CLEANUP ACTION PROGRESS REPORT

JULY 2007

WHIDBEY MARINE & AUTO SUPPLY FACILITY
1689 MAIN STREET
FREELAND, WASHINGTON

Submitted by:
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Farallon PN: 454-001

For:
Whidbey Marine & Auto Supply
1689 Main Street
Freeland, Washington

September 13, 2007

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1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this progress report to document the status of the cleanup action related to the release of gasoline from the underground storage tank (UST) system at the Whidbey Marine & Auto Supply facility located at 1689 Main Street in Freeland, Washington (herein referred to as the Facility) (Figure 1). The cleanup action at the Facility is being conducted under the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program. The Facility has been assigned Toxics Cleanup Program Identification Number NW1529.

This progress report presents the results of the June 2007 quarterly groundwater monitoring event at the Facility and a discussion of the overall progress of the cleanup action. The report also details the operation and maintenance (O&M) activities conducted from April 23 through June 19, 2007 for the soil vapor extraction (SVE) system that has been installed at the Facility. The SVE system was installed to address the presence of gasoline-range petroleum hydrocarbons in vadose zone soil identified during soil and groundwater investigations conducted at the Facility in 2005 and 2006.

The progress report is organized as follows:

- Section 2 presents background information on environmental investigation and cleanup activities conducted at the Facility to date.
- Section 3 describes the methods and analytical results of the June 2007 groundwater monitoring event conducted at the Facility.
- Section 4 details the O&M activities conducted on the SVE system from April 23 through June 19, 2007.
- Section 5 presents an updated site conceptual model for the Facility.

- Section 6 provides Farallon's summary and conclusions pertaining to recent investigation, monitoring, and remediation activities conducted at the Facility, and recommendations for additional actions.

- Section 7 lists the documents that are cited in this progress report.

2.0 BACKGROUND

The fueling system at the Facility consists of one 8,000-gallon-capacity gasoline UST, two 10,000-gallon-capacity gasoline USTs, and one 3,000-gallon-capacity diesel UST. One of the 10,000-gallon-capacity gasoline USTs, designated as Tank 2, currently is out of service. A single pump island is used to dispense fuel from three pump dispensers. An aboveground propane tank also is present at the Facility. A site plan for the Facility is provided on Figure 2.

Farallon was initially contracted in 2005 to assess whether petroleum hydrocarbons had been released from a UST at the Facility as suggested by the fuel inventory reconciliation records for Tank 2 (Figure 2). Three phases of field investigation activities were conducted by Farallon at the Facility prior to the activities described in this progress report. Details of the environmental investigation activities conducted at the Facility in October and November 2005 were provided in the *Site Characterization Report, Whidbey Marine & Auto Supply, 1689 Main Street, Freeland, Washington,* dated February 10, 2006, which was prepared by Farallon (2006) on behalf of Whidbey Marine & Auto Supply and submitted to Ecology and the Island County Health Department. The following sections summarize the findings of the Site Characterization Report (Farallon 2006) and subsequent cleanup activities.

2.1 INVESTIGATION ACTIVITIES

The first phase of investigation consisted of reconnaissance sampling of soil on October 17, 2005 using a direct-push drilling rig. The second phase of investigation was conducted between November 10 and 14, 2005 using sonic drilling methods to install a single boring to the sea level aquifer located beneath the Facility at a depth of approximately 118 feet below ground surface (bgs). Reconnaissance groundwater samples were collected from the sea level aquifer, and the boring subsequently was backfilled to a total depth of approximately 65 feet bgs, where monitoring well MW-1 was installed in a perched groundwater zone that had been identified during drilling activities (Figure 2). Monitoring well MW-1 was constructed with a screened interval extending from 30 to 65 feet bgs so that it could be used as both a monitoring well and an SVE well.

The third phase of investigation was conducted between November 16 and 18, 2005, and included installing groundwater monitoring wells MW-2 and MW-3 in the perched groundwater zone, drilling soil boring B-7, and constructing SVE wells SVE-2S, SVE-2D, and SVE-3 at angles beneath the UST basin. The monitoring wells, SVE wells, and soil boring completed during the third phase of investigation were installed using a hollow-stem auger drill rig.

Monitoring wells MW-2 and MW-3 were installed with screened intervals extending from 50 to 60 feet bgs. Extraction well SVE-2S was angled at approximately 45 degrees off vertical and completed with a screened interval extending from 20 to 40 feet of the total angled boring depth. The boring depth of the screened interval in extraction well SVE-2S corresponded to a vertical depth of 14 to 28.25 feet bgs. Extraction well SVE-2D was angled at approximately 16 degrees off vertical and constructed with a screened interval extending from 29 to 54 feet of the total angled boring depth. The boring depth of this screened interval corresponded to a vertical depth of 28 to 52 feet bgs. Extraction well SVE-3 was angled at approximately 45 degrees off vertical and completed with a screened interval extending from 35 to 55 feet of the total angled boring depth, corresponding to a vertical depth of 24.75 to 39 feet bgs.

2.2 INVESTIGATION RESULTS

The results of these three phases of field investigation indicated that soil near Tank 2 contained total petroleum hydrocarbons as gasoline-range organics (GRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX) constituents at concentrations above the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A cleanup levels for unrestricted land use from depths of approximately 15 to 65 feet bgs.

Samples of the perched groundwater encountered at approximately 55 feet bgs contained GRO and BTEX constituents at concentrations above MTCA Method A groundwater cleanup levels. No free-phase gasoline was encountered in the monitoring wells. Silt layers encountered at approximately 60 feet bgs appeared to have limited the vertical migration of GRO and BTEX in the subsurface. No soil samples collected below the silt layers underlying the perched water-bearing zone (i.e., at depths greater than 65 feet bgs) contained either GRO or BTEX constituents at concentrations above MTCA cleanup levels. Laboratory results for

reconnaissance groundwater samples collected from the sea level aquifer at approximately 118 feet bgs did not detect GRO or BTEX constituents at levels at or above the laboratory reporting limits.

Groundwater samples collected during the initial round of monitoring on December 5, 2005 indicated that the samples collected from monitoring well MW-1 contained concentrations of GRO and benzene above MTCA Method A cleanup levels for groundwater. Although toluene, ethylbenzene, and xylenes were detected in the groundwater sample from monitoring well MW-1, all concentrations reported were below their respective MTCA Method A cleanup levels. The analytical results for the groundwater sample collected from monitoring well MW-2 reported a concentration of benzene above the MTCA Method A cleanup level for groundwater. GRO, toluene, ethylbenzene, and xylenes also were detected in the groundwater sample collected from monitoring well MW-2 at concentrations below MTCA Method A cleanup levels. Neither GRO nor BTEX constituents were detected at concentrations at or above the laboratory reporting limits in the groundwater sample collected from monitoring well MW-3. Based on the December 2005 monitoring data, the groundwater flow direction beneath the Facility was determined to be to the west, with monitoring well MW-2 situated in the down-gradient direction of groundwater flow from the area of the suspected release near Tank 2.

The investigation results indicated that petroleum hydrocarbon-impacted soil was present predominantly in the area directly beneath Tank 2 (Figure 2). Soils encountered at the Facility consist of dry sands above the approximately 10-foot-thick perched groundwater zone present at approximately 55 to 65 feet bgs. The perched groundwater zone appears to be discontinuous, as it was not encountered during the drilling of soil boring B-7 in the northern portion of the Facility. The lateral extent of impacted groundwater within the perched zone has not been delineated. The three SVE wells installed at the Facility as angled borings beneath the area of the UST release were constructed with screened intervals placed to facilitate the extraction of gasoline vapors from the entire area of impacted vadose zone soil. In addition, monitoring well MW-1 was constructed as a potential dual-purpose well with a 30-foot screened interval, for both groundwater monitoring and vapor extraction use, if necessary (Figure 2). Results of an SVE

pilot test conducted in December 2005 indicated that subsurface conditions at the Facility would be conducive to a remediation approach using this technology.

