



# FARALLON CONSULTING

*Quality Service for Environmental Solutions*

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February 27, 2004

Mr. Sam Kyle  
PAS, L.L.C.  
10 Northeast Alder Street  
Issaquah, Washington 98022

ADMIN

**RE: BASELINE CONDITIONS AND FUTURE ACTIONS**  
**20636 PACIFIC HIGHWAY SOUTH, SEATAC, WASHINGTON**  
**FARALLON PN: 717-004**

Dear Mr. Kyle:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter to transmit the results of groundwater sampling and analysis at an underground storage tank (UST) located at 20636 Pacific Highway South in SeaTac, Washington (the Site) and recommendations for future cleanup activities. The UST was used to store unleaded gasoline for fueling rental cars, and has a reported capacity of 10,000 gallons. Analytical results of groundwater samples collected from the UST monitoring wells confirmed that concentrations of gasoline above the Model Toxics Control Act (MTCA) Method A cleanup level were present in groundwater. This letter summarizes the analytical results, describes an interim remedial action conducted at the UST, and the planned future activities to document the cleanup of affected groundwater.

The discovery of the release of gasoline to groundwater occurred when a former tenant vacated the Site and the property owner, PAS, L.L.C., contracted with Northwest Environmental Solutions, Inc. (NWESI) to conduct a leak test on the UST system. However, a standard leak test could not be conducted because the UST did not contain any fuel on the date of NWESI's Site visit. Instead, NWESI purged and sampled groundwater in two of the UST monitoring wells located around the perimeter of the concrete slab over the UST. The UST monitoring wells were numbered #1 (northwest well), #2 (northeast well), #3 (southeast well), and #4 (southwest well) for sampling purposes.

According to Mr. Kevin Wilkerson of NWESI, approximately 3 gallons of water were purged from the northwest (well #1) and southeast (well #3) monitoring wells on January 28, 2004 using a disposable bailer. After purging, the monitoring wells were sampled and the samples were submitted to STL Seattle laboratory in Tacoma, Washington for analysis of total petroleum hydrocarbons as gasoline range organics (GRO) by Northwest Method NWTPH-G and benzene, toluene, ethyl benzene, and xylenes (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8260B. Laboratory analytical reports and chromatograms from STL Seattle are included in Appendix A.

Upon receipt of STL's analytical report, PAS, L.L.C. requested that Farallon resample the monitoring wells, to confirm the data reported by NWESI and STL. On February 17, 2004



Farallon purged and sampled all four monitoring wells using EPA standard low-flow sampling protocols. The groundwater samples were submitted to OnSite Environmental, Inc. of Redmond, Washington for GRO analysis by Ecology Method WTPH-Gx and BTEX analysis by EPA Method 8021B. Laboratory analytical reports and chromatograms from OnSite Environmental are included in Appendix A.

The analytical results for the samples collected by Farallon confirmed the previous analytical results, and indicate a release of gasoline to groundwater. The analytical results compiled from both sampling events are summarized on the attached Table 1, and indicate that concentrations of GRO in water sampled from the monitoring wells range from <100 to 200,000 micrograms per liter ( $\mu\text{g/l}$ ). Concentrations of benzene range from <1.0 to 4,640  $\mu\text{g/l}$ . The MTCA Method A cleanup level for gasoline and benzene in groundwater are 800  $\mu\text{g/l}$  and 5  $\mu\text{g/l}$ , respectively. These concentrations were considered "baseline conditions" for the identified release of gasoline.

Farallon understands that recently the UST was partially filled with product and a leak test was conducted to determine the source of the gasoline release. The leak test indicated that the UST and associated piping did not leak, but that the fill port overflow piping was not properly routed, allowing overflowed product from filling the UST to be released into the subsurface. The piping has been rerouted. In addition, approximately 600-gallons of groundwater within the UST hold was pumped out for proper off-site disposal. This interim remedial action was conducted to quickly address the release of gasoline at the UST. It is Farallon's opinion that residual contamination at the Site is likely limited because of the nature of the release (periodic overfills), the presence of only a petroleum sheen on groundwater at two of the four UST monitoring wells and not a measurable gasoline product layer, and the removal of the contaminated groundwater from the UST hold during the interim remedial action.

