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MAY 2014 PROGRESS REPORT

WHIDBEY MARINE & AUTO SUPPLY SITE FREELAND, WASHINGTON

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1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this progress report to document the status of the cleanup action for the release of gasoline from the underground storage tank system at the former Whidbey Marine & Auto Supply facility at 1689 Main Street in Freeland, Washington (Figure 1). The Site is defined as the area on and down-gradient of the Whidbey Marine & Auto Supply facility where concentrations of petroleum hydrocarbon constituents in soil and/or groundwater exceed Washington State Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels as a result of a release from the Whidbey Marine & Auto Supply facility. The cleanup action at the Site is being conducted under the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program and in accordance with the provisions of MTCA, as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340). The Site has been assigned Toxics Cleanup Program Identification No. NW1529 by Ecology.

This progress report presents the results of Site-wide groundwater monitoring and sampling activities conducted in March 2014. Periodic monitoring activities conducted from January through March 2014 also are discussed, including measurement of depth to groundwater in selected monitoring wells, measurement of the thickness of light nonaqueous-phase liquid (LNAPL) in monitoring well MW-9, and LNAPL removal activities.

The report is organized as follows:

- Section 2 describes the March 2014 groundwater monitoring and sampling activities and results, and periodic LNAPL monitoring and removal activities conducted since the previous sampling event in December 2013.
- Section 3 presents a summary and discussion of the groundwater monitoring activities and recommendations for additional work.



2.0 GROUNDWATER MONITORING AND SAMPLING

The groundwater monitoring conducted at the Site on March 27 and 28, 2014 included obtaining depth to groundwater measurements from all of the monitoring wells at the Site and collecting groundwater samples from Perched Groundwater Zone monitoring well MW-2 and from Sea Level Aquifer monitoring wells MW-10 through MW-16 (Figure 2). Monitoring well MW-9 was not sampled during the March 2014 monitoring event due to the presence of LNAPL in the well. The groundwater monitoring and sampling activities were conducted in accordance with the technical memorandum regarding Scope of Work for March 2014 Groundwater Monitoring and Sampling dated March 14, 2014, prepared by Farallon. Details of the field activities and the results for the March 2014 monitoring and sampling event are presented below.

2.1 FIELD METHODS

Prior to sampling, Farallon measured the depth to groundwater in each monitoring well using an electronic water-level indicator. Monitoring wells MW-1 through MW-8 are completed in the Perched Groundwater Zone, and monitoring wells MW-9 through MW-16 are completed in the Sea Level Aquifer. The monitoring wells were opened, and the water levels were allowed to equilibrate before measurement. The groundwater level in each monitoring well was measured to the surveyed reference point on the top of the well casing to derive the groundwater elevation at each location. An oil-water interface probe was used to measure the depth to water and the potential thickness of LNAPL in monitoring wells MW-6 through MW-13. The oil-water interface probe was not used in the other monitoring wells at the Site to minimize the potential for cross-contamination of groundwater.

In the monitoring wells that were sampled with the bladder pump during the March 2014 monitoring event, groundwater was purged at a flow rate of approximately 200 milliliters per minute, where feasible. Monitoring well MW-2 was sampled using a dedicated disposable bailer using the procedures described below. Residual calcium hydroxide oxidant materials from the chemical injection activities conducted in 2011 solidified in monitoring well MW-2 and cemented the dedicated sampling tubing in place, preventing placement of a bladder pump. Field measurements were collected for pH, temperature, specific conductivity, dissolved oxygen, and oxidation-reduction potential during groundwater purging using a YSI Model MPS 556 water quality analyzer equipped with a flow-through cell. Groundwater samples were collected after the pH, temperature, and specific conductivity parameters stabilized. Stabilization was defined for pH as a change of ± 0.1 pH unit between readings for three consecutive measurements, and for temperature and conductivity as a relative percent difference of less than 3 percent. The samples from monitoring wells sampled with the bladder pump were collected by pumping groundwater directly from each well through dedicated polyethylene tubing into laboratory-prepared containers. Monitoring well MW-2 was sampled using a dedicated disposable bailer. Groundwater samples were collected from monitoring well MW-2 by decanting the groundwater directly from the disposable bailer into laboratory-prepared containers. The groundwater samples were labeled, placed on ice, and transported to ALS Environmental laboratories in Everett, Washington for analysis in accordance with chain-of-custody protocols.



2.2 ANALYTICAL METHODS

The groundwater samples collected from Sea Level Aquifer monitoring wells MW-10 through MW-16 were analyzed for total petroleum hydrocarbons as gasoline-range organics (GRO) by Northwest Method NWTPH-Gx, and for benzene, toluene, ethylbenzene, and xylenes (BTEX) by U.S. Environmental Protection Agency Method 8021B. The groundwater samples collected from monitoring wells MW-2, MW-12, and MW-13 were analyzed also for total petroleum hydrocarbons as diesel-range organics (DRO) and as oil-range organics (ORO) by Northwest Method NWTPH-Dx. Groundwater samples collected from monitoring well MW-2 also were intended to be analyzed for GRO and BTEX, but a sufficient volume of water was not obtained due to obstruction caused by dedicated tubing that is lodged in the well as a result of solidified oxidant material, as described above.

2.3 GROUNDWATER MONITORING RESULTS

Table 1 presents a summary of the groundwater elevation data for the Site. Table 2 presents groundwater analytical results for DRO, ORO, GRO, and BTEX for the March 2014 and previous monitoring events, along with a comparison to corresponding MTCA Method A cleanup levels. A copy of the laboratory analytical report for the March 2014 groundwater monitoring event is provided in Appendix A.

2.3.1 Groundwater Elevation

Groundwater elevations measured at the Site on March 27, 2014 in the Perched Groundwater Zone ranged from 65.76 feet above mean sea level (msl) in monitoring well MW-1 to 58.57 feet above msl in monitoring well MW-7 (Table 1). The corresponding depths to groundwater measured below the top of the well casings were 50.88 and 58.25 feet, respectively, for monitoring wells MW-1 and MW-7. Groundwater elevations measured at the Site on March 27, 2014 in the Sea Level Aquifer ranged from 12.78 feet above msl in monitoring well MW-10 to 12.52 feet above msl in monitoring wells MW-15 and MW-16 (Table 1). The corresponding depths to groundwater measured below the top of the well casings were 100.67, 104.21, and 104.40 feet for monitoring wells MW-10, MW-15, and MW-16, respectively. Monitoring well MW-5 has been dry each time it has been monitored since the time it was installed in February 2007.

Groundwater elevation contours for the Perched Groundwater Zone and the Sea Level Aquifer based on the water levels measured on March 27, 2014 are shown on Figures 3 and 4, respectively. The water level measured in monitoring well MW-13 during the Site-wide water level measurement event on March 27, 2014 was not used in construction of the groundwater elevation contour map (Figure 4) because the measured depth to water and corresponding groundwater elevation appeared anomalous relative to adjacent wells. The depth to water measured in monitoring well MW-13 on March 27, 2014 of 103.75 feet below the top of the well casing was 0.20 feet lower than the depth measured at the initiation of sampling on the following day.



The general groundwater flow direction in the Perched Groundwater Zone at the Site is west, with a hydraulic gradient of approximately 0.02 foot per foot in the eastern area of the former Whidbey Marine & Auto Supply facility, and a considerably steeper gradient of 0.10 foot per foot to the west (Figure 3). The general groundwater flow direction in the Sea Level Aquifer at the Site was southeast based on the March 27, 2014 measurements, with a gradient of 0.0005 foot per foot (Figure 4).

2.3.2 Analytical Results

The groundwater analytical results for the March 2014 monitoring event are presented in Table 2. The groundwater analytical results for the Sea Level Aquifer are presented also on Figure 4.

2.3.2.1 Perched Zone Monitoring Well MW-2

ORO was detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected from monitoring well MW-2. DRO was not detected at a concentration exceeding the laboratory reporting limits during the March 2014 monitoring event, although the laboratory reporting limit of 650 micrograms per liter for the DRO analyses exceeded the MTCA Method A cleanup level of 500 micrograms per liter. The elevated laboratory reporting limit was due to required dilutions for the analyses as a result of the concentration of ORO in the sample.

2.3.2.2 Sea Level Aquifer Monitoring Wells

The analytical results for the Sea Level Aquifer monitoring wells sampled during the March 2014 monitoring event at the Site are as follows:

- **Monitoring well MW-10:** None of the constituents analyzed for were detected at concentrations exceeding laboratory reporting limits in the groundwater samples collected.
- **Monitoring well MW-11:** GRO was the only constituent detected at a concentration exceeding MTCA Method A cleanup levels in the groundwater samples collected.
- **Monitoring well MW-12:** DRO, GRO, and all of the BTEX constituents were detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected.
- **Monitoring well MW-13:** DRO, GRO, and all of the BTEX constituents were detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected.
- **Monitoring wells MW-14 through 16:** None of the constituents analyzed for were detected at concentrations exceeding laboratory reporting limits in the groundwater samples collected.



