

January 30, 2001

COPY

Ms. Terri Catania
Deerhaven II, L.L.C.
P.O. Box 427
Hansville, Washington 98340

**RE: LIMITED SUBSURFACE INVESTIGATION REPORT
FORMER A1 RV CENTER
9145 SILVERDALE WAY
SILVERDALE, WASHINGTON
FARALLON PN: 669-002**

Dear Ms. Catania:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter report to document the results of a limited subsurface investigation conducted at the former A1 RV Center (the site) located at 9145 Silverdale Way NW in Silverdale, Washington (Figure 1). The limited subsurface investigation was conducted in accordance with Farallon's proposal dated December 13, 2000. This letter report provides background information on the site vicinity, summarizes the results of prior investigations conducted by others at the site, and describes the results of the limited subsurface investigation.

The limited subsurface investigation was conducted to assess whether a release of total petroleum hydrocarbons (TPH) had occurred from potential source areas associated with the former gasoline and service station located on the northeastern portion of the site. Based on Farallon's site visit on December 7, 2000, the potential source areas on this portion of the site include the former dispenser island, the former product lines, the underground storage tanks (USTs), the former hydraulic hoist, and the area west of the former service shop.

SITE DESCRIPTION AND HISTORY

The site is currently occupied by Kitsap Farm and Tractor, a local distributor of John Deere tractors and equipment. The site presently includes two structures; a single-story trailer that is utilized as an office and a single-story garage used for routine maintenance of the equipment sold by the tenant (Figure 2). The site is asphalt-paved with utilities that include overhead power and phone and a city water/sewer hookup. The site gently slopes from west to east, towards Silverdale Way NW and Dyes Inlet. No storm drains were observed on-site; however, site



drainage appears to follow the eastward slope of the site into the storm drain system along Silverdale Way NW. The only existing potential source of petroleum observed on the site is an aboveground storage tank containing diesel fuel with an estimated capacity of less than 200 gallons. This tank is located on the west side of the office building.

Based on the limited historical information provided by Deerhaven II L.L.C. (Deerhaven), Farallon understands that the site was previously a recreational vehicle (RV) sales lot and that prior to that a Union Oil service station formerly operated at the site in the 1950s and early 1960s. Based on Farallon's observations of the former station area, the facility included: a dispenser island with at least two dispensers; a sales and service building equipped with a single hoist that appeared to utilize air pressure, not hydraulic fluid; and a suspect underground storage tank (UST) located behind (west side) the main building (Figure 2). The asphalt in the suspect UST area appeared disturbed and the subsidence was observed. This may indicate that the UST(s) associated with the former station had been removed. Deerhaven has no records of the UST removal, which may have occurred prior to their ownership.

A limited assessment of subsurface conditions at the site was conducted by Cascade Environmental Service, Inc. (CES) in 1998. Results of this limited assessment were documented in a brief report titled *A-1 RV* that appeared to be dated May 1998 (referred to herein as the CES Report). Although the CES Report appeared to be dated May 1998, the text discussed the removal of one UST and the collection of a soil sample from the UST excavation by CES on September 24, 1998. According to Deerhaven, the tank removed was a small heating oil UST. The location of the UST removed by CES was not identified in the CES Report. The analytical results for the soil sample from the UST excavation were reported as being less than the method reporting limit for TPH as gas, diesel, or oil by the Washington State Department of Ecology (Ecology) Method WTPH-HCID.

Additional assessment conducted at the site by CES included drilling three boreholes using a utility-pole drill rig with a 14-inch diameter auger to investigate subsurface conditions in the vicinity of "closed in-place" USTs associated with the former Union Oil service station. The CES Report did not state sufficient information to confirm that the USTs were closed in-place.

The boreholes were advanced by CES to a depth of 8 to 9 feet below the ground surface (bgs) and groundwater was reportedly encountered at an approximate depth of 8 feet bgs. Based on Farallon's review of the CES Report, it appears that CES did not locate the soil borings near the probable location of the USTs. The description of the boring locations in the CES Report and Farallon's site observations indicate that the soil borings were likely located near the former dispenser island.

CES collected three soil samples from the borings and submitted the samples for laboratory analysis of TPH as gasoline by Ecology Method WTPH-Gx. The soil samples were collected from either the boring wall using hand tools or the auger flights. Additionally, one grab sample of groundwater (collected from an open borehole) and was submitted for analysis for TPH by a non-Ecology analysis similar to the USEPA Method 418.1. The analytical results indicated that the soil sample collected from approximately five feet bgs in the eastern boring contained 150



milligrams per kilogram (mg/kg) TPH as gasoline and the other soil samples were non detect for TPH as gasoline. The Washington State Model Toxics Control Act (MTCA) Method A soil cleanup level for TPH as gasoline is 100 mg/kg.

The groundwater grab sample contained a TPH concentration of 1.3 milligrams per Liter (mg/L) TPH. The concentration of TPH in the groundwater sample exceeded the MTCA Method A cleanup level of 1.0 mg/L. According to the laboratory the groundwater sample was a slurry of water and soil that was not separated during analysis. Based on Farallon's review of the sampling methodology by CES and the analytical method, the groundwater analytical data should be considered qualitative and is likely not representative of actual conditions.

Based on Farallon's review of the limited assessment conducted by CES, Farallon believes that the results are not reliable. This conclusion is based on the method of drilling and collecting the soil and groundwater samples, the laboratory analytical methods used, and the incorrect placement of the soil borings with respect to the observed potential source areas. Farallon understands that CES had reported the site to Ecology as having a confirmed petroleum release from a UST system. Ecology presently has three file identification numbers for the site (4275731, 46945373, and 52227227); however, based on a file review performed by Farallon, only two documents were in the three files. The first document is the CES Report and the second document is an internal Ecology memorandum recommending that the site be listed as a confirmed contaminated site based on the findings of the CES Report.

GEOLOGY

Soil in the vicinity of the borings included up to three feet of silt with some fine-grained sand over medium to coarse sand and gravel deposits. The silt layer likely represents Holocene (recent) marine sediment deposits overlying the glacial drift and glaciofluvial deposits from the Vashon stade of glaciation. The glaciofluvial outwash materials are derived from meltwater streams associated with the advancing and retreating glacial ice mass that blanketed the Puget Sound region during the Pleistocene period, approximately 12,000 years ago.

Groundwater beneath the site is relatively shallow (less than 10 feet bgs) and present in the glacial sand and gravel deposits. Groundwater likely flows to the east towards the nearby bay following the local and regional topography.

