


GROUNDWATER MONITORING REPORT SECOND QUARTER 2005

Former Texaco Service Station ✓
13138 Interurban Avenue South
Tukwila, Washington

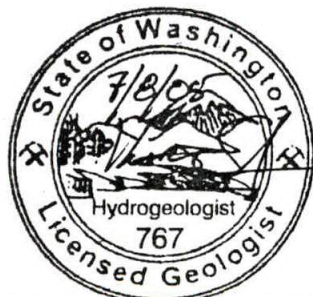
GeoENGINEERS 

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REDMOND, WASHINGTON 98052
TELEPHONE: (425) 861-6000
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www.geoengineers.com

Tukwila.
USR 4454

Report date: July 8, 2005
GeoEngineers file no.: 9876-097-00
SAP Number : 120598
Client: Carol Campagna, Shell Oil Products US
2555 13th Avenue SW, Seattle, Washington 98134
GeoEngineers project manager: Tony N. Orme, PE
Sample date: May 26, 2005
Wells gauged: AGW-1, AGW-2, AGW-3 and AGW-4 ✓
Free product (well/thickness): None
Groundwater flow direction: South ✓
Direction similar to previous events?: Yes
Wells sampled: AGW-1, AGW-2, AGW-3 and AGW-4 ✓
Purge/sample methods: No purge, sample by hand bailing techniques
Chemical testing: NWTPH-G and BETX by 8021B
Results similar to previous events?: Yes
Monitoring event frequency: Semiannually
Notes: Detected concentrations of all analytes in all sampled wells were similar to historical detected concentrations. ✓

Prepared by:



Kurt S. Anderson

Kurt S. Anderson, LG, LHG
Principal

Attachments:

Table 1: Summary of Groundwater Monitoring Data
Figure 1: Vicinity Map
Figure 2: Site Plan and Groundwater Flow
Chemical Analytical Data
Historical Groundwater Data
Wellhead Inspection Checklist

Distribution:

Client (one copy)

John Bails
Washington State Department of Ecology (Northwest Regional Office)

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Note: We have prepared this report for the exclusive use of Shell Oil Products US (Shell), their authorized agents, and regulatory agencies. No other party may place reliance on the product of our services unless we agree in advance and in writing to such reliance. Our services were provided in accordance with our agreement with Shell. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied should be understood.

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TABLE 1

SUMMARY OF GROUNDWATER MONITORING DATA

BETX AND GASOLINE-RANGE HYDROCARBONS

13138 INTERURBAN AVENUE SOUTH
TUKWILA, WASHINGTON

Well Number	Date	Depth to Ground-water (feet)	Ground-water Elevation (feet)	Volatile Aromatic Hydrocarbons (µg/l)				Gasoline-range Hydrocarbons (mg/l)	MTBE (µg/l)
				B	E	T	X		
AGW-1	04/12/01	11.81	84.57	55.3	<0.500	<0.500	2.08	0.120	<1.00
	10/09/01	13.23	83.15	1.91	<0.500	<0.500	6.34	0.0960	<0.500
	05/07/02	11.63	84.75	6.16	0.706	<0.500	15.1	0.116	--
	10/11/02	12.87	83.51	<1.0	<1.0	<1.0	7.6	<0.25	--
	04/24/03	11.41	84.97	11	<1	<1	17.3	<0.25	<1
	10/20/03	12.38	84.00	<1	<1	<1	4.7	<0.25	--
	04/13/04	12.14	84.24	<5	<5	<5	<5	<1.2	--
	11/23/04	13.19	83.19	<5	<5	<5	<5	<1.2	--
	05/26/05	12.36	84.02	<1	<1	<1	5.4	0.32	--
AGW-2	04/12/01	10.92	84.55	--	--	--	--	--	--
	10/09/01	12.35	83.12	--	--	--	--	--	--
	05/07/02	--	--	--	--	--	--	--	--
	10/11/02	--	--	--	--	--	--	--	--
	04/24/03	10.47	85.00	<1	<1	<1	<1	<0.25	<1
	10/20/03	11.56	83.91	<1	<1	<1	<1	<0.25	--
	04/13/04	11.22	84.29	<5	<5	<5	<5	<1.2	--
	11/23/04	12.24	83.23	<5	<5	<5	<5	<1.2	--
	05/26/05	11.42	84.05	<1	<1	<1	<1	0.053	--
AGW-3	04/12/01	11.72	84.67	0.978	<0.500	0.752	3.58	0.0839	<1.00
	10/09/01	13.19	83.20	1.60	<0.500	<0.500	2.16	0.242	--
	05/07/02	11.66	84.73	3.37	<0.500	0.651	4.28	0.258	--
	10/11/02	12.82	83.57	<1.0	<1.0	<1.0	1	<0.25	--
	04/24/03	11.44	84.95	8.1	<1	<1	4.7	<0.25	<1
	10/20/03	12.32	84.07	<1	<1	<1	<1	<0.25	--
	04/13/04	12.10	84.29	<5	<5	<5	<5	<1.2	--
	11/23/04	13.22	83.17	<1	<1	<1	<1	<0.25	--
	05/26/05	12.44	83.95	<1	<1	<1	2.8	0.34	--
AGW-4	04/12/01	13.00	84.61	4,090	1,070	634	5,650	28.1	<1.00
	10/09/01	14.48	83.13	9,570	3,520	4,200	20,900	100	<0.500
	05/07/02	12.87	84.74	8,010	2,370	1,500	12,600	70.6	--
	10/11/02	14.16	83.45	9,800	2,300	1,900	11,900	76	--
	04/24/03	12.63	84.98	8,800	1,800	1,200	12,200	70	120
	10/20/03	13.67	83.94	13,000	2,200	1,000	10,300	60	--
	04/13/04	13.36	84.25	11,000	2,500	1,300	12,200	77	--
	11/23/04	14.42	83.19	13,000	2,100	810	7,400	37	--
	05/26/05	13.64	83.97	9,700	2,200	710	9,500	62	--
MTCA Method A Cleanup Level				5.0	700	1,000	1,000	0.8	20

Notes:

Well locations are shown in Figure 2.

