

CLEANUP ACTION SUMMARY REPORT

DECEMBER 2006 TO JUNE 2007

EVERGREEN FUEL FACILITY 661 EAST PINE STREET SHELTON, WASHINGTON

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EXECUTIVE SUMMARY

Farallon Consulting, L.L.C. has prepared this *Cleanup Action Summary Report* on behalf of C.C. Cole and Sons, Inc. and Chevron U.S.A., Inc. to document the cleanup action completed at the Evergreen Fuel Facility located at 661 East Pine Street in Shelton, Washington (herein referred to as the Site). The cleanup action was conducted under Agreed Order No. DE 3937 dated November 29, 2006 to meet the requirements of the Washington State Department of Ecology (Ecology) Model Toxics Control Act Cleanup Regulation (MTCA).

The scope of work for the cleanup action was defined in the *Draft Cleanup Action Plan*, Evergreen Fuel Facility (Ecology 2006) and the Final Engineering Design Report (Final EDR) (Farallon 2007) that was reviewed and approved by Ecology. The Final EDR included the Cleanup Action Construction Plans and Specifications that were prepared in accordance with standard engineering practices under the direction of a Professional Engineer licensed in the State of Washington.

The cleanup action conducted at the Site consisted of excavation and removal of soil with concentrations of total petroleum hydrocarbons (TPH) as gasoline-range organics (GRO) and as diesel-range organics (DRO); benzene, toluene, ethylbenzene, and xylenes (BTEX); naphthalene; and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) (collectively defined as the constituents of concern [COCs]) above the applicable regulatory cleanup levels as established in the *Final Feasibility Study Report* (Farallon 2006b); groundwater treatment through enhanced aerobic bioremediation; and groundwater monitoring.

The cleanup action activities were described in detail in the Final EDR. Monitoring wells located within the planned excavation area were decommissioned prior to the cleanup action in accordance with all applicable laws and regulations. The cleanup construction activities, including implementing Site security and erosion control measures, management of construction wastewater, excavation, and off-Site disposal of soil, and Site restoration were conducted by Cowlitz Clean Sweep, a division of PNE Corp., of Longview, Washington. Farallon conducted performance, waste characterization, and compliance sampling during the cleanup action to characterize the soil and construction wastewater for disposal, determine when the practicable limits of the excavation had been reached, characterize the soil left in-place at the practicable limits of excavation, and provide for compliance sampling in accordance with MTCA and the *Draft Cleanup Action Plan* (Ecology 2006).

A total of 15,000 gallons of wastewater met the discharge limits and was discharged to Oakland Bay. A total of 82,200 gallons of wastewater did not meet the discharge limits and was transported off the Site for disposal. All erosion control and construction stormwater measures were implemented and maintained successfully so that there was no impact to the adjacent water body.

A total of 7,507.95 tons of petroleum-contaminated soil was excavated from the Site and transported off Site as nonhazardous waste to Waste Management's Alaska Street Transfer Facility in Seattle, Washington for transfer to the Columbia Ridge Landfill in Arlington, Oregon



for disposal. Contaminated soil was excavated from a limited area within the Pine Street right-of-way, proximal to a former seep. The excavation areas were backfilled with quarry spalls to above the water table at approximately 3 feet below ground surface. A total of 4,000 pounds of Advanced Oxygen Release Compound (ORC Advanced) manufactured by Regenesis was mixed with the quarry spalls prior to placement. A geotextile filter fabric was installed on top of the quarry spalls and the top 3 feet were completed with 1.5-inch minus crushed rock that was compacted.

A total of 63 confirmation soil samples were collected from the final limits of excavation. The laboratory analytical results of compliance soil samples detected concentrations of TPH exceeding the MTCA Method A soil cleanup levels beyond the practicable limits of excavation. The laboratory analytical results of soil samples collected at the final limits of excavation did not detect concentrations of cPAHs exceeding the MTCA cleanup levels. The practicable limits of the excavation included the bulkhead retaining wall, State Route 3, and utilities along State Route 3.

Groundwater performance monitoring was conducted in April 2007 after completion of the soil excavation activities and installation of three point of compliance monitoring wells. The laboratory analytical results of groundwater samples collected during the groundwater sampling event did not detect concentrations of GRO or BTEX in groundwater exceeding MTCA Method A cleanup levels. The laboratory analytical results detected concentrations of DRO in only one monitoring well (MW-10) exceeding the MTCA Method A cleanup level.

The cleanup action removed soil with concentrations of one or more of the COCs above the applicable cleanup levels within the limits of practicability and has resulted in an estimated 87 percent reduction in the mass of contaminants in soil at the Site. Groundwater analytical results indicate that residual concentrations of contaminants in soil are not leaching to groundwater. The results of the groundwater monitoring and sampling at monitoring well MW-8, along with the observation that the location of former seep SG-1 is no longer a discharge point of groundwater to surface soil, indicate that the source of TPH to surface soil in the Pine Street right-of-way has been removed. Placement of ORC Advanced was implemented to enhance natural attenuation of the residual soil contamination and groundwater. Groundwater monitoring will be conducted on a quarterly schedule from the existing point of compliance monitoring wells to confirm compliance with the cleanup levels.



1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this *Cleanup Action Summary Report* on behalf of C.C. Cole and Sons, Inc. and Chevron U.S.A., Inc. to document the cleanup action completed at the Evergreen Fuel Facility located at 661 East Pine Street in Shelton, Washington (herein referred to as the Site) (Figure 1). This *Cleanup Action Summary Report* documents the cleanup action that was conducted between December 4, 2006 and April 5, 2007.

The cleanup action was conducted under Agreed Order No. DE 3937 dated November 29, 2006 (Agreed Order) issued by the Washington State Department of Ecology (Ecology) pursuant to the authority of Chapter 70.105D.050(1) of the Revised Code of Washington (RCW 70.105D.050[1]), and entered into by the potentially liable persons (PLPs), C.C. Cole and Sons, Inc. and Chevron U.S.A., Inc. The purpose of the cleanup action was to meet the requirements of the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340) to protect human health and the environment. This Cleanup Action Summary Report has been prepared to meet the requirements of the Agreed Order for the first semiannual monitoring report and includes a description of work conducted between December 2006 and June 2007. The Agreed Order also requires completion of Project Record Drawings and a report documenting all aspects of Site construction work. These elements are provided in the Engineer's Summary Report, which is included in Appendix A.

The cleanup action was performed in accordance with the scope of work documented in the Draft Cleanup Action Plan, Evergreen Fuel Facility (Ecology 2006) and the Final Engineering Design Report (Final EDR) (Farallon 2007), which included the construction plans and specifications in the Cleanup Action Design Drawings dated November 1, 2006 (Design Drawings), all of which were reviewed and approved by Ecology. The cleanup action consisted of excavation and removal of soil with concentrations of one or more of the total petroleum hydrocarbons (TPH) as gasoline-range organics (GRO), as diesel-range organics (DRO), and as oil-range organics (ORO); benzene, toluene, ethylbenzene, and xylenes (BTEX); naphthalene; and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) (collectively referred to as constituents of concern [COCs]) above the applicable regulatory cleanup levels; groundwater treatment through enhanced aerobic bioremediation; and groundwater monitoring. The cleanup action was selected based on the results of the Final Remedial Investigation Report (Farallon 2005), the Addendum to the Final Remedial Investigation Report (Farallon 2006a), and the Final Feasibility Study Report (Farallon 2006b), which were reviewed and approved by Ecology.

This Cleanup Action Summary Report includes a brief summary of the Site history and results of previous work conducted at the Site, a description of the cleanup action activities and results, a summary of groundwater monitoring well installation and sampling, and Farallon's conclusions. The report limitations and references are also included.



2.0 PROJECT BACKGROUND

The following section includes a description of the project background, and provides a summary of the *Final Remedial Investigation Report* (Farallon 2005) and the *Final Feasibility Study Report* (Farallon 2006b). A more detailed discussion of the Site conditions is provided in these reports.

2.1 SITE DESCRIPTION

The Site is located adjacent to State Route 3 in Shelton, Mason County, Washington (Figure 1). The Site is defined as the areas where contiguous concentrations of COCs were detected exceeding the MTCA cleanup levels established for the *Final Feasibility Study Report* (Farallon 2006b). The physical boundaries of the Site were defined by the detected concentrations of COCs as documented in the *Final Remedial Investigation Report* (Farallon 2005).

The Site is located on flat land at the base of a steep, vegetated hillside on Oakland Bay, an embayment of Puget Sound. The Site was previously used for the storage, distribution, and sale of gasoline, diesel, heating oil, kerosene, and other petroleum products. The Site is currently vacant. Former features on the Site included an office building, a warehouse, a top-loading fueling station, and six aboveground storage tanks (ASTs). The aboveground structures were demolished and removed in preparation for the cleanup action. The Site is currently covered by gravel or vegetation.

The adjacent properties include the Shelton Yacht Club and Shelton Marina to the east-northeast of the property; the City of Shelton Pine Street right-of-way adjacent to the property on the south, beyond which is land owned by the Simpson Timber Company; railroad tracks and property owned and operated by Burlington Northern Santa Fe to the northwest and west of the property; and the waters of Oakland Bay to the east and south of the property.

2.2 GEOLOGY AND HYDROGEOLOGY

Investigations conducted prior to the cleanup action indicated that the Site is underlain by manmade fill material consisting of clay, silt, sand, gravel, organic matter, shells, rip-rap, and debris emplaced to elevate the land surface and reshape natural surface morphology. Two groundwater bearing zones were identified at the Site by the *Remedial Investigation* (Farallon 2005). A shallow water-bearing zone was encountered beneath the Site under unconfined conditions at a depth of approximately 7 feet below ground surface (bgs). A deeper water-bearing zone was encountered on the eastern portion of the Site at a depth of approximately 23.5 feet bgs. The shallow water-bearing zone is separated from the deeper water-bearing zone by a 5-foot-thick silt layer. The groundwater flow direction in the shallow water-bearing zone is to the south-southeast. The groundwater flow in the deeper water-bearing zone could not be estimated due to only one monitoring well being screened in the deeper water-bearing zone. A tidal study completed as part of the *Remedial Investigation*



(Farallon 2005) indicated that groundwater within the deeper water-bearing zone is hydraulically connected to the surface water of Oakland Bay.

2.3 PREVIOUS INVESTIGATIONS AND STUDIES

The Site was used as a bulk fuel storage and sales facility from the early 1900s (Langseth Environmental Services, Inc. 1998). The Site was owned and operated by the Standard Oil Company from the early 1900s until the 1930s, when C.C. Cole and Sons, Inc. began operating the Site under the Standard Oil Company brand. In May 1980, C.C. Cole and Sons, Inc. purchased the Site from Chevron U.S.A., Inc. (formerly the Standard Oil Company), and operated the bulk fuel facility continuously from that time until operations were discontinued in late 2005. ASTs and aboveground piping were used for bulk fuel storage and transfer at the Site. Underground storage tanks (USTs) are not reported to have been used at the Site. Four fuel loaders were located east of the former fueling station on the property.

The results of the *Remedial Investigation* (Farallon 2005) conducted at the Site detected concentrations of TPH as gasoline-range organics (GRO) and as diesel-range organics (DRO); benzene, toluene, ethylbenzene, and xylenes (BTEX); naphthalene; and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) in soil exceeding the screening levels established for the *Remedial Investigation* (Farallon 2005). Concentrations of GRO, DRO, BTEX, and TPH as oil-range organics (ORO) were detected in groundwater in the shallow water-bearing zone at concentrations exceeding the MTCA cleanup levels established for the *Final Feasibility Study Report* (Farallon 2006b). Groundwater in the shallow water-bearing zone discharges directly to the surface soil in the Pine Street right-of-way area of the Site.

Technically feasible cleanup action alternatives were developed and screened against the threshold requirements for cleanup actions set forth in WAC 173-340-360, which include protection of human health and the environment; compliance with cleanup standards; compliance with applicable state and federal laws; and provision for compliance monitoring in the *Final Feasibility Study Report* (Farallon 2006b). Additional requirements considered include the use of permanent solutions to the maximum extent practicable, providing for a reasonable restoration time frame, and consideration of public concerns (Farallon 2006b).

2.4 CLEANUP ACTION GOALS

The objective of the cleanup action is to meet the threshold requirements of WAC 173-340-360 to protect human health and the environment, comply with cleanup standards, comply with applicable state and federal laws, and provide for compliance monitoring. The specific goals of the cleanup action are to remove soil with concentrations of one or more of the COCs exceeding the MTCA cleanup level to the maximum extent practicable to decrease the risk to human health and the environment through direct contact; emplace an oxygen-release compound to enhance aerobic bioremediation of COCs in groundwater to decrease the risk to human health and the environment through direct contact and ingestion; and monitor groundwater and groundwater discharging as surface water quality to document decreasing risk to human health and the environment over time.



3.0 CLEANUP ACTION DESCRIPTION

The cleanup action scope of work and design were described in detail in the Final EDR (Farallon 2007). Demolition of the Site structures was completed in September and October 2006 as part of the preparation activities prior to the cleanup action. Following demolition, the Site surface consisted of vegetation, gravel, and bare soil. The construction and excavation activities for the cleanup action were conducted by Cowlitz Clean Sweep of Longview, Washington, a division of PNE Corp., and documented by Farallon. A brief description of the cleanup action is provided below. The Engineer's Summary Report documents compliance of the cleanup action with the design specifications and plans (Appendix A).

3.1 MONITORING WELL DECOMMISSIONING

Monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-7 were decommissioned by a licensed well driller with Cascade Drilling, Inc. of Woodinville, Washington on December 4, 2006. The Resource Protection Well Report documenting the decommissioning for each well was completed by Cascade Drilling and submitted to Ecology on January 22, 2007, in accordance with the requirements of WAC 173-160. The monitoring wells were decommissioned by filling with hydrated bentonite chips and were subsequently removed during the soil excavation activities. Monitoring wells MW-5 and MW-6 were not within the planned areas of excavation and were protected during the soil excavation activities for use as points of compliance after completion of the excavation.

3.2 SITE SECURITY AND EROSION CONTROL

A chain link fence surrounding the perimeter of the Site was installed to provide for Site security during the cleanup action. Two locking gates provided access to the Site. The gates were open during normal working hours on work days and kept locked on evenings and weekends. Traffic control was implemented as necessary to provide for safe entry and exit of dump trucks from the Site during the soil excavation activities. A graveled construction driveway was constructed and maintained throughout the soil excavation activities to reduce tracking of debris, dust, mud, and soil onto State Route 3. A sweeper was used periodically to clean State Route 3 adjacent to the Site.

Erosion control was implemented as described in the Final EDR (Farallon 2007) and the Construction Stormwater Pollution Prevention Plan (SWPPP) (Farallon 2007), attached in Appendix E of the Final EDR. The erosion control measures were installed prior to the soil excavation activities and included a silt fence with wire backing set in a gravel trench and staked for stability. Ecology requested that any exposed or disturbed soil be covered with straw throughout the cleanup action. Following the demolition activities, the entire Site was covered with a layer of straw to prevent erosion. The straw cover was maintained throughout the soil excavation activities, as feasible and necessary, to protect the Site surface.



All other erosion control measures were implemented in accordance with the specifications outlined in the Final EDR and Design Drawings (Farallon 2007).

3.3 WASTEWATER MANAGEMENT

The specific procedures for the management of construction wastewater, including groundwater and surface water that collected in the excavation areas, were described in detail in the SWPPP. The SWPPP defined discharge limits for turbidity and TPH components, and provided guidelines for discharge including controlling flow rates to minimize erosion at the discharge point. A Construction Stormwater Site Inspection Checklist was completed daily during the soil excavation activities, in accordance with the SWPPP. Copies of the checklists are provided in Appendix B. The laboratory analytical results are included in Appendix C. A brief summary of the wastewater management activities is provided below.

The Site was sloped during the soil excavation activities so that all surface water drained into open excavation areas. Dewatering of the excavation began on December 8, 2006. The open excavation areas were purged each morning, and throughout the day as necessary, for temporary storage in a 21,000-gallon Baker Tank on the Site. On December 11, 2006, surface water that had collected in the oil-water separator that was part of the former facility operations and used during the cleanup action appeared silty and had a sheen. Laboratory analytical results detected concentrations of TPH exceeding the discharge limits and field measurements indicated that turbidity exceeded the discharge limits (Table 1). The water in the oil-water separator was pumped into the Baker Tank for pretreatment.

By December 13, 2006, the Baker Tank was filled to a capacity of 60% and two samples of wastewater were collected and analyzed to evaluate compliance with the discharge limits (Table 1). Background turbidity of Oakland Bay on December 13, 2006 was measured at 14.6 nephelometric turbidity units (NTU), indicating an acceptable wastewater discharge with a turbidity up to 24.6 NTU. The turbidity of the wastewater exceeded the measurement capacity of the field measurement instrument of 200 NTU. The laboratory analytical results of the two wastewater samples (DW-121306-01 and DW-121306-02, Table 1) detected concentrations of GRO, benzene and total BTEX in wastewater exceeded the discharge limits.

A second 21,000-gallon Baker Tank was delivered to the Site on December 15, 2006 to provide additional storage capacity for wastewater. A 2,000-pound activated carbon canister was delivered to the Site on December 15, 2006 for wastewater pretreatment. The carbon treatment canister was installed downstream of the second Baker Tank and upstream of the oil-water separator. A wastewater sample (DW-121606) was collected downstream of the carbon treatment canister on December 16, 2006, and submitted for laboratory analysis. The laboratory analytical results did not detect concentrations of GRO, DRO, benzene, or total BTEX above the laboratory practical quantitation limits (PQL), which are below the discharge limits (Table 1). The turbidity of the wastewater was measured at 22.6 NTU, which was below the discharge limit of 24.6 NTU. A total of approximately 15,000 gallons of wastewater was discharged through the oil-water separator to Oakland Bay on December 16, 2006 after pre-treatment through the carbon canister. Visual observations of surface water in Oakland Bay during discharge did not identify any sheen or turbidity associated with the wastewater discharge.



Dewatering continued daily throughout the excavation activities. On December 20, 2006, the first Baker Tank was 80% full. Sock filters were installed in the transfer line between the two Baker Tanks to filter suspended solids from the wastewater. The wastewater was transferred from the first Baker Tank, through the sock filters, into the second Baker Tank. Two samples of the wastewater were collected and analyzed on December 21, 2006 prior to discharge. Wastewater sample DW-122106-01 was collected directly from the Baker Tank (pre-treatment) and wastewater sample DW-122106-02 was collected downstream of the carbon canister (post-treatment). The laboratory analytical results detected concentrations of TPH in wastewater in the Baker Tank (pre-treatment) exceeding the discharge limits. The wastewater sample collected downstream of the carbon canister (post-treatment) did not contain detectable limits of TPH (Table 1). The measured turbidity in both wastewater samples exceeded 1,000 NTU, which were above the discharge limit of 24.6 NTU. Based on these observations, wastewater was not discharged on December 21, 2006. Additional measures to decrease turbidity in the wastewater prior to discharge on December 22, 2006 were ineffective.

Because it was not feasible to meet the discharge limit for turbidity within a reasonable time frame, CCS evaluated options for off-Site transport and disposal of the wastewater. Ecology approved of the off-Site disposal of the wastewater on December 26, 2006 under the condition that the disposal facility discharge limits were met. All wastewater was treated through the sock filter and the carbon canister prior to off-Site disposal. AAA Septic of Shelton, Washington transported approximately 17,000 gallons of wastewater with no detectable concentrations of TPH to the BioRecycling Corporation North Ranch facility in Centralia, Washington for disposal on December 27, 2006, and an additional 15,000 gallons on December 28, 2007.

Wastewater samples were collected on January 3 and January 5, 2007. The laboratory analytical results of all post-treatment wastewater samples did not detect concentrations of TPH above the laboratory PQLs. AAA Septic transported approximately 11,600 gallons, 10,000 gallons, 17,000 gallons, and 11,600 gallons of wastewater off the Site on January 3, 4, 5, and 8, respectively. The Site was sufficiently backfilled and stabilized on January 10, 2007 so that construction stormwater management activities were no longer necessary.

3.4 SOIL EXCAVATION AND DISPOSAL

Prior to soil excavation activities, a sampling grid consisting of 30-foot by 30-foot segments was established around the perimeter of the Site to provide for consistent excavation progress monitoring and compliance sampling. The sampling grid resulted in 900-square-foot squares that were aligned parallel to State Route 3, as depicted on Figure 2.

The soil excavation activities progressed to minimize the disturbed area of soil. A maximum of three grid areas were excavated at one time and each grid was backfilled to a depth above the water table prior to moving into the next grid. Clean overburden suitable for backfill was stockpiled on the Site for reuse. A total of 250 cubic yards of clean overburden was temporarily stockpiled and subsequently used for backfill. A total of 76 cubic yards of clean overburden was unsuitable as backfill and was transported off the Site. A summary of the laboratory analytical results collected from stockpiles is provided in Table 2.



Soil with concentrations of one or more of the COCs exceeding the MTCA Method A cleanup levels was excavated, loaded directly into trucks, and transported as nonhazardous waste to Waste Management's Alaska Street Transfer Facility in Seattle, Washington for transfer to the Columbia Ridge Landfill in Arlington, Oregon for disposal. A total of 7,507.95 tons of petroleum-contaminated soil was transported off the Site for disposal.

A small volume of soil was excavated from the outfall location of seep SG-1 within the Pine Street right-of-way where concentrations of GRO and benzene detected in soil at the surface and benzene at 1 foot bgs exceeded the MTCA Method A cleanup levels. Soil was removed to a depth of 1.5 feet bgs and a soil sample was collected from the base of the small excavation area (Figure 2).

As described in the Final EDR, an attempt was made to segregate soil with concentrations of one or more of the COCs exceeding the MTCA Method A cleanup levels from soil with concentrations of COCs below the MTCA Method A cleanup levels and/or containing visual and/or olfactory evidence of the COCs. However, because of the extreme saturation of the majority of the soil with concentrations of COCs exceeding the MTCA Method A cleanup levels, any soil with concentrations of COCs below the MTCA Method A cleanup levels and/or containing visual and/or olfactory evidence of the COCs was mixed with the soil being transported off-Site to reduce the liquid content and ensure that the soil was acceptable for transport.

3.5 COMPLIANCE SAMPLING

Compliance soil sampling was conducted as described in the Final EDR (Farallon 2007) at locations depicted on Figures 3 and 4. The laboratory analytical results of the compliance soil samples are summarized in Table 3. The laboratory analytical results are included in Appendix C. The samples that are classified as performance soil samples were collected from soil that was subsequently removed during the soil excavation activities (Figure 3; Table 3). The samples that are classified as confirmation soil samples were collected from the final limits of excavation (Figures 4; Table 3). The results of the compliance sampling are discussed in Section 3.7.

3.6 SITE RESTORATION

The excavation areas were backfilled with 2- to 4-inch-diameter quarry spalls and compacted in 3-foot lifts to a minimum depth of 2 feet above the water table, or approximately 3 feet bgs. The quarry spalls were mixed with a total of 4,000 pounds of Advanced Oxygen Release Compound (ORC AdvancedTM) manufactured by Regenesis. A geotextile filter fabric was installed on top of the quarry spalls and the top 3 feet were completed with 1.5-inch minus crushed rock that was compacted. Compaction testing was performed for CCS by Professional Service Industries of Tacoma, Washington. The results of the compaction testing indicate that the minimum standard of compaction to 95% maximum dry density modified proctor dry was met or exceeded.



3.7 RESULTS

A total of 63 confirmation soil samples were collected from the final limits of excavation (Figure 4). The laboratory analytical results detected concentrations of one or more of the COCs exceeding the MTCA Method A cleanup levels in 13 of the confirmation soil samples (Figure 5; Table 3). The other 50 confirmation soil samples either contain concentrations of the COCs below the MTCA Method A cleanup level or do not contain concentrations of the COCs above the laboratory practical quantitation limit. Based on these results, an estimated total of 1,074 tons of soil with concentrations of one or more of the COCs exceeding the MTCA Method A cleanup levels remain on the Site after the cleanup action. The cleanup action has resulted in the removal of 87 percent of the total mass of soil on the Site with concentrations of one or more of the COCs exceeding the MTCA Method A cleanup levels. Figure 5 depicts the locations, laboratory analytical results, and estimated distribution of soil with one or more the COCs detected exceeding the MTCA Method A cleanup levels.

A total of 40 soil samples collected from the final limits of excavation were submitted for laboratory analysis of carcinogenic polycyclic aromatic hydrocarbons (cPAHs). The laboratory analytical results for cPAHs are summarized in Table 4. The laboratory analytical results of soil samples collected at the final limits of excavation did not detect concentrations of cPAHs exceeding the MTCA cleanup levels (Table 4).

The laboratory analytical results of compliance soil samples indicates that soil with concentrations of one or more of the COCs exceeding the MTCA Method A cleanup levels were left in-place beyond the practicable limits of excavation. The approximate areas of residual soil contamination are depicted on Figure 5. As anticipated and described in the Final EDR (Farallon 2007), the limitations on the extent of the excavation included the bulkhead, State Route 3, and utilities along State Route 3. Ecology accepted these limitations prior to the cleanup action. Additional excavation and soil removal along State Route 3 would have required closing the highway, disconnecting and rerouting underground utilities, removing the highway asphalt, excavating and transporting contaminated soil off the Site, repaving and restriping the highway, and replacing the underground utilities. The work required to remove the residual soil with concentrations of the COCs exceeding MTCA Method A cleanup levels adjacent to State Route 3 was not practicable.

Two localized areas of soil with residual soil contamination were left in place on the eastern portion of the Site as characterized by the sample collected at 16 feet bgs in grid D-11, and on the southeast portion of the Site as characterized by samples collected at depths of 5 to 12 feet bgs in grid C-4 (Figure 5). Additional soil removal in these areas would have compromised the structural integrity of the existing bulkhead and was not practicable.

The soil left in-place in grid C-4 contained concentrations of GRO, DRO, and benzene exceeding the MTCA Method A cleanup levels. The laboratory analytical results detected GRO at a concentration of 59 milligrams per kilogram (mg/kg), as compared to the MTCA Method A cleanup level of 30 mg/kg; DRO at a concentration of 2,300 mg/kg, as compared to the MTCA Method A cleanup level of 2,000 mg/kg; and benzene at concentrations ranging from 0.06 mg/kg to 1.32 mg/kg, as compared to the MTCA Method A cleanup level of 0.03 mg/kg. In addition,



the laboratory analytical results detected benzene at a concentration of 0.06 mg/kg, which is just above the MTCA Method A cleanup level of 0.03 mg/kg for soil, in the soil sample collected at the base of the surface soil excavation near the former location of seep SG-1. The concentrations of GRO, DRO and benzene left in-place in the vicinity of grid C-4 are expected to naturally attenuate. Since excavation and backfill of the Site in the area of C-4, the previously identified seep has not been observed, which indicates that the source of TPH to surface soil has been removed. Farallon will continue to monitor the location of previously identified seep location SG-1 as part of the quarterly groundwater monitoring and sampling activities.



4.0 GROUNDWATER PERFORMANCE MONITORING

The groundwater performance monitoring commenced at the Site after completion of the soil excavation activities. The work included installation of three monitoring wells (MW-8, MW-9, and MW-10) to provide points of compliance sampling locations, and groundwater monitoring and sampling of the three new monitoring wells and the two existing Site wells, monitoring wells MW-5 and MW-6 (Figure 6). This section describes the groundwater performance monitoring activities and results.

4.1 MONITORING WELL INSTALLATION

The three monitoring wells were installed on February 16, 2007 under the supervision of a Farallon Scientist. Cascade Drilling of Woodinville, Washington performed the drilling activities using a hollow-stem auger drill rig. Soil samples were not logged during the drilling of the monitoring wells. The log of boring for each monitoring well is included in Appendix D.

The monitoring wells were constructed of 2-inch-diameter blank polyvinyl chloride casing, flush-threaded to 12 to 15 feet of 0.020-inch slotted well screen. Monitoring wells MW-8 and MW-9 are screened from 3 to 15 feet bgs and monitoring well MW-10 is screened from 2 to 17 feet bgs. The bottom and top of the each monitoring well were fitted with a threaded polyvinyl chloride bottom cap and a locking compression-fit well cap. The annulus of each monitoring well was filled with #2/12 silica sand to a minimum height of 1 foot above the top of the screened interval. A bentonite seal was installed above the sand pack. The monitoring wells were completed at the surface with a flush-mount, traffic-rated well box set in concrete. The monitoring well construction is noted on the log of boring forms (Appendix D).

The monitoring wells were developed following installation with the use of a submersible pump. All soil cuttings, purge water, and decontamination water generated during well installation, development, and sampling were placed into labeled 55-gallon U.S. Department of Transportation-approved drums and temporarily stored at the Site pending receipt of analytical data and proper disposal.

4.2 GROUNDWATER MONITORING AND SAMPLING

Groundwater monitoring and sampling was conducted at point of compliance monitoring wells MW-5, MW-6, MW-8, MW-9, and MW-10 on April 5, 2007 (Figure 6). Upon Farallon's arrival at the Site for the monitoring event, all of the monitoring wells were opened and the water level was permitted to equilibrate with atmospheric pressure for a minimum of 15 minutes prior to obtaining groundwater level measurements in the wells. Groundwater levels were measured to an accuracy of 0.01 feet using an electric water level meter.

Purging and sampling of each monitoring well was performed using a peristaltic pump and dedicated polyethylene tubing at flow rates ranging from 100 to 300 milliliters per minute. The tubing intake was placed at approximately mid-screen in each monitoring well. During purging, water quality was monitored using a Yellow Springs Instrument 600XL water quality system equipped with a flow-through cell. The water quality parameters that were monitored and



recorded included temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential. Each monitoring well was purged until all five water quality parameters stabilized.

Following purging, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into laboratory-prepared sample containers. The containers were placed on ice in a cooler and transported to OnSite Environmental, Inc. of Redmond, Washington, under standard chain-of-custody protocols for laboratory analysis. The groundwater samples were submitted for analysis of GRO by Northwest Method NWTPH-Gx; DRO by Northwest Method NWTPH-Dx; and BTEX by EPA Method 8021.

All purge water generated during the monitoring events was placed in an appropriately labeled 55-gallon steel drum and temporarily stored on the Site pending receipt of analytical data and proper disposal.

4.3 RESULTS

The results of the field activities and laboratory analyses are presented below. Depth to groundwater measurements are presented in Table 5. Groundwater analytical results are presented in Table 6 and illustrated on Figure 6. The water quality data is summarized in Table 7. The laboratory analytical reports are provided in Appendix C and the boring/well construction logs are provided in Appendix D.

Groundwater levels measured on April 5, 2007 ranged from 6.1 feet (monitoring well MW-8) to 10.05 feet (monitoring well MW-9) below the top of the monitoring well casings (Table 5). Groundwater elevations calculated based on the groundwater levels measured on April 5, 2007 indicate that the backfill in the cleanup action excavation areas is affecting the natural groundwater flow direction at the Site. The groundwater elevations calculated for monitoring wells MW-8 and MW-10, completed within the backfill material, are 2 to 4 feet higher than those calculated for monitoring wells MW-5, MW-6 and MW-9, which are completed in native material on the Site (Table 5).

The laboratory analytical results did not detect concentrations of GRO or BTEX in groundwater exceeding the MTCA Method A cleanup levels (Table 6). Concentrations of DRO were detected in the groundwater sample collected from monitoring well MW-10, located on the southeast side of the Site, exceeding the MTCA Method A cleanup level (Table 5). Concentrations of DRO were not detected above the laboratory PQL in any of the other groundwater samples collected during the monitoring and sampling event (Table 6).