LIMITED SUBSURFACE INVESTIGATION FIELD PROGRAM

The objective of the limited subsurface investigation was to assess soil and groundwater at the site for the contaminants of concern. Based on historical and site use and the results of CES's limited assessment, the contaminants of concern included total petroleum hydrocarbons (TPH) as gasoline, diesel, oil, and BTEX compounds (benzene, toluene, ethylbenzene, and total xylenes). These compounds are typically associated with gasoline service and vehicle maintenance operations.



The specific scope of work for the limited subsurface investigation included the following work elements:

- Preparation of a site-specific Health and Safety Plan (HASP) as required by 29 CFR Part 1910.120;
- Performing a utility location prior to the proposed drilling activities. Utility location was also performed near the suspected location of the USTs to assess whether they were still present;
- Advancement of eight soil borings (SP-1 through SP-8). The borings were advanced in using a geoprobe unit and completed to total depths ranging from 9 to 12 feet bgs;
- Collecting soil samples during drilling for characterization of soil types, screening for obvious signs of contamination (e.g., discoloration and odor) and for potential laboratory analysis;
- Field screening soil samples for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID);
- Collecting representative groundwater samples from temporary well points (SP-1 through SP-8);
- Submitting select soil and groundwater samples for laboratory analysis of petroleum hydrocarbons;
- Development of a scaled site map to document the soil boring and utility locations; and,
- Preparation of this letter report.

The field investigation program and sampling activities were conducted on December 14, 2000, under the supervision of a Farallon field geologist. Prior to the commencement of assessment activities, a private utility locate survey was conducted by Applied Professional Service Incorporated (APS) of Issaquah, Washington to locate on-site utilities. APS also performed a survey using a magnetometer at the area suspected of being the former UST tank field. The location of the suspect tank field was based on Farallon's observations of the product line trench that was visible in the asphalt, originating from the dispenser island and running west to the suspect UST area on the northwest side of the former building footprint (Figure 2).

Eight soil borings (SP-1 through SP-8 [Figure 2]) were advanced by Cascade Drilling, Inc. of Bothell, Washington, utilizing a direct push, Geoprobe drilling methods. The Geoprobe soil borings were advanced to a depth of 9 to 12 feet bgs. The soil boring locations were placed in areas that would likely detect a petroleum release from the potential source areas including the former dispenser island, the former product lines, the underground storage tanks (USTs), the former hydraulic hoist, and the area west of the former service shop.



Soil was sampled at selected intervals in each boring to screen for evidence of contamination and to generate a lithologic description of soil conditions. A Farallon geologist supervised advancement of the soil borings and documented the lithology in accordance with the Unified Soil Classification System. The soil samples were field screened for volatile organic compounds (VOCs) using a photoionization detector (PID). The detailed soil boring logs and PID readings are presented in the soil boring logs in Appendix A. Soil samples collected for potential laboratory analysis were transferred directly from the split-spoon sampling device into a laboratory-prepared sample jar using a clean stainless steel spoon.

Groundwater sampling was performed using a temporary stainless steel well point attachment for the Geoprobe. The temporary well point was advanced to approximately 11.5 to 12 feet bgs and the outer sleeve retracted to expose a four-foot length of stainless steel well screen. The groundwater samples were extracted from the well point using a peristaltic pump following purging of several gallons of groundwater to reduce the sediment content and ensure representative formation water was being collected.

All non-dedicated sampling equipment and supplies were decontaminated between uses. The labeled sample jars were completely filled and immediately sealed with Teflon-lined screw caps, and placed in an iced cooler pending delivery to the analytical laboratory. Chain-of-custody procedures were followed during transport of the samples from the site to the laboratory. All laboratory analysis was performed by On-site Environmental, Inc. of Redmond, Washington.

Farallon submitted select soil and groundwater samples from each boring for analysis of TPH as gasoline, diesel, and/or heavy oils, and BTEX, by Ecology Methods NWTPH-Gx/BTEX, NWTPH-Dx, and/or NWTPH-HCID. The soil samples submitted for analysis were selected based on field observations and PID readings. Based on these criteria, Farallon submitted seven soil samples and four groundwater samples for laboratory analysis.

RESULTS

The soil encountered in the soil borings consisted of approximately two to three feet of silt with some fine-grained sand over medium to coarse sand and gravel deposits. No physical evidence of contamination was observed (staining, sheens, odors, etc.) in the soil samples collected. Additionally, field-screening using the PID did not indicate the presence of VOCs. The detailed soil boring logs and PID readings are presented in Appendix A.

Saturated soil conditions were encountered at approximately eight feet bgs during the limited subsurface assessment field program. Groundwater samples were collected from an approximate depth of 7.5 to 12 feet bgs. Select soil and groundwater samples were submitted for laboratory analysis of the contaminants of concern. The attached Tables 1 and 2 present summaries of the soil and groundwater analytical results, respectively. The laboratory test certificates are presented in Appendix B. The laboratory analytical results indicate that no concentrations of TPH as gasoline, diesel, or heavy oils, or BTEX compounds, were present above the laboratory reporting limits in the soil and groundwater samples submitted for analysis.



Farallon's review of the CES Report indicated that the drilling methods, soil, groundwater sampling methods, and laboratory analyses were performed not in accordance with industry and/or the Ecology standards. Farallon concludes that CES's findings are not necessarily representative of actual site conditions.

The results of the magnetometer survey on the west side of the former sales and service station footprint did not indicate the presence of USTs. The subsidence of the asphalt and what appeared to be asphalt patching might be indicative that the USTs were previously removed.

CONCLUSIONS

The limited subsurface investigation targeted assessment of soil and groundwater conditions in areas that represent potential source areas of the contaminants of concern as based on the available historical information and the previous environmental investigations. Farallon's observations and the analytical results from the subsurface investigation did not indicate any evidence of a petroleum release to either soil or groundwater in the vicinity of the soil borings. Farallon believes that the results of this subsurface investigation refute the original findings of CES.

Farallon recommends that a copy of this report be submitted to Ecology's Northwest Regional Office with a request to remove the site from all databases indicating that a release of contaminants had occurred at the property.

LIMITATIONS

The conclusions and recommendations contained in this report/assessment are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and are subject to the following inherent limitations:

- **Accuracy of Information.** Certain information utilized by Farallon in this report/assessment has been obtained, reviewed, and evaluated from various sources believed to be reliable. Although Farallon's conclusions, opinions, and recommendations are based in part on such information, Farallon's services did not include the verification of its accuracy or authenticity. Should such information prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.
- **Limitations.** Because Farallon's report is based on certain information, the accuracy of which has not been determined, and because Farallon's observations made during site reconnaissance are limited, Farallon cannot and does not guarantee that the site is free of hazardous or potentially hazardous materials or conditions, or that latent or undiscovered conditions will not become evident in the future. Since site conditions beyond our control could change at any time after the completion of this report/assessment, our observations, findings, and opinions can only be considered valid as of the date of the report hereof. This



report/assessment is prepared in accordance with the client contract and currently accepted industry standards, and no other warranties, representations, or certifications are made. Unless stated otherwise herein, this report is intended for and restricted to the sole use of Deerhaven II, L.L.C. Any use, interpretation, or reliance upon this report/assessment by anyone other than the Deerhaven II, L.L.C. is at the sole risk of that party, and Farallon shall have no liability for such unauthorized use, interpretation, or reliance.