Depth to water from top of well casing.

B = benzene, E = ethylbenzene, T = toluene, X = xylenes, MTBE = methyl tert-butyl ether. Analyzed using EPA Method 8021B.

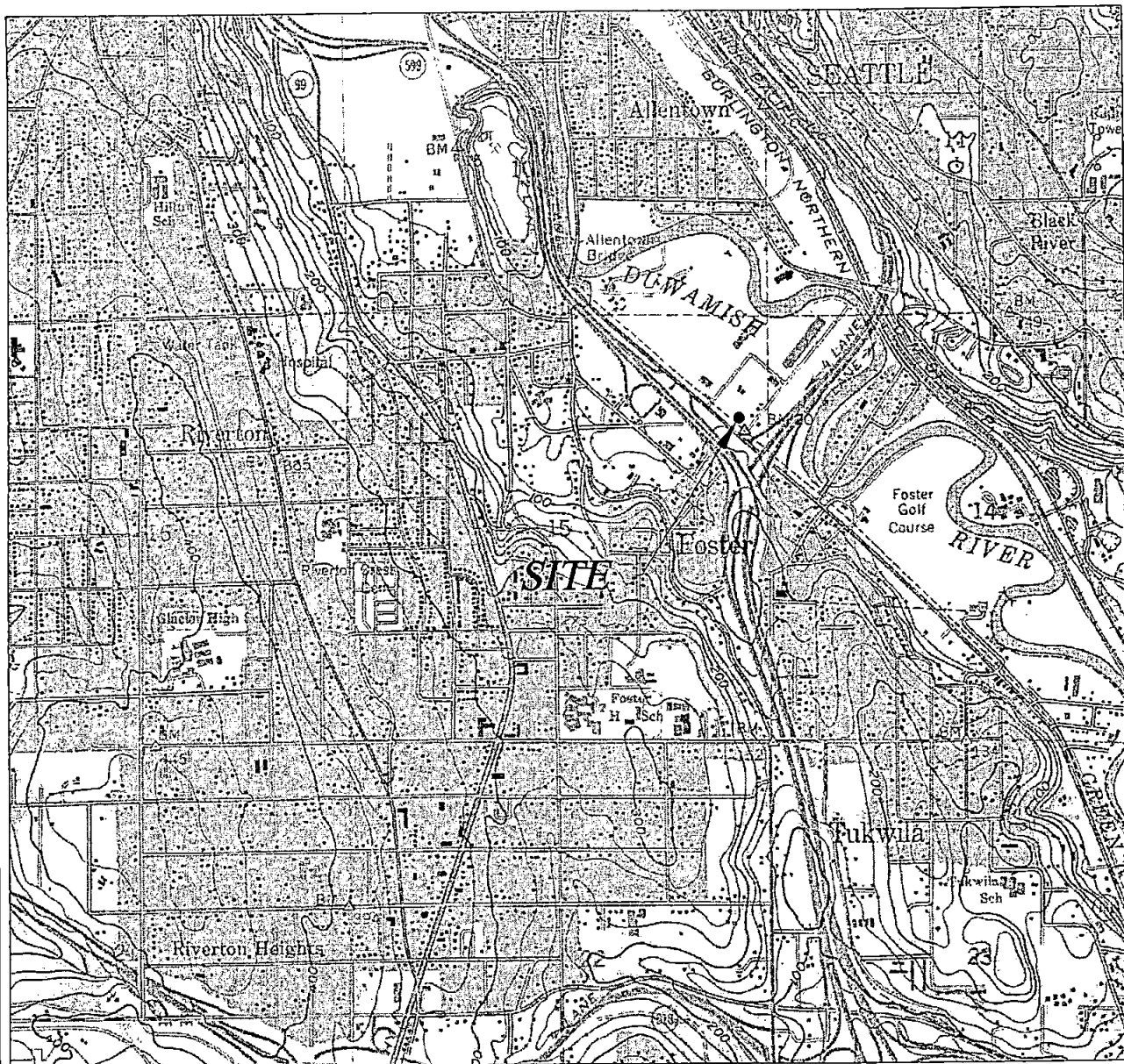
Gasoline-range hydrocarbons analyzed using NWTPH-G_x or WTPH-G.

µg/l = micrograms per liter; mg/l = milligrams per liter; ppm = parts per million

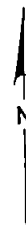
NA = Not available.

