Site Investigation Report

R.J. Frank Site

5 Mill Street

Ridgefield, Washington

Ecology Voluntary Cleanup Program File Number SW1331
EES Project 2001-01

Prepared For

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1 INTRODUCTION

EES Environmental Consulting, Inc. (EES), on behalf of MC Marine, LLC (MCM), is pleased to present this report of site investigation activities conducted in April 2014 at the subject property located at 5 Mill Street, in Ridgefield, Washington (Property, Figure 1). MCM is the Property owner and recently enrolled in the Washington Department of Ecology's (Ecology) Voluntary Cleanup Program (VCP) in an effort to facilitate environmental assessment and regulatory file closure for this Property in accordance with Washington's environmental cleanup rules (Chapter 173-340 WAC). These activities were conducted in accordance with the EES work plan dated February 19, 2014, and supplemental modifications based on discussions with and technical comments provided by Ecology.

1.1 PURPOSE

EES summarized the project background and provided a preliminary assessment of previous site assessment information under separate cover (EES 2013). Based on those findings and in view of our subsequent discussions with Ecology, the purpose of this investigation is to evaluate current soil and groundwater conditions at portions of the Property where environmental impacts and related data gaps have been identified. This work is intended to support additional, targeted data collection and cleanup actions as necessary to support decision-making and issuance of a No Further Action determination by Ecology. The investigative work scope elements were implemented in April and June 2014, as described in Sections 3 and 4 of this report.

2 BACKGROUND

2.1 SITE DESCRIPTION

The Property is located at 5 Mill Street in Ridgefield, Washington (Figures 1 and 2). When purchased and established as McCuddy's Marina in 1996, the Property covered approximately 6.2 acres and included a narrow "upland" area used for vehicle parking and access to the established 11.4 acre marina located along Lake River, similar to its current layout. Historical aerial photographs indicate that portions of the marina were operated by others as early as the 1950s. The Property was formerly known as the R.J. Frank site and Ridgefield Marina.

In 2013, the Port of Ridgefield purchased an approximately 1.3 acre portion of the Property for planned future construction and operation of a railway overpass. This "right of way acquisition area" is located on the northeastern portion of the Property as illustrated in Figure 2. The McCuddy Marina upland Property currently covers a total of approximately five acres and is owned by MC Marine, LLC. The 11.4 acre in-water portion of the marina within Lake River is adjacent to this upland area and is owned by the Washington Department of Natural Resources (DNR).

2.2 ENVIRONMENTAL ASSESSMENT STATUS

Historical operations at the Property included a lumber mill (1920s to 1950s), bulk petroleum storage and distribution (1970s to approximately 1990), and marina operations (1950s to present). Additionally, a rail spur and access roads formerly located on the Property provided physical connection to the adjacent Pacific Wood Treating (PWT) facility, which may have used and accessed portions of the Property for treated lumber storage and other purposes. The vacant PWT site is currently owned by the Port of Ridgefield and is the subject of a cleanup action under the direction of Ecology (Site ID 1019).

In an effort to characterize potential environmental impacts associated with historical operations, numerous assessment, investigation, and cleanup activities have been conducted on the subject Property since the early 1990s. Site assessment documents indicate that one or more petroleum spills are reported to have occurred on the Property during facility operations in the 1970s, and visibly stained ground surfaces were observed in the early 1990s in areas consistent with inferred locations of the former bulk petroleum storage/handling infrastructure. However, details regarding the nature and extent of specific petroleum releases have not been confirmed. Petroleum product tanks and related infrastructure were decommissioned and removed from the Property by the mid-1990s. Remedial excavation of petroleum-contaminated soil was conducted at that time, although supporting documentation and confirmatory analytical testing data are sparse and a related environmental assessment appeared to be incomplete.

No other spills or releases of chemical materials are known to have occurred at the Property or at the marina. Key environmental characterization issues were identified for the Property based on our file review and correspondence with Ecology to date, as summarized below.

2.2.1 PRELIMINARY CONTAMINANTS AND MEDIA OF INTEREST

Previous sampling locations are illustrated on Figure 3. Analytical data developed during prior site assessment work is presented under separate cover (EES 2013). Based on our review of available technical reports and data, environmental contamination attributed to former Property operations is documented for shallow upland soil at several locations, where apparently limited petroleum-related impacts have been identified at concentrations exceeding preliminary regulatory screening criteria (Figure 4). Polychlorinated biphenyls (PCBs) exceeding preliminary screening criteria were identified in one of 19 soil samples collected to date (Figure 5).

Existing data indicate that Contaminants of Interest (COIs) have not been identified or were measured at concentrations below preliminary screening criteria among other environmental media at the Property, as follows:

- Volatile chemicals have generally not been identified and vapor migration appears unlikely based on available data.
- No site-related impacts to groundwater or stormwater runoff attributed to Property operations have been identified. Previous groundwater sampling locations are illustrated in Figure 6.
- Ecology and the Port of Ridgefield concluded that Lake River sediments do not appear to have been impacted by operation of McCuddy's Marina (EES 2013).

2.3 SUSPECT CONTAMINANT SOURCE AREAS

2.3.1 BULK PETROLEUM STORAGE AND DISTRIBUTION

Prior assessment findings indicate that potential impacts due to historical bulk petroleum storage and dispensing operations represent the primary data gap with respect to the Property's environmental characterization.

- Numerous petroleum product tanks were located on the site during an operational period spanning the 1970s and 1980s. Some related infrastructure was present on the Property into the mid-1990s. Although fueling equipment and infrastructure were reported to have been removed by the mid-1990s, operational and decommissioning details are not currently known.
- Historic assessment/investigation data is limited. More recent assessment data (2007 to 2013) indicate no significant hydrocarbon concentrations exceeding default MTCA Method A soil or groundwater screening criteria were identified at widespread locations. Older data from the 1990s indicate relatively high petroleum concentrations exceeding default MTCA cleanup levels were present in soil at various locations consistent with the bulk petroleum facility operations.
- Remedial excavation occurring in the mid-1990s is likely to have addressed some of the fuel impacts but confirmatory data are lacking.
- Investigations to date included groundwater sampling at multiple locations and concluded that groundwater impacts by fuels and related constituents at the site were not identified.
- File documents reference Harbor Oil as an owner or operator of this facility at some time, but EES has not engaged in any confirmatory historical/operational research on this subject.

2.3.2 ROAD OILING/DUST SUPPRESSION

Concerns related to possible road oiling for dust suppression using various fuel or oil products have been mitigated based on numerous soil sample analyses collected along the Property's main gravel road.

2.3.3 UNKNOWN PCB SOURCE

PCBs were initially considered by Ecology to be COIs based on site operations and initial soil data.

- One of four soil samples collected in 1992 from the former fuel storage area contained detectable PCBs (7.9 mg/Kg) exceeding initial regulatory screening criteria. A total of 15 additional soil samples were collected and analyzed for PCBs between 1993 and 2013 and, where detected, PCBs were measured at trace concentrations below likely cleanup criteria.

2.3.4 FORMER RAIL SPUR AREA

Possible spills of various chemicals (wood treating products, fuels, and PCBs) along rail alignments were speculated in some of the prior assessment reports. However, several soil samples collected in the vicinity of the Property's (removed) rail spur are helpful and do not indicate obvious chemical impacts in this area.

2.3.5 POSSIBLE DREDGED SEDIMENTS

In discussions with Ecology during 2013, the agency raised the issue of possible historical placement or filling on the Property of dredged Lake River sediments. However, there is scant information on this topic based on our preliminary review.

- No specific site characterization data appears to have been developed to address this issue. Aerial photographs indicate two small ponded areas on the northwestern portion of the Property in 1980 that may have been related to sediment dewatering, or other activities. Environmental assessment of this area had not been conducted, to our knowledge.
- The Property includes various hummocky or bermed features, but given the extensive regrading of Property surfaces over nearly 100 years of operations, we did not identify other specific areas of concern related to obvious sediment placement.

2.3.6 OTHER "OFF-PROPERTY" SOURCES

Environmental assessment to date of the subject Property has focused on upland area characterization, acknowledging data gaps related to former petroleum bulk storage operations as summarized above. Other issues have been discussed with Ecology, as follows:

- Anecdotal information and some aerial photographs indicate the adjacent former PWT facility likely used the subject Property for various purposes and may have stored treated wood products and possibly spilled chemicals on the Property during past operations. As part of its Remedial Investigation for the PWT/LRIS site, the Port of Ridgefield has collected various samples at the MCM Property and identified dioxins/furans at variable but generally low concentrations in Property soils. Ecology has acknowledged that dioxins are not regarded as COIs at the MCM Property except as they relate to the PWT source.

- No contaminant releases are known or suspected to have occurred at the marina, and the Ecology-approved stormwater outfall report identified no evidence of a dioxins source in McCuddy Property stormwater sediments or discharge (MFA 2012). Dioxins in Lake River sediments adjacent to the MCM Property do not appear to originate from the Property.
- VOC sources are not known or suspected to originate at the Property based on operational history and sampling to date. The former Park Laundry dry cleaning facility is located approximately 500 feet east and upgradient of the McCuddy Marina Property. As part of the separate Park Laundry investigation, groundwater monitoring well MW-08 was installed on the subject Property's former northeast margin (currently owned by the Port of Ridgefield), as shown on Figure 6. According to a 2012 data report, no target VOC contaminants were identified at MW-08, and MFA concluded that the plume was adequately characterized with no groundwater impacts noted or related vapor intrusion risks identified near the Property.

3 BASIS FOR CURRENT INVESTIGATION

EES developed the following scope of work to address Ecology's request for supplemental site characterization data. This work was conducted in accordance with MTCA's environmental cleanup rules (173-340 WAC) and evaluated portions of the Property where environmental impacts have previously been identified or where data gaps existed. Based on our understanding of historic site conditions and investigation results and in consultation with Ecology, the following areas were further evaluated during this investigation:

- **Former bulk petroleum storage and distribution areas:** Confirmatory soil and groundwater samples are intended to evaluate current conditions in areas of the Property formerly used for petroleum-related operations and where elevated petroleum hydrocarbon concentrations were previously identified (B-3, B-8, HA-1, and the TP-2 soil pile).
- **Possible dredged sediment dewatering and/or fill placement areas:** Dredged sediments may have historically been placed on the Property for sediment dewatering and/or fill placement purposes. Additional soil characterization is intended to evaluate possible environmental impacts in these areas, focusing on the northwestern portion of the Property where dewatering ponds may have been located.
- **B-4/PCB source area:** Confirmatory sample(s) are intended to evaluate PCB impacts previously identified in soil sample B-4.

4 SITE INVESTIGATION (APRIL AND JUNE 2014)

Site investigation activities were conducted during April and June 2014, as described below. In accordance with the EES work plan (EES 2014) and follow-up discussions with Ecology, the following work scope elements were completed:

- Updated the site Health and Safety Plan to guide field safety protocols, in accordance with rules established by the Occupational Safety and Health Administration (OSHA).
- Completed public and private utility locates in an attempt to identify underground utility features and conduits located at each planned drilling location.
- Subcontracted a drilling company to advance a total of fifteen direct-push soil borings (EES-1 through -5, EES-7 through -15, and EES-2A) and one hand auger soil boring (EES-6) to evaluate soil and groundwater conditions. Collected soil and groundwater samples from each boring (except EES-6; no groundwater sampling) and submitted specified samples for chemical analysis.
- Conducted supplemental soil sampling in June 2014 to delineate low-level hydrocarbon detections in the area of boring EES-14. Additional shallow soil samples were collected and analyzed from four hand auger boring locations (EES-14A, EES-16, EES-17, and EES-18) advanced in the area surrounding EES-14.
- Coordinated characterization and disposal for investigation-derived-waste (IDW).

Sample locations are shown on Figure 7. Boring logs are presented in Appendix A. Standard operating procedures for the specified logging and sampling tasks are available upon request.

4.1 FIELD ACTIVITIES

On April 16 through 18 and June 19, 2014, EES collected samples from a total of twenty soil borings across the Property. Fifteen soil borings were advanced to terminal depths of approximately 15 feet below ground surface (bgs) (with the exception of boring EES-1 which was advanced to a depth of 20 feet) using direct-push drilling equipment operated by Pacific Soil and Water, Inc. of Tualatin, Oregon. Direct-push borings were completed using “macro-core” dual-tube equipment (which results in a fully cased temporary borehole) in an effort to prevent possible sample cross-contamination and to provide improved sample data quality compared to open borehole sampling associated with typical direct-push drilling. Five of the soil borings were advanced manually by hand-auger in a limited access location (EES-6; eight feet total depth), and at shallow soil sampling locations (EES-14A, EES-16, EES-17, and EES-18) which were completed at depths between approximately 2 and 5.5 feet bgs.

- At each soil boring location, EES retrieved, examined, and logged continuous soil cores in five foot long segments during drilling. Soil samples were field screened for volatile organic vapors using a photo ionization detector (PID) and examined for visual and olfactory indications of contamination.
- EES submitted at least two vadose-zone soil samples per boring for chemical analysis at an accredited laboratory. Based on field screening results and soil

conditions observed, as well as preliminary analytical data, selected additional samples from other vertical intervals were analyzed.

- Groundwater samples were collected from 14 of the direct-push boring locations (EES-1 through EES-15, except EES-2A and EES-6), using a new, dedicated 0.75-inch diameter PVC temporary well screen placed in each borehole. Groundwater was purged and collected using a low-flow peristaltic pump and new polyethylene tubing. Groundwater samples were not collected from hand auger locations including EES-6, due to data quality concerns caused by surface water flowing into the borehole. A groundwater sample also was not collected from boring EES-2A because it was a duplicate boring of EES-2 (where groundwater was collected), and EES-2A was intended for collection of additional soil sample volume.
- Soil and groundwater samples were placed in laboratory prepared containers, sealed, labeled, and placed in a cooler with ice, and transported under chain-of-custody to Apex Laboratories, LLC of Tigard, Oregon. Analytical results are summarized in Section 4.3.

4.1.1 Subsurface Conditions

Subsurface conditions observed during the 2014 site investigation were generally consistent among borings and with prior investigations. The ground surface is generally covered by grass/topsoil or gravel roadways, depending on location. Surficial topsoil and gravel cover fill were generally underlain by silty sands and sandy silts to the maximum depths explored (20 feet). Woody debris was observed variably within the vertical profile explored, consistent with (1) historical mill operations and (2) naturally-occurring Lake River overbank deposits. No obvious indications of chemical contamination (discoloration, sheen, odor) were observed in any of the borings except EES-2, which exhibited a moderate sheen and odor in an organic-rich interval between 12 and 12.5 feet. Neither this organic zone nor the associated sheen or odor were observed at duplicate boring EES-2A, located approximately one foot south of EES-2.

Groundwater was observed in each of the temporary boreholes at depths between approximately six and 13 feet bgs. Groundwater depths and other field observations during drilling are presented on the boring logs (Appendix A).

4.1.2 Soil and Groundwater Sampling

With the exception of boring EES-2 where a six-inch zone of organic odor and sheen was observed at 12 feet depth, logging and field screening of subsurface media did not indicate evidence of chemical discoloration, sheen, or odors. Soil and groundwater samples were collected at depths consistent with the EES work plan and as subsequently discussed with Ecology. The twenty soil borings were advanced in the following areas of the Property (Figure 7):

- **Former Bulk Petroleum Storage and Distribution Area:** Thirteen soil borings (EES-3 through -10, EES-14, EES-14A, EES-16, EES-17, and EES-18) were advanced in the former petroleum storage/use areas.
  - Four of the nine borings (EES-3, -9, -10, and -14) were co-located with former sample locations B-3, B-8, HA-1, and TP-2 to investigate impacts previously identified in these areas. At these four locations, soil samples were generally collected at depths of 1.5, 3, 5.5, and 14.5 feet bgs and submitted for laboratory analysis of diesel-, oil- and/or gasoline-range hydrocarbons. Based on a detection of diesel-range hydrocarbons in shallow soil sample EES-14(1.5-2), this sample was additionally analyzed for polynuclear aromatic hydrocarbons (PAHs). Expanded soil sampling was subsequently conducted at the EES-14 location as described below.
  - Based on low level detections of hydrocarbons in shallow soil at sample location EES-14 (1.5 depth), four supplemental shallow soil borings (EES-14A, EES-16, -17, and -18) were advanced in this area to delineate surrounding soil conditions. Shallow soil samples were collected from each of these borings at 1.5 feet bgs, and (where possible) at 3 and 5 foot depths. For comparison to the shallow EES-14 sample, these surrounding soil samples were submitted for laboratory analysis of diesel- and oil- range hydrocarbons and PAHs.
  - At hand auger boring EES-6, soil samples were collected at depths of 3 and 7.5 feet but not below 8 feet. This boring was located in a brushy, low-lying area which could only be accessed/sampled using hand tools. Because of concerns regarding integrity of the deeper borehole and possible encroachment by surface water runoff during wet weather, deeper soil and groundwater samples were not collected at EES-6. The available soil samples were submitted for analysis of diesel-, oil- and gasoline-range hydrocarbons, and gasoline-related VOCs including benzene, toluene, ethylbenzene, xylenes (BTEX), ethylene dibromide (EDB), ethylene dichloride (EDC), and methyl tert butyl ether (MTBE).
  - Soil samples were collected from the other borings in this area (EES-3, -4, -5, -7, and -8) at depths of approximately 3, 7.5, and 14.5 feet and submitted for laboratory analysis of diesel-, oil- and/or gasoline-range hydrocarbons. Based on a moderate detection of diesel- and oil-range hydrocarbons in shallow soil sample EES-8(3-3.5), this sample was additionally analyzed for PAHs.
  - Groundwater samples were collected from temporary wells installed in direct-push borings EES-3 through EES-5, EES-7 through EES-10, and EES-14. These groundwater samples were submitted for analysis of diesel-, oil- and gasoline-range hydrocarbons, and gasoline-related VOCs. Based on diesel-range hydrocarbon detections in groundwater samples EES-7(W) and EES-10(W), these samples were additionally analyzed for PAHs.

- **Possible Dredged Sediments:** Three direct-push borings (EES-1, -2, and -2A) were advanced in the suspected former dredged sediments dewatering pond area.
  - Soil samples were collected from borings EES-1 and -2 at depths of approximately 3, 7.5, and 14.5 feet bgs and submitted for laboratory analysis of diesel-, oil- and/or gasoline-range hydrocarbons. The shallower soil samples collected at 3 and 7.5 feet from each boring (consistent with a likely dredge fill zone, if present) were additionally analyzed for pentachlorophenol (PCP), which is associated with known impacts to Lake River sediments and originates from former operations of the adjacent Pacific Wood Treating Site.
  - Soil boring EES-2A was advanced approximately one foot south of boring EES-2 to confirm possible organic impacts observed between 12 and 12.5 feet bgs in EES-2. Soil sample EES-2A (12-12.5) was collected from this depth interval and submitted for laboratory analysis of diesel- and oil-range hydrocarbons (unlike EES-2, no discolored soil, sheen, or organic odors were observed at EES-2A at this interval or elsewhere).
  - Due to discolored soil, sheen, or organic odors observed near the water table at EES-2, groundwater samples were collected at both local borings (EES-1 and EES-2) and submitted for laboratory analysis of diesel-, oil- and gasoline-range hydrocarbons, VOCs, PCP, and PAHs.
- **Possible PCB Source:** One boring (EES-11) was advanced near former boring B-4 to evaluate historic PCB impacts identified at this location.
  - Soil samples were collected from this boring at depths of 3, 5, 8, and 14.5 feet bgs and submitted for chemical analysis of diesel- and oil-range hydrocarbons and PCBs.
  - A groundwater sample was collected from boring EES-11 and submitted for analysis of diesel-, oil- and gasoline-range hydrocarbons and select VOCs. PCB analysis was not conducted based on soil data from the same boring.
- **General Site Characterization:** Three borings (EES-12, -13, and -15) were advanced across the Property to provide general characterization at previously unexplored areas.
  - Soil samples were collected from these three borings at depths of 3, 7.5, and 14.5 feet and submitted for lab analysis of diesel-, oil- and/or gasoline-range hydrocarbons.
  - Groundwater samples were collected from borings EES-12, -13, and -15 and submitted for analysis of diesel- and oil-range hydrocarbons. The groundwater sample collected from EES-15 was also analyzed for gasoline-range hydrocarbons.

4.1.3 Investigation-Derived Waste

Soil cuttings and wastewater generated during the April and June 2014 field activities were placed into 55-gallon steel drums, labeled, sealed, and staged on-site. April 2014 investigation-derived waste was transported by WasteXpress (Portland, Oregon) to International Resource Management's Portland facility for transfer and disposal at Waste Management's Subtitle D

Hillsboro Landfill (soil), and Water Truck Services' Sherwood or PPV's Portland wastewater treatment plants (water). June 2014 investigation-derived waste is staged onsite, pending disposal. Disposal documentation is provided in Appendix B.

4.2 PRELIMINARY SOIL AND GROUNDWATER CLEANUP STANDARDS

Soil and groundwater cleanup levels have not been formally established for the subject Site. For preliminary soil and groundwater screening purposes, published MTCA Method A cleanup levels (CULs) for unrestricted land use and, if available, Method B standard formula CULs are referenced in this report. Chemical analytical results and regulatory screening levels are summarized below and presented on Tables 1 through 7.

4.3 LABORATORY ANALYTICAL RESULTS

EES submitted select soil and groundwater samples to Apex Laboratory (Tigard, Oregon) for laboratory analyses in accordance with the work plan and related discussions with Ecology, published regulatory guidance (Ecology 2011), and as supported by field observations. Analytical methods included:

- Diesel and oil-range hydrocarbons by Method NWTPH-Dx with and without silica gel cleanup, as discussed in Section 4.3.2.
- Gasoline-range hydrocarbons by Method NWTPH-Gx.
- Gasoline-related VOCs (BTEX, EDB, EDC, and MTBE) by EPA Method 8260B.
- Pentachlorophenol and PAHs by EPA Method 8270D SIM.
- PCBs by EPA Method 8082A.

Laboratory analytical reports and chain of custody documents are presented in Appendix C.

Note that in some cases, laboratory-flagged data indicate that analyte peaks within certain hydrocarbon ranges do not match analytical standards and may not indicate the presence of fuel products. Although not definitive, such laboratory observations are consistent with naturally occurring non-petroleum organic matter (derived from wood debris and organic-rich river overbank sediments) which is common in the subsurface at the subject Site.

4.3.1 SOIL ANALYTICAL RESULTS

No indications of soil impacts exceeding preliminary regulatory cleanup criteria were identified among any of the soil samples analyzed, except for low-level detections of heavy oil and benzo(a)pyrene at boring locations EES-14 and EES-14A, respectively (see below).

Soil data are summarized on Tables 1 through 4, and illustrated on Figure 8.

- **Gasoline:** Gasoline-range hydrocarbons were not detected among any of the 19 soil samples analyzed.
- **Diesel:** Diesel fuel was not detected among any of the 60 soil samples analyzed. One of these samples, collected at boring EES-2 (3 to 3.5 feet bgs), was flagged by the laboratory as having an apparent non-fuel hydrocarbon concentration in the

diesel range of 150 milligrams per kilogram (mg/Kg). The corresponding MTCA Method A CUL for diesel fuel is 2,000 mg/Kg.

- **Heavy Oil:** Among 60 soil samples analyzed, only one (EES-14A (1.5-2)) was determined to have oil-range petroleum hydrocarbon concentrations exceeding the published MTCA Method A CUL of 2,000 mg/Kg. Heavy oil was detected in shallow soil sample EES-14A (1.5-2) at a concentration of 3,360 mg/Kg, which slightly exceeds the MTCA Method A CUL. Among the 60 samples analyzed, eight (ranging in concentration between 92 and 795 mg/Kg) were flagged by the laboratory as being not representative of the oil-range standard.
- **VOCs:** Because gasoline was not detected in site soils, related VOCs were generally not analyzed for this medium. However, gasoline-related VOCs were evaluated for soils collected at boring EES-6 to provide broader characterization, since groundwater samples were not collected at that location. No VOCs were detected in soil samples collected at the EES-6 location.
- **Pentachlorophenol and Polynuclear Aromatic Hydrocarbons:** PCP was not detected among any of the four soil samples collected at borings EES-1 or EES-2. With the exception of benzo(a)pyrene, PAHs were either not detected or were detected at concentrations below published MTCA Method B CULs in the seven soil samples analyzed. Benzo(a)pyrene was detected in shallow soil sample EES-14 (1.5-2 feet bgs) at a concentration of 0.27 mg/Kg, which slightly exceeds the MTCA Method B CUL of 0.14 mg/Kg. Although benzo(a)pyrene was not detected in soil samples EES-8 (3-3.5 feet bgs) and EES-10 (1.5-2 feet bgs) at concentrations exceeding the laboratory MRLs of 0.22 and 0.19 mg/Kg, respectively, these MRLs slightly exceed the MTCA Method B CUL.
- **PCBs:** PCBs were not detected at concentrations exceeding the laboratory MRLs, which are below MTCA Method A and Method B CULs in the three soil samples analyzed from boring EES-11.

4.3.2 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples collected from 14 borings were analyzed for diesel and oil-range fuel hydrocarbons (12 samples collected at the former bulk storage area were also analyzed for gasoline-range hydrocarbons), with follow-up analyses conducted as described below.

Among the groundwater samples analyzed, COI concentrations did not exceed published MTCA CULs except for diesel-range hydrocarbons that were tentatively identified at EES-1, EES-2, EES-7, and EES-10. To minimize the potential for interferences by naturally occurring non-petroleum organic matter which is common in the subsurface at the subject Site, the NWTPH-Dx method provides for a silica gel cleanup procedure for removing these naturally occurring organics during the laboratory extraction process. In addition to the standard NWTPH-Dx analytical method, silica gel cleanup procedures were used for comparison as part of the evaluation of four groundwater samples with the greatest relative concentrations of diesel-range organics (EES-1, EES-2, EES-7, and EES-10).

Groundwater data are summarized below and on Tables 5 through 7, and illustrated on Figure 9.

- **Gasoline:** Gasoline-range petroleum hydrocarbons were not detected among any of the 12 groundwater samples submitted for analysis. One of these samples, collected at boring EES-2, was flagged by the laboratory as having an apparent non-fuel hydrocarbon concentration in the gasoline range of 239 micrograms per liter (ug/L). The most stringent MTCA Method A CUL for gasoline is 800 ug/L.
- **Diesel:** Diesel-range hydrocarbons were either not detected or were detected at concentrations below MTCA Method A CULs in ten of the fourteen groundwater samples analyzed by standard method NWTPH-Dx.
  - Seven of the fourteen samples were flagged by the laboratory to indicate that the analytical chromatographic pattern did not resemble the diesel fuel standard. Among these seven samples, diesel-range concentrations were reported between 204 and 1,340 ug/L. The MTCA Method A groundwater CUL for diesel fuel is 500 ug/L.
  - Diesel-range concentrations in four of the fourteen samples exceeded the MTCA Method A CUL of 500 ug/L. Each of these four samples (collected at borings EES-1, EES-2, EES-7, and EES-10) were subsequently analyzed using the silica gel cleanup procedure, which identified measurable hydrocarbons in the diesel range for only one sample (EES-2 at 535 ug/L).
    - The silica gel cleanup sample result of 535 ug/L for EES-2 was flagged because, like the original -Dx sample from this location, the chromatographic pattern did not resemble the diesel fuel standard.
    - Although diesel-range hydrocarbons were not detected among the other three samples analyzed using silica gel cleanup, the laboratory method reporting limit for sample EES-7 (833 ug/L) exceeded the MTCA Method A CUL of 500 ug/L.
- **Heavy Oil:** Oil-range hydrocarbons were not detected in any of the 14 groundwater samples analyzed using method NWTPH-Dx. However, the laboratory method reporting limit for the sample collected from EES-7 (1,330 ug/L) exceeded the MTCA Method A CUL of 500 ug/L.
  - As described above, each of the four samples collected at borings EES-1, EES-2, EES-7, and EES-10 were subsequently analyzed using the silica gel cleanup procedure. No measurable hydrocarbons in the oil range were detected based on the silica-gel cleanup method.
  - Although oil-range hydrocarbons were not detected among any of the four samples analyzed using silica gel cleanup, the laboratory method reporting limit for samples EES-7 (1,670 ug/L) and EES-10 (556 ug/L) exceeded the MTCA Method A CUL of 500 ug/L.
- **VOCs:** Gasoline-related VOCs were not detected among any of the 11 groundwater samples analyzed.

- **Pentachlorophenol and Polynuclear Aromatic Hydrocarbons:**
  - PCP was not detected in either of the two groundwater samples collected at borings EES-1 and EES-2.
  - Relatively low concentrations of various PAHs were identified at EES-1 and EES-2, with laboratory method reporting limits for several compounds slightly exceeding the corresponding MTCA Method A and/or B CULs for these two samples.
    - Among detected PAHs collected from EES-1, none exceeded MTCA CULs.
    - At the EES-2 location, concentrations of three PAHs slightly exceeded MTCA Method B CULs, including benzo(a)anthracene (0.23 ug/L exceeds the CUL of 0.12 ug/L), benzo(a)pyrene (0.15 ug/L exceeds the CUL of 0.012 ug/L), and benzo(b)fluoranthene (0.17 ug/L exceeds the CUL of 0.12 ug/L).
  - PAHs were not detected in groundwater samples collected at borings EES-7 and EES-10. The laboratory method reporting limits for four PAH compounds slightly exceeded the corresponding MTCA Method A and/or B CULs for these two samples as indicated in Table 7.

5 CONCLUSIONS

During April and June, 2014, EES implemented field sampling activities in support of a supplemental site investigation at the subject Property located at 5 Mill Street in Ridgefield, Washington. The investigation included twenty soil borings intended to evaluate current soil and groundwater conditions at portions of the Property where environmental impacts have previously been identified or where data gaps existed. Site investigative activities were conducted in accordance with the EES work plan dated February 19, 2014, and subsequent discussions with Ecology. Results of this investigation indicate the following:

- Gasoline was not detected among soil or groundwater samples collected at any of the Site boring locations and no indications of gasoline releases have been identified. Gasoline-related VOCs also were not detected. We recommend that gasoline and VOCs be eliminated as Site COIs.
- Investigation findings indicate no obvious soil or groundwater source of diesel fuel impacts at the Property. Where tentatively identified, diesel-range impacts are near or below MTCA CULs. The source of diesel-range hydrocarbon impacts is uncertain and may be related at least in part to naturally-occurring subsurface organic materials known to be present at the Property. The observation of discolored organic soil with sheen in a narrow zone at EES-2 (12 to 12.5 feet bgs), not observed a foot away at duplicate boring EES-2A, is consistent with localized and degraded buried debris or remnant piling materials which are expected for an old river/overbank setting.
  - Diesel-range impacts were not identified among any of the soil samples analyzed, except for a low non-fuel detection in shallow soil at EES-2 (150 mg/Kg), located in a gravel parking lot at the northern portion of the Site

where a pond/dewatering area was formerly located. This concentration is far below the MTCA Method A CUL of 2,000 mg/Kg.

- Diesel-range organics were identified in seven of the 14 groundwater samples collected, four of which slightly exceeded the MTCA Method A CUL of 500 ug/L. However, all seven samples were flagged by the laboratory as being not representative of the diesel fuel standard, indicating uncertainty with regard to the hydrocarbon source.
  - Among all four groundwater samples exceeding the diesel CUL, subsequent analysis using the silica-gel cleanup procedure indicated only one of these four samples (EES-2 at 535 ug/L) contained measureable diesel-range concentrations, and this sample was again flagged as being not representative of the fuel standard. A second silica-gel cleanup sample (EES-7) was non-detect for diesel-range organics, but had elevated laboratory method reporting limits exceeding the MTCA Method A CUL.
  - Follow-up analyses indicated the presence of various individual PAH compounds measured at low concentrations that are near or below corresponding MTCA Method B CULs. Slight exceedances of the PAH CULs, where observed in groundwater, were limited to three compounds at the EES-2 location.

- Oil-range hydrocarbons were not detected at concentrations exceeding the preliminary CULs in samples collected Site-wide, except for a slight CUL exceedance in shallow soil (1.5 to 2 feet bgs) at EES-14A, located in the former bulk petroleum storage area. This finding is consistent with detection of modest PAH concentrations in shallow soil at paired boring EES-14. Soil samples collected at similar depths from borings located within 15 feet of EES-14/14A (EES-16, -17 and -18) identified no CUL exceedances, indicating heavy oil and PAH impacts appear limited to shallow soil in the immediate EES-14/14A area. Oil-range hydrocarbons were not detected among any of the 14 groundwater samples collected Site-wide, although elevated method reporting limits greater than the MTCA Method A CULs were reported for EES-7 and EES-10.
- Pentachlorophenol was not detected in any of four soil samples collected among suspect dredge fill materials at EES-1 and EES-2, nor in groundwater sampled at EES-2 where organic sheen was observed at the water table. Combined with borehole logging and fuel hydrocarbon analytical data, no evidence of obvious or extensive dredge fill material was observed at these locations. Possible debris or buried remnant river pilings in this area cannot be ruled out, but if encountered such materials would be consistent with expectations for historic Site and vicinity activities. We recommend that PCP be eliminated as a COI.
- No evidence of PCBs were identified in confirmation soil samples collected from the historic soil sample B-4/potential PCB source area. We recommend that PCBs be eliminated as a COI.
- No evidence of shallow soil or groundwater impacts was identified at the three sampling locations advanced across the Property for general characterization purposes. Widespread Site impacts are not suspected at this time.

6 INVESTIGATION STATUS AND RECOMMENDATIONS

6.1 INVESTIGATION STATUS

Subsurface assessment was conducted across widespread portions of the Property in an effort to evaluate potential contaminants in soil and groundwater based on a thorough review of property history and operations. Based on investigation findings to date, EES believes that site characterization is substantially complete. Analytical results support a reasonable basis to eliminate most Contaminants of Interest from further study, including gasoline and VOCs, PCP, and PCBs.

The presence of relatively low concentrations of diesel- and oil-range hydrocarbons in localized shallow soil and groundwater is consistent with historical Property operations prior to the 1990s, although available data indicate likely contribution from naturally-occurring organic matter and possible river piling or related historical debris typical for the Site setting. Where identified, hydrocarbon and PAH concentrations appear to be near or below default CULs. The identified impacts potentially exceeding CULs are limited to two specific portions of the Property.

6.2 RECOMMENDATIONS

EES recommends that groundwater quality and flow direction be further evaluated at two locations where possible diesel/oil-range hydrocarbon CUL exceedances were identified, including (1) the former pond area at EES-1/EES-2, and (2) the former bulk fuel area at EES-7/EES-10.

Soil impacts appear to be shallow and localized at the EES-14/14A location, where slight exceedances of oil-range hydrocarbons and PAH CULs were identified. Based on investigation findings, EES recommends these localized soils be removed and properly disposed.

6.3 PROPOSED SCOPE OF WORK

In an effort to complete the Site Investigation and to work towards an NFA determination, EES and MCM propose to implement the following work scope. Details including Standard Operating Procedures are available upon request.

- Install and monitor an array of five shallow groundwater monitoring wells (Figure 10). Three of the wells will be installed in the former tank farm area, including one well each at the EES-7 and EES-10 locations, and one additional well in an inferred downgradient direction, approximately 100 feet northwest of EES-7. Two additional wells will be installed at the former pond area, including one well at the EES-2 location and another inferred downgradient location approximately 50 feet northwest of EES-2.
  - Wells will be installed using two-inch diameter threaded PVC casing, with a 15-foot screen length bridging the water table. The wells will be surveyed and developed prior to sampling.

- We propose monitoring events be conducted during two consecutive quarters to establish baseline flow and water quality conditions. The wells will be purged and sampled, and samples will be analyzed for diesel- and oil-range hydrocarbons by method NWTPH-Dx, and for PAHs by EPA method 8270 SIM. Silica-gel cleanup may also be conducted to evaluate hydrocarbon detections, if any.
- The need for additional wells or further groundwater characterization, if any, will be evaluated based on monitoring observations for the two specified events. If after two monitoring events groundwater flow is consistent and reasonably characterized and if hydrocarbon and PAH concentrations remain below CULs, we intend to request Ecology's opinion that the groundwater point of compliance has been adequately addressed for this Site.

- EES proposes a limited soil removal action based on the presence of oil-range hydrocarbons and PAHs exceeding CULs in shallow soil at the EES-14/14A area (Figure 11). The excavation will extend to depths of approximately two feet centered on EES-14, extending approximately 20-30 feet on each side. Confirmation soil samples will be collected from the center floor of the excavation and the base of each sidewall. Upon analytical confirmation demonstrating all samples are below CULs for NWTPH-Dx and PAHs, the removal area will be backfilled with clean fill and the surface finish will be restored.
  - Assuming confirmatory soil samples in this area achieve CULs, we intend to request Ecology's opinion that the soil point of compliance has been adequately addressed for this Site.

Upon satisfactory completion of the soil and groundwater follow-up tasks as specified, EES intends to discuss findings and conclusions with Ecology and to assist MCM in seeking a No Further Action determination from Ecology, if appropriate.

7 LIMITATIONS

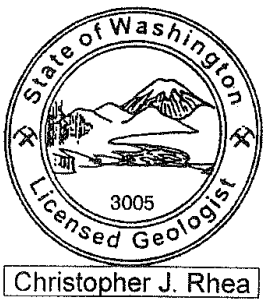
EES has prepared this report for use by MCM and its agents. This report may be made available to other parties and to regulatory agencies at the discretion of MCM or if required by law. This report is not intended for use by others and the information contained herein is not applicable to other sites.

Our interpretation of site and/or subsurface conditions is based on field observations and chemical analytical data within the areas explored. Areas with contamination may exist in portions of the site that were not explored or analyzed.

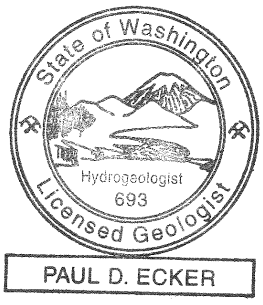
Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices and laws, rules, and regulations at the time that the report was prepared. No other conditions, expressed or implied, should be understood.

EES ENVIRONMENTAL CONSULTING, INC.

Chris Rhea, LG
Project Geologist



Paul Ecker, LHG
Principal Geologist



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Tables

TABLE 1
Soil Analytical Results - Fuels (mg/kg)
R.J. Frank Site
Ridgefield, Washington

Sample Location	Depth (feet bgs)	Collection Date	Gasoline NWTPH-Gx	Diesel NWTPH-Dx	Lube Oil NWTPH-Dx
EES-1	3-3.5	4/16/2014	-	25 U	127 X
EES-1	7.5-8	4/16/2014	11 U	25 U	172
EES-1	14.5-15	4/16/2014	-	26 U	52 U
EES-2	3-3.5	4/16/2014	8.9 U	150 X[1]	235 X[1]
EES-2	7.5-8	4/16/2014	-	25 U	50 U
EES-2	14.5-15	4/16/2014	7.5 U	25 U	50 U
EES-2A	10-10.5	4/18/2014	-	25 U	50 U
EES-2A	12-12.5	4/18/2014	8.1 U	25 U	151 X
EES-3	1.5-2	4/16/2014	9.5 U	218 U	682
EES-3	3-3.5	4/16/2014	-	25 U	50 U
EES-3	5.5-6	4/16/2014	-	25 U	50 U
EES-3	14.5-15	4/16/2014	-	25 U	51 U
EES-4	3-3.5	4/16/2014	-	25 U	50 U
EES-4	7.5-8	4/16/2014	10 U	25 U	50 U
EES-4	14.5-15	4/16/2014	-	26 U	52 U
EES-5	3-3.5	4/17/2014	-	25 U	51 U
EES-5	7.5-8	4/17/2014	7.2 U	25 U	51 U
EES-5	14.5-15	4/17/2014	8.3 U	25 U	50 U
EES-6	3-3.5	4/18/2014	7.2 U	25 U	50 U
EES-6	7.5-8	4/18/2014	7.5 U	25 U	50 U
EES-7	3-3.5	4/17/2014	6.0 U	160 U	372
EES-7	7.5-8	4/17/2014	-	25 U	50 U
EES-7	14.5-15	4/17/2014	-	25 U	50 U
EES-8	3-3.5	4/17/2014	9.7 U	26 U	1,330
EES-8	7.5-8	4/17/2014	-	25 U	50 U
EES-8	14.5-15	4/17/2014	-	25 U	50 U
EES-9	1.5-2	4/17/2014	7.7 U	114 U	314
EES-9	3-3.5	4/17/2014	-	25 U	92 X[1]
EES-9	5.5-6	4/17/2014	-	25 U	50 U
EES-9	14.5-15	4/17/2014	-	25 U	50 U
EES-10	1.5-2	4/17/2014	8.8 U	25 U	1,350
EES-10	3-3.5	4/17/2014	-	25 U	50 U
EES-10	5.5-6	4/17/2014	-	25 U	50 U
EES-10	14.5-15	4/17/2014	-	25 U	50 U
EES-11	3-3.5	4/16/2014	6.7 U	25 U	66
EES-11	5-5.5	4/16/2014	-	29 U	58 U
EES-11	8-8.5	4/16/2014	-	25 U	50 U
EES-11	14-14.5	4/16/2014	-	25 U	50 U
EES-12	3-3.5	4/16/2014	-	25 U	50 U
EES-12	7.5-8	4/16/2014	7.4 U	25 U	436
EES-12	14.5-15	4/16/2014	-	25 U	50 U
EES-13	3-3.5	4/16/2014	-	25 U	50 U
EES-13	7.5-8	4/16/2014	6.6 U	25 U	50 U

TABLE 1
Soil Analytical Results - Fuels (mg/kg)
R.J. Frank Site
Ridgefield, Washington

Sample Location	Depth (feet bgs)	Collection Date	Gasoline NWTPH-Gx	Diesel NWTPH-Dx	Lube Oil NWTPH-Dx
EES-13 (cont'd)	10-10.5	4/16/2014	8.4 U	-	-
EES-13	14.5-15	4/16/2014	-	25 U	50 U
EES-14	1.5-2	4/17/2014	14 U	171 U	1,630
EES-14	3-3.5	4/17/2014	-	25 U	50 U
EES-14	5.5-6	4/17/2014	-	25 U	50 U
EES-14	14-14.5	4/17/2014	-	27 U	55 U
EES-14A	1.5-2	6/19/2014	-	118 U	**3,360**
EES-15	3-3.5	4/18/2014	-	25 U	50 U
EES-15	7.5-8	4/17/2014	-	25 U	50 U
EES-15	14.5-15	4/17/2014	-	25 U	50 U
EES-16	1.5-2	6/19/2014	-	98 U	976
EES-16	3-3.5	6/19/2014	-	29 U	788 X
EES-17	1.5-2	6/19/2014	-	144 U	795 X
EES-17	3-3.5	6/19/2014	-	25 U	83 X
EES-17	5-5.5	6/19/2014	-	25 U	50 U
EES-18	1.5-2	6/19/2014	-	120 U	268 X
EES-18	3-3.5	6/19/2014	-	25 U	50 U
EES-18	5-5.5	6/19/2014	-	25 U	366
MTCA Method A Cleanup Levels Unrestricted Land Uses[a]			100/30[b]	2,000	2,000

Notes:
[a] Washington Department of Ecology, Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Use, Table 740-1 (October 12, 2007)
[b] Cleanup level of 100 mg/kg for gasoline mixtures without benzene and the total of ethylbenzene, toluene and xylene are less than 1% of the gasoline mixture. Cleanup level of 30 mg/kg for all other gasoline mixtures.
mg/kg = Milligrams per kilogram
U = Undetected at method reporting limit shown
bgs = below ground surface
X = The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
X^1 = No fuel pattern detected. The diesel result represents carbon range C12 to C24, and the oil result represents >C24 to C40.
Bolded values exceed default screening based on MTCA Method A Unrestricted Land Use.

TABLE 2

Soil Analytical Results - Volatile Organic Compounds (mg/kg)

R.J. Frank Site

Ridgefield, Washington

Sample Location Depth (feet bgs) Collection Date Compound	MTCA Method A Cleanup Levels Unrestricted Land Use[a]	MTCA Method B Cleanup Levels Unrestricted Land Use[b]	EES-6 3-3.5 4/18/2014	EES-6 7.5-8 4/18/2014
Benzene	0.03	18	0.0090 U[1]	0.0093 U[1]
Toluene	7	NA	0.036 U[1]	0.037 U[1]
Ethylbenzene	6	NA	0.018 U[1]	0.019 U[1]
Total Xylenes	9	NA	0.054 U[1]	0.056 U[1]
Methyl tert-butyl ether	0.1	NA	0.036 U[1]	0.037 U[1]
1,2-Dibromoethane (EDB)	0.005	0.5	*0.018 U[1]*	*0.019 U[1]*
1,2-Dichloroethane (EDC)	NA	11	0.018 U[1]	0.019 U[1]

Notes:

Volatile Organic Compounds (VOCs) analyzed by EPA Method 8260B

[a] Washington Department of Ecology (WDOE), Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Use, Table 740-1 (October 12, 2007)

[b] WDOE, MTCA Method B Soil Cleanup Levels, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), Unrestricted Land Use values from CLARC database

[1] Result was reported down to the MDL (method detection limit)

mg/kg = Milligrams per kilogram

U = Undetected at method reporting limit shown

bgs = below ground surface

NA = Not Available

Italicized values indicate laboratory method reporting limit (MRL) exceeds default screening based on MTCA Method A/B Unrestricted Land Use.