CLOSING

Farallon appreciates the opportunity to provide you with environmental consulting services. Please contact the undersigned at (425) 427-0061 if you have any questions regarding this project.

Sincerely,

Farallon Consulting, L.L.C.

Jeffrey Kaspar
Associate Geologist

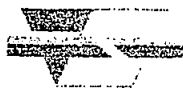
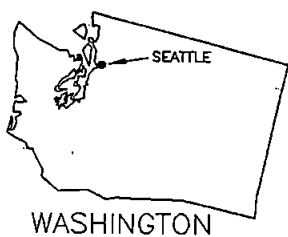
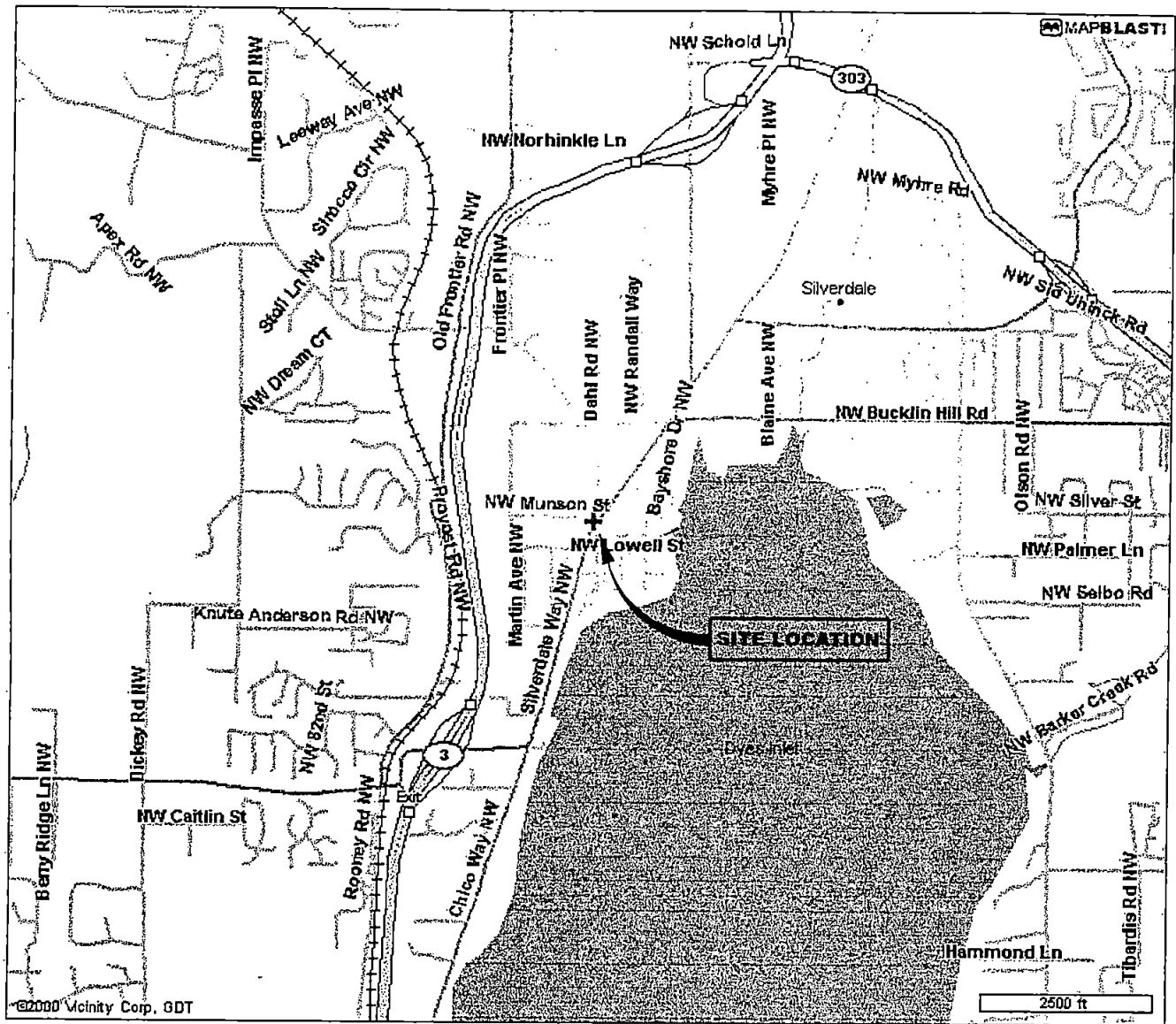
Clifford T. Schmitt, R.G.
Principal

Attachments

- Figures 1 – Site Location Map
- Figure 2 – Site Plan
- Table 1 – Summary of Soil Analytical Results
- Table 2 – Summary of Groundwater Analytical Results
- Appendix A – Soil Boring Logs
- Appendix B – Laboratory Analytical Reports

JK/CTS:sas

FIGURES



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

FIGURE 1

SITE VICINITY MAP

FORMER AI RV SITE
9145 SILVERDALE WAY NW
SILVERDALE, WA.