MTCA = Model Toxics Control Act

REDM\p\9876097\00\CAD\987609700VM.DWG TNO:HLA 08/15/02



0 1/2 1
SCALE (MILES)



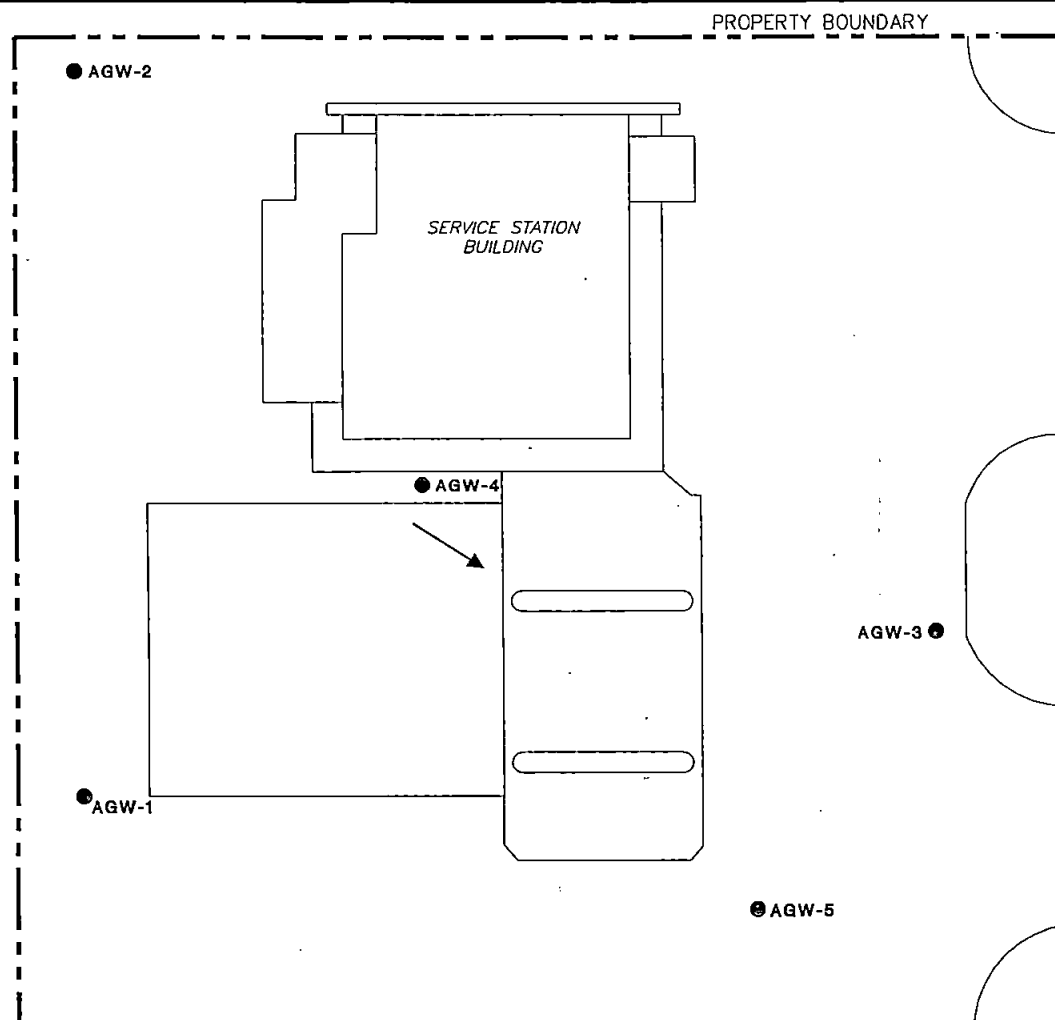
TEXACO STATION SAP NO. 120598
13138 INTERURBAN AVENUE SOUTH
TUKWILA, WASHINGTON

Reference: USGS 7.5' topographic quadrangle map "Des Moines, Wash." 1978.

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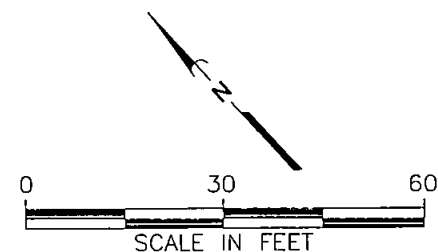
VICINITY MAP

FIGURE 1



EXPLANATION:

- MONITORING WELL
- ← INFERRED GROUNDWATER FLOW DIRECTION



Notes: 1. The locations of all features shown are approximate.

2. This figure is for informational purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure. This figure is a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.

Reference: Drawing entitled "Groundwater Elevation Contour and Analytical Results (5/7/02), Texaco Station SAP#120598" dated 06/06/02, by Secor.

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SITE PLAN AND GROUNDWATER FLOW

FIGURE 2



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

Shell Oil Products US

Certificate of Analysis Number:

05060160

Report To: Geo Engineers Inc. Tony Orme 8410 154th Avenue Northeast Redmond WA 98052- ph: (425) 861-6076 fax:	Project Name: INC#95995044 Site: 13138 Interurban Ave Site Address: 13138 Interurban Ave Tukwila WA PO Number: State: Washington State Cert. No.: C156 Date Reported: 6/10/2005
--	--

This Report Contains A Total Of 15 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

6/13/2005

Date

Test results meet all requirements of NELAC, unless specified in the narrative.



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

Case Narrative for:
Shell Oil Products US

Certificate of Analysis Number:

05060160

Report To: Geo Engineers Inc. Tony Orme 8410 154th Avenue Northeast Redmond WA 98052- ph: (425) 861-6076 fax:	Project Name: INC#95995044 Site: 13138 Interurban Ave Site Address: 13138 Interurban Ave Tukwila WA PO Number: State: Washington State Cert. No.: C156 Date Reported: 6/10/2005
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Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg/kg-dry " or " ug/kg-dry ").

