Cleanup Action Report
PSE Bothell TSCA Spill

Glen Grove Apartments
10295 Northeast 189th Street
Bothell, Washington

for
Puget Sound Energy

March 31, 2011

GeoEngineers
Earth Science + Technology

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8410 154th Avenue NE
Redmond, Washington
425.861.6000

30 YEARS 2010

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File No. 0186-853-00

March 31, 2011

Prepared for:

Puget Sound Energy
P.O. Box 90868, PSE-11N
Bellevue, Washington 98009-0868

Attention: Greg J. Andrina

Prepared by:

GeoEngineers, Inc.
8410 154th Avenue NE
Redmond, Washington 98052
425.861.6000

Paul R. Craig, LG
Senior Project Manager

Kurt R. Fraese, LG
Principal

DLC:PRC:lw

cc: Donna Musa
Washington State Department of Ecology
Northwest Regional Office
dmus461@ecy.wa.gov

Kristin Terpstra, Environmental Engineer
City of Bothell
kristin.terpstra@ci.bothell.wa.us

GeoEngineers

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APPENDICES

EXECUTIVE SUMMARY

GeoEngineers, on behalf of Puget Sound Energy (PSE) has completed remedial activities associated with a release of polychlorinated biphenyls (PCBs) in mineral oil from a pad-mounted electrical transformer at the Glen Grove Apartments located at 10295 Northeast 189th Street in Bothell, Washington (herein referred to as the site).

Approximately 40 cubic yards (56.78 tons) of PCB-contaminated soil and debris and 6,000 gallons of water were removed from the site between August 31, 2010 and September 27, 2010 in accordance with U.S. Environmental Protection Agency (EPA) Toxic Substances Control Act (TSCA) regulations. The soil and debris were transported to Clean Harbors Environmental Services, Inc.'s Grassy Mountain facility in Clive, Utah for permitted disposal. The water was transported to PSE's Waste Management Facility in Kent, Washington where it was processed through a water treatment system and discharged to King County Metro sanitary sewer (Metro) in accordance with Metro discharge criteria. The filters and carbon of the water treatment system were handled as a TSCA waste and transferred to Clean Harbors Environmental Services, Inc.'s Grassy Mountain facility for permitted disposal.

The laboratory analytical results of confirmation soil samples collected at the limits of excavation did not detect concentrations of PCBs above the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A soil cleanup Level for unrestricted land use.

Based on the results of the cleanup action described herein, it is our opinion that soil with concentrations of PCBs exceeding the MTCA Method A cleanup level has been successfully removed from the site and no further action at the apartment property or vicinity related to this release is warranted.

INTRODUCTION

This report summarizes the results of the cleanup action conducted at the Glen Grove Apartments located at 10295 Northeast 189th Street in Bothell, Washington (herein referred to as the site) to address a release of polychlorinated biphenyls (PCBs) in mineral oil from a PSE pad-mounted electrical transformer. The cleanup action was conducted by PSE as an independent remedial action in accordance with the Washington State Model Toxics Control Act Cleanup (MTCA) (Chapter 173-340 WAC [Washington Administrative Code]) and the U.S. Environmental Protection Agency (EPA) Toxic Substances Control Act (TSCA) (Title 40 CFR [Code of Federal Regulation] 761). The site location is shown relative to surrounding physical features in the vicinity map, Figure 1. The general site layout is shown in Figures 2 and 3. Select photos are presented in Appendix A.

BACKGROUND

General

The site consists of approximately 0.66 acre of land that is developed with a 24-unit, multi-story wood-framed apartment building that is known as the Glen Grove Apartments. The building was constructed in 1969. The building is surrounded by an asphalt parking lot and landscaping. The property is owned by Jeff Connell and the apartment building is managed Cornell and Associates of Seattle, Washington. The property is within the City limits of Bothell. Sanitary sewer, storm drain and potable water utilities on the property are provided by the City of Bothell.

The building is located approximately 30 feet south of NE 189th Street and is separated from the street by a concrete sidewalk, landscaped areas and a steep rockery wall that extends up to street level. The surface grade at the base of the rock wall is approximately 8 feet lower than the surface grade of NE 189th Street. Four apartment units are located on the north side of the building's ground floor. Each unit contains north-facing sliding glass doors that access a concrete patio situated between the rockery wall and the building. A pad-mounted electrical transformer, likely installed during construction of the building in 1969, was located on a concrete slab below a pedestrian bridge that extended between the street and the apartment building on the northeast corner of the site. Vertical concrete walls are located to the east and north of the subject transformer with a rock wall and lattice fencing to the west, and a building wall with door providing access to an electrical meter room to the south.