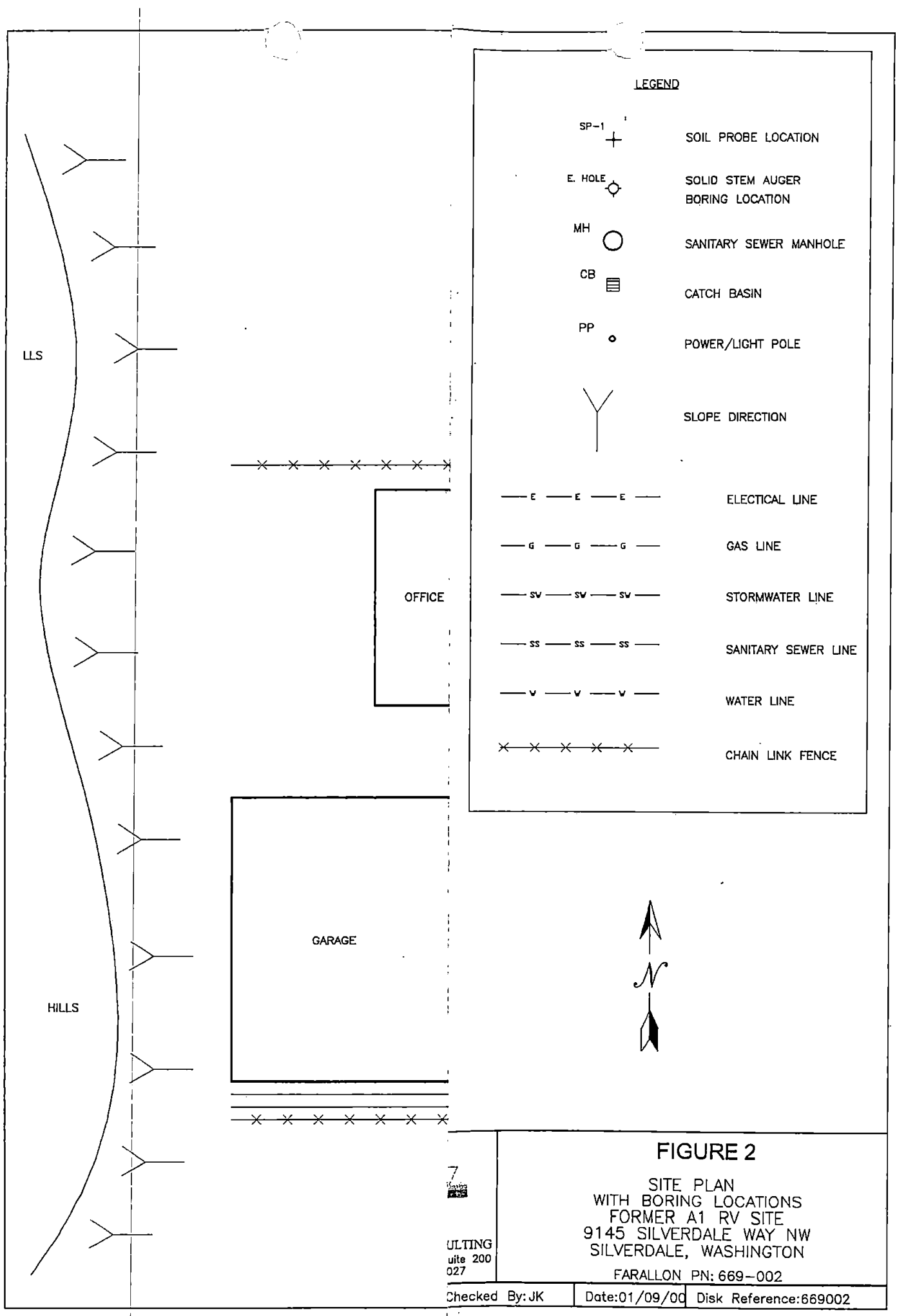
FARALLON PN: 669-002

Drawn By: QDD

Checked By: JK

Date: 01/09/00

Disk Reference: 669002



LEGEND

SP-1 +

SOIL PROBE LOCATION

E. HOLE

SOLID STEM AUGER BORING LOCATION

MH

SANITARY SEWER MANHOLE

CB

CATCH BASIN

PP

POWER/LIGHT POLE

SLOPE DIRECTION

— E — E — E —

ELECTICAL LINE

— G — G — G —

GAS LINE

— SV — SV — SV —

STORMWATER LINE

— SS — SS — SS —

SANITARY SEWER LINE

— V — V — V —

WATER LINE

— X — X — X — X — X —

CHAIN LINK FENCE

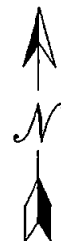


FIGURE 2

SITE PLAN
WITH BORING LOCATIONS
FORMER A1 RV SITE
9145 SILVERDALE WAY NW
SILVERDALE, WASHINGTON

FARALLON PN: 669-002

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200

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027

Checked By: JK

Date: 01/09/00

Disk Reference: 669002

TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
FORMER A1 RV SITE
SILVERDALE WAY
SILVERDALE, WASHINGTON
FARALLON PN: 669-002

Location	Date Sampled	Sample Depth (feet) ²	Analytical Results (mg/kg) ¹			
			TPH as Gasoline ³	TPH as Diesel ³	TPH as Oil ³	BTEX ⁴
SP1	12/14/00	3 - 6	<6.3	Not Tested	Not Tested	<0.063
SP2	12/14/00	6 - 9	<28	<57	<110	Not Tested
SP4	12/14/00	6 - 9	<30	<60	<120	Not Tested
SP5	12/14/00	6 - 9	<30	<60	<120	Not Tested
SP6	12/14/00	6 - 9	<5.9	<29	<59	<0.059
SP7	12/14/00	6 - 9	<29	<58	<120	Not Tested
SP8	12/14/00	6 - 9	<6.0	<30	<60	<0.060
MTCA Method A Cleanup Levels⁵			100	200	200	0.5/40/20/20

Notes:

- 1- All results in milligrams per kilogram (mg/Kg)
- 2- Depth measured in feet below ground surface
- 3- TPH = Total Petroleum Hydrocarbons as gasoline, diesel, and oil.
- 4- BTEX = benzene, toluene, ethyl benzene, and xylenes.
- 5- Model Toxics Control Act (MTCA) Chapter 173-340 WAC.

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
FORMER A1 RV SITE
SILVERDALE WAY
9145 SILVERDALE, WASHINGTON
FARALLON PN: 669-002

Location	Date Sampled	Sample Depth (feet) ²	Analytical Results (µg/l) ¹			
			TPH as Gasoline ³	TPH as Diesel ³	TPH as Oil ³	BTEX ⁴
SP-1	12/14/00	7.5 - 11.5	<100	<250	<500	<1.0
SP-2	12/14/00	7.5 - 11.5	Not Tested	Not Tested	Not Tested	Not Tested
SP-3	12/14/00	7.5 - 11.5	Not Tested	Not Tested	Not Tested	Not Tested
SP-4	12/14/00	Not Collected	Not Collected	Not Collected	Not Collected	Not Collected
SP-5	12/14/00	7.5 - 11.5	<100	<250	<500	<1.0
SP-6	12/14/00	7.5 - 11.5	<100	Not Tested	Not Tested	<1.0
SP-7	12/14/00	Not Collected	Not Collected	Not Collected	Not Collected	Not Collected
SP-8	12/14/00	7.5 - 11.5	<100	<250	<500	<1.0
MTCA Method A Cleanup Levels ⁵			1,000	1,000	1,000	5/40/30/20

Notes:

- 1- All results in micrograms per liter (µg/l).
- 2- Depth measured in feet below ground surface
- 3- TPH = Total Petroleum Hydrocarbons as gasoline, diesel, and oil.
- 4- BTEX = benzene, toluene, ethyl benzene, and xylenes.
- 5- Model Toxics Control Act (MTCA) Chapter 173-340 WAC.

