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DECEMBER 2013 PROGRESS REPORT

WHIDBEY MARINE & AUTO SUPPLY SITE
FREELAND, WASHINGTON

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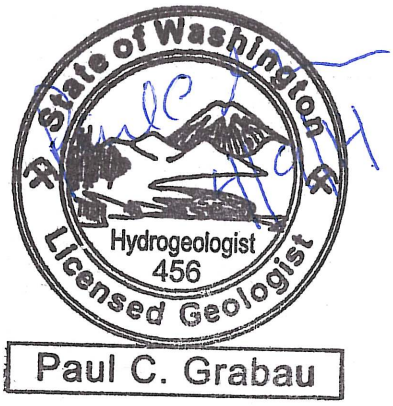

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ACRONYMS AND ACRONYMS

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
DRO	total petroleum hydrocarbons as diesel-range organics
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
GRO	total petroleum hydrocarbons as gasoline-range organics
LNAPL	light nonaqueous-phase liquid
mg/kg	milligrams per kilogram
msl	mean sea level
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
ORC-A	Oxygen Release Compound-Advanced
ORO	total petroleum hydrocarbons as oil-range organics
PID	photoionization detector
SVE	soil vapor extraction
TPH	total petroleum hydrocarbons
UST	underground storage tank
WAC	Washington Administrative Code

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this progress report to document the status of the cleanup action related to the release of gasoline from the underground storage tank (UST) 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 hydrocarbons constituents in soil and/or groundwater exceed the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels as a result of releases 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 the installation of four groundwater monitoring wells in the Sea Level Aquifer and Site-wide groundwater monitoring and sampling activities in December 2013. Periodic monitoring activities conducted during 2012 and 2013 also are discussed, including measurement of depth to groundwater in selected monitoring wells, and measurement of the thickness of light non-aqueous phase liquid (LNAPL) in monitoring well MW-9.

The report is organized as follows:

- Section 2 provides background information related to the cleanup action at the Site.
- Section 3 describes the December 2013 groundwater monitoring well installation activities, including soil sampling and soil analytical results.
- Section 4 describes the December 2013 groundwater monitoring activities and results along with periodic LNAPL monitoring activities in 2012 and 2013.
- Section 5 provides an updated conceptual site model for the Site.
- Section 6 presents a summary and discussion regarding the monitoring well installation and groundwater monitoring activities.

2.0 BACKGROUND

Environmental investigation and cleanup activities have been ongoing at the Site following the discovery and reporting of a release of gasoline from a UST in 2005. The initial investigation and cleanup activities were focused on the Perched Groundwater Zone found at approximately 55 feet below ground surface (bgs) beneath the former Whidbey Marine & Auto Supply facility and adjacent properties. Total petroleum hydrocarbons (TPH) as gasoline-range organics (GRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected at concentrations exceeding MTCA Method A cleanup levels in soil samples, and in groundwater samples collected from various Site monitoring wells.

Environmental investigation activities conducted at the Site included installation of eight groundwater monitoring wells within the Perched Groundwater Zone between 2005 and 2008, and four monitoring wells in 2009 within the Sea Level Aquifer, found at approximately 105 feet bgs beneath the Site. The Perched Groundwater Zone monitoring wells are designated MW-1 through MW-8, and the Sea Level Aquifer monitoring wells are designated MW-9 through MW-12 (Figure 2).

GRO and BTEX constituents have been detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected from various Perched Groundwater Zone monitoring wells and from Sea Level Aquifer monitoring wells MW-9, MW-11, and MW-12. The direction of groundwater flow within the Sea Level Aquifer at the Site is southeast, whereas the direction of groundwater flow in the Perched Groundwater Zone is west-southwest. The Sea Level Aquifer is used as a drinking water aquifer south of the Site. The Freeland Water and Sewer District operates four drinking water productions wells approximately 1,900 to 2,900 feet south and south-southeast of the Site.

Cleanup activities conducted at the Site have included soil vapor extraction (SVE) from the vadose zone soil above the Perched Groundwater Zone, and injection of chemical oxidants into the Perched Groundwater Zone. SVE operations at the Site conducted from 2006 to 2009 removed over 12,000 pounds of gasoline-range organic vapors from vadose zone soil. The vapors were extracted from SVE wells angled beneath the USTs and from immediately adjacent to the suspected area of the release. The chemical oxidant injection activities included injection of RegenOx and Oxygen Release Compound-Advanced (ORC-A) into a total of 59 borings over the course of three injection events in 2011. Groundwater monitoring results indicate that GRO and BTEX concentrations were reduced in groundwater in the Perched Groundwater Zone in the central area of the former Whidbey Marine & Auto Supply facility as a result of the chemical oxidant injections. The in-situ chemical oxidant injection was intended to target the Perched Groundwater Zone only, and was not expected to have a significant effect on the deeper Sea Level Aquifer.

In the letter regarding Opinion Pursuant to WAC 173-440-515(5) on Proposed Remedial Action for the Whidbey Marine & Auto Supply Site at 1689 Main Street in Freeland, Washington dated June 3, 2013, Ecology (2013) requested further characterization of petroleum hydrocarbon contamination in the Sea Level Aquifer down-gradient of the existing Sea Level Aquifer monitoring wells. The former owner of the Whidbey Marine & Auto Supply facility and

Farallon met with Ecology in July 2013 to discuss the path forward for the cleanup action at the Site, including installation and sampling of additional groundwater monitoring wells screened in the Sea Level Aquifer. In early August 2013, Farallon met on the Site with representatives of Ecology, Island County, and the Freeland Water and Sewer District to discuss the proposed additional characterization activities and to evaluate potential locations for the installation of four additional Sea Level Aquifer monitoring wells.

Beginning in August 2013, Farallon contacted owners of properties down-gradient (south) of the former Whidbey Marine & Auto Supply facility to obtain access permission for installation of the proposed additional monitoring wells. Farallon eventually obtained access agreements for installation and monitoring of the proposed monitoring wells from three of the four property owners contacted. The proposed monitoring well locations were adjusted in consultation with Ecology and Island County so that the four monitoring wells could be installed on the three parcels for which access agreements were obtained.

3.0 GROUNDWATER MONITORING WELL INSTALLATION

Groundwater monitoring wells MW-13 through MW-16 were installed on December 2 through 5, 2013 at the locations shown on Figure 2. A description of the field activities and the results of the soil sampling completed during the installation of the groundwater monitoring wells are presented below.

3.1 FIELD METHODS

Cascade Drilling, Inc. of Woodinville, Washington performed the drilling activities using a hollow-stem auger drill rig. Prior to commencement of drilling, a public utility locate was completed, and Applied Professional Services, Inc. of North Bend, Washington conducted private utility location surveys in the areas of the monitoring wells. The field activities were conducted under the supervision of a Washington State-licensed geologist.

The borings for the wells were generally sampled every 5 feet using an 18-inch-long split-spoon sampler. Additional samples were collected at 2.5-foot intervals in the borings for monitoring wells MW-13 and MW-14 over the anticipated depth of the Perched Groundwater Zone from 50 to 60 feet bgs in the boring for monitoring well MW-13, and from 60 to 70 feet bgs in the boring for monitoring well MW-14. The total depths of the borings and completed monitoring wells ranged from 108 to 111 feet bgs. The split-spoon sampler was decontaminated after sampling each interval. Each soil sample was described in accordance with the Unified Soil Classification System as defined in ASTM International Standard D2488-06, *Standard Practice for Description and Identification of Soils,* and evidence of potential contamination such as unusual odor, discoloration, or sheen was noted. The soil samples also were screened in the field using a photoionization detector (PID) to detect the presence of volatile organic vapors. The PID used a 10.6 electron volt lamp and was calibrated using isobutylene as the span gas, and ambient air for the zero gas. The boring logs containing the soil descriptions, field observations, and PID readings are provided in Appendix A.

Soil samples retained for potential laboratory analysis were transferred to laboratory-prepared containers. Care was taken to not handle the seal or the inside cap of the container when the sample was placed into the containers. Soil sample containers were labeled using a unique sample number and placed immediately on ice in a cooler. The soil samples were submitted for laboratory analyses to ALS Environmental laboratories of Everett, Washington under standard chain-of-custody protocols. The only soil sample that exhibited evidence of petroleum contamination based on field-screening results was the sample collected from the boring for monitoring well MW-13 at 106 feet bgs. Soil samples from the following borings and depths were retained for chemical analysis:

- Monitoring well MW-13 at 65 and 106 feet bgs;
- Monitoring well MW-14 at 60 and 105 feet bgs;
- Monitoring well MW-15 at 65 and 100 feet bgs; and
- Monitoring well MW-16 at 65 and 105 feet bgs.

The rationale for retaining soil samples for chemical analysis was to analyze samples from the depth of the Perched Groundwater Zone as observed in the borings or in previous borings drilled at the Site and from near the top of the Sea Level Aquifer. These depths represent the most likely zones for soil to be impacted by petroleum hydrocarbons.

3.1.1 Analytical Methods

The selected soil samples were analyzed for GRO by Northwest Method NWTPH-Gx; for TPH as diesel-range organics (DRO) and as oil-range organics (ORO) by Northwest Method NWTPH-Dx; and for BTEX by U.S. Environmental Protection Agency (EPA) Method 8021B. The soil samples for the GRO and BTEX analyses were collected following EPA Method 5035A to reduce the potential loss of volatile compounds during sample collection.

3.1.2 Well Development

The monitoring wells were developed to remove fine-grained materials from the screen and sand pack using a surge block and bailer operated on a wire line from the drill rig on December 6, 2013. Approximately 110 gallons of groundwater was removed from monitoring well MW-13, and 15 to 20 gallons of groundwater was removed from each of monitoring wells MW-14 through MW-16 during the development activities.

3.1.3 Waste Handling

The soil cuttings, decontamination water, and development water generated during the monitoring well installations were stored in 55-gallon drums pending disposal. The drums of waste materials were picked up by Kleen Environmental Technologies, Inc. of Seattle, Washington on January 28, 2014. The soil cuttings were transported to the Roosevelt Regional Landfill in Roosevelt, Washington, operated by Allied Waste. The drums of water were transported to the Marine Vacuum Services, Inc. treatment facility in Seattle, Washington for treatment, and discharge to the publicly owned treatment works under a discharge permit.

3.2 SUBSURFACE CONDITIONS

The geologic conditions encountered in the borings for the new monitoring wells were generally consistent with conditions observed in previous subsurface investigations at the Site. Soil encountered in the boring for monitoring well MW-13 generally consisted of silty sand and poorly graded sand with fine to coarse gravel underlain by well-graded sand beginning at about 85 feet bgs. Thin silt beds were encountered at approximately 56, 71, 90, and 100 feet bgs in the boring. The only saturated conditions encountered above the Sea Level Aquifer in the boring for monitoring well MW-13 was a zone of apparently perched groundwater at approximately 65 to 70 feet bgs. Saturated conditions were encountered at approximately 102 feet bgs during drilling of the boring. The saturated conditions at 102 feet bgs corresponds with the approximate depths of saturated conditions observed in the monitoring wells previously installed in the Sea Level Aquifer at the Site.

The only PID reading that exceeded the instrument detection limit in any of the soil samples collected from the four borings for the new monitoring wells was 96.0 parts per million[1] in the soil sample collected from the boring for monitoring well MW-13 at a depth of 105 to 106.5 feet bgs; a sheen and petroleum-like odor also were noted in this soil sample. With the exception of this sample, no odors or sheens were noted in field-screening of any of the soil samples collected from the four borings for monitoring wells MW-13 through MW-16.

Soil encountered in the boring for monitoring well MW-14 generally consisted of poorly graded sand with varying amounts of fine gravel to approximately 85 feet bgs, underlain by well-graded sand to the total depth of the boring at 109 feet bgs. Thin silt beds were encountered at approximately 63 and 66 feet bgs. Although no significant perched groundwater was encountered, mottled soil and moist to wet conditions were observed at approximately 60 to 61 feet bgs. Saturated conditions were encountered at approximately 104 feet bgs during drilling of this boring.

Soil encountered in the boring for monitoring well MW-15 generally consisted of poorly graded sand to approximately 51 feet bgs, underlain by a zone of silty sand to approximately 66 feet bgs. Poorly graded sand was encountered from approximately 66 to 81 feet bgs, underlain by silty sand to approximately 86 feet bgs, and poorly graded sand to approximately 91 feet bgs. Well-graded sand was encountered from approximately 95 feet bgs to the total depth of the boring at 111 feet bgs. Although no significant perched groundwater was encountered, moist to wet conditions were observed at 66 feet bgs. Saturated conditions were encountered at approximately 106 feet bgs during drilling of this boring.