The groundwater quality observed in monitoring well MW-8 is indicative of the groundwater quality in the vicinity of previously identified seep SG-1. The laboratory analytical results of the groundwater sample collected from monitoring well MW-8 in April 2007 did not detect concentrations of DRO or BTEX above the laboratory PQL, and detected GRO at a concentration of 190 micrograms per liter (µg/l), which is below the MTCA Method A cleanup level of 800 µg/l. The combination of the soil excavation, backfill, and restoration, and the



attenuation of groundwater in the vicinity of monitoring well MW-8 precludes the potential for future migration of contaminants from the Site to surface soil in the Pine Street right-of-way.

The groundwater analytical results indicate that the concentrations of TPH in groundwater following the excavation activities are below the MTCA Method A cleanup levels, with the exception of DRO detected in monitoring well MW-10. The preliminary results from the second groundwater monitoring and sampling event, conducted in July 2007, indicate that the concentrations of DRO in groundwater in monitoring well MW-10 have decreased. These results will be documented in the next progress report. The groundwater analytical results indicate that the residual concentrations of TPH exceeding the MTCA Method A cleanup levels in soil after the cleanup action are not leaching to groundwater at the Site. Farallon will continue to monitor groundwater quality at the Site quarterly as described in the Final EDR.



5.0 CONCLUSIONS

The cleanup action was conducted in accordance with the plans and specifications provided in the Final EDR (Farallon 2007), and included monitoring well decommissioning, implementation, and maintenance of Site security measures, erosion control and wastewater management, soil excavation and off-Site disposal, Site restoration, and placement of ORC Advanced to enhance natural attenuation in groundwater. As part of the cleanup action, three new point of compliance monitoring wells were installed, and the three new monitoring wells and two pre-existing monitoring wells were sampled for the first round of compliance groundwater monitoring and sampling.

Construction stormwater management was conducted in accordance with the SWPPP. A total of 15,000 gallons of wastewater, consisting of a combination of surface water and groundwater, was pre-treated and discharged directly to Oakland Bay. A total of 82,200 gallons of wastewater did not meet the discharge limits for turbidity for direct discharge to Oakland Bay and was transported off Site for disposal. All erosion control and construction stormwater measures were implemented and maintained successfully so that there was no impact to the adjacent water body.

A total of 7,507.95 tons of petroleum-contaminated soil was excavated from the Site and transported off Site for disposal. Compliance soil sampling included the collection of 63 confirmation soil samples, of which 50 confirmation soil samples did not contain concentrations of TPH above MTCA Method A cleanup levels. The 13 confirmation soil samples with concentrations of TPH exceeding the MTCA Method A cleanup levels included samples collected from soil adjacent to State Route 3 and the bulkhead that could not be excavated due to the potential for structural impacts. Ecology accepted the limitations on excavation prior to the cleanup action. The excavation areas were backfilled from below the water table to 3 feet bgs, with quarry spalls mixed with ORC Advanced and crushed rock to the surface.

The results indicate that 87 percent of the soil on the Site with concentrations of one or more of the COCs exceeding the MTCA Method A cleanup levels was removed during the cleanup action. The bulk of the residual soil contamination that was left in-place is located adjacent to State Route 3. Additional excavation and soil removal in this area was beyond the practicable limits of excavation. Two localized areas of soil with residual soil contamination were left in-place on the eastern side of the Site, adjacent to the bulkhead. Additional excavation in this area would have compromised the structural integrity of the bulkhead and was not practicable. Soil with concentrations of GRO, DRO, and benzene slightly exceeding the MTCA Method A cleanup levels was left in place on the southwest portion of the Site. The residual concentrations of TPH in soil are expected to attenuate to concentrations below the cleanup levels.

The groundwater analytical results of the first performance groundwater monitoring and sampling event did not detect concentrations of TPH exceeding the MTCA Method A cleanup levels in four of the five point of compliance monitoring wells. The laboratory analytical results detected a concentration of DRO exceeding the MTCA Method A cleanup level in the groundwater sample collected from monitoring well MW-10. The groundwater analytical results



indicate that the concentrations of TPH in soil left in-place following completion of the cleanup action are not affecting groundwater at the Site.

The groundwater quality observed in monitoring well MW-8 is indicative of the groundwater quality in the vicinity of previously identified seep SG-1. The laboratory analytical results for monitoring well MW-8 did not detect concentrations of COCs above the MTCA Method A cleanup levels. Since completion of the excavation and backfill at the Site, seep SG-1 has not been observed. Based on the observed groundwater quality in the vicinity of the former seep and the change in conditions at the Site that are preventing discharge of groundwater to surface soil, it appears that the source of the TPH to surface soil has been removed.



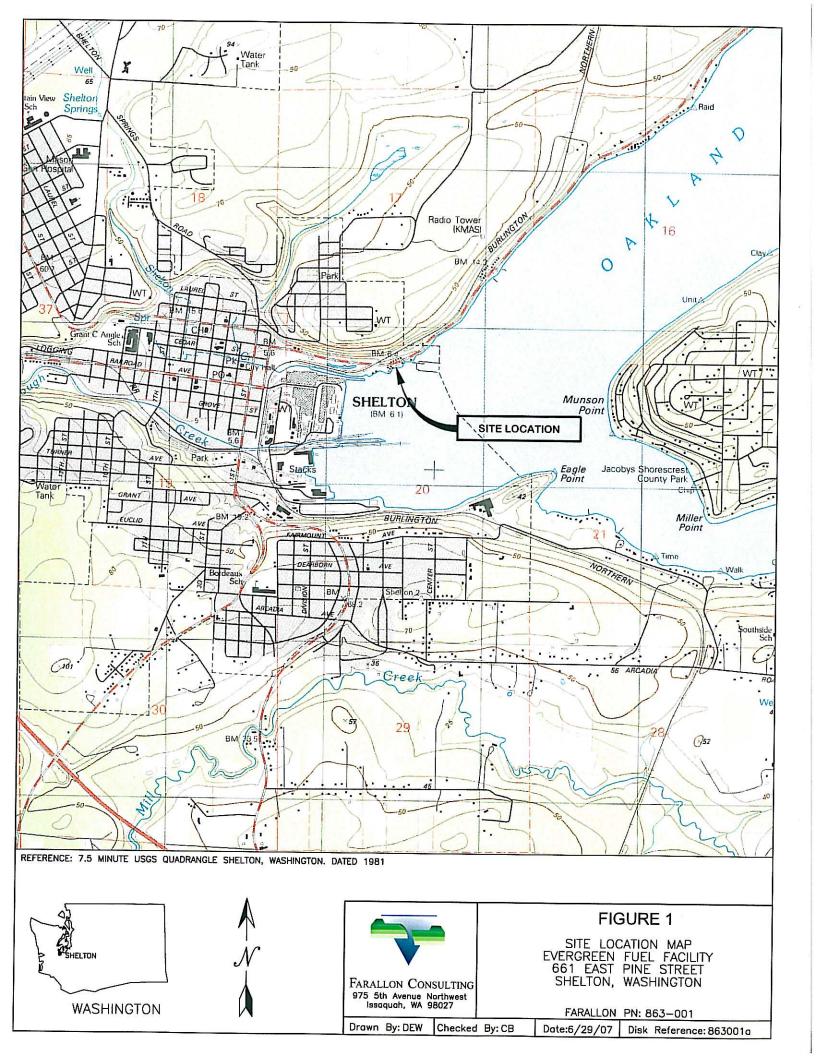
6.0 REFERENCES

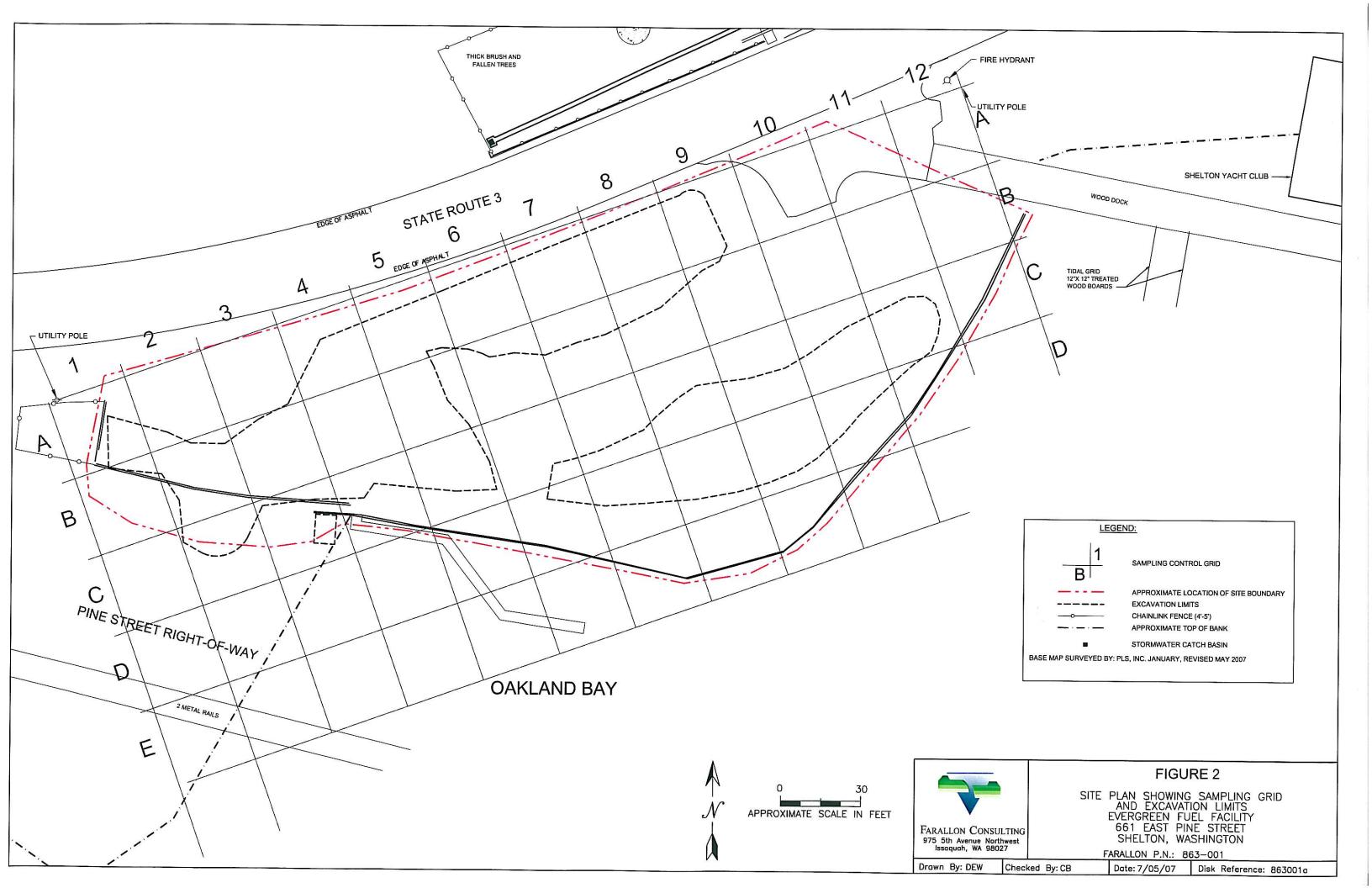
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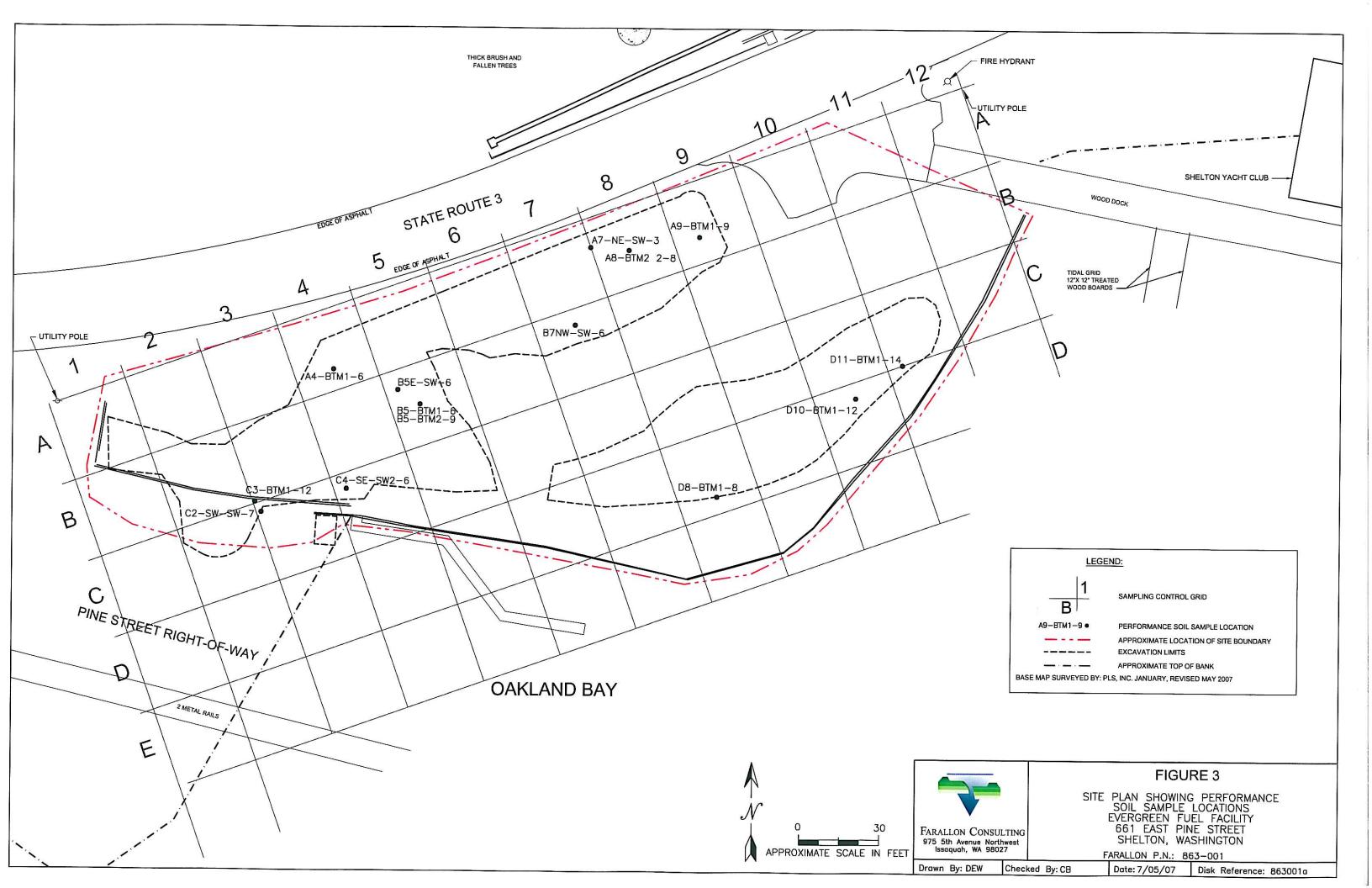
FIGURES

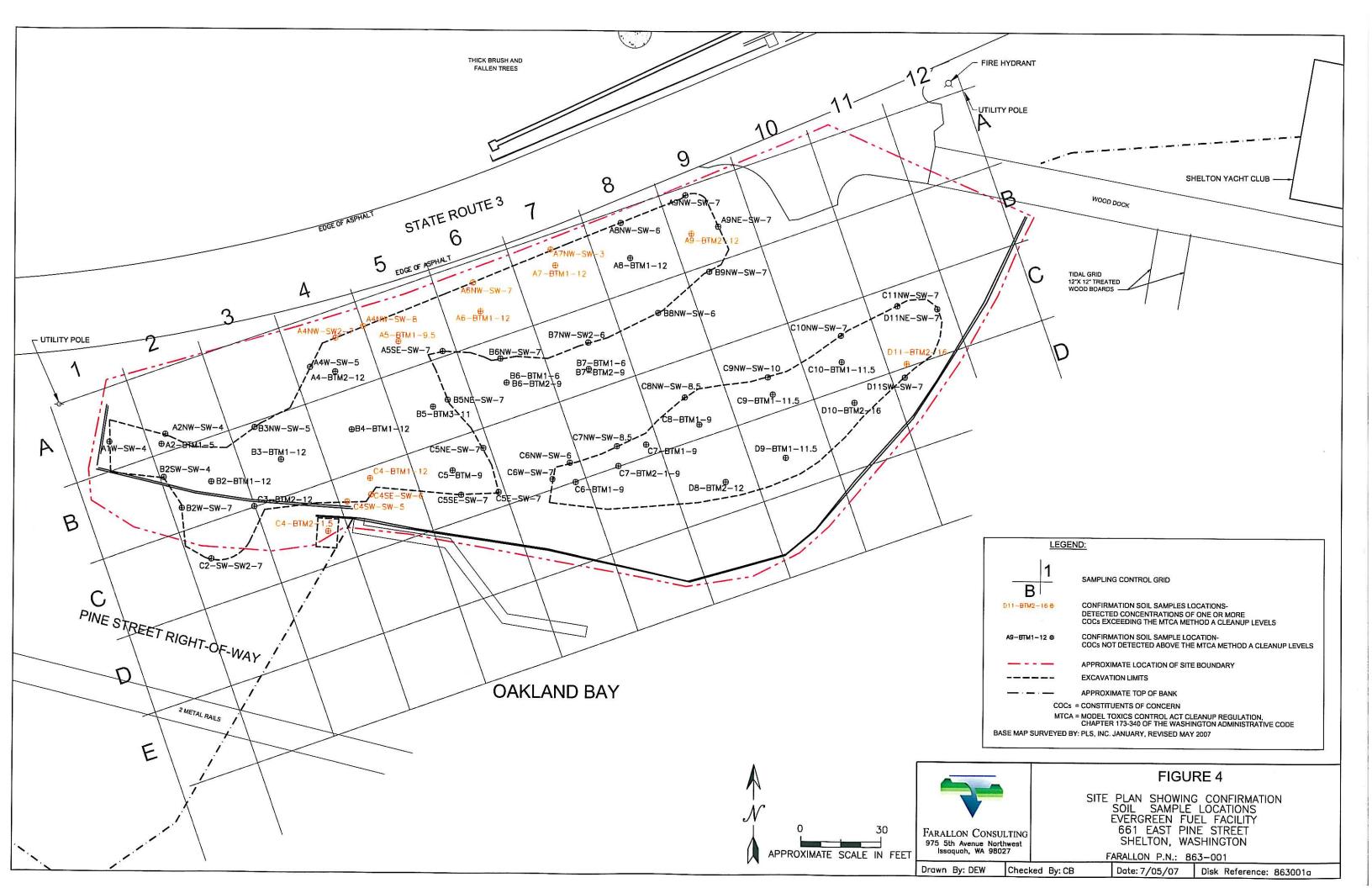
CLEANUP ACTION SUMMARY REPORT
DECEMBER 2006 TO JUNE 2007
Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington

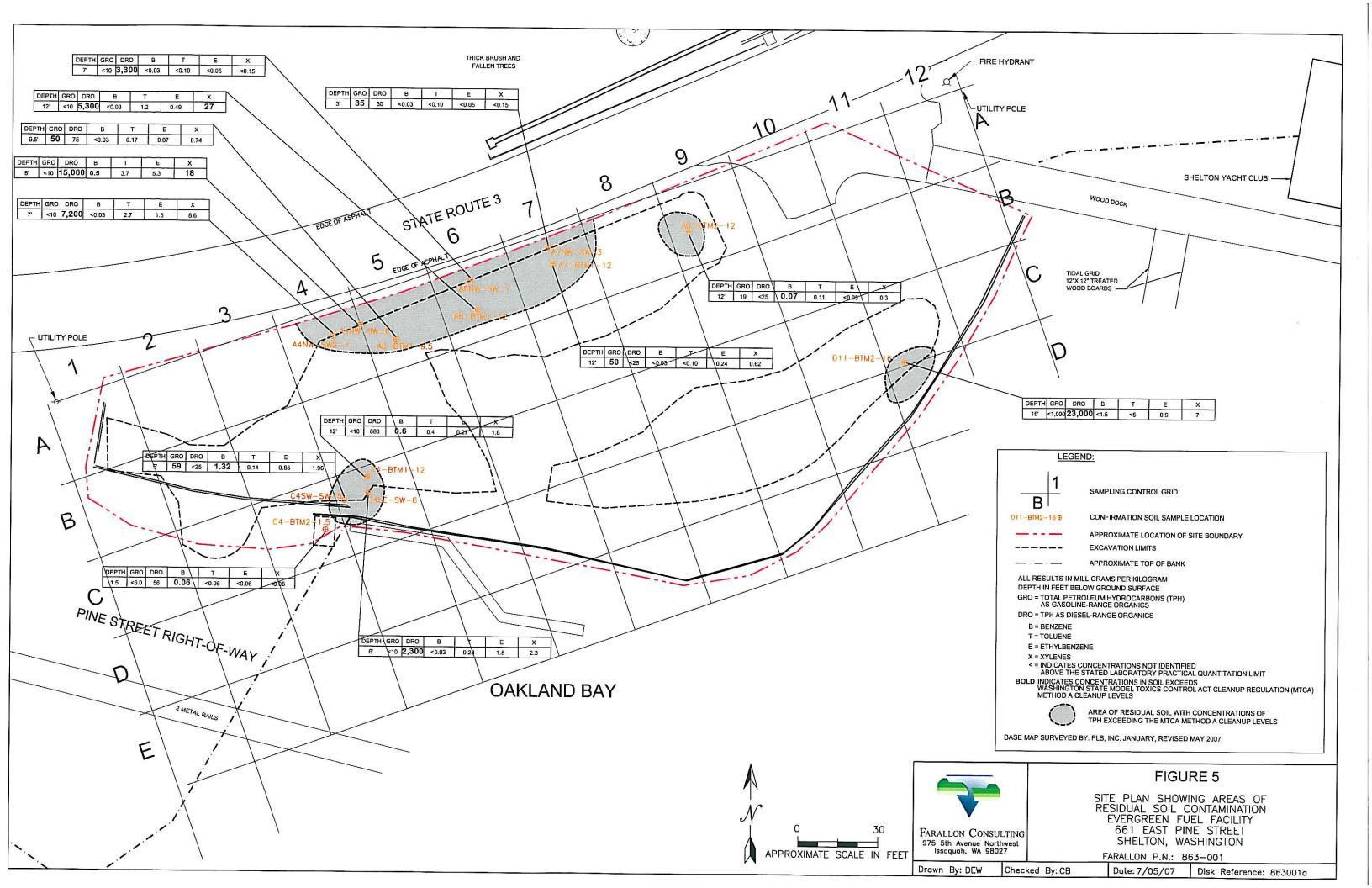
Farallon PN: 863-001

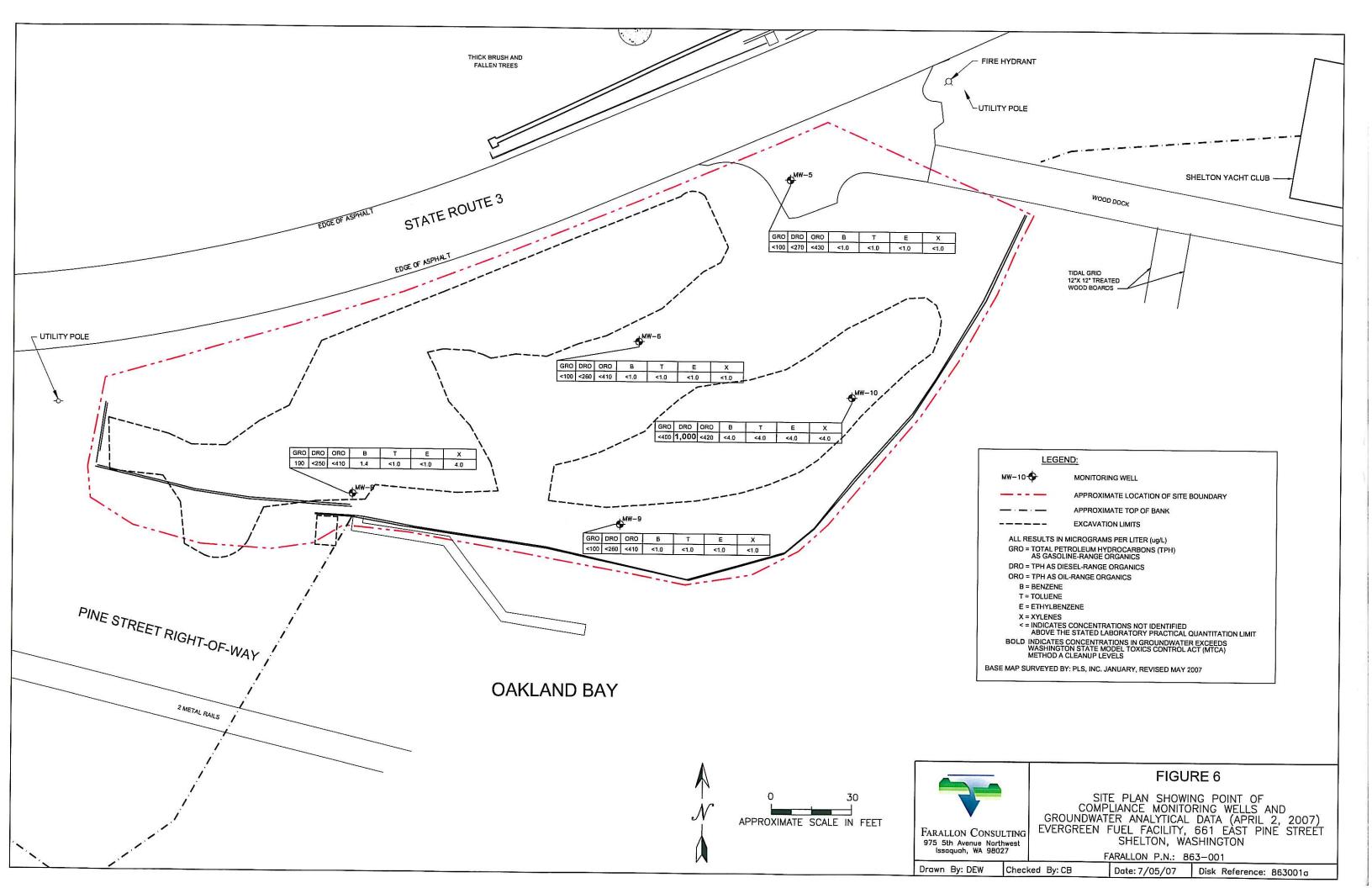












TABLES

CLEANUP ACTION SUMMARY REPORT DECEMBER 2006 TO JUNE 2007 Evergreen Fuel Facility 661 East Pine Street Shelton, Washington

Farallon PN: 863-001

Table 1
Summary of Wastewater Characterization Analytical Results
Evergreen Fuel Facility

Cleanup Action 661 East Pine Street Shelton, Washington

Farallon PN: 863-001

Sample	Date			Water Ana	lytical Resul	Water Analytical Results (micrograms per liter	er liter)		Turbidity
Identification	Sampled	GRO 1	DRO 2	Benzene 3	Toluene 3	Ethylbenzene ³	Total Xylenes 3	Total BTEX	(NTU)
DW-121106	12/11/2006	<100	80,000	5.4	2.4	J	180	188.8	>100
DW 121306-01 12/13/2006	12/13/2006	5,000	<200	170	100	96	270	636	>200
DW 121306-02 12/13/2006	12/13/2006	3,800	<200	120	74	48	180	422	>200
DW 121606 12/16/2006	12/16/2006	<100	<200	7	4	∇	∇	0	22.6
DW 122106-01 12/21/2006	12/21/2006	948	<200	23.9	48.4	6'6	70.3	152.5	>1,000
DW122106-02 12/21/2006	12/21/2006	<100	<200		4	⊽	<3	0	>1,000
JW-122906-01 12/29/2006	12/29/2006	652	<2000	7.4	8.8	▽	24.9	41.1	>1,000
DW-122906-02 12/29/2006	12/29/2006	195	<200	4.3	17.9	3.2	20.7	46.1	>1,000
DW-010307-01	1/3/2007	<100	<200	\$	20	<20	<20 <20	0	>1,000
DW-010307-02	1/3/2007	320	<2000	12.5	39.7	<20	40.5	92.7	>1,000
DW-010307-03	1/3/2007	<100	<200	<5	√ 20	<20	<20	0	000'T<
DW-010307-04	1/3/2007	<100	1,130	5.2	<20	\$\tag{750}	<20	5.2	>1,000
DW- 010507-01	1/5/2007	<100	<1,000	<5	750	<20	<20	0	>1,000
DW-010507-02	1/5/2007	<100	<1,000	<5	<20	<20	<20	0	>1,000
Discharge Limits4	*S	1.000	10,000	'n	NA	NA	NA	100	24.6

NOTES

Results in BOLD exceed the project Discharge Limits.

< Indicates concentrations not detected above the stated laboratory practical quantitation limit.

Analyzed by Northwest Method NWTPH-Gx.

DRO = total petroleum hydrocarbons as diesel-range organics GRO = total petroleum hydrocarbons as gasoline-range organics

² Analyzed by Northwest Method NWTPH-Dx.

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

⁴ Project-specific Discharge Limits as defined in the Final Engineering Design Report.

Table 2
Summary of Soil Analytical Results - Waste Characterization Samples
Evergreen Fuel Facility Cleanup Action
Shelton, Washington
Farallon PN: 863-001

				Soi	I Analytical I	Results (millig	Soil Analytical Results (milligrams per kilogram	1)
Sample Grid Sample 1	Sample Number	Date Collected	GRO	DRO ²	Benzene ³	Toluene ³	Ethylbenzene ³	Total Xylenes ³
A7	A7 BOT SP-1	12/8/2006	<10	2,200	<0.03	<0.10	<0.05	<0.15
AI-A2	A1 A2 SP-1	12/13/206	370	25	0.03	0.36	1.8	16
D9 C7	D9 C7 SP1	12/16/2006	<10	2.5	<0.03	<0.10	<0.05	<0.15
D9 C7	D9 C7 SP2	12/16/2006	<10	425	<0.03	<0.10	<0.05	<0.15
D9 C7	D9 C7 SP3	12/16/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
C5 D6	C5-D6-SP1	12/21/2006	<10	<25	<0.02	<0.10	<0.05	<0.15
C5 D6	C5-D6-SP2	12/21/2006	<10	25	<0.02	<0.10	<0.05	<0.15
C5 D6	C5-D6-SP3	12/21/2006	<10	<25	<0.02	<0.10	<0.05	<0.15

NOTES:

< Indicates concentrations not detected above the stated laboratory practical quantitation limit.

Analyzed by Northwest Method NWTPH-Gx.

² Analyzed by Northwest Method NWTPH-Dx.