RECEIVED
FEB 13 2001
DEPT. OF ECOLOGY

APPENDIX A
SOIL BORING LOGS
LIMITED SUBSURFACE INVESTIGATION REPORT

Former A1 RV Center
9145 Silverdale Way
Seattle, Washington

Farallon PN: 669-001
January 30, 2001



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

LOG OF BORING SP-1

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

Farallon PN: 669-002

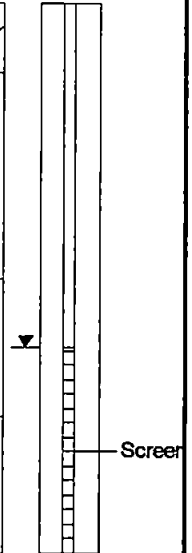
Logged By: T. Brown

Date/Time Started : 12/14/00 0840
Date/Time Completed : 12/14/00 0943
Equipment : Dieterick Probe-Rig
Drilling Company : Cascade Drilling Inc.
Drill Forman : Lynn Gopal

Total Depth : 12 Feet

Depth in Feet	Samples	% Rec- overy	PID (ppm)	Sample ID	USCS	GRAPHIC	DESCRIPTION	Point: SP-1 Elev.: NA
0					FL		CONCRETE	
		100	7.1	SP1-0.5-3	ML		Sandy SILT, very fine sand, dark brown, moist.	
		100	0.0	SP1-3-6	SW		Gravelly SAND, well-graded, fine to coarse grained, fine subangular to subrounded gravel, trace silt, brown, moist.	
5								
		20	0.0	SP1-6-9	GP		1 1/2" subrounded gravel.	
10		100	0.0	SP1-9-12	SW		SAND, well-graded, fine to coarse grained, trace subrounded gravel, trace silt, brown, wet.	
15								
20								
25								

Total depth = 12 feet below ground surface.



BORING INFORMATION

NOTE: Water Sample SP-1 @ 0930
CASING: 2 INCH PVC
SCREEN: 0.010 SLOTTED STAINLESS STEEL
SEAL: GOLDSEAL BENTONITE CHIPS

LOG OF BORING SP-1

(Page 1 of 1)



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

LOG OF BORING SP-2

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

Farallon PN: 669-002

Logged By: T. Brown

Date/Time Started : 12/14/00 0955
Date/Time Completed : 12/14/00 1050
Equipment : Dieterick Probe-Rig
Drilling Company : Cascade Drilling Inc.
Drill Forman : Lynn Gopal

Total Depth : 12 Feet

Depth in Feet	Sample Interval	% Rec- overy	PID (ppm)	Sample No.	USCS	GRAPHIC	DESCRIPTION	Well: SP-2 Elev.: NA
0					FL		CONCRETE	
		100	3.6	SP2-0.5-3	ML		SILT, minor very fine sand, dark brown, moist. Becomes gray. Becomes mottled orange-brown.	
		100	2.3	SP2-3-6	SW		Gravelly SAND, well-graded, fine to coarse grained, fine subangular to subrounded gravel, trace silt, brown, moist.	
		25	1.7	SP2-6-9	SW		SAND, well graded, fine to coarse grained, trace silt, gray, wet.	
		100	6.0	SP2-9-12	SW		Silty SAND, fine to medium grained, mottled brown-gray to gray, moist to wet.	
Total depth = 12 feet below ground surface.								
15								
20								
25								



BORING INFORMATION

NOTE: Water sample SP-2 @1035(5)
CASING: 2 INCH PVC
SCREEN: 0.010 SLOTTED STAINLESS STEEL
SEAL: GOLDSEAL BENTONITE CHIPS

LOG OF BORING SP-2

(Page 1 of 1)



FARALLON CONSULTING
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Issaquah, WA 98027

LOG OF BORING SP-3

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

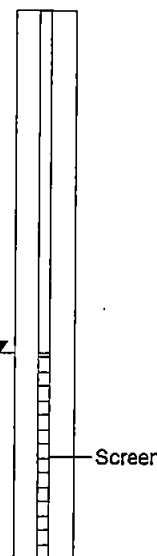
Farallon PN: 669-002

Logged By: T. Brown

Date/Time Started : 12/14/00 1100
Date/Time Completed : 12/14/00 1135
Equipment : Dieterick Probe-Rig
Drilling Company : Cascade Drilling Inc.
Drill Forman : Lynn Gopal

Total Depth : 12 Feet

Depth in Feet	Sample Interval	% Rec- overy	PID (ppm)	Sample No.	USCS	GRAPHIC	DESCRIPTION	Well: SP-3 Elev.: NA
0					FL		ASPHALT	
		100	8.4	SP3-0.25-3	ML		SILT, minor very fine sand, trace fine gravel, dark brown, moist. Becomes mottled brown-orange-gray.	
		100	6.2	SP3-3-6	SW		Gravelly SAND, well-graded, fine to coarse grained, fine subangular to subrounded gravel, trace silt, brown, moist.	
		100	5.8	SP3-6-9	SM		Silty SAND, fine to medium grained, mottled brown-gray to gray, moist to wet. Becomes wet.	
		100	6.6	SP3-9-12				
Total depth = 12 feet below ground surface.								
15								
20								
25								



BORING INFORMATION

NOTE: Water sample SP-3 @1145(5)
CASING: 2 INCH PVC
SCREEN: 0.010 SLOTTED STAINLESS STEEL
SEAL: GOLDFEAL BENTONITE CHIPS

LOG OF BORING SP-3

(Page 1 of 1)



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

LOG OF BORING SP-4

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

Farallon PN: 669-002

Logged By: T. Brown

Date/Time Started : 12/14/00 1205

Total Depth : 9 Feet

Date/Time Completed : 12/14/00 1235

Equipment : Dieterick Probe-Rig

Drilling Company : Cascade Drilling Inc.