TABLE 3
Soil Analytical Results - Polynuclear Aromatic Compounds and Pentachlorophenol (mg/kg)
R.J. Frank Site
Ridgefield, Washington

Sample Location	MTCA Method A	MTCA Method B	EES-1	EES-1	EES-2	EES-2	EES-8	EES-10	EES-14	EES-14A	EES-16	EES-17	EES-18
Depth (feet bgs)	Cleanup Levels	Cleanup Levels	3-3.5	7.5-8	3-3.5	7-7.5	3-3.5	1.5-2	1.5-2	1.5-2	1.5-2	1.5-2	1.5-2
Collection Date	Unrestricted	Unrestricted	4/16/2014	4/16/2014	4/16/2014	4/16/2014	4/17/2014	4/17/2014	4/17/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
Compound	Land Use[a]	Land Use[b]											
Pentachlorophenol	NA	2.5	0.12 U[1]	0.14 U[1]	0.58 U[1]	0.13 U[1]	-	-	-	-	-	-	-
Acenaphthylene	NA	NA	-	-	-	-	0.073 U[1]	0.063 U[1]	0.22	0.055 U	0.048 U	0.073 U	0.013 U
Acenaphthene	NA	NA	-	-	-	-	0.073 U[1]	0.063 U[1]	0.081 U[1]	0.055 U	0.048 U	0.073 U	0.013 U
Anthracene	NA	NA	-	-	-	-	0.073 U[1]	0.063 U[1]	0.081 U[1]	0.060	0.048 U	0.073 U	0.013 U
Benzo(a)anthracene	NA	1.4	-	-	-	-	0.073 U[1]	0.063 U[1]	0.10 J	0.060	0.048 U	0.073 U	0.013 U
Benzo(a)pyrene	0.1[c]	0.14	-	-	-	-	*0.22 U*[1]	*0.19 U*[1]	**0.27**	0.055 U	0.048 U	0.073 U	0.013 U
Benzo(b)fluoranthene	NA	1.4	-	-	-	-	0.14 J	0.19 U[1]	0.52	-	-	0.073 U	-
Benzo(k)fluoranthene	NA	14	-	-	-	-	0.11 U[1]	0.094 U[1]	0.17 J	-	-	0.073 U	-
Benzo(b+k)fluoranthene	NA	NA	-	-	-	-	-	-	-	0.11 U[2]	0.097 U[2]	-	0.026 U[2]
Benzo(g,h,i)perylene	NA	NA	-	-	-	-	0.12 J	0.13 U[1]	0.64	0.055 U	0.072	0.073 U	0.013 U
Chrysene	NA	140	-	-	-	-	0.073 U[1]	0.17	0.29	0.10	0.048 U	0.073 U	0.018
Dibenzo(a,h)anthracene	NA	0.14	-	-	-	-	0.073 U[1]	0.063 U[1]	0.081 U[1]	0.055 U	0.048 U	0.073 U	0.013 U
Fluoranthene	NA	NA	-	-	-	-	0.17	0.10 J	0.60	0.19	0.048 U	0.073 U	0.040
Fluorene	NA	NA	-	-	-	-	0.073 U[1]	0.070 J	0.081 U[1]	0.061	0.048 U	0.073 U	0.013 U
Ideno(1,2,3-c,d)pyrene	NA	1.4	-	-	-	-	0.073 U[1]	0.063 U[1]	0.38	0.055 U	0.048 U	0.073 U	0.013 U
Naphthalene	NA	NA	-	-	-	-	0.28 J	0.13 J	0.55	0.57	0.048 U	0.16	0.12
Phenanthrene	NA	NA	-	-	-	-	0.27	0.34	0.61	0.42	0.048 U	0.086	0.073
Pyrene	NA	NA	-	-	-	-	0.17	0.13	0.33	0.16	0.048 U	0.073 U	0.025
1-Methylnaphthalene	NA	34.5	-	-	-	-	0.15 U[1]	0.13 U[1]	0.16 U[1]	0.40	0.048 U	0.073 U	0.022
2-Methylnaphthalene	NA	320	-	-	-	-	0.15 U[1]	0.13 U[1]	0.16 U[1]	0.42	0.048 U	0.073 U	0.044

Notes:
Polynuclear Aromatic Hydrocarbons (PAHs) and Pentachlorophenol analyzed by EPA Method 8270 SIM
[a] Washington Department of Ecology (WDOE), Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Use, Table 740-1 (October 12, 2007)
[b] WDOE, MTCA Method B Soil Cleanup Levels, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), Unrestricted Land Use values from CLARC database
[c] Cleanup level shown is for the toxic equivalent concentration of all carcinogenic PAHs
[1] Result was reported down to the MDL (method detection limit)
[2] Peak separation for Benzo(b) and Benzo(k)fluoranthenes does not meet method specified criteria. Reported result includes the combined area of the two isomers and should be considered the total of Benzo(b+k)fluoranthenes.
mg/kg = Milligrams per kilogram
bgs = below ground surface
NA = Not Available
U = Undetected at method reporting limit shown
J = Estimated concentration. The detection was below the method reporting limit, but above the method detection limit.
- = not analyzed
Bolded values exceed default screening based on MTCA Method A/B Unrestricted Land Use.
Italicized values indicate laboratory method reporting limit (MRL) exceeds default screening based on MTCA Method A/B Unrestricted Land Use.

TABLE 4

Soil Analytical Results - Polychlorinated Biphenyls (mg/kg)

R.J. Frank Site

Ridgefield, Washington

Sample Location	Depth (feet bgs)	Collection Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
EES-11	3-3.5	4/16/2014	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
EES-11	5-5.5	4/16/2014	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U
EES-11	8-8.5	4/16/2014	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
MTCA Method A Cleanup Levels									
Unrestricted Land Use[a]			1[b]	1[b]	1[b]	1[b]	1[b]	1[b]	1[b]
MTCA Method B Cleanup Levels									
Unrestricted Land Use[c]			14	NA	NA	NA	NA	0.50	0.50

Notes:

Polychlorinated Biphenyls (PCBs) analyzed by EPA Method 8082

[a] Washington Department of Ecology (WDOE), Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Use, Table 740-1 (October 12, 2007)

[b] Cleanup Level shown is for Total PCBs

[c] WDOE, MTCA Method B Soil Cleanup Levels, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), Unrestricted Land Use values from CLARC database

mg/kg = Milligrams per kilogram

bgs = below ground surface

NA = Not Available

U = Undetected at reporting limit shown

TABLE 5
Water Analytical Results - Fuels (ug/L)
R.J. Frank Site
Ridgefield, Washington

Sample Location	Collection Date	Gasoline NWTPH-Gx	Diesel NWTPH-Dx	Diesel NWTPH-Dx w/cleanup	Lube Oil NWTPH-Dx	Lube Oil NWTPH-Dx w/cleanup
EES-1 (W)	4/16/2014	100 U	**752** X	245 U	392 U	490 U
EES-2 (W)	4/16/2014	239 X^2	**786** X	**535** X	396 U	495 U
EES-3 (W)	4/16/2014	100 U	202 U	-	404 U	-
EES-4 (W)	4/16/2014	100 U	222 U	-	444 U	-
EES-5 (W)	4/17/2014	100 U	213 U	-	426 U	-
EES-7 (W)	4/18/2014	100 U	**1,340** X	*833 U*	*1,330 U*	*1,670 U*
EES-8 (W)	4/18/2014	100 U	246 X	-	385 U	
EES-9 (W)	4/17/2014	100 U	374 X	-	404 U	
EES-10 (W)	4/17/2014	100 U	**547** X	278 U	444 U	*556 U*
EES-11 (W)	4/16/2014	100 U	200 U	-	400 U	-
EES-12 (W)	4/16/2014	-	200 U	-	400 U	-
EES-13 (W)	4/16/2014	-	204 U	-	408 U	-
EES-14 (W)	4/17/2014	100 U	204 X	-	400 U	-
EES-15 (W)	4/18/2014	100 U	192 U	-	385 U	-
Preliminary Screening						
MTCA Method A Cleanup Levels for Ground Water[a]		800/1,000[b]	500	500	500	500
MTCA Method B Cleanup Levels for Ground Water[c]		NA	NA	NA	NA	NA

Notes:

[a] Washington Department of Ecology, Model Toxics Control Act (MTCA) Method A Unrestricted Land Use Cleanup levels for Ground Water, Table 720-1 (October 12, 2007)

[b] If no benzene is present in groundwater use 1,000 ug/L cleanup level. If benzene is present use 800 ug/L.

[c] MTCA Method B cleanup levels do not exist in the CLARC database

ug/L = Micrograms per liter

U = Undetected at method reporting limit shown

X = The chromatographic pattern does not resemble the fuel standard used for quantitation.

X^2 = The result for this hydrocarbon range is primarily due to the presence of individual analyte peaks in the quantitation range. No fuel pattern detected.

Bolded values exceed default screening based on MTCA Method A Unrestricted Land Use.

Italicized values indicate laboratory method reporting limit (MRL) exceeds default screening based on MTCA Method A Unrestricted Land Use.

TABLE 6
Water Analytical Results - Volatile Organic Compounds (ug/L)
R.J. Frank Site
Ridgefield, Washington

Sample Location / Collection Date / Compound	MTCA Method A Cleanup Levels[a]	MTCA Method B Cleanup Levels[b]	EES-1 (W) 4/16/2014	EES-2 (W) 4/16/2014	EES-3 (W) 4/16/2014	EES-4 (W) 4/16/2014	EES-5 (W) 4/17/2014	EES-7 (W) 4/18/2014	EES-8 (W) 4/18/2014	EES-9 (W) 4/17/2014	EES-10 (W) 4/17/2014	EES-11 (W) 4/16/2014	EES-14 (W) 4/17/2014
Benzene	5	0.80	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Toluene	1,000	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	NA	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Total Xylenes	1,000	NA	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Methyl tert-butyl ether	20	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	0.01	0.022	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]	0.010 U[1]
1,2-Dichloroethane (EDC)	NA	0.48	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*	*0.50 U*

Notes:
Volatile Organic Compounds by EPA Method 8260B
[a] Washington Department of Ecology, Model Toxics Control Act (MTCA) Method A Cleanup levels for Ground Water, Table 720-1 (October 12, 2007)
[b] WDOE, MTCA Method B, Carcinogen, Standard Formula Value, Groundwater values from CLARC database
[1] Result reported down to the MDL (method detection limit)
ug/L = Micrograms per liter
U = Undetected at method reporting limit shown
NA = Not Avaiable
Italicized values indicate laboratory method reporting limit (MRL) exceeds default screening based on MTCA Method A/B Unrestricted Land Use.

TABLE 7

Water Analytical Results - Polynuclear Aromatic Compounds and Pentachlorophenol (ug/L)

R.J. Frank Site

Ridgefield, Washington

Sample Location / Collection Date / Compound	MTCA Method A Cleanup Levels[a]	MTCA Method B Cleanup Levels[b]	EES-1 (W) 4/16/2014	EES-2 (W) 4/16/2014	EES-7 (W) 4/18/2014	EES-10 (W) 4/17/2014
Pentachlorophenol	NA	0.22	0.86 U[1,2]	0.79 U[1]	-	-
Acenaphthylene	NA	NA	0.14 J[2]	0.50	0.27 U[1]	0.089 U[1]
Acenaphthene	NA	NA	0.42 [2]	48	0.27 U[1]	0.089 U[1]
Anthracene	NA	NA	0.20 [2]	4.8	0.27 U[1]	0.089 U[1]
Benzo(a)anthracene	NA	0.12	0.086 U[1,2]	**0.23**	0.27 U[1]	0.089 U[1]
Benzo(a)pyrene	0.1[c]	0.012	*0.13 U[1,2]*	**0.15** J	*0.40 U[1]*	*0.13 U[1]*
Benzo(b)fluoranthene	NA	0.12	*0.13 U[1,2]*	**0.17** J	*0.40 U[1]*	*0.13 U[1]*
Benzo(k)fluoranthene	NA	1.2	0.13 U[1,2]	0.12 U[1]	0.40 U[1]	0.13 U[1]
Benzo(g,h,i)perylene	NA	NA	0.086 U[1,2]	0.087 J	0.27 U[1]	0.089 U[1]
Chrysene	NA	12	0.086 U[1,2]	0.22	0.27 U[1]	0.089 U[1]
Dibenzo(a,h)anthracene	NA	0.012	*0.086 U[1,2]*	*0.079 U[1]*	*0.27 U[1]*	*0.089 U[1]*
Fluoranthene	NA	NA	0.21 [2]	4.2	0.27 U[1]	0.089 U[1]
Fluorene	NA	NA	0.43 [2]	33	0.27 U[1]	0.089 U[1]
Ideno(1,2,3-c,d)pyrene	NA	0.12	0.086 U[1,2]	0.079 U[1]	*0.27 U[1]*	0.089 U[1]
Naphthalene	160	NA	5.9 [2]	18	0.53 U[1]	0.18 U[1]
Phenanthrene	NA	NA	1.0 [2]	34	0.27 U[1]	0.089 U[1]
Pyrene	NA	NA	0.17 [2]	2.7	0.27 U[1]	0.089 U[1]
1-Methylnaphthalene	NA	NA	0.42	38	0.53 U[1]	0.178 U[1]
2-Methylnaphthalene	NA	NA	0.54	47	0.53 U[1]	0.178 U[1]

Notes:

Polynuclear Aromatic Hydrocarbons (PAHs) and Pentachlorophenol analyzed by EPA Method 8270 SIM

[a] Washington Department of Ecology, Model Toxics Control Act (MTCA) Method A Cleanup levels for Ground Water, Table 720-1 (October 12, 2007)

[b] WDOE, MTCA Method B, Carcinogen, Standard Formula Value, Groundwater values from CLARC database

[c] Cleanup level shown is for total B(a)P toxic equivalent concentration of all carcinogenic PAHs

[1] Result was reported down to the MDL (method detection limit)

[2] Sample was extracted past the recommended holding time.

ug/L = Micrograms per liter

U = Undetected at method reporting limit shown

NA = Not Available

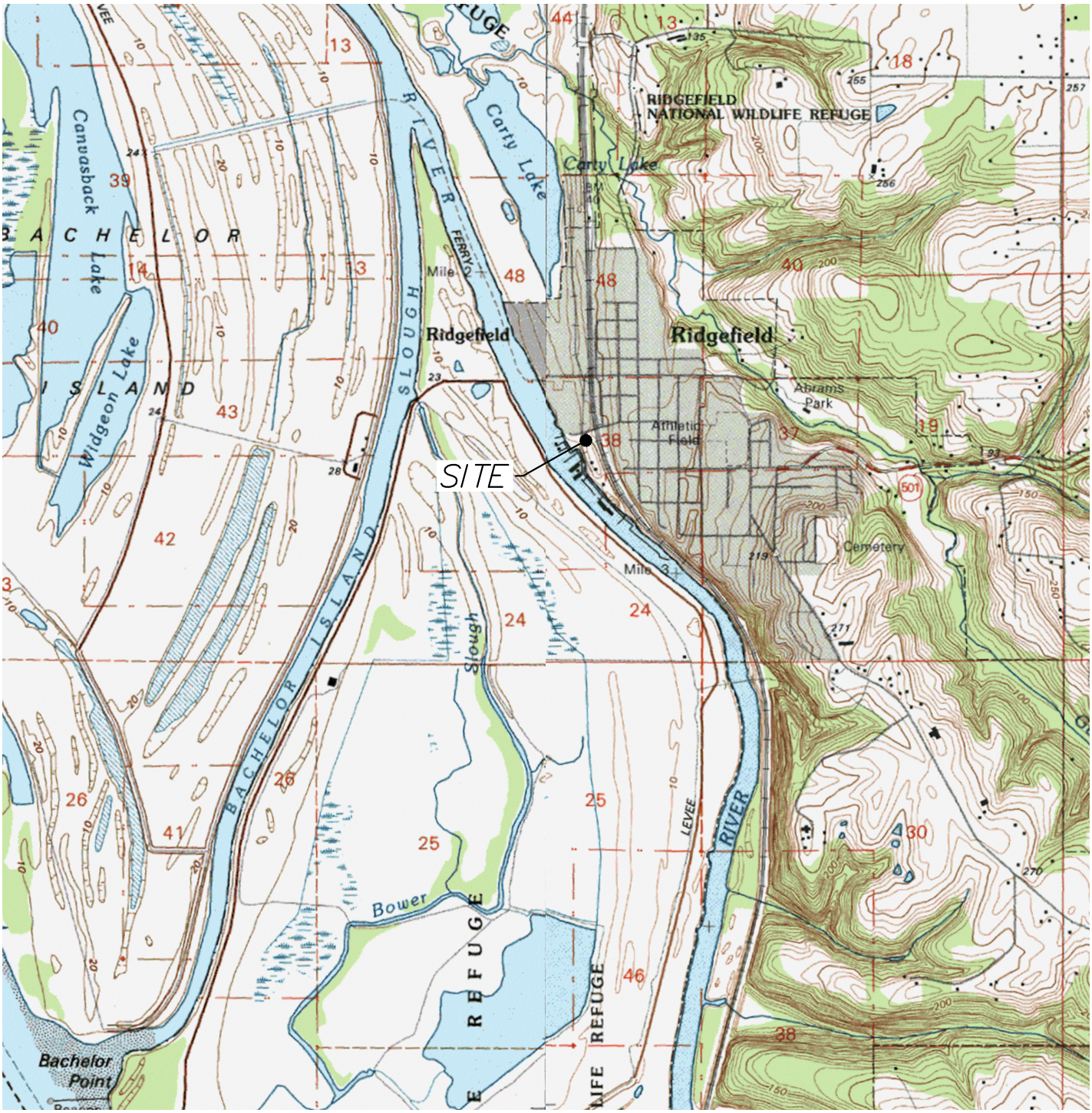
- = not analyzed

J = Estimated concentration. The detection was below the method reporting limit, but above the method detection limit.

Bolded values exceed default screening based on MTCA Method A/B Unrestricted Land Use.

Italicized values indicate laboratory method reporting limit (MRL) exceeds default screening based on MTCA Method A/B Unrestricted Land Use.

Figures



SOURCE:
USGS, RIDGEFIELD QUADRANGLE
WASHINGTON–OREGON
7.5 MINUTE SERIES (TOPOGRAPHIC)

N

APPROXIMATE SCALE IN FEET

0 1000 2000 4000

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SITE VICINITY MAP

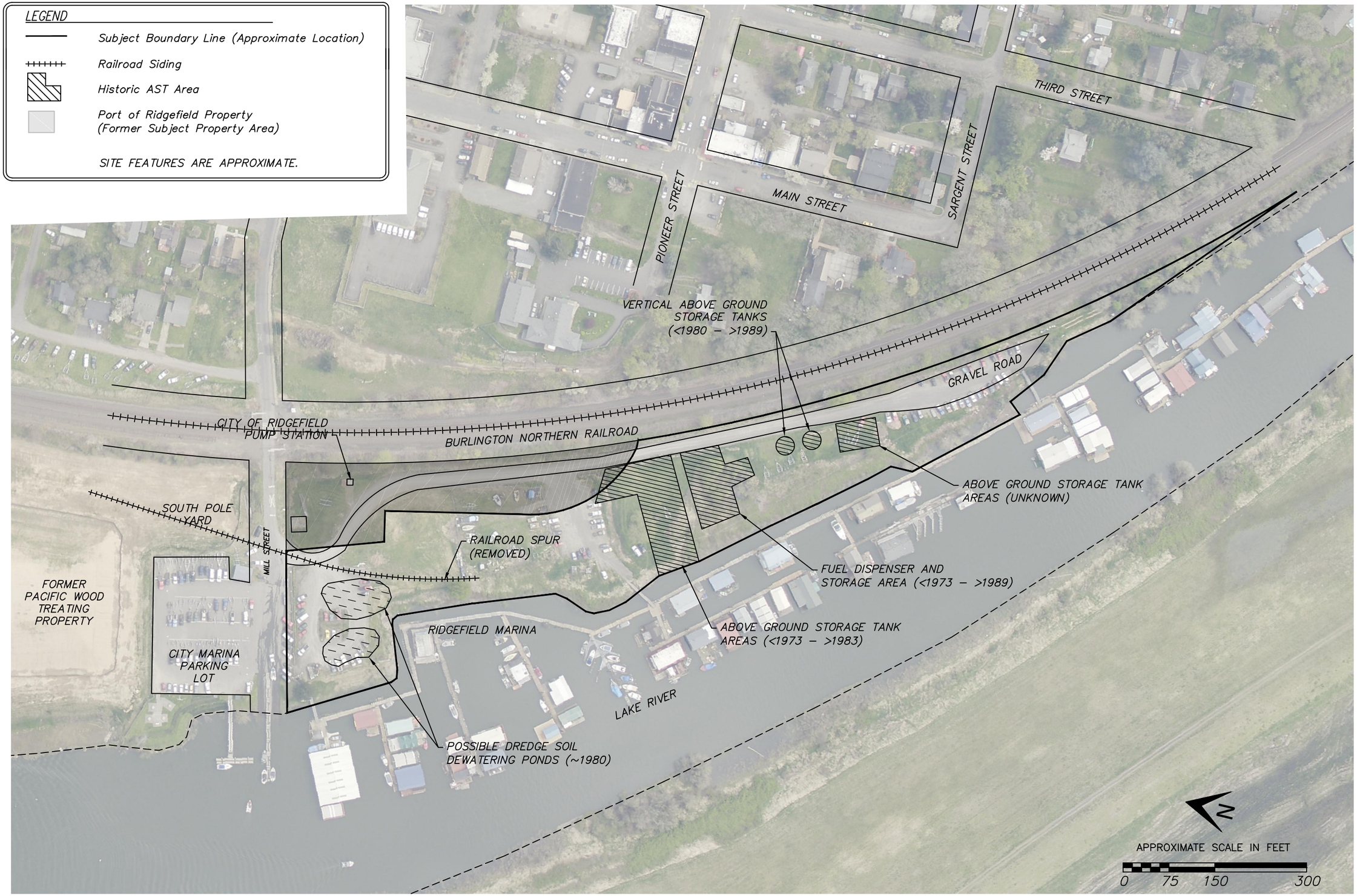
RJ FRANK SITE
5 MILL STREET
RIDGEFIELD, WA.

DATE:	1–27–14	PROJECT NO.	
FILE:	2001–01	2001–01	
DRAWN:	JJT	FIGURE NO.	
APPROVED:	CR	1	

LEGEND

- Subject Boundary Line (Approximate Location)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)

SITE FEATURES ARE APPROXIMATE.



DATE:	5-29-14
FILE:	2001-01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001-01
FIGURE NO.	2

SITE FEATURES

RJ FRANK SITE
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RIDGEFIELD, WA.

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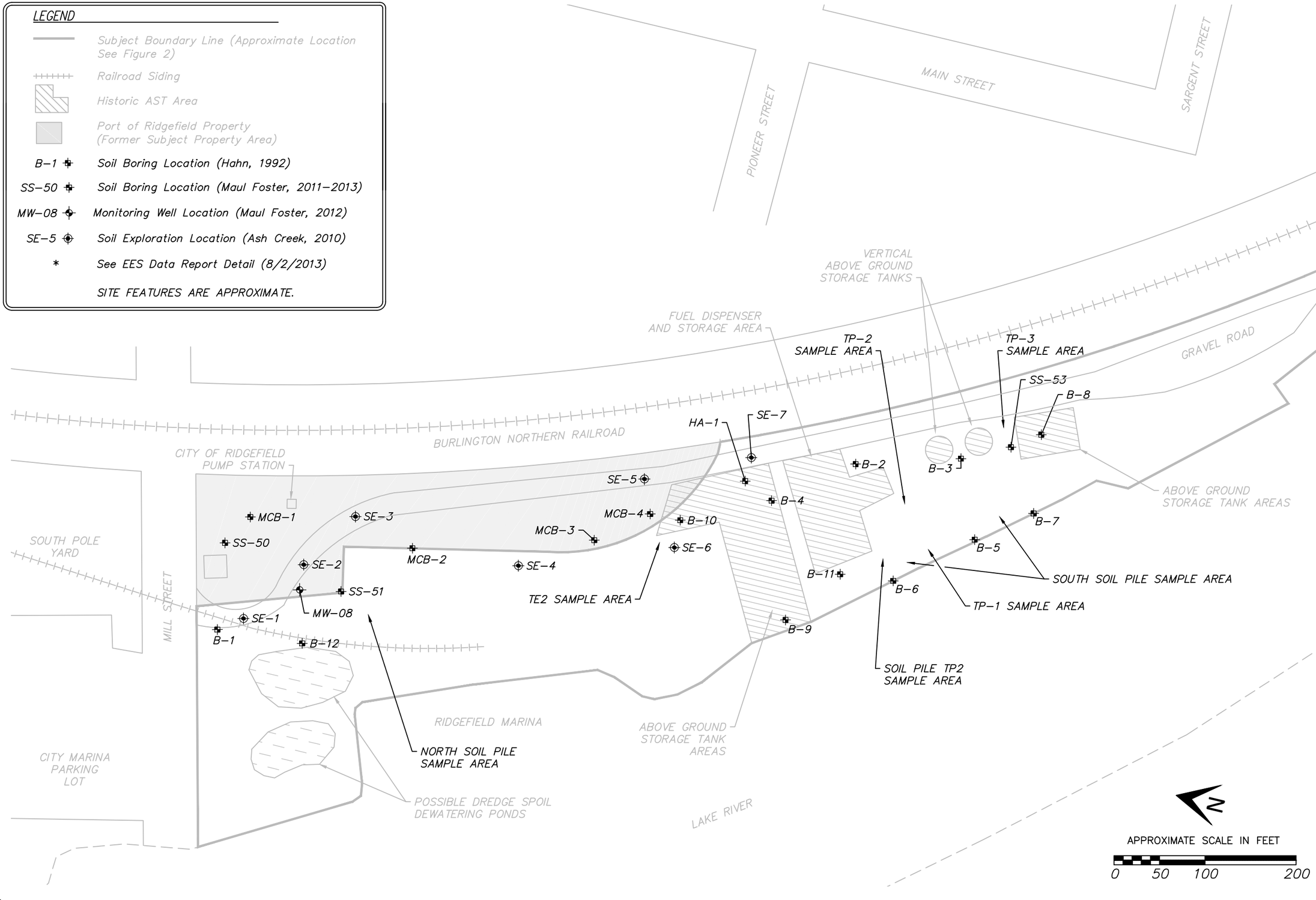
LEGEND

- Subject Boundary Line (Approximate Location See Figure 2)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- B–1 — Soil Boring Location (Hahn, 1992)
- SS–50 — Soil Boring Location (Maul Foster, 2011–2013)
- MW–08 — Monitoring Well Location (Maul Foster, 2012)
- SE–5 — Soil Exploration Location (Ash Creek, 2010)
- * — See EES Data Report Detail (8/2/2013)

SITE FEATURES ARE APPROXIMATE.



DATE:	5–29–14
FILE:	2001–01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001–01
FIGURE NO.	3

PREVIOUS SAMPLE LOCATIONS
(1992–2013)

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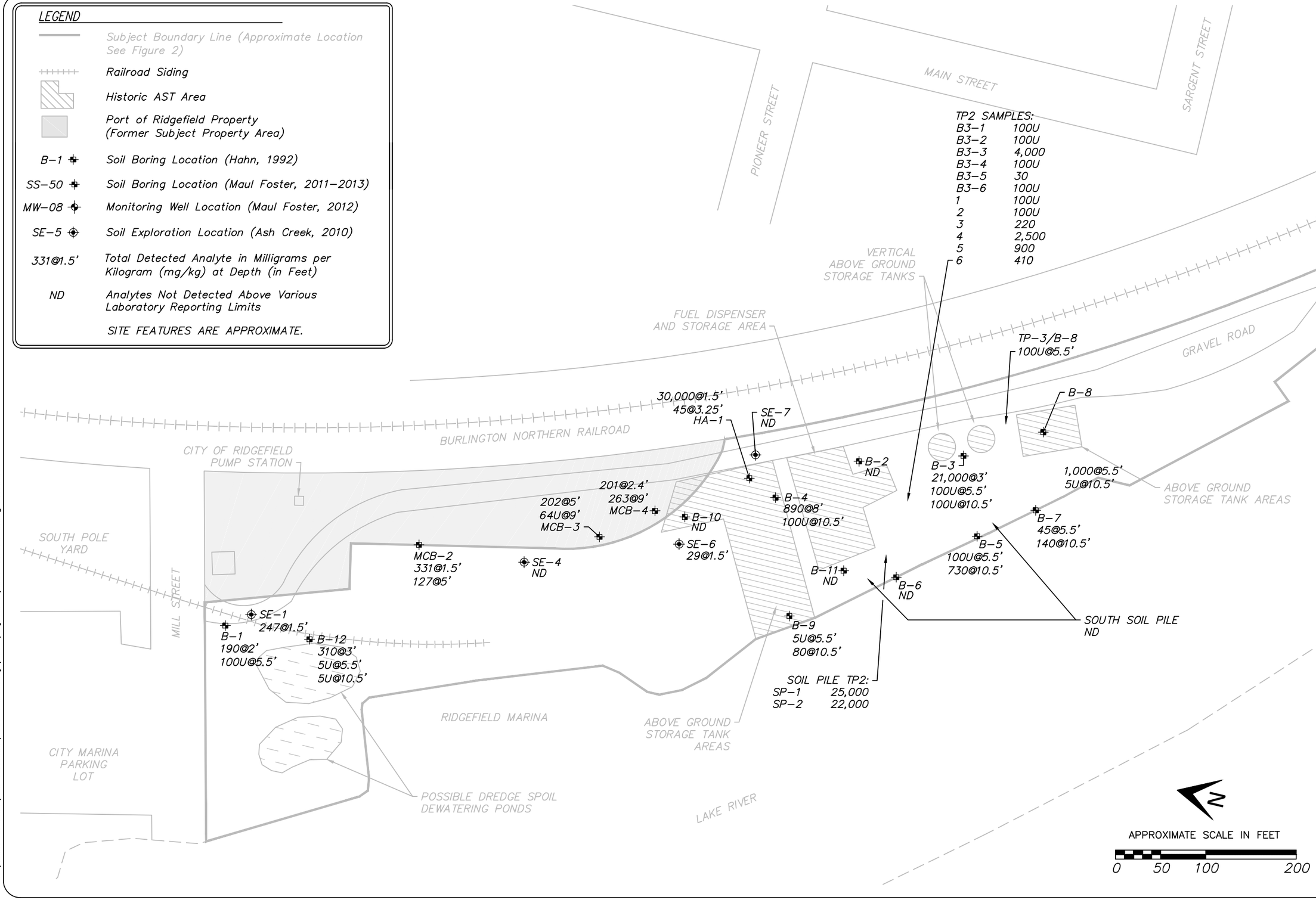
LEGEND

- Subject Boundary Line (Approximate Location See Figure 2)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- B–1 — Soil Boring Location (Hahn, 1992)
- SS–50 — Soil Boring Location (Maul Foster, 2011–2013)
- MW–08 — Monitoring Well Location (Maul Foster, 2012)
- SE–5 — Soil Exploration Location (Ash Creek, 2010)
- 331@1.5' — Total Detected Analyte in Milligrams per Kilogram (mg/kg) at Depth (in Feet)
- ND — Analytes Not Detected Above Various Laboratory Reporting Limits

SITE FEATURES ARE APPROXIMATE.



DATE:	5–29–14
FILE:	2001–01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001–01
FIGURE NO.	4

GREATEST TOTAL TPH
RESULTS IN SOIL
(1992–2013)

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RIDGEFIELD, WA.

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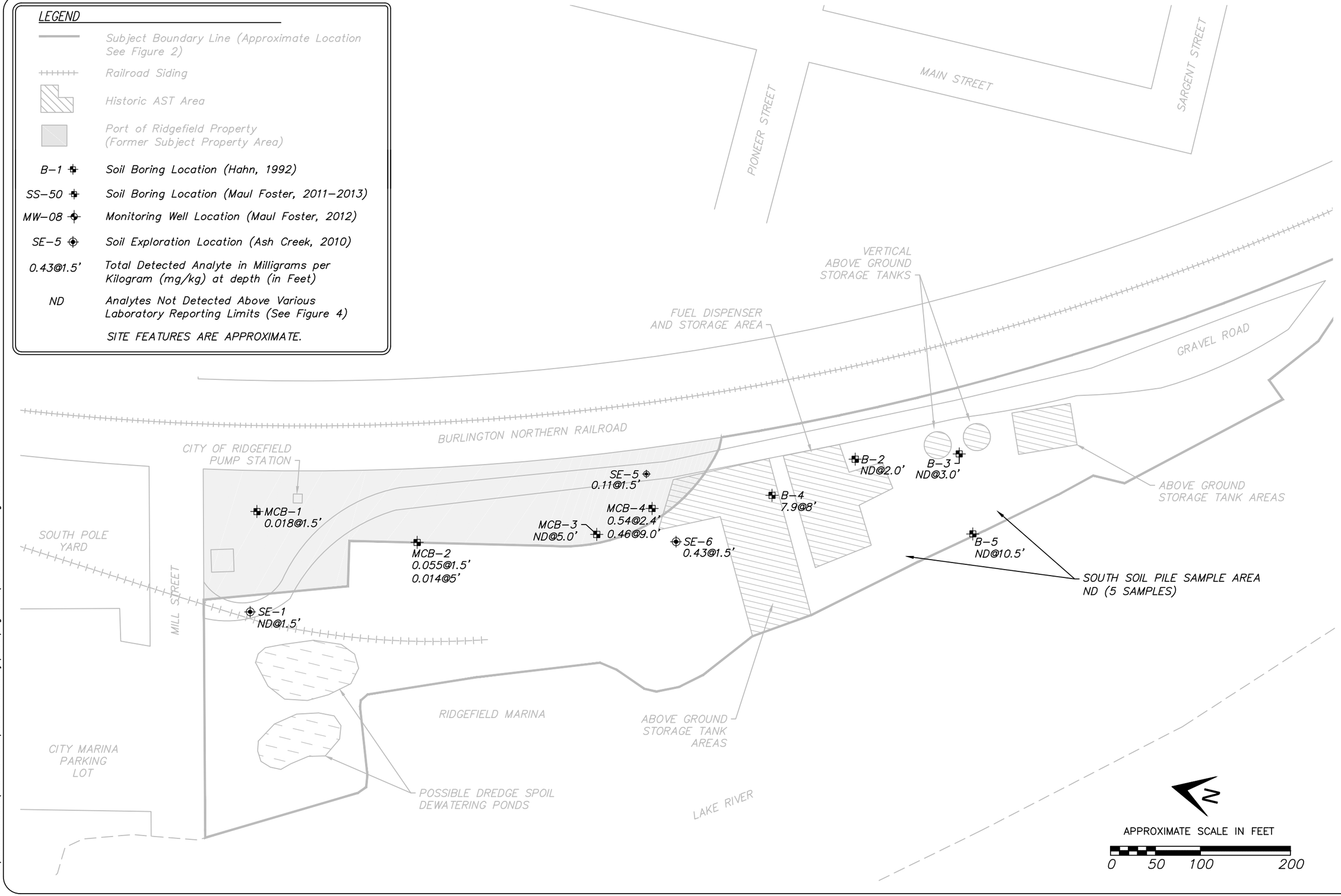
LEGEND

- Subject Boundary Line (Approximate Location See Figure 2)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- B–1 — Soil Boring Location (Hahn, 1992)
- SS–50 — Soil Boring Location (Maul Foster, 2011–2013)
- MW–08 — Monitoring Well Location (Maul Foster, 2012)
- SE–5 — Soil Exploration Location (Ash Creek, 2010)
- 0.43@1.5' — Total Detected Analyte in Milligrams per Kilogram (mg/kg) at depth (in Feet)
- ND — Analytes Not Detected Above Various Laboratory Reporting Limits (See Figure 4)

SITE FEATURES ARE APPROXIMATE.



DATE:	8–18–14
FILE:	2001–01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001–01
FIGURE NO.	5

GREATEST TOTAL PCB RESULTS (1992–2013)

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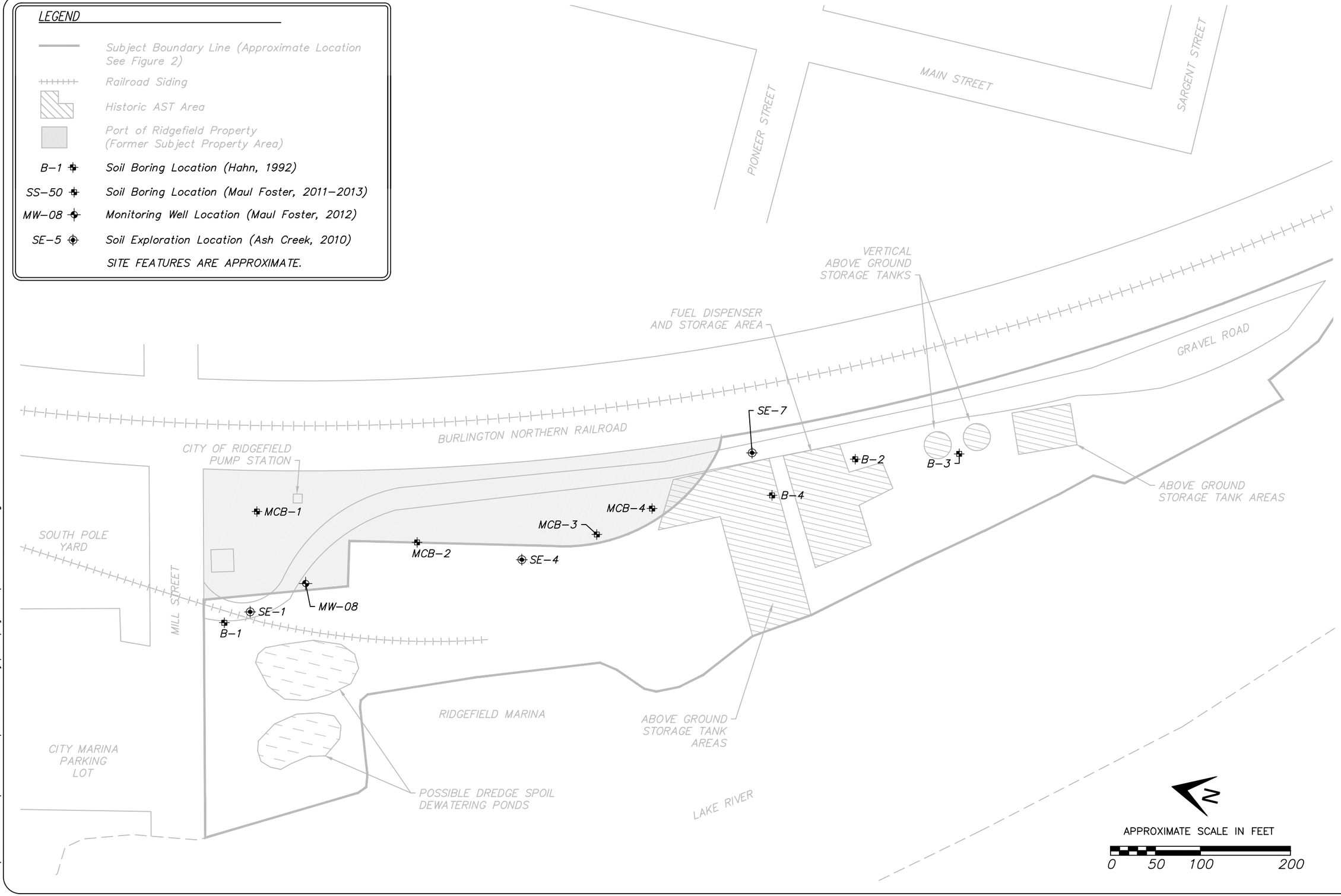
LEGEND

- Subject Boundary Line (Approximate Location See Figure 2)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- B–1 — Soil Boring Location (Hahn, 1992)
- SS–50 — Soil Boring Location (Maul Foster, 2011–2013)
- MW–08 — Monitoring Well Location (Maul Foster, 2012)
- SE–5 — Soil Exploration Location (Ash Creek, 2010)

SITE FEATURES ARE APPROXIMATE.



APPROXIMATE SCALE IN FEET

0 50 100 200

DATE:	5–29–14
FILE:	2001–01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001–01
FIGURE NO.	6

PREVIOUS GROUNDWATER SAMPLE LOCATIONS (1992–2013)

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LEGEND

- Subject Boundary Line (Approximate Location)
- Railroad Siding
- Historic AST Area
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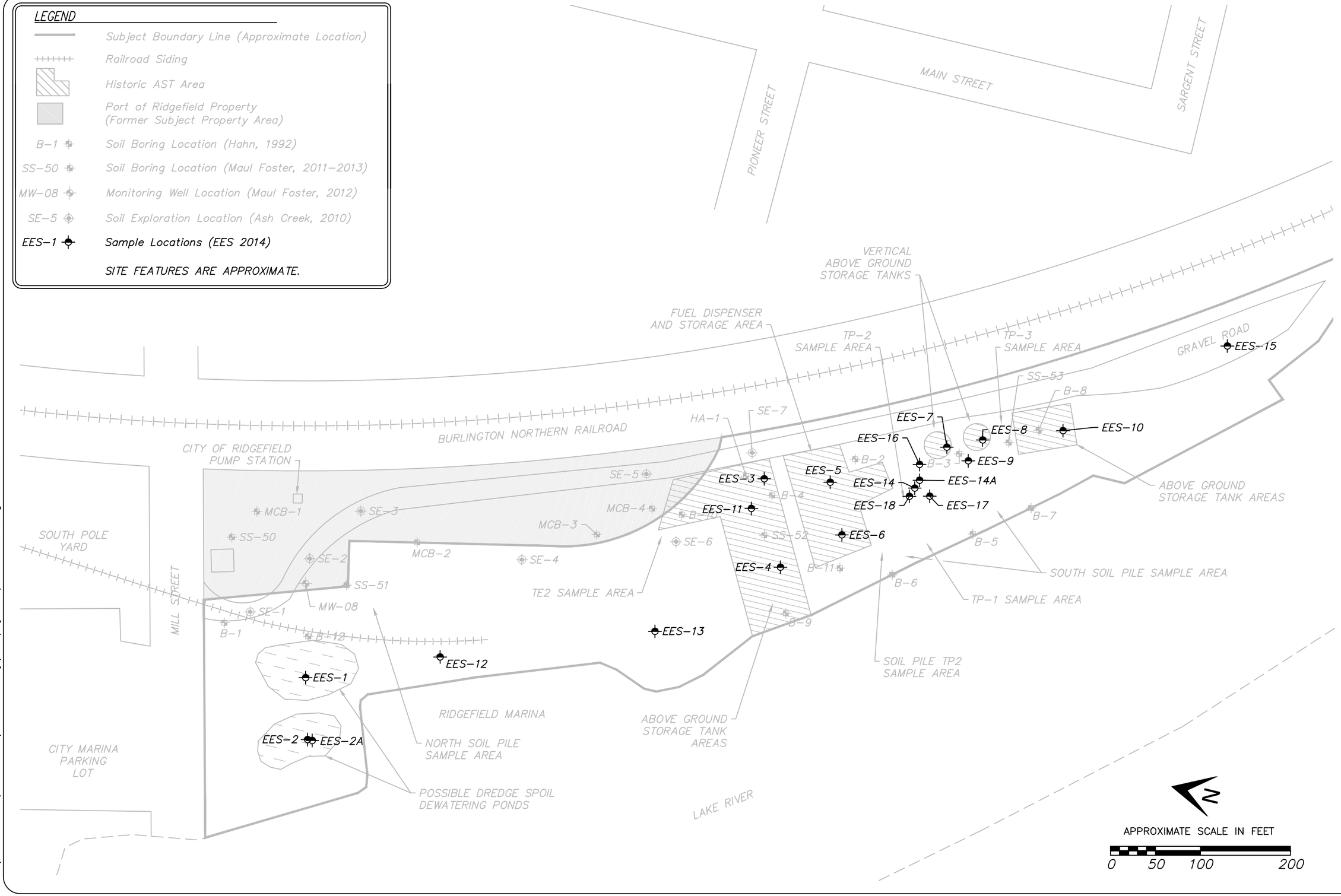
- B–1 — Soil Boring Location (Hahn, 1992)
- SS–50 — Soil Boring Location (Maul Foster, 2011–2013)
- MW–08 — Monitoring Well Location (Maul Foster, 2012)
- SE–5 — Soil Exploration Location (Ash Creek, 2010)
- EES–1 — Sample Locations (EES 2014)

SITE FEATURES ARE APPROXIMATE.



DATE:	7–3–14
FILE:	2001–01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001–01
FIGURE NO.	7

SAMPLE LOCATIONS
(APRIL – JUNE 2014)

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LEGEND

- Subject Boundary Line (Approximate Location)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- EES–1 — Sample Locations (EES 2014)
- OIL= Oil Range Hydrocarbons by NWTPH–Dx
- B(a)P= Benzo(a)Pyrene
- PAHs= Polycyclic Aromatic Hydrocarbons
- U= Not Detected Above Method Reporting Limit
- –– = Not Analyzed
- X= Result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported
- X' = No Fuel Pattern Detected

Results Reported in Milligrams per Kilogram (mg/kg)

VERTICAL ABOVE GROUND STORAGE TANKS

TP–3

GRAVEL ROAD

B–8

ABOVE GROUND STORAGE TANK AREAS

B–2

B–3

B–4

B–5

B–7

B–9

B–11

SE–5

MCB–4

MCB–3

SS–52

SOIL PILE TP2 SAMPLE AREA

PILE SAMPLE AREA

EES–15		
DEPTH	OIL	PAHs
3–3.5	50U	––
7.5–8	50U	––
14.5–15	50U	––

EES–15

EES–7		
DEPTH	OIL	PAHs
3–3.5	372	––
7.5–8	50U	––
14.5–15	50U	––

EES–7

EES–8		
DEPTH	OIL	B(a)P
3–3.5	1,330	0.22U
7.5–8	50U	––
14.5–15	50U	––

EES–8

EES–16		
DEPTH	OIL	B(a)P
1.5–2	976	0.048U
3–3.5	788X	––

EES–16

EES–10		
DEPTH	OIL	B(a)P
1.5–2	1,350	0.19U
3–3.5	50U	––
5.5–6	50U	––
14.5–15	50U	––

EES–10

EES–5		
DEPTH	OIL	PAHs
3–3.5	51U	––
7.5–8	51U	––
14.5–15	50U	––

EES–5

EES–9

EES–9		
DEPTH	OIL	PAHs
1.5–2	314	––
3–3.5	92X'	––
5.5–6	50U	––
14.5–15	50U	––

EES–14

EES–14A

EES–14A		
DEPTH	OIL	B(a)P
1.5–2	3,360	0.055U
NO DATA BELOW 2 FEET DUE TO DRILLING REFUSAL		

EES–18

EES–18		
DEPTH	OIL	B(a)P
1.5–2	268X	0.013U
3–3.5	50U	––
5–5.5	366	––

EES–17

EES–17		
DEPTH	OIL	B(a)P
1.5–2	795X	0.073U
3–3.5	83X	––
5–5.5	50U	––

EES–14		
DEPTH	OIL	B(a)P
1.5–2	1,630	0.27
3–3.5	50U	––
5.5–6	50U	––
14–14.5	55U	––

EES–3

EES–3		
DEPTH	OIL	PAHs
1.5–2	682	––
3–3.5	50U	––
5.5–6	50U	––
14.5–15	51U	––

EES–11

EES–11		
DEPTH	OIL	PAHs
3–3.5	66	––
5–5.5	58U	––
8–8.5	50U	––
14–14.5	50U	––

EES–6

EES–6		
DEPTH	OIL	PAHs
3–3.5	50U	––
7.5–8	50U	––

EES–4

EES–4		
DEPTH	OIL	PAHs
3–3.5	50U	––
7.5–8	50U	––
14.5–15	52U	––

EES–13

EES–13		
DEPTH	OIL	PAHs
3–3.5	50U	––
7.5–8	50U	––
14.5–15	50U	––

APPROXIMATE SCALE IN FEET

0 25 50 100

DATE:	8–18–14
FILE:	2001–01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001–01
FIGURE NO.	8

PETROLEUM HYDROCARBON CONCENTRATIONS IN TANK FARM AREA SOIL (APRIL–JUNE 2014)

RJ FRANK SITE
5 MILL STREET
RIDGEFIELD, WA.