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

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

organics

GRO = TPH as gasoline-range organics

Table 3
Summary of Soil Analytical Results - Compliance Soil Samples
Evergreen Fuel Facility Cleanup Action
Shelton, Washington
Farallon PN: 863-001

						Soil	Analytical F	tesults (mill	Soil Analytical Results (milligrams per kilogram)	am)
Sample Grid	Sampie Grid Sample Number	Location	Depth (feet bgs) ¹	Depth (feet bgs) ¹ Date Collected	GRO ²	DRO ³	Benzene ⁴	Toluene [†]	Ethylbenzene ⁴	Total Xylenes 4
Performance Soil Samples	Soil Samples									
A4	A4 BTM 1-6	Bottom	9	12/18/2006	<10	5,400	0.17	1.3	0.38	4.7
A7	A7 NE SW-3	Sidewall	3	12/8/2006	01>	<25	<0.03	<0.10	<0.05	<0.15
A8	A8 BTM2 2-8	Bottom	8	12/18/2006	×10	2,200	<0.03	<0.10	<0.05	<0.15
A9	A9-BTM1-9	Bottom	6	12/27/2006	131	284	0.2	0.22	<0.05	0.43
B5	B5 E SW 6	Sidewall	9	12/20/2006	01>	650	<0.03	<0.10	0.11	0.71
B5	B5-BTMI-6	Bottom	9	12/22/2006	V 10 10	3,280	<0.03	<0.10	<0.05	<0.15
B5	B5-BTM2-9	Bottom	6	12/22/2006	410	2,910	<0.03	<0.10	<0.05	<0.15
B7	B7NW-SW-6	Sidewall	9	12/21/2006	<10	2,380	0.21	<0.10	<0.05	<0.15
C	C2 SW SW 7	Sidewall	7	1/5/2007	1,800	<25	4.1	3.5	10	21
ຮ	C3-BTMI-12	Bottom	12	12/29/2006	28	290	0.52	0.24	9.0	0.5
C4	C4SE-SW2-6	Sidewall	9	12/29/2006	45	315	0.26	0.055	0.77	2.5
D8	D8-BTM1-8	Bottom	8	12/21/2006	125	3,700	4.42	0.33	9.0	0.44
D10	D10-BTM1-12	Bottom	12	12/27/2006	<10	31,200	0.061	0.42	0.14	0.48
D11	DII BTM 1-14	Bottom	[4	1/5/2007	<1000	18,000	<1.5	\$	ζ.	S
Confirmation	Confirmation Soil Samples									
Al	AIW SW 4	Sidewall	4	12/13/2006	<10	441	<0.03	<0.10	<0.05	<0.15
A2	A2NW SW 4	Sidewall	4	12/13/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
A2	A2 BTM 1-5	Bottom	5	12/13/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
A4	A4 BTM 2-12	Bottom	12	12/18/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
A4	A4 W SW-5	Sidewall	5	12/18/2006	<10	640	<0.03	<0.10	<0.05	<0.15
A4	A4 NW SW 2-7	Sidewall	7	12/19/2006	<10	7,200	<0.03	2.7	1.5	8.6
A4	A4 NW SW 8	Sidewall	8	12/14/2006	<10	15,000	0.5	3.7	5.3	18
A5	A5 SE SW 7	Sidewall	7	12/14/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
A5	A5 BTM 1-9.5	Bottom	9.5	12/14/2006	50	75	<0.03	0.17	0.07	0.74
A6	A6 BTM 1-12	Bottom	12	12/14/2006	<10	5,300	<0.03	1.2	0.49	27
A6	A6 NW SW 7	Sidewall	7	12/14/2006	<10	3,300	<0.03	<0.10	<0.05	<0.15
A7	A7 NW SW-3	Sidewall	3	12/8/2006	35	30	<0.03	<0.10	<0.05	<0.15
A7	A7 BOT 1-12	Bottom	12	12/8/2006	90	<25	<0.03	<0.10	0.24	0.62
A8	A8NW-SW-6	Sidewall	9	12/21/2006	<10	<25	<0.02	<0.10	<0.05	<0.15
A8	A8 BTM 1-12	Bottom	12	12/18/2006	<10	340	<0.03	<0.10	<0.005	<0.15
A9	A9-BTM2-12	Bottom	12	12/27/2006	16	<25	0.07	0.11	<0.05	0.3
A9	A9NE-SW-7	Sidewall	7	12/27/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
A9	A9NW-SW-7	Sidewall	7	12/27/2006	14	<25	<0.03	<0.10	<0.05	0.2
MTCA Meth	MTCA Method A Soil Cleanup Level	Level ⁵			30	2,000	0.03	7	80	6

Table 3
Summary of Soil Analytical Results - Compliance Soil Samples
Evergreen Fuel Facility Cleanup Action
Shelton, Washington
Farallon PN: 863-001

						Soil	Analytical I	Results (mil	Soil Analytical Results (milligrams per kilogram)	am)
			Depth							
Sample Grid	Sample Number	Location	(feet bgs) ¹	Date Collected	GRO ²	DRO ³	Benzene 4	Toluene 4	Ethylbenzene 4	Total Xylenes
B2	B2 SW SW 4	Sidewall	4	12/13/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
B2	B2 BTM I-12	Bottom	12	12/18/2006	<10	370	<0.03	0.31	0.11	0,47
B2	B2W SW 7	Sidewall	7	1/5/2007	01>	225	<0.03	<0.10	<0.05	-0.15
В3	B3 BTM I-12	Bottom	12	12/18/2006	01∨	<25	<0.03	<0.10	<0.05	<0.15
B3	B3 NW SW 5	Sidewall	5	12/18/2006	<10	<25	<0.03	0.10	<0.05	<0.15
B4	B4 BTM 1-12	Bottom	12	12/19/2006	01×	210	<0.03	0.10	<0.05	0.17
B5	B5-BTM3-11	Bottom	1	12/27/2006	01V	<25	<0.03	<0.10	<0.05	-0.15
B5	B5NE-SW-7	Sidewall	7	12/27/2006	o1>	<25	<0.03	<0.10	<0.05	<0.15
B6	B6 NW SW 7	Sidewall	7	12/14/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
B6	B6-BTM1-6	Bottom	9	12/22/2006	01×	25	<0.03	<0.10	<0.05	<0.15
B6	B6-BTM2-9	Bottom	6	12/22/2006	<10	128	<0.03	<0.10	<0.05	<0.15
B7	B7-BTM1-6	Bottom	9	12/22/2006	<10	87	<0.03	<0.10	<0.05	<0.15
B7	B7-BTM2-9	Bottom	6	12/22/2006	<10	95	<0.03	<0.10	<0.05	<0.15
B7	B7NW-SW2-6	Sidewall	9	12/22/2006	<10	178	<0.03	<0.10	<0.05	<0.15
B8	B8NW-SW-6	Sidewall	9	12/21/2006	01>	55	<0.03	<0.10	<0.05	<0.15
B9	B9NW-SW-7	Sidewall	7	12/27/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
ಬ	C2 SW SW2-7	Sidewall	7	1/5/2007	<10	<25	<0.03	<0.10	<0.05	<0.15
ප	C3 BTM 2-12	Bottom	12	1/5/2007	<10	<25	<0.03	<0.10	<0.05	<0.15
7	C4 BTM 1-12	Bottom	12	12/20/2006	<10	680	9.0	0.4	0.27	9.1
3	C4 SE SW 6	Sidewall	9	12/20/2006	<10	2,300	<0.03	0.23	1.5	2.3
25	C4SW-SW-5	Sidewall	Š	12/29/2006	59	<25	1.32	0.14	0.85	1.96
Ç4	C4-BTM2-1.5	Bottom	1.5	1/11/2007	<6.0	<u>56</u>	90.0	>0.06	>0.06	>0.06
C.	C5-BTM-9	Bottom	7	12/21/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
C.5	C5E-SW-7	Sidewall	7	12/21/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
S	C5NE-SW-7	Sidewall	7	12/21/2006	<10	97	<0.03	<0.10	<0.05	<0.15
CS	C5SE-SW-7	Sidewall	7	12/21/2006	<10	<2.5	<0.03	<0.10	<0.05	<0.15
90	C6-BTM1-9	Bottom	6	12/22/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
ce Ce	C6W-SW-7	Sidewall	7	12/22/2006	<10	<2.5	<0.03	<0.10	<0.05	<0.15
92 Ce	CGNW-SW-6	Sidewall	9	12/27/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
C.7	C7 BTM 1-9	Воттош	6	12/11/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
C	C7 BTM2 1-9	Bottom	6	12/12/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
73	C7 NW SW 8.5	Sidewall	8.5	12/12/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
ఔ	C8-BTM 1-9	Bottom	6	12/11/2006	~10	<25	<0.03	<0.10	<0.05	<0.15
83	C8 NW SW 8.5	Sidewall	8.5	12/11/2006	0I>	<2.5	<0.03	<0.10	<0.05	<0.15
ITCA Metho	MTCA Method A Soil Cleanup Level 5	Level 5			30	2,000	0.03	۲	90	6

Table 3
Summary of Soil Analytical Results - Compliance Soil Samples
Evergreen Fuel Facility Cleanup Action
Shelton, Washington

Shelton, Washington Farallon PN: 863-001

-						Soil	Analytical F	Results (mill	Soil Analytical Results (milligrams per kilogram)	am)
			Denth							
Sample Grid	Sample Grid Sample Number	Location	(feet bgs)	Date Collected GRO 2	GRO ²	DRO 3	Benzene 4	Toluene	Ethylbenzene 4	Total Xylenes
63	C9-BTM 1-11.5	Bottom	11.5	12/12/2006	01>	<25	<0.03	<0.10	<0.05	<0.15
හි	C9 NW SW 10	Sidewall	10	12/12/2006	0I∨	<25	<0.03	01.0>	<0.05	<0.15
C10	C10-BTM1-11.5	Вощош	11.5	12/27/2006	01∨	<25	<0.03	Ø.10	<0.05	0.09
C10	CI0NW-SW-7	Sidewall	1	12/27/2006	V 10	\$5	<0.03	<0.10	<0.05	<0.15
CII	CII NW SW 7	Sidewall	7	1/5/2007	<10	<25	<0.03	<0.10	<0.05	<0.15
D8	D8 BTM 2-12	Воттот	12	1/5/2007	01>	390	<0.03	<0.10	<0.05	<0.15
D3	D9-BTM I-11.5	Bottom	11.5	12/12/2006	012	<25	<0.03	<0.10	<0.05	<0.15
D10	D10-BTM2-16	Bottom	91	12/27/2006	V 10 V	<25	<0.03	0.10 0.10	<0.05	<0.15
D11	DII NE SW 7	Sidewall	7	1/5/2007	<10	<25	<0.03	<0.10	<0.05	<0.15
011	DII SW SW 7	Sidewall	7	1/5/2007	<10	<25	<0.03	<0.10	<0.05	<0.15
D11	D11 BTM 2-16	Bottom	16	1/5/2007	<1000	23,000	<1.5	ζ.	0.9	7
QA/QC Samples	iles									
FD 121206	Field Duplicate of C7 BTM2 1-9	te of C7 BT	M2 I-9	12/12/2006	01>	<25	<0.03	<0.10	<0.05	<0.15
FD 121806	Field Duplicate of	ate of A4W-	A4W-SW-5	12/18/2006	01>	330	<0.03	0.10	<0.05	<0.15
FD 122106	Field Duplicate of	sate of C5-B'	C5-BTM-9	12/21/2006	01×	<25	<0.02	0.10 0.10	<0.05	<0.15
FD 122206	Field Duplicate of B5-BTM 2-9	ate of B5-BT	M 2-9	12/22/2006	01>	3,450	<0.03	<0.10	<0.05	<0.15
FD 122606	Field Duplicate of A	te of A9-BT	9-BTM 2-12	12/27/2006	<10	<25	<0.03	<0.10	<0.05	<0.15
FD 010407	Field Duplicate of C2	e of C2 SW-	SW-SW 2-7	1/4/2007	220	<25	<0.03	0.5	0.72	6.1
MTCA Metho	MTCA Method A Soil Cleanup Level	Level ⁵		12/27/2006	30	2,000	0.03	7	8	6

NOTES:

Results in BOLD exceed the MTCA Method A Soil Cleanup Level.

< Indicates concentrations not detected above the stated laboratory practical quantitation limit.

DRO = total petroleum hydrocarbons as diesel-range organics GRO = total petroleum hydrocarbons as gasoline-range organics

Depth of sample collected in feet below ground surface (bgs).

² Analyzed by Northwest Method NWTPH-Gx.

Analyzed by Northwest Method NWTPH-Dx.

⁴ Analyzed by U.S. Environmental Protection Agency Method 8021B.

³ Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code, Table 740-1, Method A Soil Cleanup Levels for Unrestricted Land Uses, Updated February 12, 2001.

Table 4

Summary of Soil Analytical Results - Carcinogenic Polycyclic Aromatic Hydrocarbons **Evergreen Fuel Facility** Shelton, Washington

Farallon PN: 863-001

	1				Soil Analyt	ical Results	s (milligra)	ns per kilo	gram)²		***************************************	
	Sample	Naphthalene	I-Methylnaphthalene	2-Methylnaphthalene	Benzo(a)unthracene	Chrysene	Benzo(b)Auoranthene	Benzo(k)Auoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,ħ)anthracen e	TEQ for cPAHs ^j
Sample Grid	Number											
A1	A1W-SW-4	<0,0078	<0 0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0 0078	ND
A2	A2NW-SW-4	<0 0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	ND
A2	A2-BTM1-5	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	ND
A4	A4W-SW-5	< 0.0077	<0 0077	<0 0077	<0.0077	<0.0077	<0.0077	<0.0077	<0,0077	<0.0077	<0.0077	ND
A4	A4NW-SW-8	0 28	15	0.12	<0.042	<0.042	<0.042	<0.042	<0.042	< 0.042	<0.042	ND
A4	A4-BTM1-6	0.091	0.39	<0.0076	<0.0076	0.027	<0.0076	<0,0076	<0.0076	<0.0076	<0.0076	ND
A5	A5-BTM1-9.5	0.02	0.098	0.024	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	DM
A6	A6-BTM1-9.5	0.2	18	0.61	<0.038	<0.038	<0.038	<0.038	< 0.038	<0.038	<0.038	ND
A7	A7NW-SW-3	0.012	0.009	0.019	0.017	0.032	0 042	0.015	0.027	0.029	0.01	0.039
A7	A7-BTM1-12	0.013	0.013	0.0093	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	ND
A8	A8NW-SW-6	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	<0.0073	<0.0073	<0 0073	<0 0073	<0.0073	ND
A8	A8-BTM1-12	0.16	0.63	0.61	0.027	0.11	0.044	0.0091	0.022	0,0096	<0.0081	ND
A9	A9NE-SW-7	<0.0078	0.009	0.0098	<0 0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	ND
A9	A9-BTM2-12	<0.0076	<0 0076	<0.0076	< 0.0076	< 0.0076	<0.0076	< 0.0076	<0.0076	<0 0076	<0.0076	ND
B2	B2SW-SW-4	<0 0078	< 0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	ND
B3	B3-BTM1-12	<0.0078	0.018	<0.0078	<0.0078	< 0.0078	<0.0078	<0.0078	<0.0078	<0.0078	< 0.0078	ND
B4	B4-BTM1-12	<0.0078	0.034	0 008	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	ND
B5	B5-BTM2-9	0.036	0.14	0.012	< 0.0077	0.011	<0.0077	<0.0077	<0.0077	<0.0077	< 0.0077	ND
B6	B6-BTM1-6	0,017	0.13	0.14	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	< 0.0078	ND
B7	B7NW-SW2-6	0.012	0.034	0.031	<0.0077	<0.0077	<0.0077	< 0.0077	< 0.0077	<0.0077	<0.0077	ND
B7	B7-BTM1-6	<0.0076	0 067	0.047	<0.0076	<0.0076	<0.0076	< 0.0076	<0.0076	<0.0076	<0.0076	ND
B8	B8NW-SW-6	< 0.0076	<0.0076	<0.0076	< 0.0076	< 0.0076	<0.0076	<0.0076	< 0.0076	< 0.0076	< 0.0076	ND
C2	C2SW-SW2-7	<0.0077	< 0.0077	< 0.0077	0.03	0.047	0.044	0.015	0.039	0.027	0.0084	0.052
C3	C3-BTM1-12	<0.0077	< 0.0077	<0.0077	<0.0077	<0.0077	<0.0077	< 0.0077	<0.0077	<0.0077	<0.0077	ND
C4	C4SE-SW2-6	0.0077	<0.0077	<0.0080	<0.0077	<0.00077	<0.0077	<0.0077	<0.0077	<0.0080	<0.0080	ND
C4 C4	C4-BTM1-12	0.22	1,3	1.5	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	ND
C5	C5SE-SW-7	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	ND
C5	C5NE-SW-7	<0.0084	0.0082	0.034	<0.0084	< 0.0084	<0.0082	< 0.0082	<0.0084	<0.0084	<0.0082	ND
C5	C5-BTM1-9	0.0084	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0084	<0.0087	<0.0087	<0.0087	ND ND
C6	C6W-SW-7	<0.0078	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0078	<0.0087	<0.0087	<0.0078	ND ND
C6	C6W-SW-7 C6-BTM1-9	<0.0078	<0.0078	<0.0078	<0.0078	<0.0089	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	ND ND
C7	C7-BTM1-9	<0.0089	<0.009	<0.009	<0.0089	<0,009	<0.009	<0.009	<0.0089	< 0.009	<0.009	ND ND
C8	C8-BTM1-9	<0.0083	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.0083	<0.0083	<0.009	ND ND
]		<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	< 0.0083	<0.0083	<0.0083	<0.0083	ND ND
CIO	CUNW-SW-7	<0.0083	0.011	0.012	<0.0080	<0.0080	<0.0083	<0.0083	<0.0080	<0.0083	<0.0080	ND ND
CII	CIINW-SW-7				<0.0080	<0.0080	<0.0080	<0.0084	< 0.0084	<0.0084	<0.0080	ND ND
D9	D9-BTM1-11 5	<0.0084	<0.0084	0.0084					<0.0084	<0.0084	<0.0084	ND ND
D10	D10-BTM2-16	<0.0077	<0.0077	<0.0077	<0.0077	<0.0077	<0.0077	<0.0077			remmore menorement	~~~
DII	DIINW-SW-7	0.011	0 28	0,1	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074	ND ND
D11	DIISE-SW-7	0 02	0.49	0.17	<0.0069	<0.0069	<0.0069	<0.0069	<0.0069	<0.0069	<0.0069	ND ND
DII	D11-BTM2-16	0.58	16	14	<0.076	<0.076	<0,076	<0.076	<0.076	<0.076	<0.076	ND 0.1 6
MTCA Cleans	up Levei	5 1	240 5	3,200 °	NA	NA_	NA	NA	NA	NA	NA	U.1

NOTES:

ePAHs = carcinogenic polycyclic aromatic hydrocarbons NA = Not Applicable

TEQ = Total Toxicity Equivalence

Sindicates concentrations not identified above the stated laboratory practical quantitation limit.

¹Depth of sample collected in feet below ground surface (bgs) ²Analyzed by U.S. Environmental Protection Agency Method 8270C/SIM

TEQ = Collective sum of all: Concentration of each cPAH * Toxicity Equivalency Factor for that cPAH

^{*}Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation (MTCA). Chapter 173-340 of the Washington

Administrative Code. Table 740-1. Method A Soil Cleanup Levels for Unrestricted Land Uses, Updated February 12, 2001

Cleanup Levels and Risk Calculations under MTCA. Method B Standard Formula Value for Soil. Unrestricted Land Uses, Direct Contact (Ingestion Only). Non-carcinogen.

⁶ MTCA Calculated Method B Cleanup Levels for Total cPAHs derived using toxicity equivalency method in WAC 173-340-708(8) compared to MTCA Method A cleanup level for benzo(a)pyrene

Table 5 Summary of Groundwater Elevation Data Evergreen Fuel Facility Shelton, Washington

Farallon PN: 863-001

Well Identification	Well Screened Interval (feet bgs) ¹	Top of Monument Elevation ²	Top of Casing Elevation ²	Date Measured	Depth to Water (feet) ³	Depth to LNAPL (feet) 3		Groundwater Elevation ²
MW-5	5-15	16.94	16.46	4/5/2007	8.13	NE	0	8.33
MW-6	3-12	14.93	14.47	4/5/2007	6.24	NE	0	8.23
MW-8	3-12	18.85	18.48	4/5/2007	6.1	NE	0	12.38
MW-9	3-12	19.25	18.93	4/5/2007	10.05	NE	0	8.88
MW-10	2-17	20.26	19.93	4/5/2007	9.14	NE	0	10.79

NOTES:

Screened interval in feet below ground surface (bgs).

²Elevations relative to vertical survey datum that is based on a mean lower low water (MLLW) elevation of 44 11 feet and referenced from a Washington State Department of Transportation brass cap set in monument with a published elevation of 47 58 feet NAV

³Depth to water/LNAPL measured in feet below the top of the well easing

Table 6 **Summary of Groundwater Analytical Results Evergreen Fuel Facility** Shelton, Washington

Farallon PN: 863-001

			Analytical Results (micrograms per liter)							
Sample Identification	Boring/Well Identification	Date Sampled	GRO ¹	DRO²	ORO²	Benzene ³	Toluene ³	Ethylbenzene ³	Total Xylencs ³	
MW5-040507	MW-5	4/5/2007	<100	<270	<430	<1.0	<1.0	<1.0	<1.0	
MW6-040507	MW-6	4/5/2007	<100	<260	<410	<1.0	<1.0	<1.0	<1.0	
MW8-040507	MW-8	4/5/2007	190⁴	<250	<410	1.4	<1.0	<1.0	4.0	
MW9-040507	MW-9	4/5/2007	<100	<260	<410	<1.0	<1.0	<1.0	<1.0	
MW10-040507	MW-10	4/5/2007	<400	1,000	<420	<4.0	<4.0	<4.0	<4.0	
QA/QC SAMPLE	S									
RB-040507	NA	4/5/2007	<100	<260	<420	<1.0	<1.0	<1.0	<1.0	
MTCA Method A	800/1,000 ⁶	500	500	5	1,000	700	1,000			

NOTES:

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

DRO = total petroleum hydrocarbons as diesel-range organics

GRO = total petroleum hydrocarbons as gasoline-range organics

NA = Not applicable

ORO = total petroleum hydrocarbons as oil-range organics

QA/QC = quality assurance/quality control

<Indicates concentrations not identified above the stated laboratory practical quantitation limit</p>

Analyzed by Northwest Method NWTPH-Gx

²Analyzed by Northwest Method NWTPH-Dx

³Analyzed by U.S. Environmental Protection Agency (EPA) Method 8260B

⁴Laboratory analytical report indicates gasoline results are being influenced by the presence of diesel ⁵MTCA 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

⁶The cleanup level for GRO is without/with the presence of benzene.

Table 7 **Summary of Groundwater Geochemical Parameters Evergreen Fuel Facility** Shelton, Washington Farallon PN: 863-001

		Geochemical Results								
Well Identification	Date Sampled	Temperature (°C)	Specific Conductance (mS/cm)	pH (pH units)	Dissolved Oxygen (mg/l)	Oxidation- Reduction Potential (mV)				
MW-5	4/5/2007	12.4	0.131	6.12	0.65	471.1				
MW-6	4/5/2007	11.3	0.393	6.00	0.49	428.2				
MW-8	4/5/2007	11.43	0.270	6.70	1.29	443.6				
MW-9	4/5/2007	12.44	0.361	6.12	3.57	478.6				
MW-10	4/5/2007	11.84	0.252	5.87	0.96	480.3				

NOTES:

--- = not measured/analyzed

°C = Degrees Celsius

mS/cm = millisemens per centimeter

mg/l = milligrams per liter

mV = millivolts

APPENDIX A ENGINEER'S SUMMARY REPORT

CLEANUP ACTION SUMMARY REPORT
DECEMBER 2006 TO JUNE 2007
Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington

Farallon PN: 863-001



ENGINEER'S SUMMARY REPORT

Appendix A of the Cleanup Action Summary Report

EVERGREEN FUEL FACILITY 661 EAST PINE STREET SHELTON, WASHINGTON

July 30, 2007

Prepared by:

1/30/07

Carla E. Brock, L.G. Project Manager

Carla E. Brock

Richard McManus, P.E. Project Engineer



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1.0 INTRODUCTION

This Engineer's Summary Report has been prepared by Farallon Consulting, L.L.C. (Farallon) as an Appendix to the Cleanup Action Summary Report to document that the cleanup action completed at the Evergreen Fuel Facility located at 661 East Pine Street in Shelton, Washington (herein referred to as the Site) was constructed in substantial compliance with the plans and specifications provided in the Final Engineering Design Report dated 2007, prepared by Farallon (Final EDR). The Engineer's Summary Report has been prepared to meet the requirements of Agreed Order No. DE 3937 dated November 29, 2006, issued by the Washington State Department of Ecology (Ecology) pursuant to the authority of Chapter 70.105D.050(1) of the Revised Code of Washington, and entered into by the potentially liable persons, C.C. Cole and Sons, Inc., and Chevron U.S.A., Inc., in accordance with Section 400(6)(b) of Chapter 173-340 of the Washington Administrative Code.

Construction of the cleanup action was conducted by Cowlitz Clean Sweep, a division of PNE Corporation, of Longview, Washington. The Farallon Project Manager is Ms. Carla Brock, L.G.; the Farallon Project Engineer is Mr. Richard McManus, P.E. The Geotechnical Engineer is Patrick Harron & Associates, LLC of Seattle, Washington. The structural engineers for evaluation of the bulkhead are Nelson Consulting Engineering, P.S. of Kenmore, Washington (Nelson).



2.0 ENGINEERING ELEMENTS

This section presents a description of the cleanup action construction. The opinion of Farallon Project Manager Ms. Carla Brock, L.G. and Farallon Project Engineer Mr. Richard McManus, P.E. that the cleanup action construction was completed in substantial compliance with the plans and specifications provided in the Final EDR, which was reviewed and approved by Ecology, is provided in this section.

2.1 EROSION CONTROL

The implementation and maintenance of erosion control measures at the Site throughout the cleanup action were the responsibility of Cowlitz Clean Sweep, a division of PNE Corporation, the Contractor that constructed the cleanup action. Farallon provided observation and documentation of the erosion control measures under the direct supervision of the Project Manager and the Project Engineer. A detailed description of the erosion control measures implemented throughout the cleanup action is provided in the Cleanup Action Summary Report. All erosion control measures were implemented and maintained in accordance with the plans and specifications provided in the Final EDR.

2.2 CONSTRUCTION WASTEWATER MANAGEMENT

The management of wastewater generated by the cleanup action was the responsibility of the Contractor. Farallon was responsible for confirming that the concentrations of the constituents of concern defined in the Cleanup Action Summary Report and turbidity in the wastewater met the discharge limits for the project set by Ecology. A detailed description of the construction wastewater management activities is provided in the Cleanup Action Summary Report. The final discharge point for construction wastewater was designed to be the waters of Oakland Bay; however, the discharge limits for turbidity could not be met for direct discharge to Oakland Bay. The wastewater that did not meet the discharge limits for direct discharge to Oakland Bay was transported off the Site for disposal at Bio-Recycling Corporation's North Ranch facility in Centralia, Washington, as approved by Ecology. Wastewater was managed in accordance with the Final EDR and the Construction Stormwater Pollution Prevention Plan (SWPPP), Appendix E of the Final EDR.

2.3 SPILL PREVENTION AND RESPONSE

The measures for spill prevention and response were provided in the Final EDR and the SWPPP and were the responsibility of the Contractor. Farallon provided observation and documentation of the spill prevention and response preparation. All spill prevention and response measures were maintained on the Site throughout the cleanup action in accordance with the Final EDR and the SWPPP. There were no spills or releases during the cleanup action.



2.4 EXCAVATION AND SURFACE STABILIZATION

The Contractor was responsible for all excavation activities and for ensuring that the Site surfaces and slopes were stabilized during the excavation. Farallon provided observation and documentation of the excavation and surface stabilization activities under the direct supervision of the Project Manager and the Project Engineer. A detailed summary of the excavation and surface stabilization implemented for the cleanup action is provided in the Cleanup Action Summary Report. The excavation and surface stabilization was conducted in accordance with the plans and specifications provided in the Final EDR.

2.5 BACKFILL

The Contractor was responsible for placement of backfill in the soil excavation areas in accordance with the plans and specifications provided in the Final EDR and Design Drawings, and with material specified by the Geotechnical Engineer based on inspection of subsurface conditions at the Site (Attachment A). The Site was backfilled as described in the Cleanup Action Summary Report. Farallon provided technical observation and documentation of the backfill procedures under the direct supervision of the Project Manager and the Project Engineer. All of the backfill specifications and requirements were met during the cleanup action.

2.6 COMPACTION

The Contractor was responsible for compaction of the backfill and providing compaction test results confirming that the backfill was compacted in accordance with the specifications provided in the Final EDR and Design Drawings. The in-place density-compaction tests were completed for the Contractor by Professional Services, Inc. of Tacoma, Washington. The compaction test results confirm that the backfill was compacted to the density requirements provided in the Final EDR and Design Drawings. The compaction test results are included in Attachment B.

2.7 GEOTECHNICAL INSPECTION

Geotechnical inspection was provided during construction by Patrick Harron & Associates, LLC. The geotechnical inspection included evaluation of clean excavated soil to determine the suitability for use as compacted backfill on the Site; observation of excavation progress to evaluate excavation side slopes appropriate for the protection of adjacent structures, including State Route 3 and the bulkhead; and determination of suitable backfill and compaction. The Final Geotechnical Inspection Letter dated January 28, 2007 prepared by Patrick Harron & Associates, LLC presents the summary of the geotechnical oversight and conclusions, and is included in Attachment C.

2.8 BULKHEAD ENGINEERING AND REPAIR

Farallon engaged Nelson to provide structural engineering and design services related to the bulkhead. Nelson identified that the bulkhead at the Site included three layers of support. The main bulkhead is composed of vertical 8- to 10-inch-diameter treated timber piles on 6- to 8-foot



centers supporting horizontal 4- by 12-inch treated timber lagging. Most of the main bulkhead piles are propped cantilevers, supported by tension rods near the top ends, which are connected to a parallel row of earth anchor piles (designated by Nelson as Earth Piles A), which are approximately 18 feet from the bulkhead. Earth Piles A are connected by steel cables to another set of earth anchor piles, consisting of approximately 3-foot-long horizontal buried timbers (designated by Nelson as Earth Piles B). Most of the steel cables and Earth Piles B were removed during the cleanup action to access contaminated soil for excavation. A few of the tension rods connecting the main bulkhead piles to Earth Piles A were disturbed or removed by the cleanup action.

Nelson prepared a letter Regarding Evergreen Fuel Retaining Wall Evaluation dated January 5, 2007, and Design Drawings dated January 9, 2007 to provide details and specifications to repair the support system for the main bulkhead in-kind (Attachment D). The repairs included installation of concrete earth anchors to increase the capacity of Earth Piles A that directly support the main bulkhead, allowing for the abandonment of Earth Piles B. The Contractor was responsible for conducting the work to repair the structural support system under the observation and documentation of Farallon and Nelson. Nelson observed the final construction of the concrete earth anchors and determined that the installation of the concrete earth anchors was sufficient to allow abandonment of Earth Piles B with no reduction in the original capacity of the main bulkhead. These results are documented in the letter Regarding Evergreen Fuel Retaining Wall Earth Anchor Repair dated January 18, 2007, prepared by Nelson (Attachment D).



3.0 PROJECT RECORD DRAWINGS

The Project Record Drawing is the Final Site Survey that was conducted after completion of the cleanup action on the Site, and is included as Figure 1. The Final Site Survey shows the limits of excavation, the topography of the Site following the cleanup action, and the location of point of compliance monitoring wells on the Site. The Final Site Survey was prepared by Professional Land Surveyors, Inc. of Issaquah, Washington.



4.0 CLEANUP ACTION PHOTOGRAPHS

This section presents photographs of all "major and critical construction phases" taken throughout the construction of the cleanup action, as required by the Agreed Order.