Drill Forman : Lynn Gopal

Depth in Feet	Samples	% Rec- overy	PID (ppm)	Sample ID	USCS	GRAPHIC	DESCRIPTION
0					FL		ASPHALT
		100	0.0	SP4-0.25-3	ML		SILT, minor very fine sand, trace fine gravel, trace clay, dark brown, moist. Becomes mottled orange-brown.
5		60	0.0	SP4-3-6	SW		Gravelly SAND, fine to coarse grained, fine to coarse subrounded gravel, trace silt, brown, moist.
		100	0.0	SP4-6-9			Becomes wet.
10							Total depth = 9 feet below ground surface.
15							
20							
25							

BORING INFORMATION

SEAL: GOLDSEAL BENTONITE CHIPS

LOG OF BORING SP-4

(Page 1 of 1)



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

LOG OF BORING SP-5

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

Farallon PN: 669-002

Logged By: T. Brown

Date/Time Started : 12/14/00 1205 Total Depth : 12 Feet
Date/Time Completed : 12/14/00 1235
Equipment : Dieterick Probe-Rig
Drilling Company : Cascade Drilling Inc.
Drill Forman : Lynn Gopal

Depth in Feet	Samples	% Rec- overy	PID (ppm)	Sample ID	USCS	GRAPHIC	DESCRIPTION	Point: SP-5 Elev.: NA
0					FL		CONCRETE	
		100	0.0	SP5-0.5-3	ML		SILT, very fine sand, dark brown, moist. Becomes gray. Becomes mottled orange-brown.	
		40	0.0	SP5-3-6			Gravelly SAND, well-graded, fine to coarse grained, fine subangular to subrounded gravel, trace silt, brown, moist.	
5					SW			
		20	0.0	SP5-6-9				
10		100	0.0	SP5-9-12	SM		Silty SAND, fine to medium grained, mottled brown-gray, moist to wet.	
					ML		SILT, minor very fine sand, gray, moist.	
Total depth = 12 feet below ground surface.								
15								
20								
25								

BORING INFORMATION

NOTE: Water sample SP-5 @ 1335(5)
CASING: 2 INCH PVC
SCREEN: 0.010 SLOTTED PVC
SEAL: GOLDSEAL BENTONITE CHIPS

LOG OF BORING SP-5

(Page 1 of 1)



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

LOG OF BORING SP-6

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

Farallon PN: 669-002

Logged By: T. Brown

Date/Time Started : 12/14/00 1345

Total Depth : 12 Feet

Date/Time Completed : 12/14/00 1450

Equipment : Dieterick Probe-RiG

Drilling Company : Cascade Drilling Inc.

Drill Forman : Lynn Gopal

Depth in Feet	Samples	% Rec- overy	PID (ppm)	Sample ID	USCS	GRAPHIC	DESCRIPTION	Point: SP-6 Elev.: NA
0					FL		ASPHALT	
		100	0.0	SP6-0.25-3	ML		SILT, trace very fine sand, trace clay, dark brown, moist, brick debris. Becomes mottled orange-brown.	
5		30	0.0	SP6-3-6			Gravelly SAND, well-graded, fine to coarse grained, fine subangular to subrounded gravel, trace silt, brown, moist.	
		70	0.0	SP6-6-9	SW		Becomes wet.	
10		100	0.0	SP6-9-12	SM		Silty SAND, fine to medium grained, mottled brown-gray to gray, moist to wet.	
							Total depth = 12 feet below ground surface.	
15								
20								
25								

Screen

BORING INFORMATION

NOTE: Water sample SP-5 @ 1335(5)
CASING: 2 INCH PVC
SCREEN: 0.010 SLOTTED STAINLESS STEEL
SEAL: GOLDSEAL BENTONITE CHIPS

LOG OF BORING SP-6

(Page 1 of 1)



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

LOG OF BORING SP-7

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

Farallon PN: 669-002

Logged By: T. Brown

Date/Time Started : 12/14/00 1600
Date/Time Completed : 12/14/00 1635
Equipment : Dieterick Probe-Rig
Drilling Company : Cascade Drilling Inc.
Drill Forman : Lynn Gopal

Total Depth : 9 Feet

Depth in Feet	Samples	% Rec- overy	PID (ppm)	Sample ID	USCS	GRAPHIC	DESCRIPTION
0					FL		ASPHALT
		100	0.0	SP7-0.25-3	ML		SILT, minor very fine sand, trace clay, dark brown, moist. Becomes mottled orange-brown.
5		60	0.0	SP7-3-6	SW		Gravelly SAND, well-graded, fine to coarse grained, fine subrounded to subangular gravel, trace silt, brown, moist.
		40	0.0	SP7-6-9			Becomes wet.
10							Total depth = 9 feet below ground surface.
15							
20							
25							

BORING INFORMATION

SEAL: GOLDSEAL BENTONITE CHIPS

LOG OF BORING SP-7

(Page 1 of 1)



FARALLON CONSULTING
320 3rd Ave. NE, Suite 200
Issaquah, WA 98027

LOG OF BORING SP-8

(Page 1 of 1)

FORMER A1 RV SITE
9145 Silverdale Way NW
Silverdale, WA

Farallon PN: 669-002

Logged By: T. Brown

Date/Time Started : 12/14/00 1500
Date/Time Completed : 12/14/00 1530
Equipment : Dieterick Probe-Rig
Drilling Company : Cascade Drilling Inc.
Drill Forman : Lynn Gobal

Total Depth : 12 Feet

Depth in Feet	Samples	% Rec- overy	PID (ppm)	Sample ID	USCS	GRAPHIC	DESCRIPTION	Point: SP-8 Elev.: NA
0					FL		ASPHALT	
		100	0.0	SP8-0.25-3	ML		SILT, minor very fine sand, trace clay, dark brown. Becomes mottled orange-brown.	
		100	0.0	SP8-3-6			Gravelly SAND, well-graded, fine to coarse grained, fine subrounded to subangular gravel, trace silt, brown, moist.	
5		50	0.0	SP8-6-9	SW		Becomes wet.	
10		50	0.0	SP8-9-12	SM		Silty SAND, fine grained, trace fine gravel, brown, wet.	
Total depth = 12 feet below ground surface.								
15								
20								
25								

BORING INFORMATION

NOTE: Water sample SP-8 @ 1535(5)
CASING: 2 INCH PVC
SCREEN: 0.010 SLOTTED STAINLESS STEEL
SEAL: GOLDSEAL BENTONITE CHIPS

LOG OF BORING SP-8

(Page 1 of 1)

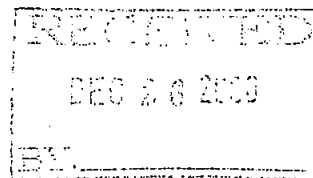
APPENDIX B
LABORATORY ANALYTICAL REPORTS
LIMITED SUBSURFACE INVESTIGATION REPORT

Former A1 RV Center
9145 Silverdale Way
Seattle, Washington

Farallon PN: 669-001
January 30, 2001



**OnSite
Environmental Inc.**
Analytical Testing and Mobile Laboratory Services



December 21, 2000

Jaff Kaspar
Farallon Consulting, LLC
320 3rd Avenue NE, Suite 200
Issaquah, WA 98027

Re: Analytical Data for Project 669-002
Laboratory Reference No. 0012-099

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on December 15, 2000.

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 Baumeister
Project Manager

Enclosures

Chain of Custody

Turnaround Request (in working days)		Project Chemist: <u>DB</u>		Laboratory No.	
(Check One)		Requested Analysis			
<input type="checkbox"/> Same Day <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)					
<input type="checkbox"/> _____ (other)					

Company: Foxallan Consulting L.L.C.