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.

6/13/2005

Erica Cardenas
Project Manager

Test results meet all requirements of NELAC, unless specified in the narrative.

Date



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

Shell Oil Products US

Certificate of Analysis Number:

05060160

Report To: Geo Engineers Inc.
Tony Orme
8410 154th Avenue Northeast

Redmond
WA
98052-
ph: (425) 861-6076 fax:

Project Name: INC#95995044
Site: 13138 Interurban Ave
Site Address: 13138 Interurban Ave
Tukwila WA
PO Number:
State: Washington
State Cert. No.: C156
Date Reported: 6/10/2005

Fax To:

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
097AGW01052605	05060160-01	Water	5/26/2005 12:00:00 PM	6/3/2005 9:30:00 AM		<input type="checkbox"/>
097AGW02052605	05060160-02	Water	5/26/2005 12:15:00 PM	6/3/2005 9:30:00 AM		<input type="checkbox"/>
097AGW03052605	05060160-03	Water	5/26/2005 12:30:00 PM	6/3/2005 9:30:00 AM		<input type="checkbox"/>
097AGW04052605	05060160-04	Water	5/26/2005 12:45:00 PM	6/3/2005 9:30:00 AM		<input type="checkbox"/>

6/13/2005

Erica Cardenas
Project Manager

Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

6/13/2005 12:48:43 PM



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

Client Sample ID: 097AGW01052605

Collected: 05/26/2005 12:00 SPL Sample ID: 05060160-01

Site: 13138 Interurban Ave

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				MCL	NWTPH-GX	Units: mg/L	
Gasoline Range Organics	0.32		0.05	1	06/08/05 22:24	DMN	2806272
Surr: 1,4-Difluorobenzene	101		% 60-155	1	06/08/05 22:24	DMN	2806272
Surr: 4-Bromofluorobenzene	123		% 50-158	1	06/08/05 22:24	DMN	2806272
PURGEABLE AROMATICS				MCL	SW8021B	Units: ug/L	
Benzene	ND		1	1	06/08/05 22:24	DMN	2806144
Toluene	ND		1	1	06/08/05 22:24	DMN	2806144
Ethylbenzene	ND		1	1	06/08/05 22:24	DMN	2806144
m,p-Xylene	3.8		1	1	06/08/05 22:24	DMN	2806144
o-Xylene	1.6		1	1	06/08/05 22:24	DMN	2806144
Xylenes, Total	5.4		1	1	06/08/05 22:24	DMN	2806144
Surr: 1,4-Difluorobenzene	101		% 39-163	1	06/08/05 22:24	DMN	2806144
Surr: 4-Bromofluorobenzene	113		% 57-157	1	06/08/05 22:24	DMN	2806144

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/13/2005 12:48:45 PM



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

Client Sample ID: 097AGW02052605

Collected: 05/26/2005 12:15 SPL Sample ID: 05060160-02

Site: 13138 Interurban Ave

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				MCL	NWTPH-GX	Units: mg/L	
Gasoline Range Organics	0.053		0.05	1	06/08/05 22:51	DMN	2806273
Surr: 1,4-Difluorobenzene	104		% 60-155	1	06/08/05 22:51	DMN	2806273
Surr: 4-Bromofluorobenzene	111		% 50-158	1	06/08/05 22:51	DMN	2806273
PURGEABLE AROMATICS				MCL	SW8021B	Units: ug/L	
Benzene	ND		1	1	06/08/05 22:51	DMN	2806145
Toluene	ND		1	1	06/08/05 22:51	DMN	2806145
Ethylbenzene	ND		1	1	06/08/05 22:51	DMN	2806145
m,p-Xylene	ND		1	1	06/08/05 22:51	DMN	2806145
o-Xylene	ND		1	1	06/08/05 22:51	DMN	2806145
Xylenes, Total	ND		1	1	06/08/05 22:51	DMN	2806145
Surr: 1,4-Difluorobenzene	102		% 39-163	1	06/08/05 22:51	DMN	2806145
Surr: 4-Bromofluorobenzene	110		% 57-157	1	06/08/05 22:51	DMN	2806145

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/13/2005 12:48:45 PM



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

Client Sample ID:097AGW03052605

Collected: 05/26/2005 12:30 SPL Sample ID: 05060160-03

Site: 13138 Interurban Ave

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				MCL	NWTPH-GX	Units: mg/L	
Gasoline Range Organics	0.34		0.05	1	06/09/05 14:40	DY	2808263
Surr. 1,4-Difluorobenzene	145		% 60-155	1	06/09/05 14:40	DY	2808263
Surr. 4-Bromofluorobenzene	111		% 50-158	1	06/09/05 14:40	DY	2808263
PURGEABLE AROMATICS				MCL	SW8021B	Units: ug/L	
Benzene	ND		1	1	06/09/05 14:40	DY	2808114
Toluene	ND		1	1	06/09/05 14:40	DY	2808114
Ethylbenzene	ND		1	1	06/09/05 14:40	DY	2808114
m,p-Xylene	1.6		1	1	06/09/05 14:40	DY	2808114
o-Xylene	1.2		1	1	06/09/05 14:40	DY	2808114
Xylenes, Total	2.8		1	1	06/09/05 14:40	DY	2808114
Surr. 1,4-Difluorobenzene	107		% 39-163	1	06/09/05 14:40	DY	2808114
Surr. 4-Bromofluorobenzene	101		% 57-157	1	06/09/05 14:40	DY	2808114