Soil encountered in the boring for monitoring well MW-16 generally consisted of silty sand and silty sand with gravel to approximately 46 feet bgs, underlain by poorly graded sand to approximately 65 feet bgs. Well-graded sand was encountered from approximately 70 to 85 feet bgs, underlain by poorly graded sand to approximately 100 feet bgs. A thin layer of silty sand was encountered at 105 feet bgs, underlain by well-graded sand to the total depth of the boring at 110 feet bgs. Although no significant perched groundwater was encountered, moist to wet conditions were observed at 65.5 feet bgs. Saturated conditions were encountered at approximately 105 feet bgs during drilling of this boring.

3.3 MONITORING WELL CONSTRUCTION

Monitoring well MW-13 was constructed using 4-inch-diameter Schedule 40 polyvinyl chloride 0.010-inch slotted well screen that was flush-threaded to 4-inch-diameter blank casing. Monitoring wells MW-14 through MW16 were constructed using 2-inch-diameter Schedule 40 polyvinyl chloride 0.010-inch slotted well screen that was flush-threaded to 2-inch-diameter blank casing. The rationale for installing the 4-inch-diameter well screen and casing for monitoring well MW-13 was that the larger-diameter casing allows more flexibility for LNAPL removal, if LNAPL was encountered. Monitoring well MW-13 is the closest down-gradient well to monitoring well MW-9, where LNAPL was encountered during monitoring events in 2012 and 2013, as discussed in Section 4.3.3, LNAPL Monitoring. Details of the well installations are

[1] Parts per million total organic vapors in isobutylene equivalents using a 10.6 electron volt lamp.

included on the boring and well installation logs provided in Appendix A. The screened intervals for the new monitoring wells are as follows:

- Monitoring well MW-13: 98 to 108 feet bgs;
- Monitoring well MW-14: 99 to 109 feet bgs;
- Monitoring well MW-15: 101 to 111 feet bgs; and
- Monitoring well MW-16: 100 to 110 feet bgs.

These wells were completed using traffic-rated flush-mounted well monuments.

3.4 SOIL ANALYTICAL RESULTS

The analytical results for the soil samples collected from the borings for the monitoring wells installed December 2 through 5, 2013 are presented below. A summary of the results is shown in Table 1 along with the corresponding MTCA Method A cleanup levels for soil. The laboratory analytical report is provided in Appendix B.

Soil samples collected from the following borings and depths were submitted for laboratory analysis:

- Monitoring well MW-13 at 65 and 106 feet bgs;
- Monitoring well MW-14 at 60 and 105 feet bgs;
- Monitoring well MW-15 at 65 and 100 feet bgs; and
- Monitoring well MW-16 at 65 and 105 feet bgs.

The only soil sample in which any of the constituents analyzed for were detected at a concentration exceeding the laboratory reporting limit was the sample collected from the boring for monitoring well MW-13 at a depth of 105 feet bgs. DRO was detected in the sample at a concentration of 490 milligrams per kilogram (mg/kg), which is less than the MTCA Method A cleanup level of 2,000 mg/kg for soil. GRO and all of the BTEX constituents also were detected in this sample at concentrations exceeding MTCA Method A cleanup levels, as follows:

- GRO was detected at a concentration of 1,900 mg/kg;
- Benzene was detected at a concentration of 2.9 mg/kg;
- Toluene was detected at a concentration of 72 mg/kg;
- Ethylbenzene was detected at a concentration of 15 mg/kg; and
- Xylenes were detected at a concentration of 75 mg/kg.

The corresponding MTCA Method A cleanup levels for soil for these constituents are as follows:

- GRO: 30 mg/kg;
- Benzene: 0.03 mg/kg;

- Toluene: 7 mg/kg;
- Ethylbenzene: 6 mg/kg; and
- Total xylenes: 9 mg/kg.

3.5 SURVEYING

Following completion of the well installation activities, the four new monitoring wells were surveyed by licensed surveyors Thatcher & Morrison, Inc. of Freeland, Washington. The top of well casing elevations for the new and existing wells are provided in Table 2.

4.0 GROUNDWATER MONITORING

The groundwater monitoring conducted at the Site on December 18 through 20, 2013 included obtaining depth to groundwater measurements and collecting groundwater samples from monitoring wells MW-1 through MW-4, MW-6, MW-8, and MW-10 through MW-16 (Figure 2). Monitoring well MW-5 was dry at the time of the monitoring event and has been since installation. There was not sufficient water in monitoring well MW-7 during the monitoring event to obtain samples for chemical analysis. Monitoring well MW-9 was not sampled during the December 2013 monitoring event due to the presence of LNAPL in the well. Details of the field activities and the results for the December 2013 monitoring and sampling event are presented below.

4.1 FIELD METHODS

Prior to sampling, Farallon measured the depth to groundwater in each monitoring well using an electronic water-level indicator. 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-9, MW-12, and MW-13. These monitoring wells either have historically shown the highest concentrations of GRO and BTEX in groundwater sampling results or, in the case of monitoring well MW-13, exhibited evidence of petroleum hydrocarbon contamination during well installation and development activities in December 2013. 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 December 2013 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 solidified in monitoring well MW-2, and the dedicated tubing that was present in the well is now cemented 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 $\pm$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. A minimum of three submerged casing volumes of water was purged from monitoring well MW-2 prior to sample collection. 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 for analysis in accordance with chain-of-custody protocols.

4.2 ANALYTICAL METHODS

The groundwater samples were analyzed for DRO and ORO by Northwest Method NWTPH-Dx, for GRO by Northwest Method NWTPH-Gx, and for BTEX by EPA Method 8021B.

4.3 GROUNDWATER MONITORING RESULTS

Table 2 presents a summary of the groundwater elevation data for the Site. Table 3 presents the groundwater analytical results for DRO, GRO, ORO, and BTEX for the December 2013 and previous monitoring events, along with a comparison to the corresponding MTCA Method A cleanup levels. A copy of the laboratory analytical report for the December 2013 groundwater monitoring event is provided in Appendix B.

4.3.1 Groundwater Elevation

Groundwater elevations measured at the Site on December 18, 2013 in the Perched Groundwater Zone ranged from 65.29 feet above mean sea level (msl) in monitoring well MW-1 to 58.60 feet above msl in monitoring well MW-7 (Table 2). The corresponding depths to groundwater measured below the top of the well casings were 51.16 feet and 58.22 feet, respectively, for monitoring wells MW-1 and MW-7. Groundwater elevations measured at the Site on December 18, 2013 in the Sea Level Aquifer ranged from 12.89 feet above msl in monitoring well MW-10 to 12.46 feet above msl in monitoring well MW-16 (Table 2). The corresponding depths to groundwater measured below the top of the well casings were 100.56 feet and 104.46 feet, respectively, for monitoring wells MW-10 and MW-16. 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 December 18, 2013 are shown on Figures 3 and 4, respectively. The general groundwater flow direction in the Perched Groundwater Zone at the Site is generally west, with a hydraulic gradient of approximately 0.017 foot per foot in the eastern area of the former Whidbey Marine & Auto Supply facility and a considerably steeper gradient of 0.080 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 December 18, 2013 measurements, with a gradient of 0.001 foot per foot (Figure 4).

4.3.2 Analytical Results

The groundwater analytical results for the December 2013 monitoring event are presented in Table 3. The groundwater analytical results for the Perched Groundwater Zone and the Sea Level Aquifer are presented also on Figures 3 and 4, respectively. DRO, ORO, GRO, and various BTEX constituents were detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected during the December 2013 monitoring event.

4.3.2.1 Perched Zone Monitoring Wells

The analytical results for the Perched Zone monitoring wells sampled during the December 2013 monitoring event at the Site are as follows:

- **Monitoring wells MW-1 and MW-3**: None of the constituents analyzed for were detected at concentrations exceeding the laboratory reporting limits in the groundwater samples collected.
- **Monitoring well MW-2**: DRO and ORO were detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected. GRO was detected at a concentration exceeding the laboratory reporting limit, but less than the MTCA Method A cleanup level. None of the BTEX constituents were detected at concentrations exceeding the laboratory reporting limits in the sample.
- **Monitoring well MW-4**: GRO and xylenes were detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected. The laboratory reporting limits for DRO and benzene were elevated above MTCA Method A cleanup levels. The laboratory report noted that the DRO reporting limit was elevated due to overlap from the GRO result.
- **Monitoring well MW-6**: GRO and xylenes were the only constituents detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected.
- **Monitoring well MW-8**: GRO and xylenes were the only constituents detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected. The laboratory reporting limits for DRO and benzene were elevated above MTCA Method A cleanup levels. The laboratory report noted that the DRO reporting limit was elevated due to overlap from the GRO result.

4.3.2.2 Sea Level Aquifer Monitoring Wells

The analytical results for the Sea Level Aquifer monitoring wells sampled during the December 2013 monitoring event at the Site are as follows:

- **Monitoring well MW-10**: None of the constituents analyzed for were detected at concentrations exceeding the laboratory reporting limits in the groundwater samples collected.
- **Monitoring well MW-11**: GRO and benzene were the only constituents detected at concentrations exceeding MTCA Method A cleanup levels in the groundwater samples collected.
- **Monitoring well MW-12**: DRO, ORO, 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 the laboratory reporting limits in the groundwater samples collected.

4.3.3 LNAPL Monitoring

Farallon initiated LNAPL monitoring and removal activities following the discovery of LNAPL in monitoring well MW-9 in September 2013. LNAPL removal 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 in monitoring well MW-9 since September 2012 has ranged from 0.98 foot in September 2012 to less than 0.01 foot in June and July 2013. The LNAPL thickness increased after July 2013 to 0.51 foot in December 2013.

An oil-water interface probe has been used to monitor for the presence of LNAPL in other selected monitoring wells at the Site, including monitoring wells MW-2, MW-4, MW-6 through MW-8, MW-11, and MW-12. LNAPL has not been detected at these wells.

5.0 CONCEPTUAL SITE MODEL

This section presents an updated conceptual site model for the Site.

5.1 SOURCES

The primary source of petroleum hydrocarbons in soil and groundwater at the Site is a release of regular unleaded gasoline from UST 2 in 2005. Electrolysis appears to have resulted in preferential corrosion in the bottom of the UST at the south end directly beneath the fuel level check port where the wooden gauging staff was dipped for daily tank volume gauging. An approximately 2-inch-diameter hole was observed in this area of the UST during the UST closure activities in 2011. None of the other USTs or piping showed significant corrosion or evidence of a release during the closure activities. The only other evidence of a potential release was staining observed beneath one of the former dispensers, designated Pump 2. DRO was detected in a soil sample collected from that area of staining at a concentration exceeding the MTCA Method A cleanup level. Field screening and analytical results for soil samples collected beneath the four former dispensers at the Site indicated that the area of potential soil contamination was limited, as no staining was observed in soil beneath adjacent dispensers, and none of the soil samples collected from beneath the other dispensers contained constituents of concern at concentrations exceeding MTCA Method A cleanup levels or laboratory reporting limits. The source of DRO and ORO detected in a groundwater sample collected from monitoring well MW-2 during the December 2013 sampling in unknown, and the result should be confirmed with follow-up sampling.

5.2 CONSTITUENTS AND MEDIA OF CONCERN

The constituents of concern at the Site are predominantly GRO and BTEX in soil and groundwater from the confirmed gasoline release, and DRO in soil and groundwater from an unknown source(s), and possibly ORO in groundwater, also from an unknown source.

In 2012, Farallon conducted a Tier I screening assessment of the vapor intrusion pathway at the Site following the methodology presented in the Ecology (2009) draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remediation* dated October 2009. Farallon (2012) evaluated screening levels for both the Perched Groundwater Zone and the Sea Level Aquifer as part of the Tier 1 vapor intrusion assessment. The Site-specific Tier I vapor intrusion assessment for the Perched Groundwater Zone demonstrated that the concentrations of BTEX in groundwater are protective of the vapor intrusion pathway for a commercial exposure scenario, which is appropriate for the buildings at the Site. The Tier I vapor intrusion assessment for the Sea Level Aquifer indicated that the benzene concentrations detected in groundwater samples collected from monitoring wells MW-9, MW-11, and MW-12 exceeded the predicted groundwater screening level for protection of the indoor air pathway for the Sea Level Aquifer. However, the simulation used the conservative and simplified assumption that all of the soil between the Sea Level Aquifer and the ground surface is sand. The screening level model does not account for the presence of the Perched Groundwater Zone or silt layers that would limit the upward migration of BTEX vapors from the Sea Level Aquifer and significantly decrease the

potential for vapor intrusion into buildings at the Site. Therefore, soil gas and indoor air likely are not media of concern at the Site.

5.3 GEOLOGY AND HYDROGEOLOGY

The geologic units beneath the Site consist of 1 to 2 feet of near-surface sand and gravel fill overlying a thick sequence of sand. The sand unit consists of fine- to coarse-grained sand with trace to minor silt and trace gravel extending from beneath the thin fill layer at the surface to the maximum depth explored of 125 feet bgs. The sand is generally dry to moist from the top of the unit to approximately 55 feet bgs. Zones of silt interbeds of variable thickness typically have been encountered at variable depths, generally near 60 feet bgs. Discontinuous silt interbeds have been encountered also at greater depths, although these interbeds do not correlate between borings.