Project No.: 669-002

Project Name: AIKU

Project Manager: Jeff Kasper

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	SP1-0.5-3'	12/14/00	0845	S	1														
2	SP1-3-6'	↓	0858	↓	↓		⊗												⊗
3	SP1-6-9'	↓	0908	↓	↓														
4	SP1-9-12'	↓	0918	↓	↓														
5	SP2-0.5-3'	12/14/00	0958	S	1														
6	SP2-3-6'	↓	1005	↓	↓														
7	SP2-6-9'	↓	1014	↓	↓		⊗												⊗
8	SP2-9-12'	↓	1020	↓	↓														
9	SP3-0.25-3'	12/14/00	1105	S	1														
10	SP3-3-6'	↓	1115	↓	↓														
11	SP3-6-9'	↓	1125	↓	↓														
12	SP3-9-12'	↓	1135	↓	↓														

RELINQUISHED BY <u>Jeff Kasper</u>	DATE <u>12/15/00</u>	RECEIVED BY <u>[Signature]</u>	DATE <u>12/15/00</u>	COMMENTS: <u>Hold Samples</u> <u>Added 12/15/00 DB</u>
FIRM <u>Foxallan</u>	TIME <u>1200</u>	FIRM <u>[Signature]</u>	TIME <u>12:00</u>	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	
FIRM	TIME	FIRM	TIME	
REVIEWED BY	DATE REVIEWED			

Chromatographs with final report ☐



OnSite Environmental Inc.

14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Chain of Custody

Page 2 of 3

Turnaround Request (in working days)						Project Chemist: <u>DB</u>		Laboratory No.													
(Check One)						Requested Analysis															
<input type="checkbox"/> Same Day <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days) <input type="checkbox"/> _____ (other)																					
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCBs by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture		
13	SP4-0.25-3'	12/14/00	1210	S	1																
14	SP4-3-6'	↓	1215	↓	↓																
15	SP4-6-9'	↓	1225	↓	↓	⊗														⊗	
16	SP5-0.25-3'	12/14/00	1230	S	1																
17	SP5-3-6'	↓	1302	↓	↓																
18	SP5-6-9'	↓	1310	↓	↓	⊗														⊗	
19	SP5-9-12'	↓	1320	↓	↓																
20	SP6-0.25-3'	12/14/00	1400	S	1																
21	SP6-3-6'	↓	1410	↓	↓																
22	SP6-6-9'	↓	1420	↓	↓	⊗	⊗													⊗	
23	SP6-9-12'	↓	1425	↓	↓																
24	SP8-0.25-3'	12/14/00	1505	S	1																

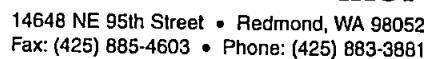
RELINQUISHED BY <u>[Signature]</u>	DATE <u>12/15/00</u>
FIRM <u>Fennell</u>	TIME <u>1200</u>
RELINQUISHED BY	DATE
FIRM	TIME
REVIEWED BY	DATE REVIEWED

RECEIVED BY <u>[Signature]</u>	DATE <u>12/15/00</u>
FIRM <u>OnSite</u>	TIME <u>12:00</u>
RECEIVED BY	DATE
FIRM	TIME

COMMENTS: Hold Samples

⊗ added 12/15/00. DB

Chromatographs with final report ☐



Page 3 of 3

[illegible]

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

NWTPH-HCID

Date Extracted: 12-18-00
Date Analyzed: 12-20-00

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	SP2-6-9'	SP4-6-9'	SP5-6-9'
Lab ID:	12-099-07	12-099-15	12-099-18

Gasoline:	ND	ND	ND
PQL:	28	30	30

Diesel Fuel:	ND	ND	ND
PQL:	57	60	60

Heavy Oil:	ND	ND	ND
PQL:	110	120	120

Surrogate Recovery:			
o-Terphenyl	105%	101%	105%

Flags:

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

NWTPH-HCID

Date Extracted: 12-18-00
Date Analyzed: 12-20-00

Matrix: Soil
Units: mg/Kg (ppm)

Client ID: SP7-6-9'
Lab ID: 12-099-30

Gasoline: ND
PQL: 29

Diesel Fuel: ND
PQL: 58

Heavy Oil: ND
PQL: 120

Surrogate Recovery:
o-Terphenyl 117%

Flags:

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

**NWTPH-HCID
METHOD BLANK QUALITY CONTROL**

Date Extracted: 12-18-00
Date Analyzed: 12-20-00

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB1218S1

Gasoline: ND
PQL: 25

Diesel Fuel: ND
PQL: 50

Heavy Oil: ND
PQL: 100

Surrogate Recovery:
o-Terphenyl 96%

Flags

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

NWTPH-Gx/BTEX

Date Extracted: 12-18-00
Date Analyzed: 12-18-00

Matrix: Soil
Units: mg/Kg (ppm)

Client ID: SP1-3-6'
Lab ID: 12-099-02

SP6-6-9'
12-099-22

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		0.063	ND		0.059
Toluene	ND		0.063	ND		0.059
Ethyl Benzene	ND		0.063	ND		0.059
m,p-Xylene	ND		0.063	ND		0.059
o-Xylene	ND		0.063	ND		0.059
TPH-Gas	ND		6.3	ND		5.9
Surrogate Recovery: Fluorobenzene	91%			95%		

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

NWTPH-Gx/BTEX

Date Extracted: 12-18-00
Date Analyzed: 12-18-00

Matrix: Soil.
Units: mg/Kg (ppm)

Client ID: SP8-6-9'
Lab ID: 12-099-26

	Result	Flags	PQL
Benzene	ND		0.060
Toluene	ND		0.060
Ethyl Benzene	ND		0.060
m,p-Xylene	ND		0.060
o-Xylene	ND		0.060
TPH-Gas	ND		6.0
Surrogate Recovery: Fluorobenzene	89%		

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

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

Date Extracted: 12-18-00
Date Analyzed: 12-18-00

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB1218S1

	Result	Flags	PQL
Benzene	ND		0.050
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0
Surrogate Recovery: Fluorobenzene	104%		

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

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

Date Extracted: 12-18-00

Date Analyzed: 12-18-00

Matrix: Soil

Units: mg/Kg (ppm)

Lab ID:	12-099-22 Original	12-099-22 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	95%	96%		

Date of Report: December 21, 2000
 Samples Submitted: December 15, 2000
 Lab Traveler: 12-099
 Project: 669-002

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

Date Extracted: 12-18-00

Date Analyzed: 12-18-00

Matrix: Soil

Units: mg/Kg (ppm)