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/13/2005 12:48:46 PM



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

Client Sample ID: 097AGW04052605

Collected: 05/26/2005 12:45 SPL Sample ID: 05060160-04

Site: 13138 Interurban Ave

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				MCL	NWTPH-GX	Units: mg/L	
Gasoline Range Organics	62		1.2	25	06/09/05 19:06	DY	2808266
Surr. 1,4-Difluorobenzene	108		% 60-155	25	06/09/05 19:06	DY	2808266
Surr. 4-Bromofluorobenzene	137		% 50-158	25	06/09/05 19:06	DY	2808266
PURGEABLE AROMATICS				MCL	SW8021B	Units: ug/L	
Benzene	9700		25	25	06/09/05 19:06	DY	2808117
Toluene	710		25	25	06/09/05 19:06	DY	2808117
Ethylbenzene	2200		25	25	06/09/05 19:06	DY	2808117
m,p-Xylene	8000		25	25	06/09/05 19:06	DY	2808117
o-Xylene	1500		25	25	06/09/05 19:06	DY	2808117
Xylenes, Total	9500		25	25	06/09/05 19:06	DY	2808117
Surr. 1,4-Difluorobenzene	111		% 39-163	25	06/09/05 19:06	DY	2808117
Surr. 4-Bromofluorobenzene	110		% 57-157	25	06/09/05 19:06	DY	2808117

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/13/2005 12:48:46 PM

Quality Control Documentation



Quality Control Report

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

Shell Oil Products US

INC#95995044

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 05060160
Lab Batch ID: R142795

Method Blank

RunID: VARD_050608A-2806134 Units: ug/L
Analysis Date: 06/08/2005 16:34 Analyst: DMN

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
05060160-01A	097AGW01052605
05060160-02A	097AGW02052605

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes, Total	ND	1.0
Surr: 1,4-Difluorobenzene	101.6	39-163
Surr: 4-Bromofluorobenzene	108.2	57-157

Laboratory Control Sample (LCS)

RunID: VARD_050608A-2806133 Units: ug/L
Analysis Date: 06/08/2005 16:07 Analyst: DMN

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20	20.6	103	70	130
Ethylbenzene	20	21.1	105	70	130
Toluene	20	21.0	105	70	130
m,p-Xylene	40	41.2	103	70	130
o-Xylene	20	20.4	102	70	130
Xylenes, Total	60	61.6	103	70	130

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

Sample Spiked: 05060161-01
RunID: VARD_050608A-2806136 Units: ug/L
Analysis Date: 06/08/2005 17:55 Analyst: DMN

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	53.0	20	64.7	58.6	20	62.5	47.8	3.38	26	40	165
Ethylbenzene	6.64	20	25.2	92.9	20	24.7	90.4	1.99	34	51	156
Toluene	1.10	20	20.7	97.9	20	20.1	94.8	2.98	25	58	153

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.

6/13/2005 12:48:47 PM



Quality Control Report

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

Shell Oil Products US

INC#95995044

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 05060160
Lab Batch ID: R142795

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

Sample Spiked: 05060161-01
RunID: VARD_050608A-2806136 Units: ug/L
Analysis Date: 06/08/2005 17:55 Analyst: DMN

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	3.65	40	40.7	92.5	40	40.0	90.8	1.66	27	51	155
o-Xylene	ND	20	19.3	91.8	20	19.0	90.2	1.69	25	58	151
Xylenes, Total	4.60	60	60.0	92.3	60	59.0	90.6	1.67	27	51	155

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.

6/13/2005 12:48:47 PM



Quality Control Report

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

Shell Oil Products US

INC#95995044

Analysis: Gasoline Range Organics
Method: NWTPH-Gx

WorkOrder: 05060160
Lab Batch ID: R142797

Method Blank

RunID: VARD_050608B-2806262 Units: mg/L
Analysis Date: 06/08/2005 16:34 Analyst: DMN

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
05060160-01A	097AGW01052605
05060160-02A	097AGW02052605

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.050
Surr: 1,4-Difluorobenzene	101.3	60-155
Surr: 4-Bromofluorobenzene	108.3	50-158

Laboratory Control Sample (LCS)

RunID: VARD_050608B-2806261 Units: mg/L
Analysis Date: 06/08/2005 15:40 Analyst: DMN

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	1.10	110	64	131

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

Sample Spiked: 05060161-02
RunID: VARD_050608B-2806264 Units: mg/L
Analysis Date: 06/08/2005 18:48 Analyst: DMN

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	0.278	0.9	0.835	61.8	0.9	0.841	62.5	0.728	36	36	140

Qualifiers: ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits

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.