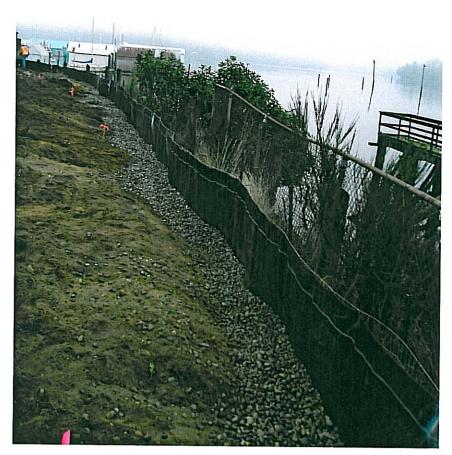
- Photograph 1: Surface stabilization with straw.
- Photograph 2: Gravel construction entrance.
- Photograph 3: Erosion control Silt fence.
- Photograph 4: Wastewater storage.
- **Photograph 5:** Wastewater treatment and discharge.
- Photograph 6: Stockpile stabilization.
- Photograph 7: Excavation and backfill along State Route 3.
- Photograph 8: Excavation on southeast portion of the Site.
- **Photograph 9:** Excavation on southern portion of the Site. (Note: Oil-water separator in center of photo)
- Photograph 10: Excavation on southwest side of the Site.
- Photograph 11: Excavation on western side of the Site.
- Photograph 12: Excavation along State Route 3.
- Photograph 13: Backfill.
- Photograph 14: Backfill showing quarry spalls, filter fabric, and crushed rock.
- Photograph 15: Earth piles B.
- Photograph 16: Earth piles A.
- Photograph 17: Emplacement of concrete earth anchors.
- **Photograph 18**: Replacement of tension rods and preparation for emplacement of concrete earth anchors.
- Photograph 19: Backfill and compaction.
- Photograph 20: Site restoration.
- **Photograph 21**: Site restoration and surface stabilization.
- Photograph 22: Post-cleanup action Site conditions.



Photograph 1: Surface stabilization with straw.



Photograph 2: Gravel construction entrance.



Photograph 3: Erosion control - Silt fence.



Photograph 4: Wastewater storage.



Photograph 5: Wastewater treatment and discharge.



Photograph 6: Stockpile stabilization.



Photograph 7: Excavation and backfill along State Route 3.



Photograph 8: Excavation on southeast portion of the Site.



Photograph 9: Excavation on southern portion of the Site. (Note: Oil-water separator in center of photo)



Photograph 10: Excavation on southwest side of the Site.



Photograph 11: Excavation on western side of the Site.



Photograph 12: Excavation along State Route 3.



Photograph 13: Backfill.



Photograph 14: Backfill showing quarry spalls, filter fabric, and crushed rock.



Photograph 15: Earth piles B.



Photograph 16: Earth piles A.



Photograph 17: Emplacement of concrete earth anchors.



Photograph 18: Replacement of tension rods and preparation for emplacement of concrete earth anchors.



Photograph 19: Backfill and compaction.



Photograph 20: Site restoration.



Photograph 21: Site restoration and surface stabilization.



Photograph 22: Post-cleanup action Site conditions.



5.0 CONCLUSIONS

The construction of the cleanup action was conducted in accordance with the Final EDR and Design Drawings. There were no significant deviations from the specifications and design plans of the Final EDR and Design Drawings.

The structural design plan for repair of the bulkhead was prepared by Nelson following the cleanup action. A final inspection of the bulkhead by Nelson confirmed that the cleanup action has not resulted in a decrease in the capacity of the retaining wall system that composes the bulkhead.

All fill material used for backfill met the minimum specifications defined in the Final EDR and Design Drawings. There are areas of the Site that were not excavated for the cleanup action due to practicability limits that may contain fill material that is not suitable for structural development. Any future development plans should consider the potential for unstable soils in these areas.

FIGURE

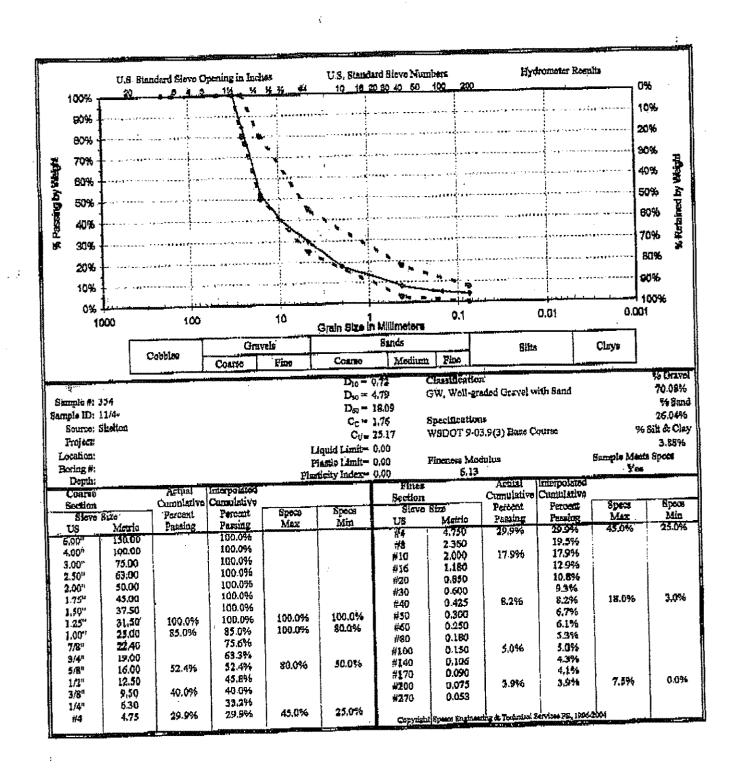
ATTACHMENT A BACKFILL SPECIFICATIONS

Dec 07 2006 4:24PM

Miles Sand and Gravel Co 3604263346

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GEOTECHNICAL TESTING LABORATORY



ATTACHMENT B COMPACTION TEST RESULTS



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# ATTACHMENT C FINAL GEOTECHNICAL INSPECTION LETTER



SEATTLE

14900 Interurban Ave S Suite 279 Seattle, WA 98168

T 206.674 4659 F 206.674 4660

LACEY

8270 28th Court NE Suite 201 Lacey, WA 98516

T 360 459 1102 F 360 459 1013 January 28, 2007 Project No. 06-124

Farallon Consulting, LLC 975 5th Ave NW Issaguah, WA 98027

Attention:

Carla Brock, Project Manager

Subject:

Final Geotechnical Inspection Letter

Evergreen Fuel Facility Cleanup Action

661 Pine Street Shelton, Washington

As requested and agreed we have provided construction inspection services and consultation regarding the structural backfilling of the Evergreen Fuel site in Shelton, Washington following the excavation of petroleum contaminated soils as part of a cleanup action. The purpose of our services was to evaluate and determine suitable backfilling methods and materials to provide a stable structural fill in accordance with the construction contract documents.

Our initial site visit was conducted on Thursday, December 7, 2006 at which time we met with your field person, Jeff Keller, and with a representative of Western Shore Heritage Services, a cultural resources assessment consultant, to excavate a series of exploration pits around the site. The results of the exploration pits indicated that most of the cleanup action excavation will extend below water table and bottom either in native, medium stiff or better clay sediments or in loose/soft fill soils. The explorations also indicated that significant wood debris may be encountered along the west side of the site and not all of the debris may be removed during the cleanup action excavation. Finally, the explorations indicated that areas of the site that will not be excavated during the cleanup action may be underlain by unsuitable fill soils.

Based on the explorations we recommended that quarry spalls (locally called gabion rock) be used liberally in the bottom of the excavation areas in order to stabilize the base of the excavation and provide a surface suitable for backfilling and compacting select structural fill up to grade We recommended that the quarry rock be placed in maximum 3' lifts and that each lift is consolidated by compacting it with the bucket of the trackhoe and by track walking on it prior to installation of additional lifts. The base lift of quarry spalls was to be firmly embedded into the bottom of the excavation by pounding with the trackhoe bucket until a firm base was established. The quarry spalls were to be placed to an elevation at least 1'

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above water table but could be placed up to within 2' of final grade if the contractor determined that this was the most economical method of backfilling. Prior to placement of the select structural backfill above the quarry spalls, the contractor was to install a layer of geotextile filter/separation fabric to prevent migration of the smaller backfill materials into the quarry spalls.

Also at the time of this initial visit, the contractor, Cowlitz Clean Sweep, inquired as to density testing requirements, given that the backfill, to a large extent, would be quarry spalls. As per the initial project specifications, a testing lab was to be on-site and perform in-situ density testing on each lift of backfill as it was installed. It was agreed that the specified testing program was not appropriate to quarry spalls and could be reduced provided that sufficient backfilling inspection was provided by a representative of this office, that the testing lab would be on-site at the end of the project to perform in-situ density testing on the upper 2' of structural backfill and that a proof roll of the completed backfill was performed with a fully loaded, tandem axle dump truck and witnessed by a representative of this firm

Following this initial site visit Rich McManus, Principal Engineer with Farallon Consulting, was contacted regarding the findings of the exploration program. At that time we discussed the fact that any areas of the site that are not excavated to native soils and backfilled with structural fill during the cleanup action will be underlain by potentially unsuitable soils that may have an adverse impact on future site development. It was mutually agreed that Farallon should carefully map out these areas and their client should be made aware that these areas contain fill soils of questionable structural capacity

Follow up site visits by a representative of this firm were conducted on Monday, December 11, 2006, Wednesday, December 27, 2006 and Tuesday, January 9, 2007. During these site visits it was observed that the contractor following the appropriate protocol as previously described. At the locations observed, the base of the excavation appeared to be stabilized with quarry spalls, the spalls were generally being placed up to about 2' from finish grade, geotextile filter/separation fabric was being installed atop the quarry spalls and 1 ½" minus crushed rock was being placed in lifts and compacted atop the quarry spalls. Compaction was provided by an 18 ton, BOMAG BW 211D-3 vibratory compactor. Even under heavy truck loading conditions on the haul road little to no deflection of the surface could be observed.

On January 9, 2007, the contractor finished placing the last of the structural backfill and both in-situ density testing and a proof roll of the

#### SEATTLE

14900 Interurban Ave S Suite 279 Seattle, WA 98168

T 206.674.4659 F 206 674.4660

Engineering & Planning

The in-site density testing was performed by site was scheduled Professional Services, Inc. (PSI) of Tacoma, Washington. A series of tests was conducted at the surface and at a depth of about 1' below the surface As per the published test results, all of the tests passed the 95% compaction requirement.

A fully loaded, tandem axle, dump truck was used for the proof roll. The proof roll was conducted by having the dump truck traverse back and forth in an attempt to cover most of the surface area with a minimum of two passes The proof roll was observed by a representative of this firm and the surface was found to be firm and unyielding in all areas that were excavated to native soils and backfilled with structural fill

During the proof roll some minor flexing was observed in areas that were not part of the cleanup action excavation As previously stated, the areas that were not excavated to native soils may contain soils that are not suitable for future site uses that require unyielding soil conditions

#### **SUMMARY**

It is our opinion that the structural backfilling of the areas involved in the cleanup action excavation were completed in compliance with our geotechnical recommendations and meet the intent of the project plans as provided by Farallon Consulting

Areas of the site that were not remediated during the cleanup action may be underlain by fill soils that are not suitable for future site development Since these areas were not a part of the contractor's scope of work, no attempt was made to stabilize the subgrade in these areas other than topping them with compacted, crushed rock to bring all areas up to the required final grade. Any future use of the property should consider the potential for unstable soils in these areas.

Thank you for the opportunity to be of service to you on this project. Should you have any questions please do not hesitate to call our office

Respectfully submitted,

Gary A Plowers, P.G., P.E.G.

**Engineering Geologist** 



**Engineering &** Planning

SEATTLE

Suite 279 Seattle, WA 98168

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14900 Interurban Ave S

# ATTACHMENT D BULKHEAD ENGINEERING DOCUMENTATION

Nelson Consulting Engineering PS 19221 58th Ave NE Kenmore, Washington 98028-3118

(425) 483 9126 Fax: (425) 485 1136

January 5th, 2007

Farallon Consulting Attn: Ms. Carla Brock, Geologist 975 5th Ave NW, Issaquah, 98027

Fax: 425 295 0850

Mr. Gary Flowers Gary Flowers PLLC 19532 12th Ave NE Shoreline, WA 98155-1106

Subject:

Evergreen Fuel retaining wall evaluation

661 East Pine Street

Shelton, WA

Ms. Brock and Mr. Flowers:

Mr. Larry McNeely, technician, representing this firm visited the above noted site for the purpose of observing, photographing, and camcordering the condition of an existing wood tie-back soldier pile/timber lagging retaining wall along the shoreline. The purpose of this visit was to enable the principal of this firm to evaluate the impact of contaminated soil removal activities on portions of the wall system proximal to the excavation so that these areas could be re-constructed in-kind. Contaminated soil excavation required the exposing/removal of some of the earth anchors and damaged some of the tension rods/cables connecting the earth anchors to the wall piles

### Observations:

This wall (grid A) consists of approximately vertical 8" to 10" diameter treated wood piles at about 6' to 8' on center, supporting horizontal 4x12 treated timber lagging. Most of the wall piles are propped cantilevers, that is, they are connected to tension rods near their top ends. The tension rods are restrained by a parallel row of earth anchor piles, which is roughly 18' plus or minus from the retaining wall piles (grid B).

Most of the earth anchor piles are (or were) connected by steel cables to yet another row of earth anchors (grid C) consisting of approximately 3'

Nelson Consulting Engineering PS
Evergreen Fuel

Page 2

long horizontal buried logs. Most of these have been removed during the ongoing excavation.

### Conclusions and recommendations:

No drawings are available on the wall, so the only information available is from site observations. Thus, there are many unknowns, including the condition of the piles below grade, the embedment of the piles, and the density of the subgrade. So recommendations are based on extrapolation of the likely condition and geometry of the wall elements and engineering judgment.

It is the charge of the client, Farallon Consulting, that where structures associated with the wall were impacted by contaminated soil removal that these structures are replaced in-kind. The contaminated soil excavation has resulted in the removal of the grid C earth anchors and cables and damage to one or more tension rods between grids A and B.

It is likely that the earth anchors on grid C helped to stabilize the anchor piles on grid B by enabling the grid B piles to act as propped cantilevers, which stabilized the wall piles on grid A. Removal of the grid C anchors may ultimately reduce the ability of the grid A wall to retain earth loads. So, it is the judgment of the undersigned engineer that the grid C earth anchors should be replaced in kind, or the grid B earth anchor pile capacity should be increased to compensate for the permanent removal of the grid C anchors. Increasing the capacity of the grid B piles is probably the least cost and most effective solution. This would consist of pouring a block of lean mix concrete at the top of each of the grid B piles, approximately 4' wide (measured perpendicular to the tension rods), by 2' thick (measured parallel to the tension rods) by 2' deep. The top of the concrete should be about 2' below finished grade. reinforcing steel is required. Note that any earth replacement earth must be structural fill

Tension rods which have been damaged must be replaced in kind, with hot dipped galvanized steel, with new 4" diameter washers on both ends and nuts. Where the piles have split by the rods pulling thru, apparently due to impact during excavation, it is recommended that bolted, galvanized steel collars be installed to prevent further splitting of the piles.

In at least one condition, a tension rod has pulled through a 4x12 horizontal member. This caused a substantial split, and this piece should be replaced with a new 4x12, treated.

Nelson Consulting Engineering PS
Evergreen Fuel

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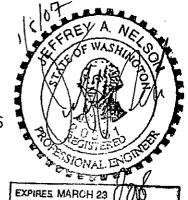
The above solution will restore the capacity of the tie back system to that which existed prior to commencing excavation, and that is the intent of this engineers work. No opinion is offered as to the conformance of the wall to the current building codes.

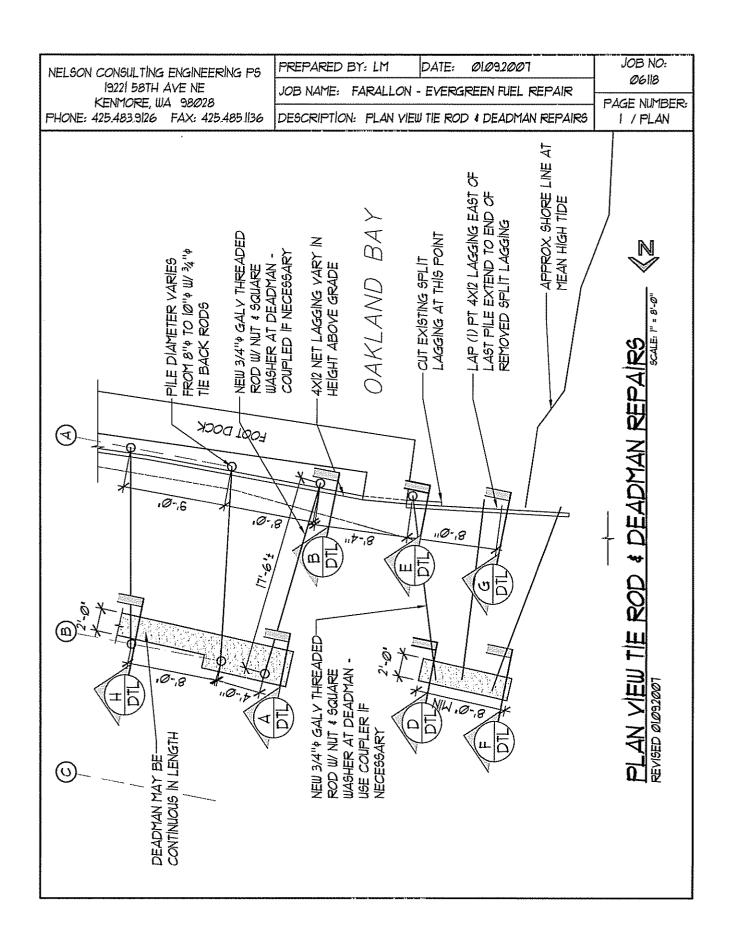
A comprehensive inspection of this wall system is not within this engineer's Scope of Work, and was not performed. However, during the site visit It was noted that several piles at the north end of grid A have leaned outward under earth pressure, prior to and unrelated to the ongoing excavation. Some additional piles appear have been added in this area, apparently to buttress the wall, but the effectiveness of this fix cannot be determined. It is recommended that the property owner monitor the piles to determine if they move further out of plumb, and if they do, it is suggested that the owner perform some exploration of the rods, their connections and the tie back piles to determine If any damage exists.

Some significant corrosion of existing tie rods was observed where they were exposed. At some point it will be necessary to replace these rods to maintain the strength of the wall. From the observations made during the visual review of site conditions it is apparent that the overall structural integrity of the wall system has been compromised by corrosion and deterioration of the piles, lagging, deadman structures (earth anchors). The long term structural stability of the wall system is questionable and should not be relied upon without further detailed inspection and evaluation by an engineer qualified to perform this work. Any future use of the property should consider the questionable condition of the wall system.

This report respectfully presented, without prejudice, by:

Jeffrey A Nelson PE SE Principal Nelson Consulting Engineering PS





PREPARED BY: LM

DATE: 01092007

JOB NO: 06118

JOB NAME: FARALLON - EVERGREEN FUEL REPAIR

DESCRIPTION: DEADMAN REPAIR SECTIONS

PAGE NUMBER: A / DTL

### NOTE:

USE THIS CONDITION IF THE ROD IS CLOSE TO TOP OF PILING

REPLACE TIE ROD IS DAMAGE BEYOND REPAIR WITH A 3/4" A A36 GALV STEEL THREADED ROD - DAMAGED TOP OF PILING GRADE В CLEAN-CLEAN EXISTING TIE RODS FREE OF RUST STRUCTURAL FILL SCALES AND DEBRIS PRIOR TO POURING ABOVE DEADMAN CONCRETE 6' YARIES 2000 PSI CONCRETE LEAN MIX POUR AGAINST EARTH EXCAVATION ENCASING PILING WOOD PILING AT GRID LINE B DEADMAN CONTINUOUS OR 4'-0" MINIMUM IN LENGHT



SECTION

REVISED 01092007

SCALE: 34" = 1'-0"

PREPARED BY: LM

DATE: 01.09.2007

JOB NO: 06118

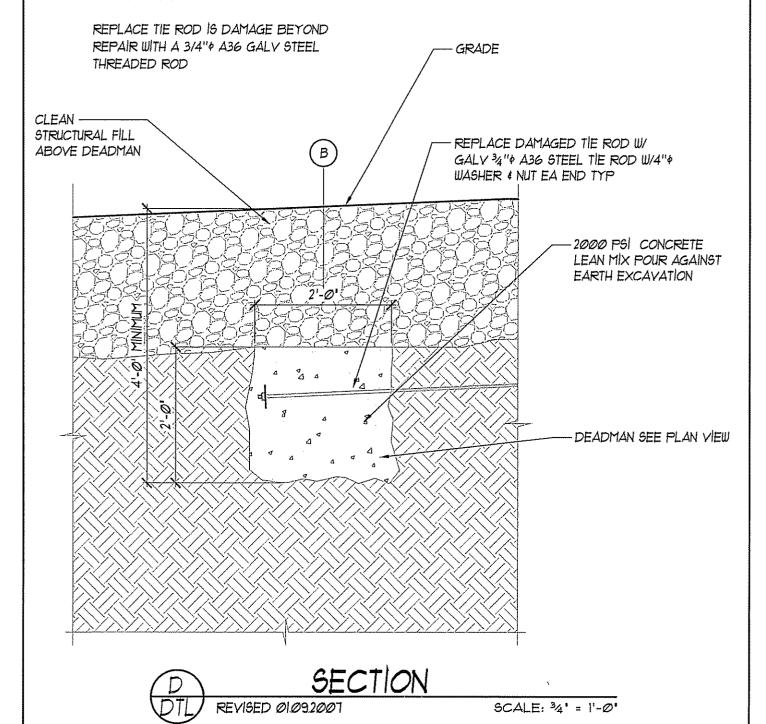
JOB NAME: FARALLON - EVERGREEN FUEL REPAIR

DESCRIPTION: DEADMAN REPAIR SECTIONS

PAGE NUMBER: D / DTL

### NOTE:

USE THIS CONDITION IF TIE ROD IS CLOSE TO TOP OF PILING



PREPARED BY: LM

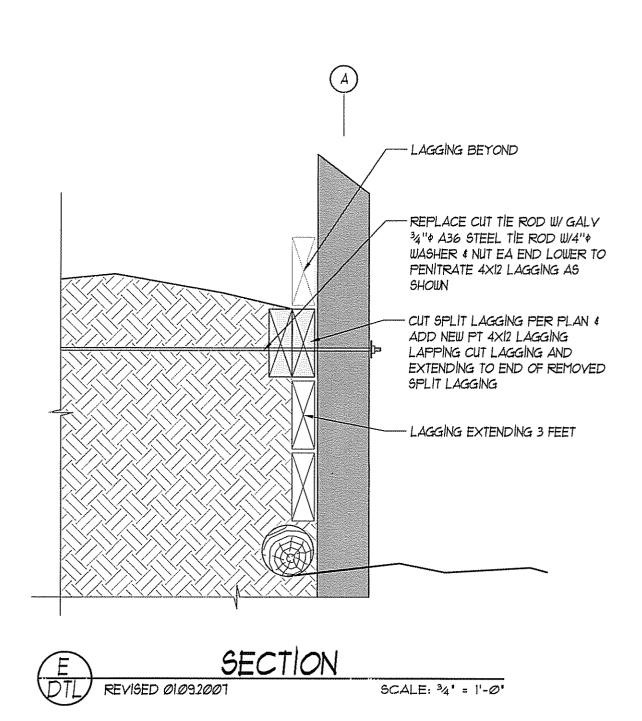
DATE: 01092007

JOB NO: 06118

JOB NAME: FARALLON - EVERGREEN FUEL REPAIR

DESCRIPTION: DEADMAN REPAIR SECTIONS

PAGE NUMBER: E / DTL



PREPARED BY: LM

DATE: 01092007

JOB NO: Ø6118

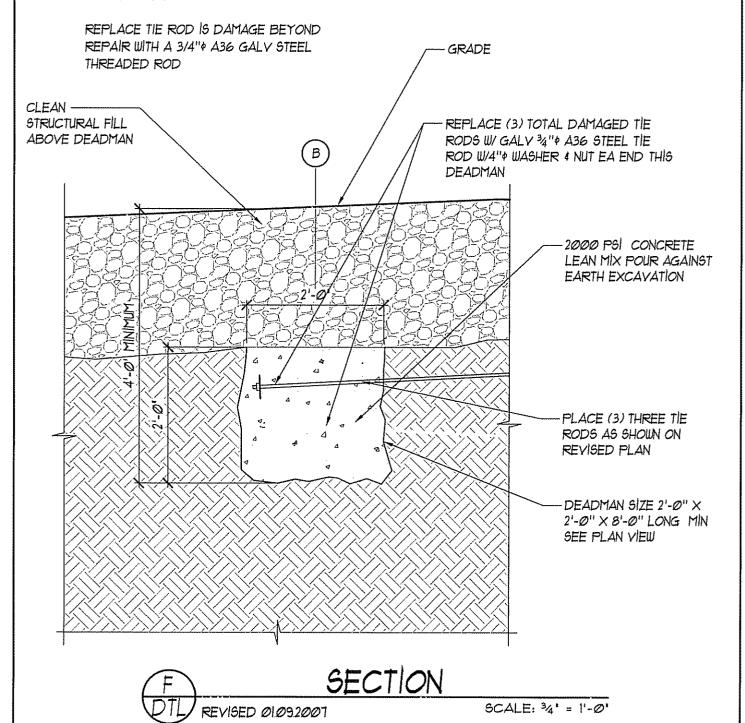
JOB NAME: FARALLON - EVERGREEN FUEL REPAIR

DESCRIPTION: DEADMAN REPAIR SECTIONS

PAGE NUMBER: F / DTL

### NOTE:

USE THIS CONDITION IF THE ROD IS CLOSE TO TOP OF PILING



PREPARED BY: LM

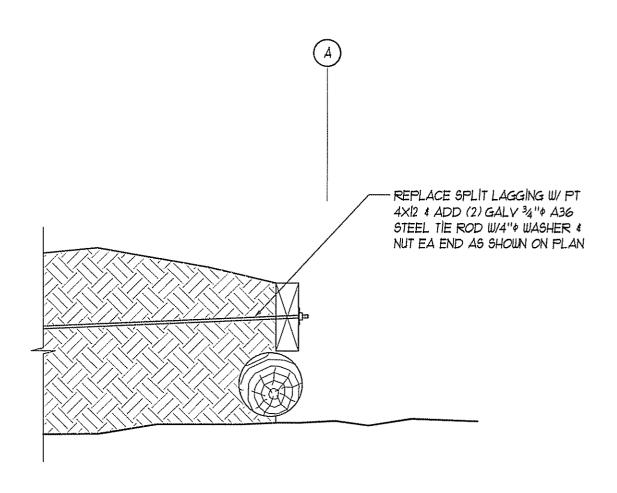
DATE: 01092007

JOB NO: 06118

JOB NAME: FARALLON - EVERGREEN FUEL REPAIR

DESCRIPTION: DEADMAN REPAIR SECTIONS

PAGE NUMBER: G / DTL





SECTION

REVISED Ø1.09.2007

SCALE: 34" = 1'-0"

PREPARED BY: LM

DATE: 01.09.2007

JOB NO: 06118

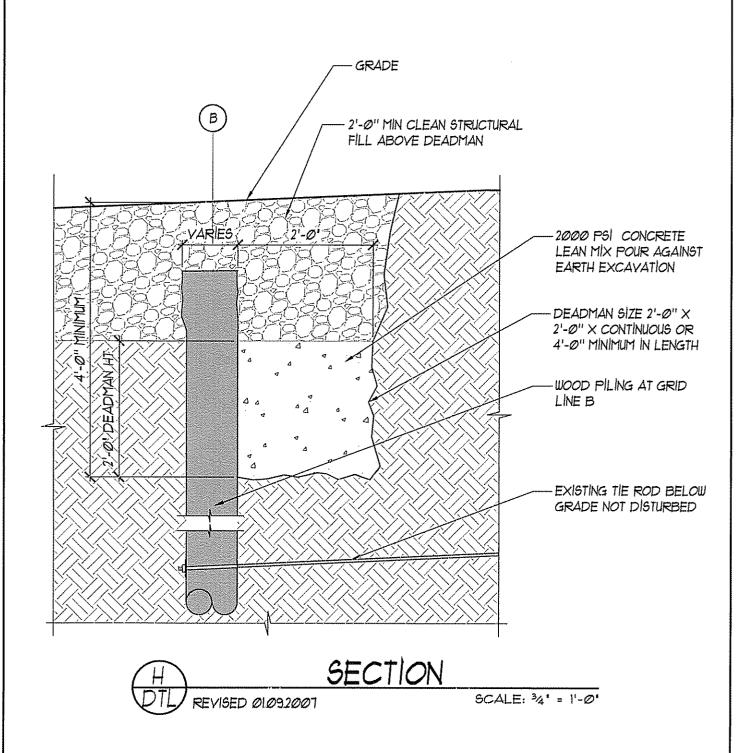
JOB NAME: FARALLON - EVERGREEN FUEL REPAIR

DESCRIPTION: DEADMAN REPAIR SECTIONS

PAGE NUMBER: H / DTL

### NOTE:

USE THIS CONDITION IF TIE ROD IS LOCATED BELOW DEADMAN TYPICAL



Nelson Consulting Engineering PS 19221 58th Ave NE Kenmore, Washington 98028-3118

(425) 483 9126 Fax: (425) 485 1136

January 18th, 2007

Farallon Consulting

Attn: Ms. Carla Brock, Geologist 975 5th Ave NW, Issaquah, 98027

Fax: 425 295 0850

Mr. Gary Flowers Gary Flowers PLLC 19532 12th Ave NE Shoreline, WA 98155-1106

Subject:

Evergreen Fuel retaining wall earth anchor repair

661 East Pine Street

Shelton, WA

Ms. Brock and Mr. Flowers:

I have reviewed the photographs provided by the contractor on the installation of the Grid B concrete earth anchors. They show the construction of earth anchors considerably larger than suggested by this office. Their installation is sufficient to allow the abandonment of the Grid C earth anchors with no reduction in the original capacity of the grid A tie back retaining wall.

As noted in my previous letter, a comprehensive inspection of this wall system is not within this engineer's Scope of Work, and was not performed. Refer to this letter for recommendations concerning the long term performance of this wall.