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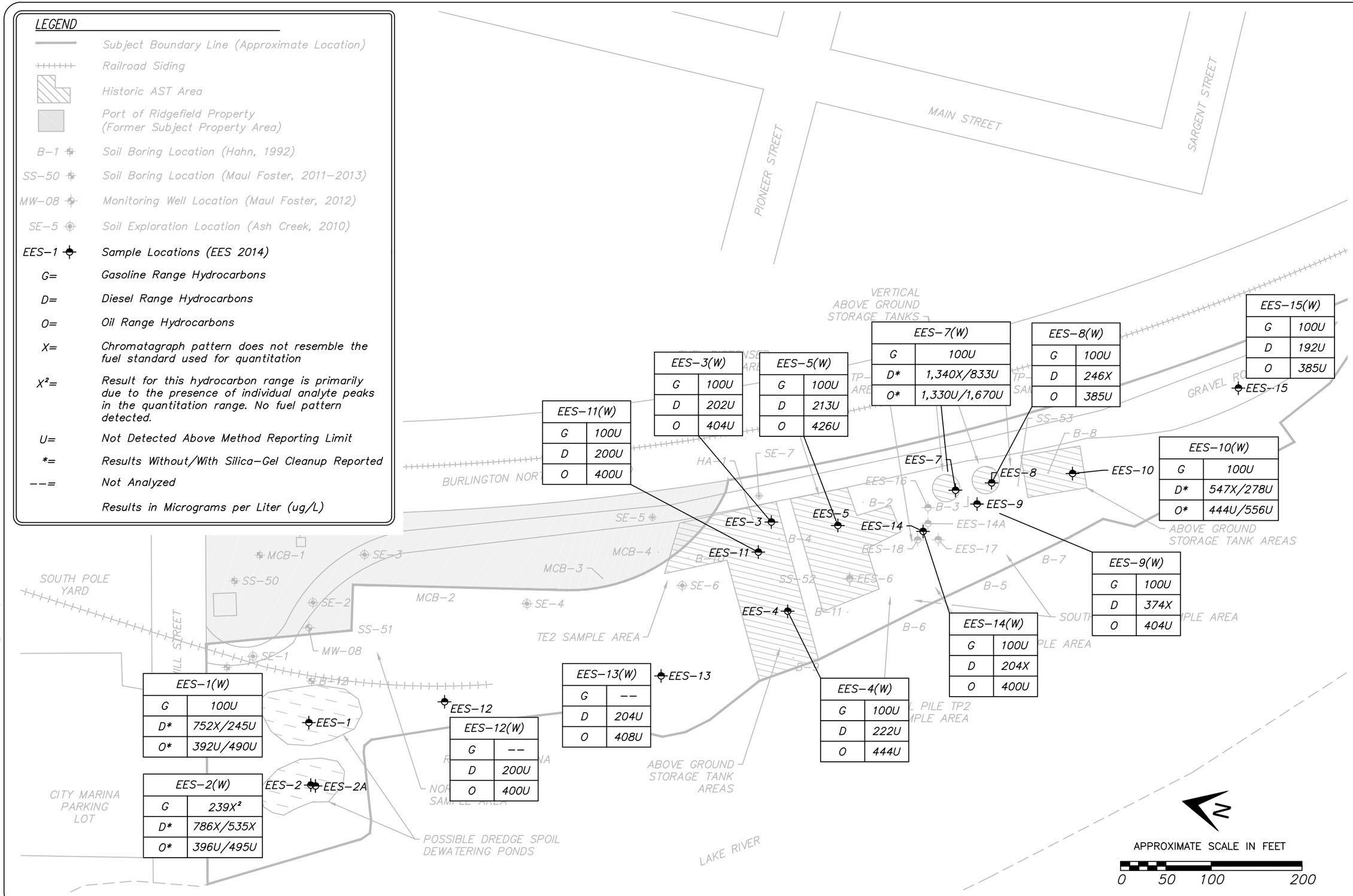
LEGEND

- Subject Boundary Line (Approximate Location)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- B–1 — Soil Boring Location (Hahn, 1992)
- SS–50 — Soil Boring Location (Maul Foster, 2011–2013)
- MW–08 — Monitoring Well Location (Maul Foster, 2012)
- SE–5 — Soil Exploration Location (Ash Creek, 2010)
- EES–1 — Sample Locations (EES 2014)
- G= Gasoline Range Hydrocarbons
- D= Diesel Range Hydrocarbons
- O= Oil Range Hydrocarbons
- X= Chromatagraph pattern does not resemble the fuel standard used for quantitation
- X²= Result for this hydrocarbon range is primarily due to the presence of individual analyte peaks in the quantitation range. No fuel pattern detected.
- U= Not Detected Above Method Reporting Limit
- *= Results Without/With Silica–Gel Cleanup Reported
- –– = Not Analyzed

Results in Micrograms per Liter (ug/L)



EES–1(W)	
G	100U
D*	752X/245U
O*	392U/490U

EES–2(W)	
G	239X²
D*	786X/535X
O*	396U/495U

EES–3(W)	
G	100U
D	202U
O	404U

EES–4(W)	
G	100U
D	222U
O	444U

EES–5(W)	
G	100U
D	213U
O	426U

EES–7(W)	
G	100U
D*	1,340X/833U
O*	1,330U/1,670U

EES–8(W)	
G	100U
D	246X
O	385U

EES–9(W)	
G	100U
D	374X
O	404U

EES–10(W)	
G	100U
D*	547X/278U
O*	444U/556U

EES–11(W)	
G	100U
D	200U
O	400U

EES–12(W)	
G	––
D	200U
O	400U

EES–13(W)	
G	––
D	204U
O	408U

EES–14(W)	
G	100U
D	204X
O	400U

EES–15(W)	
G	100U
D	192U
O	385U

APPROXIMATE SCALE IN FEET

0 50 100 200

DATE:	7–15–14
FILE:	2001–01
DRAWN:	JJT
APPROVED:	CR
PROJECT NO.	2001–01
FIGURE NO.	9

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUNDWATER (APRIL 2014)

RJ FRANK SITE
5 MILL STREET
RIDGEFIELD, WA.

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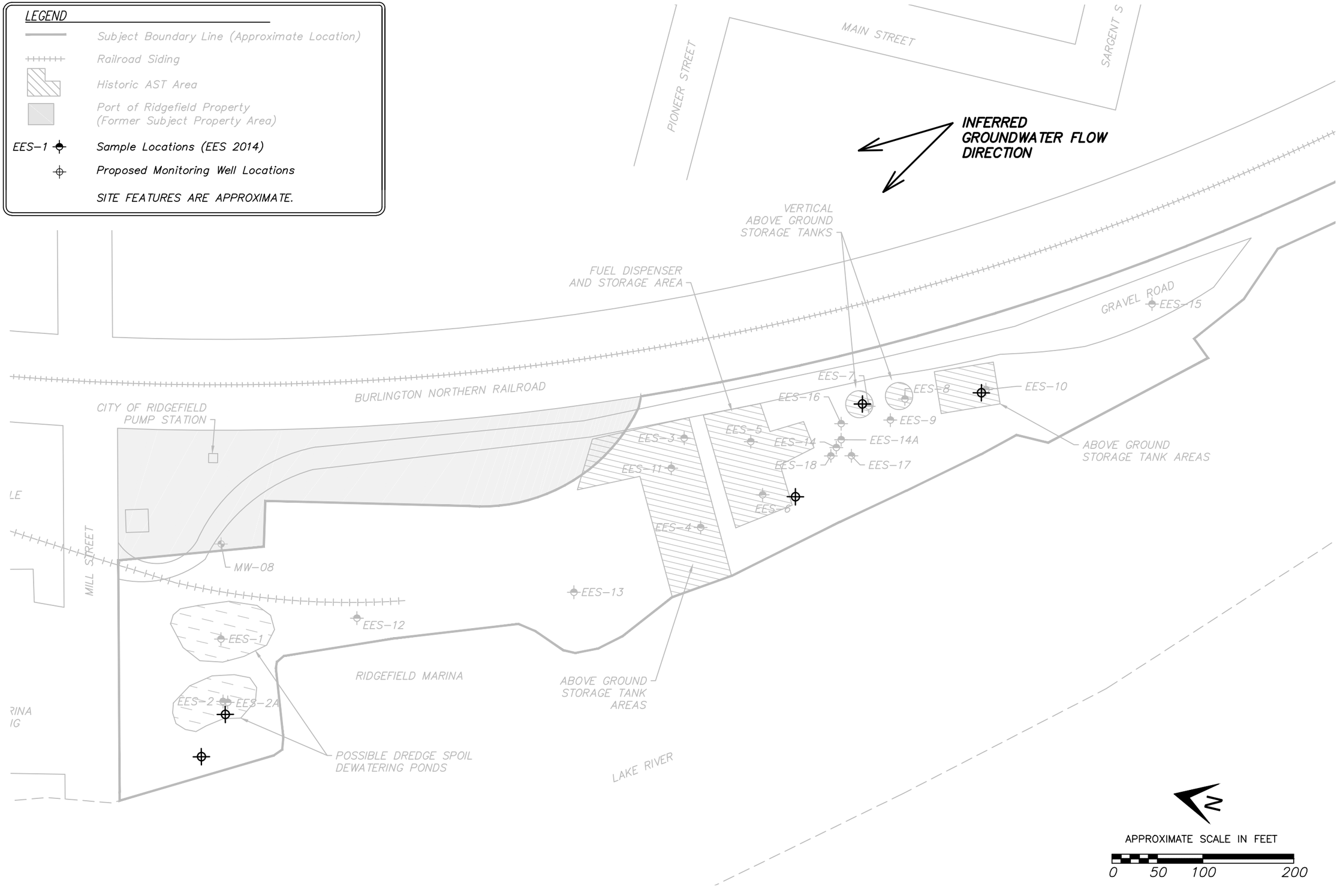
LEGEND

- Subject Boundary Line (Approximate Location)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- EES–1 Sample Locations (EES 2014)
- Proposed Monitoring Well Locations

SITE FEATURES ARE APPROXIMATE.



PROJECT NO.	2001–01
DATE: 8–1–14	FIGURE NO. 10
FILE: 2001–01	
DRAWN: JJT	
APPROVED: CR	

PROPOSED
MONITORING WELL LOCATIONS

RJ FRANK SITE
5 MILL STREET
RIDGEFIELD, WA.

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LEGEND

- Subject Boundary Line (Approximate Location)
- Railroad Siding
- Historic AST Area
- Port of Ridgefield Property (Former Subject Property Area)
- EES–1 Sample Locations (EES 2014)
- Proposed Monitoring Well Locations
- Proposed Soil Removal Area

INFERRED GROUNDWATER FLOW DIRECTION

VERTICAL ABOVE GROUND STORAGE TANKS

FUEL DISPENSER AND STORAGE AREA

ABOVE GROUND STORAGE TANK AREAS

EES–10

EES–8

EES–7

EES–16

EES–9

EES–14A

EES–14

EES–18

EES–17

PROPOSED SOIL REMOVAL AREA

EES–3

EES–5

EES–11

EES–6

EES–4

APPROXIMATE SCALE IN FEET

0 15 30 60

PROJECT NO.	2001–01
DATE: 8–18–14	FIGURE NO. 11
FILE: 2001–01	DRAWN: JJT
APPROVED: CR	

PROPOSED SOIL REMOVAL AREA

RJ FRANK SITE
5 MILL STREET
RIDGEFIELD, WA.

EES
ENVIRONMENTAL CONSULTING, INC.
240 N Broadway #203, Portland, OR 97227
(503) 847-2740
www.ees-environmental.com

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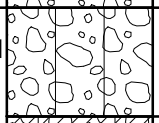
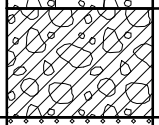
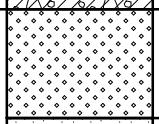
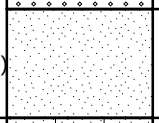
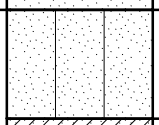
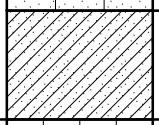
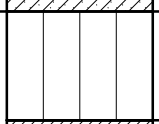
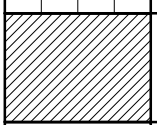
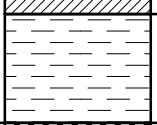
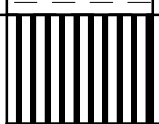
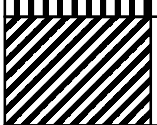
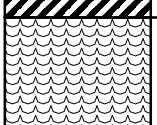
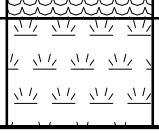
Appendix A

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

EES Environmental Consulting Inc.
240 N. Broadway #203
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Telephone: 503.847.2740

BORING NO. **EES-1**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
			3.8	NS			Medium dense, gray silty GRAVEL (GP); moist.		
							Dense, dark gray silty fine SAND (SM); moist.		
					100		Stiff, dark gray fine sandy SILT (ML); moist, low plasticity.	New schedule 40 0.75-inch diameter PVC riser 0-5 feet.	
	EES-1 (3-3.5)	Grab	0.3	NS					
5			4.1	NS			Dense, dark gray silty fine SAND (SM) with subrounded gravel and trace organics; moist.		
	EES-1 (7.5-8)	Grab	3.5	NS	100				
							Soft to stiff, brown SILT (ML) with wood debris; moist.		
10			5.3	NS					
					100		Dense gray silty fine SAND (SM) with occasional organics; moist to wet.	New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 5-20 feet.	
			6.0	NS					
15	EES-1 (14.5-15)	Grab					No groundwater encountered while drilling to 15 feet, therefore completed boring at 20 feet.		
					100				
20							Boring complete at 20 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-1(W) from temporary PVC well screen placed from 5-20 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-10**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
	EES-10 (1.5-2)	Grab	0.0	NS	100		Stiff, brown with some orange mottling very fine sandy SILT (ML) with gravel; moist.		
	EES-10 (3-3.5)	Grab	0.1	NS					
5							Below 4 feet becomes gray, little or no gravel.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
	EES-10 (5.5-6)	Grab	0.5	NS					
					100				
10			0.1	NS					
					100			New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
15	EES-10 (14.5-15)	Grab	0.1	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/17/14** ENDED **4/17/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-10(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-11**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
	EES-11 (3-3.5)	Grab	6.9	NS	100		Stiff, dark brown very fine sandy SILT (ML) with gravel; moist.		
							Becomes very stiff and gray.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
5	EES-11 (5-5.5)	Grab	8.0	NS					
	EES-11 (8-8.5)	Grab	7.7	NS	100				
10			8.0	NS			Becomes wet.		
					100		Becomes brown.	New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
15	EES-11 (14-14.5)	Grab	8.5	NS					
							Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-11(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
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BORING NO. **EES-12**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
					100		Stiff, dark brown sandy SILT (ML) with gravel; moist.		
	EES-12 (3-3.5)	Grab	7.2	NS			Brown wood chip debris.		
5			6.8	NS				New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
	EES-12 (7.5-8)	Grab	8.6	NS	100		Very stiff, gray very fine sandy SILT (ML); moist to wet.		
10			10.7	NS					
			7.2	NS	100			New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
15	EES-12 (14.5-15)	Grab	7.7	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-12(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-13**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
					100		Dense brown to gray sandy GRAVEL (GP) with silt; moist.		
	EES-13 (3-3.5)	Grab	2.5	NS			Stiff, gray to dark gray very fine sandy SILT (ML); moist.		
5			4.0	NS			Some black wood chips encountered between 6 and 7 feet bgs.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
	EES-13 (7.5-8)	Grab	9.0	NS	100				
10	EES-13 (10-10.5)	Grab	46.2	NS					
			11.6	NS	100			New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
15	EES-13 (14.5-15)	Grab	10.4	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-13(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
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BORING NO. **EES-14**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
	EES-14 (1.5-2)	Grab	0.1	NS	100		Stiff, dark gray to black very fine sandy SILT (ML) with gravel; moist.		
	EES-14 (3-3.5)	Grab					Becomes very stiff and gray.		
5	EES-14 (5.5-6)	Grab	0.2	NS				New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
			0.6	NS	100		Becomes stiff and gray to brown.		
10			0.8	NS					
					100			New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
	EES-14 (14-14.5)	Grab	0.1	NS					
15							Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-14(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-14A**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **NA** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
	EES-14A (1.5-2)	Grab	0.5	NS	100		Brown sandy SILT (ML) with gravel; moist. Gravel is subrounded and coarse-grained. Becomes with some gravel. Becomes with black woody debris. Boring complete at 2 feet due to subsurface obstruction. Groundwater not encountered. Backfilled borehole with soil cuttings after completion of sample activities.		

DRILLING CONTRACTOR **EES**
DRILLING METHOD **Hand Auger**
DRILLING EQUIPMENT **2.75-inch AMS Sampler**
DRILLING STARTED **6/19/14** ENDED **6/19/14**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-15**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Medium dense, gray silty GRAVEL (GP); moist.		
							Brown medium SAND (SP); moist.		
	EES-15 (3-3.5)	Grab	0.1	NS	100				
5							Dense, gray silty very fine SAND (SM); moist.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
							Stiff, brown with orange mottles very fine sandy SILT (ML); moist.		
	EES-15 (7.5-8)	Grab	0.2	NS	100				
10			0.0	NS				New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
					100				
15	EES-15 (14.5-15)	Grab	0.0	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Groundwater slow to enter borehole.Temporary well set and allowed to stabilize overnight (sampled 4/18), as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/17/14** ENDED **4/18/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-15(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-16**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **NA** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS		ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %					
	EES-16 (1.5-2)	Grab	0.2	NS	100		Brown GRAVEL (GP) with silty sand; moist. Gravel is rounded and coarse-grained.			
	EES-16 (3-3.5)	Grab	0.4	NS			Brown to black silty SAND (SM), some woody debris; moist.			
							Boring complete at 3.5 feet due to subsurface obstruction. Groundwater not encountered. Backfilled borehole with soil cuttings after completion of sample activities.			

DRILLING CONTRACTOR **EES**
DRILLING METHOD **Hand Auger**
DRILLING EQUIPMENT **2.75-inch AMS Sampler**
DRILLING STARTED **6/19/14** ENDED **6/19/14**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-17**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **NA** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
	EES-17 (1.5-2)	Grab	0.1	NS	100		Brown GRAVEL (GP) with silty sand; moist. Gravel is rounded and coarse-grained. Black plastic encountered.		
	EES-17 (3-3.5)	Grab	0.0	NS			Brownish gray silty SAND (SM), with orange mottling; moist.		
5	EES-17 (5-5.5)	Grab	0.0	NS			Becomes gray with few orange mottles.		
							Boring complete at 5.5 feet. Groundwater not encountered. Backfilled borehole with soil cuttings after completion of sample activities.		

DRILLING CONTRACTOR **EES**
DRILLING METHOD **Hand Auger**
DRILLING EQUIPMENT **2.75-inch AMS Sampler**
DRILLING STARTED **6/19/14** ENDED **6/19/14**

REMARKS

See key sheet for symbols and abbreviations used above.

EES LOG WITH WELL & SHEEN - LOG A EWNN03.GDT - 8/4/14 11:31 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\2001-01 MCCUDDYS 042114.GPJ

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-18**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **NA** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
	EES-18 (1.5-2)	Grab	0.1	NS	100		Brown GRAVEL (GP) with silty sand; moist. Gravel is rounded and coarse-grained.		
	EES-18 (3-3.5)	Grab	0.0	NS			Brownish gray silty SAND (SM), with orange mottling; moist.		
5	EES-18 (5-5.5)	Grab	0.0	NS			Becomes gray with few orange mottles.		
							Boring complete at 5.5 feet. Groundwater not encountered. Backfilled borehole with soil cuttings after completion of sample activities.		

DRILLING CONTRACTOR **EES**
DRILLING METHOD **Hand Auger**
DRILLING EQUIPMENT **2.75-inch AMS Sampler**
DRILLING STARTED **6/19/14** ENDED **6/19/14**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-2** PAGE **1** OF **1**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
	EES-2 (3-3.5)	Grab	6.2	NS	100		Medium dense, gray silty GRAVEL (GP); moist.		
							Loose, dark brown fine sandy wood debris (FILL); moist.		
5							Dense, dark gray silty fine SAND (SM); moist.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
	EES-2 (7.5-8)	Grab	7.7	NS	100		With black wood debris between 7 and 9 feet.		
10			10.5	NS			Stiff, dark brown sandy SILT (ML) with roots and organic debris; moist. Possibly a former overbank/riparian native surface.		
			7.9	MS	100		Gray silty fine SAND (SM); wet. Becomes wet at 12 feet. Organic sheen with mild odor observed between 12 and 12.5 feet. Becomes brown, silt decreasing with depth.	New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
15	EES-2 (14.5-15)	Grab	7.4	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **Slight sheen observed on purge water. Collected groundwater sample EES-2(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-2A**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS		ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %					
					0		No recovery from 0-5 feet.			
5					0		No recovery from 5-10 feet due to debris destroying liner.	▼		
10	EES-2A (10-10.5)	Grab	0.0	NS			Stiff, dark brown fine SANDY SILT (ML); some organics and wood debris; moist.			
	EES-2A (12-12.5)	Grab	0.9	NS	100		Medium gray silty fine SAND (SM); wet.			
							Becomes brown at 13.5 feet.			
15			0.0	NS						

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/18/14** ENDED **4/18/14**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-3** PAGE **1** OF **1**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %	STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
			11.6	NS			Topsoil.		
	EES-3 (1.5-2)	Grab			100		Stiff, dark brown very fine sandy SILT (ML) with gravel; moist.		
	EES-3 (3-3.5)	Grab	9.6	NS			Becomes very stiff, brown with orange mottles, and moist to wet.		
5	EES-3 (5.5-6)	Grab	10.9	NS				New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
			8.7	NS	100				
10			8.2	NS			Becomes brownish gray.		
					100			New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
15	EES-3 (14.5-15)	Grab	10.5	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-3(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-4**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
	EES-4 (3-3.5)	Grab	10.2	NS	100		Stiff, dark brown very fine sandy SILT (ML) with gravel; moist.		
5							Becomes very stiff and brown.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
	EES-4 (7.5-8)	Grab	13.8	NS	100				
10			12.6	NS			Becomes wet.	New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
					100				
15	EES-4 (14.5-15)	Grab	11.9	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/16/14** ENDED **4/16/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-4(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-5**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
					100		Stiff, dark brown very fine sandy SILT (ML) with gravel; moist.		
	EES-5 (3-3.5)	Grab	0.0	NS					
5							Becomes very stiff, brown, and moist to wet.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
	EES-5 (7.5-8)	Grab	0.7	NS	100				
10			0.3	NS				New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
					100				
15	EES-5 (14.5-15)	Grab	1.6	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/17/14** ENDED **4/17/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-5(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-6**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
			0.1	NS			Dense, brown very fine sandy SILT (ML) with trace gravel and organic material; moist.		
	EES-6 (3-3.5)	Grab	0.3	NS	100		Becomes soft, wet, and with orange mottles.		
5							Becomes without orange mottles.		
	EES-6 (7.5-8)	Grab	0.2	NS			Boring complete at 8 feet bgs.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/18/14** ENDED **4/18/14**

REMARKS **Due to limited access boring advanced by hand auger. Boring located in low-lying area where rain water was collecting; difficulty collecting intact and representative soil samples below 8 feet. No groundwater encountered.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-7**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
					100		Stiff, brown sandy SILT (ML) with gravel; moist.		
	EES-7 (3.5-4)	Grab	0.1	NS					
							Wood debris.		
5							Stiff, gray very fine sandy SILT (ML); moist.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
	EES-7 (7.5-8)	Grab	0.2	NS	100				
10			0.1	NS					
					100		Becomes brown.	New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
							No free water observed while drilling.		
15	EES-7 (14.5-15)	Grab	0.0	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Groundwater slow to enter borehole.Temporary well set and allowed to stabilize overnight (sampled 4/18), as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/17/14** ENDED **4/18/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-7(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-8** PAGE **1** OF **1**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
					100		Stiff, dark brown very fine sandy SILT (ML) with gravel; moist.		
	EES-8 (3-3.5)	Grab	0.5	NS			Becomes without gravel. Thin layer of black organic material encountered at 4 feet. Becomes gray below 4 feet.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
5									
	EES-8 (7.5-8)	Grab	0.1	NS	100				
10			0.5	NS				New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
					100				
	EES-8 (14.5-15)	Grab	0.9	NS			No free water observed while drilling.		
15							Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Groundwater slow to enter borehole.Temporary well set and allowed to stabilize overnight (sampled 4/18), as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/17/14** ENDED **4/18/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-8(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **EES-9**
PROJECT **RJ Frank Site**
LOCATION **Ridgefield, WA**
PROJECT NO. **2001-01**
LOGGED BY **RR**

START CARD **EE05031** WELL ID **--**
COORDINATES
SURFACE ELEVATION **--** DATUM **--**

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
							Topsoil.		
	EES-9 (1.5-2)	Grab	0.2	NS	100		Stiff, brown sandy SILT (ML) with gravel; moist.		
	EES-9 (3-3.5)	Grab	0.4	NS			Wood debris with some plastic sheet debris.		
5	EES-9 (5.5-6)	Grab	1.1	NS	100		Stiff, gray very fine sandy SILT (ML); moist.	New schedule 40 0.75-inch diameter PVC riser 0-10 feet.	
10			0.1	NS	100		Becomes brown.	New schedule 40 0.75-inch diameter, 0.02-inch slot, temporary PVC well screen 10-15 feet.	
15	EES-9 (14.5-15)	Grab	0.0	NS			Boring complete at 15 feet bgs using 3.5-inch dual-tube macro-core with steel conductor casing. Set temporary well as indicated (retracted steel conductor casing to 10 feet bgs prior to well purge). Backfilled borehole with granular bentonite after completion of sample activities.		

DRILLING CONTRACTOR **Pacific Soil and Water, Inc.**
DRILLING METHOD **Direct-Push Macro/Dual**
DRILLING EQUIPMENT **GeoProbe 9500VTR**
DRILLING STARTED **4/17/14** ENDED **4/17/14**

REMARKS **No sheen observed on purge water. Collected groundwater sample EES-9(W) from temporary well screen placed from 10-15 feet bgs.**

See key sheet for symbols and abbreviations used above.

Appendix B

Chris Rhea

From: Evan Romaniak <evan@wastex.com>
Sent: Monday, June 09, 2014 10:34 AM
To: Chris Rhea
Cc: bernadette
Subject: Wastexpress Additional info

Chris,

The 2 - 55 gallon drums of soil from the RJ Frank site were disposed of at Waste Management's Hillsboro Landfill under the WasteXpress permit 109003OR. The 1 - 55 gallon drum of water was bulked disposed of through IRM.

If you have any additional questions please contact Bernadette directly at 503-737-1402

Thanks Chris,

Evan Romaniak | Account Manager
WasteXpress Environmental
www.wastex.com
Portland: 503-224-3206 **| Seattle:** 855-224-3206
Cell: 541-771-1253 **| Fax:** 503-228-9168

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CESQG

Manifest Document No.: 19826

2. Page 1 of 1

3. Generator's Name and Mailing Address: McCaddy's Marina c/o EES Environmental
5 Mill St
Ridgefield, WA 98642

4. Generator's Phone (503) 224-3206

5. Transporter 1 Company Name: WasteXpress

6. US EPA ID Number: ORQ000023150

A. State Transporter's ID: 881002

B. Transporter 1 Phone: 503-224-3206

7. Transporter 2 Company Name:

8. US EPA ID Number:

C. State Transporter's ID:

D. Transporter 2 Phone:

9. Designated Facility Name and Site Address: IRM
11618 N. Lombard
Portland, OR 97203

10. US EPA ID Number: ORQ000011643

E. State Facility's ID:

F. Facility's Phone: 503-224-3206

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non-Regulated Solids, N.O.S., (Soil)	2	DM	300	P
b. Non-Regulated liquid, N.O.S., (IDW)	1	DM	30	G
c.				
d.				

G. Additional Descriptions for Materials Listed Above
a) wx 1-2
b) wx 3

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

GENERATOR

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date (Month Day Year)

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Matthew Morris | Signature | Date (Month Day Year): 06 02 14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Kevin Matthews on behalf of IRM | Signature | Date (Month Day Year): 6 2 14

Rev. 3/95

Certificate of Treatment/Disposal/Recycling

WasteXpress certifies that the items received from

MC CUDDY'S MARINA
5 Mill Street
Ridgefield, WA

On a Non-Hazardous Manifest #19826 dated **6-2-14** have been properly treated/disposed/recycled at WasteXpress' affiliated facilities in compliance with all applicable regulatory standards as set forth by the Environmental Protection Agency (EPA) and the Oregon Department of Environmental Quality (DEQ)

Dated: *June 9, 2014*
Sworn and attested by
WasteXpress Environmental Services
By *B. Lengel*

Appendix C

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, May 22, 2014

Paul Ecker
EES Environmental Inc
240 N Broadway Ste 203
Portland, OR 97227

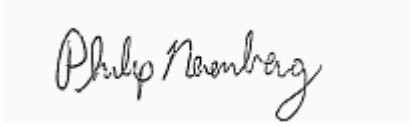
RE: RJ Frank / 2001-01

Enclosed are the results of analyses for work order A4D0499, which was received by the laboratory on 4/18/2014 at 11:30:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EES-1 (3-3.5)	A4D0499-01	Soil	04/16/14 09:25	04/18/14 11:30
EES-1 (7.5-8)	A4D0499-02	Soil	04/16/14 09:35	04/18/14 11:30
EES-1 (14.5-15)	A4D0499-04	Soil	04/16/14 10:00	04/18/14 11:30
EES-1 (W)	A4D0499-05	Water	04/16/14 10:11	04/18/14 11:30
EES-2 (3-3.5)	A4D0499-06	Soil	04/16/14 10:40	04/18/14 11:30
EES-2 (7.5-8)	A4D0499-07	Soil	04/16/14 10:50	04/18/14 11:30
EES-2 (14.5-15)	A4D0499-09	Soil	04/16/14 11:05	04/18/14 11:30
EES-2 (W)	A4D0499-10	Water	04/16/14 11:20	04/18/14 11:30
EES-12 (3-3.5)	A4D0499-11	Soil	04/16/14 11:50	04/18/14 11:30
EES-12 (7.5-8)	A4D0499-12	Soil	04/16/14 11:55	04/18/14 11:30
EES-12 (14.5-15)	A4D0499-14	Soil	04/16/14 12:05	04/18/14 11:30
EES-12 (W)	A4D0499-15	Water	04/16/14 12:15	04/18/14 11:30
EES-13 (3-3.5)	A4D0499-16	Soil	04/16/14 13:10	04/18/14 11:30
EES-13 (7.5-8)	A4D0499-17	Soil	04/16/14 13:15	04/18/14 11:30
EES-13 (10-10.5)	A4D0499-18	Soil	04/16/14 13:25	04/18/14 11:30
EES-13 (14.5-15)	A4D0499-19	Soil	04/16/14 13:30	04/18/14 11:30
EES-13 (W)	A4D0499-20	Water	04/16/14 13:50	04/18/14 11:30
EES-3 (1.5-2)	A4D0499-21	Soil	04/16/14 14:30	04/18/14 11:30
EES-3 (3-3.5)	A4D0499-22	Soil	04/16/14 14:40	04/18/14 11:30
EES-3 (5.5-6)	A4D0499-23	Soil	04/16/14 14:45	04/18/14 11:30
EES-3 (14.5-15)	A4D0499-25	Soil	04/16/14 14:55	04/18/14 11:30
EES-3 (W)	A4D0499-26	Water	04/16/14 15:15	04/18/14 11:30
EES-11 (3-3.5)	A4D0499-27	Soil	04/16/14 15:30	04/18/14 11:30
EES-11 (5-5.5)	A4D0499-28	Soil	04/16/14 15:35	04/18/14 11:30
EES-11 (8-8.5)	A4D0499-29	Soil	04/16/14 15:40	04/18/14 11:30
EES-11 (14.5-15)	A4D0499-31	Soil	04/16/14 15:50	04/18/14 11:30
EES-11 (W)	A4D0499-32	Water	04/16/14 16:00	04/18/14 11:30
EES-4 (3-3.5)	A4D0499-33	Soil	04/16/14 16:30	04/18/14 11:30
EES-4 (7.5-8)	A4D0499-34	Soil	04/16/14 16:35	04/18/14 11:30
EES-4 (14.5-15)	A4D0499-36	Soil	04/16/14 16:45	04/18/14 11:30
EES-4 (W)	A4D0499-37	Water	04/16/14 17:00	04/18/14 11:30
EES-5 (3-3.5)	A4D0499-38	Soil	04/17/14 09:00	04/18/14 11:30
EES-5 (7.5-8)	A4D0499-39	Soil	04/17/14 09:05	04/18/14 11:30
EES-5 (14.5-15)	A4D0499-41	Soil	04/17/14 09:15	04/18/14 11:30
EES-5 (W)	A4D0499-42	Water	04/17/14 09:30	04/18/14 11:30

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EES-14 (1.5-2)	A4D0499-43	Soil	04/17/14 09:35	04/18/14 11:30
EES-14 (3-3.5)	A4D0499-44	Soil	04/17/14 09:40	04/18/14 11:30
EES-14 (5.5-6)	A4D0499-45	Soil	04/17/14 09:45	04/18/14 11:30
EES-14 (14.5-15)	A4D0499-48	Soil	04/17/14 10:00	04/18/14 11:30
EES-14 (W)	A4D0499-49	Water	04/17/14 10:20	04/18/14 11:30
EES-9 (1.5-2)	A4D0499-50	Soil	04/17/14 10:35	04/18/14 11:30
EES-9 (3-3.5)	A4D0499-51	Soil	04/17/14 10:40	04/18/14 11:30
EES-9 (5.5-6)	A4D0499-52	Soil	04/17/14 10:45	04/18/14 11:30
EES-9 (14.5-15)	A4D0499-54	Soil	04/17/14 10:55	04/18/14 11:30
EES-9 (W)	A4D0499-55	Water	04/17/14 12:40	04/18/14 11:30
EES-7 (3-3.5)	A4D0499-56	Soil	04/17/14 12:10	04/18/14 11:30
EES-7 (7.5-8)	A4D0499-57	Soil	04/17/14 12:15	04/18/14 11:30
EES-7 (14.5-15)	A4D0499-59	Soil	04/17/14 12:25	04/18/14 11:30
EES-8 (3-3.5)	A4D0499-60	Soil	04/17/14 13:15	04/18/14 11:30
EES-8 (7.5-8)	A4D0499-61	Soil	04/17/14 13:20	04/18/14 11:30
EES-8 (14.5-15)	A4D0499-63	Soil	04/17/14 13:30	04/18/14 11:30
EES-10 (1.5-2)	A4D0499-64	Soil	04/17/14 14:10	04/18/14 11:30
EES-10 (3-3.5)	A4D0499-65	Soil	04/17/14 14:15	04/18/14 11:30
EES-10 (5.5-6)	A4D0499-66	Soil	04/17/14 14:20	04/18/14 11:30
EES-10 (14.5-15)	A4D0499-68	Soil	04/17/14 14:30	04/18/14 11:30
EES-10 (W)	A4D0499-69	Water	04/17/14 15:55	04/18/14 11:30
EES-15 (7.5-8)	A4D0499-70	Soil	04/17/14 15:05	04/18/14 11:30
EES-15 (14.5-15)	A4D0499-72	Soil	04/17/14 15:15	04/18/14 11:30

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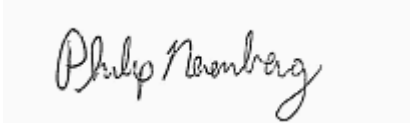

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (3-3.5) (A4D0499-01RE1)			**Matrix: Soil**		**Batch: 4040639**			
Diesel	ND	---	25.0	mg/kg dry	1	04/23/14 11:13	NWTPH-Dx	
Oil	**127**	---	50.0	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*	"	"	"	
EES-1 (7.5-8) (A4D0499-02)			**Matrix: Soil**		**Batch: 4040639**			
Diesel	ND	---	25.3	mg/kg dry	1	04/23/14 08:41	NWTPH-Dx	
Oil	**172**	---	50.6	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*	"	"	"	
EES-1 (14.5-15) (A4D0499-04)			**Matrix: Soil**		**Batch: 4040639**			
Diesel	ND	---	26.0	mg/kg dry	1	04/23/14 09:17	NWTPH-Dx	
Oil	ND	---	52.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 83 %*	*Limits: 50-150 %*	"	"	"	
EES-1 (W) (A4D0499-05)			**Matrix: Water**		**Batch: 4040852**			
Diesel	**0.752**	---	0.196	mg/L	1	05/01/14 12:00	NWTPH-Dx	F-13
Oil	ND	---	0.392	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (3-3.5) (A4D0499-06RE1)			**Matrix: Soil**		**Batch: 4040639**			
Diesel	**150**	---	57.5	mg/kg dry	2	04/23/14 11:50	NWTPH-Dx	F-17
Oil	**235**	---	115	"	"	"	"	F-17
Surrogate: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (7.5-8) (A4D0499-07)			**Matrix: Soil**		**Batch: 4040639**			
Diesel	ND	---	25.0	mg/kg dry	1	04/23/14 10:29	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (14.5-15) (A4D0499-09)			**Matrix: Soil**		**Batch: 4040652**			
Diesel	ND	---	25.0	mg/kg dry	1	04/23/14 10:48	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (W) (A4D0499-10)			**Matrix: Water**		**Batch: 4040655**			
Diesel	**0.786**	---	0.198	mg/L	2.5	04/23/14 19:58	NWTPH-Dx	F-13
Oil	ND	---	0.396	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
EES-12 (3-3.5) (A4D0499-11)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 11:36	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	

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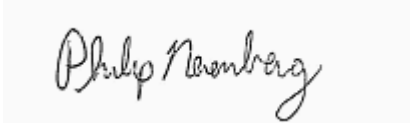

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-12 (3-3.5) (A4D0499-11)			**Matrix: Soil**		**Batch: 4040663**			
Surrogate: o-Terphenyl (Surr)			*Recovery: 66 %*	*Limits: 50-150 %*	1	"	NWTPH-Dx	
EES-12 (7.5-8) (A4D0499-12)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 12:11	NWTPH-Dx	
Oil	**436**	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	
EES-12 (14.5-15) (A4D0499-14)			**Matrix: Soil**		**Batch: 4040652**			
Diesel	ND	---	25.0	mg/kg dry	1	04/23/14 11:06	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 99 %*	*Limits: 50-150 %*	"	"	"	
EES-12 (W) (A4D0499-15)			**Matrix: Water**		**Batch: 4040655**			
Diesel	ND	---	0.200	mg/L	2.5	04/23/14 20:23	NWTPH-Dx	
Oil	ND	---	0.400	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
EES-13 (3-3.5) (A4D0499-16)			**Matrix: Soil**		**Batch: 4040652**			
Diesel	ND	---	25.0	mg/kg dry	1	04/23/14 11:24	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	
EES-13 (7.5-8) (A4D0499-17)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 05:15	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	
EES-13 (14.5-15) (A4D0499-19)			**Matrix: Soil**		**Batch: 4040652**			
Diesel	ND	---	25.0	mg/kg dry	1	04/23/14 11:59	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*	"	"	"	
EES-13 (W) (A4D0499-20)			**Matrix: Water**		**Batch: 4040655**			
Diesel	ND	---	0.204	mg/L	2.5	04/23/14 20:47	NWTPH-Dx	
Oil	ND	---	0.408	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
EES-3 (1.5-2) (A4D0499-21)			**Matrix: Soil**		**Batch: 4040652**			
Diesel	ND	---	218	mg/kg dry	10	04/23/14 12:17	NWTPH-Dx	
Oil	**682**	---	435	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*	"	"	"	*S-05*

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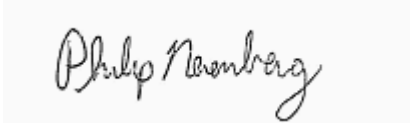

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-3 (3-3.5) (A4D0499-22)			**Matrix: Soil**		**Batch: 4040652**			
Diesel	ND	---	25.0	mg/kg dry	1	04/23/14 12:35	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
EES-3 (5.5-6) (A4D0499-23)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 05:33	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 73 %*	*Limits: 50-150 %*	"	"	"	
EES-3 (14.5-15) (A4D0499-25)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.3	mg/kg dry	1	04/24/14 05:51	NWTPH-Dx	
Oil	ND	---	50.7	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
EES-3 (W) (A4D0499-26)			**Matrix: Water**		**Batch: 4040655**			
Diesel	ND	---	0.202	mg/L	2.5	04/23/14 21:12	NWTPH-Dx	
Oil	ND	---	0.404	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	
EES-11 (3-3.5) (A4D0499-27)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 12:49	NWTPH-Dx	
Oil	**66.0**	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*	"	"	"	
EES-11 (5-5.5) (A4D0499-28)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	28.8	mg/kg dry	1	04/24/14 06:03	NWTPH-Dx	
Oil	ND	---	57.5	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
EES-11 (8-8.5) (A4D0499-29)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 06:28	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
EES-11 (14.5-15) (A4D0499-31)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 06:46	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
EES-11 (W) (A4D0499-32)			**Matrix: Water**		**Batch: 4040655**			
Diesel	ND	---	0.200	mg/L	2.5	04/23/14 21:36	NWTPH-Dx	
Oil	ND	---	0.400	"	"	"	"	

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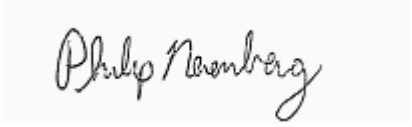

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-11 (W) (A4D0499-32)			**Matrix: Water**		**Batch: 4040655**			
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	2.5	"	NWTPH-Dx	
EES-4 (3-3.5) (A4D0499-33)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 05:10	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
EES-4 (7.5-8) (A4D0499-34)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 05:46	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 87 %*	*Limits: 50-150 %*	"	"	"	
EES-4 (14.5-15) (A4D0499-36)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	26.0	mg/kg dry	1	04/24/14 07:04	NWTPH-Dx	
Oil	ND	---	52.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	
EES-4 (W) (A4D0499-37)			**Matrix: Water**		**Batch: 4040655**			
Diesel	ND	---	0.222	mg/L	2.5	04/23/14 22:00	NWTPH-Dx	
Oil	ND	---	0.444	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 86 %*	*Limits: 50-150 %*	"	"	"	
EES-5 (3-3.5) (A4D0499-38)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.3	mg/kg dry	1	04/24/14 07:22	NWTPH-Dx	
Oil	ND	---	50.5	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
EES-5 (7.5-8) (A4D0499-39)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.4	mg/kg dry	1	04/24/14 04:35	NWTPH-Dx	
Oil	ND	---	50.8	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*	"	"	"	
EES-5 (14.5-15) (A4D0499-41)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 04:53	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
EES-5 (W) (A4D0499-42)			**Matrix: Water**		**Batch: 4040655**			
Diesel	ND	---	0.213	mg/L	2.5	04/23/14 22:25	NWTPH-Dx	
Oil	ND	---	0.426	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 86 %*	*Limits: 50-150 %*	"	"	"	

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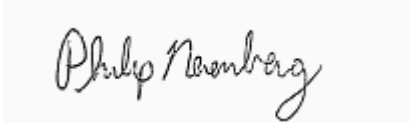

Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
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503-718-2323 Phone
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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14 (1.5-2) (A4D0499-43RE1)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	171	mg/kg dry	5	04/24/14 22:46	NWTPH-Dx	
Oil	**1630**	---	341	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 111 %*	*Limits: 50-150 %*	"	"	"	
EES-14 (3-3.5) (A4D0499-44)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 05:28	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
EES-14 (5.5-6) (A4D0499-45)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 03:59	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 83 %*	*Limits: 50-150 %*	"	"	"	
EES-14 (14.5-15) (A4D0499-48)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	27.3	mg/kg dry	1	04/24/14 04:17	NWTPH-Dx	
Oil	ND	---	54.6	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
EES-14 (W) (A4D0499-49)			**Matrix: Water**		**Batch: 4040655**			
Diesel	**0.204**	---	0.200	mg/L	2.5	04/23/14 19:58	NWTPH-Dx	F-13
Oil	ND	---	0.400	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
EES-9 (1.5-2) (A4D0499-50)			**Matrix: Soil**		**Batch: 4040663**			
Diesel	ND	---	114	mg/kg dry	5	04/24/14 06:21	NWTPH-Dx	
Oil	**314**	---	228	"	"	"	"	Q-42
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	*S-05*
EES-9 (3-3.5) (A4D0499-51)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 03:24	NWTPH-Dx	
Oil	**92.0**	---	50.0	"	"	"	"	Q-42, F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
EES-9 (5.5-6) (A4D0499-52)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 03:59	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
EES-9 (14.5-15) (A4D0499-54)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 04:17	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	

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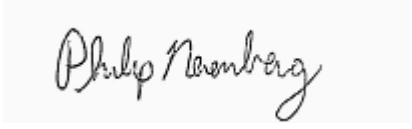

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-9 (14.5-15) (A4D0499-54)			**Matrix: Soil**		**Batch: 4040680**			
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	1	"	NWTPH-Dx	
EES-9 (W) (A4D0499-55)			**Matrix: Water**		**Batch: 4040655**			
Diesel	**0.374**	---	0.202	mg/L	2.5	04/23/14 20:23	NWTPH-Dx	F-13
Oil	ND	---	0.404	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
EES-7 (3-3.5) (A4D0499-56)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	160	mg/kg dry	10	04/24/14 04:35	NWTPH-Dx	
Oil	**372**	---	319	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	*S-05*
EES-7 (7.5-8) (A4D0499-57)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 05:10	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	
EES-7 (14.5-15) (A4D0499-59)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 05:28	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
EES-8 (3-3.5) (A4D0499-60)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	25.8	mg/kg dry	1	04/24/14 05:46	NWTPH-Dx	
Oil	**1330**	---	51.5	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
EES-8 (7.5-8) (A4D0499-61)			**Matrix: Soil**		**Batch: 4040680**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 06:21	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 84 %*	*Limits: 50-150 %*	"	"	"	
EES-8 (14.5-15) (A4D0499-63)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.1	mg/kg dry	1	04/24/14 19:07	NWTPH-Dx	
Oil	ND	---	50.3	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	
EES-10 (1.5-2) (A4D0499-64)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 22:27	NWTPH-Dx	
Oil	**1350**	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	

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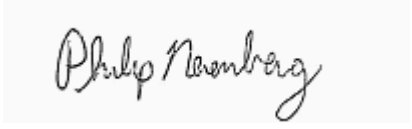

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-10 (3-3.5) (A4D0499-65)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 19:43	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
EES-10 (5.5-6) (A4D0499-66)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 20:02	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
EES-10 (14.5-15) (A4D0499-68)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 20:20	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	
EES-10 (W) (A4D0499-69)			**Matrix: Water**		**Batch: 4040655**			
Diesel	**0.547**	---	0.222	mg/L	2.5	04/23/14 20:47	NWTPH-Dx	F-13
Oil	ND	---	0.444	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	
EES-15 (7.5-8) (A4D0499-70)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 20:38	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	
EES-15 (14.5-15) (A4D0499-72)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 20:56	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	