The uppermost saturated conditions exist as the Perched Groundwater Zone above the zone of silt interbeds. Depths to perched groundwater in the monitoring wells on the former Whidbey Marine & Auto Supply facility typically are 50 to 54 feet below the tops of well casings. The measured depths to water in the wells on the east-adjacent properties drop to 55 to 60 feet, and the Perched Groundwater Zone was not observed during drilling of two of the monitoring wells in the eastern portion of the Site. Only thin zones of saturated conditions at depths correlative to the Perched Groundwater Zone were observed during drilling of Sea Level Aquifer monitoring wells MW-13 through 16 in December 2013, and there was no evidence of petroleum hydrocarbon contamination at these depths. The groundwater flow direction in the Perched Groundwater Zone is west-northwest beneath the former Whidbey Marine & Auto Supply facility but turns southeasterly to the west along with a pronounced steepening of gradient. The groundwater elevation contours for the Perched Groundwater Zone for the December 2013 monitoring event presented on Figure 3 show the typical groundwater flow direction and variable gradient. The depths to groundwater in the Sea Level Aquifer typically are 100 to 104 feet below the tops of well casings. The general groundwater flow direction in the Sea Level Aquifer at the Site is southeast.

5.4 CONTAMINANT MIGRATION AND DISTRIBUTION

The gasoline release from UST 2 appears to have migrated vertically down to the Perched Groundwater Zone through the permeable sandy soils. Dissolved-phase GRO and BTEX constituents migrated to the west in the Perched Groundwater Zone and then downward through unsaturated sand to the Sea Level Aquifer in areas where the silt beds underlying the Perched Groundwater Zone pinch out. LNAPL has not been encountered in the Perched Groundwater Zone monitoring wells at the Site. Therefore, the migration pathway for LNAPL, which has appeared in Sea Level Aquifer monitoring well MW-9, is outside the Perched Groundwater Zone monitoring network, most likely beneath Main Street. Farallon attempted to obtain access permission from the Island County Public Works Department in 2008 to install groundwater monitoring wells in the Main Street right-of-way adjacent to the Whidbey Marine & Auto Supply facility but was not granted access.

The current extent of GRO and/or BTEX constituents at the Site in groundwater in the Perched Groundwater Zone at concentrations exceeding MTCA Method A cleanup levels extends west from monitoring well MW-4 on the former Whidbey Marine & Auto Supply facility to the adjacent property in the area of monitoring wells MW-6 through MW-8 (Figure 3). The current extent of GRO and/or BTEX constituents at the Site in groundwater in the Sea Level Aquifer extends west from the area of monitoring well MW-9 to between monitoring wells MW-10 and MW-11, southwest to monitoring well MW-12, and southeast to monitoring well MW-13.

Both DRO and ORO were detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected from Perched Groundwater Zone monitoring well MW-2 during the December 2013 monitoring event. The source of DRO and ORO is unknown, but appears anomalous given the lack of detections in adjacent Perched Groundwater Zone monitoring wells, including monitoring well MW-8, which is located approximately 30 feet down-gradient.

DRO and ORO were detected also at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected from Sea Level Aquifer monitoring well MW-12 during the December 2013 monitoring event. The source(s) of the diesel and potential oil in the groundwater samples collected from monitoring well MW-12 is not known, but the chromatograms do not match those of other samples from the December 2013 monitoring event. DRO was detected also at a concentration exceeding the MTCA Method A cleanup level in the groundwater sample collected from monitoring well MW-13 during the December 2013 monitoring event. However, this DRO result for the monitoring well MW-13 sample may be due to overlap from the high GRO concentrations rather than an actual diesel product. Farallon's review of chromatograms for the December 2013 DRO and ORO analyses for monitoring wells MW-12 and MW-13 is discussed further in Section 6.1.2, Sea Level Aquifer Monitoring Wells.

The SVE remedial activities conducted between 2006 and 2009 appear to have effectively removed GRO and BTEX from soil and soil gas at the Site above 15 feet bgs, the depth typically considered the lower limit for the direct contact soil exposure pathway under MTCA. Neither GRO nor BTEX was detected at concentrations exceeding the laboratory reporting limits in any of the soil samples collected from the UST excavation floor or sidewalls during the UST closure activities in 2011. The extent of DRO in soil beneath former dispenser Pump 2 appears to be isolated.

6.0 SUMMARY AND DISCUSSION

The following section presents a summary of analytical results and general discussion of comparative trends in contaminant concentrations for wells installed prior to December 2013. Also included are recommendations for additional work at the Site.

6.1 GROUNDWATER CONCENTRATION TRENDS

6.1.1 Perched Zone Monitoring Wells

Monitoring Well MW-1

None of the constituents analyzed for have been detected in groundwater samples obtained from monitoring well MW-1 at concentrations exceeding MTCA Method A cleanup levels since January 2007. The prior operation of the SVE system at the Site appears to have successfully reduced the contaminant mass flux from vadose zone soil to groundwater in the area of monitoring well MW-1. Monitoring well MW-1 was plumbed to the SVE system.

Monitoring Well MW-2

GRO and BTEX concentrations detected in groundwater samples collected from monitoring well MW-2 have remained less than MTCA Method A cleanup levels for the last three consecutive monitoring events. The chemical oxidant injection activities appear to have significantly reduced the GRO and BTEX levels in groundwater near this monitoring well. Both DRO and ORO were detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected during the December 2013 monitoring event. The source of the DRO and ORO is unknown, but appears anomalous given the lack of detections in adjacent Perched Groundwater Zone monitoring wells. DRO and ORO have not previously been analyzed for in groundwater samples collected from this or the other Perched Groundwater Zone monitoring wells. An elevated pH reading of 13.15 pH units was measured in groundwater purged from monitoring well MW-2 prior to sampling during the December 2013 monitoring event. The elevated pH is a result of strongly basic calcium hydroxide that was part of the formulation of ORC-A, which was injected into groundwater at the Site in 2011. The injected material solidified in the bottom of the well screen in monitoring well MW-2 and could not be removed by jetting.

Monitoring Well MW-3

None of the constituents analyzed for have been detected at concentrations exceeding the laboratory reporting limits or MTCA Method A cleanup levels in groundwater samples collected from monitoring well MW-3 since the well was installed in 2005.

Monitoring Well MW-4

GRO and xylenes concentrations increased to pre-injection magnitude of concentrations in December 2013 after a significant reduction following completion of the in-situ chemical oxidant injection in 2011. Concentrations of toluene and ethylbenzene have been less than MTCA Method A cleanup levels for at least the past three monitoring events (five events for toluene). Elevated pH readings of up to 8.43 pH units were measured in groundwater purged from monitoring well MW-4 prior to sampling. As for monitoring well MW-2, the elevated pH is

related to the injection of the highly basic ORC-A at the Site in 2011. A precipitate was found in the well after completion of the 2011 chemical oxidant injection activities, but the monitoring well was successfully cleaned by jetting in October 2011.

Monitoring Well MW-6

The concentrations of GRO and xylenes detected in groundwater samples collected from monitoring well MW-6 during the December 2013 monitoring event demonstrated a decrease to about one-half the levels detected in May 2012, and were the lowest detected since the monitoring well was installed in early 2008. Benzene, toluene, and ethylbenzene concentrations remained less than MTCA Method A cleanup levels.

Monitoring Well MW-8

The concentrations of GRO and xylenes detected in groundwater samples collected from monitoring well MW-8 during the December 2013 monitoring event were approximately one-half the levels detected during May 2012 sampling, and the concentration of ethylbenzene decreased to less than the MTCA Method A cleanup level during this period. Although the laboratory reporting limits for benzene typically have been elevated due to dilutions required for analysis, benzene has not been detected at a concentration exceeding the reporting limits in groundwater samples collected from monitoring well MW-8 since the well was installed in early 2008. Toluene concentrations detected in groundwater samples collected from monitoring well MW-8 have been less than the MTCA Method A cleanup level since February 2010.

6.1.2 Sea Level Aquifer Monitoring Wells

Monitoring Well MW-9

Monitoring well MW-9 was not sampled during the December 2013 monitoring event due to the presence of LNAPL. LNAPL thickness varied from 0.98 foot in September 2012 to less than 0.01 foot in June and July 2013. The LNAPL thickness measured during the December 2013 monitoring event was 0.51 foot. LNAPL removal activities are described in Section 4.3.3, LNAPL Monitoring.

Monitoring Well MW-10

None of the constituents analyzed for were 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.

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. The maximum concentrations detected were in May 2011 following a steady rise since the well was installed in early 2009. GRO and BTEX concentrations dropped significantly between the May 2012 and December 2013 monitoring events.

Monitoring Well MW-12

There has been no significant change in GRO or BTEX concentrations detected in groundwater samples collected from monitoring well MW-12 over the past several years, although BTEX concentrations detected in December 2013 were lower than those typically detected. 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. The laboratory report noted that the sample contained lightly weathered gasoline, weathered diesel, and lube oil. Farallon reviewed the chromatogram and concurs that the diesel signature indicates the presence of weathered diesel in the sample, although the laboratory report noted that the DRO result is biased high due to overlap from the volatile range. The lube oil signature is less conclusive, but appears to be a light oil. The source of the diesel and potential oil is not known, but the chromatograms do not match those of other samples from the December 2013 monitoring event, suggesting a source unrelated to the petroleum hydrocarbons impacts observed in other Sea Level Aquifer monitoring wells at the Site. DRO was detected also at a concentration exceeding the MTCA Method A cleanup level in a groundwater sample collected from monitoring well MW-12 in February 2010. 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.

Monitoring Well MW-13

GRO, DRO, and all of the BTEX constituents were detected at concentrations exceeding MTCA Method A cleanup levels during the December 2013 monitoring event. The laboratory report noted that the sample contained lightly weathered gasoline and weathered diesel. Farallon reviewed the chromatogram and observed that although hydrocarbons were eluting in the diesel range, the result may be due to overlap from the high GRO concentrations rather than an actual diesel product. The laboratory report noted that the DRO result was biased high due to overlap from the volatile range.

Monitoring Wells MW-14 through MW-16

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 an 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 indicates that the down-gradient extent of these constituents in groundwater has been delineated.

6.2 RECOMMENDATIONS

Farallon sampled and monitored the Sea Level Aquifer monitoring wells again in March 2014. Monitoring well MW-2 also was re-sampled at that time to further assess the DRO and ORO detected during the December 2013 monitoring event. 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 recommended to help assess the recoverability of LNAPL. Alternative LNAPL-recovery methods should be evaluated based on LNAPL thickness trends and the bail down test results.

7.0 REFERENCES

Farallon Consulting, L.L.C. 2012. Technical Memorandum Regarding April 2012 Progress Report. From Paul Grabau. To Mark Adams, Washington State Department of Ecology. April 13.