Release Report

GeoEngineers was contacted by Puget Sound Energy on August 31, 2010 to respond to mineral oil release from the transformer. Information within PSE's equipment-tracking database indicated that PCBs were present in the mineral oil at a concentration of 350 milligrams per kilogram (mg/kg). An additional sample of mineral oil was obtained from the device by GeoEngineers for laboratory analysis and PCBs were detected at a concentration of 300 mg/kg. The damaged transformer was removed from the site on August 31, 2010 for processing and disposal in accordance with TSCA regulations. A new transformer was installed by PSE to restore power to the building.

An inspection of site conditions upon our arrival at the site on August 31, 2010 identified an apparent ongoing release of mineral oil likely attributable to corrosion around the base of the transformer. The duration of release is not known; however, it appeared to have leaked for a sufficient length of time

to impact the concrete pad beneath the transformer, soil adjacent to and beneath the concrete pad, and building materials around the concrete pad, including wood support posts for the overhead pedestrian bridge, wood lattice fencing, and a portion of a wall of the apartment building. Subsequent removal of remaining mineral oil from the damaged transformer indicated that approximately 55 gallons of oil were missing from the device, which is assumed to be the spill quantity released from the transformer.

This incident was reported to Dan Fox at the Washington State Emergency Management Division (WSEMD) on August 31, 2010 at 2:40 p.m. (WSEMD incident number 10-2844) and the National Response Center on August 31, 2010 at 3:07 p.m. (report #952697). A representative from Ecology visited the site at the request of GeoEngineers on August 31, 2010 at approximately 3:00 p.m.

Soil Impacts

Soil on the north and west sides of the apartment building were impacted by the release. Mineral oil in contact with soil was observed at the location of perforated piping on the north and west sides of the building, as shown on Figure 2. The perforated piping was located at about 1 foot beneath the ground surface (bgs) and provided a migration pathway for PCB-containing mineral oil to enter this drainage system and mix with water being carried by (and discharge from) this drainage system. Mineral oil also was observed in soil in a shallow (less than 1 foot deep) trench associated with recent construction activities to install additional subsurface drainage piping on the north side of the building (see Figure 2). These recent drainage-related construction activities were undertaken by the property management during dry weather conditions and inadvertently provided an additional migration pathway for released mineral oil during a subsequent rain event that occurred on August 30 and 31, 2010.

Stormwater Impacts

The City's stormwater system was temporarily impacted by this release until the release was contained. Specifically, between the August 30, 2010 rainfall event and August 31, 2010, mineral oil and PCBs had entered the City of Bothell's stormwater drainage system. These fluids were immediately contained after GeoEngineers initiated spill response containment/cleanup activities on August 31, 2010.

The oil entered the stormwater system with stormwater that accumulated in the release area and either flowed by gravity through subsurface piping or entered a sump pump on the north side of the building and was discharged through a hose into the stormwater system. A heavy sheen that appeared to be mineral oil (based on our observations and experience with other similar mineral oil releases) was observed in two catch basins in an alley to the south of the apartment complex. Power to the sump pump was disconnected by GeoEngineers on August 31, 2010 immediately after the sheen was discovered. Additionally, piping leading into the stormwater drainage system was plugged with oil-sorbent pads on August 31, 2010 to help prevent the further migration of oily water outside of the immediate release area. After its discovery, oily water in the release area was controlled, collected and removed from the site for permitted disposal by representatives of PSE until cleanup activities at the site had been completed.

Portions of the City of Bothell's stormwater drainage system impacted by the release were cleaned on August 31, 2010. Oil sorbent booms were placed in the alley catch basins soon after the sheen was discovered and a vactor truck was later utilized to clean the catch basins and underground piping connected to the basins.

PURPOSE AND SCOPE

The objective of the project was to clean up PCB-contaminated soil, stormwater and incidental materials at the site in accordance with MTCA and TSCA regulations. Goals of the cleanup action included the following:

- Provide source control to remove the leaking transformer and prevent the further spread of contamination.
- Reduce the potential impacts to human health and the environment by removing soil with concentrations of total PCBs exceeding the MTCA Method A cleanup level of 1 mg/kg for unrestricted land use.
- Remove and dispose of materials in contact with PCB-containing mineral oil and/or mineral oil-impacted soil at the site, including wood, concrete, vegetation, and miscellaneous debris.
- Contain, remove and dispose of water, including stormwater runoff, in contact with PCBs and wash water used to decontaminate impacted surfaces.
- Transport excavated soil, water and miscellaneous materials to appropriate off site, permitted disposal facilities in accordance with TSCA regulations.
- Conduct site restoration following the cleanup activities at the site.