2.3.3 LNAPL Monitoring

Farallon initiated LNAPL monitoring and removal activities following the discovery of LNAPL in monitoring well MW-9 in September 2013. An oil-water interface probe was used to monitor for the presence of LNAPL in other selected monitoring wells at the Site during the March 2014 monitoring event, including monitoring wells MW-6 through MW-13. LNAPL was not detected at these wells, with the exception of monitoring well MW-9.

LNAPL removal from monitoring well MW-9 is accomplished by bailing and by placing hydrophobic oil-sorbent socks in the well following evacuation of LNAPL by bailing. The socks typically are changed at the next monitoring event. LNAPL thickness measured prior to bailing in monitoring well MW-9 ranged from 0.92 foot on February 20, 2014 to 0.38 foot on March 27, 2014. LNAPL thickness in monitoring well MW-9 was measured at 0.51 foot in December 2013. The volume of combined LNAPL and water removed during each monitoring event totals 2 to 2.5 gallons. The removed water/LNAPL was placed into a drum in the fenced and locked remediation compound area behind the former Whidbey Marine & Auto Supply facility.



3.0 SUMMARY AND DISCUSSION

This section presents a summary of analytical results and a general discussion of comparative trends in contaminant concentrations for monitoring wells sampling during the March 2014 monitoring event. Also included are recommendations for additional work at the Site.

3.1 GROUNDWATER CONCENTRATION TRENDS

3.1.1 Perched Groundwater Zone

3.1.1.1 Monitoring Well MW-2

The source of ORO detected in groundwater samples collected from monitoring well MW-2 is unknown, but appears anomalous given the lack of detections in adjacent Perched Groundwater Zone monitoring wells. The laboratory report narrative for March 2014 noted that the chromatogram indicates that the sample contained an unidentified oil-range product. DRO was not detected at a concentration exceeding laboratory reporting limits during the March 2014 monitoring event, although the reporting limits were elevated above the MTCA Method A cleanup level. DRO was detected at a concentration exceeding the MTCA Method A cleanup level in the groundwater sample collected from monitoring well MW-2 during the December 2013 monitoring event. DRO and ORO had not been analyzed for in groundwater samples collected from this or the other Perched Groundwater Zone monitoring wells prior to the December 2013 monitoring event.

Farallon contacted the former owner of the Whidbey Marine & Auto Supply facility regarding possible sources for ORO contamination. Based on this discussion, no obvious sources for ORO contamination in groundwater were identified. Used oil was placed in an above ground tank located inside of the shop area during his ownership of the facility. There are no known underground storage tanks (USTs) that held oil at the Site and the USTs have all been removed. There was no floor drain system in the shop. The hydraulic lift was aboveground with no hydraulic components located beneath the building slab.

Farallon obtained and reviewed chromatograms of calibration standards for ORO analyses from the analytical laboratory that performed the March 2014 groundwater analyses. The chromatogram for the March 2014 ORO analysis for the groundwater sample collected from monitoring MW-2 did not match the standards for either motor oil or hydraulic oil. The best match for the monitoring well MW-2 sample was the standard chromatogram for bunker fuel, which seems highly unlikely as a source for groundwater contamination since bunker fuel was not used or handled at the Site.

3.1.2 Sea Level Aquifer Monitoring Wells

3.1.2.1 Monitoring Well MW-9

Monitoring well MW-9 was not sampled during the March 2014 monitoring event due to the presence of LNAPL. LNAPL thickness has varied from 0.98 foot in September 2012



to less than 0.01 foot in June and July 2013. LNAPL thickness measured during the March 2014 monitoring event was 0.38 foot. The measured LNAPL thickness likely does not represent true LNAPL thickness in the aquifer due to the use of sorbent socks in the monitoring well and the tendency of LNAPL to preferentially accumulate in monitoring wells as a result of groundwater level fluctuations and the higher permeability in the well sand pack relative to aquifer materials. LNAPL removal activities are described in Section 2.3.3, LNAPL Monitoring.

3.1.2.2 Monitoring Well MW-10

None of the constituents analyzed for have been detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected from monitoring well MW-10 since the well was installed in 2009.

3.1.2.3 Monitoring Well MW-11

GRO and BTEX constituent concentrations detected in groundwater samples collected from monitoring well MW-11 were greatly reduced during the December 2013 monitoring event relative to previous events, and continue to decline based on the March 2014 monitoring results. The maximum concentrations of GRO and BTEX detected were in May 2011 following a steady rise since the well was installed in early 2009. GRO was the only constituent detected at a concentration exceeding MTCA Method A cleanup levels in the groundwater samples collected during the March 2014 monitoring event.

3.1.2.4 Monitoring Well MW-12

DRO, GRO, and all of the BTEX constituents were detected at concentrations exceeding MTCA Method A cleanup levels during the March 2014 monitoring event. No significant change in GRO or BTEX concentrations has been detected in groundwater samples collected from monitoring well MW-12 over the past several years. Both DRO and ORO were detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected from monitoring well MW-12 during the December 2013 monitoring event, but ORO was not detected at a concentration exceeding the laboratory reporting limit or the MTCA Method A cleanup level during the March 2014 monitoring event. The laboratory report for March 2014 noted that the DRO result was biased high due to overlap from the volatile (GRO) range. The laboratory report for March 2014 further noted that the sample contained lightly weathered gasoline and weathered diesel. DRO was detected at a concentration exceeding the MTCA Method A cleanup level in a groundwater sample collected from monitoring well MW-12 in February 2010, which was the last monitoring event during which DRO and ORO were analyzed for, prior to December 2013. ORO was detected at a concentration exceeding the laboratory reporting limit, but less than the MTCA Method A cleanup level in the sample collected in February 2010. The source of the diesel and potential oil is not known.



3.1.2.5 Monitoring Well MW-13

DRO, GRO, and all of the BTEX constituents were detected at concentrations exceeding MTCA Method A cleanup levels during the March 2014 monitoring event. The laboratory report for March 2014 noted that the sample contained lightly weathered gasoline and weathered diesel. The laboratory report for March 2014 further noted that the DRO result was biased high due to overlap from the volatile range. The DRO concentrations for the December 2013 and March 2014 monitoring events were similar. The constituent with the greatest increase in concentration between the December 2013 and March 2014 monitoring events was xylenes. The concentrations of GRO, toluene, and ethylbenzene increased slightly from the December 2013 monitoring event, whereas concentrations of benzene decreased slightly.

3.1.2.6 Monitoring Wells MW-14 through MW-16

None of the constituents analyzed for were detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected from monitoring wells MW-14 through MW-16 in either the December 2013 or March 2014 monitoring events. Monitoring wells MW-14 through MW-16 provide a network of sentinel wells for the Sea Level Aquifer in the down-gradient direction of groundwater flow from the former Whidbey Marine & Auto Supply facility and area of LNAPL occurrence at monitoring well MW-9. The lack of detection of GRO, DRO, ORO, and BTEX in the groundwater samples collected from these monitoring wells in December 2013 and March 2014 indicates that the down-gradient extent of these constituents in groundwater has been delineated.