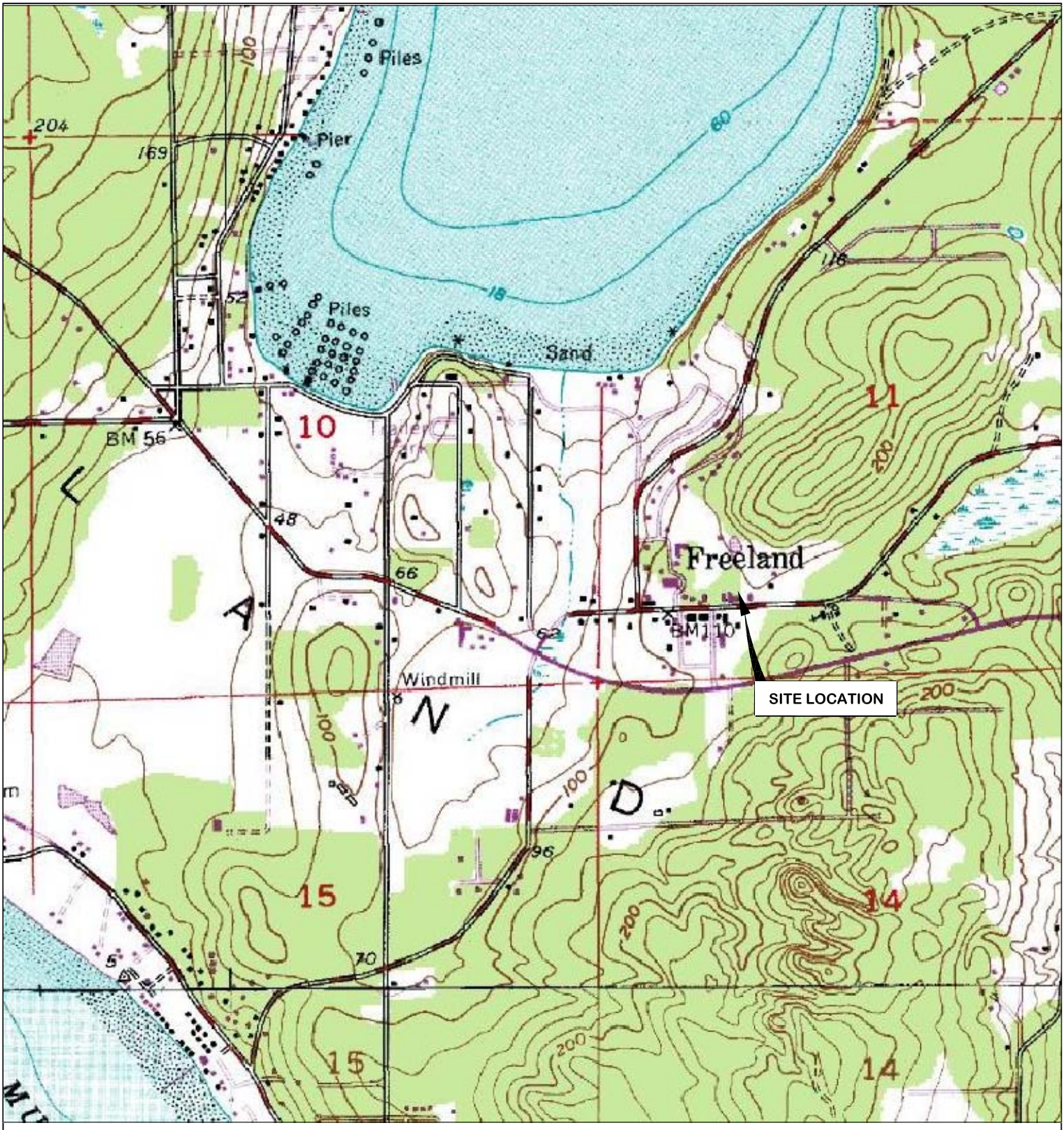
Washington State Department of Ecology (Ecology). 2009. *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remediation*. DRAFT. Publication No. 09-09-047. October.

———. 2013. Letter regarding Opinion Pursuant to WAC 173-440-515(5) on Proposed Remedial Action for the Whidbey Marine & Auto Supply Site at 1689 Main Street in Freeland, Washington. From Diane Escobedo. To Paul Grabau, Farallon Consulting, L.L.C. June 3.

FIGURES

DECEMBER 2013 PROGRESS REPORT
Whidbey Marine & Auto Supply Site
Freeland, Washington

Farallon PN: 454-001



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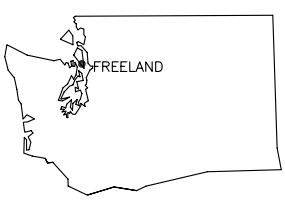

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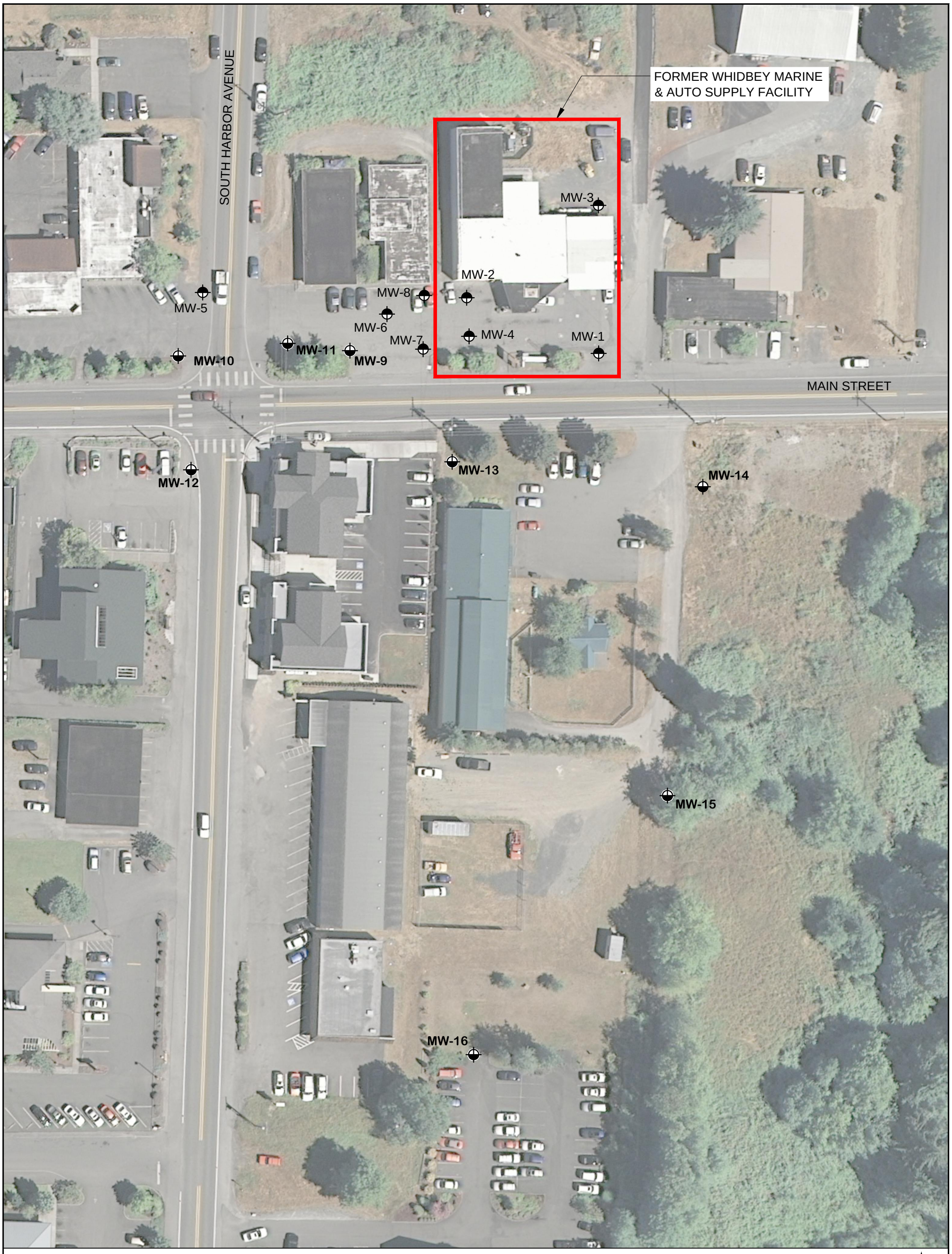
Issaquah, WA 98027

FIGURE 1

SITE VICINITY MAP
WHIDBEY MARINE & AUTO SUPPLY
1689 MAIN STREET
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

0 60
Scale in feet

N

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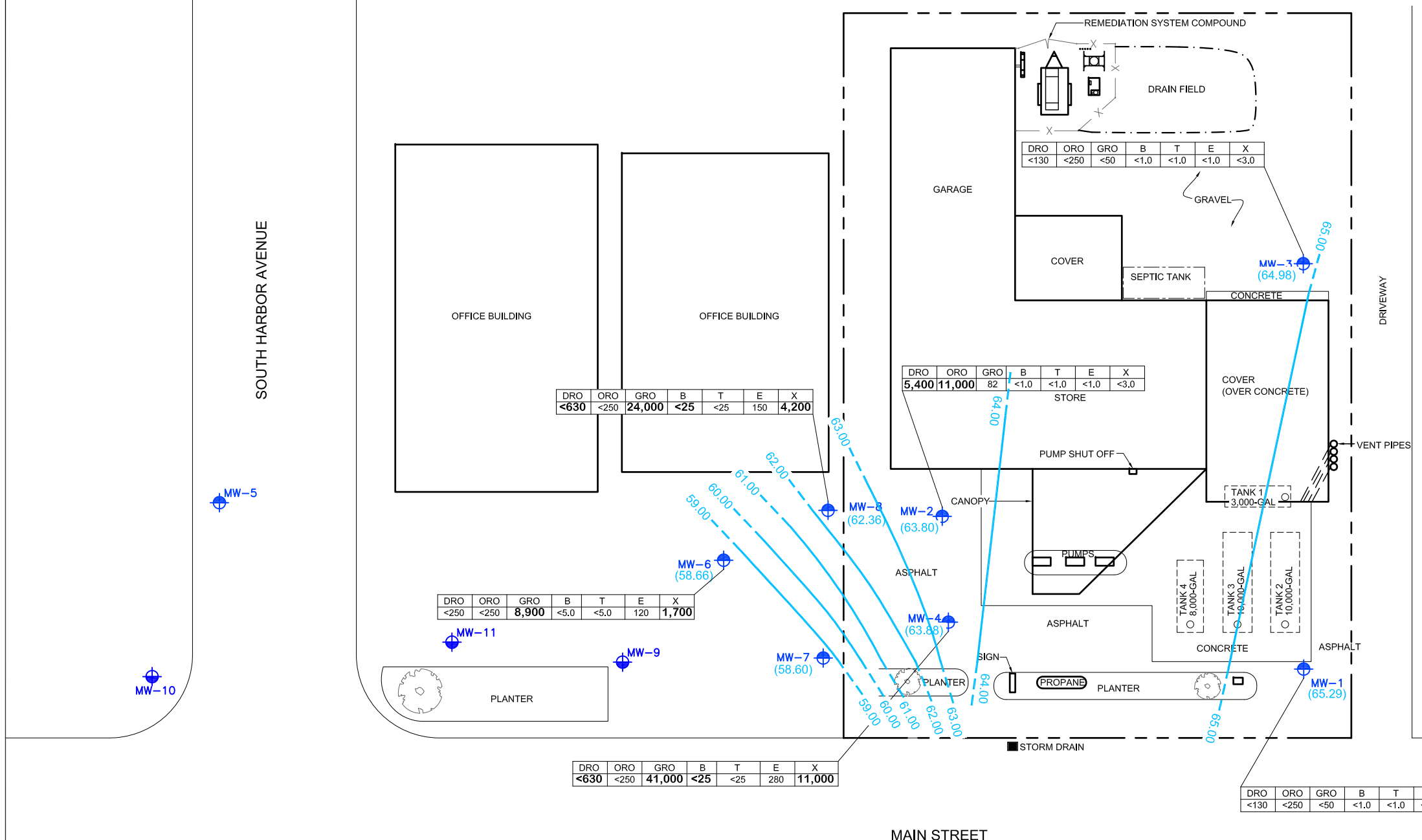
FIGURE 2

AERIAL PHOTOGRAPH SHOWING
MONITORING WELL LOCATIONS
WHIDBEY MARINE & AUTO SUPPLY SITE
FREELAND, WA

FARALLON PN: 454-001

Drawn By: DEW	Checked By: PG	Date:3/27/14	Disk Reference:AERIAL



DRO	ORO	GRO	B	T	E	X
<130	<250	<50	<1.0	<1.0	<1.0	<3.0

DRO	ORO	GRO	B	T	E	X
5,400	11,000	82	<1.0	<1.0	<1.0	<3.0

DRO	ORO	GRO	B	T	E	X
<630	<250	**24,000**	**<25**	<25	150	**4,200**

DRO	ORO	GRO	B	T	E	X
<250	<250	**8,900**	<5.0	<5.0	120	**1,700**

DRO	ORO	GRO	B	T	E	X
<630	<250	**41,000**	**<25**	<25	280	**11,000**

DRO	ORO	GRO	B	T	E	X
<130	<250	<50	<1.0	<1.0	<1.0	<3.0

LEGEND

- PERCHED ZONE MONITORING WELL
- SEA LEVEL AQUIFER MONITORING WELL
- (64.39) GROUNDWATER ELEVATION FEET ABOVE MEAN SEA LEVEL (MAY 15, 2012)
- 64.00 GROUNDWATER ELEVATION CONTOUR
- APPROXIMATE DIRECTION GROUNDWATER FLOW
- SITE BOUNDARY
- UNDERGROUND STORAGE TANK
- TREE

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

NOTES:
1. FOR LOCATIONS OF MONITORING WELLS MW-14 THROUGH MW-16 SEE FIGURE 4
2. SURVEYED ELEVATION RELATIVE TO MEAN SEA LEVEL
3. ALL LOCATIONS ARE APPROXIMATE

0 30
APPROXIMATE SCALE IN FEET

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FIGURE 3

SITE PLAN SHOWING DECEMBER 2013 GROUNDWATER ELEVATION CONTOURS AND TPH AND BTEX CONCENTRATIONS IN GROUNDWATER–PERCHED GROUNDWATER ZONE
WHIDBEY MARINE & AUTO SUPPLY