The scope of GeoEngineers' services included the following:

1. Assist PSE's Remediation Contractor (contractor) in identifying areas of contaminated soil and/or water for removal based on observations, field screening and chemical analytical results.
2. Monitor and document the progress of soil and/or water removal activities including the lateral and vertical extent of soil excavation, and materials removal.
3. Obtain soil samples from the limits of the excavation for chemical analysis of PCBs by EPA Method 8082 and/or Ecology Northwest Method NWTPH-Dx with an acid wash/silica gel cleanup, quantified for mineral oil.
4. Obtain surface wipe samples from select concrete surfaces for chemical analysis of PCBs by EPA Method 8082.
5. Coordinate with the contractor regarding transportation and disposal of the PCB-contaminated soil, water and materials removed from the site.
6. Obtain one sample of drinking water from an on-site, apartment kitchen spigot for chemical analysis of PCBs by EPA Method 8082.
7. Obtain two sludge samples from the City of Bothell's stormwater drainage system for chemical analysis of PCBs by EPA Method 8082 to characterize potential PCB impacts to the system.

REMEDIAL ACTION

General

Remedial action to clean up the mineral oil and PCB release was conducted at the site between August 31 and September 27, 2010. Soil, water and materials removed from the site as part of this cleanup action were contained, handled and disposed of as a TSCA-regulated waste. The soil and debris removed from the excavation was loaded directly into 55-gallon drums and/or roll-off containers that were lined with plastic sheeting and covered prior to departing the site. A total of 56.78 tons of PCB-contaminated soil and materials were removed from the site and transported to Clean Harbors Environmental Services, Inc.'s Grassy Mountain facility in Clive, Utah for permitted disposal in accordance with TSCA regulations.

An estimated total of 6,000 gallons of PCB-contaminated water were removed from the site and transported by vactor truck or vacuum truck to PSE's Waste Management Facility in Kent, Washington where it was processed through PSE's wastewater treatment system then discharged to the King County Metro Sanitary Sewer (Metro) in accordance with PSE's King County Metro discharge permit. Filter media used in the water treatment system was disposed of as a TSCA waste in accordance with TSCA regulations.

Plastic sheeting, sorbent materials and cleaning brushes used during decontamination activities were placed in 55-gallon drums, secured and labeled. The drums were temporarily stored at PSE's TSCA storage facility pending transfer to Clean Harbors Environmental Services, Inc.'s Grassy Mountain facility in Clive, Utah for permitted disposal in accordance with TSCA regulations.

Initial Response Activities

Initial spill response activities were conducted on August 31, 2010 by National Response Corporation (NRC) of Kent, Washington and Aqua Clean Jet-n-Vac (Aqua Clean) of Renton, Washington. Initial spill response activities including containing and removing accessible PCB-containing mineral oil from the site and isolating the known release area from casual contact by tenants or unauthorized personnel at the apartment complex.

A staff geologist from GeoEngineers was on site to document the activities that included the following:

- Removal of oily water from the ground surface and within shallow, open trenches using a vactor truck;
- Removal of small soil stockpiles (from previous construction activities) to 55-gallon drums;
- Removal to 55-gallon drums of personal items, tools and/or construction materials from patios that were observed to have been in contact with oil or oily soil within the release area;
- Removal of loose soil in a shallow trench on the north side of the building that was observed to be in contact with oil;
- Pressure washing of concrete pads (transformer pad and patios) and walls at the site to remove free product (mineral oil) and soil from their surfaces. Effluent from the cleaning activities was directed toward the suction hose of the vactor truck and removed from the site;

- Pressure washing of two catch basins that were observed to have sheen present on water within them, and associated catch basin piping. Effluent from the cleaning activities was directed toward the suction hose of the vactor truck and removed from the site;
- Placement of plastic sheeting in portions of the site where mineral oil may have been in contact with soil or vegetation;
- Placement of oil-sorbent pads and booms in areas of the site where oily water may be present (excavation and catch basins);
- Installation of orange-mesh fencing at patios to restrict access by unauthorized personnel to potential contamination in soil; and
- Installation of caution tape around work area to restrict casual access by the public.