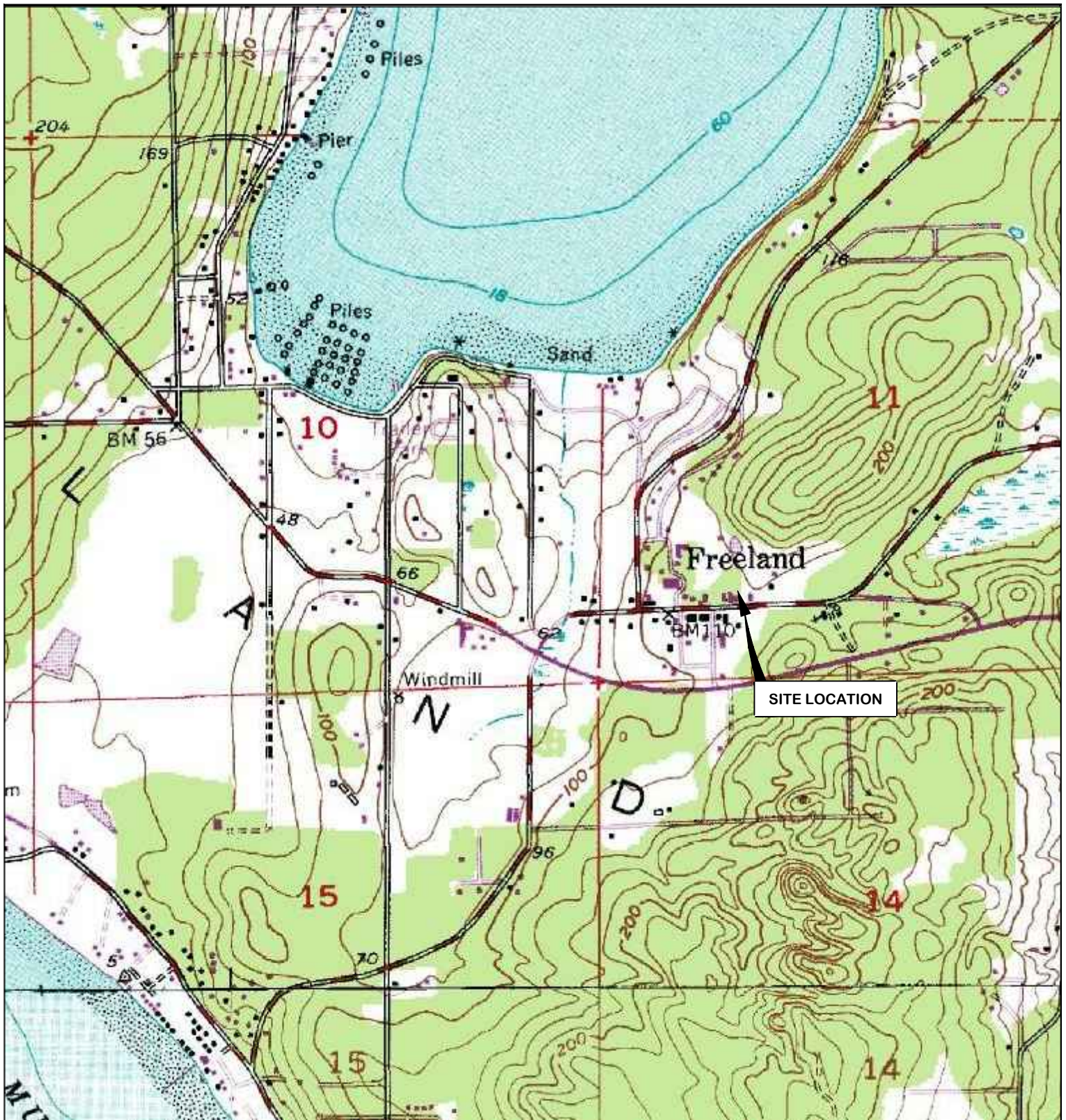
3.2 RECOMMENDATIONS

A Site-wide sampling and monitoring event is recommended for July 2014, including analyses for DRO and ORO for those monitoring wells where these constituents have been previously detected in groundwater samples. Continued monitoring of LNAPL in monitoring well MW-9 is recommended along with routine maintenance of sorbent socks and bailing. An LNAPL recovery bail-down test also is scheduled to help assess the recoverability of LNAPL. Alternative LNAPL-recovery methods should be evaluated based on LNAPL thickness trends and bail-down test results.

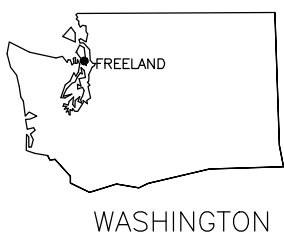
FIGURES

MAY 2014 PROGRESS REPORT Whidbey Marine & Auto Supply Site Freeland, Washington

Farallon PN: 454-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE FREELAND, WASHINGTON. DATED 1993



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Issaquah, WA 98027

FIGURE 1

SITE VICINITY MAP
WHIDBEY MARINE & AUTO SUPPLY SITE
FREELAND, WASHINGTON

FARALLON PN: 454-001

Drawn By: DEW

Checked By: PJ

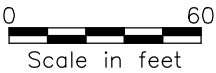
Date: 7/11/07


Disk Reference: 454001



LEGEND

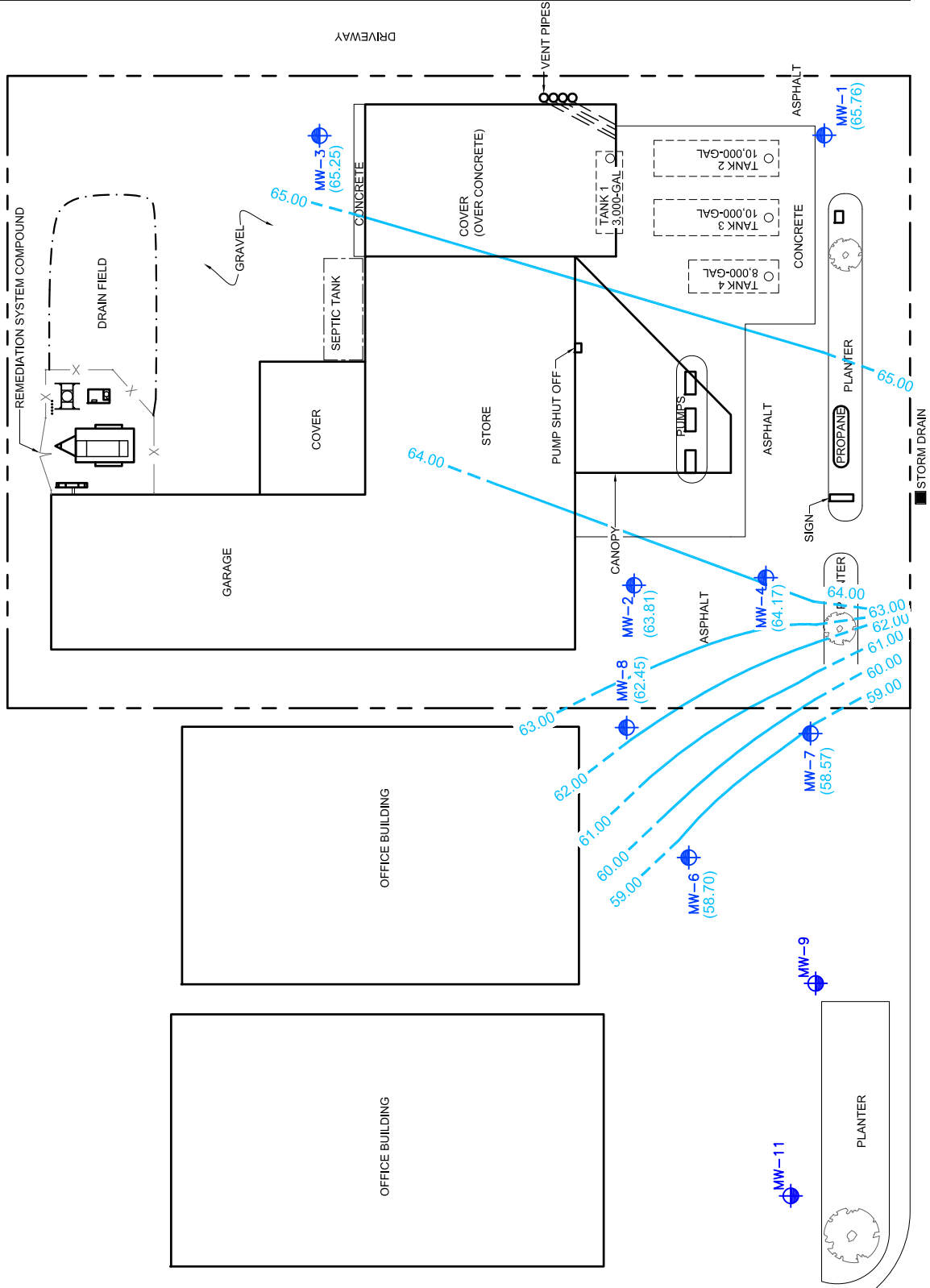
- PERCHED ZONE MONITORING WELL
- SEA LEVEL AQUIFER MONITORING WELL



 FARALLON CONSULTING 975 5th Avenue Northwest Issaquah, WA 98027	FIGURE 2 AERIAL PHOTOGRAPH SHOWING MONITORING WELL LOCATIONS WHIDBEY MARINE & AUTO SUPPLY SITE FREELAND, WA		
	FARALLON PN: 454-001		
Drawn By: DEW	Checked By: PG	Date: 3/11/14	Disk Reference: AERIAL

SOUTH HARBOR AVENUE

MAIN STREET

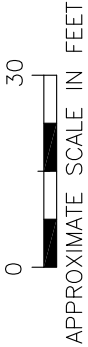


LEGEND

- PERCHED GROUNDWATER ZONE MONITORING WELL
- SEA LEVEL AQUIFER MONITORING WELL (64.39)
- GROUNDWATER ELEVATION FEET ABOVE MEAN SEA LEVEL (MARCH 27, 2014)
- GROUNDWATER ELEVATION CONTOUR
- APPROXIMATE DIRECTION GROUNDWATER FLOW
- SITE BOUNDARY
- UNDERGROUND STORAGE TANK
- TREE

NOTES:

- FOR LOCATIONS OF MONITORING WELLS MW-14 THROUGH MW-16 SEE FIGURE 4
- SURVEYED ELEVATION RELATIVE TO MEAN SEA LEVEL
- ALL LOCATIONS ARE APPROXIMATE