Farallon recommends that the following actions be undertaken at the Site to complete the cleanup action:

- Report the release of GRO and BTEX to groundwater to Washington State Department of Ecology (Ecology) in accordance with Washington Administrative Code (WAC) 173-340-300;
- Enroll the Site in Ecology's Voluntary Cleanup Program;
- After three months, collect groundwater samples from UST monitoring wells #1 and #3 for laboratory analysis of GRO and BTEX; and
- Report the groundwater sample analytical results to Ecology.

If the groundwater analytical results for one or more UST monitoring wells during the next groundwater sampling event still exceed the MTCA Method A cleanup levels, Farallon suggests that another interim remedial action be conducted. The interim remedial action would involve evacuation of groundwater in the UST hold and vacuum extraction of soil vapor within the UST hold for up to an 8-hour period. A large vacuum truck modified to conduct this type of interim remedial action would be operated near the western side of the UST cavity for one day to conduct the interim remedial action. This process does not require a shut down of the UST





system or limit access to the dispenser island. Approximately one month after this interim remedial action, groundwater samples should be collected from UST monitoring wells #1 and #3 for GRO and BTEX analyses to document groundwater quality.

Please contact the undersigned at (425) 427-0061 if you have any questions or require additional information. Farallon appreciates the opportunity to provide you with environmental consulting and engineering services for this project.

Sincerely,

Farallon Consulting, L.L.C.

  
Clifford T. Schmitt  
Principal

  
Dee Gardner  
Associate Geologist

Attachments: Table 1, Summary of Groundwater Analytical Results  
Appendix A, Laboratory Analytical Report

CS/DG: syh

**TABLE**

**BASELINE CONDITIONS AND FUTURE ACTIONS**  
20636 Pacific Highway South  
SeaTac, Washington

Farallon PN: 717-004

**Table 1**  
**Summary of Groundwater Analytical Results**  
**20636 Pacific Highway South**  
**SeaTac, Washington**  
**Farallon PN: 717-004**

Sample Location	Date Sampled	Sampled By	Analytical Results (micrograms per liter)						
			GRO <sup>1</sup>	Benzene <sup>2</sup>	Toluene <sup>2</sup>	Ethylbenzene <sup>2</sup>	Total Xylenes <sup>2</sup>	Arsenic <sup>3</sup>	Lead <sup>4</sup>
#1NW Well A-C	1/28/2004	NWESI	200,000	4,640	29,300	3,880	26,110	0.735	35.6
Well #1	2/17/2004	Farallon	75,000	190	4,500	1,100	10,200	NA	NA
Well #2	2/17/2004	Farallon	230	52	<1.0	<1.0	<1.0	NA	NA
#2 SE Well A-C	1/28/2004	NWESI	277	46	4.94	1.27	2.67	1.93	30.7
Well #3	2/17/2004	Farallon	<100	<1.0	<1.0	<1.0	<1.0	NA	NA
Well #4	2/17/2004	Farallon	160,000	3,800	24,000	3,500	19,900	NA	NA
<b>MTCA Method A Cleanup Levels for Groundwater<sup>5</sup></b>			<b>800</b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>5</b>	<b>15</b>

**NOTES:**

<sup>1</sup>Analyzed by Washington State Department of Ecology Method NWTPH-G or NWTPH-Gx.

<sup>2</sup>Analyzed by Environmental Protection Agency (EPA) Method 8260B or Method 8021B.

<sup>3</sup>Analyzed by EPA Method 6010/7000.

<sup>4</sup>Analyzed by EPA Method 6010/7000.

<sup>5</sup>Model Toxics Control Act Chapter 173-340 WAC. Method A cleanup levels for groundwater as amended February 2001.