Stormwater Management

Stormwater that accumulated in the release area between the date of discovery (August 31, 2010) and the conclusion of remedial activities (September 27, 2010) was contained and removed from the site for permitted treatment and disposal. Stormwater sources at the site included direct precipitation, stormwater runoff and seepage from the rockery wall and storm-drain pipes. Following the initial response activities to remove accumulated free product and easily accessible contamination in soil, soil cleanup activities were temporarily postponed for approximately 10 days to allow PSE engineers to relocate the newly installed transformer to an alternate location on the property. Water that accumulated in the release area was controlled using a sump pump that transferred water from an approximately 1.5 foot deep, hand-dug sump to two 275-gallon capacity polyethylene aboveground tote containers temporarily stored on a concrete pad at the site. The collection and storage system was observed by GeoEngineers and/or NRC personnel each day to ensure that water within the excavation area did not migrate off site and that the totes were not overfilled. NRC used a vacuum truck to remove water from the totes to provide capacity; the resultant frequency was approximately every other day.

Water removed from the site was transported to PSE's wastewater treatment system located at their Waste Management Facility (WMF) in Kent, Washington for processing. Following treatment at this facility, the water is temporarily stored so it can be tested for characterization, in accordance with King County Metro discharge criteria, prior to discharge to the Metro sewer system. Filter material and activated carbon associated with the water treatment system is handled and disposed of as a TSCA waste at the end of their useful lives. An estimated total volume of 6,000 gallons of water was captured and removed from the site between the remediation period of August 31 through September 17, 2010 for permitted treatment and disposal.

Debris Collection and Disposal

Building materials (wood framing, wood siding, sheetrock, concrete, etc.) displaying physical evidence of mineral oil-staining, and debris (piping, plastic sheeting, etc.) either present in the release area on August 31 or generated as a result of this cleanup action, were transferred from the release area, contained in roll-off bins that were lined with plastic sheeting and covered with lids for transport to Clean Harbors Grassy Mountain facility for permitted disposal in accordance with TSCA regulations.

Concrete Wipe Samples

Patio Decks

Surface wipe samples were collected from selected concrete surfaces at the site either to characterize the concrete for potential contamination or to characterize the concrete for disposal. Four wipe samples were obtained from each of the four concrete patios at Apartments 105 through 108 (Figure 2). The sample locations were selected based on the most likely places for contamination to be present if a tenant were to walk through oil-impacted soil and then onto a patio slab or into an apartment unit. The wipe samples were collected in accordance with EPA regulations (40 CFR 761.123 and 40 CFR 761.304) and submitted to a mobile analytical laboratory operated by Libby Environmental, Inc. of Olympia, Washington for chemical analysis of PCBs by EPA Method 8082. The approximate sample locations are shown on Figure 2. Sampling methods are discussed in Field Methods, Appendix B.

PCBs were not detected (less than 0.5 micrograms per 100 square centimeters [μg/100 cm^2]) in the patio wipe samples, with one exception: PCBs were detected in surface wipe sample W-105D at 5.2 μg/100 cm^2, which is less than the EPA cleanup level of 10 μg/100 cm^2 for unrestricted use (40 CFR 761.79). Patio wipe sample W-105D represented the patio area closest to the damaged transformer and where oil-impacted soil was observed to have been in contact with the patio. Although the PCBs in the wipe sample results either were not detected or the detected concentrations were less than EPA cleanup levels (and therefore suitable for unrestricted use), the concrete patios shown in Figure 2 were subsequently removed from the site to access perforated piping and PCB-impacted soil beneath the slabs. Concrete removed from the site was disposed of as a TSCA waste. The wipe sample analytical results are presented in a lab report in Appendix C and summarized in Table 2. Concrete waste disposal tickets are presented in Appendix D.

Meter Room Slab

Two surface wipe samples (W-1-092110 and W-2-092110) were obtained from the concrete slab in the meter room following the completion of the initial response concrete decontamination activities. The purpose of the surface wipe sampling was to demonstrate the effectiveness of the decontamination process. Surface wipe sample W-2-092110 was obtained from an area of the slab where significant oil staining was observed after the area had been cleaned. Surface wipe sample W-1-092110 was obtained from an area of the slab outside the stained area. The samples were submitted to the mobile laboratory for chemical analysis of PCBs by EPA Method 8082. The approximate sample locations are shown on Figure 2.

PCBs were detected at a concentration of 827 μg/100 cm^2 in W-2-092110 and 7.12 μg/100 cm^2 in W-1-092110. Although the concentration of PCBs detected in sample W-1-092110 was less than the EPA cleanup level of 10 μg/100 cm^2 for unrestricted use, the wipe sample testing indicated that the stained portion of the concrete slab exceeded the cleanup level and categorized it as a TSCA waste. The wipe sample analytical results are presented in a lab report in Appendix C and summarized in Table 2.

Approximately 50 percent of the meter room slab was removed from the site for permitted off-site disposal in accordance with TSCA regulations, including concrete that was observed to have been stained by the oil release. The remaining portion of the slab showed no physical evidence of oil staining.