MW-13

MW-12

MW-10

MW-5

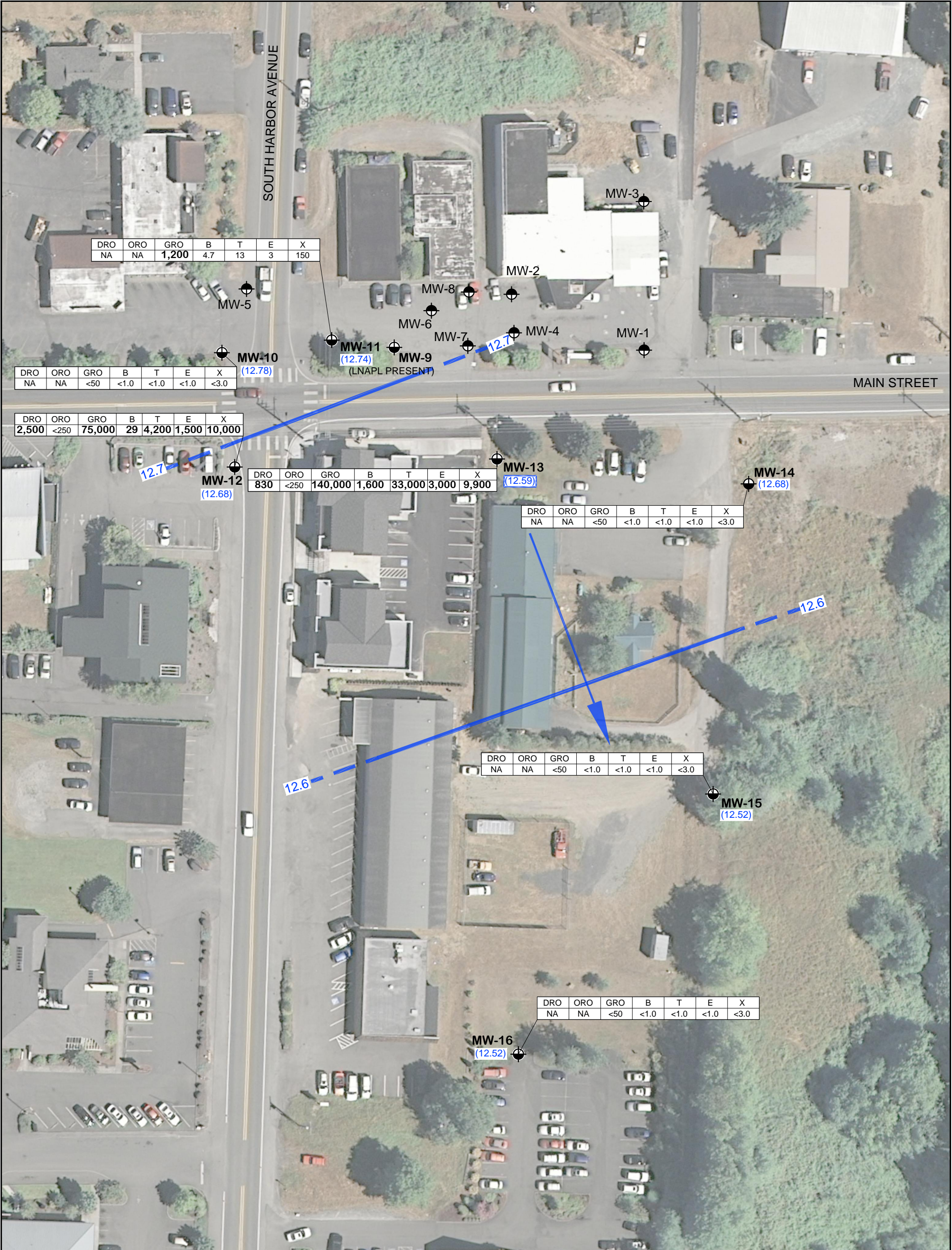
FIGURE 3

SITE PLAN SHOWING MARCH 27, 2014
GROUNDWATER ELEVATION CONTOURS
PERCHED GROUNDWATER ZONE
WHIDBEY MARINE & AUTO SUPPLY SITE
FREELAND, WASHINGTON
FARALLON PN: 454-001



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Issaquah, WA 98027

Drawn By: DEW Checked By: PG Date: 5/7/14 Disk Reference: 454001



LEGEND

PERCHED GROUNDWATER ZONE MONITORING WELL

SEA LEVEL AQUIFER MONITORING WELL

(12.50) GROUNDWATER ELEVATION FEET ABOVE MEAN SEA LEVEL (MARCH 27, 2014)

(12.59) DATA NOT USED FOR CONSTRUCTION OF ELEVATION CONTOURS

12.7 GROUNDWATER ELEVATION CONTOUR

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

ALL GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER

DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS

ORO = TPH AS OIL-RANGE ORGANICS

GRO = TPH AS GASOLINE-RANGE ORGANICS

B = BENZENE

T = TOLUENE

E = ETHYLBENZENE

X = TOTAL XYLENES

BOLD = INDICATES CONCENTRATIONS EXCEED WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION METHOD A CLEANUP LEVELS

<= INDICATES CONCENTRATIONS NOT DETECTED AT OR EXCEEDING THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

NA = NOT ANALYZED

0 60

Scale in feet

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FIGURE 4

AERIAL PHOTOGRAPH SHOWING MARCH 27, 2014 GROUNDWATER ELEVATION CONTOURS AND TPH AND BTEX CONCENTRATIONS IN GROUNDWATER SEA LEVEL AQUIFER WHIDBEY MARINE & AUTO SUPPLY SITE FREELAND, WA

FARALLON PN: 454-001

Drawn By: DEW Checked By: PG Date: 6/3/14 Disk Reference: AERIAL

TABLES

MAY 2014 PROGRESS REPORT Whidbey Marine & Auto Supply Site Freeland, Washington

Farallon PN: 454-001

Table 1
Groundwater Elevation Data
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Well Identification	Groundwater Zone	Date	Top of Well Casing Elevation (feet) ¹	Depth to LNAPL (feet) ²	Depth to Water (feet) ²	Groundwater Elevation (feet) ^{1,3}
MW-1 ⁴	Perched Zone	12/5/05	116.64		52.54	64.10
		6/7/06			52.67	63.97
		10/9/06			51.93	64.71
		1/9/07			51.80	64.84
		3/27/07			51.50	65.14
		6/19/07			51.66	64.98
		12/7/07			51.98	64.66
		4/17/08			51.10	65.54
		6/30/08			51.24	65.40
		8/14/08			51.36	65.28
		9/9/08			51.45	65.19
		10/21/08			51.63	65.01
		1/15/09			51.63	65.01
		5/12/09			51.29	65.35
		8/5/09			51.46	65.18
		2/10/10			51.13	65.51
		10/21/10			51.28	65.36
		5/18/11			50.20	66.44
		11/17/11			49.98	66.66
		5/15/12			51.05	65.59
		12/18/13			51.16	65.48
		3/27/14			50.88	65.76
MW-2	Perched Zone	12/5/05	117.49		55.06	62.43
		6/7/06			55.56	61.93
		10/9/06			54.69	62.80
		1/9/07			54.60	62.89
		3/27/07			54.44	63.05
		6/19/07			54.50	62.99
		12/7/07			54.81	62.68
		4/17/08			54.06	63.43
		6/30/08			54.12	63.37
		8/14/08			54.21	63.28
		9/9/08			54.26	63.23
		10/21/08			54.44	63.05
		1/15/09			54.40	63.09
		5/12/09			54.08	63.41
		8/5/09			54.19	63.30
		2/10/10			53.92	63.57
		10/21/10			54.11	63.38
		5/18/11			53.22	64.27
		11/17/11			53.80	63.69
		5/15/12			53.75	63.74
		7/22/13		ND	53.64	63.85
		12/18/13			53.69	63.80
		3/27/14			53.68	63.81