FARALLON PN: 454–001

Drawn By: DEW	Checked By: PG	Date4/9/14	Disk Reference: 454001

SOUTH HARBOR AVENUE

MAIN STREET

DRO	ORO	GRO	B	T	E	X
<130	<250	**2,800**	**8.4**	64	26	440

MW-5

MW-3

MW-2

MW-8

MW-6

MW-7

MW-4

MW-1

12.9

12.8

12.7

12.6

12.5

MW-11
(12.93)

MW-9
(LNAPL PRESENT)

DRO	ORO	GRO	B	T	E	X
<130	<250	<50	<1.0	<1.0	<1.0	<3.0

MW-10
(12.89)

DRO	ORO	GRO	B	T	E	X
2,500	**790**	**78,000**	**38**	**3,300**	**1,200**	**11,000**

MW-12
(12.83)

DRO	ORO	GRO	B	T	E	X
1,000	<250	**120,000**	**2,500**	**30,000**	**1,100**	**5,700**

MW-13
(12.78)

MW-14
(12.61)

DRO	ORO	GRO	B	T	E	X
<130	<250	<50	<1.0	<1.0	<1.0	<3.0

DRO	ORO	GRO	B	T	E	X
<130	<250	<50	<1.0	<1.0	<1.0	<3.0

MW-15
(12.50)

DRO	ORO	GRO	B	T	E	X
<130	<250	<50	<1.0	<1.0	<1.0	<3.0

MW-16
(12.46)

LEGEND

- PERCHED ZONE MONITORING WELL
- SEA LEVEL AQUIFER MONITORING WELL
- (12.50) GROUNDWATER ELEVATION FEET ABOVE MEAN SEA LEVEL
- 12.7 GROUNDWATER ELEVATION CONTOUR
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

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

0 60
Scale in feet

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

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FIGURE 4

AERIAL PHOTOGRAPH SHOWING DECEMBER 2013 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:4/9/14	Disk Reference:AERIAL

TABLES

DECEMBER 2013 PROGRESS REPORT
Whidbey Marine & Auto Supply Site
Freeland, Washington

Farallon PN: 454-001

Table 1
Summary of Laboratory Analytical Results for TPH and BTEX in Soil
Whidbey Marine & Auto Supply Site
Freeland, Washington
Farallon PN: 454-001

Sample Location	Sample Identification	Sample Date	Depth (feet)[1]	Analytical Results (milligrams per kilogram)						
				DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
MW-13	MW13-65.0	12/2/13	65.0	<25	<50	<3.0	<0.030	<0.050	<0.050	<0.20
	MW13-106.0	12/2/13	106.0	490	<50	**1,900[5]**	**2.9**	**72**	**15**	**75**
MW-14	MW14-60.0	12/3/13	60.0	—	—	<3.0	<0.030	<0.050	<0.050	<0.20
	MW14-105.0	12/3/13	105.0	—	—	<3.0	<0.030	<0.050	<0.050	<0.20
MW-15	MW15-65.0	12/4/13	65.0	—	—	<3.0	<0.030	<0.050	<0.050	<0.20
	MW15-100.00	12/4/13	100.0	—	—	<3.0	<0.030	<0.050	<0.050	<0.20
MW-16	MW16-65.0	12/5/13	65.0	—	—	<3.0	<0.030	<0.050	<0.050	<0.20
	MW16-105.0	12/5/13	105.0	—	—	<3.0	<0.030	<0.050	<0.050	<0.20
MTCA Method A Cleanup Levels for Soil[6]				**2,000**	**2,000**	**30**	**0.03**	**7**	**6**	**9**

NOTES:

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

— denotes sample not analyzed.

Results in **bold** denote concentrations or laboratory reporting limits above applicable cleanup levels.

[1]Depth in feet below ground surface.

[2]Analyzed by Northwest Method NWTPH-Dx.

[3]Analyzed by Northwest Method NWTPH-Gx.

[4]Analyzed by U.S. Environmental Protection Agency Method 8021.

[5]Laboratory report indicates GRO result biased high due to semivolatile range product overlap

[6]Washington State Model Toxics Control Act Cleanup Regulation Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised November 2007.

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

GRO = TPH as gasoline-range organics

ORO = TPH as oil-range organics

Table 2
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	116.45		52.67	63.78
		10/9/06			51.93	64.52
		1/9/07			51.80	64.65
		3/27/07			51.50	64.95
		6/19/07			51.66	64.79
		12/7/07			51.98	64.47
		4/17/08			51.10	65.35
		6/30/08			51.24	65.21
		8/14/08			51.36	65.09
		9/9/08			51.45	65.00
		10/21/08			51.63	64.82
		1/15/09			51.63	64.82
		5/12/09			51.29	65.16
		8/5/09			51.46	64.99
		2/10/10			51.13	65.32
		10/21/10			51.28	65.17
		5/18/11			50.20	66.25
		11/17/11			49.98	66.47
		5/15/12			51.05	65.40
		12/18/13			51.16	65.29
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

Table 2
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
		12/18/13			52.49	64.98
MW-4	Perched Zone	3/27/07	117.27		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

Table 2
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
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
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

Table 2
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-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
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

Table 2
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-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
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	101.40	12.83
MW-13	Sea Level	12/18/13	116.34	ND	103.56	12.78
MW-14	Sea Level	12/18/13	116.22		103.61	12.61
MW-15	Sea Level	12/18/13	116.73		104.23	12.50
MW-16	Sea Level	12/18/13	116.92		104.46	12.46

NOTES:

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

[2]Feet below top of well casing.

[3] Groundwater 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.

[4]Top 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 3
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater Samples
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-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 3
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater Samples
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**

Table 3
Summary of Laboratory Analytical Results for TPH and BTEX in Groundwater Samples
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	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**	**8.4**	64	26	440
MW-12	Sea Level Aquifer	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**

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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-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-14	Sea Level	MW-14-121813	12/18/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
MW-15	Sea Level	MW-15-121813	12/18/13	<130	<250	<50	<1.0	<1.0	<1.0	<3.0
MW-16	Sea Level	MW-16-121813	12/18/13	<130	<250	<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.

[1]Analyzed by Northwest Method NWTPH-Dx

[2]Analyzed by Northwest Method NWTPH-Gx.

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

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

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

[6]Washington 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
BORING LOGS

DECEMBER 2013 PROGRESS REPORT
Whidbey Marine & Auto Supply Site
Freeland, Washington

Farallon PN: 454-001

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-13

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA
Farallon PN: 454-001
Logged By: Ken Scott

Date/Time Started:	12/2/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/2/13 @ 1640	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	102
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	108.0
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	108.0
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Organic (100% grass), root rhizomes	OL						Cap
		0.3'-4.5' Well-graded SAND Fill (90% sand, 5% silt, 5% gravel), fine to coarse sand, fine to coarse gravel, yellowish-brown, estimated medium dense, moist, no odor, no sheen. Hand-dig to 4.5-feet bgs to clear for utilities.	SW	100	NA	0.0			Concrete
5		5.0-6.0' Well-graded SAND Fill (90% sand, 5% silt, 5% gravel), fine to coarse sand, fine to coarse gravel, brown, medium dense, moist, no odor.	SW	60	8/12 /12	0.0			
10		10.0-11.2' Silty SAND (75% sand, 15% silt, 5% gravel), fine sand, fine gravel, brown, medium dense, moist, no odor, no sheen.	SM	85	8/6/ 7	0.0			
15		15.0-15.5' Silty SAND (75% sand, 15% silt, 5% gravel), fine sand, fine gravel, brown, dense, moist, no odor, no sheen.	SM	50	14/21/ 20	0.0			Bentonite
		15.0'-15.9' Well-graded SAND (75% sand, 20% gravel, 10% silt), fine to coarse sand, fine to coarse gravel, light-brown, dense, moist, no odor, no sheen. Observed subround grey gravel.	SW						
20		20.0-21.0' Silty SAND (70% sand, 25% silt, 5% gravel), fine sand, coarse gravel, brown, dense, moist, no odor, no sheen.	SM	60	11/14/ 17	0.0			
25		25.0-26.0' Silty SAND (65% sand, 20% silt, 15% gravel), fine to coarse sand, fine to coarse gravel, brown, very dense, moist, no odor, no sheen.	SM	60	18/24/ 27	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.67
Casing Diameter (inches):	4	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.34
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226684.83
Screened Interval (ft bgs):	98-108	**Boring Abandonment:**	NA		**Y:** 372786.11

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-13

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA
Farallon PN: 454-001
Logged By: Ken Scott

Date/Time Started:	12/2/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/2/13 @ 1640	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	102
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	108.0
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	108.0
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
30		30.0-31.5' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, dense, moist, no odor, no sheen.	SM		100	18/19/21	0.0			
35		35.0-36.5' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SM		100	19/23/30	0.0			
40		40.0-41.5' Silty SAND (70% sand, 30% silt), fine sand, brown, dense, moist, no odor, no sheen.	SM		100	16/19/19	0.0			Bentonite
45		45.0-46.5' Silty SAND (70% sand, 25% silt, 5% gravel), fine to medium sand, light brown, very dense, moist, no odor, no sheen.	SM		100	21/20/20	0.0			
50		50.0'-51.5' Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, light brown, very dense, moist, no odor, no sheen.	SP-SM		100	18/22/20	0.0			
		52.5.'-54.0' Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, light brown, dense, moist, no odor, no sheen.	SP-SM		100	20/20/20	0.0			
55		55.0.'-56.1' Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, light brown, dense, moist, no odor, no sheen.	SP-SM		70	17/26/22	0.0			
		56.1'-56.5' SILT (90% silt, 10% sand), fine sand, brown, hard, moist, no odor, no sheen.	ML		100	24/25/	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.67
Casing Diameter (inches):	4	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.34
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226684.83
Screened Interval (ft bgs):	98-108	**Boring Abandonment:**	NA		**Y:** 372786.11

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-13

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA
Farallon PN: 454-001
Logged By: Ken Scott

Date/Time Started:	12/2/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/2/13 @ 1640	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	102
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	108.0
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	108.0
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
			SP			29				
60		57.5.'-59.0' Poorly graded SAND (90% sand, 10% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.								
		60.0-61.5' Silty SAND (55% sand, 45% silt), fine sand, light brown, dense, moist, no odor, no sheen.	SM		100	20/20/20	0.0			
65		65.0-65.4' Silty SAND (80% sand, 20% silt), fine sand, brown, very dense, moist, no odor, no sheen.	SM		100	24/27/31	0.0	MW13-65.0	X	
		65.4-66.5' Silty SAND (65% sand, 35% silt), fine sand, dark grey, very dense, wet, no odor, no sheen.	SM							
70		70.0-70.4' Silty SAND (65% sand, 35% silt), fine sand, dark grey, very dense, wet, no odor, no sheen.	SM		100	36/50-6"	0.0			Bentonite
		70.4.'-71.1' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine to medium sand, fine gravel, grey, very dense, moist, no odor, no sheen.	SP							
		71.1'-71.5' SILT (90% silt, 10% sand), fine sand, brown, hard, moist, no odor, no sheen.	ML							
75		75.0.'-76.2' Poorly graded SAND (90% sand, 10% silt), fine to medium sand, grey, very dense, moist, no odor, no sheen.	SP-SM		100	26/30/30	0.0			
80		80.0-80.6' Silty SAND (70% sand, 30% silt), fine sand, brown, very dense, moist, no odor, no sheen.	SM		100	27/33/37	0.0			
		80.6-81.5' Poorly graded SAND (90% sand, 10% silt), fine to medium sand, light brown, very dense, moist, no odor, no sheen.	SP-SM							
85		85.0-86.5' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW		100	21/30/31	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.67
Casing Diameter (inches):	4	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.34
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226684.83
Screened Interval (ft bgs):	98-108	**Boring Abandonment:**	NA		**Y:** 372786.11

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-13

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA

Farallon PN: 454-001

Logged By: Ken Scott

Date/Time Started:	12/2/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/2/13 @ 1640	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	102
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	108.0
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	108.0
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
90		90.0-90.9' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW		90	37/50-6"	0.0			Bentonite
		90.9'-91.2' SILT (95% silt, 5% sand), fine sand, dark brown to dark grey, hard, moist, no odor, no sheen.	ML							
95		95.0-96.3' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, tan, very dense, moist, no odor, no sheen.	SW		90	28/27/20	0.0			Sand
100		100.0-100.7' SILT (100% silt), dark grey, hard, moist to wet, no odor, no sheen.	ML		90	28/27/20	0.0			Water Level
		100.7-101.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, slight wet, no odor, no sheen. Driller stated water at 102-feet bgs.	SW							Screen
105		105.0-106.5' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light grey, very dense, wet, petroleum-like odor, sheen.	SW		100	40-6"/50-6"	96.0	MW13-106.0	X	
110										
115										

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.67
Casing Diameter (inches):	4	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.34
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226684.83
Screened Interval (ft bgs):	98-108	**Boring Abandonment:**	NA		**Y:** 372786.11