The transformer pad, which was stained by the oil release, was removed from the site for permitted off-site disposal. Disposal tickets are presented in Appendix D.

Subsurface Concrete Slabs

Three wipe samples (W-3-092110, W-4-092110 and W-5-092110) were obtained from a concrete slab that was encountered at about 1 foot beneath below the former transformer pad during excavation activities. Three wipe samples provided sufficient representative coverage based on the area of concrete slab in this location. The slab was in contact with oil-impacted soil when it was discovered. The slab was decontaminated (double-wash, double-rinse) in accordance with TSCA regulations, and the wipe samples were obtained after cleaning to demonstrate the effectiveness of the decontamination activities. The samples were submitted to the mobile laboratory for chemical analysis of PCBs by EPA Method 8082. The approximate sample locations are shown on Figure 3.

PCBs either were not detected or were detected at concentrations that were less than the EPA cleanup level of 10 μg/100 cm^2 for unrestricted use. The concrete slabs were left in place at the conclusion of remedial activities at the site. The wipe sample analytical results are presented in a lab report in Appendix C and summarized in Table 2.

Soil Excavation Monitoring

Soil Excavation

Soil impacted by mineral oil was excavated and removed from the site for permitted disposal based on field screening and follow up chemical analytical testing of soil samples obtained from the excavation. Concrete pads on the north side of the building that were overlying soil contamination at the transformer location, within a portion of the meter room and at the four apartment patios were removed from the site and disposed of as a TSCA-regulated waste. Additionally, a portion of the asphalt parking lot on the west side of the property was removed to access mineral oil-impacted soil for excavation. The removed asphalt was disposed of as a TSCA-regulated waste. Remedial excavation of soil was based upon results of visual observation, field screening (water sheen testing), and chemical analytical testing.

After the initial soil and water removal activities on August 31, 2010, NRC and/or Aqua Clean used a small excavator, a vactor truck and hand tools to conduct remedial excavation activities at the site. The excavator was used to loosen soil in the release area, which was then sucked up the hose of the vactor truck. Soil removed from the excavation area with the vactor truck hose entered a vacuum box for storage and transport from the site to Clean Harbor's permitted disposal facility in Clive, Utah. Hand tools were used in portions of the excavation that were not accessible to the excavator.

Soil conditions observed at the site generally consisted of a shallow layer of imported gravel and sand (fill) overlying native silty sand with gravel. Groundwater was not encountered during excavation activities. The areal extent of soil excavation measured approximately 9 feet wide by 100 feet long on the north side of the building and approximately 4 feet wide by 60 feet long on the west side of the building, as shown in Figure 3. The depth of excavation ranged between approximately 0.5 feet and 3 feet bgs.

Soil Characterization Sampling

Fourteen soil characterization samples were collected during the remedial action to evaluate the nature and extent of PCB-contaminated soil. The samples were obtained between September 2, 2010 and

September 24, 2010. Six of these samples (EX-1-0.25, EX-2-0.25, EX-3-0.25, EX-22-0.25, EX-23-0.25 and EX-24-0.25) were obtained in an ivy landscaping area immediately north of the release area at the former location of several soil stockpiles. The soil stockpiles were generated prior to August 31, 2010 during construction activities to install subsurface drainage at the site that occurred prior to the discovery of the release on August 31, 2010. There was no physical evidence to indicate the soil stockpiles had been impacted by the release, but as a precautionary measure, the soil was removed from the site either in drums or by vactor truck and disposed of as a TSCA-regulated waste. The six samples obtained in the ivy landscaping area were collected from a depth of approximately 0.25 feet beneath the surrounding ground surface after removal of the stockpiles and yielded no sheen during field screen testing. The samples were submitted to the on-site mobile laboratory for chemical analysis of PCBs by EPA Method 8082. The approximate locations of these six samples along with the other nine soil characterization samples are shown in Figure 2.

PCBs were not detected (less than 0.10 milligrams per kilogram [mg/kg]) in the six characterization samples obtained from the ivy landscaping area and no further soil removal activities were undertaken in the area. The analytical results are presented in a lab report in Appendix C and summarized in Table 1.

The remaining nine soil characterization samples were obtained from the excavation area to characterize PCB impacts to soil. Each of the samples was submitted to the on-site mobile laboratory for chemical analysis of PCBs by EPA Method 8082. Three samples (T-1-1.0, EX-152-0.5 and CR-1-1.5) also were submitted for chemical analysis of mineral oil-range hydrocarbons by NWTPH-Dx with an acid wash/silica gel cleanup. No additional characterization samples were submitted for chemical analysis of mineral oil-range hydrocarbons because the primary contaminant of concern for this project was PCBs. Comprehensive chemical analytical testing for mineral oil-range hydrocarbons was completed for the confirmation soil samples.