2.3 SOIL VAPOR EXTRACTION SYSTEM CONSTRUCTION AND OPERATION

On June 7, 2006, the Northwest Clean Air Agency issued Order of Approval to Construct #960 (OAC) for construction and operation of the SVE system at the Facility. The SVE system was designed to treat vadose zone soil impacted with GRO and BTEX constituents as identified during the soil and groundwater investigations described above. System installation was completed on September 5, 2006. The system consists of a regenerative blower and catalytic oxidizer (Catox) connected via subsurface piping to the three SVE wells and dual-purpose SVE/monitoring well MW-1. The SVE system has been operating since start-up activities were completed on September 13, 2006.

2.4 INSTALLATION OF ADDITIONAL WELLS

In February 2007, additional monitoring wells MW-4 and MW-5 were installed at and down-gradient of the Facility, along with two remediation wells designated as AS-1 and AS-2. Monitoring well MW-4 was located at the Facility in the down-gradient direction of groundwater flow from the release area. Monitoring well MW-5 was located down-gradient of the Facility across South Harbor Avenue. Groundwater remediation wells AS-1 and AS-2 were located near the release area close to the USTs (Figure 2). Monitoring well MW-4 was installed with a screened interval extending from 46 to 56 feet bgs, which is a depth similar to that of the perched groundwater zone encountered in previous borings and monitoring wells installed at the Facility. Monitoring well MW-5 was installed with a slightly deeper screened interval, extending from 53 to 63 feet bgs, to account for the location of the well farther down-gradient from the Facility and the projected depth of the perched zone at that location based on the hydraulic gradient. However, no distinct zone of saturation was observed during the installation of monitoring well MW-5. The groundwater sample collected from monitoring well MW-4 in March 2007 contained the highest levels of GRO and BTEX constituents detected since groundwater monitoring began at the Facility. The perched zone of saturation appears to be only approximately 2 feet thick in the area of monitoring well MW-4. Monitoring well MW-5 has been dry since installation. Remediation wells AS-1 and AS-2 were installed with 1-foot-long

screened intervals extending from 55 to 56 feet bgs so that they could be used as air sparging wells.

3.0 GROUNDWATER MONITORING

The groundwater monitoring conducted at the Facility on June 19, 2007 included obtaining depth to groundwater measurements and collecting groundwater samples from monitoring wells MW-1 through MW-4 (Figure 2). Monitoring well MW-5 was dry at the time of the monitoring event. The June 2007 event was the fourth time that groundwater has been monitored and sampled following start-up of the SVE system in September 2006. Details of the field activities and results for the June 2007 monitoring and sampling event are presented below.

3.1 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.

Prior to sampling, groundwater was purged from each monitoring well at a flow rate of approximately 200 milliliters per minute using 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 600XL water quality analyzer equipped with a flow-through cell. Groundwater samples were collected after the temperature, conductivity, and pH parameters stabilized. Stabilization was determined as a relative percent difference of less than 3 percent for temperature and conductivity, and a change of $\pm$0.1 pH unit between readings for three consecutive measurements. The samples were collected by pumping groundwater directly from each well through dedicated polyethylene tubing into laboratory-prepared containers. The samples were labeled, placed on ice, and transported to CCI Analytical Laboratories, Inc. in Everett, Washington for analysis following chain-of-custody protocols.

3.2 ANALYTICAL METHODS

The groundwater samples were analyzed for GRO by Northwest Method NWTPH-Gx and for BTEX by U.S. Environmental Protection Agency Method 8021B.

3.3 GROUNDWATER MONITORING RESULTS

Table 1 presents a summary of the groundwater elevation data for the Facility. A summary of the groundwater quality parameters measured in the field during sampling is summarized in Table 2. Table 3 presents the groundwater analytical results for June 2007 and previous quarterly monitoring events, including a comparison to the corresponding MTCA Method A groundwater cleanup levels. A copy of the laboratory analytical report for the June 19, 2007 groundwater monitoring event is provided in Appendix A.

3.3.1 Groundwater Elevation

The groundwater elevation measured at the Facility on June 19, 2007 ranged from 62.89 feet above mean sea level (msl) in monitoring well MW-2 to 64.49 feet above msl in monitoring well MW-1 (Table 2). Monitoring well MW-5 has been dry each time it has been monitored from the time of installation through the June 2007 monitoring event. Groundwater elevations measured in monitoring wells MW-1 through MW-3 were similar to those measured during the previous monitoring event in March 2007. Figure 3 depicts the groundwater elevation contours for the Facility based on the water levels measured on June 19, 2007. As shown on Figure 3, the general groundwater flow direction at the Facility is to the west-northwest, with an average hydraulic gradient of approximately 0.02 foot per foot.

3.3.2 Analytical Results

The groundwater analytical data for the samples collected on June 19, 2007 are summarized in Table 3. The analytical results indicate that GRO was detected in the groundwater sample collected from monitoring well MW-4 at a concentration of 110,000 micrograms/liter (μg/l). This value exceeds the MTCA Method A cleanup level for GRO in groundwater of 800 μg/l, and is the highest GRO concentration detected in groundwater samples collected at the Facility to date. GRO was detected at a concentration of 1,000 μg/l in the groundwater sample collected from monitoring well MW-2. GRO was not detected above the MTCA Method A cleanup level

in groundwater samples collected from monitoring wells MW-1 or MW-3. This is the second consecutive groundwater monitoring event in which GRO was not detected above the MTCA Method A cleanup level at monitoring well MW-1.

All of the BTEX constituents were detected above their respective MTCA Method A cleanup levels in the groundwater sample collected from monitoring well MW-4, with benzene detected at 22,000 μg/l, toluene at 36,000 μg/l, ethylbenzene at 1,600 μg/l, and xylenes at 8,200 μg/l. The groundwater sample collected from monitoring well MW-2 contained benzene at a concentration of 17 μg/l, which is above the MTCA Method A cleanup level of 5 μg/l. No other BTEX constituents were detected above their respective MTCA Method A cleanup levels in the groundwater samples collected for the June 19, 2007 monitoring event.

3.3.3 Purge Water Handling

The purge water generated during the June 2007 monitoring event is being stored at the Facility in a 55-gallon drum. A total of approximately 5 gallons of purge and decontamination water was generated during the June 2007 sampling event.

3.4 WASTE DISPOSAL

On April 9, 2007, 18 drums of soil cuttings and 3 drums of purge and development water were transported from the Facility by Envirotech Systems of Seattle, Washington for disposal at licensed treatment, storage, and disposal facilities. These wastes were generated during installation of the new monitoring and remediation wells in February 2007.

4.0 SVE SYSTEM OPERATION AND MAINTENANCE ACTIVITIES

Continuous operation of the SVE system at the Facility began on September 13, 2006. SVE treatment system monitoring requirements are specified in the OAC. During the first month of operation, weekly monitoring of the SVE system was conducted, including measuring influent vapor concentrations with a photoionization detector (PID). PID measurements were supplemented with periodic colorimetric tube readings and/or laboratory analyses of influent vapor samples to further evaluate the effectiveness of the treatment system. During the period covered by this progress report, Facility visits were conducted by Farallon on April 23, May 18, and June 19, 2007.

Farallon was notified by Whidbey Marine & Auto Supply personnel that the SVE system was not running on April 20, 2007. Farallon visited the Facility on April 23, 2007 and was unable to re-start the system. Emerald Electric, Inc. of Lake Stevens, Washington (Emerald) ran diagnostic tests on the system on May 11, 2007 and found that the terminals for the heater elements in the Catox unit had melted. The system subsequently was repaired by Emerald, and was restarted by Farallon on May 18, 2007.

The operating temperature for the catalyst beds in the Catox unit is set at 550 degrees Fahrenheit (°F), with the high temperature alarm set at 1,150°F. The catalyst bed temperatures recorded during Facility visits over this monitoring period ranged from 642 to 647°F. The SVE system operation monitoring data are summarized in Table 4.

Vacuum pressures were measured at the monitoring wells with the SVE system running during the May 18, 2007 monitoring event. The vacuum measurements at monitoring wells MW-2, MW-3, and MW-4 were 0.9, 0.8, and 0.8 inches of water, respectively.