6/13/2005 12:48:47 PM



Quality Control Report

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

Shell Oil Products US

INC#95995044

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 05060160
Lab Batch ID: R142900

Method Blank

RunID: VARE_050609D-2808113 Units: ug/L
Analysis Date: 06/09/2005 14:11 Analyst: DY

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
05060160-03A	097AGW03052605
05060160-04A	097AGW04052605

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes, Total	ND	1.0
Surr: 1,4-Difluorobenzene	101.4	39-163
Surr: 4-Bromofluorobenzene	99.1	57-157

Laboratory Control Sample (LCS)

RunID: VARE_050609D-2808112 Units: ug/L
Analysis Date: 06/09/2005 13:11 Analyst: DY

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20	19.4	97.2	70	130
Ethylbenzene	20	19.8	98.9	70	130
Toluene	20	19.9	99.5	70	130
m,p-Xylene	40	39.7	99.2	70	130
o-Xylene	20	19.7	98.6	70	130
Xylenes, Total	60	59.4	99.0	70	130

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

Sample Spiked: 05051391-01
RunID: VARE_050609D-2808118 Units: ug/L
Analysis Date: 06/09/2005 20:06 Analyst: DY

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	18.3	91.4	20	18.4	91.9	0.526	26	40	165
Ethylbenzene	ND	20	18.2	90.8	20	18.0	90.1	0.734	34	51	156
Toluene	ND	20	18.4	91.9	20	18.1	90.4	1.65	25	58	153

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.

6/13/2005 12:48:47 PM



Quality Control Report

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

Shell Oil Products US

INC#95995044

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 05060160
Lab Batch ID: R142900

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

Sample Spiked: 05051391-01
RunID: VARE_050609D-2808118 Units: ug/L
Analysis Date: 06/09/2005 20:06 Analyst: DY

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	ND	40	41.6	104	40	41.6	104	0.0670	27	51	155
o-Xylene	ND	20	20.6	103	20	20.6	103	0.136	25	58	151
Xylenes, Total	ND	60	62.2	104	60	62.2	104	0.000161	27	51	155

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.

6/13/2005 12:48:47 PM



Quality Control Report

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

Shell Oil Products US

INC#95995044

Analysis: Gasoline Range Organics
Method: NWTPH-Gx

WorkOrder: 05060160
Lab Batch ID: R142901

Method Blank

RunID: VARE_050609E-2808262 Units: mg/L
Analysis Date: 06/09/2005 14:11 Analyst: DY

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
05060160-03A	097AGW03052605
05060160-04A	097AGW04052605

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.050
Surr: 1,4-Difluorobenzene	93.7	60-155
Surr: 4-Bromofluorobenzene	107.7	50-158

Laboratory Control Sample (LCS)

RunID: VARE_050609E-2808261 Units: mg/L
Analysis Date: 06/09/2005 13:41 Analyst: DY

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	1.16	116	64	131

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

Sample Spiked: 05051391-02
RunID: VARE_050609E-2808267 Units: mg/L
Analysis Date: 06/09/2005 21:05 Analyst: DY

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	0.135	0.9	0.756	69.0	0.9	0.785	72.3	3.82	36	36	140

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.

6/13/2005 12:48:47 PM

*Sample Receipt Checklist
And
Chain of Custody*



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

Sample Receipt Checklist

Workorder:	05060160	Received By:	NB
Date and Time Received:	6/3/2005 9:30:00 AM	Carrier name:	FedEx
Temperature:	2.5°C	Chilled by:	Water Ice

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

SPL Representative:

Contact Date & Time:

Client Name Contacted:

Non Conformance
Issues:

Client Instructions:

Historical Groundwater Data: Cumulative Summary of Groundwater Elevations
Texaco-Branded Station SAP No. 120598
13138 Interurban Avenue South, Tukwila, Washington

Well Number/ TOC Elevation	Date of Measurement	DTW (feet)	DTFP (feet)	FPT (feet)	SWL (feet)	Change in SWL (feet)
AGW-1 96.38	4/23/1997	9.63	0.00	0.00	86.75	—
	7/14/1997	12.20	0.00	0.00	84.18	-2.57
	10/22/1997	12.31	0.00	0.00	84.07	-0.11
	1/22/1998	10.30	0.00	0.00	86.08	2.01
	4/9/1998	12.04	0.00	0.00	84.34	-1.74
	7/14/1998	12.51	0.00	0.00	83.87	-0.47
	5/11/1999	13.17	0.00	0.00	83.21	-0.66
	11/3/1999	14.49	0.00	0.00	81.89	-1.32
	5/13/2000	11.90	0.00	0.00	84.48	2.59
	10/21/2000	12.55	0.00	0.00	83.83	-0.65
	4/12/2001	11.81	0.00	0.00	84.57	0.74
	10/9/2001	13.23	0.00	0.00	83.15	-1.42
	5/7/2002	11.63	0.00	0.00	84.75	1.60
AGW-2 95.47	4/23/1997	9.76	0.00	0.00	85.71	—
	7/14/1997	11.30	0.00	0.00	84.17	-1.54
	10/22/1997	11.36	0.00	0.00	84.11	-0.06
	1/22/1998	9.40	0.00	0.00	86.07	1.96
	4/9/1998	11.18	0.00	0.00	84.29	-1.78
	7/14/1998	11.67	0.00	0.00	83.80	-0.49
	5/11/1999	12.25	0.00	0.00	83.22	-0.58
	11/3/1999	13.53	0.00	0.00	81.94	-1.28
	5/13/2000	11.03	0.00	0.00	84.44	2.50
	10/21/2000	11.64	0.00	0.00	83.83	-0.61
	4/12/2001	10.92	0.00	0.00	84.55	0.72
	10/9/2001	12.35	0.00	0.00	83.12	-1.43
	5/7/2002	—	—	—	—	—
AGW-3 96.39	4/23/1997	9.50	0.00	0.00	86.89	—
	7/14/1997	12.28	0.00	0.00	84.11	-2.78
	10/22/1997	12.35	0.00	0.00	84.04	-0.07
	1/22/1998	10.25	0.00	0.00	86.14	2.10
	4/9/1998	12.02	0.00	0.00	84.37	-1.77
	7/14/1998	12.49	0.00	0.00	83.90	-0.47
	5/11/1999	13.18	0.00	0.00	83.21	-0.69
	11/3/1999	14.60	0.00	0.00	81.79	-1.42
	5/13/2000	9.01	0.00	0.00	87.38	5.59
	10/21/2000	12.51	0.00	0.00	83.88	-3.50
	4/12/2001	11.72	0.00	0.00	84.67	0.79
	10/9/2001	13.19	0.00	0.00	83.20	-1.47
	5/7/2002	11.66	0.00	0.00	84.73	1.53