PCBs were detected in eight of the nine excavation characterization samples at concentrations ranging between 1.9 mg/kg and 16.5 mg/kg, which exceeded the MTCA Method A cleanup level of 1 mg/kg for PCBs in soil. PCBs were detected at a concentration of 0.23 mg/kg in sample T-2-1.0.

Mineral oil-range hydrocarbons were detected at a concentration of 9,200 mg/kg in T-1-1.0 and 6,950 mg/kg in EX-152-0.5, which exceeded the MTCA Method A cleanup level of 4,000 mg/kg for mineral oil in soil. Mineral oil-range hydrocarbons were detected at a concentration of 290 mg/kg in CR-1-1.5. The analytical results are presented in a lab report in Appendix C and summarized in Table 1.

Soil represented by the remaining nine soil characterization samples was subsequently excavated and removed from the site for permitted off-site disposal in accordance with TSCA regulations. Additional (confirmation) sampling, as described below, was completed following the excavation activities.

Soil Confirmation Sampling

Confirmation soil samples were obtained from the site between September 2, 2010 and September 24, 2010. The approximate locations of the confirmation soil samples are shown in Figure 3. Field procedures are described in Appendix B. The samples were kept cool prior to and during transport to the testing laboratory. Standard chain-of-custody procedures were followed in transporting the samples to the testing laboratory. Analytical results are presented in lab reports in Appendix C and summarized in Table 1.

Figure 3 shows the area of remedial excavation completed to remove mineral oil and PCB-impacted soil. As shown in Figures 2 and 3, perforated drain pipe appeared to extend to the east beneath Apartment 108 and a second pipe extended to the south, connecting to the storm drain. Soil excavation was not conducted beyond the areas shown in Figure 3 because soil sampling at the perforated drain pipe extending beneath the west side of the apartment building at unit 108 (sample EX-153-1.0) and beneath the City of Bothell stormwater pipeline at the southern end of the western excavation (sample EX-148-2.0) did not indicate these areas were affected by the release. The samples were obtained from soil located immediately beneath the pipes, locations where contamination in soil would most likely be present.

Seventy-four discrete soil samples were obtained from the final limits of the excavation for chemical analysis of PCBs by EPA Method 8082. The sampling requirements under EPA 40 CFR 761.130 state that post-cleanup sampling is required to verify the level of cleanup that has been achieved. The PCB cleanup confirmation sampling program completed on this project was at least as stringent as the sampling frequency required by EPA.

Twenty-seven of the confirmation soil samples were also submitted for chemical analysis of mineral oil-range hydrocarbons by Ecology Method NWTPH-Dx with an acid wash/silica gel cleanup. The 27 samples represented the approximately 1,900 square feet of excavation surface area (approximately 1,300 square feet of base and approximately 600 square feet of sidewall). The resultant sample frequency for mineral oil was approximately one sample for every 70 square feet of excavation.

PCBs were not detected (less than 0.10 mg/kg) in 69 of the 74 confirmation soil samples. PCBs were detected at concentrations that were less than the MTCA Method A cleanup level of 1 mg/kg in five of the 74 soil samples (EX-8-0.5, EX-145-2.0 and EX-150-2.25). PCBs were detected at concentrations of 2.20 mg/kg in EX-109-0.25 and 8.10 mg/kg in EX-140-0.5, which exceed the MTCA Method A cleanup level. Soil represented by these two samples (EX-109-0.25 and EX-140-0.5) was subsequently overexcavated and the excavation areas resampled to characterize soil for PCBs at the new excavation limits.

Catch Basin System Cleaning

August 31, 2010

A portion of the City of Bothell's stormwater drainage system was cleaned following the discovery of the mineral oil release. See attached Figure 4 for a layout of the stormwater drainage system. A visual inspection on August 31, 2010 of catch basins located in an alley to the south of the apartment building and immediately downstream of the subject property's drainage system identified a visible sheen on water within two catch basins. The stormwater drainage system was subsequently cleaned on August 31, 2010 using a vactor truck to remove oil that had entered the catch basins and migrated through the storm drain system piping.