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-14

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA

Farallon PN: 454-001

Logged By: Ken Scott

Date/Time Started:	12/3/13 @ 1045	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/3/13 @ 1650	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	104
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	109
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	109
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Organic (100% grass), root rhizomes	OL						Cap
		0.3-3.8' Silty SAND (65% sand, 30% silt, 5% gravel), fine to medium sand, fine gravel, dark brown, medium dense, moist, no odor, no sheen. Hand-dig to 5 feet bgs to clear for utilities.	SM	100	NA	0.0			Concrete
5		3.8'-6.5' Poorly graded SAND Fill (90% sand, 5% silt, 5% gravel), fine to medium sand, fine gravel, yellowish-brown, dense, moist, no odor, no sheen.	SP	100	7/9/10	0.0			
10		10.0-11.5' Poorly graded SAND (95% sand, 5% silt), fine sand, fine gravel, brown, medium dense, moist, no odor, no sheen.	SP	100	8/10/12	0.0			
15		15.0-16.5' Poorly graded SAND (95% sand, 5% silt), fine sand, fine gravel, brown, medium dense, moist, no odor, no sheen.	SP	100	9/10/10	0.0			Bentonite
20		20.0-21.5' Poorly graded SAND (95% sand, 5% silt), fine sand, fine gravel, grey, dense, moist, no odor, no sheen.	SP	100	12/14/17	0.0			
25		25.0-25.5' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, fine gravel, grey, dense, moist, no odor, no sheen.	SP	100	12/16/20	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.53
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.22
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226850.58
Screened Interval (ft bgs):	99-109	**Boring Abandonment:**	NA		**Y:** 372769.70

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Issaquah, Washington 98027

Log of Boring: MW-14

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA
Farallon PN: 454-001
Logged By: Ken Scott

Date/Time Started:	12/3/13 @ 1045	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/3/13 @ 1650	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	104
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	109
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	109
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
30		30.0-31.5' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, fine gravel, grey, dense, moist, no odor, no sheen.	SP		100	20/20/20	0.0			
35		35.0-35.6' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, fine gravel, light brown, very dense, moist, no odor, no sheen. Observed cobble at 35.5 feet bgs.	SP		30	21/50-6"	0.0			
40		40.0-40.6' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, fine gravel, tan, very dense, moist, no odor, no sheen.	SP		35	26/50-6"	0.0			Bentonite
45		45.0-45.6' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, fine gravel, tan, very dense, moist, no odor, no sheen.	SP		35	34/50-6"	0.0			
50		50.0-50.6' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SP		35	50-6"	0.0			
55		55.0-55.6' Silty SAND (70% sand, 30% silt), fine sand, brown, very dense, moist, no odor, no sheen.	SM		35	50-6"	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.53
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.22
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226850.58
Screened Interval (ft bgs):	99-109	**Boring Abandonment:**	NA		**Y:** 372769.70

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Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	104
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	109
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	109
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
60		60.0-60.4' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SP		100	21/20/23	0.0	MW14-60.0	X	
		60.4-61.2' Silty SAND (60% sand, 40% silt), fine sand, brown, dense, moist to wet, no odor, no sheen.	SM							
		61.2-61.5' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, grey, very dense, moist to wet, no odor, no sheen.	SW		100	12/20/20	0.0			
65		62.5-63.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW							
		63.0-63.5' SILT (95% silt, 5% sand), fine sand, brown, hard, moist, no odor, no sheen.	ML		25	22/26/25	0.0			
		63.5-64.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW							
70		65.0-66.1' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW		100	34/31/30	0.0			
		66.1-66.5' SILT (100% silt), fine sand, brown, hard, moist, no odor, no sheen.	ML							
		67.5-69.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW		75	49/34/31	0.0			Bentonite
75		70.0-71.0' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, light brown, very dense, moist, no odor, no sheen.	SP							
		75.0-76.5' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SP		100	24/25/25	0.0			
80		80.0-81.5' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SP		100	35/30/39	0.0			
85		85.0-86.5' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW		100	41/50-6"	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.53
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.22
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226850.58
Screened Interval (ft bgs):	99-109	**Boring Abandonment:**	NA		**Y:** 372769.70

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Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	109
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	109
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
90		90.0-91.5' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW		100	41/40/40	0.0			Bentonite
95		95.0-96.5' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW		100	46/50-6"	0.0			Sand
100		100.0-100.7' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW		80	41/50-6"	0.0			Screen
		100.7-101.0' Silty SAND (80% sand, 20% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SM							Water level
105		105.0-106.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, wet, no odor, no sheen. Observed groundwater at 105-feet bgs, driller stated water at 104-feet bgs.	SW		60	50-6"	0.0	MW14-105.0	X	
		107.5-109.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, dense, wet, no odor, no sheen.	SW		100	20/20/20	0.0			
110										

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	116.53
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.22
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226850.58
Screened Interval (ft bgs):	99-109	**Boring Abandonment:**	NA		**Y:** 372769.70

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-15

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA

Farallon PN: 454-001

Logged By: Ken Scott

Date/Time Started:	12/4/13 @ 915	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/4/13 @ 1600	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	106
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	111.5
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	111
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Organic (100% grass), root rhizomes	OL						Cap
		0.3'-5.5' Poorly graded SAND Fill (90% sand, 5% silt, 5% gravel), fine to medium sand, fine gravel, brown, medium dense, moist, no odor, no sheen. Hand-dig to 5 feet bgs to clear for utilities.	SP	100	NA	0.0			Concrete
5		5.5-6.0' Silty SAND (70% sand, 30% silt), fine sand, brown, medium dense, moist, no odor, no sheen. Observed subround grey gravel.	SM	70	10/11/11	0.0			
10		10.0'-11.5' Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, medium dense, moist, no odor, no sheen.	SP-SM	100	8/10/12	0.0			
15		15.0-16.2' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, brown, medium dense, moist, no odor, no sheen.	SP	80	10/13/13	0.0			Bentonite
20		20.0-21.3' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, tan, medium dense, moist, no odor, no sheen.	SP	90	11/12/12	0.0			
25		25.0-26.5' Poorly graded SAND (95% sand, 5% silt), fine sand, fine gravel, tan, medium dense, moist, no odor, no sheen.	SP	100	11/12/9	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	117.23
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.23
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226827.21
Screened Interval (ft bgs):	101-111	**Boring Abandonment:**	NA		**Y:** 372565.40

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-15

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA
Farallon PN: 454-001
Logged By: Ken Scott

Date/Time Started:	12/4/13 @ 915	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/4/13 @ 1600	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	106
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	111.5
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	111
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Boring/Well Construction Details
30	30.0-31.3' Poorly graded SAND (95% sand, 5% silt), fine sand, fine gravel, grey, dense, moist, no odor, no sheen.	SP	90	12/14/17	0.0		
35	35.0-36.5' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, fine gravel, light brown, dense, moist, no odor, no sheen.	SP	100	14/16/24	0.0		
40	40.0-41.5' Silty SAND (80% sand, 20% silt), fine to medium sand, tan, dense, moist, no odor, no sheen.	SM	100	19/19/20	0.0		Bentonite
45	45.0-46.5' Poorly graded SAND (95% sand, 5% silt), fine sand, tan, dense, moist, no odor, no sheen.	SP	100	21/20/20	0.0		
50	50.0-50.5' Poorly graded SAND (95% sand, 5% silt), fine sand, tan, very dense, moist, no odor, no sheen.	SP	100	30/34/36	0.0		
	50.5-51.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW					
	51.0-51.6' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SM					
55	55.0-56.0' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SM	100	22/30/30	0.0		
		ML					

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	117.23
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.23
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226827.21
Screened Interval (ft bgs):	101-111	**Boring Abandonment:**	NA		**Y:** 372565.40

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-15

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA
Farallon PN: 454-001
Logged By: Ken Scott

Date/Time Started:	12/4/13 @ 915	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/4/13 @ 1600	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	106
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	111.5
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	111
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
		56.0-56.5' Sandy SILT (60% silt, 40% sand), fine sand, brown, hard, moist, no odor, no sheen.								
60		60.0-61.5' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, dense, moist, no odor, no sheen.	SM		100	24/21/20	0.0			
65		65.0-66.0' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, very dense, moist to wet at 66-feet bgs, no odor, no sheen.	SM		100	34/31/30	0.0	MW15-65.0	X	
		66.0-66.5' Silty SAND (60% sand, 40% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SM							
70		70.0-71.0' Poorly graded SAND (95% sand, 5% silt), fine sand, tan, very dense, moist, no odor, no sheen.	SP		60	32/36/34	0.0			Bentonite
75		75.0-76.5' Poorly graded SAND (95% sand, 5% silt), fine sand, tan, very dense, moist, no odor, no sheen.	SP		100	36/39/21	0.0			
80		80.0-81.3' Poorly graded SAND (95% sand, 5% silt), fine sand, tan, very dense, moist, no odor, no sheen.	SP		100	37/32/34	0.0			
		81.3-81.5' Silty SAND (70% sand, 30% silt), fine sand, brown, very dense, moist, no odor, no sheen.	SM							
85		85.0-86.5' Silty SAND (70% sand, 30% silt), fine sand, tan, very dense, moist, no odor, no sheen.	SM		100	27/34/30	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	117.23
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.23
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226827.21
Screened Interval (ft bgs):	101-111	**Boring Abandonment:**	NA		**Y:** 372565.40

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-15

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA

Farallon PN: 454-001

Logged By: Ken Scott

Date/Time Started:	12/4/13 @ 915	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/4/13 @ 1600	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	106
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	111.5
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	111
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
90		90.0-91.5' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SP		100	30/32/30	0.0			Bentonite
95		95.0-96.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW		100	36/50-6"	0.0			
100		100.0-101.0' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, moist, no odor, no sheen.	SW		60	50-6"	0.0	MW15-100.0	X	Sand Screen
105		105.0-105.6' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, slight wet at 105-feet bgs, no odor, no sheen. Driller states wet at 106-feet bgs.	SW		35	50-6"	0.0			Water Level
110										

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	117.23
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.23
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226827.21
Screened Interval (ft bgs):	101-111	**Boring Abandonment:**	NA		**Y:** 372565.40

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-16

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA
Farallon PN: 454-001
Logged By: Ken Scott

Date/Time Started:	12/5/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/5/13 @ 1645	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	105
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	110
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	110
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-0.3' Asphalt (100% asphalt), black.	AC						Cap
		0.3-6.5' Silty SAND with gravel Fill (65% sand, 20% silt, 15% gravel), fine to medium sand, fine to coarse gravel, yellowish-brown, loose, moist to wet at 6 feet bgs, no odor, no sheen.	SM	100	NA	0.0			Concrete
5				100	3/3/4	0.0			
10		10.0-11.2' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, medium dense, moist, no odor, no sheen.	SM	80	7/11/12	0.0			
15		15.0-16.5' Silty SAND (70% sand, 30% silt), fine to medium sand, tan, medium dense, moist, no odor, no sheen.	SM	100	12/20/19	0.0			Bentonite
20		20.0-21.5' Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine to medium sand, fine to coarse gravel, tan, very dense, moist, no odor, no sheen.	SM	100	19/20/28	0.0			
25		25.0-26.5' Silty SAND (70% sand, 30% silt), fine to medium sand, tan, medium dense, moist, no odor, no sheen.	SM	100	14/14/14	0.0			

Well Construction Information

Monument Type: Flush
Casing Diameter (inches): 2
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 100-110

Filter Pack: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Boring Abandonment: NA

Ground Surface Elevation (ft): 117.30
Top of Casing Elevation (ft): 116.92
Surveyed Location: X: 1226698.97
Y: 372394.01

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-16

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA

Farallon PN: 454-001

Logged By: Ken Scott

Date/Time Started:	12/5/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/5/13 @ 1645	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	105
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	110
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	110
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
30		30.0-31.5' Silty SAND (70% sand, 30% silt), fine to medium sand, tan, medium dense, moist, no odor, no sheen.	SM		100	14/12/15	0.0			
35		35.0-36.5' Silty SAND (75% sand, 25% silt), fine sand, tan, dense, moist, no odor, no sheen.	SM		100	15/19/18	0.0			
40		40.0-41.5' Silty SAND (75% sand, 25% silt), fine sand, tan, dense, moist, no odor, no sheen.	SM		100	17/21/20	0.0			
45		45.0-46.5' Silty SAND (75% sand, 25% silt), fine sand, tan, dense, moist, no odor, no sheen.	SM		100	20/20/20	0.0			
50		50.0-51.5' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, fine gravel, tan, very dense, moist, no odor, no sheen.	SP		100	25/30/31	0.0			
55		55.0-55.5' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, fine gravel, tan, very dense, moist, no odor, no sheen.	SP		100	41/50-6"	0.0			

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	117.30
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.92
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226698.97
Screened Interval (ft bgs):	100-110	**Boring Abandonment:**	NA		**Y:** 372394.01