All four SVE wells currently are on-line to the SVE system, with the dilution valve located upstream of the SVE blower fully closed so that all influent vapor to the Catox system is derived from the subsurface soil beneath the Facility. As measured with the PID, influent vapor concentrations to the Catox unit have ranged from 335 to 435 parts per million over this monitoring period, with treatment system air flow rates ranging from 159.5 to 166.3 standard

cubic feet per minute. The system air flow rate is measured upstream of the SVE blower and downstream of the water knockout assembly.

Influent gasoline vapor concentrations to the Catox unit have ranged from 50 to 60 parts per million vapor over the monitoring period, as measured with colorimetric tubes for gasoline. Influent vapor samples were also collected for laboratory analysis on May 18 and June 19, 2007 using Tedlar bags. The analytical results for the Tedlar bag influent vapor sample collected on May 18, 2007 reported a GRO concentration of 560 μg/l, with BTEX constituent concentrations ranging from 14 μg/l (benzene) to 160 μg/l (xylenes). The analytical results for the Tedlar bag influent vapor sample collected on June 19, 2007 reported a GRO concentration of 430 μg/l, with BTEX constituent concentrations ranging from 7 μg/l (benzene) to 46 μg/l (xylenes). The Tedlar bag vapor sampling analytical results are presented in Table 5. A copy of the laboratory analytical report is provided in Appendix A.

Based on the measured air flow and colorimetric tube results for influent vapor concentrations, contaminant removal rates ranging from 3.0 to 3.2 pounds per day were calculated over the period of SVE system operation from May 18 to June 19, 2007. The system was down for approximately 35 days during the period covered by this report due to electrical problems with the heater element terminals. The system has been running continuously since the re-start on May 18, 2007. Contaminant mass removal calculations and results are presented in Table 6. An estimated total mass of 9,514 pounds of gasoline has been removed in the period from system start-up through June 19, 2007, using the colorimetric tube readings for gasoline as the basis for determining the influent vapor concentrations over the period of operation.

5.0 SITE CONCEPTUAL MODEL

The following section presents an updated site conceptual model for the Facility.

5.1 GEOLOGY

The geologic units beneath the Facility consist of 1 to 2 feet of near-surface sand and gravel fill overlying a thick sequence of sand with some interbedded silt. 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 was dry to moist from the top of the unit to approximately 55 feet bgs. A zone of silt interbeds of variable thickness was encountered at depths generally between 55 and 68 feet bgs in most of the borings. Silts were encountered at shallower depths in boring B-7 and monitoring well MW-4. Silt interbeds were encountered also at depths of 81 and 87.5 feet bgs in the boring for monitoring well MW-1. Silt beds greater than 1 foot in thickness were encountered in borings advanced at or near the Facility at the following depth intervals:

- Monitoring well MW-1—61.5 to 63 feet bgs, 64.5 to 68 feet bgs; 81 to 82 feet bgs, and 87.5 to 89 feet bgs;
- Monitoring well MW-2—65 to 66.5 feet bgs (the total depth of the boring);
- Monitoring well MW-3—60.5 to 61.5 feet bgs (the total depth of the boring);
- Monitoring well MW-4—49 to 50 feet bgs and 55.5 to 58 feet bgs (the total depth of the boring);
- Monitoring well MW-5—58 to 59 feet bgs and 59.5 to 65 feet bgs;
- Remediation well AS-1—55.5 to 60 feet bgs;
- Remediation well AS-1—56.5 to 58 feet bgs; and
- Boring B-7—51 to 66.5 feet bgs.

Most of the silt beds beneath the Facility are located between 55 and 68 feet bgs. The significance of this zone of interbedded silt and sand is that a saturated zone of variable thickness

has been encountered perched above the silts beneath much of the Facility. The hydrogeologic conditions are discussed in greater detail below.

5.2 HYDROGEOLOGY

A perched saturated zone exists immediately above the silt interbeds in the southern and northeastern areas of the Facility. Depths to groundwater encountered in monitoring wells at the Facility have ranged from 51.50 to 52.67 feet in monitoring well MW-1, 54.44 to 55.56 feet in monitoring well MW-2, 52.70 to 53.96 in monitoring well MW-3, and 53.94 to 54.02 in monitoring well MW-4 since monitoring was initiated in late 2005. The thickness of the perched groundwater zone ranges from approximately 10 feet thick in the areas of monitoring wells MW-1 and MW-2 to 1 to 2 feet thick in the area of monitoring well MW-4. The perched groundwater zone is not continuous; saturated conditions were not encountered at comparable depths in boring B-7, located in the northwestern area of the Facility or in monitoring well MW-5, located approximately 200 feet west of the Facility. The perched groundwater zone appears to be absent in the area of boring B-7 due to the presence of a 15-foot-thick sequence of low permeability silt beds that extend above the elevation of the top of the saturated zone as measured in groundwater monitoring wells located elsewhere at the Facility. The lack of groundwater in monitoring well MW-5 suggests that the silt beds underlying the perched zone at the Facility may not be continuous to the west, even though silts were encountered at comparable depths (58 to 65 feet bgs) in the boring for monitoring well MW-5.

The groundwater flow direction in the perched zone is to the west-northwest, with a hydraulic gradient of 0.02 foot per foot based on the June 19, 2007 water level elevation data. Groundwater elevation contours for the perched zone for the June 19, 2007 monitoring event are shown on Figure 3. Groundwater flow direction in the perched zone likely is controlled by the attitude of the upper silt layers that underlie the perched groundwater.

Saturated conditions were encountered also at lower depths, beginning at approximately 115 feet bgs in the boring for monitoring well MW-1. The depth of the deeper saturated zone correlates with the sea level aquifer in the area in which the majority of the local drinking water wells are installed. The sea level aquifer has been encountered at various locations on Whidbey

Island, and has been generally described as unconsolidated deposits of sand and gravel at depths ranging from a few tens of feet above sea level to approximately 200 feet below sea level (Sumioka and Bauer 2004). The sea level aquifer is described as being both confined and unconfined over its extent (Cline et al. 1982).

5.3 CONTAMINANT DISTRIBUTION

A release of gasoline occurred to subsurface soil from Tank 2 approximately September 2005. The area of the release is thought to be at the southern end of UST, below the fill port. The primary path of migration appears to have been downward through the sandy vadose zone soils. The field investigations completed to date have not found significant lateral migration of petroleum hydrocarbons in the vadose zone. However, the relatively high concentrations of GRO and BTEX in groundwater samples collected from monitoring well MW-4 relative to the considerably lower concentrations detected in recent groundwater samples from monitoring well MW-2 suggest that impacts to groundwater and possibly vadose zone soil may extend to the south beyond the current monitoring well network at the Facility. The extent of impacts to perched groundwater in the down-gradient direction of groundwater flow from monitoring well MW-4 also has not been delineated.

The vertical migration of petroleum hydrocarbons appears to have been impeded by the presence of the saturated perched zone. Borings that have been advanced into the silt layers within the perched zone have shown significantly decreasing concentrations of volatile organic compounds with depth, as measured with a PID. The soil boring for monitoring well MW-1 was advanced to 125 feet bgs and none of the soil samples collected below the silt layers underlying the perched water-bearing zone (i.e., at depths greater than 65 feet bgs) contained either GRO or BTEX constituents at concentrations above MTCA cleanup levels. Further, laboratory results for reconnaissance groundwater samples collected from the sea level aquifer at approximately 118 feet bgs during boring for monitoring well MW-1 did not detect GRO or BTEX constituents at levels at or above the laboratory reporting limits.

Light nonaqueous-phase liquid has not been observed in any of the monitoring wells at the Facility. The highest concentrations of GRO and BTEX constituents in groundwater have been

from samples collected from monitoring well MW-4, suggesting that some of the gasoline from the UST release may have migrated downward in a westerly or southwesterly direction. A steep concentration gradient of two to three orders of magnitude for GRO and BTEX in groundwater exists between monitoring wells MW-2 and MW-4, which are located approximately 25 feet from each other. GRO and BTEX constituents in groundwater samples from monitoring well MW-1 (which had the highest concentrations of GRO and BTEX constituents detected in groundwater samples collected prior to installation of monitoring well MW-4) have not exceeded MTCA Method A cleanup levels for two consecutive quarterly monitoring events. This observed decrease in petroleum hydrocarbon concentrations in groundwater samples from monitoring well MW-1 may be a result of the SVE system effectively removing petroleum hydrocarbon vapors from the vadose zone soils above the perched groundwater zone near the monitoring well. The reduction in GRO and BTEX concentrations in groundwater samples from monitoring well MW-1 may be attributed also to the ongoing hydrologic processes of advection, dispersion, and diffusion in the absence of an ongoing primary contaminant source.