Table 1
Groundwater Elevation Data
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Well Identification	Groundwater Zone	Date	Top of Well Casing Elevation (feet) ¹	Depth to LNAPL (feet) ²	Depth to Water (feet) ²	Groundwater Elevation (feet) ^{1,3}
MW-3	Perched Zone	12/5/05	117.47		53.48	63.99
		6/7/06			53.96	63.51
		10/9/06			53.26	64.21
		1/9/07			53.02	64.45
		3/27/07			52.82	64.65
		6/19/07			52.70	64.77
		12/7/07			53.33	64.14
		4/17/08			52.50	64.97
		6/30/08			52.66	64.81
		8/14/08			52.76	64.71
		9/9/08			52.84	64.63
		10/21/08			52.99	64.48
		1/15/09			53.01	64.46
		5/12/09			52.64	64.83
		8/5/09			52.79	64.68
		2/10/10			52.50	64.97
		10/21/10			52.63	64.84
		5/18/11			51.63	65.84
		11/17/11			52.28	65.19
		5/15/12			52.31	65.16
MW-4	Perched Zone	12/18/13	117.27		52.49	64.98
		3/27/14			52.22	65.25
		3/27/07			53.94	63.33
		6/19/07			54.02	63.25
		12/7/07			54.28	62.99
		4/17/08			53.58	63.69
		6/30/08			53.64	63.63
		8/14/08			53.71	63.56
		9/9/08			53.76	63.51
		10/21/08			53.89	63.38
		1/15/09			53.88	63.39
		5/12/09			53.50	63.77
		8/5/09			53.65	63.62
		2/10/10			53.44	63.83
		10/21/10			53.58	63.69
		5/18/11			52.76	64.51
		11/17/11			53.28	63.99
		5/15/12			53.31	63.96
		7/22/13		ND	53.14	64.13
		12/18/13			53.39	63.88
		3/27/14			53.10	64.17

Table 1
Groundwater Elevation Data
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Well Identification	Groundwater Zone	Date	Top of Well Casing Elevation (feet)¹	Depth to LNAPL (feet)²	Depth to Water (feet)²	Groundwater Elevation (feet)^{1,3}
MW-6	Perched Zone	4/17/08	116.56		59.84	56.72
		6/30/08			60.07	56.49
		8/14/08			60.26	56.30
		9/9/08			60.35	56.21
		10/21/08			60.47	56.09
		1/15/09			60.50	56.06
		5/12/09			60.34	56.22
		8/5/09			60.49	56.07
		10/21/10			59.45	57.11
		5/18/11			57.76	58.80
		11/17/11			57.75	58.81
		5/15/12			57.10	59.46
		7/22/13		ND	57.68	58.88
		12/18/13		ND	57.90	58.66
		3/27/14		ND	57.86	58.70
MW-7	Perched Zone	4/17/08	116.82		56.98	59.84
		6/30/08			57.42	59.40
		8/14/08			57.87	58.95
		9/9/08			58.25	58.57
		10/21/08			58.34	58.48
		1/15/09			DRY	DRY
		5/12/09			57.43	59.39
		8/5/09			58.32	58.50
		2/10/10			58.24	58.58
		10/21/10			58.30	58.52
		5/18/11			58.05	58.77
		11/17/11			58.72	58.10
		5/15/12			58.73	58.09
		7/22/13		ND	58.24	58.58
		12/18/13		ND	58.22	58.60
		3/27/14		ND	58.25	58.57

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Well Identification	Groundwater Zone	Date	Top of Well Casing Elevation (feet) ¹	Depth to LNAPL (feet) ²	Depth to Water (feet) ²	Groundwater Elevation (feet) ^{1,3}
MW-8	Perched Zone	4/17/08	117.23		55.29	61.94
		6/30/08			55.34	61.89
		8/14/08			55.33	61.90
		9/9/08			55.36	61.87
		10/21/08			55.47	61.76
		1/15/09			55.37	61.86
		5/12/09			55.09	62.14
		8/5/09			55.21	62.02
		2/10/10			54.93	62.30
		10/21/10			55.08	62.15
		5/18/21			54.47	62.76
		11/17/11			54.83	62.40
		5/15/12			54.83	62.40
		12/18/13		ND	54.87	62.36
		3/27/14		ND	54.78	62.45
MW-9	Sea-Level Aquifer	5/12/09	114.79		103.54	11.25
		8/5/09			103.85	10.94
		2/10/10			103.79	11.00
		10/21/10			103.77	11.02
		5/18/11			103.12	11.67
		11/17/11			NM	NM
		5/15/12			103.05	11.74
		9/5/12		102.03	103.01	12.50
		11/8/12		102.15	102.97	12.43
		2/8/13		102.13	103.05	12.42
		5/10/13		101.77	101.78	13.02
		6/11/13		101.67	101.67	13.12
		7/22/13		ND	101.76	13.03
		10/16/13		101.88	102.18	12.83
		11/20/13		101.74	102.23	12.92
		12/18/13		101.85	102.36	12.81
		2/20/14		102.10	103.02	12.45
		3/27/14		102.05	102.43	12.64

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Groundwater Elevation Data
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Well Identification	Groundwater Zone	Date	Top of Well Casing Elevation (feet) ¹	Depth to LNAPL (feet) ²	Depth to Water (feet) ²	Groundwater Elevation (feet) ^{1,3}
MW-10	Sea-Level Aquifer	5/12/09	113.45		102.02	11.43
		8/5/09			102.29	11.16
		2/10/10			102.25	11.20
		10/21/10			101.95	11.50
		5/18/11			101.47	11.98
		11/17/11			100.30	13.15
		5/15/12			100.83	12.62
		9/5/12		ND	100.70	12.75
		11/8/12		ND	100.82	12.63
		2/8/13		ND	100.82	12.63
		5/10/13		ND	100.29	13.16
		6/11/13		ND	100.21	13.24
		7/22/13		ND	100.30	13.15
		10/16/13		ND	100.48	12.97
		11/20/13		ND	100.36	13.09
		12/18/13		ND	100.56	12.89
		2/20/14			100.74	12.71
		3/27/14		ND	100.67	12.78
MW-11	Sea-Level Aquifer	5/12/09	114.24		102.82	11.42
		8/5/09			103.09	11.15
		2/10/10			103.09	11.15
		10/21/10			102.82	11.42
		5/18/11			102.31	11.93
		11/17/11			NM	NM
		5/15/12			101.64	12.60
		9/5/12		ND	101.54	12.70
		11/8/12		ND	101.66	12.58
		2/8/13		ND	101.65	12.59
		5/10/13		ND	101.14	13.10
		6/11/13		ND	101.06	13.18
		7/22/13		ND	101.41	12.83
		10/16/13		ND	101.31	12.93
		11/20/13		ND	101.20	13.04
		12/18/13		ND	101.31	12.93
		2/20/14		ND	101.62	12.62
		3/27/14		ND	101.50	12.74

Table 1
Groundwater Elevation Data
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Freeland, Washington
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Well Identification	Groundwater Zone	Date	Top of Well Casing Elevation (feet) ¹	Depth to LNAPL (feet) ²	Depth to Water (feet) ²	Groundwater Elevation (feet) ^{1,3}
MW-12	Sea-Level Aquifer	5/12/09	114.23		103.96	10.27
		8/5/09			103.24	10.99
		2/10/10			103.36	10.87
		10/21/10			102.90	11.33
		5/18/11			103.37	10.86
		11/17/11			NM	NM
		5/15/12			101.69	12.54
		9/5/12		ND	101.60	12.63
		11/8/12		ND	101.72	12.51
		2/8/13		ND	101.72	12.51
		5/10/13		ND	101.21	13.02
		6/11/13		ND	101.11	13.12
		7/22/13		ND	100.21	14.02
		10/16/13		ND	101.39	12.84
		11/20/13		ND	101.27	12.96
		12/18/13		ND	101.4	12.83
		2/20/14		ND	101.70	12.53
		3/27/14		ND	101.55	12.68
MW-13	Sea-Level Aquifer	12/18/13	116.34	ND	103.56	12.78
		2/20/14		ND	103.90	12.44
		3/27/14		ND	103.75	12.59
MW-14	Sea-Level Aquifer	12/18/13	116.22		103.61	12.61
		2/20/14			103.73	12.49
		3/27/14			103.54	12.68
MW-15	Sea-Level Aquifer	12/18/13	116.73		104.23	12.50
		2/20/14			104.45	12.28
		3/27/14			104.21	12.52
MW-16	Sea-Level Aquifer	12/18/13	116.92		104.46	12.46
		2/20/14			104.68	12.24
		3/27/14			104.40	12.52

NOTES:

¹Feet above mean sea level, based on May 2008 survey data.

²Feet below top of well casing.

³Groundwater elevation at monitoring well MW-9 corrected as follows: (Casing Elevation - Depth to Water) + (LNAPL Thickness x LNAPL Specific Gravity) = Corrected Groundwater Elevation using a specific gravity for gasoline of 0.74.

⁴Top of well casing elevation adjusted using change in total depth measurements before and after change in well casing length following soil vapor extraction system installation.