This report respectfully presented, without prejudice, by:

Jeffrey A Nelson PESE

Principal

Nelson Consulting Engineering

### APPENDIX B CONSTRUCTION STORMWATER SITE INSPECTION CHECKLISTS

CLEANUP ACTION SUMMARY REPORT
DECEMBER 2006 TO JUNE 2007
Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington

Farallon PN: 863-001

Evergreen Fuel Facility Cleanup Action

Inspector: Jaff [Lo] les

Date: 12/6/06

9 not egoillus Comments/Observations アンラぞくり nours B 7 ins falled DWO Need Repair? å ž ž å å ş 2 2 ž Š Š ŝ ž Sock 5 00/00/ Yes Ϋ́es Yes -820G Exceeds Exceeds Exceeds Exceeds Exceeds Poor 25/2 Overall Condition Q Tier. Value Fair Fair Fair Fair Fair Fair Fair Fair Fair が、千 Good Good Cood ( de Meets Google Meets Meets Meets Good 8 Good Good Good Meets JO Ethylbenzene (Action level = 6,910 mg/JNTU) Toluene (Action level =48,500 mg/l) TPH (Action level = 10,000 mg/l) Benzene (Action level = 23 mg/l) Stabilize Channels and Outlets **Install Sediment Controls** Turbidity (Action level = にふけんろう Site BMPs Control De-Watering Construction Access **Protect Drain Inlets** Manage the Project Control Flow Rates ROOM S Stabilized Entrance Control Pollutants Catch Basin Filters Biobags - OWS Stabilize Soils Protect Slopes Silt Fence Plastic Notes:

Evergreen Fuel Facility Cleanup Action

Inspector: Laff (Cellan

Date: 18/7/06

Comments/Observations / will test on * 080 (M 8 Need Repair? N₀ (A) S No No (2) ž ٤ ^oN S 2 Š WEG5010 Yes Exceeds Exceeds Exceeds Exceeds Exceeds Poor Overall Condition シのオー Value 2.7 Fair Fair Fair Fair Fair Fair Fair Fair Fair Meets Good G004 G004 0 112122 Meets Meets Good Good Good Good Good Good Meets Meets Good 707 Ethylbenzene (Action level = 6,910 mg/lNIO) Toluene (Action level =48,500 mg/l) TPH (Action level = 10,000 mg/l) Benzene (Action level = 23 mg/l) Stabilize Channels and Outlets Install Sediment Controls Turbidity (Action level = Site BMPs Control De-Watering Construction Access Protect Drain Inlets Manage the Project Control Flow Rates Stabilized Entrance Control Pollutants Catch Basin Filters Biobags - OWS Protect Slopes Stabilize Soils デ 3 Silt Fence Notes: Plastic

Inspector.   Site BMPs   Coveral Condition   Need Repair?   Comments/Observations
-----------------------------------------------------------------------------------

Evergreen Fuel Facility Cleanup Action

Inspector: Jaff (eller		and the second s			Date:	Date: 12/11/6 6
Site BMPs	Ove	Overall Condition	tion	Need Repair?	epair?	Comments/Observations
Construction Access Stabilized Entrance	PooD	(Fair)	Poor	Yes	No	
Control Flow Rates	Good	Fair	Poor	Yes	οN	
Install Sediment Controls					;	
Silt Fence	Good	Fair	Poor	Yes	8 Z	
Biobags - OWS	Good	Fair	Poor	Yes	oN N	The statement of the st
Stabilize Soils Plastic	Good	Fair	Poor	(Jes)	No	machad sland
Protect Slopes	Good	魯	Poor	Yes	No	discount of the state of the st
Protect Drain Inlets	(			1	,	
Catch Basin Filters	Good	Fair	Poor	Yes	S N	
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	οN	A CONTRACTOR OF THE PARTY OF TH
Control Pollutants		Vaíue	9	3		and all years flower
Turbidity (Action level = $\beta(5^{4}\text{NTU})$	Meets	2 <u>2</u> V	Exceeds	Yes	No	Baller fank
TPH-(Action:level=10,000-mg/l)-	Meets		Exceeds	Yes	No	
Benzene (Action level = 23 mg/l) $\leq \emptyset \ell^{\mathcal{V}}$	Meets		Exceeds	Yes	No	
Toluene (Action level=48,500-mg/l)	Meets		Exceeds	Yes	No	
Ethylbenzene (Action level = 6,9.10 mg/l)	Meets		Exceeds	Yes	No	
Control De-Watering	Good	) Fair	Poor	Yes	SN N	The state of the s
Manage the Project	Good	Fair	Poor	Yes	No	
Notes: 5, m, 10 00/100/60	C	800	A war	alled	405 Sia	Sidty rechannefel
MATEL S JOHN	105/1	500	40/	20	cer	Har tratula
A. yew 10 vels 600	- C	r, 010	MU QJ	8	1/1 00/XX	416
	-		1.1			

Evergreen Fuel Facility Cleanup Action

Inspector: Jeff Lallar					Date:	Date: 12/12/06 1600 haws
Site BMPs	Over	Overall Condition	ion	Need Repair?	epair?	Comments/Observations
Construction Access	7	(£1)	100	>	Ŋ	Added Spall
Stabilized Entrance	D000	C Fall	7001 Door	Vec	No.	AND OUR COLD
Control Flow Kates	7005	T.an	5	55.		
Install Sediment Controls	<del>(</del>				,	
Silt Fence	Good	Fair	Poor	Yes	2 2	() ()
Biobags - OWS	Good	Fair	Poor	Yes	No	NE OLO JUSTANIA
Stabilize Soils	(					
Plastic	(Dood)	Fair	Poor	Yes	No	1 20 CM 1 200 CM
Protect Slopes	Good	Fair	Poor	Yes	No	Maded Straw
Protect Drain Inlets	(	)				
Catch Basin Filters	(Good)	Fair	Poor	Yes	%	The state of the s
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No.	TAN TANK
Control Pollutants		Value				
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	%	10000 0 Q
TPH (Action level = $10,000 \text{ mg/l}$ )	Meets	*, ****	Exceeds	Yes	%	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	Š	
Toluene (Action level =48,500 mg/l)	Meets	***************************************	Exceeds	Yes	Š.	
Ethylbenzene (Action level = $6.910 \text{ mg/l}$ )	Meets		Exceeds	Yes	No	
Control De-Watering	ZGood CGood	Fair	Poor	Yes	No	Balan tempo ye #011
Manage the Project	PooD		Poor	Yes	No	
Notes: Daylor Lange A FYCAL	767 G	4	<i>SO</i>	c8/08	4	of Stermwooden
A Control of Control	1/2	10	25	40	(609)	12/12/06.
	┞					

Date: 12/13/06 gd/W zusmeckton Construction Stormwater site Inspection Checklist

Evergreen Fuel Facility Cleanup Action Inspector: TH | la | eN

Site BMPs	Ove	Overall Condi	ndition	Need Repair?	epair?	Comments/Observations	
Construction Access Stabilized Entrance	Good	Fair	Poor	Xes	No	Andly Spall	
Control Flow Rates	Good	Fair	Poor	Yes	No	7	
Install Sediment Controls							
Silt Fence	Gage	Fair	Poor	Yes	%		
Biobags - OWS	Good	Fair	Poor	Yes	No	DA WO discharge	
Stabilize Soils							
Plastic	Good	(Fair)	Poor	(Fig.)	No	STO SOMEONE CONT	
Protect Slopes	Good	Fair	Poor	Yes	No		
Protect Drain Inlets	(					,	
Catch Basin Filters	Good	Fair	Poor	Yes	No	Contain yas Wis ald not showin	7,
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No		
Control Pollutants		Value					
Turbidity (Action level = $8.56$ NTU), $H_{\odot}$	Meets	> 200	Exceeds	Yes	No		
TPH (Action level = 10,000 mg/l) 1 pp m	Meets	Z god	Exceeds	Yes	No		
Benzene (Action level = 23 mg/t) 5010	Meets	(Tagpum	Exceeds	Yes	No		
Rolliene (Action level =48.500 mg/l)	Meets	40102-8	Exceeds	Yes	No		
Ethylhenzene (Action Level #6,910 mg/I),	Meets	Oppun	Exceeds	Yes	No		
Control De-Watering	Case C	Fair	Poor	Yes	No	Would to Walle	
Manage the Project	Good	Fair	Poor	Yes	No		
			¥,	<i>j</i>	1		
Notes: Fit 5 - Smarak	TO 7200.	155.	grows ?	0/1/2	101 Va	Saving (U = 1/10	,
	Discharge Han	11-19	71/100	12 12 12 00 M	Q)	930 ann 2th bw 421306-02 @ 17 K	とし, の
# >	5 5 1373				Į		

Evergreen Fuel Facility Cleanup Action

1500 405 Waritel to No discharge アスト Storm worked Comments/Observations Date: 12-114/06 16 4()  $\overset{\circ}{\supset}$ Need Repair? ž å Š. No Š Š å å Š S S No Yes Exceeds Exceeds Exceeds Exceeds Exceeds Poor ナ う Overall Condition Value Tall ( Fair Fair Fair Fair Fair Fair 健 Fair Fair Good Meets Good 69 Meets Meets Meets Meets Good Good Good Good Good Good Good Fronz Ethylbenzene (Action level = 6,910 mg/INTO) Toluene (Action level =48,500 mg/l) Inspector: Jos F 161/ell TPH (Action level = 10,000 mg/l) Benzene (Action level = 23 mg/l) NAIN Stabilize Channels and Outlets **Install Sediment Controls** Site BMPs Turbidity (Action level = Control De-Watering Construction Access Protect Drain Inlets Manage the Project Control Flow Rates Notes: 140004 Control Pollutants Stabilized Entrance Catch Basin Filters Biobags - OWS Protect Slopes Stabilize Soils Silt Fence JOHN **Plastic** 

Evergreen Fuel Facility Cleanup Action

Inspector: Jest 16 les					Date:	12/16/06 0805
Site BMPs	Ove	Overall Condition	tion	Need Repair?	epair?	Comments/Observations
Construction Access Stabilized Entrance	Good	Fair	Poor	Yes	%	
Control Flow Rates	Good	Fair	Poor	Yes	No	
Install Sediment Controls						
Silt Fence	1000	Fair	Poor	Yes	No	
Biobags - OWS	Good	Fair	Poor	Yes	No	and the state of t
Stabilize Soils	(	,	1		;	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
Plastic	Good	Fair	Poor	Yes	Š	THE SIZE WAY
Protect Slopes	Good	Fair	Poor	Yes	SN N	
Protect Drain Inlets	ł					
Catch Basin Filters	Coogs	Fair	Poor	Yes	οN	1-15 readove
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No	- The second
Control Pollutants		Value				overed @ Back 14.3
Turbidity (Action level = $\mathcal{Y}^{L}$ , Artu)	Meets	22,6	Exceeds	Yes	(Z)	7.0
TPH (Action level = 10,000 mg/l)	Meets	Q.	Exceeds	Yes	% N	
Benzene (Action level = 23 mg/l)	Meets	`	Exceeds	Yes	No	
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	No	
Ethylbenzene (Action level = $6,910 \text{ mg/l}$ )	Meets	-)	Exceeds	Yes	No	
Control De-Watering	(G00d-)	Fair	Poor	Yes	No	
Manage the Project	Good	Fair	Poor	Yes	No	
het will		nm (2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		Ci	デルー (1) (1)	Calls & an long Eith
1101cs: >= 01/01/05 (C) (C) (C)	100	S bus		E 4681 11 10		17 12 19 19 19 10 1
10 6/872X, \$	ŠI. I	V A	밁	N C		

Evergreen Fuel Facility Cleanup Action

[ Fayloulou ] Date: 12/18/06.50 C

Inspector: Toth Keller (Farballan)

Fair Poor Yes No No Fair Poor Yes No No Fair Poor Yes No Fair Poor Yes No Fair Poor Yes No Fair Poor Yes No Exceeds Yes No	Overall Condition Need Repair? Comments/Observations
tates         Good         Fair         Poor         Yes         No         II           tt Controls         Good         Fair         Poor         Yes         No         II           cond         Fair         Poor         Yes         No         II           circle         Good         Fair         Poor         Yes         No           circle         Good         Fair         Poor         Yes         No           ints         On level = NTU)         Meets         No         No           ints         NTU)         Meets         Yes         No           on level = 10,000 mg/l)         Meets         Exceeds         Yes         No           Action level = 23 mg/l)         Meets         Exceeds         Yes         No           Action level = 48,500 mg/l)         Meets         Exceeds         Yes         No           Action level = 6,910 mg/l         Meets         Fair         Poor         Yes         No           Action level = 6,910 mg/l         Good         Fair         Poor         Yes         No           Action level = 6,910 mg/l         Good         Fair         Poor         Yes         No           Action lev	(Fair) Poor Yes
it Controls         Fair         Poor         Yes         No           Good         Fair         Poor         Yes         No           inlets         Good         Fair         Poor         Yes         No           inlets         Good         Fair         Poor         Yes         No           insts         Good         Fair         Poor         Yes         No           ints         Good         Fair         Poor         Yes         No           ints         Good         Fair         Poor         Yes         No           ints         Weets         Yalue         Exceeds         Yes         No           evel = 10,000 mg/l)         Meets         Exceeds         Yes         No           Action level = 23 mg/l)         Meets         Exceeds         Yes         No           Action level = 6,910 mg/l         Meets         Exceeds         Yes         No           Action level = 6,910 mg/l         Fair         Poor         Yes         No           Action level = 6,910 mg/l         Fair         Poor         Yes         No	Fair Poor Yes
Good   Fair   Poor   Yes   No   Good   Fair   Poor   Yes   No   Moets   Good   Fair   Exceeds   Yes   No   Moets   Good   Fair   Exceeds   Yes   No   Moets   Good   Fair   Poor   Yes   No   Moets   Moets   Good   Fair   Poor   Yes   No   Moets   Good   Fair   Poor   Yes   No   Moets   Good   Fair   Poor   Yes   No   Moets   Moets   Good   Fair   Poor   Yes   No   Moets   Good   Fair   Poor   Yes   No   Moets   Good   Fair   Poor   Yes   No   Moets   Moets   Good   Fair   Poor   Yes   No   Moets   Moets	
Good Fair Poor Yes No A   Cood Good Fair Poor Yes No A   Cood Good Fair Poor Yes No   No   Cood Fair Poor Yes No   Cood Fair Poo	Fair Poor Yes No
ze Soils         Fair         Poor         Yes         No           t Slopes         Good         Fair         Poor         Yes         No           t Drain Inlets         Good         Fair         Poor         Yes         No           3asin Filters         Good         Fair         Poor         Yes         No           ac Channels and Outlets         Good         Fair         Poor         Yes         No           I Pollutants         Meets         Value         Exceeds         Yes         No           Action level = 10,000 mg/l)         Meets         Exceeds         Yes         No           Action level = 23 mg/l)         Meets         Exceeds         Yes         No           ne (Action level = 48,500 mg/l)         Meets         Exceeds         Yes         No           Incexton level = 6,910 mg/l         Meets         Fair         Poor         Yes         No           Incexton level = 6,910 mg/l         Good         Fair         Poor         Yes         No           Incextonic t         Fair         Poor         Yes         No	Fair Poor Yes
t Slopes         Good         Fair         Poor         Yes         No           t Drain Inlets         Good         Fair         Poor         Yes         No           assin Filters         Good         Fair         Poor         Yes         No           ac Channels and Outlets         Good         Fair         Poor         Yes         No           It Pollutants         Meets         Value         Exceeds         Yes         No           Action level = NTU)         Meets         Exceeds         Yes         No           Action level = 10,000 mg/l)         Meets         Exceeds         Yes         No           Action level = 23 mg/l)         Meets         Exceeds         Yes         No           Denzene (Action level = 6,910 mg/l)         Meets         Exceeds         Yes         No           IDe-Watering         Good         Fair         Poor         Yes         No           Rethe Project         Good         Fair         Poor         Yes         No	
t Slopes         Good         Fair         Poor         Yes         Moor           t Drain Inlets         Good         Fair         Poor         Yes         No           assin Filters         Good         Fair         Poor         Yes         No           c Channels and Outlets         Good         Fair         Poor         Yes         No           Ity Chilutants         Meets         Value         Exceeds         Yes         No           Action level = NTU)         Meets         Exceeds         Yes         No           Action level = 10,000 mg/l)         Meets         Exceeds         Yes         No           ne (Action level = 23 mg/l)         Meets         Exceeds         Yes         No           IDe-Watering         Good         Fair         Poor         Yes         No           IDe-Watering         Good         Fair         Poor         Yes         No	Fair Poor Yes (
ts         Good         Fair         Poor         Yes         No           sand Outlets         Good         Fair         Poor         Yes         No           level =         NTU)         Meets         Exceeds         Yes         No           evel = 23 mg/l)         Meets         Exceeds         Yes         No           evel = 23 mg/l)         Meets         Exceeds         Yes         No           tion level = 6,910 mg/l         Meets         Fair         Poor         Yes         No           th         Good         Fair         Poor         Yes         No           ct         Good         Fair         Poor         Yes         No	(Fair) Poor Yes
s and Outlets         Good         Fair         Poor         Yes         No           stand Outlets         Good         Fair         Poor         Yes         No           level         NTU         Meets         Exceeds         Yes         No           evel         23 mg/l)         Meets         Exceeds         Yes         No           evel         48,500 mg/l)         Meets         Exceeds         Yes         No           tion level         Good         Fair         Poor         Yes         No           ct         Good         Fair         Poor         Yes         No	
nnd Outlets         Good         Fair         Poor         Yes         No           vel =         NTU)         Meets         Exceeds         Yes         No           = 10,000 mg/l)         Meets         Exceeds         Yes         No           vel = 23 mg/l)         Meets         Exceeds         Yes         No           vel = 48,500 mg/l)         Meets         Exceeds         Yes         No           nl evel = 6,910 mg/l         Meets         Fair         Poor         Yes         No           ng         Good         Fair         Poor         Yes         No	Fair Poor Yes
vel =         NTU)         Meets         Faceeds         Yes         No           rel = 23 mg/l)         Meets         Exceeds         Yes         No           rel = 23 mg/l)         Meets         Exceeds         Yes         No           rel = 48,500 mg/l)         Meets         Exceeds         Yes         No           rel = 48,500 mg/l)         Meets         Fair         Poor         Yes         No           rel = 48,500 mg/l         Good         Fair         Poor         Yes         No           rel = 48,500 mg/l         Good         Fair         Poor         Yes         No	(Fair) Poor Yes
vel =         NTU)         Meets         Exceeds         Yes         No           = 10,000 mg/l)         Meets         Exceeds         Yes         No           rel = 23 mg/l)         Meets         Exceeds         Yes         No           rel = 48,500 mg/l)         Meets         Exceeds         Yes         No           n level = 6,910 mg/l         Meets         Fair         Poor         Yes         No           rel         Good         Fair         Poor         Yes         No           rel         Good         Fair         Poor         Yes         No	
10,000 mg/l   Meets   Exceeds   Yes   No	Exceeds Yes
rel = 23 mg/l)         Meets         Exceeds         Yes           el = 48,500 mg/l)         Meets         Exceeds         Yes           on level = 6,910 mg/l)         Meets         Exceeds         Yes           good         Fair         Poor         Yes           Good         Fair         Poor         Yes	Exceeds Yes No
el =48,500 mg/l)MeetsExceedsYeson level = 6,910 mg/l)MeetsExceedsYesgGoodFairPoorYes	Exceeds Yes No
$ \mathbf{g}  = 6,910 \mathrm{mg/l}$ Meets Exceeds Yes $ \mathbf{g}  = 6,910 \mathrm{mg/l}$ Good Fair Poor Yes $ \mathbf{g}  = 1000 \mathrm{mg/l}$ Poor Yes $ \mathbf{g}  = 1000 \mathrm{mg/l}$	Exceeds Yes
Ig         Good         Fair         Poor         Yes           Good         Fair         Poor         Yes         7	Meets Exceeds Yes
Good Fair Poor Yes	Fair Poor Yes
	Yes
Notes: 51/e woll nonformed a 1500 hrs.	100

Evergreen Fuel Facility Cleanup Action

	Evergr	Evergreen ruei raciiity Oraniup Aduoi	acilly C	icaliup A		,
Inspector: Test (eller					Date:	Date: 12/19/106 15 (5 MmS
Site BMPs	Ove	Overall Condition	tion	Need Repair?	epair?	2
Construction Access Stabilized Entrance	Good	Fair	Poor	Yes	No.	signiticand seed which is six
Control Flow Rates	Good	Fair	Poor	Yes	No	
Install Sediment Controls						
Silt Fence	Good	) Fair Fair	Poor	Yes	ž ž	#
Stabilize Soils	2000	112				
Plastic	Good	Fair	Poor	Yes	No	
Protect Slopes	-(Good -	Fair	Poor	Yes	SN No	
Protect Drain Inlets			ļ F	V	Ž	MA CR'S CHINACHON
Catch Basin Filters	G00d	Fair	Poor	Yes	ONI OIV	اً [
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	021	2 2 2 3 3
		Value			1	
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	°Z	
TPH (Action level = $10,000 \text{ mg/l}$ )	Meets		Exceeds	Yes	%	
Benzene (Action level = $23 \text{ mg/l}$ )	Meets		Exceeds	Yes	%	
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	%	
Ethylbenzene (Action level = 6,910 mg/l)	.) Meets		Exceeds	Yes	No	
Control De-Watering	Good	Fair	Poor	Yes	No	A S
Manage the Project	Good	Fair	Poor	Yes	No	FX ex H
Notes:						
	A CONTRACTOR OF THE CONTRACTOR					

Evergreen Fuel Facility Cleanup Action

530 hrs <u>Z</u> 62/ 子の心の Comments/Observations B. J Date: 12/20/06 7677a CC5 るころ Need Repair? Š ž 2 å ν̈́ ž 2 ŝ ž å ž ž ٥ ک ŝ LOURE 4020/C 7022 (7) Yes Exceeds Exceeds Exceeds Exceeds Exceeds Poor ତ Overall Condition Kraw Stor Value Fair Fair Fair Fair Fair Fair Fair Fair Fair Glood (B) Good (B) Good Meets Good Good Good Good Meets Meets Meets Meets Good Ethylbenzene (Action level = 6,910 mg/l NT() Toluene (Action level =48,500 mg/l) TPH (Action level = 10,000 mg/l) Benzene (Action level = 23 mg/l) Stabilize Channels and Outlets Dewerter Install Sediment Controls Turbidity (Action level = Site BMPs Control De-Watering Construction Access Protect Drain Inlets Control Flow Rates Manage the Project Stabilized Entrance Control Pollutants Catch Basin Filters Biobags - OWS Protect Slopes Stabilize Soils Inspector; Silt Fence Notes: Plastic

Evergreen Fuel Facility Cleanup Action

Farter (List Costs ) Ary

Inspector: Left 1/a/

Date: (2/2//06

Mischalse Limits 105/1000 |Comments/Observations Same of لا د) Need Repair? (S) No ž ž Š ž ž å ž å ž Yes Exceeds Exceeds Exceeds Poor Overall Condition 23. 20 Pob 71,000 94810 b Value Fair Fair Fair Fair Fair Fair Fair Fair Fair Good Meets G00d (gg) Meets Good God Who Meets Meets Good Good Good Sport Poort 200g Turbidity (Action level = 10,000 fligh) 152. 54% Benzene (Action level = 25 fligh) 13,9 Tolune (Action level = 48,500 mg/l)/
Ethylbenzene (Action level = 48,500 mg/l)/ Stabilize Channels and Outlets **Install Sediment Controls** Site BMPs Control De-Watering Construction Access Protect Drain Inlets Manage the Project Control Flow Rates Stabilized Entrance Control Pollutants Catch Basin Filters Biobags - OWS Protect Slopes Stabilize Soils Silt Fence Plastic

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Evergreen Fuel Facility Cleanup Action

0930 to 1000/y 1- von-suitable 50 busile 1 Comments/Observations Bi Date: 12/27/06 イヤ (e) Z Need Repair? ž No ů  N_0 ž S N Š % ž No å 8 N Yes <u>r</u>es Exceeds Exceeds Exceeds Exceeds Exceeds E Section Poor Poor Poor Poor Poor Poor Poor Poor Poor Overall Condition 000016 Value (Fall) Fair Fair Fair Fair Fair Fair Fair Fair Fair (20 G) Meets Meets Meets Meets Meets Good G004) Good Good Good Good Good Good Ethylbenzene (Action level = 6,910 mg/l) TPH (Action level = 10,000 mg/l) 3 4 Inspector: Jeff Kellen Toluene (Action level =48,500-mg/l) Turbidity (Action level = 24.9NTU) Benzene (Action-level = 23 mg/l) Stabilize Channels and Outlets Install Sediment Controls Site BMPs Control De-Watering Construction Access Protect Drain Inlets Manage the Project Control Flow Rates Control Pollutants Stabilized Entrance Catch Basin Filters Biobags - OWS Protect Slopes Stabilize Soils Silt Fence Plastic

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Evergreen Fuel Facility Cleanup Action

(500 his NA NO distrays 7,3 とでしょう Comments/Observations <u>ا</u>مه ا Date: (2/26/06 <u>5</u> Ş 50 Parmission なが 45 A A Need Repair? % % % Š N_o No 2 N ž S₀ å ž Š % Υes Yes Yes Xes Yes Exceeds Exceeds Exceeds Exceeds Exceeds Poor Overall Condition Value E PER PRINCE Fair Fair Fair Fair Fair Fair Fair Fair Fair Received Contract of the contract of th 4500g Meets Meets Meets Meets Meets Good Page 1 Good Bod, Good Good Good Good Ethylbenzene (Action level = 6,910 mg/JNTO) Toluene (Action level =48,500 mg/l) TPH (Action level = 10,000 mg/I) Benzene (Action level = 23 mg/l) Stabilize Channels and Outlets Inspector: Seff (6) **Install Sediment Controls** Turbidity (Action level = Site BMPs Control De-Watering Construction Access Protect Drain Inlets Control Flow Rates Manage the Project Stabilized Entrance Control Pollutants Catch Basin Filters Biobags - OWS Protect Slopes Stabilize Soils Notes: №0 Silt Fence Plastic

Evergreen Fuel Facility Cleanup Action

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Date: 121

Inspector:

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Evergreen Fuel Facility Cleanup Action

Inspector: Interpolation

Date: 12/28/06

Site BMPs	Ove	werall Condition	tion	Need Repair?	epair?	Comments/Observations	
Construction Access		(			;	The same of the same	ž Ģ
Stabilized Entrance	Good	) #	Poor	7	ON No	コベントンカナ しょう は のゆら イン・アント	· ·
Control Flow Rates	Good	Fair	Poor	Yes	No		
Install Sediment Controls	<b>\</b>				(		
Silt Fence	Good	Fair	Poor	Yes	3		
Biobags - OWS	Good	Fair	Poor	Yes	No	ON BUS removed	r-
Stabilize Soils						•	
Plastic	Good	Fair	Poor	Yes	No	去	
Protect Slopes	Pood	Fair	Poor	Yes	(SK)	S. Hence	
Protect Drain Inlets						l s	
Catch Basin Filters	Good	Fair	Poor	Yes	No	PAI NO CIBN	
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No	NO SCHICTS SO LOS	). ().
Control Pollutants		Value				Rylen level (5 152	
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	No No	1,000 51	
TPH (Action level = 10,000 mg/l)	Meets		Exceeds	Yes	%	Dischage to AAA	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	No No	Sypte ( John S exell	+
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	No	4(1 a) to to 1) A	
Ethylbenzene (Action level = $6,910 \text{ mg/l}$ )	Meets		Exceeds	Yes	No		<u> </u>
Control De-Watering	Good	Fair	Poor	Yes	No	WA -	
Manage the Project	Good	Fair	Poor	Yes	(2)		
Notes 11th Single	DVII V	1 February	47	(7,000)		Hows of	
My Trong Thomas (M)	(les	Louble	N #	X	7	JCS FO JEANT	1
101	5		1 1	CIS105	(a)	st ( Ejsconsed	
The is see t	107						1
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Evergreen Fuel Facility Cleanup Action

Inspector: Lett feller	MANAGEMENT TO THE TAXABLE PROPERTY OF TAXABLE PROPERTY		n district		Date:	1C(C1/00 (AO)
Site BMPs	Ove	Overall Condition	tion	Need Repair?	epair?	Comments/Observations
Construction Access Stabilized Entrance	Good	Fair	Poor	Yes	Ne	
Control Flow Rates	Good	Fair	Poor	Yes	No	UA- No dishope,
Install Sediment Controls						<b>\</b>
Silt Fence	-C100g	Fair	Poor	Yes	%	
Biobags - OWS	Good	Fair	Poor	Yes	No	Dot 005 removed
Stabilize Soils					,	
Plastic	Good	Fair	Poor	-Yes	S S	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Protect Slopes	Good	Fair	Poor	Yes		
Protect Drain Inlets	ur vannemen					
Catch Basin Filters	Good	Fair	Poor	Yes	Ν̈́ο	124- NO 6-155
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	S	154 - 150 0 cflest of rhealth
Control Pollutants		Value	(	:		To them 1000 RAD!
Turbidity (Action level = 25 NTU)	Meets	2,000	Exceeds	Yes	No	6/874× # 010/020
TPH (Action level = 10,000 mg/l)	Meets		Exceeds	Yes	No No	ac score that
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	No No	Ob Sychara
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	%	一个年代、20年前
Ethylbenzene-(Action-level = 6,910-mg/l)	Meets		Exceeds	Yes	No	and the second s
Control De-Watering	Good	Fair		V Yes	No	50 WOYCS
Manage the Project	Good	Fair	Poor	Yes	No	
		) -		•	ļ	John John John John John John John John
Notes: Car Word + PAPER	ار ارازار	ンへてのを		a place	7	04000
A up (ongo	1001	4	758	(JQC)	N N	12 Augli
R50 /5, , CCS	7	0 0	Vega CK	V	17/00	102 02 (12/04.
			-			- April and Apri

Evergreen Fuel Facility Cleanup Action

Inspector: Total laller					Date:	Date: 1/2/07 1500 lurs;
Site BMPs	Ove	Overall Condition	tion	Need F	Need Repair?	Comments/Observations
Construction Access					(t	
Stabilized Entrance	Good	(Fair)	Poor	Yes	(%)	- 1
Control Flow Rates	Good	Fair	Poor	Yes	No	NA No SASIL disclosing
Install Sediment Controls	(					)
Silt Fence	Good	Fair	Poor	Yes	%	
Biobags - OWS	Good	Fair	Poor	Yes	No	24 Be 0005
Stabilize Soils						~
Plastic	Good	Fair	Poor	Yes	No	NOA - No plaste he he was
Protect Slopes	Good		Poor	Yes	B	
Protect Drain Inlets						
Catch Basin Filters	Good	Fair	Poor	Yes	No	34- NO OF 5 STE
Stabilize Channels and Outlets	Good	Fair	Roor	Yes	No	I military many many many many many many many man
Control Pollutants		Value				No testing performed
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	%	toolow of
TPH (Action level = 10,000 mg/l)	Meets		Exceeds	Yes	%	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	%	
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	%	
Ethylbenzene (Action level = 6,910 mg/l)	Meets		Exceeds	Yes	β	,
Control De-Watering	Good	Fair	Poor	Yes	N _S	No clewedown See works
Manage the Project	Good	Fair	Poor	Yes	(2)	~
		)				

(an bon # MAS from Hall on 1/2/07 Marres Notes: Heaven

Evergreen Fuel Facility Cleanup Action

Date: 1/4/07

Inspector: TATE 1/2 1/2V

Site BMPs	Ove	Overall Condition	tion	Need R	Need Repair?	Comments/Observations
Construction Access Stabilized Entrance	Good	Fair	Poor	Yes	(3)	
Control Flow Rates	Good	Fair	Poor	Yes	No	JCH.
Install Sediment Controls		Q			(	
Silt Fence	Good	Fair	Poor	Yes	(g)	*
Biobags - OWS	Good	Fair	Poor	Yes	No	MA- BODIUS
Stabilize Soils						
Plastic	Good	Fair	Poor	Yes	No	NA -100+ in 038
Protect Slopes	Good	(Earl	Poor	Yes	(3)	The second secon
Protect Drain Inlets						0, 1
Catch Basin Filters	Good	Fair	Poor	Yes	Νο	with catch basing heardon
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No	074
Control Pollutants		Value				1) to this all
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	No	12 St. 175
TPH (Action level = $10,000 \text{ mg/l}$ )	Meets		Exceeds	Yes	%	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	No	Sill test Dos
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	No	
Ethylbenzene (Action level = 6,910 mg/l)	Meets		Exceeds	Yes	No	5/1
Control De-Watering	(Good)	Fair	Poor	Yes	(Z	TO AAA SENTIC
Manage the Project	Good	(調)	Poor	Yes	) N	

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Notes:

Evergreen Fuel Facility Cleanup Action

Inspector: Text 1616 or

Date: 1/5/07

Site BMPs	Ove	Overall Condition	tion	Need F	Need Repair?	Comments/Observations
Construction Access	Page	(int	7000	Yes	(NN)	
Control Flow Rates	Good	Fair	Poor	Yes	No	LA TOTAL
Install Sediment Controls			The state of the s			
Silt Fence	Good	(Fair )	Poor	Yes		
Biobags - OWS	Good	Fair	Poor	Yes	Ŋ	OWS CHARLES
Stabilize Soils						
Plastic	Good	Fair	Poor	Yes	No	NA WALL OR
Protect Slopes	(Good)	Fair	Poor	Yes	CARO	
Protect Drain Inlets						
Catch Basin Filters	Good	Fair	Poor	Yes	No	RH- (B: Mariney)
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No	at - No onthet's
Control Pollutants		Vajue				1 1 1000 Par
Turbidity (Action level = NTU)	Meets	\(\int_{\int_{0}}^{\int_{0}}\int_{0}\)	(Exceeds	Yes	%	30
TPH (Action level = $10,000 \text{ mg/l}$ )	Meets	<u> </u>	Exceeds	Yes	%	+ wo same
Benzene (Action level = $23 \text{ mg/l}$ )	Meets		Exceeds	Yes	No No	Col & er 20
Toluene (Action level =48,500 mg/l)	Meets	············	Exceeds	Yes	%	
Ethylbenzene (Action level = 6,910 mg/l)	Meets		Exceeds	Yes	No	
Control De-Watering	Good	Fair	Poor	Yes	(A)	TO MANT SUNTE
Manage the Project	Good>	Fair	Poor	Yes		
	)	_		_	•	
Notes: A Collector	0	150 che	New 3.C. Live	with	5 aunil	C111-1-100
S & Short S	J. 1.	777	June !	50	aschy	- ANCHWOUT!
NO STATE OF	NB	127	6/BK	X, M	of the	Rid,
OF SIMM SUNTY		20				

Evergreen Fuel Facility Cleanup Action

Inspector: Ieff Keller					Date:	Date: 1/8/07- 1130 hus.
Site BMPs	Over	Overall Condition	tion	Need F	Need Repair?	Comments/Observations
Construction Access Stabilized Entrance	Good	H E H	Poor	Yes	ů,	
Control Flow Rates	Good	Fair	Poor	Yes	No	TO AAA SOAA
Install Sediment Controls				;		
Silt Fence	D005	Fair	Poor	Yes Ves	2 2	WA- W. OWS
Diodags - Ows Stabiliza Sails	200	TID Y				
Plastic	Good	Fair	Poor	Yes	No	MA WACK TILL NO RESIDE
Protect Slopes	Coop	Fair	Poor	Yes	(NS)	and the state of t
Protect Drain Inlets						÷
Catch Basin Filters	Good	Fair	Poor	Yes	No	UA - No CBS
Stabilize Channels and Outlets	(Good	> Fair	Poor	Yes	(No	- Consistency -
Control Pollutants	(	Value			(	se test results
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	ON.	F07/ 1507
TPH (Action level = 10,000 mg/l)	/ Meets		Exceeds	Yes	_ on	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	No //	
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	No No	
Ethylbenzene (Action level = $6,910 \text{ mg/l}$ )	Meets		Exceeds	Yes	SN N	
Control De-Watering	Good	Fair	Poor	Yes	S.	
Manage the Project	Good	Fair	Poor	Yes	(P)	
Notes: Director - Markey	<u>ت</u> م	(landrol	7	i He	3	40/6/1 nr grander ))

- #35-1 Hg. -

Evergreen Fuel Facility Cleanup Action

Inspector: TAP (@)

Date: 1/9/07

Site BMPs	Ove	Overall Condition	ition	Need F	Need Repair?	Comments/Observations
Construction Access Stabilized Entrance	Good	Fair	Poor	Yes		
Control Flow Rates	Good	Fair	Poor	Yes	No	
Install Sediment Controls						
Silt Fence	Apple	Fair	Poor	Yes		
Biobags - OWS	Good	Fair	Poor	Yes	No	
Stabilize Soils						
Plastic	Good	Fair	Poor	Yes	No	NA NOT THUSE
Protect Slopes	(G00)	Fair	Poor	Yes		
Protect Drain Inlets						,
Catch Basin Filters	Good	Fair	Poor	Yes	No	NA- CIB'S venerous
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No	47
Control Pollutants		Value				WA- No deschange
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	No	' R/
TPH (Action level = $10,000 \text{ mg/l}$ )	Meets		Exceeds	Yes	No	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	No	
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	No	
Ethylbenzene (Action level = 6,910 mg/l)	Meets		Exceeds	Yes	No	
Control De-Watering	(Google	Fair	Poor	Yes	(M)	TO RAPE STUPPE.
Manage the Project	Good	Ann)	Poor	Yes		

Notes:

Evergreen Fuel Facility Cleanup Action

Inspector: Saff (le (lev

Date: 1/10/07

Sife BMPs	Ove	Overall Condition	Ţ	Need F	Need Renair?	Comments/Observations
Construction Access						
Stabilized Entrance	Good	Fair	Poor	Yes		
Control Flow Rates	Good	Fair	Poor	Yes	No	Mr-100 discharge.
Install Sediment Controls						1
Silt Fence	(B)	Fair	Poor	Yes		
Biobags - OWS	Good	Fair	Poor	Yes	No	WA- BU OWS
Stabilize Soils						,
Plastic	Good	Fair	Poor	Yes	No	CA-
Protect Slopes	Apple	Fair	Poor	Yes	<b>CT</b>	H
Protect Drain Inlets						
Catch Basin Filters	Good	Fair	Poor	Yes	No	A- 1000
Stabilize Channels and Outlets	Good	Fair	Poor	Yes	No	- Not
Control Pollutants		Value				NA- 20 display
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	%	
TPH (Action level = $10,000 \text{ mg/l}$ )	Meets		Exceeds	Yes	N _o	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	%	
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	No	
Ethylbenzene (Action level = 6,910 mg/l)	Meets		Exceeds	Yes	No	
Control De-Watering	Good	Fair	Poor	Yes	No	
Manage the Project	0005	Fair	Poor	Yes		
>		,				

Notes:

Evergreen Fuel Facility Cleanup Action

Date: 10 7

Inspector: Sitt (allan

Site BMPs	Ove	Overall Condition	tion	Need Repair?	epair?	Comments/Observations
Construction Access					(	
Stabilized Entrance	Good	Fair	Poor	Yes	(SE)	And the second s
Control Flow Rates	Good	Fair	Poor	Yes	No	<b>乙酰</b>
Install Sediment Controls	(					
Silt Fence	Rood	Fair	Poor	Yes	(F)	l c
Biobags - OWS	Good	Fair	Poor	Yes	No	14 - No 0005
Stabilize Soils						
Plastic	Good	Fair	Poor	Yes	No No	Z.
Protect Slopes	(Good)	Fair	Poor	Yes	B	
Protect Drain Inlets						
Catch Basin Filters	Good	Fair	Poor	Yes	R	NA-100 CDS
Stabilize Channels and Outlets	( people	Fair	Poor	Yes	8	<i>f</i>
Control Pollutants		Value				to doday
Turbidity (Action level = NTU)	Meets		Exceeds	Yes	%	
TPH (Action level = $10,000 \text{ mg/l}$ )	Meets		Exceeds	Yes	No No	
Benzene (Action level = 23 mg/l)	Meets		Exceeds	Yes	No No	
Toluene (Action level =48,500 mg/l)	Meets		Exceeds	Yes	No	
Ethylbenzene (Action level = $6.910 \text{ mg/I}$ )	Meets		Exceeds	Yes	Νο	
Control De-Watering	Good	Fair	Poor	Yes	No	
Manage the Project	(Leon)	Fair	Poor	Yes		
Lucianian de la companya de la comp						
Notes:						AND THE PARTY OF T

# Construction Stormwater site Inspection Checklist

Evergreen Fuel Facility Cleanup Action

Inspector: Japp (la.)

Frank Inspecher

Date: 12/07

UA- 13 daylough スケースをよってい Comments/Observations 14-50 PRI *** THE PERSON NAMED IN 9 (g) 9 ž Need Repair? ĝ Š ź % N_o å S. å ž Yes Exceeds Exceeds Exceeds Exceeds Exceeds Poor Overall Condition Value Fair Senata A (g) Sept. Good Meets Meets Good Meets Meets **B** Good Good Good Meets Good Ethylbenzene (Action level = 6,910 mg/l) NTU) Toluene (Action level =48,500 mg/l) TPH (Action level = 10,000 mg/l) Benzene (Action level = 23 mg/l) Stabilize Channels and Outlets Install Sediment Controls Turbidity (Action level = Site BMPs Control De-Watering Construction Access Protect Drain Inlets Control Flow Rates Manage the Project Control Pollutants Stabilized Entrance Catch Basin Filters Biobags - OWS Protect Slopes Stabilize Soils Silt Fence Plastic Notes:

# APPENDIX C LABORATORY ANALYTICAL REPORTS

CLEANUP ACTION SUMMARY REPORT
DECEMBER 2006 TO JUNE 2007
Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington

Farallon PN: 863-001



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 16, 2007

Carla Brock Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027

Re: Analytical Data for Project 863-001

Laboratory Reference No 0704-049

Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on April 6, 2007.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 

Project: 863-001

#### **Case Narrative**

Samples were collected on April 5, 2007 and received by the laboratory on April 6, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

#### NWTPH Gx/BTEX (soil) Analysis

Please note the samples were not submitted in compliance with the EPA 5035A method

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

#### NWTPH Gx/BTEX (water) Analysis

The NWTPH-Gx result for sample MW8-040507 is being impacted by the presence of diesel range hydrocarbons.

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

Project: 863-001

## **NWTPH-Gx/BTEX**

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Water Units: ug/L (ppb)

Client ID: RB-040507 MW6-040507 Lab ID: 04-049-01 04-049-02

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	ND		1.0
Toluene	ND		1.0	ND		1.0
Ethyl Benzene	ND		1 0	ND		1.0
m,p-Xylene	ND		1.0	ND		1.0
o-Xylene	ND		1.0	ND		1.0
TPH-Gas	ND		100	ND		100
Surrogate Recovery: Fluorobenzene	101%			100%		

Project: 863-001

#### **NWTPH-Gx/BTEX**

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Water Units: ug/L (ppb)

Client ID: **MW5-040507** Lab ID: 04-049-03

**MW10-040507** 04-049-04

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	ND		4.0
Toluene	ND		1.0	ND		4.0
Ethyl Benzene	ND		1.0	ND		4.0
m,p-Xylene	ND		1.0	ND		4.0
o-Xylene	ND		1.0	ND		4.0
TPH-Gas	ND		100	ND		400
Surrogate Recovery: Fluorobenzene	103%			93%		

T.

Project: 863-001

## NWTPH-Gx/BTEX

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Water Units: ug/L (ppb)

Client ID: **MW9-040507 MW8-0405407**Lab ID: 04-049-05 04-049-06

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	1.4		1.0
Toluene	ND		1.0	ND		1.0
Ethyl Benzene	ND		1.0	ND		1.0
m,p-Xylene	ND		1.0	1.4		1.0
o-Xylene	ND		1.0	2.6		1.0
TPH-Gas	ND		100	190	Z	100
Surrogate Recovery: Fluorobenzene	103%			95%		

Project: 863-001

# NWTPH-Gx/BTEX METHOD BLANK QUALITY CONTROL

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Water Units: ug/L (ppb)

Surrogate Recovery: Fluorobenzene

Lab ID: MB0410W1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100

104%

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Project: 863-001

# NWTPH-Gx/BTEX DUPLICATE QUALITY CONTROL

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Water Units: ug/L (ppb)

Lab ID:	04-044-06 <b>Original</b>	04-044-06 <b>Duplicate</b>	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery: Fluorobenzene	105%	108%		

OnSite Environmental, Inc 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Project: 863-001

# NWTPH-Gx/BTEX MS/MSD QUALITY CONTROL

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Water Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	04-044-06 <b>MS</b>	Percent Recovery	04-044-06 <b>MSD</b>	Percent Recovery	RPD	Flags
Benzene	52.2	104	52.4	105	1	
Toluene	52.6	105	52.7	105	0	
Ethyl Benzene	52.6	105	52.7	105	0	
m,p-Xylene	52.8	106	52.9	106	0	
o-Xylene	52.8	106	52.7	105	0	

Surrogate Recovery:

Fluorobenzene 108% 109%

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Project: 863-001

#### **NWTPH-Gx/BTEX**

Date Extracted: 4-6-07 Date Analyzed: 4-6&9-07

Matrix: Soil

Units: mg/kg (ppm)

 Client ID:
 Drum - SC89
 Drum - SC10

 Lab ID:
 04-049-07
 04-049-08

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		0.020	ND		0.020
Toluene	ND		0.058	ND		0.057
Ethyl Benzene	ND		0.058	ND		0.057
m,p-Xylene	ND		0.058	0.074		0.057
o-Xylene	ND		0.058	0.064		0.057
TPH-Gas	ND		5.8	ND		5.7
Surrogate Recovery: Fluorobenzene	88%			89%		

Project: 863-001

# NWTPH-Gx/BTEX METHOD BLANK QUALITY CONTROL

Date Extracted:

4-6-07

Date Analyzed:

4-6-07

Matrix: Soil

Units: mg/kg (ppm)

Fluorobenzene

Lab ID:

MB0406S2

	Result	Flags	PQL
Benzene	ND		0.020
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0
Surrogate Recovery:			

82%

OnSite Environmental, Inc 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Project: 863-001

# NWTPH-Gx/BTEX DUPLICATE QUALITY CONTROL

Date Extracted: 4-6-07
Date Analyzed: 4-6-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID:	04-036-05 <b>Original</b>	04-036-05 <b>Duplicate</b>	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery. Fluorobenzene	80%	82%		

Project: 863-001

# NWTPH-Gx/BTEX MS/MSD QUALITY CONTROL

Date Extracted: 4-6-07 Date Analyzed: 4-6-07

Matrix: Soil

Units: mg/kg (ppm)

Spike Level (ppm): 2 28

Lab ID:	04-036-01 <b>MS</b>	Percent Recovery	04-036-01 <b>MSD</b>	Percent Recovery	RPD	Flags
Benzene	2.43	107	2.52	111	4	
Toluene	2.43	107	2.51	110	3	
Ethyl Benzene	2.43	106	2.51	110	3	
m,p-Xylene	2.44	107	2.51	110	3	
o-Xylene	2.44	107	2.53	111	4	

Surrogate Recovery:

Fluorobenzene 86% 86%

Project: 863-001

#### **NWTPH-Dx**

Date Extracted: 4-11-07 Date Analyzed: 4-11-07

Matrix: Water
Units: mg/L (ppm)

Client ID:	RB-040507	MW6-040507	MW5-040507
Lab ID:	04-049-01	04-049-02	04-049-03
Diesel Range:	ND	ND	ND
PQL:	0.26	0.26	0.27
Identification:	No. op ho	-	
Lube Oil Range:	ND	ND	ND
PQL:	0.42	0.41	0.43
Identification:			<del> </del>
Surrogate Recovery			
o-Terphenyl:	109%	110%	105%
Flags:	Υ	Υ	Υ

Project: 863-001

## **NWTPH-Dx**

Date Extracted: 4-11-07 Date Analyzed: 4-11-07

Matrix: Water Units: mg/L (ppm)

Client ID: Lab ID:	<b>MW10-040507</b> 04-049-04	<b>MW9-040507</b> 04-049-05	<b>MW8-040507</b> 04-049-06
Diesel Range: PQL:	<b>1.0</b> 0.26	<b>ND</b> 0.26	<b>ND</b> 0.25
Identification:	Diesel Range Hydrocarbons	an server	na niver
Lube Oil Range:	ND	ND	ND
PQL:	0.42	0.41	0.41
Identification:		wa shine	
Surrogate Recovery			
o-Terphenyl:	110%	115%	110%
Flags:	Y	Υ	Υ

Project: 863-001

# NWTPH-Dx METHOD BLANK QUALITY CONTROL

Date Extracted:

4-11-07

Date Analyzed:

4-11-07

Matrix:

Water

Units:

mg/L (ppm)

Lab ID:

MB0411W1

Diesel Range:

ND

PQL:

0.25

Identification:

Lube Oil Range:

ND

PQL:

0.40

Identification:

___

Surrogate Recovery

o-Terphenyl:

107%

Flags:

Υ

Project: 863-001

## NWTPH-Dx DUPLICATE QUALITY CONTROL

Date Extracted: 4-11-07 Date Analyzed: 4-11-07

Matrix: Water Units: mg/L (ppm)

Lab ID: 04-049-04 04-049-04 DUP

Diesel Range: **1.04 1.01**PQL: 0.26 0.26

RPD: 3

Surrogate Recovery

o-Terphenyl: 110% 102%

Project: 863-001

#### **NWTPH-Dx**

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Soil

Units: mg/kg (ppm)

 Client ID:
 Drum-SC89
 Drum-SC10

 Lab ID:
 04-049-07
 04-049-08

 Diesel Range:
 ND
 760

 PQL:
 29
 28

Identification: — Diesel Fuel#2

Lube Oil Range:NDNDPQL:5857

Identification: ---

Surrogate Recovery

o-Terphenyl: 101% 120%

Project: 863-001

### NWTPH-Dx METHOD BLANK QUALITY CONTROL

Date	Extracted:	4-10-07
Date	Analyzed:	4-10-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 04-043-03 04-043-03 DUP

 Diesel Range:
 703
 680

 PQL:
 25
 25

RPD: 3

Surrogate Recovery

o-Terphenyl: 111% 110%

Project: 863-001

## NWTPH-Dx DUPLICATE QUALITY CONTROL

Date Extracted: 4-10-07 Date Analyzed: 4-10-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 04-043-03 04-043-03 DUP

 Diesel Range:
 703
 680

 PQL:
 25
 25

RPD: 3

Surrogate Recovery

o-Terphenyl: 111% 110%

Project: 863-001

## % MOISTURE

Date Analyzed: 4-6-07

Client ID	Lab ID	% Moisture
Drum-SC89	04-049-07	14
Drum-SC10	04-049-08	12



#### **Data Qualifiers and Abbreviations**

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

**Chain of Custody** 

1 of.

 $\propto$ % Moisture 74-049 Chromatograms with final report □ На∃ H_d/ HEM by 1664 **ICLP Metals** (8) AHOH IstoI Arata yd sebioidael-A r808 yd aebicitae9 PCBs by 8082 DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy 4.4本 PAHs by 8270C / SIM Laboratory Number: OOY38 by 8270C 4alogenated Volatiles by 8260B 4.6.07 4/6/07 80928 yd selitslov QYO **XG-H9TW** 1WTPH-GX/BTEX имтрн-нспр (TPH analysis 5 working days) 3 Day ☐ 1 Day ત્ડ 区standard (7 working days) Ta/2/102 130 W Reviewed by/Date (Check One)  $\langle \mathcal{V} \rangle$  $\Rightarrow$ ⋺ (other) DH ( 520 07/11/ 1315 0071 1510 Same Day ☐ 2 Day Facility -anallon Consulting Environmental Inc. 14648 NE 95th Street - Redmond, WA 96052 Phone: (425) 883-3881 • Fex: (425) 885-4603 MW10-040507 WW8-040507 MW5-040507 MW9-040507 Evergreen Final MW6-040507 RB-040507 Orum-5089 Orum -5C10 Project Number: 863-001 Project Manager: 810CK A OnSite Sampled by: Reviewed by/Date Relinquished by Relinquished by Relinquished by Project Name: Received by Received by Received by Сотрапу:



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

January 11, 2007

Carla Brock Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027

Re: Analytical Data for Project 863-001

Laboratory Reference No. 0612-237

Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on December 22, 2006.

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

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

Sincerely.

David Baumeister Project Manager

**Enclosures** 

Laboratory Reference: 0612-237

Project: 863-001

#### **Case Narrative**

Samples were collected on December 18, 19, 20, 21, and 22, 2006 and received by the laboratory on December 22, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

#### PAHs EPA 8270C/SIM Analysis

Samples B3-BTM1-12, A4-BTM1-6, A4W-SW-5, A8-BTM1-12 and B4-BTM1-12 were extracted outside of their holding time.

Samples B3-BTM1-12, C5-BTM1-9, and C6-BTM1-9 had one surrogate outside of control limits. This is allowed by the method as long as the recovery is above 10%. No further action was deemed necessary.

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

Date of Report: January 11, 2007 Samples Submitted: December 22, 2006 Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-01
Client ID: B3-BTM1-12

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0078
2-Methylnaphthalene	ND		0.0078
1-Methylnaphthalene	0.018		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	ND		0.0078
Fluorene	ND		0.0078
Phenanthrene	ND		0.0078
Anthracene	ND		0.0078
Fluoranthene	ND		0.0078
Pyrene	ND		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate :	Percent		Control
-	Recovery		Limits
Nitrobenzene-d5	66		49 - 121
2-Fluorobiphenyl	66		53 - 110
Terphenyl-d14	60	Q	64 - 123

Date of Report: January 11, 2007

Samples Submitted: December 22, 2006

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-4&5-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-02 Client ID: A4-BTM1-6

Compound:	Results	Flags	PQL
Naphthalene	0.091		0.038
2-Methylnaphthalene	ND		0.0076
1-Methylnaphthalene	0.39		0.038
Acenaphthylene	0.042		0.038
Acenaphthene	0.12		0.0076
Fluorene	0.37		0.038
Phenanthrene	0.74		0.038
Anthracene	0.35		0.0076
Fluoranthene	ND		0.0076
Pyrene	0.053		0.0076
Benzo[a]anthracene	ND		0.0076
Chrysene	0.027		0.0076
Benzo[b]fluoranthene	ND		0.0076
Benzo[k]fluoranthene	ND		0.0076
Benzo[a]pyrene	ND		0.0076
Indeno(1,2,3-c,d)pyrene	ND		0.0076
Dibenz[a,h]anthracene	ND		0.0076
Benzo[g,h,i]perylene	ND		0.0076

Surrogate :	Percent		Control
-	Recovery		Limits
Nitrobenzene-d5		F	49 - 121
2-Fluorobiphenyl	68		53 - 110
Terphenyl-d14	97		64 - 123

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-03
Client ID: A4W-SW-5

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0077
2-Methylnaphthalene	ND		0.0077
1-Methylnaphthalene	ND		0.0077
Acenaphthylene	ND		0.0077
Acenaphthene	0.0085		0.0077
Fluorene	ND		0.0077
Phenanthrene	ND		0.0077
Anthracene	ND		0.0077
Fluoranthene	ND		0.0077
Pyrene	ND		0.0077
Benzo[a]anthracene	ND		0.0077
Chrysene	ND		0.0077
Benzo[b]fluoranthene	ND		0.0077
Benzo[k]fluoranthene	ND		0.0077
Benzo[a]pyrene	ND		0.0077
Indeno(1,2,3-c,d)pyrene	ND		0.0077
Dibenz[a,h]anthracene	ND		0.0077
Benzo[g,h,i]perylene	ND		0.0077

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	69	49 - 121
2-Fluorobiphenyl	81	53 - 110
Terphenyl-d14	94	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07
Date Analyzed: 1-5-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-06
Client ID: A8-BTM1-12

Compound:	Results	Flags	PQL
Naphthalene	0.16		0.0081
2-Methylnaphthalene	0.61		0.0081
1-Methylnaphthalene	0.63		0.0081
Acenaphthylene	0.082		0 0081
Acenaphthene	0.22		0.0081
Fluorene	0.79		0.0081
Phenanthrene	1.0		0.0081
Anthracene	0.36		0.0081
Fluoranthene	0.18		0.0081
Pyrene	0.20		0.0081
Benzo[a]anthracene	0.027		0.0081
Chrysene	0.11		0.0081
Benzo[b]fluoranthene	0.044		0.0081
Benzo[k]fluoranthene	0.0091		0.0081
Benzo[a]pyrene	0.022		0.0081
Indeno(1,2,3-c,d)pyrene	0.0096		0.0081
Dibenz[a,h]anthracene	ND		0 0081
Benzo[g,h,i]perylene	0.018		0.0081

Surrogate:	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	83	49 - 121
2-Fluorobiphenyl	81	53 - 110
Terphenyl-d14	99	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-10
Client ID: 84-BTM1-12

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0078
2-Methylnaphthalene	0.0080		0.0078
1-Methylnaphthalene	0.034		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	0.0098		0.0078
Fluorene	0.029		0.0078
Phenanthrene	0.039		0.0078
Anthracene	0.0098		0.0078
Fluoranthene	ND		0.0078
Pyrene	ND		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	66	49 - 121
2-Fluorobiphenyl	69	53 - 110
Terphenyl-d14	89	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 1-4&5-07 Date Analyzed:

Matrix: Soil

mg/kg (ppm) Units:

12-237-12 Lab ID: C4-BTM1-12 Client ID:

Compound:	Results	Flags	PQL
Naphthalene	0.22		0.044
2-Methylnaphthalene	1.5		0.044
1-Methylnaphthalene	1.3		0.044
Acenaphthylene	0.024		0.0088
Acenaphthene	0.13		0.0088
Fluorene	0.21		0.0088
Phenanthrene	0.25		0.0088
Anthracene	0.062		0.0088
Fluoranthene	0.038		0.0088
Pyrene	0.028		0.0088
Benzo[a]anthracene	ND		0.0088
Chrysene	ND		0.0088
Benzo[b]fluoranthene	ND		0.0088
Benzo[k]fluoranthene	ND		0.0088
Benzo[a]pyrene	ND		0.0088
Indeno(1,2,3-c,d)pyrene	ND		0.0088
Dibenz[a,h]anthracene	ND		0.0088
Benzo[g,h,i]perylene	ND		0.0088

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	73	49 - 121
2-Fluorobiphenyl	82	53 - 110
Terphenyl-d14	86	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-15
Client ID: C5-BTM1-9

Compound:	Results	Flags	PQL
Naphthalene	0.019		0.0087
2-Methylnaphthalene	ND		0.0087
1-Methylnaphthalene	ND		0.0087
Acenaphthylene	ND		0.0087
Acenaphthene	ND		0.0087
Fluorene	ND		0.0087
Phenanthrene	ND		0.0087
Anthracene	ND		0.0087
Fluoranthene	ND		0.0087
Pyrene	ND		0.0087
Benzo[a]anthracene	ND		0.0087
Chrysene	ND		0.0087
Benzo[b]fluoranthene	ND		0.0087
Benzo[k]fluoranthene	ND		0.0087
Benzo[a]pyrene	ND		0.0087
Indeno(1,2,3-c,d)pyrene	ND		0.0087
Dibenz[a,h]anthracene	ND		0.0087
Benzo[g,h,i]perylene	ND		0.0087

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	70	49 - 121
2-Fluorobiphenyl	56	53 - 110
Terphenyl-d14	63	Q 64 - 123

Date of Report: January 11, 2007 Samples Submitted: December 22, 2006 Laboratory Reference: 0612-237 Project: 863-001

## PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 1-4-07 Date Analyzed:

Soil Matrix:

mg/kg (ppm) Units:

12-237-18 Lab ID: C5SE-SW-7 Client ID:

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0082
2-Methylnaphthalene	ND		0.0082
1-Methylnaphthalene	ND		0.0082
Acenaphthylene	ND		0.0082
Acenaphthene	ND		0.0082
Fluorene	ND		0.0082
Phenanthrene	ND		0.0082
Anthracene	ND		0.0082
Fluoranthene	ND		0.0082
Pyrene	ND		0.0082
Benzo[a]anthracene	ND		0.0082
Chrysene	ND		0.0082
Benzo[b]fluoranthene	ND		0.0082
Benzo[k]fluoranthene	ND		0.0082
Benzo[a]pyrene	ND		0.0082
Indeno(1,2,3-c,d)pyrene	ND		0.0082
Dibenz[a,h]anthracene	ND		0.0082
Benzo[g,h,i]perylene	ND		0.0082

Surrogate:	Percent	Control
<u> </u>	Recovery	Limits
Nitrobenzene-d5	85	49 - 121
2-Fluorobiphenyl	77	53 - 110
Terphenyl-d14	84	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07
Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-19
Client ID: C5NE-SW-7

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0084
2-Methylnaphthalene	0.034		0.0084
1-Methylnaphthalene	0.14		0.0084
Acenaphthylene	ND		0.0084
Acenaphthene	0.0085		0.0084
Fluorene	0.040		0.0084
Phenanthrene	0.025		0.0084
Anthracene	ND		0.0084
Fluoranthene	ND		0.0084
Pyrene	ND		0.0084
Benzo[a]anthracene	ND		0.0084
Chrysene	ND		0.0084
Benzo[b]fluoranthene	ND		0.0084
Benzo[k]fluoranthene	ND		0.0084
Benzo[a]pyrene	ND		0.0084
Indeno(1,2,3-c,d)pyrene	ND		0.0084
Dibenz[a,h]anthracene	ND		0.0084
Benzo[g,h,i]perylene	ND		0.0084

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	73	49 - 121
2-Fluorobiphenyl	61	53 - 110
Terphenyl-d14	71	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

# PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07
Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-22 Client ID: B8NW-SW-6

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0076
2-Methylnaphthalene	ND		0.0076
1-Methylnaphthalene	ND		0.0076
Acenaphthylene	ND		0.0076
Acenaphthene	ND		0.0076
Fluorene	ND		0.0076
Phenanthrene	ND		0.0076
Anthracene	ND		0.0076
Fluoranthene	ND		0.0076
Pyrene	ND		0.0076
Benzo[a]anthracene	ND		0.0076
Chrysene	ND		0.0076
Benzo[b]fluoranthene	ND		0.0076
Benzo[k]fluoranthene	ND		0.0076
Benzo[a]pyrene	ND		0.0076
Indeno(1,2,3-c,d)pyrene	ND		0.0076
Dibenz[a,h]anthracene	ND		0.0076
Benzo[g,h,i]perylene	ND		0.0076

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	73	49 - 121
2-Fluorobiphenyl	68	53 - 110
Terphenyl-d14	86	64 - 123

Laboratory Reference: 0612-237 Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 1-4-07 Date Analyzed:

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-23 Client ID: A8NW-SW-6

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0073
2-Methylnaphthalene	ND		0.0073
1-Methylnaphthalene	ND		0.0073
Acenaphthylene	ND		0.0073
Acenaphthene	ND		0.0073
Fluorene	ND		0.0073
Phenanthrene	ND		0.0073
Anthracene	ND		0.0073
Fluoranthene	ND		0.0073
Pyrene	ND		0.0073
Benzo[a]anthracene	ND		0.0073
Chrysene	ND		0.0073
Benzo[b]fluoranthene	ND		0.0073
Benzo[k]fluoranthene	ND		0.0073
Benzo[a]pyrene	ND		0.0073
Indeno(1,2,3-c,d)pyrene	ND		0.0073
Dibenz[a,h]anthracene	ND		0.0073
Benzo[g,h,i]perylene	ND		0.0073

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	73	49 - 121
2-Fluorobiphenyl	70	53 - 110
Terphenyl-d14	86	64 - 123

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Date of Report: January 11, 2007 Samples Submitted: December 22, 2006 Laboratory Reference: 0612-237

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-24 Client ID: C6-BTM1-9

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0089
2-Methylnaphthalene	ND		0.0089
1-Methylnaphthalene	ND		0.0089
Acenaphthylene	ND		0.0089
Acenaphthene	ND		0.0089
Fluorene	ND		0.0089
Phenanthrene	ND		0.0089
Anthracene	ND		0.0089
Fluoranthene	ND		0.0089
Pyrene	ND		0.0089
Benzo[a]anthracene	ND		0.0089
Chrysene	ND		0.0089
Benzo[b]fluoranthene	ND		0.0089
Benzo[k]fluoranthene	ND		0.0089
Benzo[a]pyrene	ND		0.0089
Indeno(1,2,3-c,d)pyrene	ND		0.0089
Dibenz[a,h]anthracene	ND		0.0089
Benzo[g,h,i]perylene	ND		0.0089

Surrogate :	Percent		Control
	Recovery		Limits
Nitrobenzene-d5	75		49 - 121
2-Fluorobiphenyl	58		53 - 110
Terphenyl-d14	61	Q	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-25
Client ID: C6W-SW-7