6.0 SUMMARY AND CONCLUSIONS

The results of the June 2007 groundwater monitoring event indicate that elevated concentrations of GRO and BTEX constituents are present in groundwater in the area of monitoring wells MW-2 and MW-4 in the southwestern portion of the Facility. The highest concentrations of GRO and BTEX constituents have been detected in groundwater samples collected from monitoring well MW-4. In March 2007, concentrations of GRO and BTEX constituents in groundwater near the source area declined to below MTCA Method A cleanup levels and have continued to decline based on the analytical results for the June 2007 groundwater sample from monitoring well MW-1. GRO and BTEX concentrations in the groundwater samples collected from monitoring wells MW-2 and MW-4 generally increased between the March and June 2007 monitoring events, with the exception of benzene in monitoring well MW-4. The groundwater elevation data for June 2007 are similar to the March 2007 data, and show a general westerly to northwesterly direction of groundwater flow.

Because of the relatively high concentrations of petroleum hydrocarbons in groundwater samples collected from monitoring well MW-4, Farallon recommends installation of a pair of AS and SVE wells nearby to facilitate cleanup. Additional monitoring wells installed within the perched groundwater zone at locations south of the Facility within the Main Street right-of-way and west of monitoring well MW-4 also are recommended to better delineate the extent of GRO and BTEX contamination in perched groundwater. The proposed monitoring, AS, and SVE well locations are shown on Figure 4. If the results of the field-screening to be conducted during installation of proposed new monitoring well MW-6 west of MW-4 (Figure 4) indicate that groundwater is significantly impacted in the area, a pair of AS and SVE wells may be warranted at this location also to expedite the cleanup process. Access agreements will be required for installation of any wells located off the Whidbey Marine & Auto Supply Facility. Following the installation of the new monitoring and remediation wells, potential locations for a deep monitoring well, intended to assess conditions in the sea level aquifer, will be evaluated.

Cleanup options for groundwater at the Facility are complicated by the presence of multiple silt interbeds within the perched groundwater zone and the apparent thickness of the saturated zone

of only several feet or less in areas of the Facility. Once the proposed new wells have been installed, Farallon recommends connecting the new SVE wells to the current SVE system, and the new and existing AS wells to an air compressor via the airline that was installed in the SVE utility trench in 2006.

With the exception of the extended power outage in April and May 2007 due to electrical problems and prior intermittent power outages due to storm events, the SVE system has been operating continuously since September 13, 2006. The SVE system is effectively removing and treating vapor-phase petroleum hydrocarbons extracted from subsurface soil at the Facility. Contaminant extraction rates were estimated to be between 3.0 and 154.4 pounds per day over the period of operation of the treatment system, and currently are at the lower end of this range. Contaminant extractions rates are decreasing as the bulk of the contaminant mass is removed from the subsurface. All four of the SVE wells at the Facility currently are being used for extraction of vapors from the vadose zone in the area of the release.

The third quarter 2007 groundwater monitoring event at the Facility was scheduled for September 2007, but may be postponed to accommodate the installation of the proposed new monitoring and remediation wells. Monthly O&M activities for the SVE system are ongoing.

7.0 REFERENCES

Cline, D.R., M.A. Jones, N.P. Dion, K.J. Whiteman, and D. B. Sapik. 1982. *Preliminary Survey of Ground-Water Resources for Island County, Washington*. U.S. Geological Survey Open-File Report 82-561.

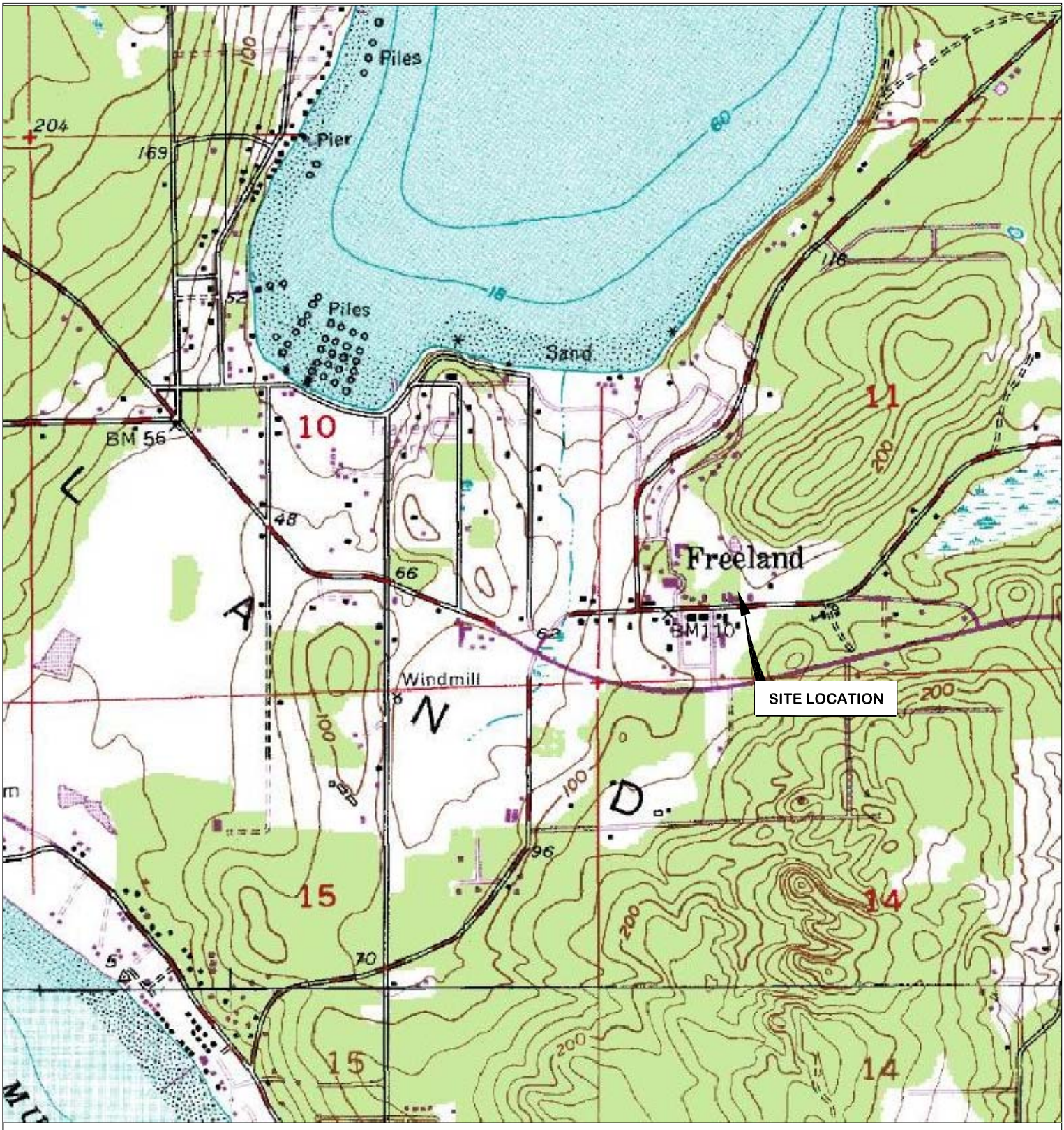
Farallon Consulting, L.L.C. (Farallon). 2006. *Site Characterization Report, Whidbey Marine & Auto Supply, 1689 Main Street, Freeland, Washington.* Prepared for Whidbey Marine & Auto Supply, Freeland, Washington. February 10.