Spike Level: 1.00 ppm

Lab ID:	12-099-22 MS	Percent Recovery	12-099-22 MSD	Percent Recovery	RPD	Flags
Benzene	0.921	92	0.946	95	2.7	
Toluene	0.956	96	0.983	98	2.8	
Ethyl Benzene	0.941	94	0.968	97	2.8	
m,p-Xylene	0.944	94	0.967	97	2.4	
o-Xylene	0.950	95	0.978	98	2.9	
Surrogate Recovery:						
Fluorobenzene	92%		94%			

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

NWTPH-Dx

Date Extracted: 12-19-00
Date Analyzed: 12-19&20-00

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	SP6-6-9'	SP8-6-9'
Lab ID:	12-099-22	12-099-26

Diesel Fuel:	ND	ND
PQL:	29	30

Heavy Oil:	ND	ND
PQL:	59	60

Surrogate Recovery:		
o-Terphenyl	84%	73%

Flags:

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted: 12-19-00
Date Analyzed: 12-19-00

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB1219S1

Diesel Fuel: ND
PQL: 25

Heavy Oil: ND
PQL: 50

Surrogate Recovery:
o-Terphenyl 67%

Flags:

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 12-19-00
Date Analyzed: 12-19-00

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 12-110-02 12-110-02 DUP

Diesel Fuel: ND ND
PQL: 25 25

RPD: N/A

Surrogate Recovery:
o-Terphenyl 53% 56%

Flags:

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-099
Project: 669-002

% MOISTURE

Date Analyzed: 12-18-00

Client ID	Lab ID	% Moisture
SP1-3-6'	12-099-02	20
SP2-6-9'	12-099-07	12
SP4-6-9'	12-099-15	16
SP5-6-9'	12-099-18	16
SP6-6-9'	12-099-22	15
SP8-6-9'	12-099-26	16
SP7-6-9'	12-099-30	14



OnSite Environmental Inc.

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.

D - Data from 1:____ dilution.

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-napthalene) are present in the sample.

O - Hydrocarbons outside the defined gasoline range are present in the sample; NWTPH-Dx recommended.

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

MRL - Method Reporting Limit

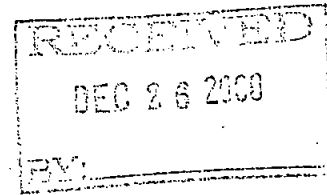
PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



**OnSite
Environmental Inc.**

Analytical Testing and Mobile Laboratory Services



December 21, 2000

Jeff Kaspar
Farallon Consulting, LLC
320 3rd Avenue NE, Suite 200
Issaquah, WA 98027

Re: Analytical Data for Project 669-002
Laboratory Reference No. 0012-100

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on December 15, 2000.

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 Baumeister
Project Manager

Enclosures

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-100
Project: 669-002

NWTPH-Gx/BTEX

Date Extracted: 12-19-00
Date Analyzed: 12-19-00

Matrix: Water
Units: ug/L (ppb)

Client ID: **SP-1**
Lab ID: 12-100-01

SP-5
12-100-04

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	ND		1.0
Toluene	ND		1.0	ND		1.0
Ethyl Benzene	ND		1.0	ND		1.0
m,p-Xylene	ND		1.0	ND		1.0
o-Xylene	ND		1.0	ND		1.0
TPH-Gas	ND		100	ND		100
Surrogate Recovery: Fluorobenzene	93%			89%		

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-100
Project: 669-002

NWTPH-Gx/BTEX

Date Extracted: 12-19-00
Date Analyzed: 12-19-00

Matrix: Water
Units: ug/L (ppb)

Client ID: **SP-6**
Lab ID: 12-100-05

SP-8
12-100-06

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	ND		1.0
Toluene	ND		1.0	ND		1.0
Ethyl Benzene	ND		1.0	ND		1.0
m,p-Xylene	ND		1.0	ND		1.0
o-Xylene	ND		1.0	ND		1.0
TPH-Gas	ND		100	ND		100
Surrogate Recovery: Fluorobenzene	95%			95%		

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-100
Project: 669-002

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

Date Extracted: 12-19-00

Date Analyzed: 12-19-00

Matrix: Water

Units: ug/L (ppb)

Lab ID: MB1219W1

	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	91%		

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-100
Project: 669-002

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

Date Extracted: 12-19-00
Date Analyzed: 12-19-00

Matrix: Water
Units: ug/L (ppb)

Lab ID:	12-100-05 Original	12-100-05 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	95%	91%		

Date of Report: December 21, 2000
 Samples Submitted: December 15, 2000
 Lab Traveler: 12-100
 Project: 669-002

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

Date Extracted: 12-19-00
 Date Analyzed: 12-19-00

Matrix: Water
 Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	12-100-05 MS	Percent Recovery	12-100-05 MSD	Percent Recovery	RPD	Flags
Benzene	52.4	105	48.9	98	6.8	
Toluene	52.3	105	48.8	98	6.9	
Ethyl Benzene	52.8	106	49.2	98	7.1	
m,p-Xylene	52.8	106	49.1	98	7.1	
o-Xylene	52.5	105	49.1	98	6.6	

Surrogate Recovery:
 Fluorobenzene 97% 91%

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-100
Project: 669-002

NWTPH-Dx

Date Extracted: 12-18-00
Date Analyzed: 12-18-00

Matrix: Water
Units: mg/L (ppm)

Client ID:	SP-1	SP-5	SP-8
Lab ID:	12-100-01	12-100-04	12-100-06

Diesel Fuel:	ND	ND	ND
PQL:	0.25	0.25	0.25

Heavy Oil:	ND	ND	ND
PQL:	0.50	0.50	0.50

Surrogate Recovery:			
o-Terphenyl	75%	74%	77%

Flags:

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-100
Project: 669-002

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted: 12-18-00
Date Analyzed: 12-18-00

Matrix: Water
Units: mg/L (ppm)

Lab ID: MB1218W1

Diesel Fuel: ND
PQL: 0.25

Heavy Oil: ND
PQL: 0.50

Surrogate Recovery:
o-Terphenyl 72%

Flags:

Date of Report: December 21, 2000
Samples Submitted: December 15, 2000
Lab Traveler: 12-100
Project: 669-002

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 12-18-00
Date Analyzed: 12-18-00

Matrix: Water
Units: mg/L (ppm)

Lab ID: 12-083-10 12-083-10 DUP

Diesel Fuel: ND ND
PQL: 0.25 0.25

RPD: N/A

Surrogate Recovery:
o-Terphenyl 58% 60%

Flags:



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.

D - Data from 1:____ dilution.

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; NWTPH-Dx recommended.

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.

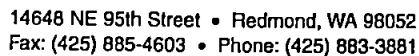
Z -

ND - Not Detected at PQL

MRL - Method Reporting Limit

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



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