ND = not detected

LNAPL = light non-aqueous phase liquid

Table 2
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Sample Location	Groundwater Zone	Sample Identification	Sample Date	Analytical Results (micrograms per liter)						
				DRO ¹	ORO ¹	GRO ²	Benzene ³	Toluene ³	Ethyl-benzene ³	Xylenes ³
MW-1	Perched Zone	MW1-120505	12/5/05	-	-	4,200	480	770	65	318
		MW1-060706	6/7/06	-	-	5,800	500	1,000	70	780
		MW-1-100906	10/9/06	-	-	17,000	2,400	3,800	270	2,200
		MW1-010907	1/9/07	-	-	1,500	14	6	11	120
		QA/QC-010907	1/9/07	-	-	1,500	11	6	10	110
		MW1-032707	3/27/07	-	-	290	1	1	<1	17
		QA/QC-032707	3/27/07	-	-	320	1	<1	<1	19
		MW1-061907	6/19/07	-	-	73	<1	<1	<1	<3
		MW1-120707	12/7/07	-	-	110	<1	<1	<1	<3
		MW1-041808	4/18/08	-	-	74	<1	<1	<1	<3
		MW1-090908	9/9/08	-	-	68	<1	<1	<1	<3
		MW1-051409	5/14/09	-	-	<50	<1	<1	<1	<3
		MW1-021110	2/11/10	-	-	<50	<1	<1	<1	<3
		MW1-102110	10/21/10	-	-	<50	<1	<1	<1	<3
		MW1-051811	5/18/11	-	-	<50	<1	<1	<1	<3
		MW-1-111711	11/17/11	-	-	<50	<1.0	<1.0	<1.0	<3.0
		MW-1-051512	5/15/12	-	-	<50	<1.0	<1.0	<1.0	<3.0
		MW-1-121913	12/19/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
MW-2	Perched Zone	MW2-120505	12/5/05	-	-	570	110	110	2.8	50
		MW2-060706	6/7/06	-	-	2,800	440	540	15	430
		MW2-100906	10/9/06	-	-	370	20	44	1	77
		MW2-010907	1/9/07	-	-	730	35	69	11	150
		MW2-032707	3/27/07	-	-	610	6	9	<1	150
		MW2-061907	6/19/07	-	-	1,000	17	52	22	200
		MW2-120707	12/7/07	-	-	2,300	7	310	36	270
		MW2-041808	4/18/08	-	-	3,700	<1	57	33	890
		MW2-090908	9/9/08	-	-	20,000	<50	3,100	470	4,200
		MW2-051309	5/13/09	-	-	4,300	<5	380	130	1,100
		MW2-021110	2/11/10	-	-	15,000	<10	160	590	3,800
		MW2-102210	10/22/10	-	-	12,000	50	15	420	2,400
		MW2-032111	3/21/11	-	-	7,000	<10	1.9	31	1,400
		MW-2-111711	11/17/11	-	-	130	<1.0	1.5	1.3	10
		MW-2-051512	5/15/12	-	-	210	1.9	<1.0	1.1	13
		MW-2-121913	12/19/13	5,400	11,000	82	<1.0	<1.0	<1.0	<3.0
		MW-2-032814	3/28/14	<650	12,000	-	-	-	-	-
MW-3	Perched Zone	MW3-120505	12/5/05	-	-	<100	<1.0	<1.0	<1.0	<2.0
		FD-120505	12/5/05	-	-	<100	<1.0	<1.0	<1.0	<2.0
		MW3-060706	6/7/06	-	-	<50	<1	<1	<1	<3
		MW3-100906	10/9/06	-	-	<50	<1	<1	<1	<3
		MW3-010907	1/9/07	-	-	<50	<1	<1	<1	<3
MTCA Method A Cleanup Levels for Groundwater ⁶				500	500	800	5	1,000	700	1,000

Table 2
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Sample Location	Groundwater Zone	Sample Identification	Sample Date	Analytical Results (micrograms per liter)						
				DRO ¹	ORO ¹	GRO ²	Benzene ³	Toluene ³	Ethyl-benzene ³	Xylenes ³
MW-3	Perched Zone	MW3-032707	3/27/07	-	-	<50	<1	<1	<1	<3
		MW3-061907	6/19/07	-	-	<50	<1	<1	<1	<3
		QA/QC-061907	6/19/07	-	-	<50	<1	<1	<1	<3
		MW3-120707	12/7/07	-	-	<50	<1	<1	<1	<3
		MW3-041808	4/18/08	-	-	<50	<1	<1	<1	<3
		MW3-090908	9/9/08	-	-	<50	<1	<1	<1	<3
		MW3-051409	5/14/09	-	-	<50	<1	<1	<1	<3
		MW3-021110	2/11/10	-	-	<50	<1	<1	<1	<3
		MW3-102110	10/21/10	-	-	<50	<1	<1	<1	<3
		MW3-051811	5/18/11	-	-	<50	<1	1.1	<1	<3
		MW-3-111711	11/17/11	-	-	<50	<1.0	<1	<1.0	<3.0
		MW-3-051512	5/15/12	-	-	<50	<1.0	<1	<1.0	<3.0
		MW-3-121913	12/19/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
MW-4	Perched Zone	MW4-032707	3/27/07	-	-	99,000	31,000	32,000	970	6,000
		MW4-061907	6/19/07	-	-	110,000	22,000	36,000	1,600	8,200
		MW4-120707	12/7/07	-	-	39,000	7,600	12,000	300	2,400
		QA/QC-120707	12/7/07	-	-	60,000	9,500	18,000	710	4,700
		MW4-041808	4/18/08	-	-	140,000	530	42,000	1,600	9,400
		MW4-090908	9/9/08	-	-	120,000	150	40,000	2,000	11,000
		QA/QC-1-090908	9/9/08	-	-	120,000	150	43,000	1,900	11,000
		MW4-051409	5/14/09	680 ⁴	<250	83,000	<50	30,000	1,100	6,600
		MW4-021110	2/11/10	-	-	71,000	<50	20,000	940	5,900
		MW4-102110	10/21/10	-	-	32,000	<10	4,200	1,100	6,600
		MW4-032111	3/21/11	-	-	32,000	<10	160	870	6,900
		MW4-051811	5/18/11	-	-	33,000	<10	550	840	6,700
		MW-4-111811	11/18/11	-	-	2,300	<5.0	20	110	610
		MW-4-051612	5/16/12	-	-	5,200	<10	12	77	1,500
		MW-4-121913	12/19/13	<630 ⁵	<250	41,000	<25	<25	280	11,000
MW-6	Perched Zone	MW6-041708	4/18/08	-	-	23,000	260	1,500	530	3,600
		MW6-090908	9/9/08	-	-	42,000	450	8,500	1,300	7,800
		MW6-051409	5/14/09	-	-	17,000	29	3,200	250	3,100
		MW6-021110	2/11/10	-	-	89,000	<100	16,000	1,800	14,000
		MW6-102210	10/22/10	-	-	39,000	<10	1,800	1,200	7,800
		MW6-032111	3/21/11	-	-	37,000	<20	350	650	9,200
		MW6-051811	5/18/11	-	-	49,000	<25	270	690	11,000
		MW-6-111711	11/17/11	-	-	22,000	<20	1,200	520	5,400
		MW-6-051512	5/15/12	-	-	17,000	<20	220	210	3,700
MW-6-121913	12/19/13	<250 ⁵	<250	8,900	<5.0	<5.0	120	1,700		
MW-7	Perched Zone	MW7-041808	4/18/08	-	-	54,000	13,000	17,000	420	3,700
		MW7-051409	5/14/09	-	-	13,000	2,500	3,700	180	1,700
MTCA Method A Cleanup Levels for Groundwater ⁶				500	500	800	5	1,000	700	1,000