Sumioka, S.S. and H.H. Bauer. 2004. *Estimating Ground-Water Recharge from Precipitation on Whidbey and Camano islands, Island County, Washington, Water Years 1998 and 1999.* U.S. Geological Survey Water-Resources Investigation Report 03-4101 Version 1.20. August.

FIGURES

CLEANUP ACTION PROGRESS REPORT
JULY 2007
Whidbey Marine & Auto Supply Facility
1689 Main Street
Freeland, Washington

Farallon PN: 454-001



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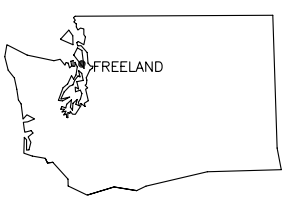


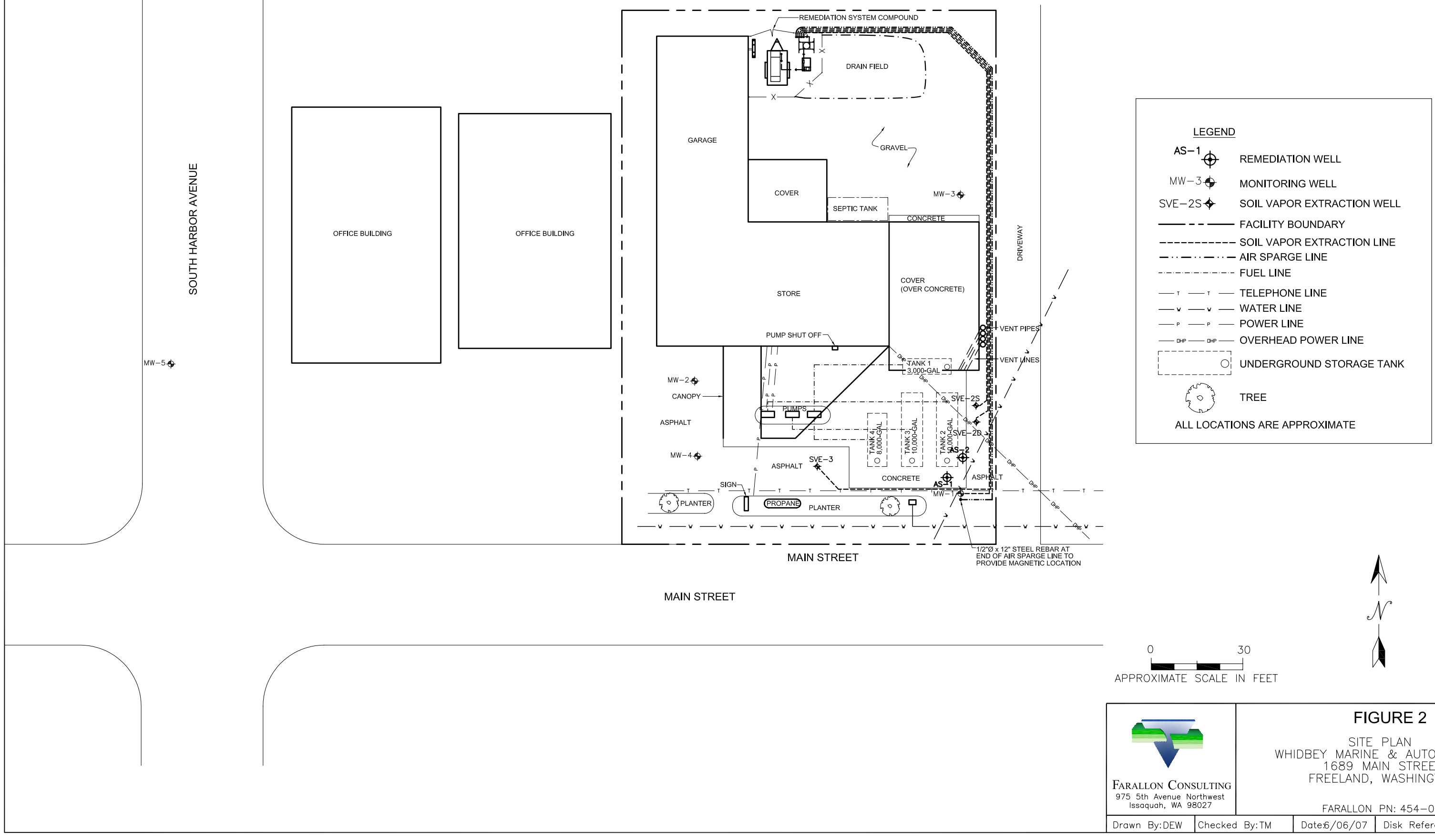
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

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



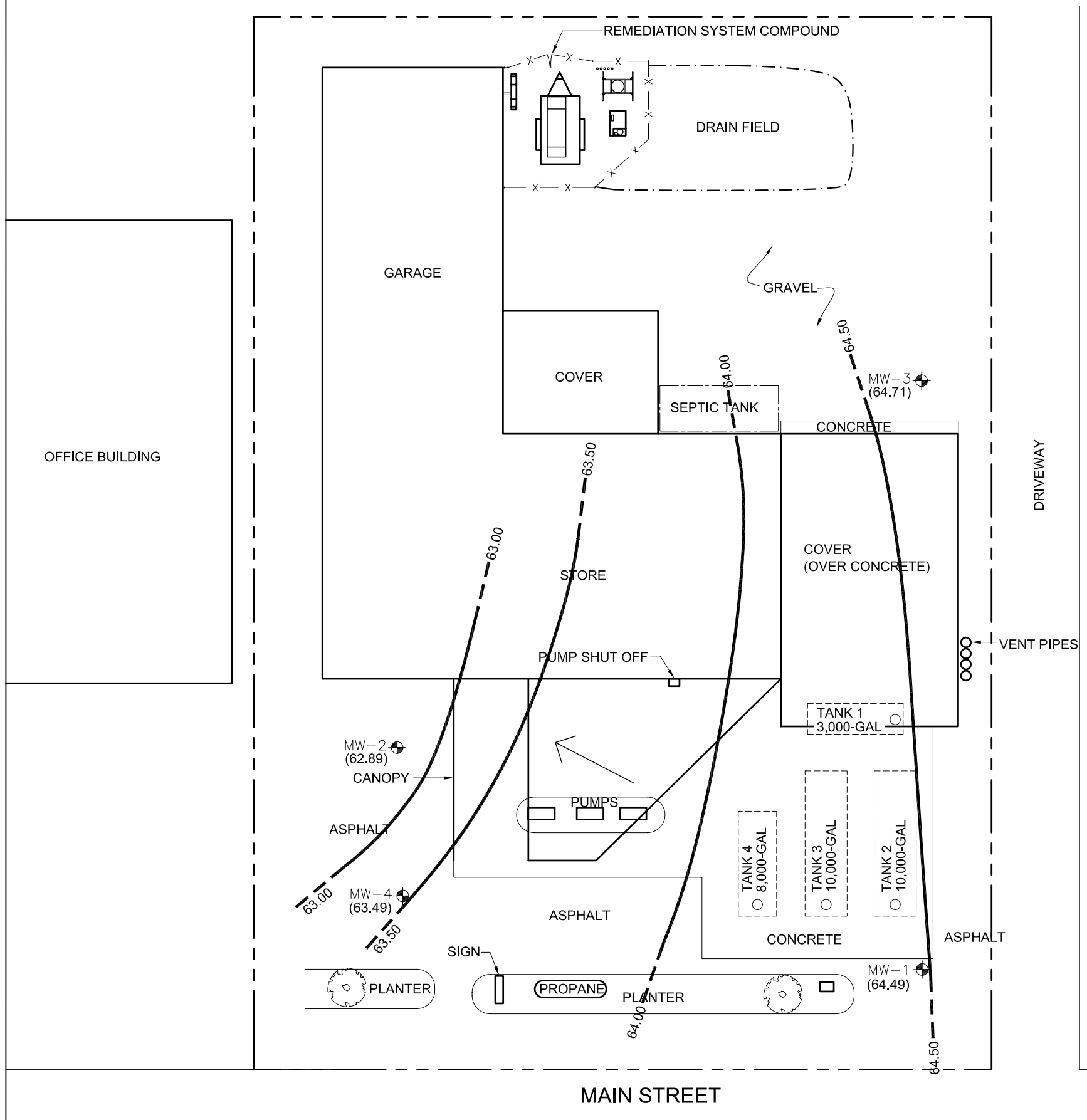
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