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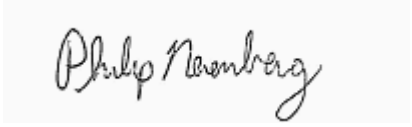

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (W) (A4D0499-05)			**Matrix: Water**		**Batch: 4050412**			
Diesel	ND	---	0.245	mg/L	1	05/14/14 20:40	NWTPH-Dx/SG	
Oil	ND	---	0.490	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (W) (A4D0499-10)			**Matrix: Water**		**Batch: 4040860**			
Diesel	**0.535**	---	0.248	mg/L	2.5	05/01/14 12:00	NWTPH-Dx/SG	F-13
Oil	ND	---	0.495	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*	"	"	"	
EES-10 (W) (A4D0499-69)			**Matrix: Water**		**Batch: 4040860**			
Diesel	ND	---	0.278	mg/L	2.5	05/01/14 12:24	NWTPH-Dx/SG	
Oil	ND	---	0.556	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 88 %*	*Limits: 50-150 %*	"	"	"	

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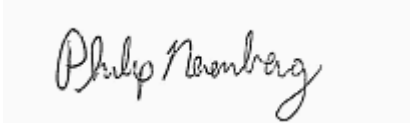

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (7.5-8) (A4D0499-02)			**Matrix: Soil**		**Batch: 4040785**			
Gasoline Range Organics	ND	---	10.9	mg/kg dry	50	04/28/14 17:48	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 103 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*114 %*	*Limits: 50-150 %*	"	"	"	
EES-1 (W) (A4D0499-05)			**Matrix: Water**		**Batch: 4040763**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/28/14 15:51	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 129 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*126 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (3-3.5) (A4D0499-06)			**Matrix: Soil**		**Batch: 4040785**			
Gasoline Range Organics	ND	---	8.93	mg/kg dry	50	04/28/14 18:13	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 104 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*115 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (14.5-15) (A4D0499-09)			**Matrix: Soil**		**Batch: 4040785**			
Gasoline Range Organics	ND	---	7.53	mg/kg dry	50	04/28/14 18:39	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 106 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*116 %*	*Limits: 50-150 %*	"	"	"	
EES-2 (W) (A4D0499-10)			**Matrix: Water**		**Batch: 4040534**			
Gasoline Range Organics	**0.239**	---	0.100	mg/L	1	04/18/14 22:49	NWTPH-Gx (MS)	F-12
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 119 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*116 %*	*Limits: 50-150 %*	"	"	"	
EES-12 (7.5-8) (A4D0499-12)			**Matrix: Soil**		**Batch: 4040785**			
Gasoline Range Organics	ND	---	7.39	mg/kg dry	50	04/28/14 19:04	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 104 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*115 %*	*Limits: 50-150 %*	"	"	"	
EES-13 (7.5-8) (A4D0499-17)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	6.59	mg/kg dry	50	04/29/14 14:39	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 94 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*105 %*	*Limits: 50-150 %*	"	"	"	
EES-13 (10-10.5) (A4D0499-18)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	8.35	mg/kg dry	50	04/29/14 15:30	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*108 %*	*Limits: 50-150 %*	"	"	"	
EES-3 (1.5-2) (A4D0499-21)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	9.51	mg/kg dry	50	04/29/14 15:56	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	1	"	"	

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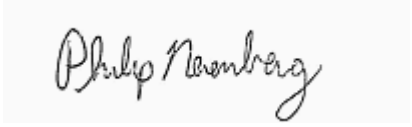

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-3 (1.5-2) (A4D0499-21)			**Matrix: Soil**		**Batch: 4040817**			
Surrogate: 1,4-Difluorobenzene (Sur)			*Recovery: 109 %*	*Limits: 50-150 %*	1	"	NWTPH-Gx (MS)	
EES-3 (W) (A4D0499-26)			**Matrix: Water**		**Batch: 4040534**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/19/14 00:32	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 114 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*114 %*	*Limits: 50-150 %*	"	"	"	
EES-11 (3-3.5) (A4D0499-27)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	6.67	mg/kg dry	50	04/29/14 16:21	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	
EES-11 (W) (A4D0499-32)			**Matrix: Water**		**Batch: 4040662**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/23/14 17:27	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 115 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*117 %*	*Limits: 50-150 %*	"	"	"	
EES-4 (7.5-8) (A4D0499-34)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	10.2	mg/kg dry	50	04/29/14 16:47	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	
EES-4 (W) (A4D0499-37)			**Matrix: Water**		**Batch: 4040534**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/19/14 00:07	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 116 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*115 %*	*Limits: 50-150 %*	"	"	"	
EES-5 (7.5-8) (A4D0499-39)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	7.18	mg/kg dry	50	04/29/14 17:13	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 97 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	
EES-5 (14.5-15) (A4D0499-41)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	8.27	mg/kg dry	50	04/29/14 20:37	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*107 %*	*Limits: 50-150 %*	"	"	"	
EES-5 (W) (A4D0499-42)			**Matrix: Water**		**Batch: 4040568**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/21/14 10:44	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 73 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*84 %*	*Limits: 50-150 %*	"	"	"	
EES-14 (1.5-2) (A4D0499-43)			**Matrix: Soil**		**Batch: 4040817**			

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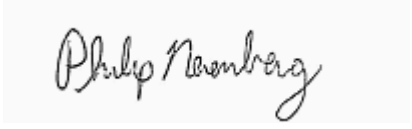

Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
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503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14 (1.5-2) (A4D0499-43)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	14.1	mg/kg dry	50	04/29/14 21:02	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*106 %*	*Limits: 50-150 %*	"	"	"	
EES-14 (W) (A4D0499-49)			**Matrix: Water**		**Batch: 4040568**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/21/14 11:37	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 89 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*87 %*	*Limits: 50-150 %*	"	"	"	
EES-9 (1.5-2) (A4D0499-50)			**Matrix: Soil**		**Batch: 4040817**			
Gasoline Range Organics	ND	---	7.73	mg/kg dry	50	04/29/14 21:28	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*107 %*	*Limits: 50-150 %*	"	"	"	
EES-9 (W) (A4D0499-55)			**Matrix: Water**		**Batch: 4040568**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/21/14 12:04	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 84 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*85 %*	*Limits: 50-150 %*	"	"	"	
EES-7 (3-3.5) (A4D0499-56)			**Matrix: Soil**		**Batch: 4040790**			
Gasoline Range Organics	ND	---	5.95	mg/kg dry	50	04/30/14 11:21	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*105 %*	*Limits: 50-150 %*	"	"	"	
EES-8 (3-3.5) (A4D0499-60)			**Matrix: Soil**		**Batch: 4040790**			
Gasoline Range Organics	ND	---	9.65	mg/kg dry	50	04/30/14 11:46	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 86 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*105 %*	*Limits: 50-150 %*	"	"	"	
EES-10 (1.5-2) (A4D0499-64)			**Matrix: Soil**		**Batch: 4040790**			
Gasoline Range Organics	ND	---	8.81	mg/kg dry	50	04/30/14 12:12	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*107 %*	*Limits: 50-150 %*	"	"	"	
EES-10 (W) (A4D0499-69)			**Matrix: Water**		**Batch: 4040568**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/21/14 12:30	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 84 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*85 %*	*Limits: 50-150 %*	"	"	"	

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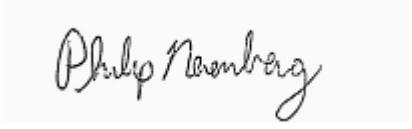

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (W) (A4D0499-05RE1)			**Matrix: Water**		**Batch: 4040825**			
Benzene	ND	---	0.250	ug/L	1	04/29/14 15:45	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*92 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*128 %*	*Limits: 80-120 %*	"	"	"	*A-01c*
4-Bromofluorobenzene (Surr)			*123 %*	*Limits: 80-120 %*	"	"	"	*A-01c*
EES-2 (W) (A4D0499-10)			**Matrix: Water**		**Batch: 4040534**			
Benzene	ND	---	0.250	ug/L	1	04/18/14 22:49	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*107 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
EES-3 (W) (A4D0499-26)			**Matrix: Water**		**Batch: 4040534**			
Benzene	ND	---	0.250	ug/L	1	04/19/14 00:32	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 122 %*	*Limits: 80-120 %*	"	"	"	*A-01b*
1,4-Difluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*108 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*104 %*	*Limits: 80-120 %*	"	"	"	
EES-11 (W) (A4D0499-32)			**Matrix: Water**		**Batch: 4040662**			
Benzene	ND	---	0.250	ug/L	1	04/23/14 17:27	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	

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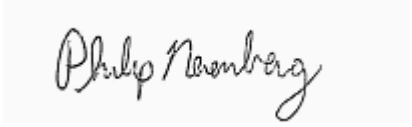

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-11 (W) (A4D0499-32)			**Matrix: Water**		**Batch: 4040662**			
Xylenes, total	ND	---	1.50	ug/L	1	"	EPA 8260B	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*112 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
EES-4 (W) (A4D0499-37)			**Matrix: Water**		**Batch: 4040534**			
Benzene	ND	---	0.250	ug/L	1	04/19/14 00:07	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 121 %*	*Limits: 80-120 %*	"	"	"	*A-01b*
1,4-Difluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
EES-5 (W) (A4D0499-42)			**Matrix: Water**		**Batch: 4040568**			
Benzene	ND	---	0.250	ug/L	1	04/21/14 10:44	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*90 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*127 %*	*Limits: 80-120 %*	"	"	"	*A-01c*
4-Bromofluorobenzene (Surr)			*122 %*	*Limits: 80-120 %*	"	"	"	*A-01c*
EES-14 (W) (A4D0499-49)			**Matrix: Water**		**Batch: 4040568**			
Benzene	ND	---	0.250	ug/L	1	04/21/14 11:37	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14 (W) (A4D0499-49)			**Matrix: Water**		**Batch: 4040568**			
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
1,4-Difluorobenzene (Surr)			*94 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*116 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*120 %*	*Limits: 80-120 %*	"	"	"	
EES-9 (W) (A4D0499-55)			**Matrix: Water**		**Batch: 4040568**			
Benzene	ND	---	0.250	ug/L	1	04/21/14 12:04	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 101 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*92 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*118 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*119 %*	*Limits: 80-120 %*	"	"	"	
EES-10 (W) (A4D0499-69)			**Matrix: Water**		**Batch: 4040568**			
Benzene	ND	---	0.250	ug/L	1	04/21/14 12:30	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*91 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*118 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*118 %*	*Limits: 80-120 %*	"	"	"	

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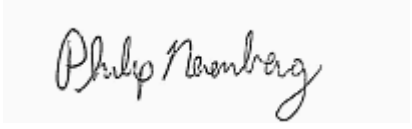

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (W) (A4D0499-05)			**Matrix: Water**		**Batch: 4040833**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/29/14 16:24	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 102 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*94 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*107 %*	*Limits: 70-130 %*	"	"	"	
EES-2 (W) (A4D0499-10)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/24/14 01:36	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 112 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*95 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*101 %*	*Limits: 70-130 %*	"	"	"	
EES-3 (W) (A4D0499-26)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/23/14 22:12	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 108 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*94 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*107 %*	*Limits: 70-130 %*	"	"	"	
EES-11 (W) (A4D0499-32)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/23/14 22:41	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*91 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*107 %*	*Limits: 70-130 %*	"	"	"	
EES-4 (W) (A4D0499-37)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/23/14 23:10	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 107 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*93 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*107 %*	*Limits: 70-130 %*	"	"	"	
EES-5 (W) (A4D0499-42)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/23/14 23:39	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 110 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*94 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*97 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*106 %*	*Limits: 70-130 %*	"	"	"	

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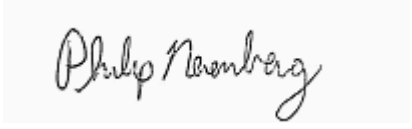

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14 (W) (A4D0499-49)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/24/14 00:08	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 108 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*94 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*106 %*	*Limits: 70-130 %*	"	"	"	
EES-9 (W) (A4D0499-55)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/24/14 00:37	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 111 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*95 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*107 %*	*Limits: 70-130 %*	"	"	"	
EES-10 (W) (A4D0499-69)			**Matrix: Water**		**Batch: 4040692**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/24/14 01:06	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 114 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*96 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*101 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*109 %*	*Limits: 70-130 %*	"	"	"	

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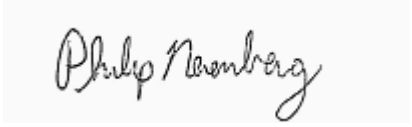

Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
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503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-11 (3-3.5) (A4D0499-27)			**Matrix: Soil**		**Batch: 4040753**			C-07
Aroclor 1016	ND	---	11.5	ug/kg dry	1	04/28/14 10:24	EPA 8082A	
Aroclor 1221	ND	---	11.5	"	"	"	"	
Aroclor 1232	ND	---	11.5	"	"	"	"	
Aroclor 1242	ND	---	11.5	"	"	"	"	
Aroclor 1248	ND	---	11.5	"	"	"	"	
Aroclor 1254	ND	---	11.5	"	"	"	"	
Aroclor 1260	ND	---	11.5	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 81 %*	*Limits: 60-125 %*	"	"	"	
EES-11 (5-5.5) (A4D0499-28)			**Matrix: Soil**		**Batch: 4040753**			C-07
Aroclor 1016	ND	---	14.1	ug/kg dry	1	04/28/14 11:00	EPA 8082A	
Aroclor 1221	ND	---	14.1	"	"	"	"	
Aroclor 1232	ND	---	14.1	"	"	"	"	
Aroclor 1242	ND	---	14.1	"	"	"	"	
Aroclor 1248	ND	---	14.1	"	"	"	"	
Aroclor 1254	ND	---	14.1	"	"	"	"	
Aroclor 1260	ND	---	14.1	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 81 %*	*Limits: 60-125 %*	"	"	"	
EES-11 (8-8.5) (A4D0499-29)			**Matrix: Soil**		**Batch: 4040753**			C-07
Aroclor 1016	ND	---	13.4	ug/kg dry	1	04/28/14 11:18	EPA 8082A	
Aroclor 1221	ND	---	13.4	"	"	"	"	
Aroclor 1232	ND	---	13.4	"	"	"	"	
Aroclor 1242	ND	---	13.4	"	"	"	"	
Aroclor 1248	ND	---	13.4	"	"	"	"	
Aroclor 1254	ND	---	13.4	"	"	"	"	
Aroclor 1260	ND	---	13.4	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 84 %*	*Limits: 60-125 %*	"	"	"	

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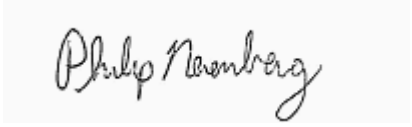

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (W) (A4D0499-05RE1)			**Matrix: Water**		**Batch: 4050452**			H-02
Acenaphthene	**0.418**	0.0860	0.172	ug/L	4	05/16/14 16:14	EPA 8270D	
Acenaphthylene	**0.144**	0.0860	0.172	"	"	"	"	J
Anthracene	**0.196**	0.0860	0.172	"	"	"	"	
Benz(a)anthracene	ND	0.0860	0.172	"	"	"	"	
Benzo(a)pyrene	ND	0.129	0.258	"	"	"	"	
Benzo(b)fluoranthene	ND	0.129	0.258	"	"	"	"	
Benzo(k)fluoranthene	ND	0.129	0.258	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0860	0.172	"	"	"	"	
Chrysene	ND	0.0860	0.172	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0860	0.172	"	"	"	"	
Fluoranthene	**0.205**	0.0860	0.172	"	"	"	"	
Fluorene	**0.428**	0.0860	0.172	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0860	0.172	"	"	"	"	
1-Methylnaphthalene	**0.417**	0.172	0.344	"	"	"	"	
2-Methylnaphthalene	**0.543**	0.172	0.344	"	"	"	"	
Naphthalene	**5.92**	0.172	0.344	"	"	"	"	B-02
Phenanthrene	**1.02**	0.0860	0.172	"	"	"	"	
Pyrene	**0.173**	0.0860	0.172	"	"	"	"	
Pentachlorophenol (PCP)	ND	0.860	1.72	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 93 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*92 %*	*Limits: 44-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*95 %*	*Limits: 50-133 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*120 %*	*Limits: 43-140 %*	"	"	"	*Q-41*

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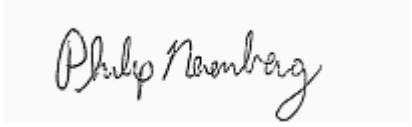

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-2 (W) (A4D0499-10RE1)			**Matrix: Water**		**Batch: 4040655**			
Acenaphthene	**47.6**	0.0792	0.158	ug/L	4	04/23/14 15:18	EPA 8270D	
Acenaphthylene	**0.502**	0.0792	0.158	"	"	"	"	
Anthracene	**4.84**	0.0792	0.158	"	"	"	"	
Benz(a)anthracene	**0.233**	0.0792	0.158	"	"	"	"	
Benzo(a)pyrene	**0.148**	0.119	0.238	"	"	"	"	J
Benzo(b)fluoranthene	**0.169**	0.119	0.238	"	"	"	"	J
Benzo(k)fluoranthene	ND	0.119	0.238	"	"	"	"	
Benzo(g,h,i)perylene	**0.0866**	0.0792	0.158	"	"	"	"	J
Chrysene	**0.217**	0.0792	0.158	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0792	0.158	"	"	"	"	
Fluoranthene	**4.24**	0.0792	0.158	"	"	"	"	
Fluorene	**33.2**	0.0792	0.158	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0792	0.158	"	"	"	"	
1-Methylnaphthalene	**38.0**	0.158	0.317	"	"	"	"	
2-Methylnaphthalene	**46.9**	0.158	0.317	"	"	"	"	
Naphthalene	**17.9**	0.158	0.317	"	"	"	"	
Phenanthrene	**34.4**	0.0792	0.158	"	"	"	"	
Pyrene	**2.69**	0.0792	0.158	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 86 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*77 %*	*Limits: 30-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*79 %*	*Limits: 30-125 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*108 %*	*Limits: 40-125 %*	"	"	"	

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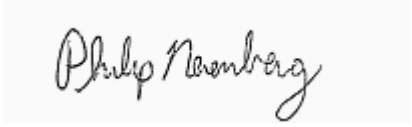

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14 (1.5-2) (A4D0499-43RE1)			**Matrix: Soil**		**Batch: 4040866**			
Acenaphthene	ND	81.0	162	ug/kg dry	10	05/01/14 13:51	EPA 8270D	
Acenaphthylene	**222**	81.0	162	"	"	"	"	
Anthracene	ND	81.0	162	"	"	"	"	
Benz(a)anthracene	**103**	81.0	162	"	"	"	"	J
Benzo(a)pyrene	**267**	122	243	"	"	"	"	
Benzo(b)fluoranthene	**522**	122	243	"	"	"	"	
Benzo(k)fluoranthene	**170**	122	243	"	"	"	"	J
Benzo(g,h,i)perylene	**640**	81.0	162	"	"	"	"	
Chrysene	**285**	81.0	162	"	"	"	"	
Dibenz(a,h)anthracene	ND	81.0	162	"	"	"	"	
Fluoranthene	**597**	81.0	162	"	"	"	"	Q-42
Fluorene	ND	81.0	162	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**384**	81.0	162	"	"	"	"	
1-Methylnaphthalene	ND	162	324	"	"	"	"	
2-Methylnaphthalene	ND	162	324	"	"	"	"	
Naphthalene	**554**	162	324	"	"	"	"	
Phenanthrene	**614**	81.0	162	"	"	"	"	Q-42
Pyrene	**328**	81.0	162	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 8 %*	*Limits: 35-120 %*	"	"	"	*S-03*
2-Fluorobiphenyl (Surr)			*16 %*	*Limits: 45-120 %*	"	"	"	*S-03*
p-Terphenyl-d14 (Surr)			*26 %*	*Limits: 30-125 %*	"	"	"	*S-03*
2,4,6-Tribromophenol (Surr)			*47 %*	*Limits: 35-125 %*	"	"	"	

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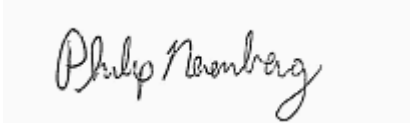

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-8 (3-3.5) (A4D0499-60RE1)			**Matrix: Soil**		**Batch: 4040866**			
Acenaphthene	ND	72.8	146	ug/kg dry	10	05/01/14 12:36	EPA 8270D	
Acenaphthylene	ND	72.8	146	"	"	"	"	
Anthracene	ND	72.8	146	"	"	"	"	
Benz(a)anthracene	ND	72.8	146	"	"	"	"	
Benzo(a)pyrene	ND	218	218	"	"	"	"	
Benzo(b)fluoranthene	**141**	109	218	"	"	"	"	J
Benzo(k)fluoranthene	ND	109	218	"	"	"	"	
Benzo(g,h,i)perylene	**118**	72.8	146	"	"	"	"	J
Chrysene	ND	72.8	146	"	"	"	"	
Dibenz(a,h)anthracene	ND	72.8	146	"	"	"	"	
Fluoranthene	**172**	72.8	146	"	"	"	"	
Fluorene	ND	72.8	146	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	72.8	146	"	"	"	"	
1-Methylnaphthalene	ND	146	291	"	"	"	"	
2-Methylnaphthalene	ND	146	291	"	"	"	"	
Naphthalene	**283**	146	291	"	"	"	"	J
Phenanthrene	**273**	72.8	146	"	"	"	"	
Pyrene	**171**	72.8	146	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 52 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*64 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*61 %*	*Limits: 30-125 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*81 %*	*Limits: 35-125 %*	"	"	"	

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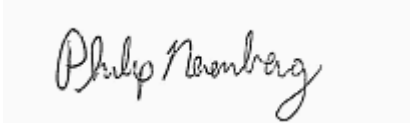

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-10 (1.5-2) (A4D0499-64RE1)			**Matrix: Soil**		**Batch: 4040866**			
Acenaphthene	ND	62.6	125	ug/kg dry	10	05/01/14 13:13	EPA 8270D	
Acenaphthylene	ND	62.6	125	"	"	"	"	
Anthracene	ND	62.6	125	"	"	"	"	
Benz(a)anthracene	ND	62.6	125	"	"	"	"	
Benzo(a)pyrene	ND	188	188	"	"	"	"	
Benzo(b)fluoranthene	ND	188	188	"	"	"	"	
Benzo(k)fluoranthene	ND	93.9	188	"	"	"	"	
Benzo(g,h,i)perylene	ND	125	125	"	"	"	"	
Chrysene	**165**	62.6	125	"	"	"	"	
Dibenz(a,h)anthracene	ND	62.6	125	"	"	"	"	
Fluoranthene	**99.5**	62.6	125	"	"	"	"	J
Fluorene	**69.6**	62.6	125	"	"	"	"	J
Indeno(1,2,3-cd)pyrene	ND	62.6	125	"	"	"	"	
1-Methylnaphthalene	ND	125	250	"	"	"	"	
2-Methylnaphthalene	ND	125	250	"	"	"	"	
Naphthalene	**131**	125	250	"	"	"	"	J
Phenanthrene	**337**	62.6	125	"	"	"	"	
Pyrene	**126**	62.6	125	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 62 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*70 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*64 %*	*Limits: 30-125 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*98 %*	*Limits: 35-125 %*	"	"	"	

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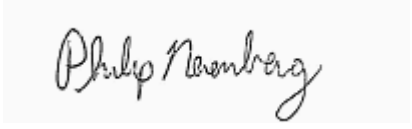

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-10 (W) (A4D0499-69)			**Matrix: Water**		**Batch: 4040655**			R-04
Acenaphthene	ND	0.0889	0.178	ug/L	4	04/28/14 16:34	EPA 8270D	
Acenaphthylene	ND	0.0889	0.178	"	"	"	"	
Anthracene	ND	0.0889	0.178	"	"	"	"	
Benz(a)anthracene	ND	0.0889	0.178	"	"	"	"	
Benzo(a)pyrene	ND	0.133	0.267	"	"	"	"	
Benzo(b)fluoranthene	ND	0.133	0.267	"	"	"	"	
Benzo(k)fluoranthene	ND	0.133	0.267	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0889	0.178	"	"	"	"	
Chrysene	ND	0.0889	0.178	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0889	0.178	"	"	"	"	
Fluoranthene	ND	0.0889	0.178	"	"	"	"	
Fluorene	ND	0.0889	0.178	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0889	0.178	"	"	"	"	
1-Methylnaphthalene	ND	0.178	0.356	"	"	"	"	
2-Methylnaphthalene	ND	0.178	0.356	"	"	"	"	
Naphthalene	ND	0.178	0.356	"	"	"	"	
Phenanthrene	ND	0.0889	0.178	"	"	"	"	
Pyrene	ND	0.0889	0.178	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 91 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*81 %*	*Limits: 30-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*104 %*	*Limits: 30-125 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*125 %*	*Limits: 40-125 %*	"	"	"	

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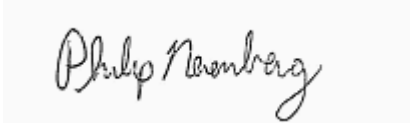

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Pentachlorophenol by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (3-3.5) (A4D0499-01)			**Matrix: Soil**		**Batch: 4040698**			
Pentachlorophenol (PCP)	ND	117	234	ug/kg dry	1	04/25/14 10:13	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol (Surr)			*Recovery: 95 %*	*Limits: 40-125 %*	"	"	"	
EES-1 (7.5-8) (A4D0499-02)			**Matrix: Soil**		**Batch: 4040698**			
Pentachlorophenol (PCP)	ND	138	276	ug/kg dry	1	04/25/14 10:49	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol (Surr)			*Recovery: 106 %*	*Limits: 40-125 %*	"	"	"	
EES-2 (3-3.5) (A4D0499-06RE1)			**Matrix: Soil**		**Batch: 4040698**			R-04
Pentachlorophenol (PCP)	ND	578	1160	ug/kg dry	4	04/25/14 11:24	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol (Surr)			*Recovery: 114 %*	*Limits: 40-125 %*	"	"	"	
EES-2 (7.5-8) (A4D0499-07RE1)			**Matrix: Soil**		**Batch: 4040698**			
Pentachlorophenol (PCP)	ND	129	258	ug/kg dry	1	04/25/14 09:02	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol (Surr)			*Recovery: 97 %*	*Limits: 40-125 %*	"	"	"	
EES-2 (W) (A4D0499-10RE1)			**Matrix: Water**		**Batch: 4040655**			R-04
Pentachlorophenol (PCP)	ND	0.792	1.58	ug/L	4	04/23/14 15:18	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol (Surr)			*Recovery: 108 %*	*Limits: 40-125 %*	"	"	"	

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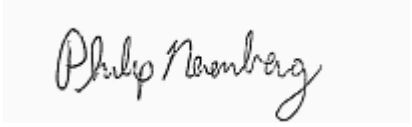

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-1 (3-3.5) (A4D0499-01)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**77.0**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-1 (7.5-8) (A4D0499-02)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**66.3**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-1 (14.5-15) (A4D0499-04)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**75.7**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-2 (3-3.5) (A4D0499-06)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**67.9**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-2 (7.5-8) (A4D0499-07)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**72.8**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-2 (14.5-15) (A4D0499-09)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**75.7**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-12 (3-3.5) (A4D0499-11)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**80.2**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-12 (7.5-8) (A4D0499-12)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.2**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-12 (14.5-15) (A4D0499-14)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**74.6**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-13 (3-3.5) (A4D0499-16)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.5**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-13 (7.5-8) (A4D0499-17)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**79.9**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-13 (10-10.5) (A4D0499-18)			**Matrix: Soil**		**Batch: 4040879**			
% Solids	**70.0**	---	1.00	% by Weight	1	05/01/14 11:15	EPA 8000C	
EES-13 (14.5-15) (A4D0499-19)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**78.1**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-3 (1.5-2) (A4D0499-21)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**75.9**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-3 (3-3.5) (A4D0499-22)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**77.3**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-3 (5.5-6) (A4D0499-23)			**Matrix: Soil**		**Batch: 4040645**			

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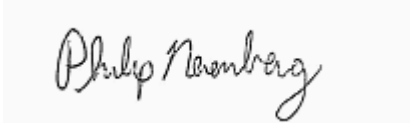

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-3 (5.5-6) (A4D0499-23)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**74.7**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-3 (14.5-15) (A4D0499-25)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**73.5**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-11 (3-3.5) (A4D0499-27)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**80.6**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-11 (5-5.5) (A4D0499-28)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**67.2**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-11 (8-8.5) (A4D0499-29)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**74.2**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-11 (14.5-15) (A4D0499-31)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**74.0**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-4 (3-3.5) (A4D0499-33)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.4**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-4 (7.5-8) (A4D0499-34)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**75.9**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-4 (14.5-15) (A4D0499-36)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**73.1**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-5 (3-3.5) (A4D0499-38)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.7**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-5 (7.5-8) (A4D0499-39)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.4**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-5 (14.5-15) (A4D0499-41)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**74.1**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-14 (1.5-2) (A4D0499-43)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**57.2**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-14 (3-3.5) (A4D0499-44)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**75.9**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-14 (5.5-6) (A4D0499-45)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**77.0**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-14 (14.5-15) (A4D0499-48)			**Matrix: Soil**		**Batch: 4040645**			

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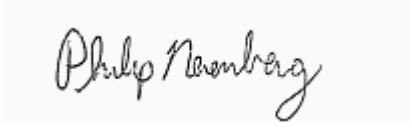

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14 (14.5-15) (A4D0499-48)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**70.5**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-9 (1.5-2) (A4D0499-50)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**79.5**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-9 (3-3.5) (A4D0499-51)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**83.0**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-9 (5.5-6) (A4D0499-52)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**73.4**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-9 (14.5-15) (A4D0499-54)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**72.8**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-7 (3-3.5) (A4D0499-56)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**91.7**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-7 (7.5-8) (A4D0499-57)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**77.0**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-7 (14.5-15) (A4D0499-59)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**75.1**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-8 (3-3.5) (A4D0499-60)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**67.2**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-8 (7.5-8) (A4D0499-61)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**77.1**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-8 (14.5-15) (A4D0499-63)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**73.5**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-10 (1.5-2) (A4D0499-64)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**74.8**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-10 (3-3.5) (A4D0499-65)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**77.5**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-10 (5.5-6) (A4D0499-66)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.8**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-10 (14.5-15) (A4D0499-68)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**71.3**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-15 (7.5-8) (A4D0499-70)			**Matrix: Soil**		**Batch: 4040645**			

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-15 (7.5-8) (A4D0499-70)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.3**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-15 (14.5-15) (A4D0499-72)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**77.4**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	

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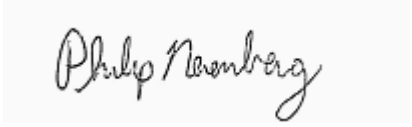

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040639 - EPA 3546 (Fuels)							**Soil**					
Blank (4040639-BLK1)					Prepared: 04/22/14 13:53 Analyzed: 04/22/14 18:40							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 106 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4040639-BS1)					Prepared: 04/22/14 13:53 Analyzed: 04/22/14 18:58							
NWTPH-Dx												
Diesel	115	---	25.0	mg/kg wet	1	125	---	92	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040639-DUP1)					Prepared: 04/22/14 13:53 Analyzed: 04/22/14 19:35							
QC Source Sample: Other (A4D0397-01)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 70 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040639-DUP2)					Prepared: 04/22/14 13:53 Analyzed: 04/23/14 23:31							
QC Source Sample: Other (A4D0481-08)												
NWTPH-Dx												
Diesel	ND	---	26.7	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	53.4	"	"	---	50.1	---	---	***	30%	Q-05
Surr: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Batch 4040652 - EPA 3546 (Fuels)							**Soil**					
Blank (4040652-BLK1)					Prepared: 04/22/14 17:12 Analyzed: 04/22/14 20:49							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4040652-BS1)					Prepared: 04/22/14 17:12 Analyzed: 04/22/14 21:08							
NWTPH-Dx												
Diesel	104	---	25.0	mg/kg wet	1	125	---	83	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 110 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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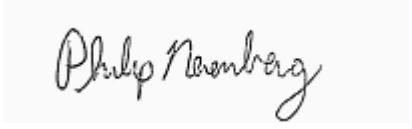

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040652 - EPA 3546 (Fuels)							**Soil**					
Duplicate (4040652-DUP1)					Prepared: 04/22/14 17:12 Analyzed: 04/23/14 12:52							
QC Source Sample: EES-3 (3-3.5) (A4D0499-22)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040652-DUP2)					Prepared: 04/22/14 19:01 Analyzed: 04/22/14 22:18							
QC Source Sample: Other (A4D0568-01)												
NWTPH-Dx												
Diesel	**15900**	---	392	mg/kg dry	20	---	11300	---	---	34	30%	Q-04
Oil	ND	---	785	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: %*	*Limits: 50-150 %*			*Dilution: 20x*					*S-01*

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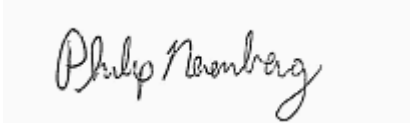

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
Blank (4040655-BLK2)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 18:21					
NWTPH-Dx												
Diesel	ND	---	0.182	mg/L	2.5	---	---	---	---	---	---	
Oil	ND	---	0.364	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS (4040655-BS2)					Prepared: 04/23/14 06:09		Analyzed: 04/23/14 18:45					
NWTPH-Dx												
Diesel	0.922	---	0.200	mg/L	2.5	1.25	---	74	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS Dup (4040655-BSD2)					Prepared: 04/23/14 06:09		Analyzed: 04/23/14 19:10					Q-19
NWTPH-Dx												
Diesel	0.933	---	0.200	mg/L	2.5	1.25	---	75	58-115%	1	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					

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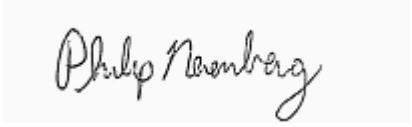

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Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040663 - EPA 3546 (Fuels)							**Soil**					
Blank (4040663-BLK1)					Prepared: 04/23/14 09:13 Analyzed: 04/24/14 04:39							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 109 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4040663-BS1)					Prepared: 04/23/14 09:13 Analyzed: 04/24/14 04:57							
NWTPH-Dx												
Diesel	111	---	25.0	mg/kg wet	1	125	---	89	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 110 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040663-DUP1)					Prepared: 04/23/14 09:13 Analyzed: 04/24/14 06:10							
QC Source Sample: EES-3 (14.5-15) (A4D0499-25)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040663-DUP2)					Prepared: 04/23/14 09:13 Analyzed: 04/24/14 06:56							
QC Source Sample: EES-9 (1.5-2) (A4D0499-50)												
NWTPH-Dx												
Diesel	ND	---	120	mg/kg dry	5	---	ND	---	---	---	30%	
Oil	**462**	---	240	"	"	---	314	---	---	38	30%	Q-17
Surr: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 5x*					

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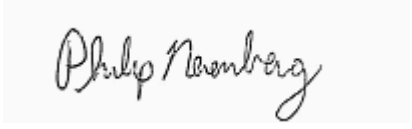

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040680 - EPA 3546 (Fuels)							**Soil**					
Blank (4040680-BLK1)					Prepared: 04/23/14 14:36 Analyzed: 04/23/14 20:18							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4040680-BS1)					Prepared: 04/23/14 14:36 Analyzed: 04/23/14 20:36							
NWTPH-Dx												
Diesel	113	---	25.0	mg/kg wet	1	125	---	90	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040680-DUP1)					Prepared: 04/23/14 14:36 Analyzed: 04/24/14 03:42							
QC Source Sample: EES-9 (3-3.5) (A4D0499-51)												
NWTPH-Dx												
Diesel	**29.2**	---	25.0	mg/kg dry	1	---	ND	---	---		30%	
Oil	**55.4**	---	50.0	"	"	---	92.0	---	---	50	30%	F-03, Q-04
Surr: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040680-DUP2)					Prepared: 04/23/14 14:36 Analyzed: 04/23/14 23:34							
QC Source Sample: Other (A4D0582-02)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	50.0	"	"	---	45.2	---	---	***	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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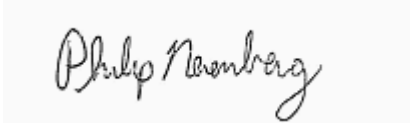

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040727 - EPA 3546 (Fuels)							**Soil**					
Blank (4040727-BLK1)					Prepared: 04/24/14 14:22 Analyzed: 04/24/14 18:30							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4040727-BS1)					Prepared: 04/24/14 14:22 Analyzed: 04/24/14 18:49							
NWTPH-Dx												
Diesel	117	---	25.0	mg/kg wet	1	125	---	94	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040727-DUP1)					Prepared: 04/24/14 14:22 Analyzed: 04/24/14 19:25							
QC Source Sample: EES-8 (14.5-15) (A4D0499-63)												
NWTPH-Dx												
Diesel	ND	---	25.1	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	50.2	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4040727-DUP2)					Prepared: 04/24/14 14:22 Analyzed: 04/24/14 22:09							
QC Source Sample: Other (A4D0626-02)												
NWTPH-Dx												
Diesel	**4730**	---	106	mg/kg dry	5	---	2510	---	---	61	30%	F-11, Q-04
Oil	ND	---	213	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 109 %*	*Limits: 50-150 %*			*Dilution: 5x*					

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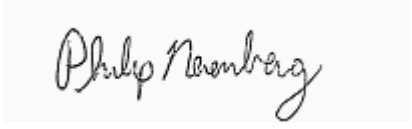

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040852 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (4040852-BLK1)					Prepared: 04/30/14 07:01		Analyzed: 05/01/14 10:47					
NWTPH-Dx												
Diesel	ND	---	0.182	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.364	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4040852-BS1)					Prepared: 04/30/14 07:01		Analyzed: 05/01/14 11:11					
NWTPH-Dx												
Diesel	0.922	---	0.200	mg/L	1	1.25	---	74	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS Dup (4040852-BSD1)					Prepared: 04/30/14 07:01		Analyzed: 05/01/14 11:35					Q-19
NWTPH-Dx												
Diesel	0.957	---	0.200	mg/L	1	1.25	---	77	58-115%	4	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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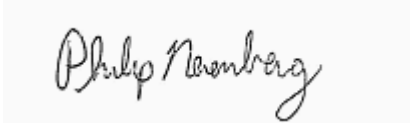

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040860 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel							**Water**					
Blank (4040860-BLK1)					Prepared: 04/23/14 06:08		Analyzed: 05/01/14 10:47					
NWTPH-Dx/SG												
Diesel	ND	---	0.227	mg/L	2.5	---	---	---	---	---	---	
Oil	ND	---	0.455	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 80 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS (4040860-BS1)					Prepared: 04/23/14 06:09		Analyzed: 05/01/14 11:11					
NWTPH-Dx/SG												
Diesel	0.840	---	0.250	mg/L	2.5	1.25	---	67	60-122%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 88 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS Dup (4040860-BSD1)					Prepared: 04/23/14 06:09		Analyzed: 05/01/14 11:35					Q-19
NWTPH-Dx/SG												
Diesel	0.851	---	0.250	mg/L	2.5	1.25	---	68	60-122%	1	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					

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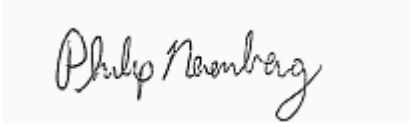

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050412 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid									**Water**			
Blank (4050412-BLK1)					Prepared: 04/30/14 07:01		Analyzed: 05/14/14 19:28					
NWTPH-Dx/SG												
Diesel	ND	---	0.227	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.455	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4050412-BS1)					Prepared: 04/30/14 07:01		Analyzed: 05/14/14 19:52					
NWTPH-Dx/SG												
Diesel	0.891	---	0.250	mg/L	1	1.25	---	71	60-122%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS Dup (4050412-BSD1)					Prepared: 04/30/14 07:01		Analyzed: 05/14/14 20:16					Q-19
NWTPH-Dx/SG												
Diesel	0.927	---	0.250	mg/L	1	1.25	---	74	60-122%	4	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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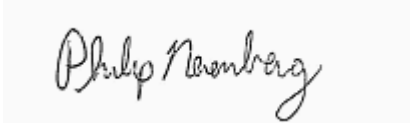

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040534 - EPA 5030B							**Water**					
Blank (4040534-BLK1)					Prepared: 04/18/14 13:00 Analyzed: 04/18/14 16:22							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 117 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*117 %*		*50-150 %*				*"*			
LCS (4040534-BS2)					Prepared: 04/18/14 13:00 Analyzed: 04/18/14 15:31							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.564	---	0.100	mg/L	1	0.500	---	113	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 115 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*115 %*		*50-150 %*				*"*			
Duplicate (4040534-DUP1)					Prepared: 04/18/14 16:00 Analyzed: 04/18/14 18:31							
QC Source Sample: Other (A4D0371-20)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	20.0	mg/L	200	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 117 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*128 %*		*50-150 %*				*"*			

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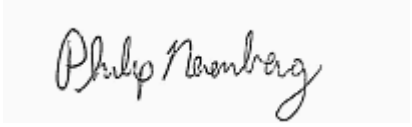

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040568 - EPA 5030B							**Water**					
Blank (4040568-BLK1)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 10:18							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*89 %*	*50-150 %*			*"*					
LCS (4040568-BS2)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 09:51							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.493	---	0.100	mg/L	1	0.500	---	99	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*88 %*	*50-150 %*			*"*					
Duplicate (4040568-DUP1)					Prepared: 04/21/14 09:53 Analyzed: 04/21/14 11:11							
QC Source Sample: EES-5 (W) (A4D0499-42)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 87 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*89 %*	*50-150 %*			*"*					

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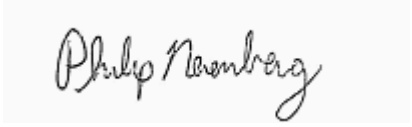

Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040662 - EPA 5030B							**Water**					
Blank (4040662-BLK1)					Prepared: 04/23/14 13:00 Analyzed: 04/23/14 17:01							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 116 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*119 %*		*50-150 %*			*"*				
LCS (4040662-BS2)					Prepared: 04/23/14 13:00 Analyzed: 04/23/14 16:09							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.571	---	0.100	mg/L	1	0.500	---	114	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 113 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*118 %*		*50-150 %*			*"*				
Duplicate (4040662-DUP1)					Prepared: 04/23/14 16:54 Analyzed: 04/23/14 18:18							
QC Source Sample: Other (A4D0598-01)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 112 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*113 %*		*50-150 %*			*"*				

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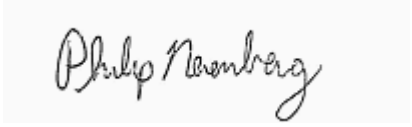

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040763 - EPA 5030B							**Water**					
Blank (4040763-BLK1)					Prepared: 04/28/14 09:00		Analyzed: 04/28/14 11:59					
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 121 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*119 %*		*50-150 %*		*"*					
LCS (4040763-BS2)					Prepared: 04/28/14 09:00		Analyzed: 04/28/14 11:07					
NWTPH-Gx (MS)												
Gasoline Range Organics	0.567	---	0.100	mg/L	1	0.500	---	113	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 120 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*118 %*		*50-150 %*		*"*					
Duplicate (4040763-DUP1)					Prepared: 04/28/14 10:00		Analyzed: 04/28/14 12:50					
QC Source Sample: Other (A4D0666-03)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 126 %*		*Limits: 50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*123 %*		*50-150 %*		*"*					

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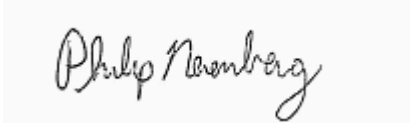

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040785 - EPA 5035A							**Soil**					
Blank (4040785-BLK1)					Prepared: 04/28/14 08:30 Analyzed: 04/28/14 11:11							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					
LCS (4040785-BS2)					Prepared: 04/28/14 08:30 Analyzed: 04/28/14 10:47							
NWTPH-Gx (MS)												
Gasoline Range Organics	24.4	---	5.00	mg/kg wet	50	25.0	---	98	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 98 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*109 %*	*50-150 %*			*"*					
Duplicate (4040785-DUP1)					Prepared: 04/25/14 17:50 Analyzed: 04/28/14 11:59							
QC Source Sample: Other (A4D0651-01)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	5.33	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*108 %*	*50-150 %*			*"*					
Duplicate (4040785-DUP2)					Prepared: 04/25/14 18:15 Analyzed: 04/28/14 14:28							
QC Source Sample: Other (A4D0652-01)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	5.20	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*112 %*	*50-150 %*			*"*					

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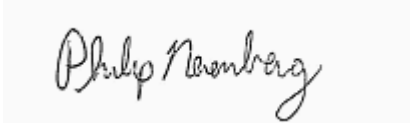

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040790 - EPA 5035A							**Soil**					
Blank (4040790-BLK1)					Prepared: 04/30/14 08:30 Analyzed: 04/30/14 10:30							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					
LCS (4040790-BS2)					Prepared: 04/30/14 08:30 Analyzed: 04/30/14 10:05							
NWTPH-Gx (MS)												
Gasoline Range Organics	21.8	---	5.00	mg/kg wet	50	25.0	---	87	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 94 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*106 %*	*50-150 %*			*"*					
Duplicate (4040790-DUP1)					Prepared: 04/18/14 09:20 Analyzed: 04/30/14 13:03							
QC Source Sample: Other (A4D0509-04)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	6.79	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*109 %*	*50-150 %*			*"*					

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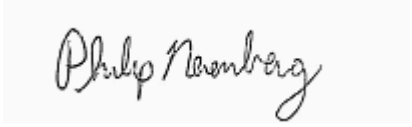

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040817 - EPA 5035A							**Soil**					
Blank (4040817-BLK1)					Prepared: 04/29/14 09:00 Analyzed: 04/29/14 14:14							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 91 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*104 %*	*50-150 %*			*"*					
LCS (4040817-BS2)					Prepared: 04/29/14 09:00 Analyzed: 04/29/14 13:45							
NWTPH-Gx (MS)												
Gasoline Range Organics	20.3	---	5.00	mg/kg wet	50	25.0	---	81	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 91 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*106 %*	*50-150 %*			*"*					
Duplicate (4040817-DUP1)					Prepared: 04/16/14 13:15 Analyzed: 04/29/14 15:05							
QC Source Sample: EES-13 (7.5-8) (A4D0499-17)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	6.64	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*107 %*	*50-150 %*			*"*					

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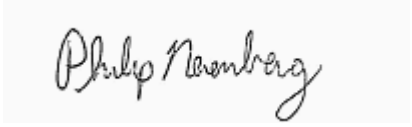