**Bold** indicates concentrations above MTCA cleanup levels for groundwater.

< denotes result is less than the listed laboratory practical quantitation limit.

GRO = gasoline-range organics

NA = Not analyzed

NWESI = Northwest Environmental Solutions, Inc.

Farallon = Farallon Consulting, L.L.C.

**APPENDIX A**  
**LABORATORY ANALYTICAL REPORT**

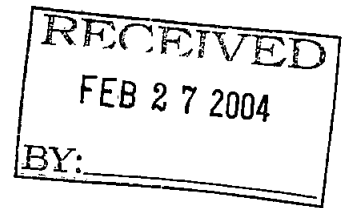
**BASELINE CONDITIONS AND FUTURE ACTIONS**  
20636 Pacific Highway South  
SeaTac, Washington

Farallon PN: 717-004



**OnSite  
Environmental Inc.**

Analytical Testing and Mobile Laboratory Services



February 25, 2004

Cliff Schmitt  
Farallon Consulting, LLC  
320 3<sup>rd</sup> Avenue NE, Suite 200  
Issaquah, WA 98027

Re: Analytical Data for Project 717-004  
Laboratory Reference No. 0402-116


Dear Cliff:

Enclosed are the analytical results and associated quality control data for samples submitted on February 17, 2004.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,



David Baupmeister  
Project Manager

Enclosures

Date of Report: February 25, 2004  
Samples Submitted: February 17, 2004  
Laboratory Reference: 0402-116  
Project: 717-004

### Case Narrative

Samples were collected on February 17, 2004 and received by the laboratory on February 17, 2004. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

#### NWTPH Gx/BTEX Analysis

Hydrocarbons outside the defined gasoline range are present in sample Well #2.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



Date of Report: February 25, 2004  
Samples Submitted: February 17, 2004  
Laboratory Reference: 0402-116  
Project: 717-004

**NWTPH-Gx/BTEX**

Date Extracted: 2-18-04  
Date Analyzed: 2-18-04

Matrix: Water  
Units: ug/L (ppb)

Client ID: **WELL #2**  
Lab ID: 02-116-01

**WELL #3**  
02-116-02

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
Benzene	<b>52</b>		1.0	<b>ND</b>		1.0
Toluene	<b>ND</b>		1.0	<b>ND</b>		1.0
Ethyl Benzene	<b>ND</b>		1.0	<b>ND</b>		1.0
m,p-Xylene	<b>ND</b>		1.0	<b>ND</b>		1.0
o-Xylene	<b>ND</b>		1.0	<b>ND</b>		1.0
TPH-Gas	<b>230</b>	<b>O</b>	100	<b>ND</b>		100
Surrogate Recovery: Fluorobenzene	<b>107%</b>			<b>107%</b>		

Date of Report: February 25, 2004  
 Samples Submitted: February 17, 2004  
 Laboratory Reference: 0402-116  
 Project: 717-004

# **NWTPH-Gx/BTEX**

Date Extracted: 2-19&20-04  
 Date Analyzed: 2-19&20-04

Matrix: Water  
 Units: ug/L (ppb)

Client ID:	<b>WELL #4</b>	<b>WELL #1</b>
Lab ID:	02-116-03	02-116-04

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
Benzene	<b>3800</b>		250	<b>190</b>		50
Toluene	<b>24000</b>		250	<b>4500</b>		50
Ethyl Benzene	<b>3500</b>		250	<b>1100</b>		50
m,p-Xylene	<b>13000</b>		250	<b>6400</b>		100
o-Xylene	<b>6900</b>		250	<b>3800</b>		50
TPH-Gas	<b>160000</b>		25000	<b>75000</b>		5000
Surrogate Recovery:						
Fluorobenzene	<b>88%</b>			<b>92%</b>		

Date of Report: February 25, 2004  
Samples Submitted: February 17, 2004  
Laboratory Reference: 0402-116  
Project: 717-004

