Valley</b>
CITY: <b>Redmond, WA 98052</b>			SAMPLER NAME(S) (Print): <b>Diana Halladay</b>		
TELEPHONE: <b>425-558-0134</b>	FAX: <b>425-869-7494</b>	E-MAIL: <b>tseeds@khm1.com</b>	LAB USE ONLY <b>BAF</b>		

TURNAROUND TIME (BUSINESS DAYS):  
 10 DAYS  
 5 DAYS  
 72 HOURS  
 48 HOURS  
 24 HOURS  
 LESS THAN 24 HOURS

LA - RWQCB REPORT FORMAT  
 UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST \_\_\_\_\_ HIGHEST per BORING \_\_\_\_\_ ALL \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C° **32**

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	GRO-NW*	DRO-NW*	BTEX / MTBE (8021B)	BTEX / MTBE + Oxygenates (8260B)	VOCs Full List + Oxygenates (8260B)	MTBE (8260B) Confirmation, See Not	76-222/2/23	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
		DATE	TIME										
	MW-1b	12-19-02	915	W	8	X	X	X					6v0as/2IL (Hci)
	MW-2b	12-19-02	850	W	8	X	X	X					6v0as/2IL (Hci)
	MW-12	12-19-02	1030	W	8	X	X	X					6v0as/2IL (Hci)
	MW-13	12-19-02	950	W	8	X	X	X					6v0as/2IL (Hci)
	TRIP Blank							X					added per Tina 12/23

**RUSH**

Relinquished by: (Signature) <i>Diana Halladay</i> 12/20/02 @ 1000	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) <i>Stan Banner</i>	Date: 12/23/02	Time: 0930