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-16

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA

Farallon PN: 454-001

Logged By: Ken Scott

Date/Time Started:	12/5/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/5/13 @ 1645	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	105
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	110
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	110
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
		55.5-56.1' SILT (100% silt), brown, hard, moist, no odor, no sheen. Drive hammer broke, and sheared off during blow counts. Replaced 300 lb hammer with 140 lb hammer and continue drilling.	ML							
			SM							
60		56.1-56.5' Silty SAND (70% sand, 30% silt), fine to medium sand, brown, very dense, moist, no odor, no sheen.	SP		40	50-6"	0.0			
		60.0-60.6' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, tan, very dense, moist, no odor, no sheen.								
65		65.0-65.3' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, tan, very dense, moist, no odor, no sheen.	SP		25	50-6"	0.0	MW16-65.0	X	Bentonite
			SM							
		65.3-65.5' Silty SAND (60% sand, 40% silt), fine sand, brown, very dense, moist to wet at 65.5 feet bgs, no odor, no sheen.								
70		70.0-70.6' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW		40	50-6"	0.0			
			SW							
		70.0-70.6' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.								
75		75.0-75.6' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW		40	50-6"	0.0			
80		80.0-80.6' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW		40	60-6"	0.0			
85										

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	117.30
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.92
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226698.97
Screened Interval (ft bgs):	100-110	**Boring Abandonment:**	NA		**Y:** 372394.01

FARALLON consulting
975 5th Avenue Northwest
Issaquah, Washington 98027

Log of Boring: MW-16

Client: Marty Winn
Project: Whidbey Marine & Auto
Location: Freeland, WA

Farallon PN: 454-001

Logged By: Ken Scott

Date/Time Started:	12/5/13 @ 1015	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	12/5/13 @ 1645	**Drive Hammer (lbs.):**	300
Equipment:	CME-75	**Depth of Water ATD (ft bgs):**	105
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	110
Drilling Foreman:	James Goble	**Total Well Depth (ft bgs):**	110
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
85		85.0-85.6' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, light brown, very dense, moist, no odor, no sheen.	SW		40	50-6"	0.0			
90		90.0-90.6' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, light brown, very dense, moist, no odor, no sheen.	SP		40	60-6"	0.0			Bentonite
95		95.0-95.5' Poorly graded SAND (95% sand, 5% silt), fine to medium sand, light brown, very dense, moist, no odor, no sheen.	SP		35	60-6"	0.0			Sand
100		100.0-100.5' Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine sand, brown, very dense, moist, no odor, no sheen.	SP		35	100-5"	0.0			Screen
105		105.0-105.5' Silty SAND (80% sand, 20% silt), fine to medium sand, brown, very dense, slight wet, no odor, no sheen. Driller states water at 105-feet bgs.	SM		35	100-6"	0.0	MW16-105.0	X	Water Level
		107.0-107.6' Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, very dense, wet, no odor, no sheen. Observe water at 107 feet bgs. Drill to 110 feet bgs to install screen.	SW		40	100-6"	0.0			
110										

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	2/12 Silica Sand	**Ground Surface Elevation (ft):**	117.30
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	116.92
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** 1226698.97
Screened Interval (ft bgs):	100-110	**Boring Abandonment:**	NA		**Y:** 372394.01

APPENDIX B
LABORATORY ANALYTICAL REPORTS

DECEMBER 2013 PROGRESS REPORT
Whidbey Marine & Auto Supply Site
Freeland, Washington

Farallon PN: 454-001

December 11, 2013

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

Dear Mr. Grabau,

On December 6th, 9 samples were received by our laboratory and assigned our laboratory project number EV13120055. 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

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -01
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/2/2013 12:05:00 PM
CLIENT SAMPLE ID	MW13-65.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/09/2013	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	12/09/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/09/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	12/09/2013	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	12/09/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**134**	12/09/2013	DLC
TFT	EPA-8021	**120**	12/09/2013	DLC
C25	NWTPH-DX	**91.8**	12/09/2013	EBS

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

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -02
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/2/2013 1:50:00 PM
CLIENT SAMPLE ID	MW13-106.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**1900**	60	20	MG/KG	12/09/2013	DLC
Benzene	EPA-8021	**2.9**	0.60	20	MG/KG	12/09/2013	DLC
Toluene	EPA-8021	**72**	1.0	20	MG/KG	12/09/2013	DLC
Ethylbenzene	EPA-8021	**15**	1.0	20	MG/KG	12/09/2013	DLC
Xylenes	EPA-8021	**75**	4.0	20	MG/KG	12/09/2013	DLC
TPH-Diesel Range	NWTPH-DX	**490**	25	1	MG/KG	12/09/2013	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	12/09/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 20X Dilution	NWTPH-GX	**167 GS2**	12/09/2013	DLC
TFT 20X Dilution	EPA-8021	**243 GS2**	12/09/2013	DLC
C25	NWTPH-DX	**107**	12/09/2013	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
GS2 - Surrogate outside of control limits due to dilution.
Chromatogram indicates that it is likely that sample contains highly weathered gasoline and weathered diesel.
Gasoline range product results biased high due to semivolatile range product overlap.

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ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -03
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/3/2013 12:00:00 PM
CLIENT SAMPLE ID	MW14-60.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/10/2013	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	12/10/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/10/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/10/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/10/2013	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**65.4**	12/10/2013	DLC
TFT	EPA-8021	**63.9**	12/10/2013	DLC

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -04
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/3/2013 1:55:00 PM
CLIENT SAMPLE ID	MW14-105.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/10/2013	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	12/10/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/10/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/10/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/10/2013	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**101**	12/10/2013	DLC
TFT	EPA-8021	**99.6**	12/10/2013	DLC

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -05
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/4/2013 11:40:00 AM
CLIENT SAMPLE ID	MW15-65.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/10/2013	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	12/10/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/10/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/10/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/10/2013	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**100**	12/10/2013	DLC
TFT	EPA-8021	**93.1**	12/10/2013	DLC

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -06
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/4/2013 2:00:00 PM
CLIENT SAMPLE ID	MW15-100.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/09/2013	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	12/09/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/09/2013	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**105**	12/09/2013	DLC
TFT	EPA-8021	**102**	12/09/2013	DLC

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -07
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/5/2013 12:05:00 PM
CLIENT SAMPLE ID	MW16-65.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/09/2013	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	12/09/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/09/2013	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**102**	12/09/2013	DLC
TFT	EPA-8021	**99.3**	12/09/2013	DLC

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -08
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/5/2013 1:55:00 PM
CLIENT SAMPLE ID	MW16-105.0	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/09/2013	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	12/09/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/09/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/09/2013	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**99.4**	12/09/2013	DLC
TFT	EPA-8021	**96.5**	12/09/2013	DLC

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/11/2013 EV13120055 -09
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/6/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/6/2013 10:30:00 AM
CLIENT SAMPLE ID	MW-13-Dev H2O	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**160000**	5000	100	UG/L	12/09/2013	DLC
Benzene	EPA-8021	**2500**	100	100	UG/L	12/09/2013	DLC
Toluene	EPA-8021	**38000**	200	200	UG/L	12/10/2013	DLC
Ethylbenzene	EPA-8021	**2100**	100	100	UG/L	12/09/2013	DLC
Xylenes	EPA-8021	**11000**	300	100	UG/L	12/09/2013	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 100X Dilution	NWTPH-GX	**100**	12/09/2013	DLC
TFT 100X Dilution	EPA-8021	**108**	12/09/2013	DLC
TFT 200X Dilution	EPA-8021	**109**	12/10/2013	DLC

Chromatogram indicates that it is likely that sample contains lightly weathered gasoline.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	12/11/2013
		ALS SDG#:	EV13120055
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Paul Grabau		
CLIENT PROJECT:	454-001		

LABORATORY BLANK RESULTS

MBG-120213S - Batch 7436 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	12/02/2013	DLC

MBG-120413W - Batch 7449 - 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	12/04/2013	DLC

MB-120213S - Batch 7436 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	12/02/2013	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	12/02/2013	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	12/02/2013	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	12/02/2013	DLC

MB-120413W - Batch 7449 - 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	12/04/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/04/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/04/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/04/2013	DLC

MB-120913S - Batch 7459 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	12/09/2013	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	12/09/2013	EBS

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	12/11/2013
		ALS SDG#:	EV13120055
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Paul Grabau		
CLIENT PROJECT:	454-001		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 7436 - Soil by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**66.8**			12/02/2013	DLC
TPH-Volatile Range - BSD	NWTPH-GX	**69.4**	**4**		12/02/2013	DLC

ALS Test Batch ID: 7449 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**67.2**			12/04/2013	DLC
TPH-Volatile Range - BSD	NWTPH-GX	**71.7**	**6**		12/04/2013	DLC

ALS Test Batch ID: 7436 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Benzene - BS	EPA-8021	**88.6**			12/03/2013	DLC
Benzene - BSD	EPA-8021	**87.1**	**2**		12/03/2013	DLC
Toluene - BS	EPA-8021	**92.3**			12/03/2013	DLC
Toluene - BSD	EPA-8021	**90.3**	**2**		12/03/2013	DLC
Ethylbenzene - BS	EPA-8021	**88.9**			12/03/2013	DLC
Ethylbenzene - BSD	EPA-8021	**87.8**	**1**		12/03/2013	DLC
Xylenes - BS	EPA-8021	**92.0**			12/03/2013	DLC
Xylenes - BSD	EPA-8021	**90.4**	**2**		12/03/2013	DLC

ALS Test Batch ID: 7449 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Benzene - BS	EPA-8021	**93.4**			12/04/2013	DLC
Benzene - BSD	EPA-8021	**96.4**	**3**		12/04/2013	DLC
Toluene - BS	EPA-8021	**92.2**			12/04/2013	DLC
Toluene - BSD	EPA-8021	**95.7**	**4**		12/04/2013	DLC
Ethylbenzene - BS	EPA-8021	**93.2**			12/04/2013	DLC
Ethylbenzene - BSD	EPA-8021	**96.0**	**3**		12/04/2013	DLC
Xylenes - BS	EPA-8021	**95.8**			12/04/2013	DLC
Xylenes - BSD	EPA-8021	**96.9**	**1**		12/04/2013	DLC

ALS Test Batch ID: 7459 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**107**			12/09/2013	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**106**	**1**		12/09/2013	EBS

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS SDG#: WDOE ACCREDITATION:	12/11/2013 EV13120055 C601
CLIENT CONTACT:	Paul Grabau		
CLIENT PROJECT:	454-001		

LABORATORY CONTROL SAMPLE RESULTS

APPROVED BY

Laboratory Director

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Chain of Custody

EV1312055

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FARALLON
Project Number: 454-001
Project Name: Whidbey Marine + Auto
Project Manager: PAUL GRABAU
Sampled by: Ken Scott

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number:

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals/ MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664A	% Moisture
1	MW13-65.0	12/2/13	1205	S	2		X		X												
2	MW13-106.0	↓	1350	S	2		X		X												
3	MW14-60.0	12/3/13	1200	S	2		X														
4	MW14-105.0	↓	1355	S	2		X														
5	MW15-65.0	12/4/13	1140	S	2		X														
6	MW15-100.0	↓	1400	S	2		X														
7	MW16-65.0	12/5/13	1205	S	2		X														
8	MW16-105.0	↓	1355	S	2		X														
9	MW-13-Dev H_2O	12/6/13	1030	W	3		X														

	Signature	Company	Date	Time
Relinquished	Ken Scott	FARALLON	12/6/13	1540
Received	Shawn Robinson	ALS	12/6/13	1540
Relinquished				
Received				
Relinquished				
Received				

Comments/Special Instructions

Reviewed/Date

Reviewed/Date

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐

Electronic Data Deliverables (EDDs) ☐ _____

December 31, 2013

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

Dear Mr. Grabau,

On December 20th, 14 samples were received by our laboratory and assigned our laboratory project number EV13120135. 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