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040534 - EPA 5030B							**Water**					
Blank (4040534-BLK1)					Prepared: 04/18/14 13:00 Analyzed: 04/18/14 16:22							
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 117 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*109 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*110 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*103 %*		*80-120 %*			*"*				
LCS (4040534-BS1)					Prepared: 04/18/14 13:00 Analyzed: 04/18/14 15:05							
EPA 8260B												
Benzene	22.3	---	0.250	ug/L	1	20.0	---	112	70-130%	---	---	
Toluene	21.4	---	1.00	"	"	"	---	107	"	---	---	
Ethylbenzene	22.5	---	0.500	"	"	"	---	113	"	---	---	
Xylenes, total	63.2	---	1.50	"	"	60.0	---	105	"	---	---	
Naphthalene	17.3	---	2.00	"	"	20.0	---	86	"	---	---	
Methyl tert-butyl ether (MTBE)	24.3	---	1.00	"	"	"	---	121	"	---	---	
Isopropylbenzene	19.6	---	1.00	"	"	"	---	98	"	---	---	
n-Propylbenzene	22.1	---	0.500	"	"	"	---	111	"	---	---	
1,2,4-Trimethylbenzene	20.5	---	1.00	"	"	"	---	103	"	---	---	
1,3,5-Trimethylbenzene	23.6	---	1.00	"	"	"	---	118	"	---	---	
1,2-Dibromoethane (EDB)	20.6	---	0.500	"	"	"	---	103	"	---	---	
1,2-Dichloroethane (EDC)	24.6	---	0.500	"	"	"	---	123	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 110 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*102 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*102 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*95 %*		*80-120 %*			*"*				

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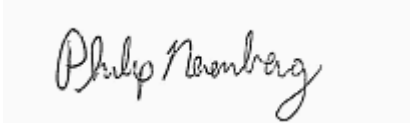

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040534 - EPA 5030B							**Water**					
Duplicate (4040534-DUP1)					Prepared: 04/18/14 16:00 Analyzed: 04/18/14 18:31							
QC Source Sample: Other (A4D0371-20)												
EPA 8260B												
Benzene	ND	---	50.0	ug/L	200	---	ND	---	---	---	30%	
Toluene	ND	---	200	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	100	"	"	---	ND	---	---	---	30%	
Xylenes, total	ND	---	300	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	400	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	200	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	200	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	100	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	200	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	200	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	100	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	100	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 119 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*115 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*111 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*105 %*		*80-120 %*		*"*					
Matrix Spike (4040534-MS1)					Prepared: 04/18/14 19:00 Analyzed: 04/19/14 00:58							
QC Source Sample: EES-3 (W) (A4D0499-26)												
EPA 8260B												
Benzene	20.5	---	0.250	ug/L	1	20.0	ND	103	70-130%	---	---	
Toluene	19.8	---	1.00	"	"	"	ND	99	"	---	---	
Ethylbenzene	21.5	---	0.500	"	"	"	ND	107	"	---	---	
Xylenes, total	59.2	---	1.50	"	"	60.0	ND	99	"	---	---	
Naphthalene	16.3	---	2.00	"	"	20.0	ND	82	"	---	---	
Methyl tert-butyl ether (MTBE)	21.2	---	1.00	"	"	"	ND	106	"	---	---	
Isopropylbenzene	18.6	---	1.00	"	"	"	ND	93	"	---	---	
n-Propylbenzene	21.7	---	0.500	"	"	"	ND	108	"	---	---	
1,2,4-Trimethylbenzene	19.9	---	1.00	"	"	"	ND	100	"	---	---	
1,3,5-Trimethylbenzene	22.7	---	1.00	"	"	"	ND	114	"	---	---	
1,2-Dibromoethane (EDB)	18.9	---	0.500	"	"	"	ND	94	"	---	---	
1,2-Dichloroethane (EDC)	23.4	---	0.500	"	"	"	ND	117	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 111 %*		*Limits: 80-120 %*		*Dilution: 1x*					

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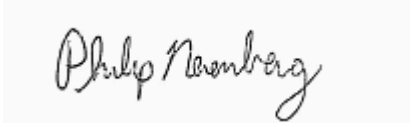

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040534 - EPA 5030B												**Water**
Matrix Spike (4040534-MS1)						Prepared: 04/18/14 19:00 Analyzed: 04/19/14 00:58						
QC Source Sample: EES-3 (W) (A4D0499-26)												
Surr: 1,4-Difluorobenzene (Surr)	*Recovery: 100 %*		*Limits: 80-120 %*		*Dilution: 1x*							
Toluene-d8 (Surr)	*99 %*		*80-120 %*		*"*							
4-Bromofluorobenzene (Surr)	*94 %*		*80-120 %*		*"*							

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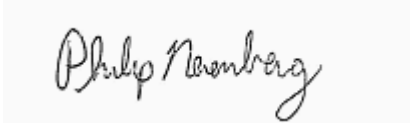

Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040568 - EPA 5030B							**Water**					
Blank (4040568-BLK1)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 10:18							
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 107 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*95 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*114 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*117 %*		*80-120 %*			*"*				
LCS (4040568-BS1)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 09:25							
EPA 8260B												
Benzene	18.8	---	0.250	ug/L	1	20.0	---	94	70-130%	---	---	
Toluene	21.0	---	1.00	"	"	"	---	105	"	---	---	
Ethylbenzene	21.4	---	0.500	"	"	"	---	107	"	---	---	
Xylenes, total	65.7	---	1.50	"	"	60.0	---	109	"	---	---	
Naphthalene	21.4	---	2.00	"	"	20.0	---	107	"	---	---	
Methyl tert-butyl ether (MTBE)	18.2	---	1.00	"	"	"	---	91	"	---	---	
Isopropylbenzene	22.2	---	1.00	"	"	"	---	111	"	---	---	
n-Propylbenzene	21.2	---	0.500	"	"	"	---	106	"	---	---	
1,2,4-Trimethylbenzene	21.6	---	1.00	"	"	"	---	108	"	---	---	
1,3,5-Trimethylbenzene	21.6	---	1.00	"	"	"	---	108	"	---	---	
1,2-Dibromoethane (EDB)	21.1	---	0.500	"	"	"	---	106	"	---	---	
1,2-Dichloroethane (EDC)	17.4	---	0.500	"	"	"	---	87	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 101 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*93 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*113 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*113 %*		*80-120 %*			*"*				

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Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040568 - EPA 5030B							**Water**					
Duplicate (4040568-DUP1)					Prepared: 04/21/14 09:53 Analyzed: 04/21/14 11:11							
QC Source Sample: EES-5 (W) (A4D0499-42)												
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Xylenes, total	ND	---	1.50	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	2.00	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.500	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 109 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*96 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*120 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*121 %*		*80-120 %*		*"*					*A-01c*
Matrix Spike (4040568-MS1)					Prepared: 04/21/14 09:53 Analyzed: 04/21/14 13:50							
QC Source Sample: Other (A4D0509-02)												
EPA 8260B												
Benzene	16.1	---	0.250	ug/L	1	20.0	ND	80	70-130%	---	---	
Toluene	19.2	---	1.00	"	"	"	ND	96	"	---	---	
Ethylbenzene	19.7	---	0.500	"	"	"	ND	98	"	---	---	
Xylenes, total	57.9	---	1.50	"	"	60.0	ND	97	"	---	---	
Naphthalene	16.6	---	2.00	"	"	20.0	ND	83	"	---	---	
Methyl tert-butyl ether (MTBE)	14.0	---	1.00	"	"	"	ND	70	"	---	---	
Isopropylbenzene	20.5	---	1.00	"	"	"	ND	102	"	---	---	
n-Propylbenzene	19.5	---	0.500	"	"	"	ND	98	"	---	---	
1,2,4-Trimethylbenzene	19.9	---	1.00	"	"	"	ND	99	"	---	---	
1,3,5-Trimethylbenzene	19.5	---	1.00	"	"	"	ND	98	"	---	---	
1,2-Dibromoethane (EDB)	17.1	---	0.500	"	"	"	ND	86	"	---	---	
1,2-Dichloroethane (EDC)	14.5	---	0.500	"	"	"	ND	72	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 98 %*		*Limits: 80-120 %*		*Dilution: 1x*					

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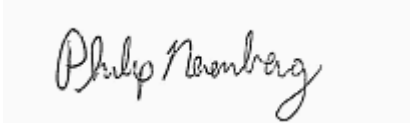

Philip Nerenberg, Lab Director

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503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040568 - EPA 5030B												**Water**
Matrix Spike (4040568-MS1)						Prepared: 04/21/14 09:53 Analyzed: 04/21/14 13:50						
QC Source Sample: Other (A4D0509-02)												
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 91 %*	*Limits: 80-120 %*		*Dilution: 1x*						
Toluene-d8 (Surr)			*112 %*	*80-120 %*		*"*						
4-Bromofluorobenzene (Surr)			*114 %*	*80-120 %*		*"*						

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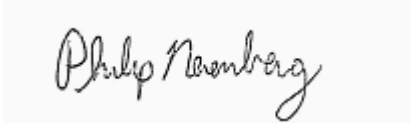

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040662 - EPA 5030B							**Water**					
Blank (4040662-BLK1)					Prepared: 04/23/14 13:00 Analyzed: 04/23/14 17:01							
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 116 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*106 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*109 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*102 %*		*80-120 %*			*"*				
LCS (4040662-BS1)					Prepared: 04/23/14 13:00 Analyzed: 04/23/14 15:43							
EPA 8260B												
Benzene	22.3	---	0.250	ug/L	1	20.0	---	111	70-130%	---	---	
Toluene	21.9	---	1.00	"	"	"	---	109	"	---	---	
Ethylbenzene	23.3	---	0.500	"	"	"	---	116	"	---	---	
Xylenes, total	65.0	---	1.50	"	"	60.0	---	108	"	---	---	
Naphthalene	17.3	---	2.00	"	"	20.0	---	87	"	---	---	
Methyl tert-butyl ether (MTBE)	24.5	---	1.00	"	"	"	---	123	"	---	---	
Isopropylbenzene	20.2	---	1.00	"	"	"	---	101	"	---	---	
n-Propylbenzene	23.5	---	0.500	"	"	"	---	118	"	---	---	
1,2,4-Trimethylbenzene	21.7	---	1.00	"	"	"	---	108	"	---	---	
1,3,5-Trimethylbenzene	25.3	---	1.00	"	"	"	---	127	"	---	---	
1,2-Dibromoethane (EDB)	21.2	---	0.500	"	"	"	---	106	"	---	---	
1,2-Dichloroethane (EDC)	25.8	---	0.500	"	"	"	---	129	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 108 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*101 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*101 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*93 %*		*80-120 %*			*"*				

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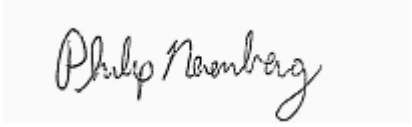

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040662 - EPA 5030B							**Water**					
Duplicate (4040662-DUP1)					Prepared: 04/23/14 16:54 Analyzed: 04/23/14 18:18							
QC Source Sample: Other (A4D0598-01)												
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Xylenes, total	ND	---	1.50	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	2.00	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.500	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 123 %*	*Limits: 80-120 %*			*Dilution: 1x*					*A-01a*
1,4-Difluorobenzene (Surr)			*101 %*	*80-120 %*			*"*					
Toluene-d8 (Surr)			*111 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*			*"*					
Matrix Spike (4040662-MS1)					Prepared: 04/23/14 16:54 Analyzed: 04/23/14 23:54							
QC Source Sample: Other (A4D0588-01)												
EPA 8260B												
Benzene	21.8	---	0.250	ug/L	1	20.0	ND	109	70-130%	---	---	
Toluene	21.1	---	1.00	"	"	"	ND	106	"	---	---	
Ethylbenzene	22.9	---	0.500	"	"	"	ND	114	"	---	---	
Xylenes, total	64.7	---	1.50	"	"	60.0	ND	108	"	---	---	
Naphthalene	18.1	---	2.00	"	"	20.0	ND	90	"	---	---	
Methyl tert-butyl ether (MTBE)	22.7	---	1.00	"	"	"	ND	113	"	---	---	
Isopropylbenzene	20.3	---	1.00	"	"	"	ND	102	"	---	---	
n-Propylbenzene	23.1	---	0.500	"	"	"	ND	116	"	---	---	
1,2,4-Trimethylbenzene	21.3	---	1.00	"	"	"	ND	107	"	---	---	
1,3,5-Trimethylbenzene	24.7	---	1.00	"	"	"	ND	123	"	---	---	
1,2-Dibromoethane (EDB)	20.1	---	0.500	"	"	"	ND	100	"	---	---	
1,2-Dichloroethane (EDC)	26.2	---	0.500	"	"	"	ND	131	"	---	---	Q-01
Surr: Dibromofluoromethane (Surr)			*Recovery: 110 %*	*Limits: 80-120 %*			*Dilution: 1x*					

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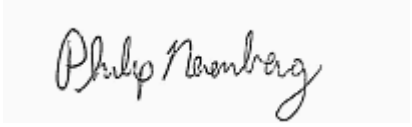

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040662 - EPA 5030B												**Water**
Matrix Spike (4040662-MS1)						Prepared: 04/23/14 16:54 Analyzed: 04/23/14 23:54						
QC Source Sample: Other (A4D0588-01)												
Surr: 1,4-Difluorobenzene (Surr)	*Recovery: 100 %*		*Limits: 80-120 %*		*Dilution: 1x*							
Toluene-d8 (Surr)	*99 %*		*80-120 %*		*"*							
4-Bromofluorobenzene (Surr)	*90 %*		*80-120 %*		*"*							

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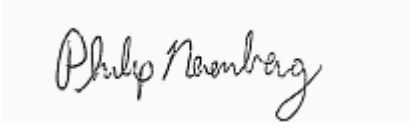

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040763 - EPA 5030B							**Water**					
Blank (4040763-BLK1)					Prepared: 04/28/14 09:00 Analyzed: 04/28/14 11:59							
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 119 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*103 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*113 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*105 %*		*80-120 %*			*"*				
LCS (4040763-BS1)					Prepared: 04/28/14 09:00 Analyzed: 04/28/14 10:41							
EPA 8260B												
Benzene	19.8	---	0.250	ug/L	1	20.0	---	99	70-130%	---	---	
Toluene	20.8	---	1.00	"	"	"	---	104	"	---	---	
Ethylbenzene	21.9	---	0.500	"	"	"	---	110	"	---	---	
Xylenes, total	60.4	---	1.50	"	"	60.0	---	101	"	---	---	
Naphthalene	15.9	---	2.00	"	"	20.0	---	80	"	---	---	
Methyl tert-butyl ether (MTBE)	22.4	---	1.00	"	"	"	---	112	"	---	---	
Isopropylbenzene	18.9	---	1.00	"	"	"	---	94	"	---	---	
n-Propylbenzene	21.3	---	0.500	"	"	"	---	106	"	---	---	
1,2,4-Trimethylbenzene	19.9	---	1.00	"	"	"	---	100	"	---	---	
1,3,5-Trimethylbenzene	22.8	---	1.00	"	"	"	---	114	"	---	---	
1,2-Dibromoethane (EDB)	20.1	---	0.500	"	"	"	---	100	"	---	---	
1,2-Dichloroethane (EDC)	24.2	---	0.500	"	"	"	---	121	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 108 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*104 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*			*"*				

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12232 S.W. Garden Place
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503-718-2323 Phone
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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040763 - EPA 5030B							**Water**					
Duplicate (4040763-DUP1)					Prepared: 04/28/14 10:00 Analyzed: 04/28/14 12:50							
QC Source Sample: Other (A4D0666-03)												
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Xylenes, total	ND	---	1.50	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	2.00	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.500	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 124 %*	*Limits: 80-120 %*			*Dilution: 1x*					*A-01a*
1,4-Difluorobenzene (Surr)			*105 %*	*80-120 %*			*"*					
Toluene-d8 (Surr)			*113 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*104 %*	*80-120 %*			*"*					
Matrix Spike (4040763-MS1)					Prepared: 04/28/14 10:00 Analyzed: 04/28/14 20:36							
QC Source Sample: Other (A4D0674-09)												
EPA 8260B												
Benzene	4790	---	62.5	ug/L	250	5000	ND	96	70-130%	---	---	
Toluene	4760	---	250	"	"	"	ND	95	"	---	---	
Ethylbenzene	5220	---	125	"	"	"	ND	104	"	---	---	
Xylenes, total	14400	---	375	"	"	15000	ND	96	"	---	---	
Naphthalene	3520	---	500	"	"	5000	ND	70	"	---	---	
Methyl tert-butyl ether (MTBE)	5030	---	250	"	"	"	ND	101	"	---	---	
Isopropylbenzene	4330	---	250	"	"	"	ND	87	"	---	---	
n-Propylbenzene	4880	---	125	"	"	"	ND	98	"	---	---	
1,2,4-Trimethylbenzene	4460	---	250	"	"	"	ND	89	"	---	---	
1,3,5-Trimethylbenzene	5330	---	250	"	"	"	ND	107	"	---	---	
1,2-Dibromoethane (EDB)	4760	---	125	"	"	"	ND	95	"	---	---	
1,2-Dichloroethane (EDC)	6520	---	125	"	"	"	ND	130	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*			*Dilution: 1x*					

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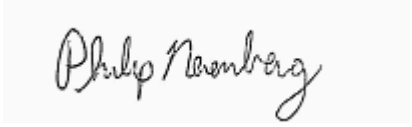

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040763 - EPA 5030B												**Water**
Matrix Spike (4040763-MS1)						Prepared: 04/28/14 10:00 Analyzed: 04/28/14 20:36						
QC Source Sample: Other (A4D0674-09)												
Surr: 1,4-Difluorobenzene (Surr)	*Recovery: 106 %*		*Limits: 80-120 %*		*Dilution: 1x*							
Toluene-d8 (Surr)	*104 %*		*80-120 %*		*"*							
4-Bromofluorobenzene (Surr)	*90 %*		*80-120 %*		*"*							

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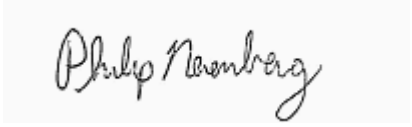

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040825 - EPA 5030B							**Water**					
Blank (4040825-BLK1)					Prepared: 04/29/14 10:00 Analyzed: 04/29/14 13:06							
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*92 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*130 %*		*80-120 %*		*"*					*A-01c*
4-Bromofluorobenzene (Surr)			*121 %*		*80-120 %*		*"*					*A-01c*
LCS (4040825-BS1)					Prepared: 04/29/14 10:00 Analyzed: 04/29/14 12:11							
EPA 8260B												
Benzene	19.5	---	0.250	ug/L	1	20.0	---	97	70-130%	---	---	
Toluene	22.1	---	1.00	"	"	"	---	111	"	---	---	
Ethylbenzene	22.9	---	0.500	"	"	"	---	115	"	---	---	
Xylenes, total	69.9	---	1.50	"	"	60.0	---	116	"	---	---	
Naphthalene	16.1	---	2.00	"	"	20.0	---	80	"	---	---	
Methyl tert-butyl ether (MTBE)	18.2	---	1.00	"	"	"	---	91	"	---	---	
Isopropylbenzene	22.9	---	1.00	"	"	"	---	114	"	---	---	
n-Propylbenzene	23.5	---	0.500	"	"	"	---	117	"	---	---	
1,2,4-Trimethylbenzene	23.4	---	1.00	"	"	"	---	117	"	---	---	
1,3,5-Trimethylbenzene	23.3	---	1.00	"	"	"	---	117	"	---	---	
1,2-Dibromoethane (EDB)	18.2	---	0.500	"	"	"	---	91	"	---	---	
1,2-Dichloroethane (EDC)	18.4	---	0.500	"	"	"	---	92	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 106 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*93 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*128 %*		*80-120 %*		*"*					*A-01c*
4-Bromofluorobenzene (Surr)			*118 %*		*80-120 %*		*"*					

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Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040825 - EPA 5030B							**Water**					
Duplicate (4040825-DUP1)					Prepared: 04/29/14 13:00 Analyzed: 04/29/14 13:59							
QC Source Sample: Other (A4D0711-01)												
EPA 8260B												
Benzene	**17.7**	---	0.250	ug/L	1	---	18.4	---	---	4	30%	
Toluene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	**68.3**	---	0.500	"	"	---	69.3	---	---	1	30%	
Xylenes, total	**39.4**	---	1.50	"	"	---	39.2	---	---	0.6	30%	
Naphthalene	**3.45**	---	2.00	"	"	---	3.57	---	---	3	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	**13.3**	---	1.00	"	"	---	13.6	---	---	2	30%	
n-Propylbenzene	**19.4**	---	0.500	"	"	---	19.8	---	---	2	30%	
1,2,4-Trimethylbenzene	**52.8**	---	1.00	"	"	---	54.8	---	---	4	30%	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 102 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*90 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*130 %*		*80-120 %*		*"*					*A-01c*
4-Bromofluorobenzene (Surr)			*115 %*		*80-120 %*		*"*					
Matrix Spike (4040825-MS1)					Prepared: 04/29/14 17:00 Analyzed: 04/29/14 22:22							
QC Source Sample: Other (A4D0731-01)												
EPA 8260B												
Benzene	167	---	2.50	ug/L	10	200	ND	84	70-130%	---	---	
Toluene	199	---	10.0	"	"	"	ND	99	"	---	---	
Ethylbenzene	201	---	5.00	"	"	"	ND	101	"	---	---	
Xylenes, total	603	---	15.0	"	"	600	ND	100	"	---	---	
Naphthalene	151	---	20.0	"	"	200	ND	75	"	---	---	
Methyl tert-butyl ether (MTBE)	148	---	10.0	"	"	"	ND	74	"	---	---	
Isopropylbenzene	201	---	10.0	"	"	"	ND	101	"	---	---	
n-Propylbenzene	192	---	5.00	"	"	"	ND	96	"	---	---	
1,2,4-Trimethylbenzene	192	---	10.0	"	"	"	ND	96	"	---	---	
1,3,5-Trimethylbenzene	191	---	10.0	"	"	"	ND	95	"	---	---	
1,2-Dibromoethane (EDB)	176	---	5.00	"	"	"	ND	88	"	---	---	
1,2-Dichloroethane (EDC)	148	---	5.00	"	"	"	ND	74	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 96 %*		*Limits: 80-120 %*		*Dilution: 1x*					

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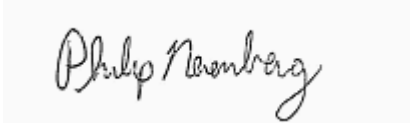

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040825 - EPA 5030B												**Water**
Matrix Spike (4040825-MS1)					Prepared: 04/29/14 17:00 Analyzed: 04/29/14 22:22							
QC Source Sample: Other (A4D0731-01)												
Surr: 1,4-Difluorobenzene (Surr)	*Recovery: 88 %*		*Limits: 80-120 %*		*Dilution: 1x*							
Toluene-d8 (Surr)	*122 %*		*80-120 %*		*"*							*A-01c*
4-Bromofluorobenzene (Surr)	*117 %*		*80-120 %*		*"*							

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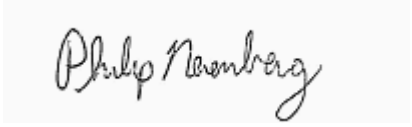

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040692 - EPA 5030B							**Water**					
Blank (4040692-BLK1)					Prepared: 04/23/14 12:00		Analyzed: 04/23/14 16:23					
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 110 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*97 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*100 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*106 %*	*70-130 %*			*"*					
LCS (4040692-BS1)					Prepared: 04/23/14 12:00		Analyzed: 04/23/14 16:52					
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	0.208	0.0100	0.0200	ug/L	1	0.200	---	104	80-120%	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 108 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*97 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*102 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*102 %*	*70-130 %*			*"*					
Duplicate (4040692-DUP1)					Prepared: 04/23/14 12:00		Analyzed: 04/23/14 18:19					
QC Source Sample: Other (A4D0311-29)												
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*95 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*99 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*106 %*	*70-130 %*			*"*					
Matrix Spike (4040692-MS1)					Prepared: 04/23/14 12:00		Analyzed: 04/23/14 19:17					
QC Source Sample: Other (A4D0311-33)												
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	0.442	0.0100	0.0200	ug/L	1	0.465	ND	95	80-120%	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 106 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*96 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*97 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*98 %*	*70-130 %*			*"*					

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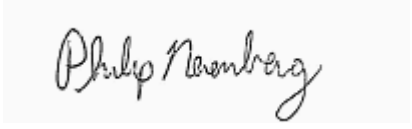

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040833 - EPA 5030B							**Water**					
Blank (4040833-BLK1)					Prepared: 04/29/14 13:08		Analyzed: 04/29/14 14:57					
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*96 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*99 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*108 %*	*70-130 %*			*"*					
LCS (4040833-BS1)					Prepared: 04/29/14 13:08		Analyzed: 04/29/14 15:26					
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	0.192	0.0100	0.0200	ug/L	1	0.200	---	96	80-120%	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 101 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*96 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*97 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*103 %*	*70-130 %*			*"*					
Duplicate (4040833-DUP1)					Prepared: 04/29/14 13:08		Analyzed: 04/29/14 17:51					
QC Source Sample: Other (A4D0509-02)												
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 99 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*91 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*97 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*104 %*	*70-130 %*			*"*					
Matrix Spike (4040833-MS1)					Prepared: 04/29/14 13:08		Analyzed: 04/29/14 19:19					
QC Source Sample: Other (A4D0580-01)												
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	0.473	0.0100	0.0200	ug/L	1	0.465	ND	102	80-120%	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 104 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*94 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*93 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*99 %*	*70-130 %*			*"*					

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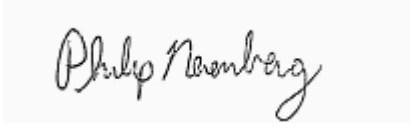

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Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040753 - EPA 3546							**Soil**					
Blank (4040753-BLK3)					Prepared: 04/25/14 09:46 Analyzed: 04/28/14 16:12							C-07
EPA 8082A												
Aroclor 1016	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	8.33	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 88 %*	*Limits: 60-125 %*			*Dilution: 1x*					
LCS (4040753-BS3)					Prepared: 04/25/14 09:46 Analyzed: 04/28/14 16:30							C-07
EPA 8082A												
Aroclor 1016	214	---	10.0	ug/kg wet	1	250	---	86	47-134%	---	---	
Aroclor 1260	244	---	10.0	"	"	"	---	98	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 89 %*	*Limits: 60-125 %*			*Dilution: 1x*					
Duplicate (4040753-DUP1)					Prepared: 04/25/14 09:46 Analyzed: 04/28/14 10:42							C-07
QC Source Sample: EES-11 (3-3.5) (A4D0499-27)												
EPA 8082A												
Aroclor 1016	ND	---	10.9	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	10.9	"	"	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	10.9	"	"	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	10.9	"	"	---	ND	---	---	---	30%	
Aroclor 1248	ND	---	10.9	"	"	---	ND	---	---	---	30%	
Aroclor 1254	ND	---	10.9	"	"	---	ND	---	---	---	30%	
Aroclor 1260	ND	---	10.9	"	"	---	ND	---	---	---	30%	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 81 %*	*Limits: 60-125 %*			*Dilution: 1x*					
Matrix Spike (4040753-MS1)					Prepared: 04/25/14 09:46 Analyzed: 04/28/14 11:36							C-07
QC Source Sample: EES-11 (8-8.5) (A4D0499-29)												
EPA 8082A												
Aroclor 1016	243	---	13.0	ug/kg dry	1	326	ND	75	47-134%	---	---	
Aroclor 1260	305	---	13.0	"	"	"	ND	94	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 83 %*	*Limits: 60-125 %*			*Dilution: 1x*					

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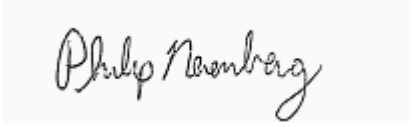

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
Blank (4040655-BLK3)					Prepared: 04/23/14 06:08 Analyzed: 04/23/14 12:16							
EPA 8270D												
Acenaphthene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	0.0545	0.109	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Carbazole	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
2-Chloronaphthalene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Chrysene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Fluoranthene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Fluorene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
Naphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
Phenanthrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Pyrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 85 %*		*Limits: 35-120 %*				*Dilution: 1x*			
2-Fluorobiphenyl (Surr)			*81 %*		*30-120 %*				*"*			
p-Terphenyl-d14 (Surr)			*92 %*		*30-125 %*				*"*			
2,4,6-Tribromophenol (Surr)			*94 %*		*40-125 %*				*"*			
LCS (4040655-BS3)					Prepared: 04/23/14 06:08 Analyzed: 04/23/14 12:54							
EPA 8270D												
Acenaphthene	6.40	0.0200	0.0400	ug/L	1	8.00	---	80	45-125%	---	---	
Acenaphthylene	6.88	0.0200	0.0400	"	"	"	---	86	50-125%	---	---	
Anthracene	6.92	0.0200	0.0400	"	"	"	---	87	55-125%	---	---	
Benz(a)anthracene	6.99	0.0200	0.0400	"	"	"	---	87	"	---	---	
Benzo(a)pyrene	7.09	0.0300	0.0600	"	"	"	---	89	"	---	---	
Benzo(b)fluoranthene	6.90	0.0300	0.0600	"	"	"	---	86	45-125%	---	---	

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
LCS (4040655-BS3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 12:54					
Benzo(k)fluoranthene	6.60	0.0300	0.0600	ug/L	"	"	---	82	"	---	---	
Benzo(b+k)fluoranthene(s)	13.7	0.0600	0.120	"	"	16.0	---	86	"	---	---	
Benzo(g,h,i)perylene	7.07	0.0200	0.0400	"	"	8.00	---	88	40-125%	---	---	
Carbazole	7.71	0.0300	0.0600	"	"	"	---	96	50-125%	---	---	
2-Chloronaphthalene	6.41	0.0200	0.0400	"	"	"	---	80	50-120%	---	---	
Chrysene	6.99	0.0200	0.0400	"	"	"	---	87	55-125%	---	---	
Dibenz(a,h)anthracene	7.50	0.0200	0.0400	"	"	"	---	94	40-125%	---	---	
Dibenzofuran	6.72	0.0200	0.0400	"	"	"	---	84	55-125%	---	---	
Fluoranthene	7.61	0.0200	0.0400	"	"	"	---	95	"	---	---	
Fluorene	6.48	0.0200	0.0400	"	"	"	---	81	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	7.19	0.0200	0.0400	"	"	"	---	90	45-125%	---	---	
1-Methylnaphthalene	6.15	0.0400	0.0800	"	"	"	---	77	45-120%	---	---	
2-Methylnaphthalene	6.22	0.0400	0.0800	"	"	"	---	78	"	---	---	
Naphthalene	5.66	0.0400	0.0800	"	"	"	---	71	40-125%	---	---	
Phenanthrene	6.40	0.0200	0.0400	"	"	"	---	80	50-125%	---	---	
Pyrene	7.56	0.0200	0.0400	"	"	"	---	95	50-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 82 %*		*Limits: 35-120 %*			*Dilution: 1x*				
2-Fluorobiphenyl (Surr)			*74 %*		*30-120 %*			*"*				
p-Terphenyl-d14 (Surr)			*83 %*		*30-125 %*			*"*				
2,4,6-Tribromophenol (Surr)			*97 %*		*40-125 %*			*"*				
LCS Dup (4040655-BSD3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 13:32					Q-19
EPA 8270D												
Acenaphthene	6.98	0.0200	0.0400	ug/L	1	8.00	---	87	45-125%	9	30%	
Acenaphthylene	7.52	0.0200	0.0400	"	"	"	---	94	50-125%	9	30%	
Anthracene	7.74	0.0200	0.0400	"	"	"	---	97	55-125%	11	30%	
Benz(a)anthracene	7.80	0.0200	0.0400	"	"	"	---	97	"	11	30%	
Benzo(a)pyrene	7.88	0.0300	0.0600	"	"	"	---	99	"	11	30%	
Benzo(b)fluoranthene	7.73	0.0300	0.0600	"	"	"	---	97	45-125%	11	30%	
Benzo(k)fluoranthene	7.38	0.0300	0.0600	"	"	"	---	92	"	11	30%	
Benzo(b+k)fluoranthene(s)	15.4	0.0600	0.120	"	"	16.0	---	96	"	12	30%	
Benzo(g,h,i)perylene	7.88	0.0200	0.0400	"	"	8.00	---	98	40-125%	11	30%	
Carbazole	8.46	0.0300	0.0600	"	"	"	---	106	50-125%	9	30%	
2-Chloronaphthalene	6.78	0.0200	0.0400	"	"	"	---	85	50-120%	6	30%	
Chrysene	7.78	0.0200	0.0400	"	"	"	---	97	55-125%	11	30%	
Dibenz(a,h)anthracene	8.54	0.0200	0.0400	"	"	"	---	107	40-125%	13	30%	

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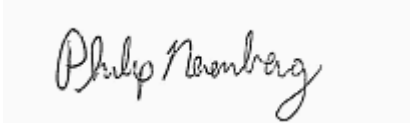

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
LCS Dup (4040655-BSD3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 13:32					Q-19
Dibenzofuran	7.45	0.0200	0.0400	ug/L	"	"	---	93	55-125%	10	30%	
Fluoranthene	8.37	0.0200	0.0400	"	"	"	---	105	"	9	30%	
Fluorene	7.11	0.0200	0.0400	"	"	"	---	89	50-125%	9	30%	
Indeno(1,2,3-cd)pyrene	8.04	0.0200	0.0400	"	"	"	---	100	45-125%	11	30%	
1-Methylnaphthalene	6.33	0.0400	0.0800	"	"	"	---	79	45-120%	3	30%	
2-Methylnaphthalene	6.27	0.0400	0.0800	"	"	"	---	78	"	0.9	30%	
Naphthalene	5.43	0.0400	0.0800	"	"	"	---	68	40-125%	4	30%	
Phenanthrene	7.15	0.0200	0.0400	"	"	"	---	89	50-125%	11	30%	
Pyrene	8.30	0.0200	0.0400	"	"	"	---	104	50-120%	9	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 92 %*		*Limits: 35-120 %*		*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*80 %*		*30-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*94 %*		*30-125 %*		*"*					
2,4,6-Tribromophenol (Surr)			*106 %*		*40-125 %*		*"*					

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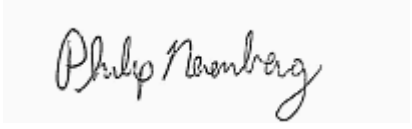

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040866 - EPA 3546							**Soil**					
Blank (4040866-BLK3)					Prepared: 04/30/14 09:14 Analyzed: 05/01/14 11:22							
EPA 8270D												
Acenaphthene	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Anthracene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	6.82	13.6	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	6.82	13.6	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	6.82	13.6	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	13.6	27.3	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Carbazole	ND	6.82	13.6	"	"	---	---	---	---	---	---	
2-Chloronaphthalene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Chrysene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Fluoranthene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Fluorene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	9.09	18.2	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	9.09	18.2	"	"	---	---	---	---	---	---	
Naphthalene	ND	9.09	18.2	"	"	---	---	---	---	---	---	
Phenanthrene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Pyrene	ND	4.55	9.09	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 94 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*108 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*113 %*	*30-125 %*			*"*					
2,4,6-Tribromophenol (Surr)			*101 %*	*35-125 %*			*"*					
LCS (4040866-BS2)					Prepared: 04/30/14 09:14 Analyzed: 04/30/14 16:59							
EPA 8270D												
Acenaphthene	852	5.00	10.0	ug/kg wet	1	800	---	107	45-120%	---	---	
Acenaphthylene	855	5.00	10.0	"	"	"	---	107	"	---	---	
Anthracene	876	5.00	10.0	"	"	"	---	110	55-120%	---	---	
Benz(a)anthracene	828	5.00	10.0	"	"	"	---	103	50-120%	---	---	
Benzo(a)pyrene	940	7.50	15.0	"	"	"	---	118	"	---	---	
Benzo(b)fluoranthene	898	7.50	15.0	"	"	"	---	112	45-120%	---	---	

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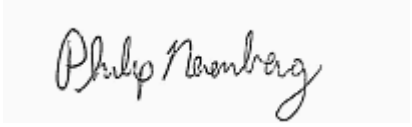

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040866 - EPA 3546							**Soil**					
LCS (4040866-BS2)					Prepared: 04/30/14 09:14		Analyzed: 04/30/14 16:59					
Benzo(k)fluoranthene	899	7.50	15.0	ug/kg wet	"	"	---	112	45-125%	---	---	
Benzo(b+k)fluoranthene(s)	1800	15.0	30.0	"	"	1600	---	113	"	---	---	
Benzo(g,h,i)perylene	832	5.00	10.0	"	"	800	---	104	40-125%	---	---	
Carbazole	908	7.50	15.0	"	"	"	---	114	45-120%	---	---	
2-Chloronaphthalene	846	5.00	10.0	"	"	"	---	106	"	---	---	
Chrysene	857	5.00	10.0	"	"	"	---	107	55-120%	---	---	
Dibenz(a,h)anthracene	866	5.00	10.0	"	"	"	---	108	40-125%	---	---	
Dibenzofuran	857	5.00	10.0	"	"	"	---	107	50-120%	---	---	
Fluoranthene	894	5.00	10.0	"	"	"	---	112	55-120%	---	---	
Fluorene	869	5.00	10.0	"	"	"	---	109	50-120%	---	---	
1-Methylnaphthalene	826	10.0	20.0	"	"	"	---	103	45-120%	---	---	
2-Methylnaphthalene	832	10.0	20.0	"	"	"	---	104	"	---	---	
Naphthalene	784	10.0	20.0	"	"	"	---	98	40-120%	---	---	
Phenanthrene	855	5.00	10.0	"	"	"	---	107	50-120%	---	---	
Pyrene	876	5.00	10.0	"	"	"	---	109	45-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 92 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*108 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*107 %*	*30-125 %*			*"*					
2,4,6-Tribromophenol (Surr)			*114 %*	*35-125 %*			*"*					
LCS (4040866-BS3)					Prepared: 04/30/14 09:14		Analyzed: 05/01/14 11:59					
EPA 8270D												
Indeno(1,2,3-cd)pyrene	889	5.00	10.0	ug/kg wet	1	800	---	111	40-120%	---	---	
Duplicate (4040866-DUP3)					Prepared: 04/30/14 09:14		Analyzed: 05/01/14 14:28					Q-04
QC Source Sample: EES-14 (1.5-2) (A4D0499-43RE1)												
EPA 8270D												
Acenaphthene	ND	84.1	168	ug/kg dry	10	---	ND	---	---	---	30%	
Acenaphthylene	ND	84.1	168	"	"	---	222	---	---	***	30%	
Anthracene	ND	84.1	168	"	"	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	84.1	168	"	"	---	103	---	---	***	30%	
Benzo(a)pyrene	ND	126	252	"	"	---	267	---	---	***	30%	
Benzo(b)fluoranthene	ND	126	252	"	"	---	522	---	---	***	30%	
Benzo(k)fluoranthene	ND	126	252	"	"	---	170	---	---	***	30%	
Benzo(b+k)fluoranthene(s)	ND	252	505	"	"	---	736	---	---	***	30%	
Benzo(g,h,i)perylene	ND	168	168	"	"	---	640	---	---	***	30%	

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040866 - EPA 3546							**Soil**					
Duplicate (4040866-DUP3)					Prepared: 04/30/14 09:14 Analyzed: 05/01/14 14:28							Q-04
QC Source Sample: EES-14 (1.5-2) (A4D0499-43RE1)												
Carbazole	ND	126	252	ug/kg dry	"	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	84.1	168	"	"	---	ND	---	---	---	30%	
Chrysene	ND	84.1	168	"	"	---	285	---	---	***	30%	
Dibenz(a,h)anthracene	ND	84.1	168	"	"	---	ND	---	---	---	30%	
Dibenzofuran	ND	84.1	168	"	"	---	107	---	---	***	30%	
Fluoranthene	**88.8**	84.1	168	"	"	---	597	---	---	148	30%	J
Fluorene	ND	84.1	168	"	"	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	ND	84.1	168	"	"	---	384	---	---	***	30%	
1-Methylnaphthalene	ND	168	337	"	"	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	168	337	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	168	337	"	"	---	554	---	---	***	30%	
Phenanthrene	**103**	84.1	168	"	"	---	614	---	---	143	30%	J
Pyrene	ND	84.1	168	"	"	---	328	---	---	***	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 5 %*	*Limits: 35-120 %*		*Dilution: 10x*						*S-03*
2-Fluorobiphenyl (Surr)			*6 %*	*45-120 %*		*"*						*S-03*
p-Terphenyl-d14 (Surr)			*6 %*	*30-125 %*		*"*						*S-03*
2,4,6-Tribromophenol (Surr)			*36 %*	*35-125 %*		*"*						

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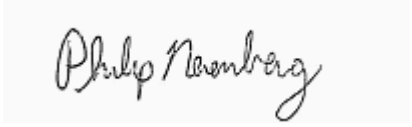

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050452 - EPA 3510C (Acid Extraction)							**Water**					
Blank (4050452-BLK2)					Prepared: 05/15/14 12:44 Analyzed: 05/15/14 19:30							
EPA 8270D												
Acenaphthene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	0.0545	0.109	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Carbazole	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
2-Chloronaphthalene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Chrysene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Fluoranthene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Fluorene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
Naphthalene	**0.0373**	0.0364	0.0727	"	"	---	---	---	---	---	---	J, B-02
Phenanthrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Pyrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 94 %*		*Limits: 44-120 %*				*Dilution: 1x*			
2-Fluorobiphenyl (Surr)			*93 %*		*44-120 %*				*"*			
p-Terphenyl-d14 (Surr)			*104 %*		*50-133 %*				*"*			
2,4,6-Tribromophenol (Surr)			*109 %*		*43-140 %*				*"*			*Q-41*
LCS (4050452-BS2)					Prepared: 05/15/14 12:44 Analyzed: 05/15/14 20:08							
EPA 8270D												
Acenaphthene	7.44	0.0200	0.0400	ug/L	1	8.00	---	93	47-122%	---	---	
Acenaphthylene	8.05	0.0200	0.0400	"	"	"	---	101	41-130%	---	---	
Anthracene	8.47	0.0200	0.0400	"	"	"	---	106	57-123%	---	---	
Benz(a)anthracene	8.75	0.0200	0.0400	"	"	"	---	109	58-125%	---	---	
Benzo(a)pyrene	8.55	0.0300	0.0600	"	"	"	---	107	54-128%	---	---	

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050452 - EPA 3510C (Acid Extraction)							**Water**					
LCS (4050452-BS2)					Prepared: 05/15/14 12:44 Analyzed: 05/15/14 20:08							
Benzo(b)fluoranthene	8.47	0.0300	0.0600	ug/L	"	"	---	106	53-131%	---	---	
Benzo(k)fluoranthene	8.24	0.0300	0.0600	"	"	"	---	103	57-129%	---	---	
Benzo(b+k)fluoranthene(s)	16.9	0.0600	0.120	"	"	16.0	---	105	53-131%	---	---	
Benzo(g,h,i)perylene	8.84	0.0200	0.0400	"	"	8.00	---	110	50-134%	---	---	
Carbazole	9.49	0.0300	0.0600	"	"	"	---	119	60-122%	---	---	
2-Chloronaphthalene	7.27	0.0200	0.0400	"	"	"	---	91	40-120%	---	---	
Chrysene	8.77	0.0200	0.0400	"	"	"	---	110	59-123%	---	---	
Dibenz(a,h)anthracene	9.79	0.0200	0.0400	"	"	"	---	122	51-134%	---	---	
Dibenzofuran	7.89	0.0200	0.0400	"	"	"	---	99	53-120%	---	---	
Fluoranthene	9.40	0.0200	0.0400	"	"	"	---	118	57-128%	---	---	
Fluorene	7.59	0.0200	0.0400	"	"	"	---	95	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	9.19	0.0200	0.0400	"	"	"	---	115	52-133%	---	---	
1-Methylnaphthalene	6.76	0.0400	0.0800	"	"	"	---	85	41-120%	---	---	
2-Methylnaphthalene	6.80	0.0400	0.0800	"	"	"	---	85	40-121%	---	---	
Naphthalene	6.24	0.0400	0.0800	"	"	"	---	78	"	---	---	B-02
Phenanthrene	7.81	0.0200	0.0400	"	"	"	---	98	59-120%	---	---	
Pyrene	9.37	0.0200	0.0400	"	"	"	---	117	57-126%	---	---	
Pentachlorophenol (PCP)	9.45	0.200	0.400	"	"	"	---	118	35-138%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 97 %*		*Limits: 44-120 %*			*Dilution: 1x*				
2-Fluorobiphenyl (Surr)			*93 %*		*44-120 %*			*"*				
p-Terphenyl-d14 (Surr)			*100 %*		*50-133 %*			*"*				
2,4,6-Tribromophenol (Surr)			*116 %*		*43-140 %*			*"*				*Q-41*
LCS Dup (4050452-BSD2)					Prepared: 05/15/14 12:44 Analyzed: 05/15/14 20:47							Q-19
EPA 8270D												
Acenaphthene	7.30	0.0200	0.0400	ug/L	1	8.00	---	91	47-122%	2	30%	
Acenaphthylene	7.85	0.0200	0.0400	"	"	"	---	98	41-130%	2	30%	
Anthracene	8.39	0.0200	0.0400	"	"	"	---	105	57-123%	1	30%	
Benz(a)anthracene	8.79	0.0200	0.0400	"	"	"	---	110	58-125%	0.4	30%	
Benzo(a)pyrene	8.53	0.0300	0.0600	"	"	"	---	107	54-128%	0.3	30%	
Benzo(b)fluoranthene	8.53	0.0300	0.0600	"	"	"	---	107	53-131%	0.7	30%	
Benzo(k)fluoranthene	8.33	0.0300	0.0600	"	"	"	---	104	57-129%	1	30%	
Benzo(b+k)fluoranthene(s)	17.0	0.0600	0.120	"	"	16.0	---	106	53-131%	1	30%	
Benzo(g,h,i)perylene	8.79	0.0200	0.0400	"	"	8.00	---	110	50-134%	0.5	30%	
Carbazole	9.33	0.0300	0.0600	"	"	"	---	117	60-122%	2	30%	
2-Chloronaphthalene	7.08	0.0200	0.0400	"	"	"	---	88	40-120%	3	30%	