The catch basins were cleaned using high-pressure water to remove oil that entered them. The piping between the catch basins was cleaned using a high-pressure "jetter." The jetting system consisted of a hose attached to a high-pressure nozzle that directed its nozzle jets backwards. When water flowed through the jetting system, the hose was pulled through the conduit from a downstream catch basin to the terminus point at an upstream catch basin, cleaning the pipe interior using high pressure water. The hose was then reeled in, flushing water and oil toward the collection point at the downstream end of

the conduit. The effluent from the jetting process was collected with the suction hose of the vactor truck and transferred to PSE's Waste Management Facility in Kent, Washington for treatment and permitted disposal.

Oil-sorbent booms were placed in the two catch basins to capture any additional oil that may have migrated through the stormwater drainage system during soil cleanup activities. No sheen was observed on the surface of the water in the two catch basins throughout the remainder of the remedial activities at the site. The oil-sorbent boom material was left in place in the catch basins throughout the course of soil remedial excavation activities after which the materials were removed, the catch basins cleaned and the booms/cleaning effluent removed from the site for permitted off-site disposal in accordance with TSCA regulations.

October 1, 2010

GeoEngineers and Aqua Clean returned to the site on October 1, 2010 to conduct additional stormwater drainage system cleaning activities at the request of the City of Bothell. Prior to the cleaning activities, GeoEngineers and a representative from the City of Bothell inspected accessible catch basins at and downstream of the site for evidence of sheen. The catch basin system is relatively old and maintenance records are incomplete. Six out of 11 catch basins within the designated inspection area were not available for inspection because they either were located under landscaping or they were on private property and permission was not granted to access them. Of the five catch basins that were inspected on October 1, no sheen was observed on water within them.

Based on requests from the City of Bothell, PSE contractors cleaned the accessible catch basins and associated underground piping between the release area at the Glen Grove Apartment complex and a downstream catch basin located near the northeast corner of Northeast 186th Street and 101st Avenue Northeast (see Figure 4). Aqua Clean used their vactor truck to clean the accessible catch basins and jet the conduits in a similar manner as described above.

GeoEngineers obtained samples of accumulated sludge/debris from the base of two catch basins from the City of Bothell stormwater drainage system on October 29, 2010 at the request of the City of Bothell. The purpose of the sampling was to evaluate potential PCB impacts to residual sludge in the system that was not removed during the stormwater drainage system cleaning process. We obtained sludge sample CB-2 near the northeast corner of Northeast 186th Street and 101st Avenue Northeast and immediately west (downstream) of the most downstream catch basin (CB-B) cleaned in the system. An additional sample (CB-1) was obtained from a catch basin immediately upstream from catch basin CB-A, which was the most upstream catch basin in the system that was cleaned. CB-1 was obtained to evaluate background PCBs that may be present in sludge that was not impacted by the release. Both of the samples were submitted to OnSite Environmental, Inc. of Redmond, Washington for chemical analysis of PCBs by EPA Method 8082.

PCBs were not detected (less than 0.065 mg/kg) in samples CB-1 and CB-2. The lab report is presented in Appendix C.

Vehicle Decontamination

The vactor truck used for remedial activities described above was decontaminated at PSE's Waste Management Facility in Kent, Washington in accordance with the EPA's

Self-Implementing Decontamination Procedures (40 CFR 761.79). The truck was positioned on plastic sheeting to control fluids during the cleaning process. The surfaces on the interior and exterior of the vactor truck that came in contact with TSCA materials were double washed with the Simple Green® degreasing solution and double rinsed.

Waste fluids generated during the vehicle decontamination activities were captured and processed through PSE's water treatment system located at their Waste Management Facility (WMF) in Kent, Washington. After treatment, the water is stored and tested, in accordance with King County Metro discharge criteria, prior to discharge to the Metro sewer system. Filter material and activated carbon associated with the water treatment system is handled and disposed of as a TSCA waste at the end of their useful lives.

Drinking Water Sampling

One drinking water sample was obtained from the site for chemical analysis of PCBs. Although potable water supply to the site is provided by the City of Bothell through a network of closed pipes, and water pipes were not encountered during remedial activities at the site, a water sample (W-107-[09-16-10]) was obtained from the kitchen faucet of apartment Unit 107 at the request of an apartment complex tenant to characterize the water for potential PCB impacts. The water sample was submitted to OnSite for chemical analysis of PCBs in drinking water by EPA Method 508.1. The sample was kept cool prior to and during transport to the testing laboratory. Standard chain-of-custody procedures were followed in transporting the samples to the testing laboratory.

PCBs were not detected above the practical quantitation limit (PQL) of 0.2 micrograms per liter (ug/L) in sample W-7-(09-16-10), the PQL is less than the EPA's National Primary Drinking Water Regulations maximum contaminant level of 0.5 ug/L for PCBs in drinking water.