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0078
2-Methylnaphthalene	ND		0.0078
1-Methylnaphthalene	ND		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	ND		0.0078
Fluorene	ND		0.0078
Phenanthrene	ND		0.0078
Anthracene	ND		0.0078
Fluoranthene	ND		0.0078
Pyrene	ND		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	80	49 - 121
2-Fluorobiphenyl	72	53 - 110
Terphenyl-d14	76	64 - 123

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Laboratory Reference: 0612-237

Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-5-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-26
Client ID: B7-BTM1-6

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0076
2-Methylnaphthalene	0.047		0.0076
1-Methylnaphthalene	0.067		0.0076
Acenaphthylene	ND		0.0076
Acenaphthene	0.0093		0.0076
Fluorene	0.038		0.0076
Phenanthrene	0.079		0.0076
Anthracene	0.031		0.0076
Fluoranthene	ND		0.0076
Pyrene	0.012		0.0076
Benzo[a]anthracene	ND		0.0076
Chrysene	ND		0.0076
Benzo[b]fluoranthene	ND		0.0076
Benzo[k]fluoranthene	ND		0.0076
Benzo[a]pyrene	ND		0.0076
Indeno(1,2,3-c,d)pyrene	ND		0.0076
Dibenz[a,h]anthracene	ND		0.0076
Benzo[g,h,i]perylene	ND		0.0076

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	92	49 - 121
2-Fluorobiphenyl	88	53 - 110
Terphenyl-d14	94	64 - 123

Date of Report: January 11, 2007 Samples Submitted: December 22, 2006 Laboratory Reference: 0612-237

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 1-5-07 Date Analyzed:

Soil Matrix:

Units: mg/kg (ppm)

Lab ID: 12-237-28 Client ID: **B7NW-SW2-6** 

Compound:	Results	Flags	PQL
Naphthalene	0.012		0.0077
2-Methylnaphthalene	0.031		0.0077
1-Methylnaphthalene	0.034		0.0077
Acenaphthylene	ND		0.0077
Acenaphthene	ND		0.0077
Fluorene	0.018		0.0077
Phenanthrene	0039		0.0077
Anthracene	0.020		0.0077
Fluoranthene	0.0094		0.0077
Pyrene	0.0097		0.0077
Benzo[a]anthracene	ND		0.0077
Chrysene	ND		0.0077
Benzo[b]fluoranthene	ND		0.0077
Benzo[k]fluoranthene	ND		0.0077
Benzo[a]pyrene	ND		0.0077
Indeno(1,2,3-c,d)pyrene	ND		0.0077
Dibenz[a,h]anthracene	ND		0.0077
Benzo[g,h,i]perylene	ND		0.0077

Surrogate:	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	93	49 - 121
2-Fluorobiphenyl	86	53 - 110
Terphenyl-d14	95	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 1-5-07 Date Analyzed:

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-237-29 Client ID: B6-BTM1-6

Compound:	Results	Flags	PQL
Naphthalene	0.017		0.0078
2-Methylnaphthalene	0.14		0.0078
1-Methylnaphthalene	0.13		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	0.014		0.0078
Fluorene	0.058		0.0078
Phenanthrene	0061		0.0078
Anthracene	0015		0.0078
Fluoranthene	ND		0.0078
Pyrene	ND		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	87	49 - 121
2-Fluorobiphenyl	83	53 - 110
Terphenyl-d14	89	64 - 123

Laboratory Reference: 0612-237 Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-3-07 Date Analyzed: 1-5-07

Soil Matrix:

Units: mg/kg (ppm)

12-237-32 Lab ID: B5-BTM2-9 Client ID:

Compound:	Results	Flags	PQL
Naphthalene	0.036		0.0077
2-Methylnaphthalene	0.012		0.0077
1-Methylnaphthalene	0.14		0.0077
Acenaphthylene	0.027		0.0077
Acenaphthene	0.14		0.0077
Fluorene	0.36		0.0077
Phenanthrene	0.35		0.0077
Anthracene	0.12		0.0077
Fluoranthene	ND		0.0077
Pyrene	0.024		0.0077
Benzo[a]anthracene	ND		0.0077
Chrysene	0.011		0.0077
Benzo[b]fluoranthene	ND		0.0077
Benzo[k]fluoranthene	ND		0.0077
Benzo[a]pyrene	ND		0.0077
Indeno(1,2,3-c,d)pyrene	ND		0.0077
Dibenz[a,h]anthracene	ND		0.0077
Benzo[g,h,i]perylene	ND		0.0077

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	79	49 - 121
2-Fluorobiphenyl	88	53 - 110
Terphenyl-d14	92	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

## PAHs by EPA 8270C/SIM METHOD BLANK QUALITY CONTROL

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

MB0103S1 Lab ID:

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0067
2-Methylnaphthalene	ND		0.0067
1-Methylnaphthalene	ND		0.0067
Acenaphthylene	ND		0.0067
Acenaphthene	ND		0.0067
Fluorene	ND		0.0067
Phenanthrene	ND		0.0067
Anthracene	ND		0.0067
Fluoranthene	ND		0.0067
Pyrene	ND		0.0067
Benzo[a]anthracene	ND		0.0067
Chrysene	ND		0.0067
Benzo[b]fluoranthene	ND		0.0067
Benzo[k]fluoranthene	ND		0.0067
Benzo[a]pyrene	ND		0.0067
Indeno(1,2,3-c,d)pyrene	ND		0.0067
Dibenz[a,h]anthracene	ND		0.0067
Benzo[g,h,i]perylene	ND		0.0067

Surrogate:	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	71	49 - 121
2-Fluorobiphenyl	79	53 - 110
Terphenyl-d14	91	64 - 123

Laboratory Reference: 0612-237

Project: 863-001

PAHs by EPA 8270C/SIM SB/SBD QUALITY CONTROL

Date Extracted: 1-3-07 Date Analyzed: 1-4-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: SB0103S1

Compound:		Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
Naphthalene		0.0833	0.0550	66	0.0592	71	30-115	
Acenaphthylene		0.0833	0.0636	76	0.0641	77	46-125	
Acenaphthene		0.0833	0.0643	77	0.0646	78	40-119	
Fluorene		0.0833	0.0655	79	0.0634	76	50-133	
Phenanthrene		0.0833	0.0672	81	0.0650	78	48-128	
Anthracene		0.0833	0.0658	79	0.0645	77	53-134	
Fluoranthene		0.0833	0.0752	90	0.0766	92	50-143	
Pyrene		0.0833	0.0750	90	0.0768	92	44-139	
Benzo[a]anthracene		0.0833	0.0691	83	0.0711	85	62-129	
Chrysene		0.0833	0.0918	110	0.0947	114	42-127	
Benzo[b]fluoranthene		0.0833	0.0729	87	0.0746	90	57-132	
Benzo[k]fluoranthene		0.0833	0.0734	88	0.0756	91	57-131	
Benzo[a]pyrene		0.0833	0.0651	78	0.0681	82	59-132	
Indeno(1,2,3-c,d)pyrene		0.0833	0.0720	86	0.0750	90	55-135	
Dibenz[a,h]anthracene		0.0833	0.0901	108	0.0933	112	36-146	
Benzo[g,h,i]perylene		0.0833	0.0697	84	0.0722	87	42-140	
	RPD	RPD Limit	Flags					
Naphthalene	7	25						
Acenaphthylene	1	25						
Acenaphthene	1	25						
Fluorene	3	25						
Phenanthrene	3	25						
Anthracene	2	25						
Fluoranthene	2	25						
Pyrene	2	25						
Benzo[a]anthracene	3	25						
Chrysene	3	25						
Benzo[b]fluoranthene	2	25						
Benzo[k]fluoranthene	3	25						
Benzo[a]pyrene	4	25						
Indeno(1,2,3-c,d)pyrene	4	25						
Dibenz[a,h]anthracene	4	25						
Benzo[g,h,i]perylene	4	25						

Date of Report: January 11, 2007 Samples Submitted: December 22, 2006 Laboratory Reference: 0612-237 Project: 863-001

#### % MOISTURE

Date Analyzed: 1-3-07

Client ID	Lab ID	% Moisture
B3-BTM1-12	12-237-01	14
A4-BTM1-6	12-237-02	12
A4W-SW-5	12-237-03	13
A8-BTM1-12	12-237-06	18
B4-BTM1-12	12-237-10	14
C4-BTM1-12	12-237-12	24
C5-BTM1-9	12-237-15	23
C5SE-SW-7	12-237-18	19
C5NE-SW-7	12-237-19	21
B8NW-SW-6	12-237-22	12
A8NW-SW-6	12-237-23	9
C6-BTM1-9	12-237-24	25
C6W-SW-7	12-237-25	15
B7-BTM1-6	12-237-26	12
B7NW-SW2-6	12-237-28	13
B6-BTM1-6	12-237-29	14
B5-BTM2-9	12-237-32	13



#### **Data Qualifiers and Abbreviations**

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

Ζ-

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

Chain of Custody

Page Of L

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**Chain of Custody** 

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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

January 11, 2007

Carla Brock Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027

Re: Analytical Data for Project 863-001

Laboratory Reference No. 0701-030

#### Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on January 3, 2007.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 

Project: 863-001

#### **Case Narrative**

Samples were collected on December 26, 27, and 29, 2006 and received by the laboratory on January 3, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

#### PAHs by EPA 8270C/SIM

1-8-07 Date Extracted: 1-9-07 Date Analyzed:

Soil Matrix:

mg/kg (ppm) Units:

01-030-02 Lab ID: A9-BTM2-12 Client ID:

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0076
2-Methylnaphthalene	ND		0.0076
1-Methylnaphthalene	ND		0.0076
Acenaphthylene	ND		0.0076
Acenaphthene	ND		0.0076
Fluorene	ND		0.0076
Phenanthrene	0.0076		0.0076
Anthracene	ND		0.0076
Fluoranthene	ND		0.0076
Pyrene	ND		0.0076
Benzo[a]anthracene	ND		0.0076
Chrysene	ND		0.0076
Benzo[b]fluoranthene	ND		0.0076
Benzo[k]fluoranthene	ND		0.0076
Benzo[a]pyrene	ND		0.0076
Indeno(1,2,3-c,d)pyrene	ND		0.0076
Dibenz[a,h]anthracene	ND		0.0076
Benzo[g,h,i]perylene	ND		0.0076

Surrogate :	Percent Recovery	Control Limits
Nitrobenzene-d5	81	49 - 121
2-Fluorobiphenyl	79	53 - 110
Terphenyl-d14	97	64 - 123

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-8-07 Date Analyzed: 1-9-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-030-03
Client ID: A9NE-SW-7

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0078
2-Methylnaphthalene	0.0098		0.0078
1-Methylnaphthalene	0.0090		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	ND		0.0078
Fluorene	0.015		0.0078
Phenanthrene	0.038		0.0078
Anthracene	0.016		0.0078
Fluoranthene	0.0086		0.0078
Pyrene	0.0093		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	74	49 - 121
2-Fluorobiphenyl	74	53 - 110
Terphenyl-d14	94	64 - 123

Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-8-07 Date Analyzed: 1-9-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-030-11
Client ID: D10-BTM2-16

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0077
2-Methylnaphthalene	ND		0.0077
1-Methylnaphthalene	ND		0.0077
Acenaphthylene	ND		0.0077
Acenaphthene	ND		0.0077
Fluorene	ND		0.0077
Phenanthrene	ND		0.0077
Anthracene	ND		0.0077
Fluoranthene	ND		0.0077
Pyrene	ND		0.0077
Benzo[a]anthracene	ND		0.0077
Chrysene	ND		0.0077
Benzo[b]fluoranthene	ND		0.0077
Benzo[k]fluoranthene	ND		0.0077
Benzo[a]pyrene	ND		0.0077
Indeno(1,2,3-c,d)pyrene	ND		0.0077
Dibenz[a,h]anthracene	ND		0.0077
Benzo[g,h,i]perylene	ND		0.0077

Surrogate :	Percent	Control
-	Recovery	Limits
Nitrobenzene-d5	71	49 - 121
2-Fluorobiphenyl	70	53 - 110
Terphenyl-d14	95	64 - 123

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-8-07
Date Analyzed: 1-9-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-030-13

Client ID: C10NW-SW-7

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0083
2-Methylnaphthalene	ND		0.0083
1-Methylnaphthalene	ND		0.0083
Acenaphthylene	ND		0.0083
Acenaphthene	ND		0.0083
Fluorene	ND		0.0083
Phenanthrene	ND		0.0083
Anthracene	ND		0.0083
Fluoranthene	ND		0.0083
Pyrene	ND		0.0083
Benzo[a]anthracene	ND		0.0083
Chrysene	ND		0.0083
Benzo[b]fluoranthene	ND		0.0083
Benzo[k]fluoranthene	ND		0.0083
Benzo[a]pyrene	ND		0.0083
Indeno(1,2,3-c,d)pyrene	ND		0.0083
Dibenz[a,h]anthracene	ND		0.0083
Benzo[g,h,i]perylene	ND		0.0083

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	69	49 - 121
2-Fluorobiphenyl	66	53 - 110
Terphenyl-d14	87	64 - 123

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-8-07 Date Analyzed: 1-9-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-030-14

Client ID: C4SE-SW2-6

Compound:	Results	Flags	PQL
Naphthalene	0.065		0.0080
2-Methylnaphthalene	ND		0.0080
1-Methylnaphthalene	ND		0.0080
Acenaphthylene	ND		0.0080
Acenaphthene	ND		0.0080
Fluorene	ND		0.0080
Phenanthrene	ND		0.0080
Anthracene	ND		0.0080
Fluoranthene	ND		0.0080
Pyrene	ND		0.0080
Benzo[a]anthracene	ND		0.0080
Chrysene	ND		0.0080
Benzo[b]fluoranthene	ND		0.0080
Benzo[k]fluoranthene	ND		0.0080
Benzo[a]pyrene	ND		0.0080
Indeno(1,2,3-c,d)pyrene	ND		0.0080
Dibenz[a,h]anthracene	ND		0.0080
Benzo[g,h,i]perylene	ND		0.0080

Surrogate :	Percent	Control
· •	Recovery	Limits
Nitrobenzene-d5	80	49 - 121
2-Fluorobiphenyl	73	53 - 110
Terphenyl-d14	88	64 - 123

## PAHs by EPA 8270C/SIM METHOD BLANK QUALITY CONTROL

Date Extracted: 1-8-07 Date Analyzed: 1-8-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0108S1

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0067
2-Methylnaphthalene	ND		0.0067
1-Methylnaphthalene	ND		0.0067
Acenaphthylene	ND		0.0067
Acenaphthene	ND		0.0067
Fluorene	ND		0.0067
Phenanthrene	ND		0.0067
Anthracene	ND		0.0067
Fluoranthene	ND		0.0067
Pyrene	ND		0.0067
Benzo[a]anthracene	ND		0.0067
Chrysene	ND		0.0067
Benzo[b]fluoranthene	ND		0.0067
Benzo[k]fluoranthene	ND		0.0067
Benzo[a]pyrene	ND		0.0067
Indeno(1,2,3-c,d)pyrene	ND		0.0067
Dibenz[a,h]anthracene	ND		0.0067
Benzo[g,h,i]perylene	ND		0.0067

Surrogate:	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	67	49 - 121
2-Fluorobiphenyl	70	53 - 110
Terphenyl-d14	97	64 - 123

Project: 863-001

### PAHs by EPA 8270C/SIM SB/SBD QUALITY CONTROL

Date Extracted: 1-8-07 Date Analyzed: 1-8-07

Matrix:

Soil

Units:

mg/kg (ppm)

Lab ID:

SB0108S1

Spike Percent Percent Recovery Compound: Amount SB Recovery SBD Recovery Limits	Flags
Naphthalene 0.0833 0.0601 72 0.0567 68 30-115	
Acenaphthylene 0.0833 0.0625 75 0.0584 70 46-125	
Acenaphthene 0.0833 0.0636 76 0.0600 72 40-119	
Fluorene 0.0833 0.0632 76 0.0590 71 50-133	
Phenanthrene 0.0833 0.0652 78 0.0642 77 48-128	
Anthracene 0.0833 0.0640 77 0.0627 75 53-134	
Fluoranthene 0.0833 0.0755 91 0.0789 95 50-143	
Pyrene 0.0833 0.0749 90 0.0784 94 44-139	
Benzo[a]anthracene 0.0833 0.0716 86 0.0762 91 62-129	
Chrysene 0.0833 0.0931 112 0.0992 119 42-127	
Benzo[b]fluoranthene 0.0833 0.0767 92 0.0824 99 57-132	
Benzo[k]fluoranthene 0.0833 0.0767 92 0.0839 101 57-131	
Benzo[a]pyrene 0.0833 0.0701 84 0.0732 88 59-132	
Indeno(1,2,3-c,d)pyrene 0.0833 0.0768 92 0.0825 99 55-135	
Dibenz[a,h]anthracene 0.0833 0.0974 117 0.105 126 36-146	
Benzo[g,h,i]perylene 0.0833 0.0724 87 0.0774 93 42-140	
RPD RPD Limit Flags	
Naphthalene 6 25	
Acenaphthylene 7 25	
Acenaphthene 6 25	
Fluorene 7 25	
Phenanthrene 2 25	
Anthracene 2 25	
Fluoranthene 4 25	
Pyrene 5 25	
Benzo[a]anthracene 6 25	
Chrysene 6 25	
Benzo[b]fluoranthene 7 25	
Benzo[k]fluoranthene 9 25	
Benzo[a]pyrene 4 25	
Indeno(1,2,3-c,d)pyrene 7 25	
Dibenz[a,h]anthracene 7 25	
Benzo[g,h,i]perylene 7 25	

#### % MOISTURE

Client ID	Lab ID	% Moisture
A9-BTM2-12	01-030-02	12
A9NE-SW-7	01-030-03	15
D10-BTM2-16	01-030-11	13
C10 NW-SW-7	01-030-13	20
C4SE-SW2-6	01-030-14	17



#### **Data Qualifiers and Abbreviations**

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

Z -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

January 17, 2007

Carla Brock Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027

Re:

Analytical Data for Project 863-001 Laboratory Reference No. 0701-058

Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on January 8, 2007.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 

Project: 863-001

#### **Case Narrative**

Samples were collected on January 4 and 5, 2007 and received by the laboratory on January 8, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-15-07
Date Analyzed: 1-15-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-058-01
Client ID: C3-BTM1-12

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0077
2-Methylnaphthalene	ND		0.0077
1-Methylnaphthalene	ND		0.0077
Acenaphthylene	ND		0.0077
Acenaphthene	ND		0.0077
Fluorene	ND		0.0077
Phenanthrene	ND		0.0077
Anthracene	ND		0.0077
Fluoranthene	ND		0.0077
Pyrene	ND		0.0077
Benzo[a]anthracene	ND		0.0077
Chrysene	ND		0.0077
Benzo[b]fluoranthene	ND		0.0077
Benzo[k]fluoranthene	ND		0.0077
Benzo[a]pyrene	ND		0.0077
Indeno(1,2,3-c,d)pyrene	ND		0.0077
Dibenz[a,h]anthracene	ND		0.0077
Benzo[g,h,i]perylene	ND		0.0077

Surrogate :	Percent	Control
· ·	Recovery	Limits
Nitrobenzene-d5	55	49 ~ 121
2-Fluorobiphenyl	57	53 - 110
Terphenyl-d14	71	64 - 123

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 1-15-07 Date Analyzed: 1-15-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-058-05
Client ID: C11NW-SW-7

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0080
2-Methylnaphthalene	0.012		0.0080
1-Methylnaphthalene	0.011		0.0080
Acenaphthylene	ND		0.0080
Acenaphthene	ND		0.0080
Fluorene	ND		0.0080
Phenanthrene	0.014		0.0080
Anthracene	ND		0.0080
Fluoranthene	ND		0.0080
Pyrene	ND		0.0080
Benzo[a]anthracene	ND		0.0080
Chrysene	ND		0.0080
Benzo[b]fluoranthene	ND		0.0080
Benzo[k]fluoranthene	ND		0.0080
Benzo[a]pyrene	ND		0.0080
Indeno(1,2,3-c,d)pyrene	ND		0.0080
Dibenz[a,h]anthracene	ND		0.0080
Benzo[g,h,i]perylene	ND		0.0080

Surrogate :	Percent	Control
· ·	Recovery	Limits
Nitrobenzene-d5	67	49 - 121
2-Fluorobiphenyl	65	53 - 110
Terphenyl-d14	81	64 - 123

Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-15-07
Date Analyzed: 1-15-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-058-06
Client ID: D11NE-SW-7

Compound:	Results	Flags	PQL
Naphthalene	0 011		0.0074
2-Methylnaphthalene	0.10		0.0074
1-Methylnaphthalene	0.28		0.0074
Acenaphthylene	0.0077		0.0074
Acenaphthene	0.041		0.0074
Fluorene	0.096		0.0074
Phenanthrene	0.15		0.0074
Anthracene	0.032		0.0074
Fluoranthene	ND		0.0074
Pyrene	ND		0.0074
Benzo[a]anthracene	ND		0.0074
Chrysene	ND		0.0074
Benzo[b]fluoranthene	ND		0.0074
Benzo[k]fluoranthene	ND		0.0074
Benzo[a]pyrene	ND		0.0074
Indeno(1,2,3-c,d)pyrene	ND		0.0074
Dibenz[a,h]anthracene	ND		0.0074
Benzo[g,h,i]perylene	ND		0.0074

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	67	49 - 121
2-Fluorobiphenyl	60	53 - 110
Terphenyl-d14	80	64 - 123

Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-15-07 Date Analyzed: 1-15-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-058-08
Client ID: D11SE-SW-7

Compound:	Results	Flags	PQL
Naphthalene	0.020		0.0069
2-Methylnaphthalene	0.17		0.0069
1-Methylnaphthalene	0.49		0.0069
Acenaphthylene	0.013		0.0069
Acenaphthene	0.075		0.0069
Fluorene	0.19		0.0069
Phenanthrene	0.29		0.0069
Anthracene	0.067		0.0069
Fluoranthene	ND		0.0069
Pyrene	0.011		0.0069
Benzo[a]anthracene	ND		0.0069
Chrysene	ND		0.0069
Benzo[b]fluoranthene	ND		0.0069
Benzo[k]fluoranthene	ND		0.0069
Benzo[a]pyrene	ND		0.0069
Indeno(1,2,3-c,d)pyrene	ND		0.0069
Dibenz[a,h]anthracene	ND		0.0069
Benzo[g,h,i]perylene	ND		0.0069

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	74	49 - 121
2-Fluorobiphenyl	71	53 - 110
Terphenyl-d14	81	64 - 123

Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-15-07
Date Analyzed: 1-15&16-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-058-10
Client ID: D11-BTM2-16

Compound:	Results	Flags	PQL
Naphthalene	0.58		0.076
2-Methylnaphthalene	14		0.38
1-Methylnaphthalene	16		0.38
Acenaphthylene	0.37		0.076
Acenaphthene	1.9		0.076
Fluorene	5.2		0.076
Phenanthrene	7.7		0.076
Anthracene	1.6		0.076
Fluoranthene	ND		0.076
Pyrene	0.28		0.076
Benzo[a]anthracene	ND		0.076
Chrysene	ND		0.076
Benzo[b]fluoranthene	ND		0.076
Benzo[k]fluoranthene	ND		0.076
Benzo[a]pyrene	ND		0.076
Indeno(1,2,3-c,d)pyrene	ND		0.076
Dibenz[a,h]anthracene	ND		0.076
Benzo[g,h,i]perylene	ND		0.076

Surrogate :	Percent		Control
	Recovery		Limits
Nitrobenzene-d5	, <del></del>	F	49 - 121
2-Fluorobiphenyl	103		53 - 110
Terphenyl-d14	91		64 - 123

Project: 863-001

#### PAHs by EPA 8270C/SIM

Date Extracted: 1-15-07
Date Analyzed: 1-15-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-058-11
Client ID: C2SW-SW2-7

Naphthalene         ND         0.0077           2-Methylnaphthalene         ND         0.0077           1-Methylnaphthalene         ND         0.0077           Acenaphthylene         ND         0.0077
1-Methylnaphthalene ND 0.0077
Acenaphthylene ND 0.0077
Acenaphthene ND 0.0077
Fluorene ND 0.0077
Phenanthrene 0.0085 0.0077
Anthracene ND 0.0077
Fluoranthene 0.069 0.0077
Pyrene 0.075 0.0077
Benzo[a]anthracene 0.030 0.0077
Chrysene 0.047 0.0077
Benzo[b]fluoranthene 0.044 0.0077
Benzo[k]fluoranthene 0.015 0.0077
Benzo[a]pyrene 0 039 0.0077
Indeno(1,2,3-c,d)pyrene 0.027 0.0077
Dibenz[a,h]anthracene 0.0084 0.0077
Benzo[g,h,i]perylene 0.035 0.0077

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	70	49 - 121
2-Fluorobiphenyl	70	53 - 110
Terphenyl-d14	83	64 - 123

Project: 863-001

# PAHs by EPA 8270C/SIM METHOD BLANK QUALITY CONTROL

Date Extracted: 1-15-07 Date Analyzed: 1-15-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0115S1

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0067
2-Methylnaphthalene	ND		0.0067
1-Methylnaphthalene	ND		0 0067
Acenaphthylene	ND		0 0067
Acenaphthene	ND		0.0067
Fluorene	ND		0.0067
Phenanthrene	ND		0.0067
Anthracene	ND		0.0067
Fluoranthene	ND		0.0067
Pyrene	ND		0.0067
Benzo[a]anthracene	ND		0.0067
Chrysene	ND		0.0067
Benzo[b]fluoranthene	ND		0.0067
Benzo[k]fluoranthene	ND		0.0067
Benzo[a]pyrene	ND		0.0067
Indeno(1,2,3-c,d)pyrene	ND		0.0067
Dibenz[a,h]anthracene	ND		0 0067
Benzo[g,h,i]perylene	ND		0.0067

Surrogate :	Percent	Control
	Recovery	Limits
Nitrobenzene-d5	71	49 - 121
2-Fluorobiphenyl	73	53 - 110
Terphenyl-d14	87	64 - 123

OnSite Environmental, Inc 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Project: 863-001

## PAHs by EPA 8270C/SIM SB/SBD QUALITY CONTROL

Date Extracted: 1-15-07 Date Analyzed: 1-15-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: SB0115S1

Compound:		Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
Naphthalene		0.0833	0.0536	64	0.0514	62	30-115	
Acenaphthylene		0.0833	0.0558	67	0.0527	63	46-125	
Acenaphthene		0.0833	0.0583	70	0.0554	67	40-119	
Fluorene		0.0833	0.0549	66	0.0527	63	50-133	
Phenanthrene		0.0833	0.0571	68	0.0588	71	48-128	
Anthracene		0.0833	0.0562	67	0.0567	68	53-134	
Fluoranthene		0.0833	0.0694	83	0.0714	86	50-143	
Pyrene		0.0833	0.0694	83	0.0712	85	44-139	
Benzo[a]anthracene		0.0833	0.0611	73	0.0618	74	62-129	
Chrysene		0.0833	0.0805		0.0818	98	42-127	
Benzo[b]fluoranthene		0.0833	0.0648		0.0640	77	57-132	
Benzo[k]fluoranthene		0.0833	0 0649		0.0655	79	57-131	
Benzo[a]pyrene		0.0833	0.0599		0.0560	67	59-132	
Indeno(1.2.3-c,d)pyrene		0.0833	0.0744		0.0752	90	55-135	
Dibenz[a,h]anthracene		0.0833	0.0933		0.0947	114	36-146	
Benzo[g.h.i]perylene		0.0833	0.0712	85	0.0717	86	42-140	
		RPD	<b></b> .					
	RPD	Limit	Flags					
Naphthalene	4	25						
Acenaphthylene	6	25						
Acenaphthene	5	25						
Fluorene	4	25						
Phenanthrene	3	25						
Anthracene	1	25						
Fluoranthene	3	25						
Pyrene	3	25						
Benzo[a]anthracene	1	25						
Chrysene	2	25						
Benzo[b]fluoranthene	1	25						
Benzo[k]fluoranthene	1	25						
Benzo[a]pyrene	7	25						
Indeno(1,2,3-c,d)pyrene	1	25						
Dibenz[a,h]anthracene	2	25						
Benzo[g,h,i]perylene	1	25						

Project: 863-001

### % MOISTURE

Date Analyzed: 1-12-07

Client ID	Lab ID	% Moisture
C3-BTM1-12	01-058-01	13
C11NW-SW-7	01-058-05	17
D11NE-SW-7	01-058-06	10
D11SE-SW-7	01-058-08	3
D11-BTM2-16	01-058-10	12
C2SW-SW2-7	01-058-11	13



### **Data Qualifiers and Abbreviations**

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

Z-

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

January 3, 2007

Carla Brock Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027

Re: Analytical Data for Project 863-001

Laboratory Reference No. 0612-156

Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on December 18, 2006.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 

Date of Report: January 3, 2007 Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### **Case Narrative**

Samples were collected on December 8, 11, 12, 13, and 14, 2006 and received by the laboratory on December 18, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156 Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06 12-27-06 Date Analyzed:

Matrix: Soil

mg/kg (ppm) Units:

12-156-02 Lab ID: A7NW-SW-3 Client ID:

Compound:	Results	Flags	PQL.
Naphthalene	0.012		0.0078
2-Methylnaphthalene	0.019		0.0078
1-Methylnaphthalene	0.0090		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	ND		0.0078
Fluorene	ND		0.0078
Phenanthrene	0.021		0.0078
Anthracene	0.0098		0.0078
Fluoranthene	0.029		0.0078
Pyrene	0.034		0.0078
Benzo[a]anthracene	0.017		0.0078
Chrysene	0.032		0.0078
Benzo[b]fluoranthene	0.042		0.0078
Benzo[k]fluoranthene	0.015		0.0078
Benzo[a]pyrene	0.027		0.0078
Indeno(1,2,3-c,d)pyrene	0 029		0.0078
Dibenz[a,h]anthracene	0.010		0.0078
Benzo[g,h,i]perylene	0.033		0.0078

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	79	49 - 121
2-Fluorobiphenyl	82	53 - 110
Terphenyl-d14	100	64 - 123

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06
Date Analyzed: 12-26-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-03
Client ID: C8-BTM1-9

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0083
2-Methylnaphthalene	ND		0.0083
1-Methylnaphthalene	ND		0.0083
Acenaphthylene	ND		0.0083
Acenaphthene	ND		0.0083
Fluorene	ND		0.0083
Phenanthrene	ND		0.0083
Anthracene	ND		0.0083
Fluoranthene	ND		0.0083
Pyrene	ND		0.0083
Benzo[a]anthracene	ND		0.0083
Chrysene	ND		0.0083
Benzo[b]fluoranthene	ND		0.0083
Benzo[k]fluoranthene	ND		0.0083
Benzo[a]pyrene	ND		0.0083
Indeno(1,2,3-c,d)pyrene	ND		0.0083
Dibenz[a,h]anthracene	ND		0.0083
Benzo[g,h,i]perylene	ND		0.0083

Surrogate :	Percent	Control
-	Recovery	Limits
Nitrobenzene-d5	65	49 - 121
2-Fluorobiphenyl	72	53 - 110
Terphenyl-d14	81	64 - 123

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06
Date Analyzed: 12-26-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-04
Client ID: A7-BTM1-12

Compound:	Results	Flags	PQL
Naphthalene	0.013		0.0076
2-Methylnaphthalene	0.0093		0.0076
1-Methylnaphthalene	0.013		0.0076
Acenaphthylene	ND		0.0076
Acenaphthene	ND		0.0076
Fluorene	ND		0.0076
Phenanthrene	0.0081		0.0076
Anthracene	ND		0.0076
Fluoranthene	ND		0.0076
Pyrene	ND		0.0076
Benzo[a]anthracene	ND		0.0076
Chrysene	ND		0.0076
Benzo[b]fluoranthene	ND		0.0076
Benzo[k]fluoranthene	ND		0.0076
Benzo[a]pyrene	ND		0.0076
Indeno(1,2,3-c,d)pyrene	ND		0.0076
Dibenz[a,h]anthracene	ND		0.0076
Benzo[g,h,i]perylene	ND		0.0076