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -01
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/18/2013 12:53:00 PM
CLIENT SAMPLE ID	MW-15-121813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/26/2013	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	12/26/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/26/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	12/27/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/27/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**79.7**	12/26/2013	DLC
TFT	EPA-8021	**80.3**	12/26/2013	DLC
C25	NWTPH-DX	**92.1**	12/27/2013	EBS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -02
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/18/2013 2:42:00 PM
CLIENT SAMPLE ID	MW-16-121813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/21/2013	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/21/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	12/27/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/27/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**86.0**	12/21/2013	DLC
TFT	EPA-8021	**83.3**	12/21/2013	DLC
C25	NWTPH-DX	**98.1**	12/27/2013	EBS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	12/31/2013
		ALS JOB#:	EV13120135
		ALS SAMPLE#:	-03
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/18/2013 3:55:00 PM
CLIENT SAMPLE ID	MW-14-121813	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/21/2013	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/21/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	12/27/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/27/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**75.4**	12/21/2013	DLC
TFT	EPA-8021	**81.2**	12/21/2013	DLC
C25	NWTPH-DX	**99.6**	12/27/2013	EBS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	12/31/2013
		ALS JOB#:	EV13120135
		ALS SAMPLE#:	-04
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 8:39:00 AM
CLIENT SAMPLE ID	MW-3-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/21/2013	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/21/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	12/26/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/26/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**79.0**	12/21/2013	DLC
TFT	EPA-8021	**88.0**	12/21/2013	DLC
C25	NWTPH-DX	**91.0**	12/26/2013	EBS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -05
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 9:21:00 AM
CLIENT SAMPLE ID	MW-1-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/21/2013	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/21/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	12/27/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/27/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**83.2**	12/21/2013	DLC
TFT	EPA-8021	**81.5**	12/21/2013	DLC
C25	NWTPH-DX	**101**	12/27/2013	EBS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE:	12/31/2013
		ALS JOB#:	EV13120135
		ALS SAMPLE#:	-06
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 10:21:00 AM
CLIENT SAMPLE ID	MW-10-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/21/2013	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/21/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	12/27/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/27/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**84.4**	12/21/2013	DLC
TFT	EPA-8021	**87.3**	12/21/2013	DLC
C25	NWTPH-DX	**96.0**	12/27/2013	EBS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -07
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 11:48:00 AM
CLIENT SAMPLE ID	MW-4-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**41000**	1200	25	UG/L	12/26/2013	DLC
Benzene	EPA-8021	U	25	25	UG/L	12/26/2013	DLC
Toluene	EPA-8021	U	25	25	UG/L	12/26/2013	DLC
Ethylbenzene	EPA-8021	**280**	25	25	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	**11000**	75	25	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	630	1	UG/L	12/27/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/27/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 25X Dilution	NWTPH-GX	**89.9**	12/26/2013	DLC
TFT 25X Dilution	EPA-8021	**84.0**	12/26/2013	DLC
C25	NWTPH-DX	**101**	12/27/2013	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains highly weathered gasoline.
Diesel range product reporting limits raised due to volatile range product overlap.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -08
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 11:55:00 AM
CLIENT SAMPLE ID	MW-2-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**82**	50	1	UG/L	12/26/2013	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	12/26/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/26/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	**5400**	650	5	UG/L	12/30/2013	EBS
TPH-Oil Range	NWTPH-DX	**11000**	1200	5	UG/L	12/30/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**111**	12/26/2013	DLC
TFT	EPA-8021	**106**	12/26/2013	DLC
C25 5X Dilution	NWTPH-DX	**103**	12/30/2013	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains highly weathered gasoline and light oil/lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -09
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 1:35:00 PM
CLIENT SAMPLE ID	MW-8-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**24000**	1200	25	UG/L	12/26/2013	DLC
Benzene	EPA-8021	U	25	25	UG/L	12/26/2013	DLC
Toluene	EPA-8021	U	25	25	UG/L	12/26/2013	DLC
Ethylbenzene	EPA-8021	**150**	25	25	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	**4200**	75	25	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	630	1	UG/L	12/26/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/26/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 25X Dilution	NWTPH-GX	**95.2**	12/26/2013	DLC
TFT 25X Dilution	EPA-8021	**91.3**	12/26/2013	DLC
C25	NWTPH-DX	**97.2**	12/26/2013	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains highly weathered gasoline.
Diesel range product reporting limits raised due to volatile range product overlap.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -10
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 2:15:00 PM
CLIENT SAMPLE ID	MW-6-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**8900**	250	5	UG/L	12/26/2013	DLC
Benzene	EPA-8021	U	5.0	5	UG/L	12/26/2013	DLC
Toluene	EPA-8021	U	5.0	5	UG/L	12/26/2013	DLC
Ethylbenzene	EPA-8021	**120**	5.0	5	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	**1700**	15	5	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	250	1	UG/L	12/26/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/26/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 5X Dilution	NWTPH-GX	**115**	12/26/2013	DLC
TFT 5X Dilution	EPA-8021	**107**	12/26/2013	DLC
C25	NWTPH-DX	**97.5**	12/26/2013	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains highly weathered gasoline.
Diesel range product reporting limits raised due to volatile range product overlap.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -11
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 3:36:00 PM
CLIENT SAMPLE ID	MW-13-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**120000**	12000	250	UG/L	12/27/2013	DLC
Benzene	EPA-8021	**2500**	50	50	UG/L	12/26/2013	DLC
Toluene	EPA-8021	**30000**	250	250	UG/L	12/27/2013	DLC
Ethylbenzene	EPA-8021	**1100**	50	50	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	**5700**	150	50	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	**1000**	130	1	UG/L	12/26/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/26/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 250X Dilution	NWTPH-GX	**98.7**	12/27/2013	DLC
TFT 50X Dilution	EPA-8021	**87.0**	12/26/2013	DLC
TFT 250X Dilution	EPA-8021	**91.5**	12/27/2013	DLC
C25	NWTPH-DX	**97.9**	12/26/2013	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.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -12
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/19/2013 6:36:00 PM
CLIENT SAMPLE ID	QAQC-1-121913	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**110000**	10000	200	UG/L	12/27/2013	DLC
Benzene	EPA-8021	**2500**	50	50	UG/L	12/26/2013	DLC
Toluene	EPA-8021	**28000**	200	200	UG/L	12/27/2013	DLC
Ethylbenzene	EPA-8021	**1100**	50	50	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	**5600**	150	50	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	**820**	130	1	UG/L	12/30/2013	EBS
TPH-Oil Range	NWTPH-DX	**290**	250	1	UG/L	12/30/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 200X Dilution	NWTPH-GX	**96.5**	12/27/2013	DLC
TFT 50X Dilution	EPA-8021	**91.2**	12/26/2013	DLC
TFT 200X Dilution	EPA-8021	**91.5**	12/27/2013	DLC
C25	NWTPH-DX	**103**	12/30/2013	EBS

Chromatogram indicates that it is likely that sample contains lightly weathered gasoline, weathered diesel and lube oil.
Diesel range product results biased high due to gasoline range product overlap.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -13
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/20/2013 10:49:00 AM
CLIENT SAMPLE ID	MW-11-122013	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**2800**	100	2	UG/L	12/26/2013	DLC
Benzene	EPA-8021	**8.4**	2.0	2	UG/L	12/26/2013	DLC
Toluene	EPA-8021	**64**	2.0	2	UG/L	12/26/2013	DLC
Ethylbenzene	EPA-8021	**26**	2.0	2	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	**440**	6.0	2	UG/L	12/26/2013	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	12/30/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/30/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 2X Dilution	NWTPH-GX	**97.5**	12/26/2013	DLC
TFT 2X Dilution	EPA-8021	**90.8**	12/26/2013	DLC
C25	NWTPH-DX	**98.1**	12/30/2013	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.

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/31/2013 EV13120135 -14
CLIENT CONTACT:	Paul Grabau	DATE RECEIVED:	12/20/2013
CLIENT PROJECT:	454-001	COLLECTION DATE:	12/20/2013 12:24:00 PM
CLIENT SAMPLE ID	MW-12-122013	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**78000**	2500	50	UG/L	12/27/2013	DLC
Benzene	EPA-8021	**38**	20	20	UG/L	12/26/2013	DLC
Toluene	EPA-8021	**3300**	20	20	UG/L	12/26/2013	DLC
Ethylbenzene	EPA-8021	**1200**	20	20	UG/L	12/26/2013	DLC
Xylenes	EPA-8021	**11000**	150	50	UG/L	12/27/2013	DLC
TPH-Diesel Range	NWTPH-DX	**2500**	130	1	UG/L	12/30/2013	EBS
TPH-Oil Range	NWTPH-DX	**790**	250	1	UG/L	12/30/2013	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT 50X Dilution	NWTPH-GX	**101**	12/27/2013	DLC
TFT 20X Dilution	EPA-8021	**102**	12/26/2013	DLC
TFT 50X Dilution	EPA-8021	**95.0**	12/27/2013	DLC
C25	NWTPH-DX	**104**	12/30/2013	EBS

Chromatogram indicates that it is likely that sample contains lightly weathered gasoline, weathered diesel and lube oil.
Diesel range product results biased high due to gasoline range product overlap.

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CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS SDG#: WDOE ACCREDITATION:	12/31/2013 EV13120135 C601
CLIENT CONTACT:	Paul Grabau		
CLIENT PROJECT:	454-001		

LABORATORY BLANK RESULTS

MBG-122113W - Batch 7496 - 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	12/21/2013	DLC

MB-122113W - Batch 7496 - 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	12/21/2013	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/21/2013	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	12/21/2013	DLC

MB-121613W - Batch 7471 - 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	12/16/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/16/2013	EBS

MB-122013W - Batch 7494 - 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	12/23/2013	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	12/23/2013	EBS

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CERTIFICATE OF ANALYSIS

CLIENT:	Farallon Consulting 1201 Cornwall Ave, Suite 105 Bellingham, WA 98225	DATE: ALS SDG#: WDOE ACCREDITATION:	12/31/2013 EV13120135 C601
CLIENT CONTACT:	Paul Grabau		
CLIENT PROJECT:	454-001		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 7496 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**67.5**			12/21/2013	DLC
TPH-Volatile Range - BSD	NWTPH-GX	**72.3**	**7**		12/21/2013	DLC

ALS Test Batch ID: 7496 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Benzene - BS	EPA-8021	**91.9**			12/21/2013	DLC
Benzene - BSD	EPA-8021	**94.1**	**2**		12/21/2013	DLC
Toluene - BS	EPA-8021	**90.8**			12/21/2013	DLC
Toluene - BSD	EPA-8021	**92.2**	**2**		12/21/2013	DLC
Ethylbenzene - BS	EPA-8021	**88.1**			12/21/2013	DLC
Ethylbenzene - BSD	EPA-8021	**89.2**	**1**		12/21/2013	DLC
Xylenes - BS	EPA-8021	**90.4**			12/21/2013	DLC
Xylenes - BSD	EPA-8021	**92.6**	**2**		12/21/2013	DLC

ALS Test Batch ID: 7471 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**87.0**			12/16/2013	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**90.4**	**4**		12/16/2013	EBS

ALS Test Batch ID: 7494 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**66.4**			12/23/2013	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**67.0**	**1**		12/23/2013	EBS

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

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): EV13120135

Date 12/20/13 Page 1 Of 2

PROJECT ID:	454-001
REPORT TO COMPANY:	Farallon Consulting
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 COMPANY:	Colony Insurance
ATTENTION:	Carol Lybeer
ADDRESS:	

ANALYSIS REQUESTED

#	SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	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 ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1.	MW-15-121813	12/18/13	1253	Water	1		X	X	X														
2.	MW-16-121813		1442		2		X	X	X														
3.	MW-14-121813		1555		3		X	X	X														
4.	MW-3-121913	12/19/13	0839		4		X	X	X														
5.	MW-1-121913		0921		5		X	X	X														
6.	MW-10-121913		1021		6		X	X	X														
7.	MW-4-121913		1148		7		X	X	X														
8.	MW-2-121913		1155		8		X	X	X														
9.	MW-8-121913		1335		9		X	X	X														
10.	MW-6-121913		1415		10		X	X	X														

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Emerald Erickson-Mulanax / Farallon | 12/20/13 1525
   Received By: Shawn Robinson ALS 12/20/13 3:25
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: 10 (Standard) ☐ 5 ☐ 3 ☐ 2 ☐ 1 ☐ SAME DAY ☐

Fuels & Hydrocarbon Analysis: 5 (Standard) ☒ 3 ☐ 1 ☐ SAME DAY ☐

OTHER:

Specify:

* Turnaround request less than standard may incur Rush Charges

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): EY13120135

Date 12/20/13 Page 2 Of 2

PROJECT ID: 454-001
REPORT TO COMPANY: Farallon Consulting
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 COMPANY: Colony Insurance
ATTENTION: Carol Lybeer
ADDRESS:

ANALYSIS REQUESTED

	SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	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 ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1.	MW-13-121913	12/19/13	1536	Water	11		X	X	X														
2.	QAQC-1-121913	⟂	1836	⟂	12		X	X	X														
3.	MW-11-122013	12/20/13	1049	⟂	13		X	X	X														
4.	MW-12-122013	⟂	1224	⟂	14		X	X	X														
5.																							
6.																							
7.																							
8.																							
9.																							
10.																							

SPECIAL INSTRUCTIONS: Results to Farallon (Paul Grabau)

SIGNATURES (Name, Company, Date, Time):
1. Relinquished By: Emerald Erickson-Mulanax / Farallon / 12/20/13 1525
   Received By: Shawn Robinson ALS 12/20/13 3:25
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*
Organic, Metals & Inorganic Analysis: 10 (Standard) 5 3 2 1 SAME DAY
Fuels & Hydrocarbon Analysis: [X] 5 (Standard) 3 1 SAME DAY
OTHER: Specify:

* Turnaround request less than standard may incur Rush Charges