FIGURE 2

SITE PLAN
WHIDBEY MARINE & AUTO SUPPLY
1689 MAIN STREET
FREELAND, WASHINGTON

FARALLON PN: 454-001

Drawn By: DEW	Checked By: TM	Date: 6/06/07	Disk Reference: 454001



LEGEND

MW-3	MONITORING WELL
(63.49)	GROUNDWATER ELEVATION
63.50	GROUNDWATER ELEVATION CONTOUR
	APPROXIMATE DIRECTION OF GROUNDWATER FLOW
	FACILITY BOUNDARY
	UNDERGROUND STORAGE TANK
	TREE

NOTE: SURVEYED ELEVATION RELATIVE TO MEAN SEA LEVEL, 1983 NATIONAL GEODETIC VERTICAL DATUM

ALL LOCATIONS ARE APPROXIMATE

0 20

APPROXIMATE SCALE IN FEET

N

FIGURE 3

GROUNDWATER ELEVATION CONTOUR MAP
JUNE 19, 2007
WHIDBEY MARINE & AUTO SUPPLY
1689 MAIN STREET
FREELAND, WASHINGTON

FARALLON PN: 454-001

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Drawn By: DEW	Checked By: TM	Date: 7/12/07	Disk Reference: 454001

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

FIGURE 4

PROPOSED MONITORING AND
REMEDIATION SYSTEM WELL LOCATIONS
WHIDBEY MARINE & AUTO SUPPLY
1689 MAIN STREET
FREELAND, WASHINGTON

FARALLON PN: 454-001

Drawn By: DEW	Checked By: TM	Date: 9/10/07	Disk Reference: 454001

TABLES

CLEANUP ACTION PROGRESS REPORT
JULY 2007
Whidbey Marine & Auto Supply Facility
1689 Main Street
Freeland, Washington

Farallon PN: 454-001

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

Well Identification	Date	Top of Well Casing Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
MW-1	12/5/05	116.64	52.54	64.10
	6/7/06	116.15[3]	52.67	63.48
	10/9/06		51.93	64.22
	1/9/07		51.80	64.35
	3/27/07		51.50	64.65
	6/19/07		51.66	64.49
MW-2	12/5/05	117.39	55.06	62.33
	6/7/06		55.56	61.83
	10/9/06		54.69	62.70
	1/9/07		54.60	62.79
	3/27/07		54.44	62.95
	6/19/07		54.50	62.89
MW-3	12/5/05	117.41	53.48	63.93
	6/7/06		53.96	63.45
	10/9/06		53.26	64.15
	1/9/07		53.02	64.39
	3/27/07		52.82	64.59
	6/19/07		52.70	64.71
MW-4	3/27/07	117.51	53.94	63.57
	6/19/07		54.02	63.49

NOTES:

[1]Feet above mean sea level.

[2]Feet below top of well casing.

[3]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.

Table 2
Summary of Field Parameter Measurements in Groundwater
Whidbey Marine & Auto Supply
Freeland, Washington
Farallon PN: 454-001

Well Identification	Date	Field Measurements				
		pH	Temp. (^{o}C)	Conductivity (mS/cm)	DO (mg/l)	ORP (mV)
MW-1	12/5/05	7.06	11.5	0.248	5.80	234.8
	6/7/06	5.20	13.4	0.373	14.95	473.9
	10/9/06	6.43	13.25	0.691	6.01	236.9
	1/9/07	6.35	11.27	0.368	6.96	239.0
	3/37/07	6.74	12.24	0.332	8.28	238.3
	6/19/07	5.22	18.46	0.384	9.23	525.7
MW-2	12/5/05	7.17	12.06	0.233	5.91	224.5
	6/7/06	5.59	15.4	0.340	11.15	487.9
	10/9/06	6.86	13.87	0.594	14.94	284.3
	1/9/07	6.41	12.34	0.394	6.42	260.0
	3/37/07	6.55	13.51	0.409	6.97	197.4
	6/19/07	4.26	17.09	0.398	7.42	556.3
MW-3	12/5/05	7.31	11.00	0.304	2.02	180.9
	6/7/06	5.51	13.9	0.337	11.80	488.2
	10/9/06	6.95	12.42	0.465	4.24	291.8
	1/9/07	6.95	10.73	0.333	3.38	254.2
	3/27/07	7.28	11.74	0.336	1.71	169.3
	6/19/07	4.24	14.64	0.325	2.52	503.9
MW-4	3/27/07	6.53	13	0.354	1.26	219.6
	6/19/07	4.70	16.61	0.283	1.55	523.5

NOTES:
pH, temperature, conductivity, DO, and ORP measured in the field using YSI 600 XL with flow-through cell.

^{o}C = degrees Celsius
DO = dissolved oxygen
mg/l = milligrams per liter
mV = millivolts
ORP = oxidation/reduction potential
mS/cm = millisiemens per centimeter

Table 3
Summary of Laboratory Analytical Results for Groundwater
Whidbey Marine & Auto Supply
Freeland, Washington
Farallon PN: 454-001

Sample Location	Sample Identification	Sample Date	Analytical Results (micrograms per liter)				
			GRO[1]	Benzene[2]	Toluene[2]	Ethylbenzene[2]	Xylenes[2]
MW-1	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
MW-2	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
MW-3	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
	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
MW-4	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**	**1600**	**8,200**
MTCA Method A Cleanup Levels for Groundwater[3]			**800**	**5**	**1,000**	**700**	**1,000**

Table 3
Summary of Laboratory Analytical Results for Groundwater
Whidbey Marine & Auto Supply
Freeland, Washington
Farallon PN: 454-001

NOTES:

<Indicates analyte not detected at or above the stated laboratory practical quantitation limit.

Results in **Bold** indicate concentration exceeds Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation (MTCA) Method A cleanup levels for groundwater.

[1]Analyzed by Northwest Method NWTPH-Gx.

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

[3]MTCA Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended February 2001.

GRO = total petroleum hydrocarbons as gasoline-range organics

Table 4
Soil Vapor Extraction System Operation Monitoring Results
Whidbey Marine & Auto Supply
Freeland, Washington
Farallon PN: 454-001

Date	Air Flow Rate[1] (scfm)	Vacuum[2] (iow)	Flow Rates[3] (scfm)				Influent Concentrations							Catalyst Temperature (°F)
							SVE System (ppmv)[4]		PID Measurements (ppm)					
			MW-1	SVE-2D	SVE-2S	SVE-3	Gasoline	Benzene	Catox Inlet[5]	MW-1[6]	SVE-2D[6]	SVE-2S[6]	SVE-3[6]	
9/8/06	177.0	17.5	NM	NO	NO	NO	1,700	NM	1,320	NM	NO	NO	NO	909
9/13/06	167.0	NM	NM	NO	NO	NO	NM	NM	843	NM	NO	NO	NO	792
9/20/06	179.0	NM	NM	NO	NO	NO	NM	NM	1,248	NM	NO	NO	NO	980
9/27/06	185.2	17.0	18.73	NO	NO	NO	2,200	NM	1,865	NM	NO	NO	NO	984
10/04/06	179.1	18.5	24.77	NO	NO	NO	2,200	NM	NM	NM	NO	NO	NO	1,075
10/09/06	188.1	18.0	26.48	NO	NO	NO	2,000	15	1,909	NM	NO	NO	NO	1,048
11/06/06	172.8	19.0	11.84	25.12	20.51	NO	800	4	1,230	20-79	4,160	>9,999	NO	879
11/20/06	172.8	16.0	11.84	34.53	11.84	NO	500	1	1,200	450-1,000	4,950	900-1,200	3,320	845
12/19/06	176.0	26.0	13.24	49.50	32.43	33.5	200	1	1,050	400-700	1,050	600	475-700	930
1/9/07	166.3	28.5	13.24	57.4	8.37	47.7	100	1	1,750	210	1,950	110	1,200	900
2/6/07	169.6	38.5	5.92	83.7	11.84	71.3	80	0.5	1,489	130	946	65.9	425	723
3/12/07	154.2	38.5	14.5	83.7	11.84	70.1	150	<1	645	14.1	600	22.5	230	663
3/27/07	154.2	38.5	11.84	82.7	22.93	71.3	175	<1	415	7.9	7.8	1.6	1.5	660
5/18/07	159.5	36.0	10.26	82.7	5.92	70.1	50	<1	335	3.5	1.6	1.7	2.3	642
6/19/07	166.3	34.5	11.84	79.4	10.26	74.9	60	<1	435	0	0.0	0	0.0	647

NOTES:

[1]Soil vapor extraction (SVE) remediation system influent air flow rate measured upstream of blower.