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050452 - EPA 3510C (Acid Extraction)							**Water**					
LCS Dup (4050452-BSD2)					Prepared: 05/15/14 12:44		Analyzed: 05/15/14 20:47					Q-19
Chrysene	8.81	0.0200	0.0400	ug/L	"	"	---	110	59-123%	0.5	30%	
Dibenz(a,h)anthracene	9.66	0.0200	0.0400	"	"	"	---	121	51-134%	1	30%	
Dibenzofuran	7.77	0.0200	0.0400	"	"	"	---	97	53-120%	1	30%	
Fluoranthene	9.38	0.0200	0.0400	"	"	"	---	117	57-128%	0.2	30%	
Fluorene	7.49	0.0200	0.0400	"	"	"	---	94	52-124%	1	30%	
Indeno(1,2,3-cd)pyrene	9.10	0.0200	0.0400	"	"	"	---	114	52-133%	0.9	30%	
1-Methylnaphthalene	6.63	0.0400	0.0800	"	"	"	---	83	41-120%	2	30%	
2-Methylnaphthalene	6.60	0.0400	0.0800	"	"	"	---	83	40-121%	3	30%	
Naphthalene	6.08	0.0400	0.0800	"	"	"	---	76	"	3	30%	B-02
Phenanthrene	7.77	0.0200	0.0400	"	"	"	---	97	59-120%	0.5	30%	
Pyrene	9.35	0.0200	0.0400	"	"	"	---	117	57-126%	0.3	30%	
Pentachlorophenol (PCP)	9.31	0.200	0.400	"	"	"	---	116	35-138%	1	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 95 %*		*Limits: 44-120 %*		*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*91 %*		*44-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*99 %*		*50-133 %*		*"*					
2,4,6-Tribromophenol (Surr)			*113 %*		*43-140 %*		*"*					*Q-41*

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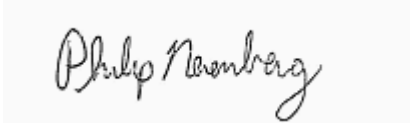

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Pentachlorophenol by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)									**Water**			
Blank (4040655-BLK3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 12:16					
EPA 8270D												
Pentachlorophenol (PCP)	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Surr: 2,4,6-Tribromophenol (Surr)			*Recovery: 94 %*		*Limits: 40-125 %*		*Dilution: 1x*					
LCS (4040655-BS3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 12:54					
EPA 8270D												
Pentachlorophenol (PCP)	7.34	0.200	0.400	ug/L	1	8.00	---	92	40-125%	---	---	
Surr: 2,4,6-Tribromophenol (Surr)			*Recovery: 97 %*		*Limits: 40-125 %*		*Dilution: 1x*					
LCS Dup (4040655-BSD3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 13:32					Q-19
EPA 8270D												
Pentachlorophenol (PCP)	7.67	0.200	0.400	ug/L	1	8.00	---	96	40-125%	4	30%	
Surr: 2,4,6-Tribromophenol (Surr)			*Recovery: 106 %*		*Limits: 40-125 %*		*Dilution: 1x*					

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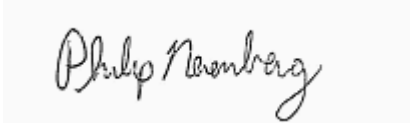

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Pentachlorophenol by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040698 - EPA 3546							**Soil**					
Blank (4040698-BLK2)					Prepared: 04/24/14 07:32 Analyzed: 04/24/14 14:22							
EPA 8270D												
Pentachlorophenol (PCP)	ND	83.3	167	ug/kg wet	1	---	---	---	---	---	---	
Surr: 2,4,6-Tribromophenol (Surr)			*Recovery: 79 %*	*Limits: 40-125 %*			*Dilution: 1x*					
LCS (4040698-BS2)					Prepared: 04/24/14 07:32 Analyzed: 04/24/14 14:59							
EPA 8270D												
Pentachlorophenol (PCP)	721	100	200	ug/kg wet	1	800	---	90	25-125%	---	---	
Surr: 2,4,6-Tribromophenol (Surr)			*Recovery: 94 %*	*Limits: 40-125 %*			*Dilution: 1x*					
Duplicate (4040698-DUP2)					Prepared: 04/24/14 07:32 Analyzed: 04/25/14 12:37							R-04
QC Source Sample: Other (A4D0328-02)												
EPA 8270D												
Pentachlorophenol (PCP)	ND	5550	11100	ug/kg dry	50	---	ND	---	---	---	30%	
Surr: 2,4,6-Tribromophenol (Surr)			*Recovery: 271 %*	*Limits: 40-125 %*			*Dilution: 50x*					*S-05*
Matrix Spike (4040698-MS3)					Prepared: 04/24/14 07:32 Analyzed: 04/25/14 09:38							
QC Source Sample: EES-2 (7.5-8) (A4D0499-07RE1)												
EPA 8270D												
Pentachlorophenol (PCP)	1050	130	260	ug/kg dry	1	1040	ND	101	25-125%	---	---	
Surr: 2,4,6-Tribromophenol (Surr)			*Recovery: 99 %*	*Limits: 40-125 %*			*Dilution: 1x*					

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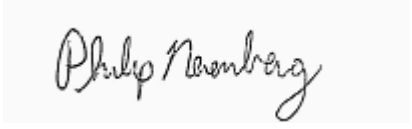

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040645 - Total Solids (Dry Weight)							**Soil**					
Duplicate (4040645-DUP1)					Prepared: 04/22/14 15:11		Analyzed: 04/23/14 10:35					
QC Source Sample: EES-12 (3-3.5) (A4D0499-11)												
EPA 8000C												
% Solids	**75.4**	---	1.00	% by Weight	1	---	80.2	---	---	6	20%	
Duplicate (4040645-DUP2)					Prepared: 04/22/14 15:11		Analyzed: 04/23/14 10:35					
QC Source Sample: EES-3 (14.5-15) (A4D0499-25)												
EPA 8000C												
% Solids	**73.6**	---	1.00	% by Weight	1	---	73.5	---	---	0.1	20%	
Duplicate (4040645-DUP3)					Prepared: 04/22/14 15:11		Analyzed: 04/23/14 10:35					
QC Source Sample: EES-5 (7.5-8) (A4D0499-39)												
EPA 8000C												
% Solids	**75.9**	---	1.00	% by Weight	1	---	76.4	---	---	0.7	20%	
Duplicate (4040645-DUP4)					Prepared: 04/22/14 15:11		Analyzed: 04/23/14 10:35					
QC Source Sample: EES-8 (3-3.5) (A4D0499-60)												
EPA 8000C												
% Solids	**72.0**	---	1.00	% by Weight	1	---	67.2	---	---	7	20%	
Duplicate (4040645-DUP5)					Prepared: 04/22/14 15:11		Analyzed: 04/23/14 10:35					
QC Source Sample: EES-15 (7.5-8) (A4D0499-70)												
EPA 8000C												
% Solids	**75.8**	---	1.00	% by Weight	1	---	76.3	---	---	0.7	20%	
Duplicate (4040645-DUP6)					Prepared: 04/22/14 15:11		Analyzed: 04/23/14 10:35					
QC Source Sample: Other (A4D0539-03)												
EPA 8000C												
% Solids	**86.2**	---	1.00	% by Weight	1	---	86.0	---	---	0.2	20%	
Duplicate (4040645-DUP7)					Prepared: 04/22/14 15:11		Analyzed: 04/23/14 10:35					
QC Source Sample: Other (A4D0551-02)												
EPA 8000C												
% Solids	**80.9**	---	1.00	% by Weight	1	---	81.9	---	---	1	20%	
Duplicate (4040645-DUP8)					Prepared: 04/22/14 19:03		Analyzed: 04/23/14 10:35					

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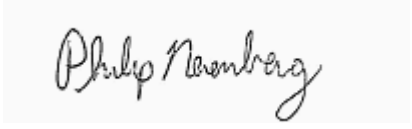

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040645 - Total Solids (Dry Weight)							Soil					
Duplicate (4040645-DUP8)					Prepared: 04/22/14 19:03		Analyzed: 04/23/14 10:35					
QC Source Sample: Other (A4D0558-01)												
EPA 8000C												
% Solids	**88.0**	---	1.00	% by Weight	1	---	89.0	---	---	1	20%	
Duplicate (4040645-DUP9)					Prepared: 04/22/14 19:03		Analyzed: 04/23/14 10:35					
QC Source Sample: Other (A4D0559-02)												
EPA 8000C												
% Solids	**92.7**	---	1.00	% by Weight	1	---	92.8	---	---	0.1	20%	
Batch 4040879 - Total Solids (Dry Weight)							Soil					
Duplicate (4040879-DUP1)					Prepared: 04/30/14 13:33		Analyzed: 05/01/14 11:15					
QC Source Sample: Other (A4D0687-02)												
EPA 8000C												
% Solids	**84.0**	---	1.00	% by Weight	1	---	84.1	---	---	0.1	20%	
Duplicate (4040879-DUP2)					Prepared: 04/30/14 13:34		Analyzed: 05/01/14 11:15					
QC Source Sample: Other (A4D0739-04)												
EPA 8000C												
% Solids	**89.9**	---	1.00	% by Weight	1	---	89.7	---	---	0.2	20%	
Duplicate (4040879-DUP3)					Prepared: 04/30/14 17:52		Analyzed: 05/01/14 11:15					
QC Source Sample: Other (A4D0772-01)												
EPA 8000C												
% Solids	**91.7**	---	1.00	% by Weight	1	---	91.7	---	---	0	20%	
Duplicate (4040879-DUP4)					Prepared: 04/30/14 19:22		Analyzed: 05/01/14 11:15					
QC Source Sample: Other (A4D0778-02)												
EPA 8000C												
% Solids	**75.4**	---	1.00	% by Weight	1	---	76.6	---	---	2	20%	

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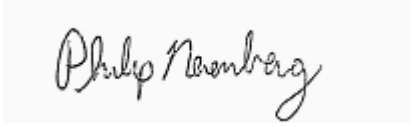

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

SAMPLE PREPARATION INFORMATION

Diesel and Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040655							
A4D0499-10	Water	NWTPH-Dx	04/16/14 11:20	04/23/14 06:08	1010mL/2mL	1000mL/5mL	0.40
A4D0499-15	Water	NWTPH-Dx	04/16/14 12:15	04/23/14 06:08	1000mL/2mL	1000mL/5mL	0.40
A4D0499-20	Water	NWTPH-Dx	04/16/14 13:50	04/23/14 06:08	980mL/2mL	1000mL/5mL	0.41
A4D0499-26	Water	NWTPH-Dx	04/16/14 15:15	04/23/14 06:08	990mL/2mL	1000mL/5mL	0.40
A4D0499-32	Water	NWTPH-Dx	04/16/14 16:00	04/23/14 06:08	1000mL/2mL	1000mL/5mL	0.40
A4D0499-37	Water	NWTPH-Dx	04/16/14 17:00	04/23/14 06:08	900mL/2mL	1000mL/5mL	0.44
A4D0499-42	Water	NWTPH-Dx	04/17/14 09:30	04/23/14 06:08	940mL/2mL	1000mL/5mL	0.43
A4D0499-49	Water	NWTPH-Dx	04/17/14 10:20	04/23/14 06:08	1000mL/2mL	1000mL/5mL	0.40
A4D0499-55	Water	NWTPH-Dx	04/17/14 12:40	04/23/14 06:08	990mL/2mL	1000mL/5mL	0.40
A4D0499-69	Water	NWTPH-Dx	04/17/14 15:55	04/23/14 06:08	900mL/2mL	1000mL/5mL	0.44

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040852							
A4D0499-05	Water	NWTPH-Dx	04/16/14 10:11	04/30/14 07:01	1020mL/5mL	1000mL/5mL	0.98

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040639							
A4D0499-01RE1	Soil	NWTPH-Dx	04/16/14 09:25	04/22/14 16:20	10.6g/5mL	10g/5mL	0.94
A4D0499-02	Soil	NWTPH-Dx	04/16/14 09:35	04/22/14 16:20	11.92g/5mL	10g/5mL	0.84
A4D0499-04	Soil	NWTPH-Dx	04/16/14 10:00	04/22/14 16:20	10.16g/5mL	10g/5mL	0.98
A4D0499-06RE1	Soil	NWTPH-Dx	04/16/14 10:40	04/22/14 16:20	10.25g/5mL	10g/5mL	0.98
A4D0499-07	Soil	NWTPH-Dx	04/16/14 10:50	04/22/14 16:20	11.54g/5mL	10g/5mL	0.87
Batch: 4040652							
A4D0499-09	Soil	NWTPH-Dx	04/16/14 11:05	04/22/14 17:12	10.99g/5mL	10g/5mL	0.91
A4D0499-14	Soil	NWTPH-Dx	04/16/14 12:05	04/22/14 17:12	11.99g/5mL	10g/5mL	0.83
A4D0499-16	Soil	NWTPH-Dx	04/16/14 13:10	04/22/14 17:12	11.12g/5mL	10g/5mL	0.90
A4D0499-19	Soil	NWTPH-Dx	04/16/14 13:30	04/22/14 17:12	10.66g/5mL	10g/5mL	0.94
A4D0499-21	Soil	NWTPH-Dx	04/16/14 14:30	04/22/14 17:12	12.11g/5mL	10g/5mL	0.83
A4D0499-22	Soil	NWTPH-Dx	04/16/14 14:40	04/22/14 17:12	11.26g/5mL	10g/5mL	0.89
Batch: 4040663							
A4D0499-11	Soil	NWTPH-Dx	04/16/14 11:50	04/23/14 09:13	11.03g/5mL	10g/5mL	0.91
A4D0499-12	Soil	NWTPH-Dx	04/16/14 11:55	04/23/14 09:13	10.83g/5mL	10g/5mL	0.92
A4D0499-17	Soil	NWTPH-Dx	04/16/14 13:15	04/23/14 09:13	11.07g/5mL	10g/5mL	0.90

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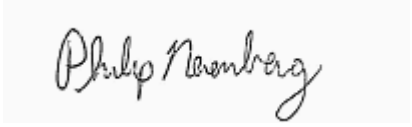

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

SAMPLE PREPARATION INFORMATION

Diesel and Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4D0499-23	Soil	NWTPH-Dx	04/16/14 14:45	04/23/14 09:13	10.86g/5mL	10g/5mL	0.92
A4D0499-25	Soil	NWTPH-Dx	04/16/14 14:55	04/23/14 09:13	10.74g/5mL	10g/5mL	0.93
A4D0499-27	Soil	NWTPH-Dx	04/16/14 15:30	04/23/14 09:13	10.84g/5mL	10g/5mL	0.92
A4D0499-28	Soil	NWTPH-Dx	04/16/14 15:35	04/23/14 09:13	10.35g/5mL	10g/5mL	0.97
A4D0499-29	Soil	NWTPH-Dx	04/16/14 15:40	04/23/14 09:13	11.31g/5mL	10g/5mL	0.88
A4D0499-31	Soil	NWTPH-Dx	04/16/14 15:50	04/23/14 09:13	11.04g/5mL	10g/5mL	0.91
A4D0499-33	Soil	NWTPH-Dx	04/16/14 16:30	04/23/14 09:13	11.53g/5mL	10g/5mL	0.87
A4D0499-34	Soil	NWTPH-Dx	04/16/14 16:35	04/23/14 09:13	10.89g/5mL	10g/5mL	0.92
A4D0499-36	Soil	NWTPH-Dx	04/16/14 16:45	04/23/14 09:13	10.53g/5mL	10g/5mL	0.95
A4D0499-38	Soil	NWTPH-Dx	04/17/14 09:00	04/23/14 09:13	10.32g/5mL	10g/5mL	0.97
A4D0499-39	Soil	NWTPH-Dx	04/17/14 09:05	04/23/14 09:13	10.31g/5mL	10g/5mL	0.97
A4D0499-41	Soil	NWTPH-Dx	04/17/14 09:15	04/23/14 09:13	10.98g/5mL	10g/5mL	0.91
A4D0499-43RE1	Soil	NWTPH-Dx	04/17/14 09:35	04/23/14 09:13	10.25g/5mL	10g/5mL	0.98
A4D0499-44	Soil	NWTPH-Dx	04/17/14 09:40	04/23/14 09:13	10.92g/5mL	10g/5mL	0.92
A4D0499-45	Soil	NWTPH-Dx	04/17/14 09:45	04/23/14 09:13	10.96g/5mL	10g/5mL	0.91
A4D0499-48	Soil	NWTPH-Dx	04/17/14 10:00	04/23/14 09:13	10.39g/5mL	10g/5mL	0.96
A4D0499-50	Soil	NWTPH-Dx	04/17/14 10:35	04/23/14 09:13	11.05g/5mL	10g/5mL	0.91
Batch: 4040680							
A4D0499-51	Soil	NWTPH-Dx	04/17/14 10:40	04/23/14 14:36	12.27g/5mL	10g/5mL	0.82
A4D0499-52	Soil	NWTPH-Dx	04/17/14 10:45	04/23/14 14:36	12.27g/5mL	10g/5mL	0.82
A4D0499-54	Soil	NWTPH-Dx	04/17/14 10:55	04/23/14 14:36	13.29g/5mL	10g/5mL	0.75
A4D0499-56	Soil	NWTPH-Dx	04/17/14 12:10	04/23/14 14:36	13.66g/5mL	10g/5mL	0.73
A4D0499-57	Soil	NWTPH-Dx	04/17/14 12:15	04/23/14 14:36	13.17g/5mL	10g/5mL	0.76
A4D0499-59	Soil	NWTPH-Dx	04/17/14 12:25	04/23/14 14:36	14.79g/5mL	10g/5mL	0.68
A4D0499-60	Soil	NWTPH-Dx	04/17/14 13:15	04/23/14 14:36	11.55g/5mL	10g/5mL	0.87
A4D0499-61	Soil	NWTPH-Dx	04/17/14 13:20	04/23/14 14:36	13.2g/5mL	10g/5mL	0.76
Batch: 4040727							
A4D0499-63	Soil	NWTPH-Dx	04/17/14 13:30	04/24/14 14:22	10.82g/5mL	10g/5mL	0.92
A4D0499-64	Soil	NWTPH-Dx	04/17/14 14:10	04/24/14 14:22	13.45g/5mL	10g/5mL	0.74
A4D0499-65	Soil	NWTPH-Dx	04/17/14 14:15	04/24/14 14:22	11.94g/5mL	10g/5mL	0.84
A4D0499-66	Soil	NWTPH-Dx	04/17/14 14:20	04/24/14 14:22	13.15g/5mL	10g/5mL	0.76
A4D0499-68	Soil	NWTPH-Dx	04/17/14 14:30	04/24/14 14:22	13.49g/5mL	10g/5mL	0.74
A4D0499-70	Soil	NWTPH-Dx	04/17/14 15:05	04/24/14 14:22	11.69g/5mL	10g/5mL	0.86
A4D0499-72	Soil	NWTPH-Dx	04/17/14 15:15	04/24/14 14:22	11.63g/5mL	10g/5mL	0.86

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

SAMPLE PREPARATION INFORMATION

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040860							
A4D0499-10	Water	NWTPH-Dx/SG	04/16/14 11:20	04/24/14 06:08	1010mL/2mL	1000mL/5mL	0.40
A4D0499-69	Water	NWTPH-Dx/SG	04/17/14 15:55	04/24/14 06:08	900mL/2mL	1000mL/5mL	0.44

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4050412							
A4D0499-05	Water	NWTPH-Dx/SG	04/16/14 10:11	04/30/14 07:01	1020mL/5mL	1000mL/5mL	0.98

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040534							
A4D0499-10	Water	NWTPH-Gx (MS)	04/16/14 11:20	04/18/14 19:00	5mL/5mL	5mL/5mL	1.00
A4D0499-26	Water	NWTPH-Gx (MS)	04/16/14 15:15	04/18/14 19:00	5mL/5mL	5mL/5mL	1.00
A4D0499-37	Water	NWTPH-Gx (MS)	04/16/14 17:00	04/18/14 19:00	5mL/5mL	5mL/5mL	1.00
Batch: 4040568							
A4D0499-42	Water	NWTPH-Gx (MS)	04/17/14 09:30	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0499-49	Water	NWTPH-Gx (MS)	04/17/14 10:20	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0499-55	Water	NWTPH-Gx (MS)	04/17/14 12:40	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0499-69	Water	NWTPH-Gx (MS)	04/17/14 15:55	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
Batch: 4040662							
A4D0499-32	Water	NWTPH-Gx (MS)	04/16/14 16:00	04/23/14 16:54	5mL/5mL	5mL/5mL	1.00
Batch: 4040763							
A4D0499-05	Water	NWTPH-Gx (MS)	04/16/14 10:11	04/28/14 10:00	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040785							
A4D0499-02	Soil	NWTPH-Gx (MS)	04/16/14 09:35	04/16/14 09:35	4.5g/5mL	10g/10mL	1.11
A4D0499-06	Soil	NWTPH-Gx (MS)	04/16/14 10:40	04/16/14 10:40	5.61g/5mL	10g/10mL	0.89
A4D0499-09	Soil	NWTPH-Gx (MS)	04/16/14 11:05	04/16/14 11:05	5.57g/5mL	10g/10mL	0.90
A4D0499-12	Soil	NWTPH-Gx (MS)	04/16/14 11:55	04/16/14 11:55	5.63g/5mL	10g/10mL	0.89
Batch: 4040790							

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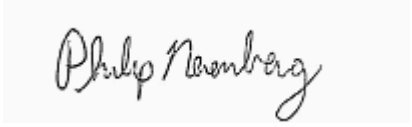

Philip Nerenberg, Lab Director

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Tigard, OR 97223
503-718-2323 Phone
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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4D0499-56	Soil	NWTPH-Gx (MS)	04/17/14 12:10	04/17/14 12:10	4.96g/5mL	10g/10mL	1.01
A4D0499-60	Soil	NWTPH-Gx (MS)	04/17/14 13:15	04/17/14 13:15	5.16g/5mL	10g/10mL	0.97
A4D0499-64	Soil	NWTPH-Gx (MS)	04/17/14 14:10	04/17/14 14:10	4.69g/5mL	10g/10mL	1.07
Batch: 4040817							
A4D0499-17	Soil	NWTPH-Gx (MS)	04/16/14 13:15	04/16/14 13:15	5.87g/5mL	10g/10mL	0.85
A4D0499-18	Soil	NWTPH-Gx (MS)	04/16/14 13:25	04/16/14 13:25	5.75g/5mL	10g/10mL	0.87
A4D0499-21	Soil	NWTPH-Gx (MS)	04/16/14 14:30	04/16/14 14:30	4.16g/5mL	10g/10mL	1.20
A4D0499-27	Soil	NWTPH-Gx (MS)	04/16/14 15:30	04/16/14 15:30	5.67g/5mL	10g/10mL	0.88
A4D0499-34	Soil	NWTPH-Gx (MS)	04/16/14 16:35	04/16/14 16:35	3.83g/5mL	10g/10mL	1.31
A4D0499-39	Soil	NWTPH-Gx (MS)	04/17/14 09:05	04/17/14 09:05	5.81g/5mL	10g/10mL	0.86
A4D0499-41	Soil	NWTPH-Gx (MS)	04/17/14 09:15	04/17/14 09:15	5.17g/5mL	10g/10mL	0.97
A4D0499-43	Soil	NWTPH-Gx (MS)	04/17/14 09:35	04/17/14 09:35	4.2g/5mL	10g/10mL	1.19
A4D0499-50	Soil	NWTPH-Gx (MS)	04/17/14 10:35	04/17/14 10:35	4.88g/5mL	10g/10mL	1.02

RBCA Compounds (BTEX+) by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040534							
A4D0499-10	Water	EPA 8260B	04/16/14 11:20	04/18/14 19:00	5mL/5mL	5mL/5mL	1.00
A4D0499-26	Water	EPA 8260B	04/16/14 15:15	04/18/14 19:00	5mL/5mL	5mL/5mL	1.00
A4D0499-37	Water	EPA 8260B	04/16/14 17:00	04/18/14 19:00	5mL/5mL	5mL/5mL	1.00
Batch: 4040568							
A4D0499-42	Water	EPA 8260B	04/17/14 09:30	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0499-49	Water	EPA 8260B	04/17/14 10:20	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0499-55	Water	EPA 8260B	04/17/14 12:40	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0499-69	Water	EPA 8260B	04/17/14 15:55	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
Batch: 4040662							
A4D0499-32	Water	EPA 8260B	04/16/14 16:00	04/23/14 16:54	5mL/5mL	5mL/5mL	1.00
Batch: 4040825							
A4D0499-05RE1	Water	EPA 8260B	04/16/14 10:11	04/29/14 13:00	5mL/5mL	5mL/5mL	1.00

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Prep: EPA 5030B

Sample	Default	RL Prep

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

SAMPLE PREPARATION INFORMATION

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4040692							
A4D0499-10	Water	EPA 8260C SIM	04/16/14 11:20	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
A4D0499-26	Water	EPA 8260C SIM	04/16/14 15:15	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
A4D0499-32	Water	EPA 8260C SIM	04/16/14 16:00	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
A4D0499-37	Water	EPA 8260C SIM	04/16/14 17:00	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
A4D0499-42	Water	EPA 8260C SIM	04/17/14 09:30	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
A4D0499-49	Water	EPA 8260C SIM	04/17/14 10:20	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
A4D0499-55	Water	EPA 8260C SIM	04/17/14 12:40	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
A4D0499-69	Water	EPA 8260C SIM	04/17/14 15:55	04/23/14 12:00	5mL/5mL	5mL/5mL	1.00
Batch: 4040833							
A4D0499-05	Water	EPA 8260C SIM	04/16/14 10:11	04/29/14 13:08	5mL/5mL	5mL/5mL	1.00

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040753							
A4D0499-27	Soil	EPA 8082A	04/16/14 15:30	04/25/14 09:46	10.75g/5mL	10g/5mL	0.93
A4D0499-28	Soil	EPA 8082A	04/16/14 15:35	04/25/14 09:46	10.58g/5mL	10g/5mL	0.95
A4D0499-29	Soil	EPA 8082A	04/16/14 15:40	04/25/14 09:46	10.05g/5mL	10g/5mL	1.00

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040655							
A4D0499-10RE1	Water	EPA 8270D	04/16/14 11:20	04/23/14 06:08	1010mL/2mL	1000mL/2mL	0.99
A4D0499-69	Water	EPA 8270D	04/17/14 15:55	04/23/14 06:08	900mL/2mL	1000mL/2mL	1.11
Batch: 4050452							
A4D0499-05RE1	Water	EPA 8270D	04/16/14 10:11	05/15/14 12:44	930mL/2mL	1000mL/2mL	1.08

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040866							
A4D0499-43RE1	Soil	EPA 8270D	04/17/14 09:35	04/30/14 09:14	10.79g/5mL	10g/5mL	0.93
A4D0499-60RE1	Soil	EPA 8270D	04/17/14 13:15	04/30/14 09:14	10.22g/5mL	10g/5mL	0.98
A4D0499-64RE1	Soil	EPA 8270D	04/17/14 14:10	04/30/14 09:14	10.68g/5mL	10g/5mL	0.94

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor

Pentachlorophenol by EPA 8270D

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040655							
A4D0499-10RE1	Water	EPA 8270D	04/16/14 11:20	04/23/14 06:08	1010mL/2mL	1000mL/2mL	0.99

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040698							
A4D0499-01	Soil	EPA 8270D	04/16/14 09:25	04/24/14 07:32	11.09g/5mL	10g/5mL	0.90
A4D0499-02	Soil	EPA 8270D	04/16/14 09:35	04/24/14 07:32	10.94g/5mL	10g/5mL	0.91
A4D0499-06RE1	Soil	EPA 8270D	04/16/14 10:40	04/24/14 07:32	10.2g/5mL	10g/5mL	0.98
A4D0499-07RE1	Soil	EPA 8270D	04/16/14 10:50	04/24/14 07:32	10.65g/5mL	10g/5mL	0.94

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040645							
A4D0499-01	Soil	EPA 8000C	04/16/14 09:25	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-02	Soil	EPA 8000C	04/16/14 09:35	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-04	Soil	EPA 8000C	04/16/14 10:00	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-06	Soil	EPA 8000C	04/16/14 10:40	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-07	Soil	EPA 8000C	04/16/14 10:50	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-09	Soil	EPA 8000C	04/16/14 11:05	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-11	Soil	EPA 8000C	04/16/14 11:50	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-12	Soil	EPA 8000C	04/16/14 11:55	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-14	Soil	EPA 8000C	04/16/14 12:05	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-16	Soil	EPA 8000C	04/16/14 13:10	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-17	Soil	EPA 8000C	04/16/14 13:15	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-19	Soil	EPA 8000C	04/16/14 13:30	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-21	Soil	EPA 8000C	04/16/14 14:30	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-22	Soil	EPA 8000C	04/16/14 14:40	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-23	Soil	EPA 8000C	04/16/14 14:45	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-25	Soil	EPA 8000C	04/16/14 14:55	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA

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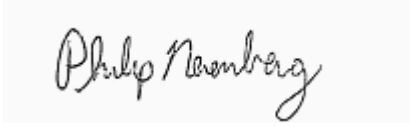

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4D0499-27	Soil	EPA 8000C	04/16/14 15:30	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-28	Soil	EPA 8000C	04/16/14 15:35	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-29	Soil	EPA 8000C	04/16/14 15:40	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-31	Soil	EPA 8000C	04/16/14 15:50	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-33	Soil	EPA 8000C	04/16/14 16:30	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-34	Soil	EPA 8000C	04/16/14 16:35	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-36	Soil	EPA 8000C	04/16/14 16:45	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-38	Soil	EPA 8000C	04/17/14 09:00	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-39	Soil	EPA 8000C	04/17/14 09:05	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-41	Soil	EPA 8000C	04/17/14 09:15	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-43	Soil	EPA 8000C	04/17/14 09:35	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-44	Soil	EPA 8000C	04/17/14 09:40	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-45	Soil	EPA 8000C	04/17/14 09:45	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-48	Soil	EPA 8000C	04/17/14 10:00	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-50	Soil	EPA 8000C	04/17/14 10:35	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-51	Soil	EPA 8000C	04/17/14 10:40	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-52	Soil	EPA 8000C	04/17/14 10:45	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-54	Soil	EPA 8000C	04/17/14 10:55	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-56	Soil	EPA 8000C	04/17/14 12:10	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-57	Soil	EPA 8000C	04/17/14 12:15	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-59	Soil	EPA 8000C	04/17/14 12:25	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-60	Soil	EPA 8000C	04/17/14 13:15	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-61	Soil	EPA 8000C	04/17/14 13:20	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-63	Soil	EPA 8000C	04/17/14 13:30	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-64	Soil	EPA 8000C	04/17/14 14:10	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-65	Soil	EPA 8000C	04/17/14 14:15	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-66	Soil	EPA 8000C	04/17/14 14:20	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-68	Soil	EPA 8000C	04/17/14 14:30	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-70	Soil	EPA 8000C	04/17/14 15:05	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0499-72	Soil	EPA 8000C	04/17/14 15:15	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
Batch: 4040879							
A4D0499-18	Soil	EPA 8000C	04/16/14 13:25	04/30/14 13:34	1N/A/1N/A	1N/A/1N/A	NA

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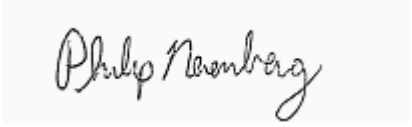

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

Notes and Definitions

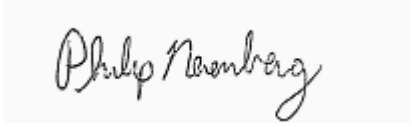
Qualifiers:

A-01a	Surrogate recovery is outside of established control limits but within 20% of daily CCV value.
A-01b	Surrogate recovery is outside of established control limits, but within 20% of daily CCV value.
A-01c	Surrogate recovery is outside of established control limits, but within 20% of the daily CCV value.
B-02	Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
F-03	The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
F-11	The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
F-12	The result for this hydrocarbon range is primarily due to the presence of individual analyte peaks in the quantitation range. No fuel pattern detected.
F-13	The chromatographic pattern does not resemble the fuel standard used for quantitation
F-17	No fuel pattern detected. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
H-02	This sample was extracted outside of the recommended holding time.
J	Estimated Result . Result detected below the lowest point of the calibration curve, but above the specified MDL.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-05	Analyses are not controlled on RPD values from sample or duplicate concentrations below 5 times the reporting level.
Q-17	RPD between original and duplicate sample is outside of established control limits.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
R-04	Reporting levels elevated due to dilution necessary for analysis.
S-01	Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
S-03	Reextraction and analysis, or analysis of laboratory duplicate, confirms surrogate failure due to sample matrix effect.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

Notes and Conventions:

DET	Analyte DETECTED

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
---	QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
***	Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39

APEX LABS — **CHAIN OF CUSTODY** — Lab # A4D0499 — COC 1 of __

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: EES Environmental | Project Mgr: Paul Ecker | Project Name: RJ Frank | Project #: 2001-01

Address: 240 N Broadway, Ste 203, PDX | Phone: 503-847-2740 | Fax: | Email: paul@ees-enviro.com

Sampled by: Roxanne Russell

Site Location: OR (WA) Other: ____

ANALYSIS REQUEST

#	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200-COLS	1200-Z	Pentachlorophenol 8270-SIM
1	EES-1(3-3.5)		4-16	0925	S	4		X														X
2	EES-1(7.5-8)			0935	S	4		X														X
3	EES-1(10-10.5)			0950	S	4																
4	EES-1(14.5-15)			1000	S	4		X														
5	EES-1(W)			1011	W	7																
6	EES-2(3-3.5)			1040	S	4		X														X
7	EES-2(7.5-8)			1050	S	4		X														X
8	EES-2(10-10.5)			1100	S	4																
9	EES-2(14.5-15)			1105	S	4		X														
10	EES-2(W)		↓	1120	W	7		X	X			X										X

Normal Turn Around Time (TAT) = 7-10 Business Days YES NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: ____

SAMPLES ARE HELD FOR 30 DAYS

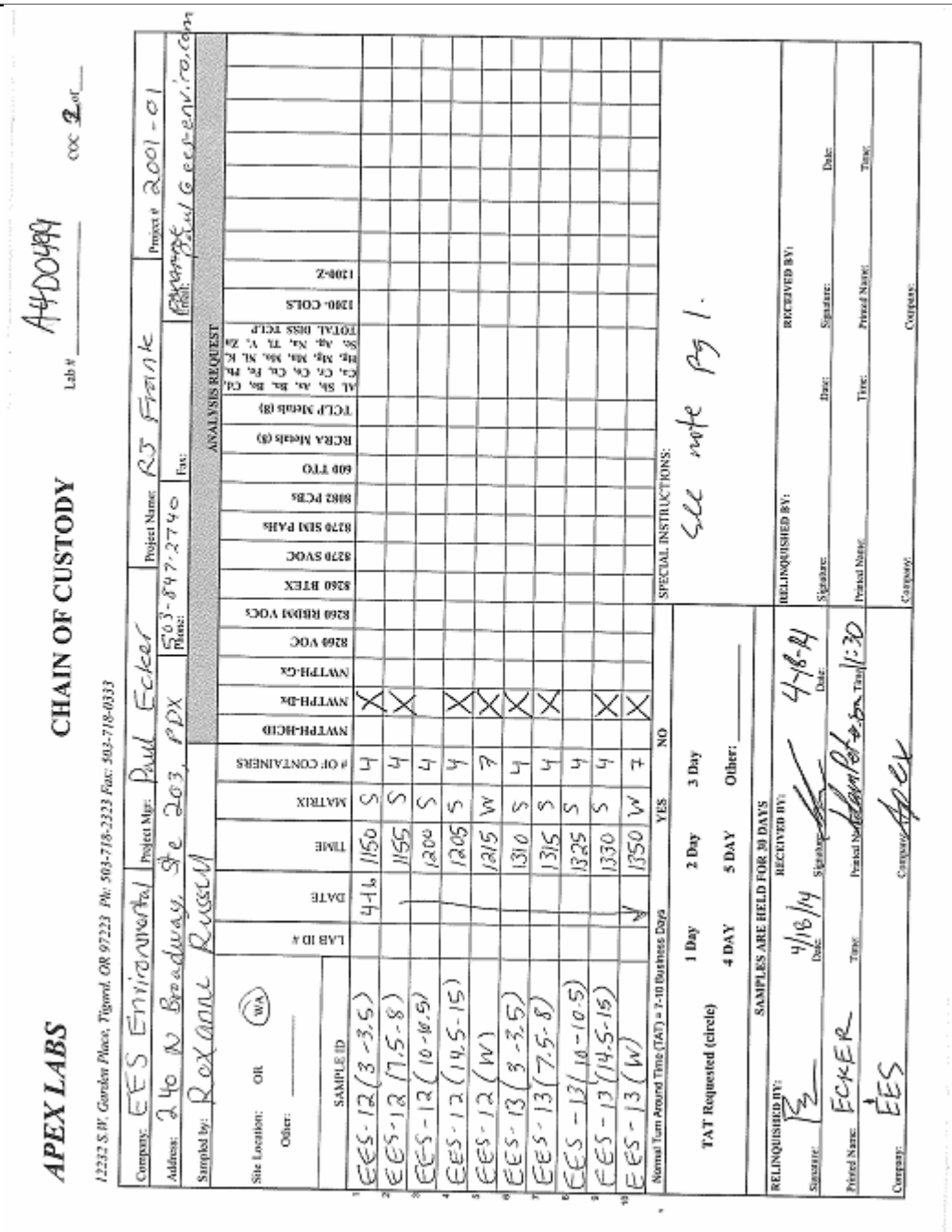
SPECIAL INSTRUCTIONS: Need Dx/Gx prelim results before organics expirations for possible constituent follow-ups

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date: 4/18/14	Signature: [signature] Date: 4-18-14	Signature: Date:	Signature: Date:
Printed Name: ECKER Time:	Printed Name: Alan Peterson Time: 11:30	Printed Name: Time:	Printed Name: Time:
Company: EES	Company: Apex	Company:	Company:

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39



APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab # 4HD0499 COC 2 of

Company: EES Environmental | Project Mgr: Paul Ecker | Project Name: RJ Frank | Project # 2001-01

Address: 240 N Broadway, Ste 203, PDX | Phone: 503-847-2740 | Fax: | Email: pecker@eesenv.com

Sampled by: Roxanne Russell

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDOI VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	608 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1280-COLS	1280-Z
1	EES-12 (3-3.5)		4-14	1150	S	4		X													
2	EES-12 (7.5-8)			1155	S	4		X													
3	EES-12 (10-10.5)			1200	S	4															
4	EES-12 (14.5-15)			1205	S	4		X													
5	EES-12 (W)			1215	W	7		X													
6	EES-13 (3-3.5)			1310	S	4		X													
7	EES-13 (7.5-8)			1315	S	4		X													
8	EES-13 (10-10.5)			1325	S	4															
9	EES-13 (14.5-15)			1330	S	4		X													
10	EES-13 (W)		V	1350	W	7		X													

Normal Turn Around Time (TAT) = 7-10 Business Days | YES | NO

SPECIAL INSTRUCTIONS: See note pg 1.

TAT Requested (circle): 1 Day | 2 Day | 3 Day | 4 DAY | 5 DAY | Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Date: 4/16/14 | RECEIVED BY: Signature: Date: 4-16-14

RELINQUISHED BY: Signature: Date: | RECEIVED BY: Signature: Date:

Printed Name: ECKER Time: | Printed Name: Time: 1:30

Company: EES | Company:

Apex Laboratories

Philip Nerenberg

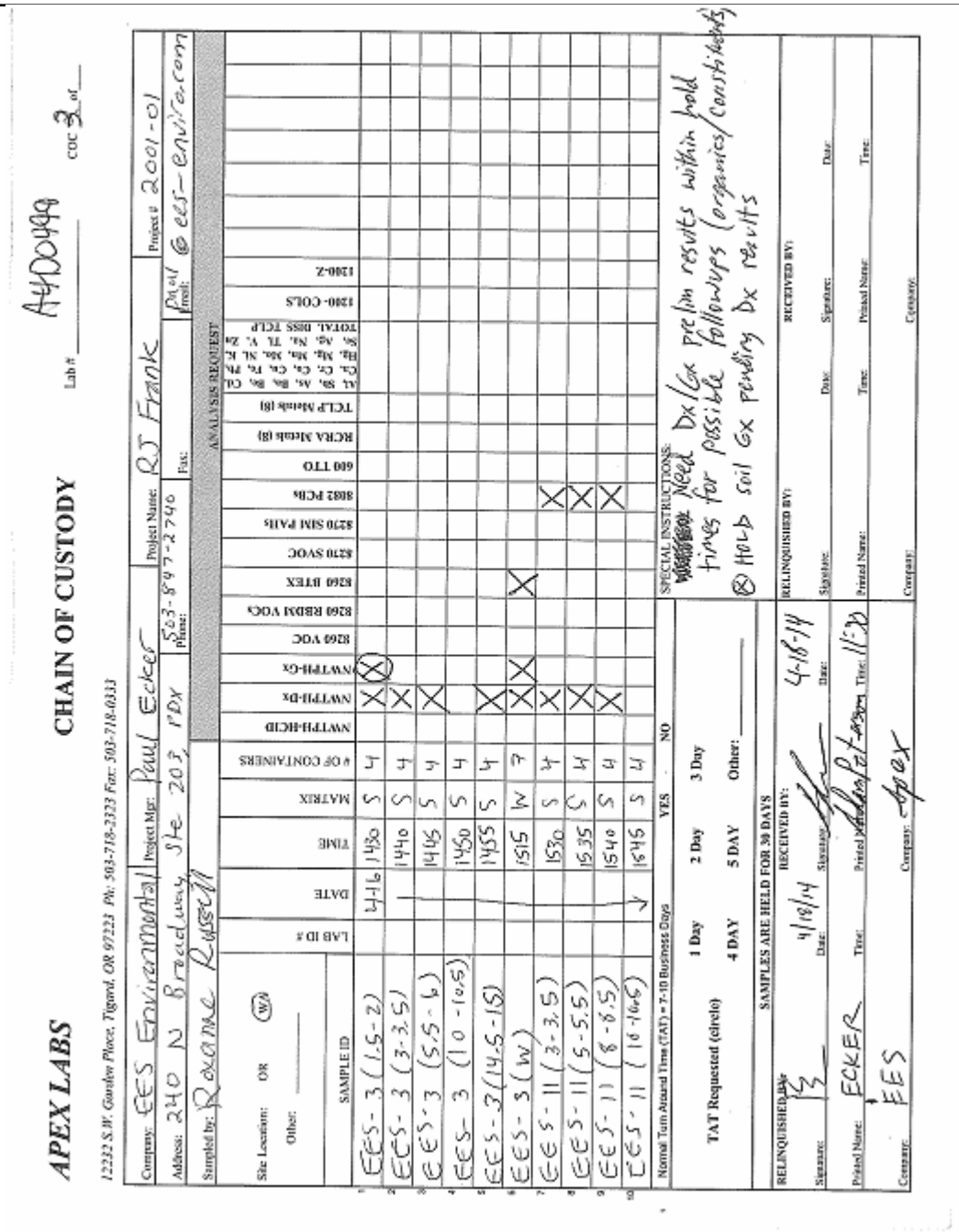
Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39



APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab # 449099 COC 2 of

Company: EES Environmental | Project Mgr: Paul Ecker | Project Name: RJ Frank | Project # 2001-01

Address: 240 N Broadway Ste 203 PDX | Phone: 503-847-2740 | Fax: | Email: @ees-enviro.com

Sampled by: Roanne Russell

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDDI VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	608 TTO	RCRA Metals (8)	TCLP Metals (8)	Ca, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL, DISS TCLP	1280-COLS	1280-Z
1	EES-3 (1.5-2)		4/16	1430	S	4		X	X											
2	EES-3 (3-3.5)			1440	S	4		X												
3	EES-3 (5.5-6)			1445	S	4		X												
4	EES-3 (10-10.5)			1450	S	4														
5	EES-3 (14.5-15)			1455	S	4		X												
6	EES-3 (W)			1515	W	7		X	X			X								
7	EES-11 (3-3.5)			1530	S	4		X							X					
8	EES-11 (5-5.5)			1535	S	4		X							X					
9	EES-11 (8-8.5)			1540	S	4		X							X					
10	EES-11 (10-10.5)		↓	1545	S	4														

Normal Turn Around Time (TAT) = 7-10 Business Days | YES | NO

TAT Requested (circle): 1 Day | 2 Day | 3 Day | 4 DAY | 5 DAY | Other: _____

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS: Need Dx/Gx prelim results within hold times for possible followups (organics/conventionals)
⊗ Hold soil Gx pending Dx results

RELINQUISHED BY: Signature: Date: 4/18/14 | RECEIVED BY: Signature: Date: 4-18-14

RELINQUISHED BY: Printed Name: ECKER Time: | RECEIVED BY: Printed Name: Time: 11:30

RELINQUISHED BY: Company: EES | RECEIVED BY: Company: Apex

Apex Laboratories

Philip Nerenberg

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Philip Nerenberg, Lab Director

Apex Labs

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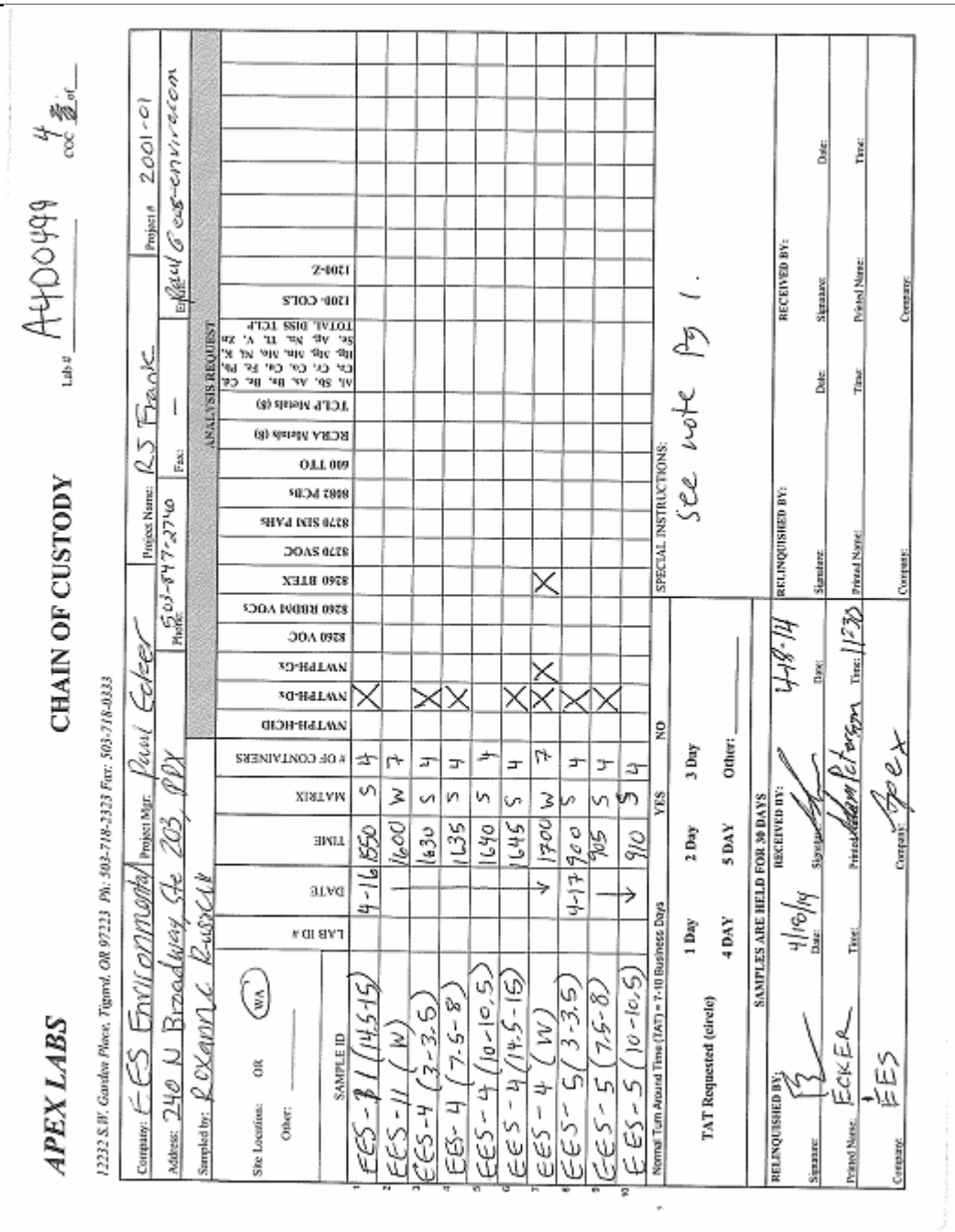
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39



APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab # A400499 COC # 1 of 1

Company: EES Environmental Project Mgr: Paul Ecker Project Name: RJ Frank Project # 2001-01

Address: 240 N Broadway Ste 203 PDX Phone: 503-847-2740 Fax: — Email: pecker@ees-environmental.com

Sampled by: ROXANNE RUSSELL

Site Locations: OR WA Other: _____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RHODI VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (5)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	120B- COLS	120B-Z
1	EES-8 I (14.5-15)		4-16	1850	S	4		X													
2	EES-11 (W)			1600	W	7															
3	EES-4 (3-3.5)			1630	S	4		X													
4	EES-4 (7.5-8)			1635	S	4		X													
5	EES-4 (10-10.5)			1640	S	4															
6	EES-4 (14.5-15)			1645	S	4		X													
7	EES-4 (W)		↓	1700	W	7		X	X			X									
8	EES-5 (3-3.5)		4-17	900	S	4		X													
9	EES-5 (7.5-8)			905	S	4		X													
10	EES-5 (10-10.5)		↓	910	S	4															

Normal Turn Around Time (TAT) = 7-10 Business Days YES NO

SPECIAL INSTRUCTIONS: see note pg 1.