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	67	49 - 121
2-Fluorobiphenyl	77	53 - 110
Terphenyl-d14	87	64 - 123

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06 Date Analyzed: 12-26-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-06
Client ID: C7-BTM1-9

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0090
2-Methylnaphthalene	ND		0.0090
1-Methylnaphthalene	ND		0.0090
Acenaphthylene	ND		0.0090
Acenaphthene	ND		0.0090
Fluorene	ND		0.0090
Phenanthrene	ND		0.0090
Anthracene	ND		0.0090
Fluoranthene	ND		0.0090
Pyrene	ND		0.0090
Benzo[a]anthracene	ND		0.0090
Chrysene	ND		0.0090
Benzo[b]fluoranthene	ND		0.0090
Benzo[k]fluoranthene	ND		0.0090
Benzo[a]pyrene	ND		0.0090
Indeno(1,2,3-c,d)pyrene	ND		0.0090
Dibenz[a,h]anthracene	ND		0.0090
Benzo[g,h,i]perylene	ND		0.0090

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	77	49 - 121
2-Fluorobiphenyl	73	53 - 110
Terphenyl-d14	83	64 - 123

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06
Date Analyzed: 12-27-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-07
Client ID: D9-BTM1-11.5

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0084
2-Methylnaphthalene	ND		0.0084
1-Methylnaphthalene	0.0085		0.0084
Acenaphthylene	ND		0.0084
Acenaphthene	ND		0.0084
Fluorene	ND		0.0084
Phenanthrene	ND		0.0084
Anthracene	ND		0.0084
Fluoranthene	ND		0.0084
Pyrene	ND		0.0084
Benzo[a]anthracene	ND		0.0084
Chrysene	ND		0.0084
Benzo[b]fluoranthene	ND		0.0084
Benzo[k]fluoranthene	ND		0.0084
Benzo[a]pyrene	ND		0.0084
Indeno(1,2,3-c,d)pyrene	ND		0.0084
Dibenz[a,h]anthracene	ND		0.0084
Benzo[g,h,i]perylene	ND		0.0084

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	73	49 - 121
2-Fluorobiphenyl	69	53 - 110
Terphenyl-d14	91	64 - 123

OnSite Environmental, Inc 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06
Date Analyzed: 12-27-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-11 Client ID: FD-121206

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0098
2-Methylnaphthalene	ND		0.0098
1-Methylnaphthalene	ND		0.0098
Acenaphthylene	ND		0.0098
Acenaphthene	ND		0.0098
Fluorene	ND		0.0098
Phenanthrene	ND		0.0098
Anthracene	ND		0.0098
Fluoranthene	ND		0.0098
Pyrene	ND		0.0098
Benzo[a]anthracene	ND		0.0098
Chrysene	ND		0.0098
Benzo[b]fluoranthene	ND		0.0098
Benzo[k]fluoranthene	ND		0.0098
Benzo[a]pyrene	ND		0.0098
Indeno(1,2,3-c,d)pyrene	ND		0.0098
Dibenz[a,h]anthracene	ND		0.0098
Benzo[g,h,i]perylene	ND		0.0098

Surrogate :	Percent	Control
•	Recovery	Limits
Nitrobenzene-d5	65	49 - 121
2-Fluorobiphenyl	65	53 - 110
Terphenyl-d14	92	64 - 123

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156 Project: 863-001

### PAHs by EPA 8270C/SIM

12-22-06 Date Extracted: 12-26-06 Date Analyzed:

Matrix:

Soil

Units:

mg/kg (ppm)

Lab ID: Client ID:

12-156-13 A1W-SW-4

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0078
2-Methylnaphthalene	ND		0.0078
1-Methylnaphthalene	ND		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	ND		0.0078
Fluorene	ND		0.0078
Phenanthrene	0.0086		0.0078
Anthracene	0.011		0.0078
Fluoranthene	ND		0.0078
Pyrene	ND		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate:	Percent	Control
•	Recovery	Limits
Nitrobenzene-d5	64	49 - 121
2-Fluorobiphenyl	70	53 - 110
Terphenyl-d14	84	64 - 123

Date of Report: January 3, 2007 Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06 Date Analyzed: 12-26-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-14

Client ID: A2NW-SW-4

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0078
2-Methylnaphthalene	ND		0.0078
1-Methylnaphthalene	ND		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	ND		0.0078
Fluorene	ND		0.0078
Phenanthrene	ND		0.0078
Anthracene	ND		0.0078
Fluoranthene	ND		0.0078
Pyrene	ND		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	84	49 - 121
2-Fluorobiphenyl	84	53 - 110
Terphenyl-d14	90	64 - 123

OnSite Environmental, Inc 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06 Date Analyzed: 12-27-06

Matrix:

Soil

Units:

mg/kg (ppm)

Lab ID:

12-156-15

Client ID:

B2SW-SW-4

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0078
2-Methylnaphthalene	ND		0.0078
1-Methylnaphthalene	ND		0.0078
Acenaphthylene	ND		0.0078
Acenaphthene	ND		0.0078
. Fluorene	ND		0.0078
Phenanthrene	ND		0.0078
Anthracene	ND		0.0078
Fluoranthene	ND		0.0078
Pyrene	ND		0.0078
Benzo[a]anthracene	ND		0.0078
Chrysene	ND		0.0078
Benzo[b]fluoranthene	ND		0.0078
Benzo[k]fluoranthene	ND		0.0078
Benzo[a]pyrene	ND		0.0078
Indeno(1,2,3-c,d)pyrene	ND		0.0078
Dibenz[a,h]anthracene	ND		0.0078
Benzo[g,h,i]perylene	ND		0.0078

Surrogate :	Percent	Control
-	Recovery	Limits
Nitrobenzene-d5	66	49 - 121
2-Fluorobiphenyl	68	53 - 110
Terphenyl-d14	93	64 - 123

Date of Report: January 3, 2007 Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06 12-26-06 Date Analyzed:

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-16 Client ID: A2-BTM1-5

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0081
2-Methylnaphthalene	ND		0.0081
1-Methylnaphthalene	ND		0.0081
Acenaphthylene	ND		0.0081
Acenaphthene	ND		0.0081
Fluorene	ND		0.0081
Phenanthrene	ND		0.0081
Anthracene	ND		0.0081
Fluoranthene	ND		0.0081
Pyrene	ND		0.0081
Benzo[a]anthracene	ND		0.0081
Chrysene	ND		0.0081
Benzo[b]fluoranthene	ND		0.0081
Benzo[k]fluoranthene	ND		0.0081
Benzo[a]pyrene	ND		0.0081
Indeno(1,2,3-c,d)pyrene	ND		0.0081
Dibenz[a,h]anthracene	ND		0.0081
Benzo[g,h,i]perylene	ND		0 0081

Surrogate :	Percent	Control	
	Recovery	Limits	
Nitrobenzene-d5	64	49 - 121	
2-Fluorobiphenyl	77	53 - 110	
Terphenyl-d14	91	64 - 123	

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156 Project: 863-001

### PAHs by EPA 8270C/SIM

12-22-06 Date Extracted: 12-28-06 Date Analyzed:

Soil Matrix:

mg/kg (ppm) Units:

12-156-17 Lab ID: A4NW-SW-8 Client ID:

Compound:	Results	Flags	PQL
Naphthalene	0.28		0.042
2-Methylnaphthalene	0.12		0.042
1-Methylnaphthalene	1.5		0.042
Acenaphthylene	0.17		0.042
Acenaphthene	0.40		0.042
Fluorene	1.5		0.042
Phenanthrene	3.3		0.042
Anthracene	0.72		0.042
Fluoranthene	0.051		0.042
Pyrene	0.13		0.042
Benzo[a]anthracene	ND		0.042
Chrysene	ND		0.042
Benzo[b]fluoranthene	ND		0.042
Benzo[k]fluoranthene	ND		0.042
Benzo[a]pyrene	ND		0 042
Indeno(1,2,3-c,d)pyrene	ND		0.042
Dibenz[a,h]anthracene	ND		0.042
Benzo[g,h,i]perylene	ND		0.042

Surrogate:	Percent Recovery		Control Limits
Nitrobenzene-d5	, me tours	F	49 - 121
2-Fluorobiphenyl	92		53 - 110
Terphenyl-d14	96		64 - 123

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06
Date Analyzed: 12-27-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-19
Client ID: A5-BTM1-9.5

Compound:	Results	Flags	PQL
Naphthalene	0.020		0.0083
2-Methylnaphthalene	0.024		0.0083
1-Methylnaphthalene	0 098		0.0083
Acenaphthylene	ND		0.0083
Acenaphthene	0.013		0.0083
Fluorene	0.040		0.0083
Phenanthrene	0.044		0.0083
Anthracene	0.0099		0.0083
Fluoranthene	ND		0.0083
Pyrene	0.0087		0.0083
Benzo[a]anthracene	ND		0 0083
Chrysene	ND		0.0083
Benzo[b]fluoranthene	ND		0.0083
Benzo[k]fluoranthene	ND		0.0083
Benzo[a]pyrene	ND		0.0083
Indeno(1,2,3-c,d)pyrene	ND		0.0083
Dibenz[a,h]anthracene	ND		0.0083
Benzo[g,h,i]perylene	ND		0.0083

Surrogate :	Percent	Control
Ü	Recovery	Limits
Nitrobenzene-d5	65	49 - 121
2-Fluorobiphenyl	69	53 - 110
Terphenyl-d14	95	64 - 123

Date of Report: January 3, 2007 Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

### PAHs by EPA 8270C/SIM

Date Extracted: 12-22-06 12-27-06 Date Analyzed:

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-156-20 A6-BTM1-9.5 Client ID:

Compound:	Results	Flags	PQL
Naphthalene	020		0.038
2-Methylnaphthalene	0.61		0.038
1-Methylnaphthalene	1.8		0.038
Acenaphthylene	0.080		0.038
Acenaphthene	0.19		0.038
Fluorene	0.84		0.038
Phenanthrene	0.98		0.038
Anthracene	0.26		0.038
Fluoranthene	ND		0.038
Pyrene	0.041		0.038
Benzo[a]anthracene	ND		0.038
Chrysene	ND		0.038
Benzo[b]fluoranthene	ND		0.038
Benzo[k]fluoranthene	ND		0.038
Benzo[a]pyrene	ND		0.038
Indeno(1,2,3-c,d)pyrene	ND		0.038
Dibenz[a,h]anthracene	ND		0.038
Benzo[g,h,i]perylene	ND		0.038

Surrogate :	Percent		Control
	Recovery		Limits
Nitrobenzene-d5		F	49 - 121
2-Fluorobiphenyl	92		53 - 110
Terphenyl-d14	96		64 - 123

Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156

Project: 863-001

## PAHs by EPA 8270C/SIM METHOD BLANK QUALITY CONTROL

Date Extracted:

12-22-06

Date Analyzed:

12-26-06

Matrix:

Soil

Units:

mg/kg (ppm)

Lab ID:

MB1222S1

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0067
2-Methylnaphthalene	ND		0.0067
1-Methylnaphthalene	ND		0.0067
Acenaphthylene	ND		0.0067
Acenaphthene	ND		0.0067
Fluorene	ND		0 0067
Phenanthrene	ND		0.0067
Anthracene	ND		0.0067
Fluoranthene	ND		0.0067
Pyrene	ND		0.0067
Benzo[a]anthracene	ND		0.0067
Chrysene	ND		0.0067
Benzo[b]fluoranthene	ND		0.0067
Benzo[k]fluoranthene	ND		0.0067
Benzo[a]pyrene	ND		0.0067
Indeno(1,2,3-c,d)pyrene	ND		0.0067
Dibenz[a,h]anthracene	ND		0.0067
Benzo[g,h,i]perylene	ND		0.0067

Surrogate :	Percent	Control
_	Recovery	Limits
Nitrobenzene-d5	66	49 - 121
2-Fluorobiphenyl	75	53 - 110
Terphenyl-d14	92	64 - 123

Samples Submitted: December 18, 2006 Laboratory Reference: 0612-156

Project: 863-001

PAHs by EPA 8270C/SIM SB/SBD QUALITY CONTROL

Date Extracted: 12-22-06 Date Analyzed: 12-26-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: SB1222S1

Compound:		Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
Naphthalene		0.0833	0.0588	71	0.0640	77	30-115	
Acenaphthylene		0.0833	0.0616	74	0.0656	7 <del>9</del>	46-125	
Acenaphthene		0.0833	0.0624	75	0.0667	80	40-119	
Fluorene		0.0833	0.0649	78	0.0690	83	50-133	
Phenanthrene		0.0833	0.0675	81	0.0692	83	48-128	
Anthracene		0.0833	0.0671	81	0.0679	81	53-134	
Fluoranthene		0.0833	0.0786	94	0.0770	92	50-143	
Pyrene		0.0833	0.0782	94	0.0770	92	44-139	
Benzo[a]anthracene		0.0833	0.0769	<del>9</del> 2	0.0749	90	62-129	
Chrysene		0.0833	0.101	122	0.0990	119	42-127	
Benzo[b]fluoranthene		0.0833	0.0819	98	0 0798	96	57-132	
Benzo[k]fluoranthene		0.0833	0.0807	97	0.0797	96	57-131	
Benzo[a]pyrene		0.0833	0.0760	91	0.0728	87	59-132	
Indeno(1,2,3-c.d)pyrene		0.0833	0.0803	96	0.0786	94	55-135	
Dibenz[a.h]anthracene		0.0833	0.102	122	0.0994	119	36-146	
Benzo[g.h,i]perylene		0.0833	0.0759	91	0.0739	89	42-140	
		RPD						
	RPD	Limit	Flags					
	KFD	LIIIII	riags					
Naphthalene	9	25						
Acenaphthylene	6	25						
Acenaphthene	7	25						
Fluorene	6	25						
Phenanthrene	2	25						
Anthracene	1	25						
Fluoranthene	2	25						
Pyrene	2	25						
Benzo[a]anthracene	3	25						
Chrysene	2	25						
Benzo[b]fluoranthene	3	25						
Benzo[k]fluoranthene	1	25						
Benzo[a]pyrene	4	25						
Indeno(1,2,3-c.d)pyrene	2	25						
Dibenz[a.h]anthracene	3	25						
Benzo[g.h.i]perylene	3	25						

Date of Report: January 3, 2007 Samples Submitted: December 18, 2006

Laboratory Reference: 0612-156 Project: 863-001

### % MOISTURE

Date Analyzed: 12-22-06

Client ID	Lab ID	% Moisture
A7NW-SW-3	12-156-02	14
C8-BTM1-9	12-156-03	20
A7-BTM1-12	12-156-04	12
C7-BTM1-9	12-156-06	26
D9-BTM1-11.5	12-156-07	21
FD-121206	12-156-11	32
A1W-SW-4	12-156-13	15
A2NW-SW-4	12-156-14	14
B2SW-SW-4	12-156-15	14
A2-BTM1-5	12-156-16	. 18
A4NW-SW-8	12-156-17	21
A5-BTM1-9.5	12-156-19	20
A6-BTM1-9.5	12-156-20	13



### **Data Qualifiers and Abbreviations**

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

**Z** -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



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Page D of C

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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

January 24, 2007

Carla Brock Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027

Re: Analytical Data for Project 863-001

Laboratory Reference No. 0701-101

### Dear Carla:

Enclosed are the analytical results and associated quality control data for samples submitted on January 12, 2007.

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

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

Sincerely.

David Baumeister Project Manager

**Enclosures** 

Project: 863-001

### **Case Narrative**

Samples were collected on January 5, 2007 and received by the laboratory on January 12, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

### **NWTPH Gx/BTEX Analysis**

Please note the samples were not submitted in compliance with the EPA 5035A method.

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

Project: 863-001

### **NWTPH-Gx/BTEX**

Date Extracted: 1-17-07 Date Analyzed: 1-19-07

Matrix: Soil

Units: mg/kg (ppm)

Client ID: **C4-BTM2-1.5**Lab ID: 01-101-01

	Result	Flags	PQL
Benzene	0.060		0.020
Toluene	ND		0.060
Ethyl Benzene	ND		0.060
m,p-Xylene	ND		0.060
o-Xylene	ND		0.060
TPH-Gas	ND		6.0

Fluorobenzene 85%

Surrogate Recovery:

Project: 863-001

## NWTPH-Gx/BTEX METHOD BLANK QUALITY CONTROL

Date Extracted: 1-17-07 Date Analyzed: 1-17-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0117S1

	Result	Flags	PQL
Benzene	ND		0.020
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0

Surrogate Recovery:

Fluorobenzene 115%

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

1-17-07 Date Extracted: 1-17-07 Date Analyzed:

Matrix: Soil

Units: mg/kg (ppm)

Lab ID:	01-113-04 <b>Original</b>	01-113-04 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery: Fluorobenzene	107%	107%		

Project: 863-001

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

Date Extracted: 1-17-07
Date Analyzed: 1-17-07

Matrix: Soil

Units: mg/kg (ppm)

Spike Level (ppm): 2.71

Lab ID:	01-113-04 <b>MS</b>	Percent Recovery	01-113-04 <b>MSD</b>	Percent Recovery	RPD	Flags
Benzene	2.63	97	2.60	96	1	
Toluene	2.60	96	2.58	95	1	
Ethyl Benzene	2.63	97	2.61	96	1	
m,p-Xylene	2.53	94	2.52	93	0	
o-Xylene	2.51	93	2.50	92	0	

Surrogate Recovery:

Fluorobenzene 85% 88%

Project: 863-001

**NWTPH-Dx** 

Date Extracted: 1-19-07 Date Analyzed: 1-19-07

Matrix: Soil

Units: mg/kg (ppm)

**Client ID: C4-BTM2-1.5**Lab ID: 01-101-01

Diesel Range: 56 PQL: 30

Identification: Diesel Fuel#2

Lube Oil Range: ND PQL: 60

Identification: ---

Surrogate Recovery

o-Terphenyl: 110%

Flags: Y

Project: 863-001

## NWTPH-Dx METHOD BLANK QUALITY CONTROL

Date Extracted:	1-19-07
Date Analyzed:	1-19-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0119S2

Diesel Range: ND PQL: 25

Identification: ---

Lube Oil Range: ND PQL: 50

Identification: ---

Surrogate Recovery

o-Terphenyl: 115%

Flags: Y

### **NWTPH-Dx DUPLICATE QUALITY CONTROL**

Date Extracted:	1-19-07
Date Analyzed:	1-19-07

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 01-116-03 01-116-03 DUP

Diesel Range: ND ND PQL: 25 25

RPD: N/A

Surrogate Recovery

o-Terphenyl: 107% 104%

Flags: Υ Υ

% MOISTURE

Date Analyzed: 1-16-07

Client ID Lab ID % Moisture

C4-BTM2-1.5 01-101-01 17



### **Data Qualifiers and Abbreviations**

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

Z -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

**Chain of Custody** 

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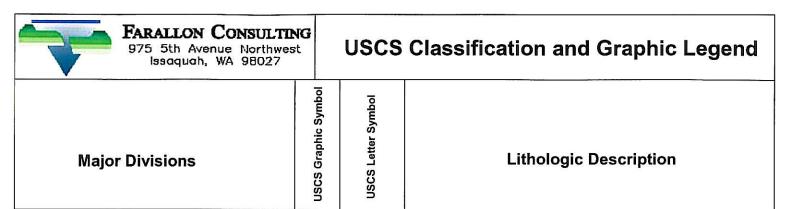
епизіоМ Ж Chromatograms with final report HdE Нал Comments/Special Instructions: HEW PY 1664 Requested Analysis **ICLP Metals** (8) elateM:AROR latol Laboratory Number: 01-10 Herbickdes by 6151A Ar808 yd sebiobae9 PCBs by 8082 PAHs by 8270C / SIM 1500 Semivolatiles by 8270C 808S8 yd selitsloV betanegoist 10/21/1 10/21/ 60928 vd selitatov Date MWTPH-GX/BTEX MWTPH-HCID (TPH analysis 5 working days) ☐ 3 Day ☐ 1 Day # of Cont. Standard (7 working days) Turnaround Request (in working days) Reviewed by/Date Spee (Check One) 1 (other) Company 00h1 ±9/4, Same Day ☐ 2 Day Date Sampled Environmental Inc. 14648 NE BEST Street - Redmond, WA 86052 Phone: (425) 883-3861 - Fax (425) 885-4603 Signature 1000-508 Fairm 1100 Reviewed by/Date Relinquished by Relinquished by Relinquished by Received by Received by Received by Lalı ID

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

# APPENDIX D BORING/WELL CONSTRUCTION LOGS

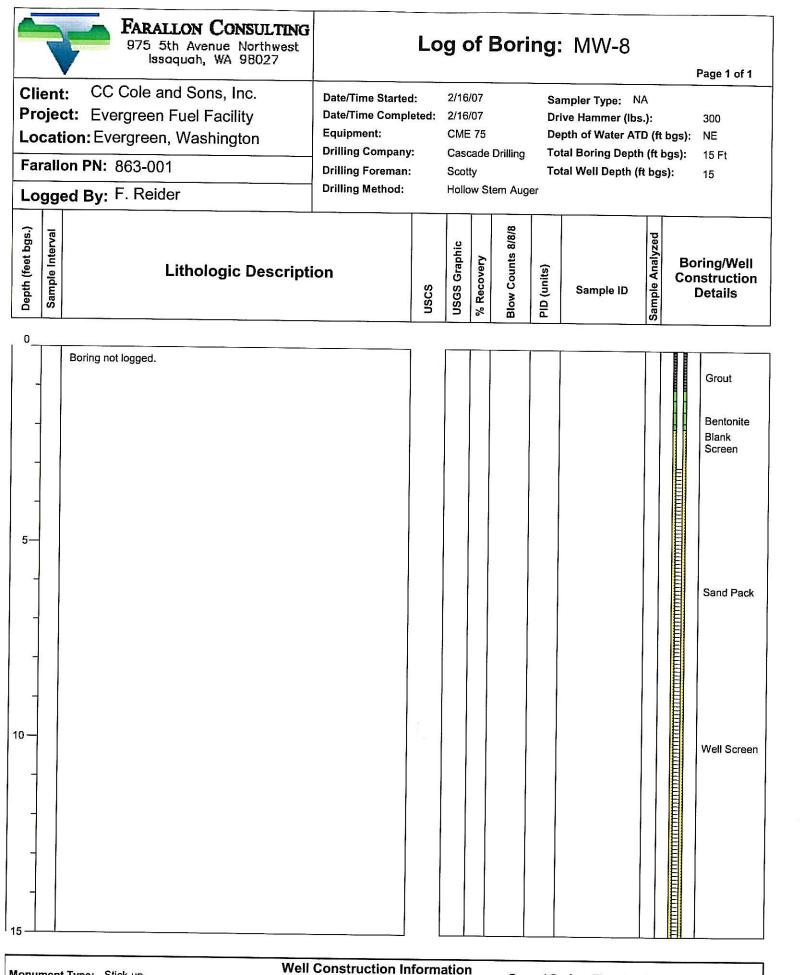
CLEANUP ACTION SUMMARY REPORT
DECEMBER 2006 TO JUNE 2007
Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington

Farallon PN: 863-001



Coarse-	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction	CLEAN GRAVEL (Little or no fines)	0000	GW	Well graded GRAVEL, well graded GRAVEL with sand
Grained Soil (More than 50% of material is larger than No. 200 sieve size)			8	GP	Poorly graded GRAVEL, GRAVEL with sand
		GRAVEL WITH FINES		GP-GM	Poorly graded GRAVEL - GRAVEL with sand and silt
		(Appreciable amount of fines)	 8 8 8	GM	Silty GRAVEL
	retained on No. 4 sieve)		(0//0/)	GC	Clayey GRAVEL
	SAND AND SANDY	CLEAN SAND (Little or no fines)		sw	Well graded SAND
	SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	no lines)		SP	Poorly graded SAND
		SAND WITH FINES (Appreciable amount of fines)		SP-SM	Poorly graded SAND - silty SAND
				SM	Silty SAND
				sc	Clayey SAND
				SM-ML	SILT - Silty SAND
Fine- Grained Soil (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	SILT
				CL	CLAY
			11111	OL	Organic SILT
	SILT AND CLAY (Liquid limit greater than 50)			МН	Inorganic SILT
			7	СН	Inorganic CLAY
	andir do)	P. C.	~~	ОН	Organic CLAY
		Highly Organic Soil	11 11.	PT	Peat
OTHER MATERIALS	PAVEMENT			AC	Asphalt concrete
				со	Concrete
	OTHER		$\triangle$	RK	Bedrock
			10/0	WD	Wood Debris
			77 77	DB	Debris (Miscellaneous)
				PC	Portland cement

	Sample Interval		Legend		
	ASSOCIATION PRODUCTION AND THE CONTRACTOR AND THE C	<b>F</b>	_		Solid line indicates sharp contact between units well defined.
G	Grab Sample Interval	Og	Cement Grout		
×	Water level at time of drilling		Bentonite	*****	Dashed line indicates gradational contact between units.
모	Water level at time of sampling	ШШ		feet bgs = f	feet below ground surface
	Blank Casing		Sand Pack	NA = Not A	
	Screened Casing		Well Cap	PN = Proje units = PID	units calibrated to 100 ppm isobutylene
E:\Forms\Boilerplates\L	LogPlot\Lithology\Coverpage			USCS = Ur	nified Soil Classification System



Monument Type: Stick-up
Casing Diameter (inches): 2
Screen Slot Size (inches): 0.010

3-15 Ft

Screened Interval (ft bgs):

Filter Pack:

Annular Seal: Grout

Sand

Surface Seal: Concrete

Ground Surface Elevation (ft):

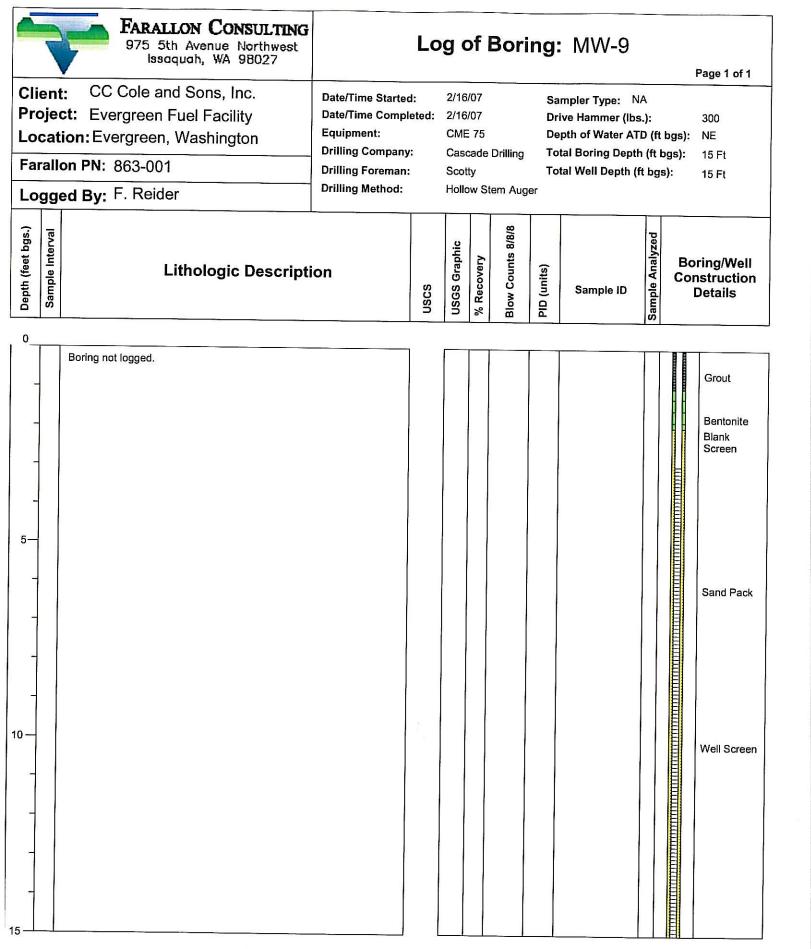
Top of Casing Elevation (ft): NA
Boring Abandonment: NA

JA

NA

Surveyed Location: X: NA

Y: NA



Monument Type: Stick-up Casing Diameter (inches):

Screen Slot Size (inches): 0.010 Screened Interval (ft bgs): 3-15 Ft Filter Pack:

Sand

**Well Construction Information** 

Surface Seal: Concrete
Annular Seal: Grout

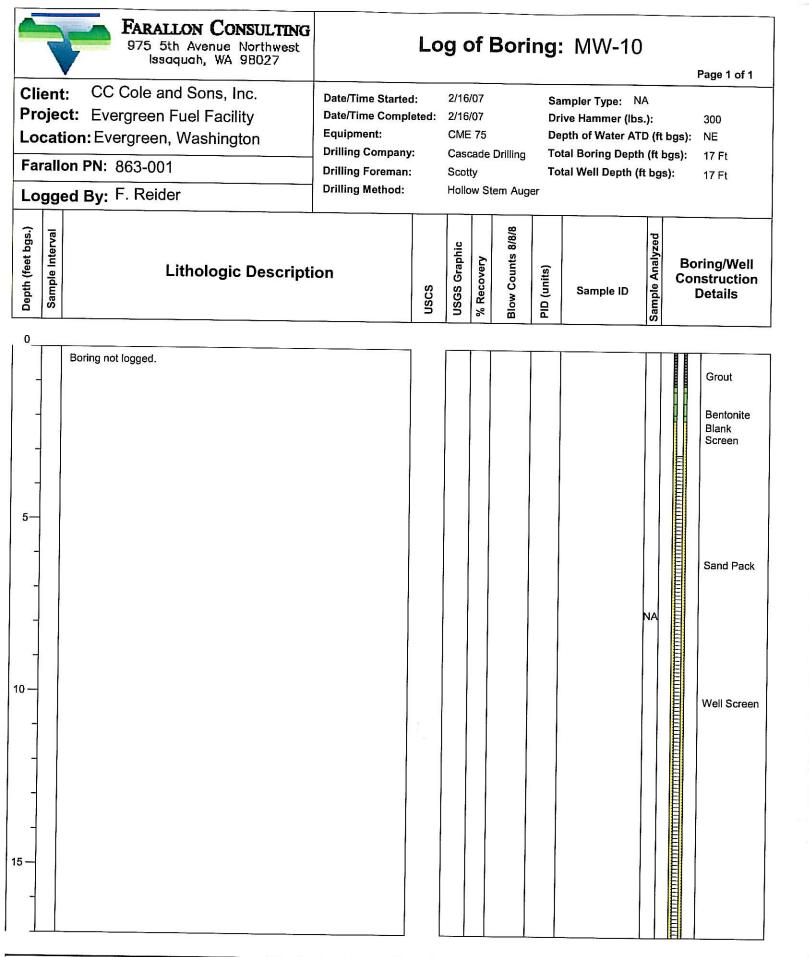
Ground Surface Elevation (ft):

Top of Casing Elevation (ft): Boring Abandonment:

NA NA NA

Surveyed Location: X: NA

Y: NA



Monument Type: Stick-up Casing Diameter (inches): Screen Slot Size (inches): 0.010 Screened Interval (ft bgs): 2-17

Filter Pack:

Sand

Surface Seal: Concrete

Annular Seal: Grout

**Well Construction Information** 

Ground Surface Elevation (ft): Top of Casing Elevation (ft): **Boring Abandonment:** 

NA NA NA

Surveyed Location: X: NA

Y: NA