**NWTPH-Gx/BTEX  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 2-18-04  
Date Analyzed: 2-18-04

Matrix: Water  
Units: ug/L (ppb)

Lab ID: MB0218W1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100
Surrogate Recovery:			
Fluorobenzene	105%		

Date of Report: February 25, 2004  
Samples Submitted: February 17, 2004  
Laboratory Reference: 0402-116  
Project: 717-004

**NWTPH-Gx/BTEX  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 2-19-04  
Date Analyzed: 2-19-04

Matrix: Water  
Units: ug/L (ppb)

Lab ID: MB0219W2

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100
Surrogate Recovery: Fluorobenzene	89%		

Date of Report: February 25, 2004  
Samples Submitted: February 17, 2004  
Laboratory Reference: 0402-116  
Project: 717-004

**NWTPH-Gx/BTEX  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 2-20-04  
Date Analyzed: 2-20-04

Matrix: Water  
Units: ug/L (ppb)

Lab ID: MB0220W1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100
Surrogate Recovery:			
Fluorobenzene	88%		

Date of Report: February 25, 2004  
Samples Submitted: February 17, 2004  
Laboratory Reference: 0402-116  
Project: 717-004

**NWTPH-Gx/BTEX  
DUPLICATE QUALITY CONTROL**

Date Extracted: 2-18-04  
Date Analyzed: 2-18-04

Matrix: Water  
Units: ug/L (ppb)

Lab ID:	02-116-02 Original	02-116-02 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	107%	114%		

Date of Report: February 25, 2004  
 Samples Submitted: February 17, 2004  
 Laboratory Reference: 0402-116  
 Project: 717-004

**NWTPH-Gx/BTEX  
 MS/MSD QUALITY CONTROL**

Date Extracted: 2-18-04  
 Date Analyzed: 2-18-04

Matrix: Water  
 Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	02-116-02 MS	Percent Recovery	02-116-02 MSD	Percent Recovery	RPD	Flags
Benzene	50.4	101	49.5	99	2	
Toluene	51.6	103	50.4	101	2	
Ethyl Benzene	52.8	106	51.9	104	2	
m,p-Xylene	53.0	106	52.0	104	2	
o-Xylene	52.3	105	51.5	103	2	

Surrogate Recovery:

Fluorobenzene	115%	113%
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#### Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- G - Insufficient sample quantity for duplicate analysis.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- O - Hydrocarbons outside the defined gasoline range are present in the sample.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical \_\_\_\_\_.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a silica gel cleanup procedure.
- Y - Sample extract treated with an acid cleanup procedure.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference



# Chain of Custody

Company: Ferallon Consulting

Project Number: 717-004

Project Name: Former Alameda Site

Project Manager: Cliff Schmitt

Sampled by: J. Cyr

**Turnaround Request**  
 (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Day ☐ 3 Day

☒ Standard (7 working days)

☐ 2/25/04  
 (other)

Laboratory Number: 02-116

Company: Ferrallon Consulting						(Check One)		Requested Analysis																		
Project Number: 717-004						<input type="checkbox"/> Same Day <input type="checkbox"/> 1 Day		NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	% Moisture			
Project Name: Former Alameda Site						<input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day																				
Project Manager: Cliff Schmitt						<input checked="" type="checkbox"/> Standard (7 working days)																				
Sampled by: J. Cyr						<input type="checkbox"/> 2/25/04 (other)																				
ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.																					
1	Well #2	2.17.04	1250	W	3		X																			
2	Well #3	1	1325	1	1		X																			
3	Well #4	1	1410	1	1		X																			
4	Well #1	1	1450	1	1		X																			
<div>J. Cyr</div> <div>2.17.04</div>																										

Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by <u>[Signature]</u>	<u>Ferallon Consulting</u>	<u>2-17-04</u>	<u>11:20</u>	
Received by <u>[Signature]</u>	<u>OnSite Env</u>	<u>2/17/04</u>	<u>10:20</u>	
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date	Reviewed by/Date	Chromatograms with final report <input type="checkbox"/>		