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: _____ Date: 4/16/14

RECEIVED BY: Signature: _____ Date: 4/16/14

RELINQUISHED BY: Signature: _____ Date: _____

RECEIVED BY: Signature: _____ Date: _____

Printed Name: ECKER Time: _____

Printed Name: _____ Time: 1230

Company: EES

Company: Apex

Printed Name: _____ Time: _____

Company: _____

Apex Laboratories

Philip Nerenberg

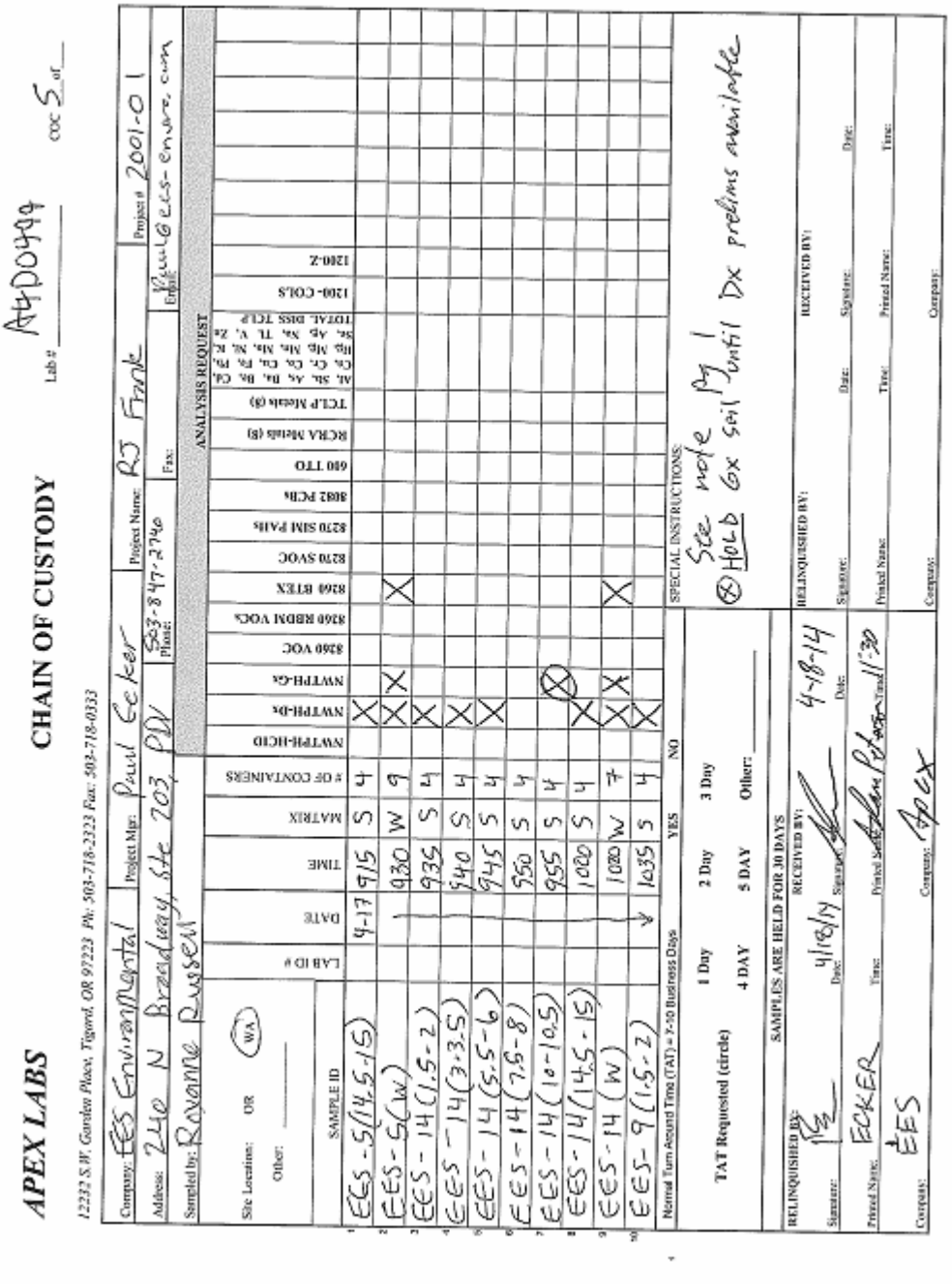
Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39



APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab # 14D0499 COC 5 of

Company: EES Environmental | Project Mgr: Paul Ecker | Project Name: RJ Frank | Project # 2001-01

Address: 240 N Broadway Ste 203 PDX | 503-847-2796 | Fax: | Email: pecker@ees-enviro.com

Sampled by: Roxanne Russell

Site Locations: OR WA

Other: _____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	680 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200- COLS	1200-Z
1	EES-5(14.5-15)		4-17	915	S	4		X													
2	EES-5(W)			930	W	9		XX				X									
3	EES-14(1.5-2)			935	S	4		X													
4	EES-14(3-3.5)			940	S	4		X													
5	EES-14(5.5-6)			945	S	4		X													
6	EES-14(7.5-8)			950	S	4															
7	EES-14(10-10.5)			955	S	4			⊗												
8	EES-14(14.5-15)			1000	S	4		X	⊗												
9	EES-14 (W)			1020	W	7		X	X			X									
10	EES-9(1.5-2)		↓	1035	S	4		X	X												

Normal Turn Around Time (TAT) = 7-10 Business Days — RUSH? YES NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:
See note pg 1
⊗ Hold ex soil until Dx prelims available

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date: 4/18/14	Date: 4-18-14	Date:	Date:
Printed Name: ECKER	Printed Name: Adam Pot	Printed Name:	Printed Name:
Time:	Time: 11:30	Time:	Time:
Company: EES	Company: Apex	Company:	Company:

Apex Laboratories

Philip Nerenberg

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

Apex Labs

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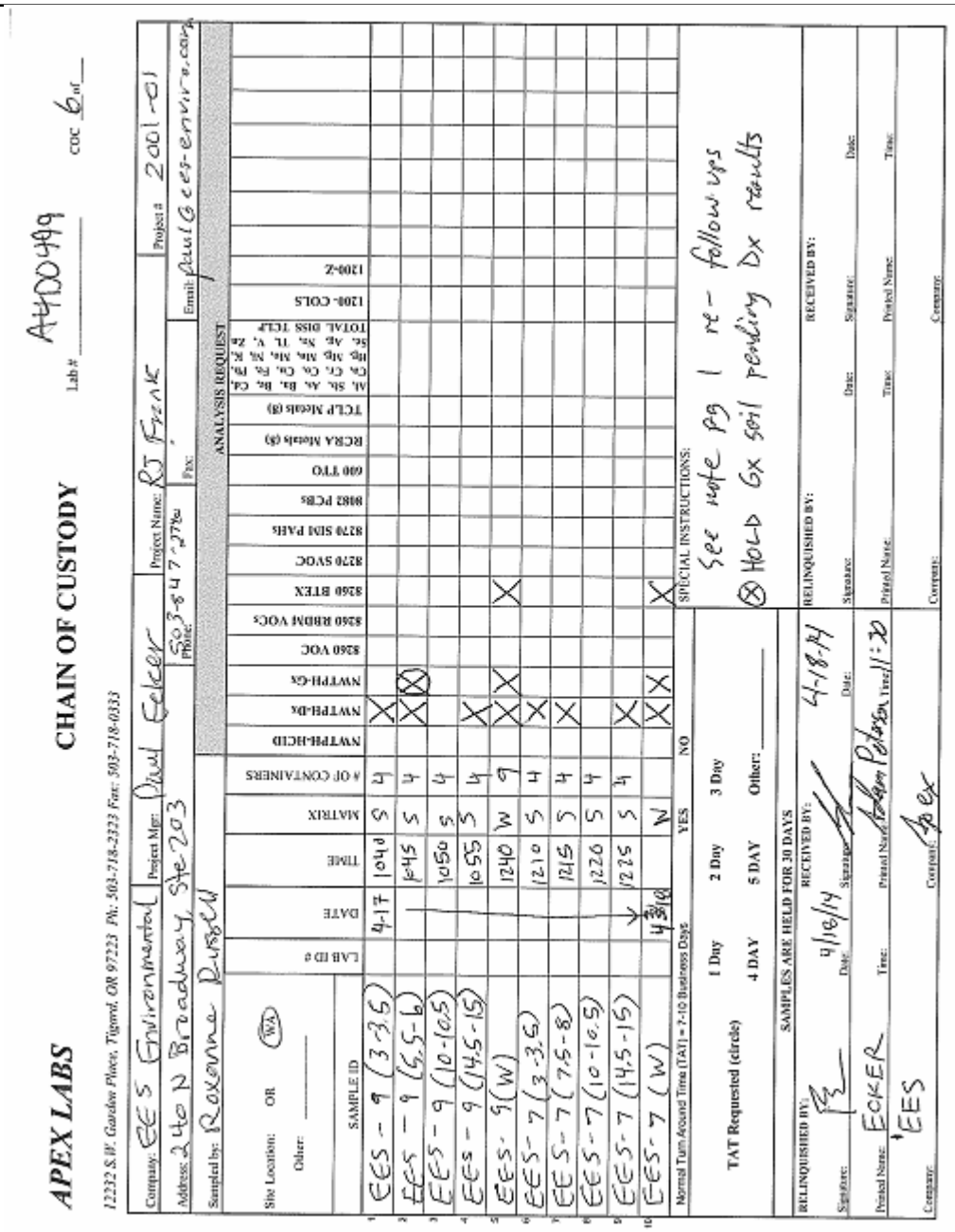
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39



APEX LABS — **CHAIN OF CUSTODY** — Lab # A4D0499 — COC 6 of

12232 S.W. Garden Place, Tigard, OR 97223 PH: 503-718-2323 Fax: 503-718-0333

Company: EES Environmental | Project Mgr: Paul Ecker | Phone: 503-847-7776 | Project Name: RJ Frank | Project #: 2001-01

Address: 240 N Broadway Ste 203 | Fax: | Email: paul@ees-enviro.com

Sampled by: Roxanna Russell

Site Location: OR (WA) Other: _____

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1208- COLS	1208-Z
1	EES-9 (3-3.5)		4-17	1040	S	4		X												
2	EES-9 (6.5-7)			1045	S	4		X	⊗											
3	EES-9 (10-10.5)			1050	S	4														
4	EES-9 (14.5-15)			1055	S	4		X												
5	EES-9 (W)			1240	W	9		X	X			X								
6	EES-7 (3-3.5)			1210	S	4		X												
7	EES-7 (7.5-8)			1215	S	4		X												
8	EES-7 (10-10.5)			1220	S	4														
9	EES-7 (14.5-15)			1225	S	4		X												
10	EES-7 (W)		4/18/14		N			X	X			X								

Normal Turn Around Time (TAT) = 7-10 Business Days — YES / NO

TAT Requested (circle): 1 Day | 2 Day | 3 Day | 4 DAY | 5 DAY | Other: _____

SPECIAL INSTRUCTIONS:
See note pg 1 re - follow ups
⊗ Hold 6x soil pending Dx results

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature: 4/18/14	Signature:	Signature:
Printed Name:	Printed Name: Kathleen Peterson Time: 11:30	Printed Name:	Printed Name:
Company: EES	Company: Apex	Company:	Company:
Date: 4/18/14 Time:	Date:	Date:	Date:

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

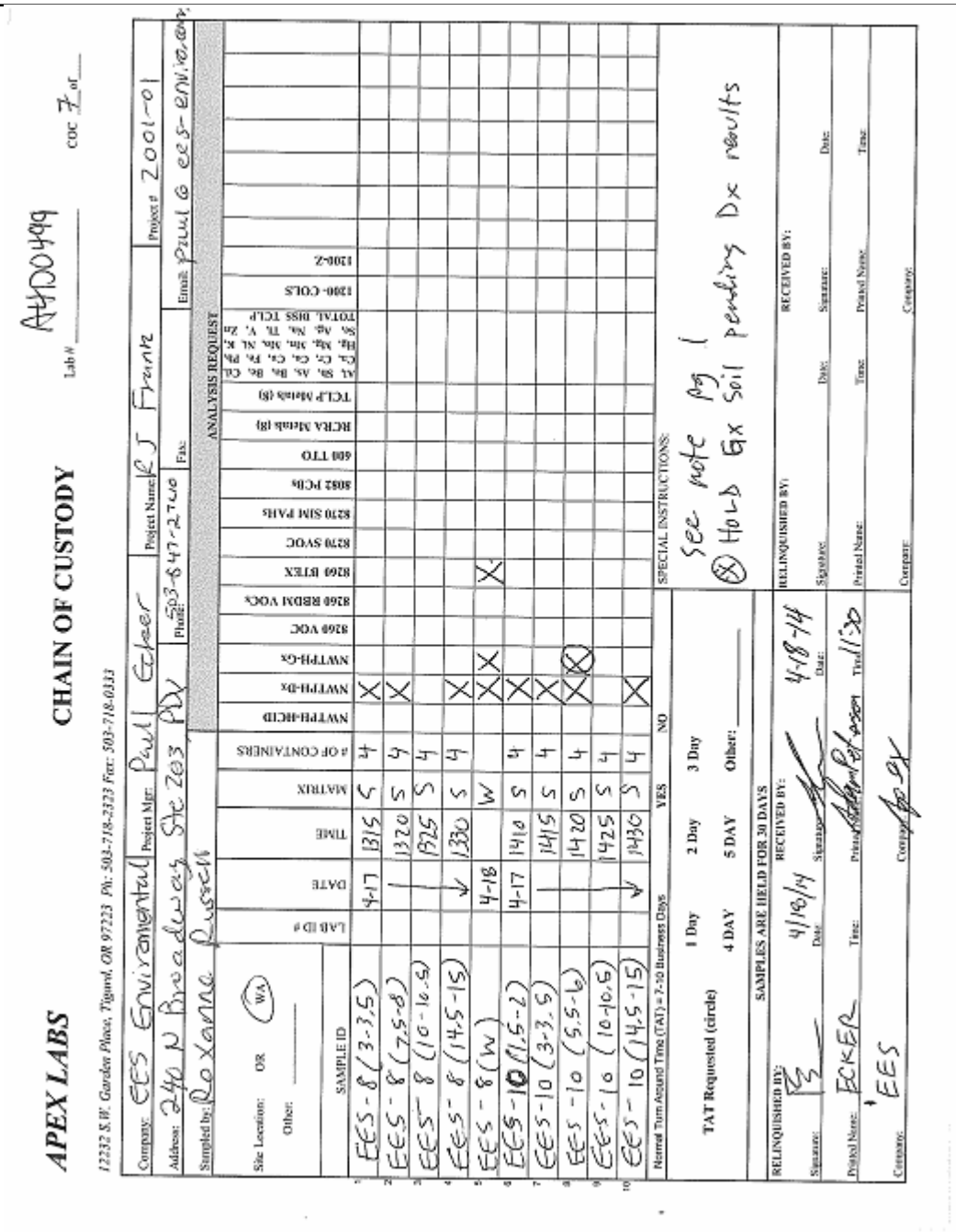
Philip Nerenberg

Philip Nerenberg, Lab Director

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39



APEX LABS — 12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY — Lab # AHD0499 — COC 1 of 1

Company: EES Environmental — Project Mgr: Paul Ecker — Project Name: RJ Frank — Project # 2001-01
Address: 240 N Broadway, Ste 203 PDX — Phone: 503-467-2740 — Fax: — Email: paul@ees-enviro.com
Sampled by: Roxanna Russell

Site Location: OR (WA) Other: ____

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 BRDDI VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	608 TTO	RCRA Metals (8)	TCLP Metals (8)	ANALYSIS REQUEST: As, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL 13PP TCLP	1200-COLS	1200-Z
EES-8 (3-3.5)		4-17	1315	S	4		X													
EES-8 (7.5-8)			1320	S	4		X													
EES-8 (10-10.5)			1325	S	4															
EES-8 (14.5-15)		↓	1330	S	4		X				X									
EES-8 (W)		4-18		W			X	X												
EES-10 (1.5-2)		4-17	1410	S	4		X													
EES-10 (3-3.5)			1415	S	4		X													
EES-10 (5.5-6)			1420	S	4		X	X												
EES-10 (10-10.5)			1425	S	4															
EES-10 (14.5-15)		↓	1430	S	4		X													

Normal Turn Around Time (TAT) = 7-10 Business Days — YES / NO

SPECIAL INSTRUCTIONS: see note pg 1
⊗ Hold Gx Soil pending Dx results

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: ____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date: 4/18/14	Date: 4-18-14	Date:	Date:
Printed Name: ECKER	Printed Name:	Printed Name:	Printed Name:
Time:	Time: 1130	Time:	Time:
Company: EES	Company: Apex	Company:	Company:

Apex Laboratories

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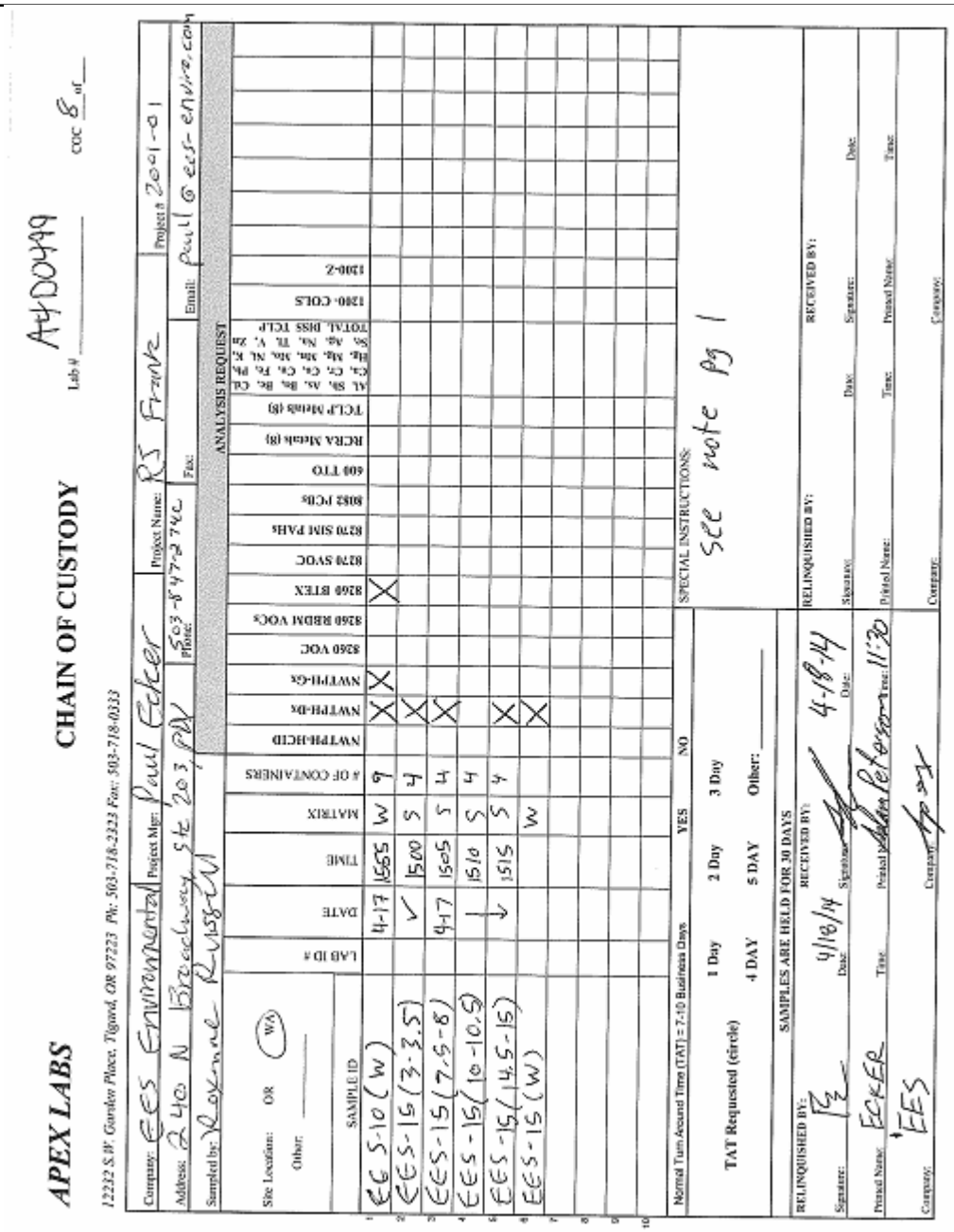
Philip Nerenberg, Lab Director

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/22/14 12:39



APEX LABS — **CHAIN OF CUSTODY** — Lab # A4D0499 — COC 8 of ___

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: EES Environmental — Project Mgr: Paul Ecker — Project Name: RJ Frank — Project # 2001-01

Address: 240 N Broadway, Ste 203, PDX — Phone: 503-847-2742 — Fax: — Email: paul@eesenviro.com

Sampled by: Roxanne Russell

Site Locations: OR (WA) Other: ____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	608 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200-COLS	1200-Z
1	EES-10 (W)		4-17	1555	W	9		X	X			X								
2	EES-15 (3-3.5)		"	1500	S	4		X												
3	EES-15 (7.5-8)		4-17	1505	S	4		X												
4	EES-15 (10-10.5)		"	1510	S	4														
5	EES-15 (14.5-15)		"	1515	S	4		X												
6	EES-15 (W)				W			X												
7																				
8																				
9																				
10																				

Normal Turn Around Time (TAT) = 7-10 Business Days — YES / NO

TAT Requested (circle): 1 Day, 2 Day, 3 Day, 4 DAY, 5 DAY, Other: ____

SPECIAL INSTRUCTIONS: See note pg 1

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: PE — Date: 4/18/14 — RECEIVED BY: Signature: Jeff Peterson — Date: 4-18-14

RELINQUISHED BY: Printed Name: ECKER — Time: — RECEIVED BY: Printed Name: — Time: 11:30

Company: EES — Company:

RELINQUISHED BY: Signature: — Date: — RECEIVED BY: Signature: — Date:

RELINQUISHED BY: Printed Name: — Time: — RECEIVED BY: Printed Name: — Time:

Company: — Company:

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Tuesday, May 20, 2014

Paul Ecker
EES Environmental Inc
240 N Broadway Ste 203
Portland, OR 97227

RE: RJ Frank / 2001-01

Enclosed are the results of analyses for work order A4D0509, which was received by the laboratory on 4/18/2014 at 1:45:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

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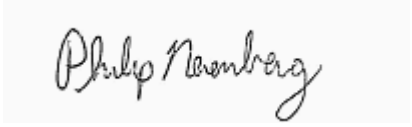

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EES-7 (W)	A4D0509-01	Water	04/18/14 08:00	04/18/14 13:45
EES-8 (W)	A4D0509-02	Water	04/18/14 08:30	04/18/14 13:45
EES-15 (W)	A4D0509-03	Water	04/18/14 08:50	04/18/14 13:45
EES-6 (3-3.5)	A4D0509-04	Soil	04/18/14 09:20	04/18/14 13:45
EES-6 (7.5-8)	A4D0509-05	Soil	04/18/14 09:30	04/18/14 13:45
EES-15 (3-3.5)	A4D0509-06	Soil	04/18/14 10:20	04/18/14 13:45
EES-2A (10-10.5)	A4D0509-07	Soil	04/18/14 11:15	04/18/14 13:45
EES-2A (12-12.5)	A4D0509-08	Soil	04/18/14 11:20	04/18/14 13:45

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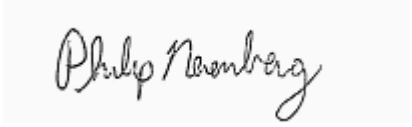

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-7 (W) (A4D0509-01)			**Matrix: Water**		**Batch: 4040655**			
Diesel	**1.34**	---	0.667	mg/L	2.5	04/23/14 21:12	NWTPH-Dx	F-13
Oil	ND	---	1.33	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
EES-8 (W) (A4D0509-02)			**Matrix: Water**		**Batch: 4040655**			
Diesel	**0.246**	---	0.192	mg/L	2.5	04/23/14 21:36	NWTPH-Dx	F-13
Oil	ND	---	0.385	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*	"	"	"	
EES-15 (W) (A4D0509-03)			**Matrix: Water**		**Batch: 4040655**			
Diesel	ND	---	0.192	mg/L	2.5	04/23/14 22:00	NWTPH-Dx	
Oil	ND	---	0.385	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*	"	"	"	
EES-6 (3-3.5) (A4D0509-04)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 18:30	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
EES-6 (7.5-8) (A4D0509-05)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 18:49	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
EES-15 (3-3.5) (A4D0509-06)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 19:07	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	
EES-2A (10-10.5) (A4D0509-07)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 21:14	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	
EES-2A (12-12.5) (A4D0509-08)			**Matrix: Soil**		**Batch: 4040727**			
Diesel	ND	---	25.0	mg/kg dry	1	04/24/14 21:51	NWTPH-Dx	
Oil	**151**	---	50.0	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	

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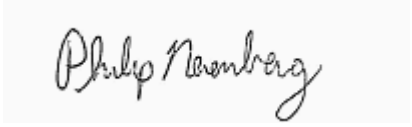

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Tigard, OR 97223
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503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-7 (W) (A4D0509-01)			**Matrix: Water**		**Batch: 4040860**			
Diesel	ND	---	0.833	mg/L	2.5	05/01/14 12:48	NWTPH-Dx/SG	
Oil	ND	---	1.67	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	

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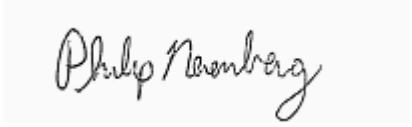

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-7 (W) (A4D0509-01)			**Matrix: Water**		**Batch: 4040568**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/21/14 12:57	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 83 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*83 %*	*Limits: 50-150 %*	"	"	"	
EES-8 (W) (A4D0509-02)			**Matrix: Water**		**Batch: 4040568**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/21/14 13:23	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 88 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*85 %*	*Limits: 50-150 %*	"	"	"	
EES-15 (W) (A4D0509-03)			**Matrix: Water**		**Batch: 4040763**			
Gasoline Range Organics	ND	---	0.100	mg/L	1	04/28/14 16:17	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 129 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*125 %*	*Limits: 50-150 %*	"	"	"	
EES-6 (3-3.5) (A4D0509-04)			**Matrix: Soil**		**Batch: 4040790**			
Gasoline Range Organics	ND	---	7.22	mg/kg dry	50	04/30/14 12:38	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*108 %*	*Limits: 50-150 %*	"	"	"	
EES-6 (7.5-8) (A4D0509-05)			**Matrix: Soil**		**Batch: 4040790**			
Gasoline Range Organics	ND	---	7.46	mg/kg dry	50	04/30/14 14:20	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 105 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	
EES-2A (12-12.5) (A4D0509-08)			**Matrix: Soil**		**Batch: 4040790**			
Gasoline Range Organics	ND	---	8.14	mg/kg dry	50	04/30/14 15:13	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 101 %*	*Limits: 50-150 %*	1	"	"	
1,4-Difluorobenzene (Sur)			*106 %*	*Limits: 50-150 %*	"	"	"	

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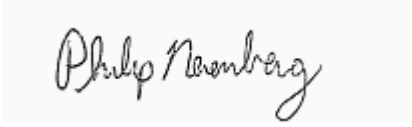

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-7 (W) (A4D0509-01)			**Matrix: Water**		**Batch: 4040568**			
Benzene	ND	---	0.250	ug/L	1	04/21/14 12:57	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*90 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*119 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*120 %*	*Limits: 80-120 %*	"	"	"	
EES-8 (W) (A4D0509-02)			**Matrix: Water**		**Batch: 4040568**			
Benzene	ND	---	0.250	ug/L	1	04/21/14 13:23	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*92 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*115 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*117 %*	*Limits: 80-120 %*	"	"	"	
EES-6 (3-3.5) (A4D0509-04)			**Matrix: Soil**		**Batch: 4040790**			
Benzene	ND	9.03	18.1	ug/kg dry	50	04/30/14 12:38	5035/8260B	
Toluene	ND	36.1	72.2	"	"	"	"	
Ethylbenzene	ND	18.1	36.1	"	"	"	"	
Xylenes, total	ND	54.2	108	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	36.1	72.2	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	18.1	36.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	18.1	36.1	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 118 %*	*Limits: 70-130 %*	1	"	"	
1,4-Difluorobenzene (Surr)			*108 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*106 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*95 %*	*Limits: 70-130 %*	"	"	"	
EES-6 (7.5-8) (A4D0509-05)			**Matrix: Soil**		**Batch: 4040790**			

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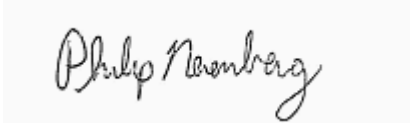

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-6 (7.5-8) (A4D0509-05)			**Matrix: Soil**		**Batch: 4040790**			
Benzene	ND	9.33	18.7	ug/kg dry	50	04/30/14 14:20	5035/8260B	
Toluene	ND	37.3	74.6	"	"	"	"	
Ethylbenzene	ND	18.7	37.3	"	"	"	"	
Xylenes, total	ND	56.0	112	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	37.3	74.6	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	18.7	37.3	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	18.7	37.3	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 70-130 %*	1	"	"	
1,4-Difluorobenzene (Surr)			*109 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*106 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*96 %*	*Limits: 70-130 %*	"	"	"	

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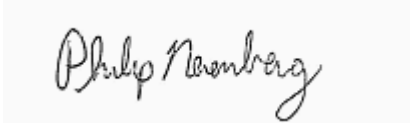

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-7 (W) (A4D0509-01)			**Matrix: Water**		**Batch: 4040833**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/29/14 16:53	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 96 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*92 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*97 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*90 %*	*Limits: 70-130 %*	"	"	"	
EES-8 (W) (A4D0509-02)			**Matrix: Water**		**Batch: 4040833**			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	04/29/14 17:22	EPA 8260C SIM	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 98 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*92 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 70-130 %*	"	"	"	

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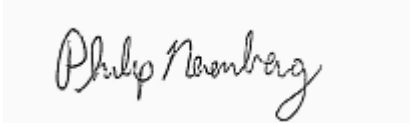

Philip Nerenberg, Lab Director

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Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-7 (W) (A4D0509-01)			**Matrix: Water**		**Batch: 4040655**			**R-04**
Acenaphthene	ND	0.267	0.533	ug/L	4	04/28/14 17:11	EPA 8270D	
Acenaphthylene	ND	0.267	0.533	"	"	"	"	
Anthracene	ND	0.267	0.533	"	"	"	"	
Benz(a)anthracene	ND	0.267	0.533	"	"	"	"	
Benzo(a)pyrene	ND	0.400	0.800	"	"	"	"	
Benzo(b)fluoranthene	ND	0.400	0.800	"	"	"	"	
Benzo(k)fluoranthene	ND	0.400	0.800	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.267	0.533	"	"	"	"	
Chrysene	ND	0.267	0.533	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.267	0.533	"	"	"	"	
Fluoranthene	ND	0.267	0.533	"	"	"	"	
Fluorene	ND	0.267	0.533	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.267	0.533	"	"	"	"	
1-Methylnaphthalene	ND	0.533	1.07	"	"	"	"	
2-Methylnaphthalene	ND	0.533	1.07	"	"	"	"	
Naphthalene	ND	0.533	1.07	"	"	"	"	
Phenanthrene	ND	0.267	0.533	"	"	"	"	
Pyrene	ND	0.267	0.533	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 97 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*83 %*	*Limits: 30-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*101 %*	*Limits: 30-125 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*122 %*	*Limits: 40-125 %*	"	"	"	

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-6 (3-3.5) (A4D0509-04)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**78.7**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-6 (7.5-8) (A4D0509-05)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**76.6**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-15 (3-3.5) (A4D0509-06)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**86.1**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-2A (10-10.5) (A4D0509-07)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**74.5**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	
EES-2A (12-12.5) (A4D0509-08)			**Matrix: Soil**		**Batch: 4040645**			
% Solids	**73.4**	---	1.00	% by Weight	1	04/23/14 10:35	EPA 8000C	

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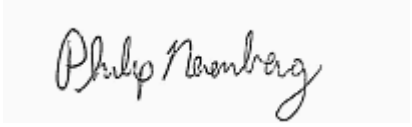

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
Blank (4040655-BLK2)					Prepared: 04/23/14 06:08 Analyzed: 04/23/14 18:21							
NWTPH-Dx												
Diesel	ND	---	0.182	mg/L	2.5	---	---	---	---	---	---	
Oil	ND	---	0.364	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS (4040655-BS2)					Prepared: 04/23/14 06:09 Analyzed: 04/23/14 18:45							
NWTPH-Dx												
Diesel	0.922	---	0.200	mg/L	2.5	1.25	---	74	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS Dup (4040655-BSD2)					Prepared: 04/23/14 06:09 Analyzed: 04/23/14 19:10							**Q-19**
NWTPH-Dx												
Diesel	0.933	---	0.200	mg/L	2.5	1.25	---	75	58-115%	1	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
Batch 4040727 - EPA 3546 (Fuels)							**Soil**					
Blank (4040727-BLK1)					Prepared: 04/24/14 14:22 Analyzed: 04/24/14 18:30							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4040727-BS1)					Prepared: 04/24/14 14:22 Analyzed: 04/24/14 18:49							
NWTPH-Dx												
Diesel	117	---	25.0	mg/kg wet	1	125	---	94	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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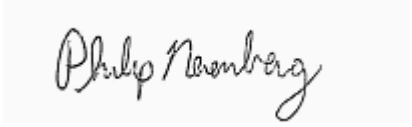

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040860 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel									**Water**			
Blank (4040860-BLK1)					Prepared: 04/23/14 06:08 Analyzed: 05/01/14 10:47							
NWTPH-Dx/SG												
Diesel	ND	---	0.227	mg/L	2.5	---	---	---	---	---	---	
Oil	ND	---	0.455	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 80 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS (4040860-BS1)					Prepared: 04/23/14 06:09 Analyzed: 05/01/14 11:11							
NWTPH-Dx/SG												
Diesel	0.840	---	0.250	mg/L	2.5	1.25	---	67	60-122%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 88 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS Dup (4040860-BSD1)					Prepared: 04/23/14 06:09 Analyzed: 05/01/14 11:35							**Q-19**
NWTPH-Dx/SG												
Diesel	0.851	---	0.250	mg/L	2.5	1.25	---	68	60-122%	1	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					

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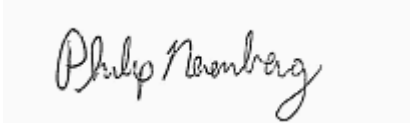

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040568 - EPA 5030B								**Water**				
Blank (4040568-BLK1)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 10:18							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*89 %*	*50-150 %*			*"*					
LCS (4040568-BS2)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 09:51							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.493	---	0.100	mg/L	1	0.500	---	99	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*88 %*	*50-150 %*			*"*					

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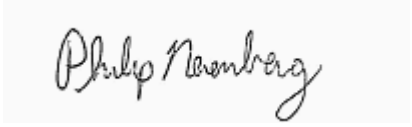

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040763 - EPA 5030B							**Water**					
Blank (4040763-BLK1)					Prepared: 04/28/14 09:00 Analyzed: 04/28/14 11:59							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 121 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*119 %*	*50-150 %*			*"*					
LCS (4040763-BS2)					Prepared: 04/28/14 09:00 Analyzed: 04/28/14 11:07							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.567	---	0.100	mg/L	1	0.500	---	113	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 120 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*118 %*	*50-150 %*			*"*					

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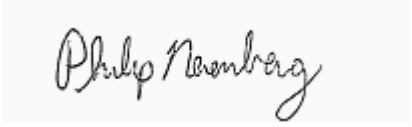

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040790 - EPA 5035A							**Soil**					
Blank (4040790-BLK1)					Prepared: 04/30/14 08:30 Analyzed: 04/30/14 10:30							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					
LCS (4040790-BS2)					Prepared: 04/30/14 08:30 Analyzed: 04/30/14 10:05							
NWTPH-Gx (MS)												
Gasoline Range Organics	21.8	---	5.00	mg/kg wet	50	25.0	---	87	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 94 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*106 %*	*50-150 %*			*"*					
Duplicate (4040790-DUP1)					Prepared: 04/18/14 09:20 Analyzed: 04/30/14 13:03							
QC Source Sample: EES-6 (3-3.5) (A4D0509-04)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	6.79	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*109 %*	*50-150 %*			*"*					

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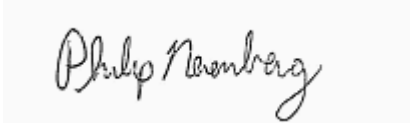

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040568 - EPA 5030B							**Water**					
Blank (4040568-BLK1)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 10:18							
EPA 8260B												
Benzene	ND	---	0.250	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 107 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*95 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*114 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*117 %*		*80-120 %*		*"*					
LCS (4040568-BS1)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 09:25							
EPA 8260B												
Benzene	18.8	---	0.250	ug/L	1	20.0	---	94	70-130%	---	---	
Toluene	21.0	---	1.00	"	"	"	---	105	"	---	---	
Ethylbenzene	21.4	---	0.500	"	"	"	---	107	"	---	---	
Xylenes, total	65.7	---	1.50	"	"	60.0	---	109	"	---	---	
Naphthalene	21.4	---	2.00	"	"	20.0	---	107	"	---	---	
Methyl tert-butyl ether (MTBE)	18.2	---	1.00	"	"	"	---	91	"	---	---	
Isopropylbenzene	22.2	---	1.00	"	"	"	---	111	"	---	---	
n-Propylbenzene	21.2	---	0.500	"	"	"	---	106	"	---	---	
1,2,4-Trimethylbenzene	21.6	---	1.00	"	"	"	---	108	"	---	---	
1,3,5-Trimethylbenzene	21.6	---	1.00	"	"	"	---	108	"	---	---	
1,2-Dibromoethane (EDB)	21.1	---	0.500	"	"	"	---	106	"	---	---	

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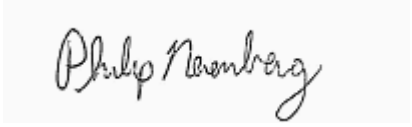

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040568 - EPA 5030B								**Water**				
LCS (4040568-BS1)					Prepared: 04/21/14 08:00 Analyzed: 04/21/14 09:25							
1,2-Dichloroethane (EDC)	17.4	---	0.500	ug/L	"	"	---	87	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 101 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*93 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*113 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*113 %*		*80-120 %*			*"*				
Matrix Spike (4040568-MS1)					Prepared: 04/21/14 09:53 Analyzed: 04/21/14 13:50							
QC Source Sample: EES-8 (W) (A4D0509-02)												
EPA 8260B												
Benzene	16.1	---	0.250	ug/L	1	20.0	ND	80	70-130%	---	---	
Toluene	19.2	---	1.00	"	"	"	ND	96	"	---	---	
Ethylbenzene	19.7	---	0.500	"	"	"	ND	98	"	---	---	
Xylenes, total	57.9	---	1.50	"	"	60.0	ND	97	"	---	---	
Naphthalene	16.6	---	2.00	"	"	20.0	ND	83	"	---	---	
Methyl tert-butyl ether (MTBE)	14.0	---	1.00	"	"	"	ND	70	"	---	---	
Isopropylbenzene	20.5	---	1.00	"	"	"	ND	102	"	---	---	
n-Propylbenzene	19.5	---	0.500	"	"	"	ND	98	"	---	---	
1,2,4-Trimethylbenzene	19.9	---	1.00	"	"	"	ND	99	"	---	---	
1,3,5-Trimethylbenzene	19.5	---	1.00	"	"	"	ND	98	"	---	---	
1,2-Dibromoethane (EDB)	17.1	---	0.500	"	"	"	ND	86	"	---	---	
1,2-Dichloroethane (EDC)	14.5	---	0.500	"	"	"	ND	72	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 98 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*91 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*112 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*114 %*		*80-120 %*			*"*				

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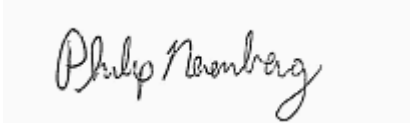

Philip Nerenberg, Lab Director

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503-718-2323 Phone
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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040790 - EPA 5035A							**Soil**					
Blank (4040790-BLK1)					Prepared: 04/30/14 08:30 Analyzed: 04/30/14 10:30							
5035/8260B												
Benzene	ND	4.17	8.33	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Xylenes, total	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Naphthalene	ND	33.3	66.7	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 115 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*106 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*107 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*95 %*	*70-130 %*			*"*					
LCS (4040790-BS1)					Prepared: 04/30/14 08:30 Analyzed: 04/30/14 09:39							
5035/8260B												
Benzene	902	6.25	12.5	ug/kg wet	50	1000	---	90	65-135%	---	---	
Toluene	904	25.0	50.0	"	"	"	---	90	"	---	---	
Ethylbenzene	976	12.5	25.0	"	"	"	---	98	"	---	---	
Xylenes, total	3060	37.5	75.0	"	"	3000	---	102	"	---	---	
Naphthalene	922	50.0	100	"	"	1000	---	92	"	---	---	
Methyl tert-butyl ether (MTBE)	992	25.0	50.0	"	"	"	---	99	"	---	---	
Isopropylbenzene	1010	25.0	50.0	"	"	"	---	101	"	---	---	
n-Propylbenzene	1030	12.5	25.0	"	"	"	---	103	"	---	---	
1,2,4-Trimethylbenzene	1050	25.0	50.0	"	"	"	---	105	"	---	---	
1,3,5-Trimethylbenzene	1050	25.0	50.0	"	"	"	---	105	"	---	---	
1,2-Dibromoethane (EDB)	1060	12.5	25.0	"	"	"	---	106	"	---	---	

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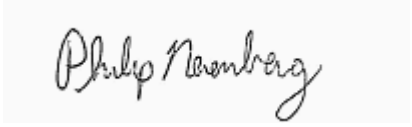

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040790 - EPA 5035A							**Soil**					
LCS (4040790-BS1)					Prepared: 04/30/14 08:30 Analyzed: 04/30/14 09:39							
1,2-Dichloroethane (EDC)	1100	12.5	25.0	ug/kg wet	"	"	---	110	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 112 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*104 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*103 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*92 %*	*70-130 %*			*"*					
Duplicate (4040790-DUP1)					Prepared: 04/18/14 09:20 Analyzed: 04/30/14 13:03							
QC Source Sample: EES-6 (3-3.5) (A4D0509-04)												
5035/8260B												
Benzene	ND	8.49	17.0	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	34.0	67.9	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	17.0	34.0	"	"	---	ND	---	---	---	30%	
Xylenes, total	ND	50.9	102	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	67.9	136	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	34.0	67.9	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	34.0	67.9	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	17.0	34.0	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	34.0	67.9	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	34.0	67.9	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	17.0	34.0	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	17.0	34.0	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 119 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*108 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*107 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*94 %*	*70-130 %*			*"*					

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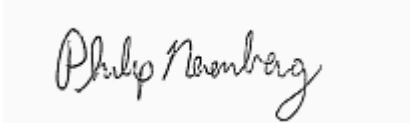

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040833 - EPA 5030B									**Water**			
Blank (4040833-BLK1)					Prepared: 04/29/14 13:08 Analyzed: 04/29/14 14:57							
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*96 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*99 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*108 %*	*70-130 %*			*"*					
LCS (4040833-BS1)					Prepared: 04/29/14 13:08 Analyzed: 04/29/14 15:26							
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	0.192	0.0100	0.0200	ug/L	1	0.200	---	96	80-120%	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 101 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*96 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*97 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*103 %*	*70-130 %*			*"*					
Duplicate (4040833-DUP1)					Prepared: 04/29/14 13:08 Analyzed: 04/29/14 17:51							
QC Source Sample: EES-8 (W) (A4D0509-02)												
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 99 %*	*Limits: 70-130 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*91 %*	*70-130 %*			*"*					
Toluene-d8 (Surr)			*97 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*104 %*	*70-130 %*			*"*					

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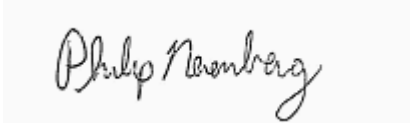