[2]Vacuum measurement collected downstream of water knockout and upstream of SVE blower.

[3]Air flow rates as measured at individual SVE pipes at piping array control manifold.

[4]Air concentrations measured using compound-specific Gastec colorimetric detection tubes and pump as measured through sampling port located downstream of SVE system blower at flame arrestor.

[5]Catox inlet concentrations measured at sampling port located downstream of SVE system blower at flame arrestor.

[6]Concentrations at wells measured with PID at individual SVE pipes at piping aray control manifold.

> = concentration greater than instrument reporting range

° F = degrees Fahrenheit

iow = inches of water

NM = not measured

NO = well not online

PID = photoionization detector

ppm = parts per million (PID units)

ppmv = parts per million volume

scfm = standard cubic feet per minute

SVE = soil vapor extraction

Table 5
Summary of Laboratory Analytical Results for Vapor Samples
Whidbey Marine & Auto Supply
Freeland, Washington
Farallon PN: 454-001

Sample Identification	Sample Date	Analytical Results (micrograms per liter)				
		GRO[1]	Benzene[2]	Toluene[2]	Ethylbenzene[2]	Xylenes[2]
Influent - 092006	9/20/06	600	84	25	10	40
Influent - 100906	10/9/06	2,700	330	200	21	78
Influent -121906	12/19/06	1,500	130	86	33	120
Influent - 010907	1/9/07	1,600	100	320	38	140
Influent - 020607	2/6/07	710	34	160	26	100
Influent - 031207	3/12/07	630	23	93	27	130
Influent - 032707	3/27/07	400	16	49	15	68
Influent - 051807	5/18/07	560	14	65	30	160
Influent - 061907	6/19/07	430	7	25	12	46

NOTES:

[1]Analyzed by Northwest Method NWTPH-Gx.

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

GRO = total petroleum hydrocarbons as gasoline-range organics

Table 6
Contaminant Mass Removal Calculations
Whidbey Marine & Auto Supply
Freeland, Washington
Farallon PN: 454-001

Date	Flow Rate (scfm)	Influent Concentration[1] (ppmv)	Conversion Factor[2]	Extraction Rate (pounds/day)	Number of Days	Mass Removed[3] (pounds)	Notes
9/13/06	167	1,700	0.000379	107.6	-	-	Using 9/8/06 influent data
9/20/06	179	1,700	0.000379	115.3	7	753	Using 9/8/06 influent data
9/27/06	185.2	2,200	0.000379	154.4	7	807	
10/04/06	179.1	2,200	0.000379	149.3	7	1,081	
10/09/06	188.1	2,000	0.000379	142.6	5	747	
11/06/06	172.8	800	0.000379	52.4	25	3,564	3 days down time this period
11/20/06	172.8	500	0.000379	32.7	13	681	1 day down time this period
12/19/06	176.0	200	0.000379	13.3	26	851	3 days down time this period
1/9/07	166.3	100	0.000379	6.3	21	280	
2/6/07	169.6	80	0.000379	5.1	28	176	
3/12/07	154.22	150	0.000379	8.8	33	170	1 day down time this period
3/27/07	154.22	175	0.000379	10.2	15	132	
5/18/07	159.5	50	0.000379	3.0	17	174	35 days down time this period
6/19/07	166.3	60	0.000379	3.8	32	97	

Total Mass in Pounds Removed Between Start-up and 03/27/2007 9,514

NOTES:

[1]Measured by Gastec gasoline colorimetric detection tubes.

ppmv = parts per million volume

scfm = standard cubic feet per minute

[2]Conversion factor = density of air *minutes per day*molecular weight of gasoline/(molecular weight of air*1,000,000)

Where:

density of air = 0.0748 pounds/cubic foot;

minutes per day = 1,440;

molecular weight of gasoline = 102[4]; and

molecular weight of air = 28.96[5].

[3]Mass removed = flow rate (scfm)*influent concentration (ppmv)*0.000379*extraction rate (pounds/day)*number of days since last reading.

[4]Reference: U.S. Department of Army Corps of Engineers, *Environmental Engineering Manual EM 1110-1-4001* , *Appendix B - Properties of Common Organic Pollutants*

[5]Reference: *Handbook of Chemistry and Physics* , 80th ed., Section 14, page 16.

APPENDIX A
LABORATORY ANALYTICAL REPORT

CLEANUP ACTION PROGRESS REPORT
JULY 2007
Whidbey Marine & Auto Supply Facility
1689 Main Street
Freeland, Washington

Farallon PN: 454-001

CCI
ANALYTICAL
LABORATORIES

CERTIFICATE OF ANALYSIS

CLIENT: FARALLON CONSULTING
975 5th AVE. NW SUITE 100
ISSAQUAH, WA 98027

DATE: 5/22/2007
CCIL JOB #: 0705091
DATE RECEIVED: 5/18/2007
WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: WHIDBEY MARINE & AUTO
CLIENT SAMPLE ID: 5/18/2007 12:00 INFLUENT-051807
CCIL SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	560	UG/L	5/18/2007	DLC
Benzene	EPA-8021	14	UG/L	5/18/2007	DLC
Toluene	EPA-8021	65	UG/L	5/18/2007	DLC
Ethylbenzene	EPA-8021	30	UG/L	5/18/2007	DLC
Xylenes	EPA-8021	160	UG/L	5/18/2007	DLC

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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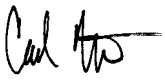

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059

CCI
ANALYTICAL
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CERTIFICATE OF ANALYSIS

CLIENT: FARALLON CONSULTING
975 5th AVE. NW SUITE 100
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CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: WHIDBEY MARINE & AUTO

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

CCIL SAMPLE ID	METHOD	SUR ID	% RECV
0705091-01	NWTPH-GX	TFT	69
0705091-01	EPA-8021	TFT	81

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WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: WHIDBEY MARINE & AUTO

QUALITY CONTROL RESULTS

BLANK RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	RESULT	UNITS
NWTPH-GX	Gas	GA051807	0705091 -01	TPH-Volatile Range	ND(<50)	UG/L
EPA-8021	Gas	GA051807	0705091 -01	Benzene	ND(<1)	UG/L
EPA-8021	Gas	GA051807	0705091 -01	Toluene	ND(<1)	UG/L
EPA-8021	Gas	GA051807	0705091 -01	Ethylbenzene	ND(<1)	UG/L
EPA-8021	Gas	GA051807	0705091 -01	Xylenes	ND(<3)	UG/L

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975 5th AVE. NW SUITE 100
ISSAQUAH, WA 98027

DATE: 5/22/2007
CCIL JOB #: 0705091
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WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: WHIDBEY MARINE & AUTO

QUALITY CONTROL RESULTS

SPIKE/SPIKE DUPLICATE RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	SPIKE RECOVERY	SPIKE DUP RECOVERY	RPD
NWTPH-GX	Gas	GA051807	0705091 -01	TPH-Volatile Range	107 %	111 %	4
EPA-8021	Gas	GA051807	0705091 -01	Benzene	91 %	95 %	4
EPA-8021	Gas	GA051807	0705091 -01	Toluene	96 %	100 %	4
EPA-8021	Gas	GA051807	0705091 -01	Ethylbenzene	94 %	98 %	4
EPA-8021	Gas	GA051807	0705091 -01	Xylenes	96 %	99 %	3

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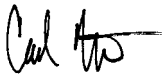