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Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Sample Location	Groundwater Zone	Sample Identification	Sample Date	Analytical Results (micrograms per liter)						
				DRO ¹	ORO ¹	GRO ²	Benzene ³	Toluene ³	Ethyl-benzene ³	Xylenes ³
MW-8	Perched Zone	MW8-041808	4/18/08	-	-	5,400	<1	57	57	890
		QA/QC-1-041808	4/18/08	-	-	5,600	<1	42	55	930
		MW8-090908	9/9/08	-	-	34,000	<50	3,500	670	6,700
		MW8-051309	5/13/09	-	-	60,000	<50	9,000	1,800	9,500
		QA/QC-051309	5/13/09	-	-	57,000	<50	8,900	1,700	9,400
		MW8-021110	2/11/10	-	-	54,000	<50	3,900	2,000	12,000
		MW8-102210	10/22/10	-	-	58,000	<10	770	2,200	15,000
		MW8-032111	3/21/11	-	-	17,000	<10	<10	600	2,900
		MW8-051811	5/18/11	-	-	2,900	<1	2.3	23	320
		MW-8-111711	11/17/11	-	-	47,000	<50	<50	1,200	12,000
		DUP-1-111711	11/17/11	-	-	47,000	<50	<50	1,200	12,000
		MW-8-051512	5/15/12	-	-	46,000	<50	<50	930	10,000
		DUP-1-051512	5/15/12	-	-	42,000	<50	<50	900	9,700
		MW-8-121913	12/19/13	<630 ⁵	<250	24,000	<25	<25	150	4,200
MW-9	Sea Level Aquifer	MW9-051309	5/13/09	800 ⁴	<250	94,000	18,000	32,000	1,500	7,600
		MW9-021010	2/10/10	-	-	32,000	10,000	9,800	390	1,800
		MW9-102210	10/22/10	-	-	160,000	15,000	42,000	2,700	14,000
		MW9-032111	3/21/11	-	-	260,000	13,000	55,000	5,300	27,000
		MW9-051811	5/18/11	-	-	230,000	18,000	55,000	4,000	21,000
		MW-9-111811	11/18/11	-	-	240,000	19,000	68,000	4,400	23,000
		MW-9-051612	5/16/12	-	-	280,000	13,000	59,000	4,700	25,000
MW-10	Sea Level Aquifer	MW10-051309	5/13/09	<130	<250	<50	<1	2	<1	<3
		MW10-021010	2/10/10	-	-	140	<1	3.3	1.5	7.3
		MW10-102210	10/22/10	-	-	<50	<1	4.0	<1	3.2
		MW10-051811	5/18/11	-	-	69	<1	2.6	<1	<3
		MW-10-111711	11/17/11	-	-	<50	<1.0	<1.0	<1.0	<3.0
		MW-10-051512	5/15/12	-	-	<50	<1.0	<1.0	<1.0	<3.0
		MW-10-121913	12/19/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
MW-11	Sea Level Aquifer	MW-10-032714	3/27/14	-	-	<50	<1.0	<1.0	<1.0	<3.0
		MW11-051309	5/13/09	<130	<250	2,300	500	530	19	230
		MW11-021010	2/10/10	-	-	23,000	4,000	7,000	340	1,600
		MW11-102210	10/22/10	-	-	29,000	2,400	7,400	790	2,800
		MW11-051811	5/18/11	-	-	70,000	3,100	15,000	1,500	7,200
		MW-11-111811	11/18/11	-	-	24,000	670	3,700	820	3,000
		MW-11-051612	5/16/12	-	-	19,000	700	2,200	700	2,700
		MW-11-122013	12/20/13	<130	<250	2,800	8	64	26	440
MW-12	Sea Level Aquifer	MW-11-032814	3/28/14	-	-	1,200	4.7	13	3	150
		MW12-051309	5/13/09	<1,300 ⁵	<250	55,000	200	8,900	1,700	9,700
		MW12-021010	2/10/10	2,600 ⁴	310	52,000	92	3,900	1,300	8,400
		MW12-102210	10/22/10	-	-	81,000	120	5,300	2,100	14,000
		MW12-051811	5/18/11	-	-	69,000	83	4,400	1,700	11,000
		MW-12-111711	11/17/11	-	-	68,000	82	4,700	1,500	11,000
		MW-12-051512	5/15/12	-	-	77,000	<100	5,100	1,700	13,000
		MW-12-122013	12/20/13	2,500 ⁴	790	78,000	38	3,300	1,200	11,000
MTCA Method A Cleanup Levels for Groundwater ⁶				500	500	800	5	1,000	700	1,000

Table 2
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Sample Location	Groundwater Zone	Sample Identification	Sample Date	Analytical Results (micrograms per liter)						
				DRO ¹	ORO ¹	GRO ²	Benzene ³	Toluene ³	Ethylbenzene ³	Xylenes ³
MW-13	Sea Level Aquifer	MW-13-121913	12/19/13	1,000 ⁴	<250	120,000	2,500	30,000	1,100	5,700
		QAQC-1-121913	12/19/13	820 ⁴	290	110,000	2,500	28,000	1,100	5,600
		MW-13-032814	3/28/14	780 ⁴	<250	140,000	1,600	33,000	2,000	9,900
		QA/QC-032814	3/28/14	830 ⁴	<250	140,000	1,600	31,000	1,900	9,600
MW-14	Sea Level Aquifer	MW-14-121813	12/18/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
		MW-14-032714	3/27/14	-	-	<50	<1.0	<1.0	<1.0	<3.0
MW-15	Sea Level Aquifer	MW-15-121813	12/18/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
		MW-15-032714	3/27/14	-	-	<50	<1.0	<1.0	<1.0	<3.0
MW-16	Sea Level Aquifer	MW-16-121813	12/18/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
		MW-16-032714	3/27/14	-	-	<50	<1.0	<1.0	<1.0	<3.0
MTCA Method A Cleanup Levels for Groundwater ⁶				500	500	800	5	1,000	700	1,000

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

Results in **bold** denote concentration or laboratory reporting limit exceeds applicable cleanup levels.

¹Analyzed by Northwest Method NWTPH-Dx

²Analyzed by Northwest Method NWTPH-Gx.

³Analyzed by U.S. Environmental Protection Agency Method 8021B.

⁴Laboratory report narrative indicates DRO result is biased high due to GRO overlap.

⁵Laboratory report narrative indicates reporting limit for DRO is elevated due to GRO overlap.

⁶Washington State Model Toxics Control Act Cleanup Regulation Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised November 2007.

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = TPH as diesel-range organics

GRO = TPH as gasoline-range organics

ORO = TPH as oil-range organics

TPH = total petroleum hydrocarbons

- = not analyzed

APPENDIX A
LABORATORY ANALYTICAL REPORT

MAY 2014 PROGRESS REPORT
Whidbey Marine & Auto Supply Site
Freeland, Washington

Farallon PN: 454-001



April 3, 2014

Mr. Paul Grabau
Farallon Consulting
1201 Cornwall Ave, Suite 105
Bellingham, WA 98225

Dear Mr. Grabau,

On March 28th, 10 samples were received by our laboratory and assigned our laboratory project number EV14030208. The project was identified as your 454-001. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
CLIENT CONTACT:	Paul Grabau	ALS JOB#:	EV14030208
CLIENT PROJECT:	454-001	ALS SAMPLE#:	EV14030208-01
CLIENT SAMPLE ID	MW-15-032714	DATE RECEIVED:	03/28/2014
		COLLECTION DATE:	3/27/2014 4:24:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	04/01/2014	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	04/01/2014	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	04/01/2014	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	04/01/2014	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	04/01/2014	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	103	04/01/2014	DLC
TFT	EPA-8021	91.7	04/01/2014	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
		ALS JOB#:	EV14030208
CLIENT CONTACT:	Paul Grabau	ALS SAMPLE#:	EV14030208-02
CLIENT PROJECT:	454-001	DATE RECEIVED:	03/28/2014
CLIENT SAMPLE ID	MW-16-032714	COLLECTION DATE:	3/27/2014 5:06:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	03/31/2014	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	03/31/2014	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	100	03/31/2014	DLC
TFT	EPA-8021	89.8	03/31/2014	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
		ALS JOB#:	EV14030208
CLIENT CONTACT:	Paul Grabau	ALS SAMPLE#:	EV14030208-03
CLIENT PROJECT:	454-001	DATE RECEIVED:	03/28/2014
CLIENT SAMPLE ID	MW-14-032714	COLLECTION DATE:	3/27/2014 6:00:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	03/31/2014	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	03/31/2014	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	95.4	03/31/2014	DLC
TFT	EPA-8021	87.0	03/31/2014	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
		ALS JOB#:	EV14030208
CLIENT CONTACT:	Paul Grabau	ALS SAMPLE#:	EV14030208-04
CLIENT PROJECT:	454-001	DATE RECEIVED:	03/28/2014
CLIENT SAMPLE ID	MW-10-032714	COLLECTION DATE:	3/27/2014 6:50:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	03/31/2014	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	03/31/2014	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	99.6	03/31/2014	DLC
TFT	EPA-8021	88.8	03/31/2014	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
CLIENT CONTACT:	Paul Grabau	ALS JOB#:	EV14030208
CLIENT PROJECT:	454-001	ALS SAMPLE#:	EV14030208-05
CLIENT SAMPLE ID	MW-11-032814	DATE RECEIVED:	03/28/2014
		COLLECTION DATE:	3/28/2014 8:42:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	1200	50	1	UG/L	03/31/2014	DLC
Benzene	EPA-8021	4.7	1.0	1	UG/L	03/31/2014	DLC
Toluene	EPA-8021	13	1.0	1	UG/L	03/31/2014	DLC
Ethylbenzene	EPA-8021	2.9	1.0	1	UG/L	03/31/2014	DLC
Xylenes	EPA-8021	150	3.0	1	UG/L	03/31/2014	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	129	03/31/2014	DLC
TFT	EPA-8021	142 GS3	03/31/2014	DLC

GS3 - Surrogate outside of control limits due to coeluting compounds.
Chromatogram indicates that it is likely that sample contains lightly weathered gasoline.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
		ALS JOB#:	EV14030208
CLIENT CONTACT:	Paul Grabau	ALS SAMPLE#:	EV14030208-06
CLIENT PROJECT:	454-001	DATE RECEIVED:	03/28/2014
CLIENT SAMPLE ID	MW-12-032814	COLLECTION DATE:	3/28/2014 10:27:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	75000	2500	50	UG/L	04/01/2014	DLC
Benzene	EPA-8021	29	20	20	UG/L	03/31/2014	DLC
Toluene	EPA-8021	4200	50	50	UG/L	04/01/2014	DLC
Ethylbenzene	EPA-8021	1500	20	20	UG/L	03/31/2014	DLC
Xylenes	EPA-8021	10000	60	20	UG/L	03/31/2014	DLC
TPH-Diesel Range	NWTPH-DX	2500	130	1	UG/L	03/31/2014	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	03/31/2014	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 50X Dilution	NWTPH-GX	112	04/01/2014	DLC
TFT 20X Dilution	EPA-8021	107	03/31/2014	DLC
TFT 50X Dilution	EPA-8021	89.4	04/01/2014	DLC
C25	NWTPH-DX	76.1	03/31/2014	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
 Chromatogram indicates that it is likely that sample contains lightly weathered gasoline and weathered diesel.
 Diesel range product results biased high due to gasoline range product overlap.



CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
CLIENT CONTACT:	Paul Grabau	ALS JOB#:	EV14030208
CLIENT PROJECT:	454-001	ALS SAMPLE#:	EV14030208-07
CLIENT SAMPLE ID	MW-13-032814	DATE RECEIVED:	03/28/2014
		COLLECTION DATE:	3/28/2014 11:27:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	140000	5000	100	UG/L	04/01/2014	DLC
Benzene	EPA-8021	1600	100	100	UG/L	04/01/2014	DLC
Toluene	EPA-8021	33000	200	200	UG/L	04/01/2014	DLC
Ethylbenzene	EPA-8021	2000	100	100	UG/L	04/01/2014	DLC
Xylenes	EPA-8021	9900	300	100	UG/L	04/01/2014	DLC
TPH-Diesel Range	NWTPH-DX	780	130	1	UG/L	04/01/2014	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	04/01/2014	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 100X Dilution	NWTPH-GX	99.3	04/01/2014	DLC
TFT 200X Dilution	EPA-8021	91.2	04/01/2014	DLC
TFT 100X Dilution	EPA-8021	86.4	04/01/2014	DLC
C25	NWTPH-DX	76.5	04/01/2014	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lightly weathered gasoline and weathered diesel.
Diesel range product results biased high due to gasoline range product overlap.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
CLIENT CONTACT:	Paul Grabau	ALS JOB#:	EV14030208
CLIENT PROJECT:	454-001	ALS SAMPLE#:	EV14030208-08
CLIENT SAMPLE ID	QA/QC-032814	DATE RECEIVED:	03/28/2014
		COLLECTION DATE:	3/28/2014 11:32:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	140000	10000	200	UG/L	04/02/2014	DLC
Benzene	EPA-8021	1600	50	50	UG/L	04/01/2014	DLC
Toluene	EPA-8021	31000	50	50	UG/L	04/01/2014	DLC
Toluene	EPA-8021	33000	200	200	UG/L	04/02/2014	DLC
Ethylbenzene	EPA-8021	1900	50	50	UG/L	04/01/2014	DLC
Xylenes	EPA-8021	9600	150	50	UG/L	04/01/2014	DLC
TPH-Diesel Range	NWTPH-DX	830	130	1	UG/L	04/01/2014	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	04/01/2014	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 200X Dilution	NWTPH-GX	115	04/02/2014	DLC
TFT 50X Dilution	EPA-8021	88.7	04/01/2014	DLC
TFT 200X Dilution	EPA-8021	94.9	04/02/2014	DLC
C25	NWTPH-DX	78.2	04/01/2014	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
 Chromatogram indicates that it is likely that sample contains lightly weathered gasoline and weathered diesel.
 Diesel range product results biased high due to gasoline range product overlap.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
		ALS JOB#:	EV14030208
CLIENT CONTACT:	Paul Grabau	ALS SAMPLE#:	EV14030208-09
CLIENT PROJECT:	454-001	DATE RECEIVED:	03/28/2014
CLIENT SAMPLE ID	MW-2-032814	COLLECTION DATE:	3/28/2014 2:31:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	650	5	UG/L	04/01/2014	EBS
TPH-Oil Range	NWTPH-DX	12000	1200	5	UG/L	04/01/2014	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25 5X Dilution	NWTPH-DX	81.2	04/01/2014	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains an unidentified oil range product.

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	4/3/2014
		ALS SDG#:	EV14030208
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Paul Grabau		
CLIENT PROJECT:	454-001		

LABORATORY BLANK RESULTS
MB-033114W - Batch 7765 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	03/31/2014	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-033114W - Batch 7765 - Water by EPA-8021

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	03/31/2014	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	03/31/2014	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-033114W - Batch 7771 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	03/31/2014	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	03/31/2014	EBS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Farallon Consulting
1201 Cornwall Ave, Suite 105
Bellingham, WA 98225

DATE: 4/3/2014
ALS SDG#: EV14030208
WDOE ACCREDITATION: C601

CLIENT CONTACT: Paul Grabau
CLIENT PROJECT: 454-001

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 7765 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	72.9			03/31/2014	DLC
TPH-Volatile Range - BSD	NWTPH-GX	74.1	2		03/31/2014	DLC

ALS Test Batch ID: 7765 - Water by EPA-8021

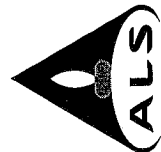
SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Benzene - BS	EPA-8021	90.8			03/31/2014	DLC
Benzene - BSD	EPA-8021	93.7	3		03/31/2014	DLC
Toluene - BS	EPA-8021	92.0			03/31/2014	DLC
Toluene - BSD	EPA-8021	94.5	3		03/31/2014	DLC
Ethylbenzene - BS	EPA-8021	91.1			03/31/2014	DLC
Ethylbenzene - BSD	EPA-8021	93.6	3		03/31/2014	DLC
Xylenes - BS	EPA-8021	91.3			03/31/2014	DLC
Xylenes - BSD	EPA-8021	93.8	3		03/31/2014	DLC

ALS Test Batch ID: 7771 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	71.2			03/31/2014	EBS
TPH-Diesel Range - BSD	NWTPH-DX	72.0	1		03/31/2014	EBS

APPROVED BY

Laboratory Director



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job#

(Laboratory Use Only)

EV14030208

Date 03/28/14 Page 1 Of

PROJECT ID: 454-001
REPORT TO: farallon consulting
COMPANY:
PROJECT MANAGER: Paul Grabau
ADDRESS: 1726 Electric Ave
Bellingham, WA 98226
PHONE: (360) 527 0241 FAX:
P.O. #: 454-001 E-MAIL: pgrabau@farallonconsulting.com
INVOICE TO: COIONY Insurance
COMPANY:
ATTENTION: Carol Lybeer
ADDRESS:

ANALYSIS REQUESTED

MTBE by EPA-8021	<input type="checkbox"/>	EPA-8260	<input type="checkbox"/>
Halogenated Volatiles by EPA 8260			
Volatile Organic Compounds by EPA 8260			
EDB / EDC by EPA 8260 SIM (water)			
EDB / EDC by EPA 8260 (soil)			
Semivolatile Organic Compounds by EPA 8270			
Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM			
PCB	<input type="checkbox"/>	Pesticides	<input type="checkbox"/> by EPA 8081/8082
Metals-MTCA-5	<input type="checkbox"/>	RCRA-8	<input type="checkbox"/> Pb Pol <input type="checkbox"/> TAL
Metals Other (Specify)			
TCLP-Metals	<input type="checkbox"/>	VOA	<input type="checkbox"/> Semi-Vol <input type="checkbox"/> Pest <input type="checkbox"/> Herbs

OTHER (Specify)

RECEIVED IN GOOD CONDITION?	
NUMBER OF CONTAINERS	2

SAMPLE I.D.	DATE	TIME	TYPE	LAB#
1. MW-15-032714	03/27/14	1624	W	1
2. MW-16-032714	03/27/14	1706		2
3. MW-14-032714	03/27/14	1800		3
4. MW-10-032714	03/27/14	1850		4
5. MW-11-032814	03/28/14	0842		5
6. MW-12-032814	03/28/14	1027		6
7. MW-13-032814	03/28/14	1127		7
8. OA/OC-032814	03/28/14	1132		8
9. MW-2-032814	3/28/14	1431		9
10. Trip Blank	3/28/14	—		10

LABORATORY COPY

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Amber Bailey 3/28/14 4:05
Received By: Shawn Robinson AS 3/28/14 4:05
2. Relinquished By:
Received By:

TURNAROUND REQUESTED IN Business Days*
OTHER:

Organic, Metals & Inorganic Analysis
Specify: ☐ 10 Standard ☐ 5 ☐ 3 ☐ 2 ☐ 1 SAME DAY
Fuels & Hydrocarbon Analysis
☒ Standard ☐ 3 ☐ 1 SAME DAY

* Turnaround request less than standard may incur Rush Charges