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
Blank (4040655-BLK3)					Prepared: 04/23/14 06:08 Analyzed: 04/23/14 12:16							
EPA 8270D												
Acenaphthene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	0.0545	0.109	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Carbazole	ND	0.0273	0.0545	"	"	---	---	---	---	---	---	
2-Chloronaphthalene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Chrysene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Fluoranthene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Fluorene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
Naphthalene	ND	0.0364	0.0727	"	"	---	---	---	---	---	---	
Phenanthrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Pyrene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 85 %*		*Limits: 35-120 %*				*Dilution: 1x*			
2-Fluorobiphenyl (Surr)			*81 %*		*30-120 %*				*"*			
p-Terphenyl-d14 (Surr)			*92 %*		*30-125 %*				*"*			
2,4,6-Tribromophenol (Surr)			*94 %*		*40-125 %*				*"*			
LCS (4040655-BS3)					Prepared: 04/23/14 06:08 Analyzed: 04/23/14 12:54							
EPA 8270D												
Acenaphthene	6.40	0.0200	0.0400	ug/L	1	8.00	---	80	45-125%	---	---	
Acenaphthylene	6.88	0.0200	0.0400	"	"	"	---	86	50-125%	---	---	

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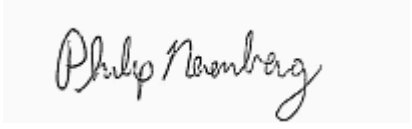

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
LCS (4040655-BS3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 12:54					
Anthracene	6.92	0.0200	0.0400	ug/L	"	"	---	87	55-125%	---	---	
Benz(a)anthracene	6.99	0.0200	0.0400	"	"	"	---	87	"	---	---	
Benzo(a)pyrene	7.09	0.0300	0.0600	"	"	"	---	89	"	---	---	
Benzo(b)fluoranthene	6.90	0.0300	0.0600	"	"	"	---	86	45-125%	---	---	
Benzo(k)fluoranthene	6.60	0.0300	0.0600	"	"	"	---	82	"	---	---	
Benzo(b+k)fluoranthene(s)	13.7	0.0600	0.120	"	"	16.0	---	86	"	---	---	
Benzo(g,h,i)perylene	7.07	0.0200	0.0400	"	"	8.00	---	88	40-125%	---	---	
Carbazole	7.71	0.0300	0.0600	"	"	"	---	96	50-125%	---	---	
2-Chloronaphthalene	6.41	0.0200	0.0400	"	"	"	---	80	50-120%	---	---	
Chrysene	6.99	0.0200	0.0400	"	"	"	---	87	55-125%	---	---	
Dibenz(a,h)anthracene	7.50	0.0200	0.0400	"	"	"	---	94	40-125%	---	---	
Dibenzofuran	6.72	0.0200	0.0400	"	"	"	---	84	55-125%	---	---	
Fluoranthene	7.61	0.0200	0.0400	"	"	"	---	95	"	---	---	
Fluorene	6.48	0.0200	0.0400	"	"	"	---	81	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	7.19	0.0200	0.0400	"	"	"	---	90	45-125%	---	---	
1-Methylnaphthalene	6.15	0.0400	0.0800	"	"	"	---	77	45-120%	---	---	
2-Methylnaphthalene	6.22	0.0400	0.0800	"	"	"	---	78	"	---	---	
Naphthalene	5.66	0.0400	0.0800	"	"	"	---	71	40-125%	---	---	
Phenanthrene	6.40	0.0200	0.0400	"	"	"	---	80	50-125%	---	---	
Pyrene	7.56	0.0200	0.0400	"	"	"	---	95	50-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 82 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*74 %*	*30-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*83 %*	*30-125 %*			*"*					
2,4,6-Tribromophenol (Surr)			*97 %*	*40-125 %*			*"*					
LCS Dup (4040655-BSD3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 13:32					**Q-19**
EPA 8270D												
Acenaphthene	6.98	0.0200	0.0400	ug/L	1	8.00	---	87	45-125%	9	30%	
Acenaphthylene	7.52	0.0200	0.0400	"	"	"	---	94	50-125%	9	30%	
Anthracene	7.74	0.0200	0.0400	"	"	"	---	97	55-125%	11	30%	
Benz(a)anthracene	7.80	0.0200	0.0400	"	"	"	---	97	"	11	30%	
Benzo(a)pyrene	7.88	0.0300	0.0600	"	"	"	---	99	"	11	30%	

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040655 - EPA 3510C (Acid Extraction)							**Water**					
LCS Dup (4040655-BSD3)					Prepared: 04/23/14 06:08		Analyzed: 04/23/14 13:32					**Q-19**
Benzo(b)fluoranthene	7.73	0.0300	0.0600	ug/L	"	"	---	97	45-125%	11	30%	
Benzo(k)fluoranthene	7.38	0.0300	0.0600	"	"	"	---	92	"	11	30%	
Benzo(b+k)fluoranthene(s)	15.4	0.0600	0.120	"	"	16.0	---	96	"	12	30%	
Benzo(g,h,i)perylene	7.88	0.0200	0.0400	"	"	8.00	---	98	40-125%	11	30%	
Carbazole	8.46	0.0300	0.0600	"	"	"	---	106	50-125%	9	30%	
2-Chloronaphthalene	6.78	0.0200	0.0400	"	"	"	---	85	50-120%	6	30%	
Chrysene	7.78	0.0200	0.0400	"	"	"	---	97	55-125%	11	30%	
Dibenz(a,h)anthracene	8.54	0.0200	0.0400	"	"	"	---	107	40-125%	13	30%	
Dibenzofuran	7.45	0.0200	0.0400	"	"	"	---	93	55-125%	10	30%	
Fluoranthene	8.37	0.0200	0.0400	"	"	"	---	105	"	9	30%	
Fluorene	7.11	0.0200	0.0400	"	"	"	---	89	50-125%	9	30%	
Indeno(1,2,3-cd)pyrene	8.04	0.0200	0.0400	"	"	"	---	100	45-125%	11	30%	
1-Methylnaphthalene	6.33	0.0400	0.0800	"	"	"	---	79	45-120%	3	30%	
2-Methylnaphthalene	6.27	0.0400	0.0800	"	"	"	---	78	"	0.9	30%	
Naphthalene	5.43	0.0400	0.0800	"	"	"	---	68	40-125%	4	30%	
Phenanthrene	7.15	0.0200	0.0400	"	"	"	---	89	50-125%	11	30%	
Pyrene	8.30	0.0200	0.0400	"	"	"	---	104	50-120%	9	30%	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 92 %*	*Limits: 35-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*80 %*	*30-120 %*	*"*
p-Terphenyl-d14 (Surr)	*94 %*	*30-125 %*	*"*
2,4,6-Tribromophenol (Surr)	*106 %*	*40-125 %*	*"*

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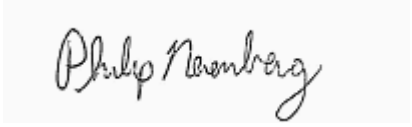

Philip Nerenberg, Lab Director

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503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040645 - Total Solids (Dry Weight)												**Soil**

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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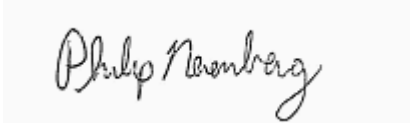

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

SAMPLE PREPARATION INFORMATION

Diesel and Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040655							
A4D0509-01	Water	NWTPH-Dx	04/18/14 08:00	04/23/14 06:08	300mL/2mL	1000mL/5mL	1.33
A4D0509-02	Water	NWTPH-Dx	04/18/14 08:30	04/23/14 06:08	1040mL/2mL	1000mL/5mL	0.39
A4D0509-03	Water	NWTPH-Dx	04/18/14 08:50	04/23/14 06:08	1040mL/2mL	1000mL/5mL	0.39

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040727							
A4D0509-04	Soil	NWTPH-Dx	04/18/14 09:20	04/24/14 14:22	12.45g/5mL	10g/5mL	0.80
A4D0509-05	Soil	NWTPH-Dx	04/18/14 09:30	04/24/14 14:22	13g/5mL	10g/5mL	0.77
A4D0509-06	Soil	NWTPH-Dx	04/18/14 10:20	04/24/14 14:22	12.33g/5mL	10g/5mL	0.81
A4D0509-07	Soil	NWTPH-Dx	04/18/14 11:15	04/24/14 14:22	12.11g/5mL	10g/5mL	0.83
A4D0509-08	Soil	NWTPH-Dx	04/18/14 11:20	04/24/14 14:22	13.41g/5mL	10g/5mL	0.75

Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040860							
A4D0509-01	Water	NWTPH-Dx/SG	04/18/14 08:00	04/24/14 06:08	300mL/2mL	1000mL/5mL	1.33

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040568							
A4D0509-01	Water	NWTPH-Gx (MS)	04/18/14 08:00	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0509-02	Water	NWTPH-Gx (MS)	04/18/14 08:30	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
Batch: 4040763							
A4D0509-03	Water	NWTPH-Gx (MS)	04/18/14 08:50	04/28/14 10:00	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040790							
A4D0509-04	Soil	NWTPH-Gx (MS)	04/18/14 09:20	04/18/14 09:20	5.41g/5mL	10g/10mL	0.92
A4D0509-05	Soil	NWTPH-Gx (MS)	04/18/14 09:30	04/18/14 09:30	5.5g/5mL	10g/10mL	0.91
A4D0509-08	Soil	NWTPH-Gx (MS)	04/18/14 11:20	04/18/14 11:20	5.38g/5mL	10g/10mL	0.93

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

SAMPLE PREPARATION INFORMATION

RBCA Compounds (BTEX+) by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040568							
A4D0509-01	Water	EPA 8260B	04/18/14 08:00	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00
A4D0509-02	Water	EPA 8260B	04/18/14 08:30	04/21/14 09:53	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040790							
A4D0509-04	Soil	5035/8260B	04/18/14 09:20	04/18/14 09:20	5.41g/5mL	10g/10mL	0.92
A4D0509-05	Soil	5035/8260B	04/18/14 09:30	04/18/14 09:30	5.5g/5mL	10g/10mL	0.91

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040833							
A4D0509-01	Water	EPA 8260C SIM	04/18/14 08:00	04/29/14 13:08	5mL/5mL	5mL/5mL	1.00
A4D0509-02	Water	EPA 8260C SIM	04/18/14 08:30	04/29/14 13:08	5mL/5mL	5mL/5mL	1.00

Polyaromatic Hydrocarbons (PAHs) and Pentachlorophenol (PCP) by EPA 8270D

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040655							
A4D0509-01	Water	EPA 8270D	04/18/14 08:00	04/23/14 06:08	300mL/2mL	1000mL/2mL	3.33

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4040645							
A4D0509-04	Soil	EPA 8000C	04/18/14 09:20	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0509-05	Soil	EPA 8000C	04/18/14 09:30	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0509-06	Soil	EPA 8000C	04/18/14 10:20	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0509-07	Soil	EPA 8000C	04/18/14 11:15	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA
A4D0509-08	Soil	EPA 8000C	04/18/14 11:20	04/22/14 15:11	1N/A/1N/A	1N/A/1N/A	NA

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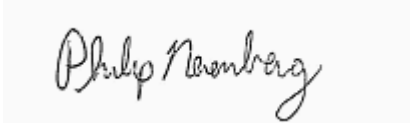

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

Notes and Definitions

Qualifiers:

F-03	The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
F-13	The chromatographic pattern does not resemble the fuel standard used for quantitation
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
R-04	Reporting levels elevated due to dilution necessary for analysis.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
---	QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
***	Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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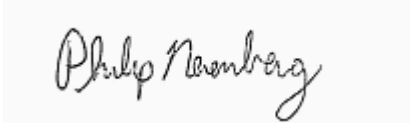

Philip Nerenberg, Lab Director

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Paul Ecker	05/20/14 09:56

APEX LABS — **CHAIN OF CUSTODY** — Lab # A4D0509 — COC 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: EES Environmental — Project Mgr: Paul Ecker — Project Name: RJ Frank — Project # 2001-01

Address: 240 N Broadway, Ste 203 PDX — Phone: 503-847-2740 — Fax: – — Email: paul@ees-environ.com

Sampled by: Roxanne Russell

Site Location: OR (WA) Other: ______

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200-COLS	1200-Z	Polynuclear Aromatic 8270 SIM
1	EES-7(W)		4-18	0800	W	4		X	X			X										
2	EES-3(W)		4-18	0830	W	5		X	X			X										
3	EES-15(W)		4-18	0850	W	7		X														
4	EES-6(3-3.5)		4-18	0920	S	4		X														
5	EES-6(7.5-8)		4-18	0930	S	4		X														
6	EES-15(3-3.5)		4-18	1020	S	4		X														
7	EES-2A(10-10.5)		4-18	1115	S	4		X														
8	EES-2A(12-12.5)		4-18	1120	S	4		X														
9	EES-2A(14.5-15)		4-18	1125	S	4																
10	~~EES~~																					

Normal Turn Around Time (TAT) = 7-10 Business Days YES NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: ______

SPECIAL INSTRUCTIONS: Need Dx/Gx prelim results before organics expiration (for possible constituent follow-up)

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Roxanne Russell Date: 4-18-14	Signature: [signature] Date: 4-18-14	Signature: Date:	Signature: Date:
Printed Name: ROXANNE RUSSELL Time: 1345	Printed Name: Adam Peterson Time: 13:45	Printed Name: Time:	Printed Name: Time:
Company: EES	Company: Apex	Company:	Company:

Apex Labs

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Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Wednesday, July 9, 2014

Chris Rhea
EES Environmental Inc
240 N Broadway Ste 203
Portland, OR 97227

RE: RJ Frank / 2001-01

Enclosed are the results of analyses for work order A4F0511, which was received by the laboratory on 6/20/2014 at 10:58:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

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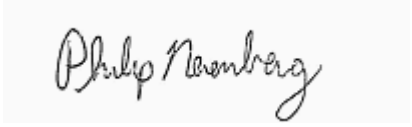

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EES-14A (1.5-2)	A4F0511-01	Soil	06/19/14 11:05	06/20/14 10:58
EES-16 (1.5-2)	A4F0511-02	Soil	06/19/14 12:00	06/20/14 10:58
EES-16 (3-3.5)	A4F0511-03	Soil	06/19/14 12:10	06/20/14 10:58
EES-17 (1.5-2)	A4F0511-04	Soil	06/19/14 13:30	06/20/14 10:58
EES-17 (3-3.5)	A4F0511-05	Soil	06/19/14 14:50	06/20/14 10:58
EES-17 (5-5.5)	A4F0511-06	Soil	06/19/14 15:00	06/20/14 10:58
EES-18 (1.5-2)	A4F0511-07	Soil	06/19/14 14:15	06/20/14 10:58
EES-18 (3-3.5)	A4F0511-08	Soil	06/19/14 14:20	06/20/14 10:58
EES-18 (5-5.5)	A4F0511-09	Soil	06/19/14 14:40	06/20/14 10:58

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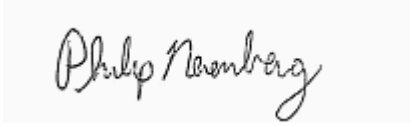

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14A (1.5-2) (A4F0511-01)			**Matrix: Soil**		**Batch: 4060684**			
Diesel	ND	---	118	mg/kg dry	5	06/25/14 06:13	NWTPH-Dx	
Oil	**3360**	---	235	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 99 %*	*Limits: 50-150 %*	"	"	"	*S-05*
EES-16 (1.5-2) (A4F0511-02)			**Matrix: Soil**		**Batch: 4060684**			
Diesel	ND	---	98.4	mg/kg dry	5	06/25/14 07:02	NWTPH-Dx	
Oil	**976**	---	197	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 106 %*	*Limits: 50-150 %*	"	"	"	
EES-16 (3-3.5) (A4F0511-03)			**Matrix: Soil**		**Batch: 4070069**			
Diesel	ND	---	29.2	mg/kg dry	1	07/02/14 22:25	NWTPH-Dx	
Oil	**788**	---	58.5	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	
EES-17 (1.5-2) (A4F0511-04)			**Matrix: Soil**		**Batch: 4060684**			
Diesel	ND	---	144	mg/kg dry	5	06/25/14 07:51	NWTPH-Dx	
Oil	**795**	---	288	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*	"	"	"	
EES-17 (3-3.5) (A4F0511-05)			**Matrix: Soil**		**Batch: 4070069**			
Diesel	ND	---	25.0	mg/kg dry	1	07/02/14 23:05	NWTPH-Dx	
Oil	**83.1**	---	50.0	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*	"	"	"	
EES-17 (5-5.5) (A4F0511-06)			**Matrix: Soil**		**Batch: 4070069**			
Diesel	ND	---	25.0	mg/kg dry	1	07/02/14 23:24	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
EES-18 (1.5-2) (A4F0511-07)			**Matrix: Soil**		**Batch: 4060684**			
Diesel	ND	---	120	mg/kg dry	5	06/24/14 23:55	NWTPH-Dx	
Oil	**268**	---	239	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*	"	"	"	*S-05*
EES-18 (3-3.5) (A4F0511-08)			**Matrix: Soil**		**Batch: 4070069**			
Diesel	ND	---	25.0	mg/kg dry	1	07/02/14 23:44	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 86 %*	*Limits: 50-150 %*	"	"	"	
EES-18 (5-5.5) (A4F0511-09)			**Matrix: Soil**		**Batch: 4070069**			
Diesel	ND	---	25.0	mg/kg dry	1	07/03/14 00:04	NWTPH-Dx	
Oil	**366**	---	50.0	"	"	"	"	

Apex Laboratories

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-18 (5-5.5) (A4F0511-09)			**Matrix: Soil**		**Batch: 4070069**			
Surrogate: o-Terphenyl (Surr)			*Recovery: 102 %*	*Limits: 50-150 %*	1	"	NWTPH-Dx	

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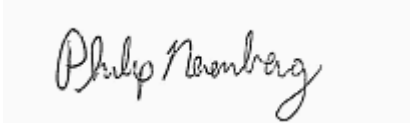

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503-718-2323 Phone
503-718-0333 Fax

EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14A (1.5-2) (A4F0511-01RE1)			**Matrix: Soil**		**Batch: 4060792**			
Acenaphthene	ND	---	55.3	ug/kg dry	5	07/02/14 10:33	EPA 8270D (SIM)	
Acenaphthylene	ND	---	55.3	"	"	"	"	
Anthracene	**59.9**	---	55.3	"	"	"	"	
Benz(a)anthracene	**60.2**	---	55.3	"	"	"	"	
Benzo(a)pyrene	ND	---	55.3	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	111	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	55.3	"	"	"	"	
Chrysene	**103**	---	55.3	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	55.3	"	"	"	"	
Fluoranthene	**190**	---	55.3	"	"	"	"	
Fluorene	**61.1**	---	55.3	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	55.3	"	"	"	"	
1-Methylnaphthalene	**403**	---	55.3	"	"	"	"	
2-Methylnaphthalene	**415**	---	55.3	"	"	"	"	
Naphthalene	**565**	---	55.3	"	"	"	"	
Phenanthrene	**416**	---	55.3	"	"	"	"	
Pyrene	**162**	---	55.3	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 85 %*	*Limits: 44-115 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*99 %*	*Limits: 54-127 %*	"	"	"	

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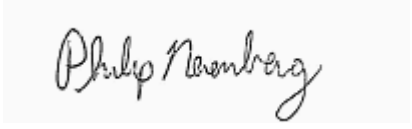

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-16 (1.5-2) (A4F0511-02)			**Matrix: Soil**		**Batch: 4060792**			
Acenaphthene	ND	---	48.3	ug/kg dry	5	06/27/14 21:54	EPA 8270D (SIM)	
Acenaphthylene	ND	---	48.3	"	"	"	"	
Anthracene	ND	---	48.3	"	"	"	"	
Benz(a)anthracene	ND	---	48.3	"	"	"	"	
Benzo(a)pyrene	ND	---	48.3	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	96.6	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**72.0**	---	48.3	"	"	"	"	
Chrysene	ND	---	48.3	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	48.3	"	"	"	"	
Fluoranthene	ND	---	48.3	"	"	"	"	
Fluorene	ND	---	48.3	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	48.3	"	"	"	"	
1-Methylnaphthalene	ND	---	48.3	"	"	"	"	
2-Methylnaphthalene	ND	---	48.3	"	"	"	"	
Naphthalene	ND	---	48.3	"	"	"	"	
Phenanthrene	ND	---	48.3	"	"	"	"	
Pyrene	ND	---	48.3	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 95 %*	*Limits: 44-115 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*105 %*	*Limits: 54-127 %*	"	"	"	

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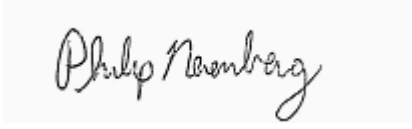

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-17 (1.5-2) (A4F0511-04)			**Matrix: Soil**		**Batch: 4060792**			
Acenaphthene	ND	---	73.1	ug/kg dry	5	06/30/14 13:19	EPA 8270D (SIM)	
Acenaphthylene	ND	---	73.1	"	"	"	"	
Anthracene	ND	---	73.1	"	"	"	"	
Benz(a)anthracene	ND	---	73.1	"	"	"	"	
Benzo(a)pyrene	ND	---	73.1	"	"	"	"	
Benzo(b)fluoranthene	ND	---	73.1	"	"	"	"	
Benzo(k)fluoranthene	ND	---	73.1	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	73.1	"	"	"	"	
Chrysene	ND	---	73.1	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	73.1	"	"	"	"	
Fluoranthene	ND	---	73.1	"	"	"	"	
Fluorene	ND	---	73.1	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	73.1	"	"	"	"	
1-Methylnaphthalene	ND	---	73.1	"	"	"	"	
2-Methylnaphthalene	ND	---	73.1	"	"	"	"	
Naphthalene	**156**	---	73.1	"	"	"	"	
Phenanthrene	**86.1**	---	73.1	"	"	"	"	
Pyrene	ND	---	73.1	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 96 %*	*Limits: 44-115 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*107 %*	*Limits: 54-127 %*	"	"	"	

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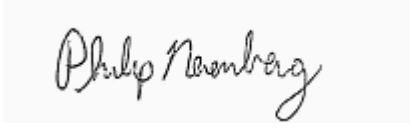

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-18 (1.5-2) (A4F0511-07)			**Matrix: Soil**		**Batch: 4060792**			
Acenaphthene	ND	---	13.1	ug/kg dry	1	06/30/14 13:45	EPA 8270D (SIM)	
Acenaphthylene	ND	---	13.1	"	"	"	"	
Anthracene	ND	---	13.1	"	"	"	"	
Benz(a)anthracene	ND	---	13.1	"	"	"	"	
Benzo(a)pyrene	ND	---	13.1	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	26.1	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	13.1	"	"	"	"	
Chrysene	**18.0**	---	13.1	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	13.1	"	"	"	"	
Fluoranthene	**40.3**	---	13.1	"	"	"	"	
Fluorene	ND	---	13.1	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	13.1	"	"	"	"	
1-Methylnaphthalene	**21.8**	---	13.1	"	"	"	"	
2-Methylnaphthalene	**43.7**	---	13.1	"	"	"	"	
Naphthalene	**121**	---	13.1	"	"	"	"	
Phenanthrene	**73.2**	---	13.1	"	"	"	"	
Pyrene	**25.2**	---	13.1	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 86 %*	*Limits: 44-115 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*99 %*	*Limits: 54-127 %*	"	"	"	

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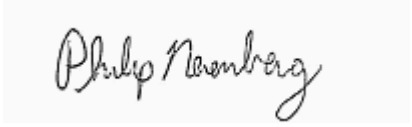

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EES-14A (1.5-2) (A4F0511-01)			**Matrix: Soil**		**Batch: 4060689**			
% Solids	**76.9**	---	1.00	% by Weight	1	06/25/14 10:19	EPA 8000C	
EES-16 (1.5-2) (A4F0511-02)			**Matrix: Soil**		**Batch: 4060689**			
% Solids	**86.6**	---	1.00	% by Weight	1	06/25/14 10:19	EPA 8000C	
EES-16 (3-3.5) (A4F0511-03)			**Matrix: Soil**		**Batch: 4070024**			
% Solids	**56.8**	---	1.00	% by Weight	1	07/02/14 10:28	EPA 8000C	
EES-17 (1.5-2) (A4F0511-04)			**Matrix: Soil**		**Batch: 4060689**			
% Solids	**63.2**	---	1.00	% by Weight	1	06/25/14 10:19	EPA 8000C	
EES-17 (3-3.5) (A4F0511-05)			**Matrix: Soil**		**Batch: 4070024**			
% Solids	**75.4**	---	1.00	% by Weight	1	07/02/14 10:28	EPA 8000C	
EES-17 (5-5.5) (A4F0511-06)			**Matrix: Soil**		**Batch: 4070024**			
% Solids	**76.4**	---	1.00	% by Weight	1	07/02/14 10:28	EPA 8000C	
EES-18 (1.5-2) (A4F0511-07)			**Matrix: Soil**		**Batch: 4060689**			
% Solids	**74.0**	---	1.00	% by Weight	1	06/25/14 10:19	EPA 8000C	
EES-18 (3-3.5) (A4F0511-08)			**Matrix: Soil**		**Batch: 4070024**			
% Solids	**75.9**	---	1.00	% by Weight	1	07/02/14 10:28	EPA 8000C	
EES-18 (5-5.5) (A4F0511-09)			**Matrix: Soil**		**Batch: 4070024**			
% Solids	**76.0**	---	1.00	% by Weight	1	07/02/14 10:28	EPA 8000C	

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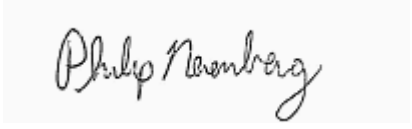

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060684 - EPA 3546 (Fuels)							**Soil**					
Blank (4060684-BLK2)					Prepared: 06/24/14 13:19 Analyzed: 06/25/14 09:30							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4060684-BS1)					Prepared: 06/24/14 13:19 Analyzed: 06/24/14 22:23							
NWTPH-Dx												
Diesel	129	---	25.0	mg/kg wet	1	125	---	103	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4060684-DUP1)					Prepared: 06/24/14 13:19 Analyzed: 06/25/14 00:15							
QC Source Sample: EES-18 (1.5-2) (A4F0511-07)												
NWTPH-Dx												
Diesel	ND	---	112	mg/kg dry	5	---	ND	---	---	---	30%	
Oil	**281**	---	225	"	"	---	268	---	---	5	30%	F-03
Surr: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*			*Dilution: 5x*					*S-05*
Duplicate (4060684-DUP2)					Prepared: 06/24/14 13:19 Analyzed: 06/25/14 00:53							
QC Source Sample: Other (A4F0577-03)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Batch 4070069 - EPA 3546 (Fuels)							**Soil**					
Blank (4070069-BLK1)					Prepared: 07/02/14 14:24 Analyzed: 07/02/14 22:18							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4070069-BS1)					Prepared: 07/02/14 14:24 Analyzed: 07/02/14 22:43							
NWTPH-Dx												
Diesel	109	---	25.0	mg/kg wet	1	125	---	87	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4070069 - EPA 3546 (Fuels)							**Soil**					
Duplicate (4070069-DUP1)					Prepared: 07/02/14 14:24 Analyzed: 07/03/14 02:23							
QC Source Sample: Other (A4G0042-01)												
NWTPH-Dx												
Diesel	**769**	---	25.0	mg/kg dry	1	---	772	---	---	0.4	30%	
Oil	**71.3**	---	50.0	"	"	---	64.3	---	---	10	30%	F-16
Surr: o-Terphenyl (Surr)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4070069-DUP2)					Prepared: 07/02/14 15:45 Analyzed: 07/03/14 02:53							
QC Source Sample: Other (A4G0053-05)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 80 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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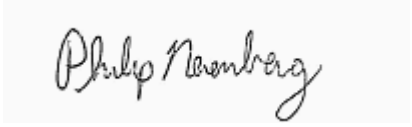

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060792 - EPA 3546							**Soil**					
Blank (4060792-BLK1)					Prepared: 06/27/14 06:51 Analyzed: 06/27/14 18:50							
EPA 8270D (SIM)												
Acenaphthene	ND	---	7.14	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	7.14	"	"	---	---	---	---	---	---	
Anthracene	ND	---	7.14	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	7.14	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	7.14	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	7.14	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	7.14	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	14.3	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	7.14	"	"	---	---	---	---	---	---	
Chrysene	ND	---	7.14	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	7.14	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	---	7.14	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	7.14	"	"	---	---	---	---	---	---	
Fluorene	ND	---	7.14	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	7.14	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	7.14	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	7.14	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	7.14	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	7.14	"	"	---	---	---	---	---	---	
Pyrene	ND	---	7.14	"	"	---	---	---	---	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 104 %*	*Limits: 44-115 %*				*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*122 %*	*54-127 %*				*"*				
LCS (4060792-BS1)					Prepared: 06/27/14 06:51 Analyzed: 06/27/14 19:16							Q-18
EPA 8270D (SIM)												
Acenaphthene	840	---	10.0	ug/kg wet	1	800	---	105	40-122%	---	---	
Acenaphthylene	823	---	10.0	"	"	"	---	103	32-132%	---	---	
Anthracene	837	---	10.0	"	"	"	---	105	47-123%	---	---	
Benz(a)anthracene	776	---	10.0	"	"	"	---	97	49-126%	---	---	
Benzo(a)pyrene	868	---	10.0	"	"	"	---	109	45-129%	---	---	
Benzo(b)fluoranthene	850	---	10.0	"	"	"	---	106	45-132%	---	---	
Benzo(k)fluoranthene	895	---	10.0	"	"	"	---	112	47-132%	---	---	
Benzo(b+k)fluoranthene(s)	1870	---	20.0	"	"	1600	---	117	45-132%	---	---	
Benzo(g,h,i)perylene	721	---	10.0	"	"	800	---	90	43-134%	---	---	

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Philip Nerenberg, Lab Director

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503-718-2323 Phone
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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060792 - EPA 3546							**Soil**					
LCS (4060792-BS1)					Prepared: 06/27/14 06:51		Analyzed: 06/27/14 19:16					Q-18
Chrysene	825	---	10.0	ug/kg wet	"	"	---	103	50-124%	---	---	
Dibenz(a,h)anthracene	834	---	10.0	"	"	"	---	104	45-134%	---	---	
Dibenzofuran	834	---	10.0	"	"	"	---	104	44-120%	---	---	
Fluoranthene	840	---	10.0	"	"	"	---	105	50-127%	---	---	
Fluorene	835	---	10.0	"	"	"	---	104	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	734	---	10.0	"	"	"	---	92	45-133%	---	---	
1-Methylnaphthalene	809	---	10.0	"	"	"	---	101	40-120%	---	---	
2-Methylnaphthalene	815	---	10.0	"	"	"	---	102	38-122%	---	---	
Naphthalene	783	---	10.0	"	"	"	---	98	35-123%	---	---	
Phenanthrene	803	---	10.0	"	"	"	---	100	50-121%	---	---	
Pyrene	843	---	10.0	"	"	"	---	105	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 110 %*		*Limits: 44-115 %*				*Dilution: 1x*			
p-Terphenyl-d14 (Surr)			*119 %*		*54-127 %*				*"*			
Duplicate (4060792-DUP1)					Prepared: 06/27/14 06:51		Analyzed: 06/27/14 20:08					
QC Source Sample: Other (A4F0461-02)												
EPA 8270D (SIM)												
Acenaphthene	ND	---	975	ug/kg dry	50	---	ND	---	---	---	30%	R-02
Acenaphthylene	ND	---	650	"	"	---	ND	---	---	---	30%	R-02
Anthracene	ND	---	596	"	"	---	ND	---	---	---	30%	R-02
Benz(a)anthracene	ND	---	541	"	"	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	---	541	"	"	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	---	541	"	"	---	ND	---	---	---	30%	
Benzo(k)fluoranthene	ND	---	541	"	"	---	ND	---	---	---	30%	
Benzo(b+k)fluoranthene(s)	ND	---	1080	"	"	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	---	541	"	"	---	ND	---	---	---	30%	
Chrysene	ND	---	541	"	"	---	ND	---	---	---	30%	
Dibenz(a,h)anthracene	ND	---	541	"	"	---	ND	---	---	---	30%	
Dibenzofuran	**1380**	---	541	"	"	---	1440	---	---	4	30%	
Fluoranthene	ND	---	541	"	"	---	ND	---	---	---	30%	
Fluorene	**1770**	---	541	"	"	---	1830	---	---	3	30%	
Indeno(1,2,3-cd)pyrene	ND	---	541	"	"	---	ND	---	---	---	30%	
1-Methylnaphthalene	**8400**	---	541	"	"	---	8830	---	---	5	30%	
2-Methylnaphthalene	**8500**	---	541	"	"	---	9340	---	---	9	30%	
Naphthalene	**1320**	---	541	"	"	---	1370	---	---	3	30%	

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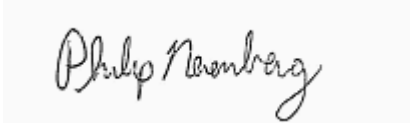

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060792 - EPA 3546							**Soil**					
Duplicate (4060792-DUP1)					Prepared: 06/27/14 06:51 Analyzed: 06/27/14 20:08							
QC Source Sample: Other (A4F0461-02)												
Phenanthrene	**4610**	---	541	ug/kg dry	"	---	4820	---	---	5	30%	
Pyrene	**1670**	---	541	"	"	---	1660	---	---	0.6	30%	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 114 %*	*Limits: 44-115 %*			*Dilution: 50x*					*S-05*
p-Terphenyl-d14 (Surr)			*124 %*	*54-127 %*			*"*					*S-05*

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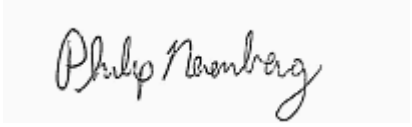

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060689 - Total Solids (Dry Weight)							**Soil**					
Duplicate (4060689-DUP1)					Prepared: 06/24/14 14:14		Analyzed: 06/25/14 10:19					
QC Source Sample: EES-18 (1.5-2) (A4F0511-07)												
EPA 8000C												
% Solids	**73.0**	---	1.00	% by Weight	1	---	74.0	---	---	1	20%	
Duplicate (4060689-DUP2)					Prepared: 06/24/14 14:14		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0513-05)												
EPA 8000C												
% Solids	**85.5**	---	1.00	% by Weight	1	---	85.9	---	---	0.5	20%	
Duplicate (4060689-DUP3)					Prepared: 06/24/14 14:14		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0525-10)												
EPA 8000C												
% Solids	**92.6**	---	1.00	% by Weight	1	---	91.5	---	---	1	20%	
Duplicate (4060689-DUP4)					Prepared: 06/24/14 14:14		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0539-40)												
EPA 8000C												
% Solids	**85.7**	---	1.00	% by Weight	1	---	85.1	---	---	0.7	20%	
Duplicate (4060689-DUP5)					Prepared: 06/24/14 14:14		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0548-10)												
EPA 8000C												
% Solids	**78.8**	---	1.00	% by Weight	1	---	78.7	---	---	0.1	20%	
Duplicate (4060689-DUP6)					Prepared: 06/24/14 14:15		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0548-20)												
EPA 8000C												
% Solids	**76.6**	---	1.00	% by Weight	1	---	76.9	---	---	0.4	20%	
Duplicate (4060689-DUP7)					Prepared: 06/24/14 14:15		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0577-03)												
EPA 8000C												
% Solids	**72.1**	---	1.00	% by Weight	1	---	71.9	---	---	0.3	20%	
Duplicate (4060689-DUP8)					Prepared: 06/24/14 19:53		Analyzed: 06/25/14 10:19					

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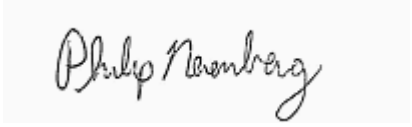

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Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060689 - Total Solids (Dry Weight)								Soil				
Duplicate (4060689-DUP8)					Prepared: 06/24/14 19:53		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0600-01)												
EPA 8000C												
% Solids	**76.5**	---	1.00	% by Weight	1	---	76.6	---	---	0.1	20%	
Duplicate (4060689-DUP9)					Prepared: 06/24/14 19:53		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0604-02)												
EPA 8000C												
% Solids	**78.0**	---	1.00	% by Weight	1	---	78.0	---	---	0	20%	
Duplicate (4060689-DUPA)					Prepared: 06/24/14 19:53		Analyzed: 06/25/14 10:19					
QC Source Sample: Other (A4F0609-01)												
EPA 8000C												
% Solids	**80.4**	---	1.00	% by Weight	1	---	80.2	---	---	0.2	20%	
Batch 4070024 - Total Solids (Dry Weight)								Soil				
Duplicate (4070024-DUP1)					Prepared: 07/01/14 12:30		Analyzed: 07/02/14 10:28					
QC Source Sample: Other (A4F0751-05)												
EPA 8000C												
% Solids	**71.6**	---	1.00	% by Weight	1	---	72.4	---	---	1	20%	
Duplicate (4070024-DUP2)					Prepared: 07/01/14 12:30		Analyzed: 07/02/14 10:28					
QC Source Sample: Other (A4F0751-15)												
EPA 8000C												
% Solids	**84.4**	---	1.00	% by Weight	1	---	85.9	---	---	2	20%	
Duplicate (4070024-DUP3)					Prepared: 07/01/14 15:44		Analyzed: 07/02/14 10:28					
QC Source Sample: Other (A4G0010-09)												
EPA 8000C												
% Solids	**77.0**	---	1.00	% by Weight	1	---	77.0	---	---	0	20%	
Duplicate (4070024-DUP4)					Prepared: 07/01/14 15:44		Analyzed: 07/02/14 10:28					
QC Source Sample: Other (A4G0014-02)												
EPA 8000C												

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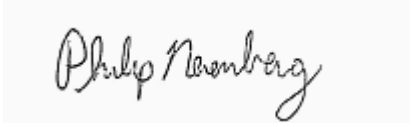

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240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4070024 - Total Solids (Dry Weight)							**Soil**					
Duplicate (4070024-DUP4)					Prepared: 07/01/14 15:44		Analyzed: 07/02/14 10:28					
QC Source Sample: Other (A4G0014-02)												
% Solids	**96.3**	---	1.00	% by Weight	1	---	96.5	---	---	0.2	20%	
Duplicate (4070024-DUP5)					Prepared: 07/01/14 18:58		Analyzed: 07/02/14 10:28					
QC Source Sample: Other (A4G0031-01)												
EPA 8000C												
% Solids	**80.4**	---	1.00	% by Weight	1	---	80.3	---	---	0.1	20%	
Duplicate (4070024-DUP6)					Prepared: 07/01/14 18:58		Analyzed: 07/02/14 10:28					
QC Source Sample: Other (A4G0035-02)												
EPA 8000C												
% Solids	**89.2**	---	1.00	% by Weight	1	---	89.2	---	---	0	20%	

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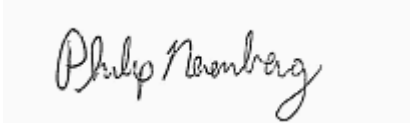

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EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

SAMPLE PREPARATION INFORMATION

Diesel and Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4060684							
A4F0511-01	Soil	NWTPH-Dx	06/19/14 11:05	06/24/14 13:19	11.05g/5mL	10g/5mL	0.91
A4F0511-02	Soil	NWTPH-Dx	06/19/14 12:00	06/24/14 13:19	11.73g/5mL	10g/5mL	0.85
A4F0511-04	Soil	NWTPH-Dx	06/19/14 13:30	06/24/14 13:19	10.97g/5mL	10g/5mL	0.91
A4F0511-07	Soil	NWTPH-Dx	06/19/14 14:15	06/24/14 13:19	11.3g/5mL	10g/5mL	0.89
Batch: 4070069							
A4F0511-03	Soil	NWTPH-Dx	06/19/14 12:10	07/02/14 14:24	12.04g/5mL	10g/5mL	0.83
A4F0511-05	Soil	NWTPH-Dx	06/19/14 14:50	07/02/14 14:24	12.99g/5mL	10g/5mL	0.77
A4F0511-06	Soil	NWTPH-Dx	06/19/14 15:00	07/02/14 14:24	14.59g/5mL	10g/5mL	0.69
A4F0511-08	Soil	NWTPH-Dx	06/19/14 14:20	07/02/14 14:24	13.74g/5mL	10g/5mL	0.73
A4F0511-09	Soil	NWTPH-Dx	06/19/14 14:40	07/02/14 14:24	13.29g/5mL	10g/5mL	0.75

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4060792							
A4F0511-01RE1	Soil	EPA 8270D (SIM)	06/19/14 11:05	06/27/14 06:51	11.75g/5mL	10g/5mL	0.85
A4F0511-02	Soil	EPA 8270D (SIM)	06/19/14 12:00	06/27/14 06:51	11.95g/5mL	10g/5mL	0.84
A4F0511-04	Soil	EPA 8270D (SIM)	06/19/14 13:30	06/27/14 06:51	10.83g/5mL	10g/5mL	0.92
A4F0511-07	Soil	EPA 8270D (SIM)	06/19/14 14:15	06/27/14 06:51	10.35g/5mL	10g/5mL	0.97

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4060689							
A4F0511-01	Soil	EPA 8000C	06/19/14 11:05	06/24/14 14:14	1N/A/1N/A	1N/A/1N/A	NA
A4F0511-02	Soil	EPA 8000C	06/19/14 12:00	06/24/14 14:14	1N/A/1N/A	1N/A/1N/A	NA
A4F0511-04	Soil	EPA 8000C	06/19/14 13:30	06/24/14 14:14	1N/A/1N/A	1N/A/1N/A	NA
A4F0511-07	Soil	EPA 8000C	06/19/14 14:15	06/24/14 14:14	1N/A/1N/A	1N/A/1N/A	NA
Batch: 4070024							
A4F0511-03	Soil	EPA 8000C	06/19/14 12:10	07/01/14 12:30	1N/A/1N/A	1N/A/1N/A	NA
A4F0511-05	Soil	EPA 8000C	06/19/14 14:50	07/01/14 12:30	1N/A/1N/A	1N/A/1N/A	NA
A4F0511-06	Soil	EPA 8000C	06/19/14 15:00	07/01/14 16:45	1N/A/1N/A	1N/A/1N/A	NA
A4F0511-08	Soil	EPA 8000C	06/19/14 14:20	07/01/14 12:30	1N/A/1N/A	1N/A/1N/A	NA

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Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4F0511-09	Soil	EPA 8000C	06/19/14 14:40	07/01/14 16:45	1N/A/1N/A	1N/A/1N/A	NA

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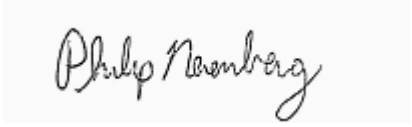

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Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50

Notes and Definitions

Qualifiers:

F-03	The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
F-16	Results for oil are estimated due to overlap from the reported diesel result.
Q-18	Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
Q-26	Peak separation for Benzo(b) and Benzo(k)fluoranthenes does not meet method specified criteria. Reported result includes the combined area of the two isomers and should be considered the total of Benzo(b+k)Fluoranthenes.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
---	QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
***	Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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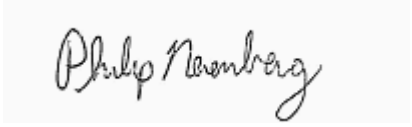

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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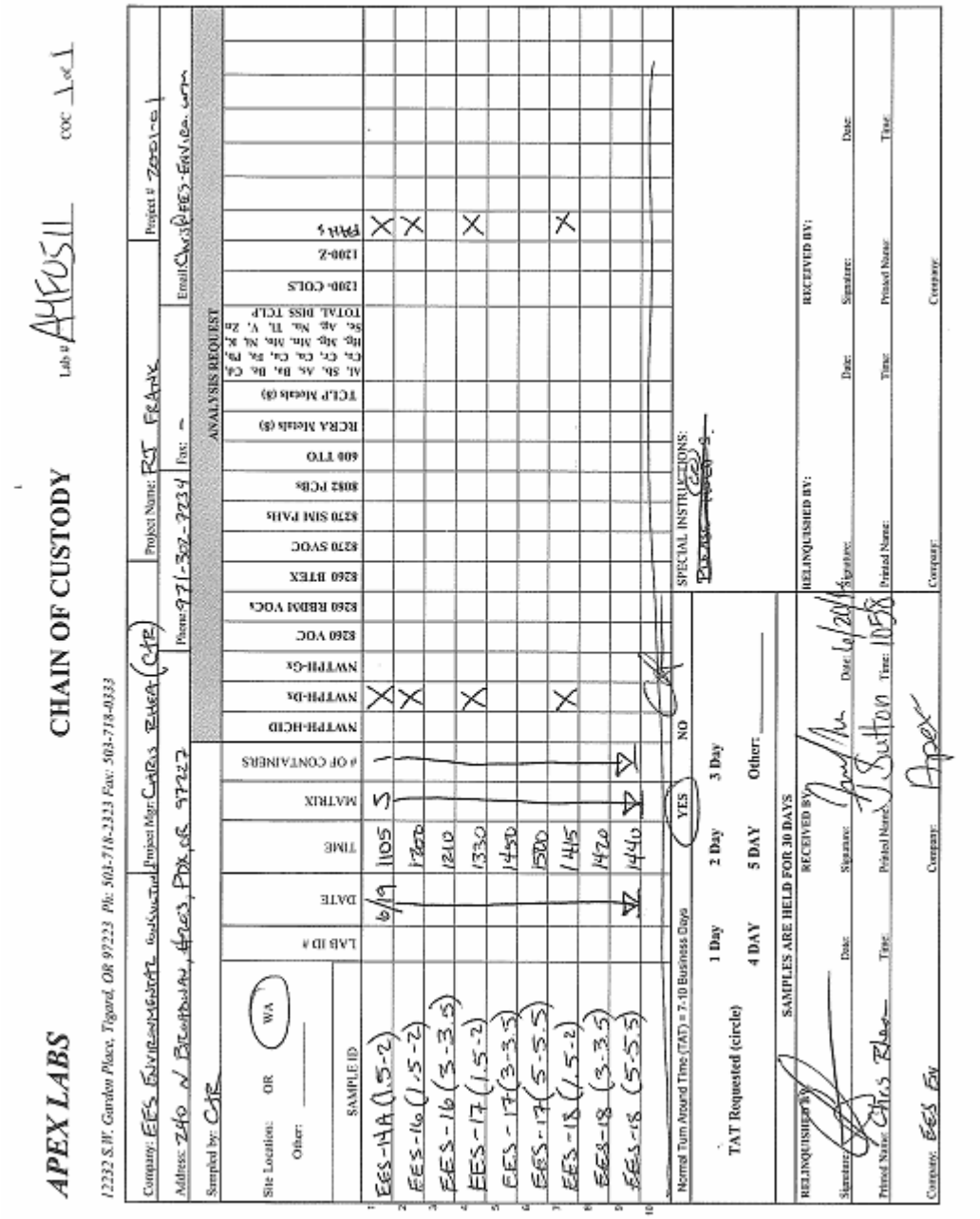
EES Environmental Inc	Project: **RJ Frank**	
240 N Broadway Ste 203	Project Number: 2001-01	**Reported:**
Portland, OR 97227	Project Manager: Chris Rhea	07/09/14 09:50



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Philip Nerenberg, Lab Director