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CCI
ANALYTICAL
LABORATORIES

CERTIFICATE OF ANALYSIS

CLIENT: FARALLON CONSULTING
975 5th AVE. NW SUITE 100
ISSAQUAH, WA 98027

DATE: 6/25/2007
CCIL JOB #: 0706096
DATE RECEIVED: 6/21/2007
WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: 454-001
CLIENT SAMPLE ID: 6/19/2007 13:20 MW1-061907
CCIL SAMPLE #: -01

DATA RESULTS

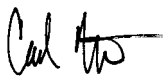
ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	73	UG/L	6/21/2007	DLC
Benzene	EPA-8021	ND(<1)	UG/L	6/21/2007	DLC
Toluene	EPA-8021	ND(<1)	UG/L	6/21/2007	DLC
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/21/2007	DLC
Xylenes	EPA-8021	ND(<3)	UG/L	6/21/2007	DLC

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY WEATHERED GASOLINE.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

APPROVED BY:



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CCI
ANALYTICAL
LABORATORIES

CERTIFICATE OF ANALYSIS

CLIENT: FARALLON CONSULTING
975 5th AVE. NW SUITE 100
ISSAQUAH, WA 98027

DATE: 6/25/2007
CCIL JOB #: 0706096
DATE RECEIVED: 6/21/2007
WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: 454-001
CLIENT SAMPLE ID: 6/19/2007 14:40 MW2-061907
CCIL SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	1000	UG/L	6/21/2007	LAP
Benzene	EPA-8021	17	UG/L	6/21/2007	LAP
Toluene	EPA-8021	52	UG/L	6/21/2007	LAP
Ethylbenzene	EPA-8021	22	UG/L	6/21/2007	LAP
Xylenes	EPA-8021	200	UG/L	6/21/2007	LAP

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY LIGHTLY WEATHERED GASOLINE.

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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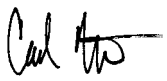

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CERTIFICATE OF ANALYSIS

CLIENT: FARALLON CONSULTING
975 5th AVE. NW SUITE 100
ISSAQUAH, WA 98027

DATE: 6/25/2007
CCIL JOB #: 0706096
DATE RECEIVED: 6/21/2007
WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: 454-001
CLIENT SAMPLE ID: 6/19/2007 11:55 MW3-061907
CCIL SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<50)	UG/L	6/21/2007	LAP
Benzene	EPA-8021	ND(<1)	UG/L	6/21/2007	LAP
Toluene	EPA-8021	ND(<1)	UG/L	6/21/2007	LAP
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/21/2007	LAP
Xylenes	EPA-8021	ND(<3)	UG/L	6/21/2007	LAP

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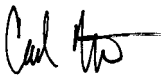

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CERTIFICATE OF ANALYSIS

CLIENT: FARALLON CONSULTING
975 5th AVE. NW SUITE 100
ISSAQUAH, WA 98027

DATE: 6/25/2007
CCIL JOB #: 0706096
DATE RECEIVED: 6/21/2007
WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: 454-001
CLIENT SAMPLE ID: 6/19/2007 15:37 MW4-061907
CCIL SAMPLE #: -04

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	110000	UG/L	6/21/2007	DLC
Benzene	EPA-8021	22000	UG/L	6/21/2007	DLC
Toluene	EPA-8021	36000	UG/L	6/21/2007	DLC
Ethylbenzene	EPA-8021	1600	UG/L	6/21/2007	DLC
Xylenes	EPA-8021	8200	UG/L	6/21/2007	DLC

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY LIGHTLY WEATHERED GASOLINE.

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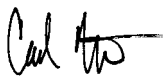

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DATE: 6/25/2007
CCIL JOB #: 0706096
DATE RECEIVED: 6/21/2007
WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: 454-001
CLIENT SAMPLE ID: 6/19/2007 12:00 QAQC-061907
CCIL SAMPLE #: -05

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<50)	UG/L	6/21/2007	DLC
Benzene	EPA-8021	ND(<1)	UG/L	6/21/2007	DLC
Toluene	EPA-8021	ND(<1)	UG/L	6/21/2007	DLC
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/21/2007	DLC
Xylenes	EPA-8021	ND(<3)	UG/L	6/21/2007	DLC

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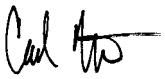

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DATE: 6/25/2007
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DATE RECEIVED: 6/21/2007
WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: 454-001
CLIENT SAMPLE ID: 6/19/2007 18:30 INFLUENT-061907
CCIL SAMPLE #: -06

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	430	UG/L	6/21/2007	LAP
Benzene	EPA-8021	7	UG/L	6/21/2007	LAP
Toluene	EPA-8021	25	UG/L	6/21/2007	LAP
Ethylbenzene	EPA-8021	12	UG/L	6/21/2007	LAP
Xylenes	EPA-8021	46	UG/L	6/21/2007	LAP

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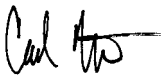

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WDOE ACCREDITATION #: C142

CLIENT CONTACT: PAUL GRABAU
CLIENT PROJECT ID: 454-001

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

CCIL SAMPLE ID	METHOD	SUR ID	% RECV
0706096-01	NWTPH-GX	TFT	90
0706096-01	EPA-8021	TFT	95
0706096-02	NWTPH-GX	TFT	106
0706096-02	EPA-8021	TFT	113
0706096-03	NWTPH-GX	TFT	87
0706096-03	EPA-8021	TFT	96
0706096-04	NWTPH-GX	TFT	93
0706096-04	EPA-8021	TFT	100
0706096-05	NWTPH-GX	TFT	83
0706096-05	EPA-8021	TFT	90
0706096-06	NWTPH-GX	TFT	103
0706096-06	EPA-8021	TFT	112

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CLIENT PROJECT ID: 454-001

QUALITY CONTROL RESULTS

BLANK RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	RESULT	UNITS
NWTPH-GX	Gas	GA062107	0706096 -06	TPH-Volatile Range	ND(<50)	UG/L
EPA-8021	Gas	GA062107	0706096 -06	Benzene	ND(<1)	UG/L
EPA-8021	Gas	GA062107	0706096 -06	Toluene	ND(<1)	UG/L
EPA-8021	Gas	GA062107	0706096 -06	Ethylbenzene	ND(<1)	UG/L
EPA-8021	Gas	GA062107	0706096 -06	Xylenes	ND(<3)	UG/L
NWTPH-GX	Water	GW062107	0706096 -01 to 05	TPH-Volatile Range	ND(<50)	UG/L
EPA-8021	Water	GW062107	0706096 -01 to 05	Benzene	ND(<1)	UG/L
EPA-8021	Water	GW062107	0706096 -01 to 05	Toluene	ND(<1)	UG/L
EPA-8021	Water	GW062107	0706096 -01 to 05	Ethylbenzene	ND(<1)	UG/L
EPA-8021	Water	GW062107	0706096 -01 to 05	Xylenes	ND(<3)	UG/L

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QUALITY CONTROL RESULTS

SPIKE/SPIKE DUPLICATE RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	SPIKE RECOVERY	SPIKE DUP RECOVERY	RPD
NWTPH-GX	Gas	GA062107	0706096 -06	TPH-Volatile Range	115 %	113 %	2
EPA-8021	Gas	GA062107	0706096 -06	Benzene	100 %	102 %	2
EPA-8021	Gas	GA062107	0706096 -06	Toluene	103 %	106 %	3
EPA-8021	Gas	GA062107	0706096 -06	Ethylbenzene	100 %	102 %	2
EPA-8021	Gas	GA062107	0706096 -06	Xylenes	102 %	104 %	2
NWTPH-GX	Water	GW062107	0706096 -01 to 05	TPH-Volatile Range	108 %	113 %	5
EPA-8021	Water	GW062107	0706096 -01 to 05	Benzene	103 %	104 %	1
EPA-8021	Water	GW062107	0706096 -01 to 05	Toluene	106 %	107 %	1
EPA-8021	Water	GW062107	0706096 -01 to 05	Ethylbenzene	104 %	104 %	0
EPA-8021	Water	GW062107	0706096 -01 to 05	Xylenes	106 %	106 %	0

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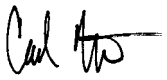

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