Historical Groundwater Data: Cumulative Summary of Groundwater Elevations
Texaco-Branded Station SAP No. 120598
13138 Interurban Avenue South, Tukwila, Washington

Well Number/ TOC Elevation	Date of Measurement	DTW (feet)	DTFP (feet)	FPT (feet)	SWL (feet)	Change in SWL (feet)
AGW-4 97.61	4/23/1997	10.95	0.00	0.00	86.86	—
	7/14/1997	13.70	0.00	0.00	83.91	-2.75
	10/22/1997	13.43	0.00	0.00	84.18	0.27
	1/22/1998	11.53	0.00	0.00	86.08	1.90
	4/9/1998	13.58	0.00	0.00	84.03	-2.05
	7/14/1998	14.02	0.00	0.00	83.59	-0.44
	5/11/1999	14.46	0.00	0.00	83.15	-0.44
	11/3/1999	15.88	0.00	0.00	81.73	-1.42
	5/13/2000	13.14	0.00	0.00	84.47	2.74
	10/21/2000	13.81	0.00	0.00	83.80	-0.67
	4/12/2001	13.00	0.00	0.00	84.61	0.81
	10/9/2001	14.48	0.00	0.00	83.13	-1.48
	5/7/2002	12.87	0.00	0.00	84.74	1.61
AGW-5 97.35	4/23/1997	10.52	0.00	0.00	86.83	—
	7/14/1997	13.25	0.00	0.00	84.10	-2.73
	10/22/1997	13.35	0.00	0.00	84.00	-0.10
	1/22/1998	11.20	0.00	0.00	86.15	2.15
	4/9/1998	13.00	0.00	0.00	84.35	-1.80
	7/14/1998	13.48	0.00	0.00	83.87	-0.48
	5/11/1999	14.19	0.00	0.00	83.16	-0.71
	11/3/1999	15.56	0.00	0.00	81.79	-1.37
	5/13/2000	12.87	0.00	0.00	84.48	2.69
	10/21/2000	13.45	0.00	0.00	83.90	-0.58
	4/12/2001	12.71	0.00	0.00	84.64	0.74
	10/9/2001	14.17	0.00	0.00	83.18	-1.46
	5/7/2002	12.62	0.00	0.00	84.73	1.55

TOC = Top of casing.
DTW = Depth to water.
DTFP = Depth to free product
FPT = Free product thickness.
SWL = Static water level.
— = Not monitored.

Historical Groundwater Data: Cumulative Summary of Groundwater Sample Analytical Results
Texaco-Branded Station SAP No. 120598
13138 Interurban Avenue South, Tukwila, Washington

Well Number	Sample Date	BTEX (µg/L)				TPH-G (µg/L)	MTBE (µg/L)
		Benzene	Toluene	Ethyl-benzene	Total Xylenes		
AGW-1	4/23/1997	728	113	0.65	47.5	439	--
	7/14/1997	425	53	ND	44.6	960	--
	10/22/1997	320	31.1	ND	13.9	ND	--
	1/22/1998	752	53.5	ND	28.1	ND	--
	4/9/1998	371	58.1	ND	ND	ND	--
	7/14/1998	309	16.8	ND	9.51	ND	--
	5/11/1999	429	8.75	<5.0	22.9	<500	<50
	11/3/1999	207	1.78	<0.5	7.86	75.1	--
	5/13/2000	262	0.96	0.87	8.15	<250	--
	10/21/2000	130	<2.50	<2.50	8.12	362	--
	4/12/2001	55.3	<0.500	<0.500	2.08	120	<1.00
	10/9/2001	1.91	<0.500	<0.500	6.34	96.0	<0.500
	5/7/2002	6.16	<0.500	0.706	15.1	116	--
AGW-2	4/23/1997	ND	ND	ND	ND	ND	--
	7/14/1997	ND	ND	ND	ND	ND	--
	10/22/1997	ND	ND	ND	ND	ND	--
	1/22/1998	ND	ND	ND	ND	ND	--
	4/9/1998	ND	ND	ND	ND	ND	--
	7/14/1998	ND	ND	ND	ND	ND	--
	5/11/1999	--	--	--	--	--	--
	11/3/1999	--	--	--	--	--	--
	5/13/2000	--	--	--	--	--	--
	10/21/2000	--	--	--	--	--	--
	4/12/2001	--	--	--	--	--	--
	10/9/2001	--	--	--	--	--	--
	5/7/2002	--	--	--	--	--	--
AGW-3	4/23/1997	12.8	0.591	ND	6.76	ND	--
	7/14/1997	38.9	1.6	0.504	18	363	--
	10/22/1997	6.35	1.14	ND	11.4	83.9	--
	1/22/1998	16.5	1.06	ND	5.68	65.9	--
	4/9/1998	12.2	ND	ND	12.4	ND	--
	7/14/1998	ND	1.24	ND	11.2	79.5	--
	5/11/1999	5.65	0.93	<0.5	10.4	<50	<25
	11/3/1999	<3.38	1.51	<0.5	3.79	72.1	--
	5/13/2000	14.6	1.69	0.70	9.3	92.1	--
	10/21/2000	<2.53	<0.660	<0.500	2.46	189	--
	4/12/2001	0.978	0.752	<0.500	3.58	83.9	<1.00
	10/9/2001	1.60	<0.500	<0.500	2.16	242	--
	5/7/2002	3.37	0.651	<0.500	4.28	258	--

Historical Groundwater Data: Cumulative Summary of Groundwater Sample Analytical Results
Texaco-Branded Station SAP No. 120598
13138 Interurban Avenue South, Tukwila, Washington

Well Number	Sample Date	BTEX (µg/L)				TPH-G (µg/L)	MTBE (µg/L)
		Benzene	Toluene	Ethyl-benzene	Total Xylenes		
AGW-4	4/23/1997	--	--	--	--	--	--
	7/14/1997	--	--	--	--	--	--
	10/22/1997	--	--	--	--	--	--
	1/22/1998	--	--	--	--	--	--
	4/9/1998	--	--	--	--	--	--
	7/14/1998	--	--	--	--	--	--
	5/11/1999	9,830	10,500	3,440	22,200	129,000	<2,500
	11/3/1999	8,280	5,600	2,320	13,800	86,300	--
	5/13/2000	9,000	4,550	2,560	15,100	74,300	--
	10/21/2000	8,930	3,830	2,320	13,200	68,700	--
	4/12/2001	4,090	634	1,070	5,650	28,100	<1.00
	10/9/2001	9,570	4,200	3,520	20,900	100,000	<0.500
	5/7/2002	8,010	1,500	2,370	12,600	70,600	--
AGW-5	4/23/1997	ND	ND	ND	ND	ND	--
	7/14/1997	ND	ND	ND	ND	ND	--
	10/22/1997	ND	ND	ND	ND	ND	--
	1/22/1998	ND	ND	ND	ND	ND	--
	4/9/1998	ND	ND	ND	ND	ND	--
	7/14/1998	ND	ND	ND	ND	ND	--
	5/11/1999	--	--	--	--	--	--
	11/3/1999	--	--	--	--	--	--
	5/13/2000	--	--	--	--	--	--
	10/21/2000	--	--	--	--	--	--
	4/12/2001	--	--	--	--	--	--
	10/9/2001	--	--	--	--	--	--
	5/7/2002	--	--	--	--	--	--
Current Quarter Quality Assurance/Quality Control Samples							
AGW-4 (Duplicate)		9,410	1,760	2,820	14,800	74,300	--
Trip Blank		<0.500	<0.500	<0.500	<1.00	<50.0	--

µg/L = Micrograms per liter; approximate parts per billion.

-- = Not sampled or not analyzed.

TPH-G = Analytical Method changed to NW-TPH-Gx in 2000.

Benzene, toluene, ethylbenzene, and total xylene (BTEX) analysis by EPA 8021B.

ND = Not detected at a concentration above laboratory method reporting limit as previously reported by others.

The exact laboratory method reporting limits were not available to SECOR.

Historical Groundwater Data: Summary of Volatile Organic Compounds Analytical Results
Texaco Station SAP No. 120598
13138 Interurban Avenue, Tukwila, WA

Well Number	Sample Date	Ethanol (mg/L)	1,2-Dibromoethane (mg/L)	1,2-Dichloroethane (mg/L)	Diisopropyl Ether (mg/L)	Ethyl tert-butyl ether (mg/L)	Methyl tert-butyl ether (mg/L)	tert-Amyl Methyl Ether (mg/L)	tert-Butyl Alcohol (mg/L)
AGW-1	10/09/01	--	--	--	<1.00	<1.00	<0.500	2.21	<50.0
AGW-4	10/09/01	--	--	--	<1.00	<1.00	<0.500	<1.00	<50.0

µg/L = Micrograms per liter; approximate parts per billion.

-- = Not sampled or not analyzed.

• • •

Shell

5-26-05

Site Address

13138 INTERURBANAUE.S
TUKWILA, WA.

Inspected By

1. Lid on box?	6. Casing secure?	12. Water standing in wellbox?	15. Well cap functional?
2. Lid broken?	7. Casing cut level?	12a. Standing above the top of casing?	16. Can cap be pulled loose?
3. Lid bolts missing?	8. Debris in wellbox?	12b. Standing below the top of casing?	17. Can cap seal out water?
4. Lid bolts stripped?	9. Wellbox is too far above grade?	12c. Water even with the top of casing?	18. Padlock present?
5. Lid seal intact?	10. Wellbox is too far below grade?	13. Well cap present?	19. Padlock functional?
	11. Wellbox is crushed/damaged?	14. Well cap found secure?	

☒ Check box if no deficiencies were found. Note below deficiencies you were able to correct.

Well I.D.

Deficiency

Corrective Action Taken

[illegible]

Note below all deficiencies that could not be corrected and still need to be corrected.

[illegible]