Groundwater

Groundwater was not encountered during remedial activities at the site and was not a focus of this study. Additionally, Ecology Fact Sheet 95-157-TCP states that, "Based on the physical/chemical properties of mineral insulating oil, the treat of cross-media contamination of groundwater from release of mineral insulation oil from electrical equipment is minimal. Mineral insulation oil (ASTM D-3487) is non-volatile, insoluble (hydrophobic), and highly adsorbs to organic particles in soils."

Based on our observations at the site and Ecology's information regarding the physical characteristics on mineral oil, it is our opinion that the likelihood that mineral oil (and PCBs within the mineral oil) impacted groundwater beneath the site is low.

TERRESTRIAL ECOLOGICAL EVALUATION

We completed a Terrestrial Ecological Evaluation (TEE) for the site in accordance with MTCA. Because there is less than ¼ of an acre of contiguous undeveloped land on or within 500 feet of any area of the site affected by a hazardous substance, the terrestrial ecological evaluation was ended under WAC 173-340-7491(1)(c)(ii).

CONCLUSIONS

Based on our observations, field screening and chemical analytical results; it is our opinion that cleanup activities associated with the mineral oil/PCB release that was discovered on August 31, 2010 at the Glen Grove Apartment complex in Bothell, Washington were completed in general accordance with TSCA and MTCA regulations.

PSE took actions to contain the impacts from the transformer release as soon as possible after they were discovered. In conjunction with containment, a cleanup action was conducted between August and October 2010. 56.78 tons of soil and concrete debris and approximately 6,000 gallons of water were removed from the site in conjunction with the 2010 cleanup action.

The following summarizes the verification and cleanup confirmation sampling that demonstrated that the release of PCB-containing mineral oil from PSE's transformer was effectively contained and cleaned up:

- Seventy-four cleanup confirmation soil samples were obtained from a soil excavation area of approximately 1,900 square feet verifying that the PCB-impacted soil was successfully removed.
- Three confirmation concrete wipe samples, which represented cleanup verification of concrete remaining in place within the release area, were obtained.
- One confirmation concrete patio wipe sample (Figure 2) was obtained adjacent to each apartment entry sliding glass door (there are two sliding glass doors per unit) for apartments 105 through 108 (total of eight wipe samples). The purpose of this wipe sampling was to support an evaluation of the possibility that PCBs and mineral oil could have been tracked into the apartments before the release had been discovered and contained. PCBs were not detected in these eight wipe samples from the concrete patios near the apartment entry doors. Based on these wipe sample results, it is our opinion that the likelihood that PCBs were transported by foot traffic to the interior of apartment units at the site is low and that remedial activities on the interior of the apartment units at the site are not warranted.
- Two sludge samples were obtained for cleanup verification purposes; one from upstream and one from downstream of the impacted portion of the City of Bothell's stormwater drainage system. Based on our observations and chemical analysis of sludge samples obtained from the City of Bothell's stormwater drainage system, it is our opinion that oil and sheen observed in the system were removed and residual sludge in the system located immediately downstream of the cleaned portion of the system was not impacted by PCBs.
- Six soil samples obtained in planter area above rockery wall verified no impacts from the PCB release.
- One drinking water sample was obtained from the drinking water supply within the apartment building. Based on chemical analytical results of a water sample obtained from the kitchen faucet of apartment Unit 107, it is our opinion that the likelihood that city-supplied water to the apartment complex was impacted by PCBs is low.

In summary, it is our opinion that no further remedial action relative to the release of PCB-containing mineral oil from the pad-mounted transformer is necessary at the site.

LIMITATIONS

We have prepared this report for the exclusive use of Puget Sound Energy, their authorized agents and regulatory agencies. This report is not intended for use by others and the information contained herein is not applicable to other sites. No other party may rely on the product of our services unless we agree in advance, and in writing, to such reliance. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with our general agreement with PSE (Contract No. 4600005167) and generally accepted environmental science practices in this area at the time this document was prepared. No warranty or other conditions, express or implied, should be understood.

Our conclusions are based on our site observations, field screening results and chemical analysis of a limited number of soil samples at the site. It is always possible that contaminants remain in areas that were not observed, sampled or tested.

Any electronic form of this document (email, text, table, and/or figure), if provided, and any attachments are only copies of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Appendix E titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

TABLES

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Table 1

Field Screening and Soil Chemical Analytical Data[1]

Glen Grove Apartments
10295 NE 189th Street
Bothell, Washington
Puget Sound Energy
File Number 0186-853-00

Sample Identification[2]	Date Sampled	Sample Depth (feet bgs)	Water Sheen Screening	Mineral Oil-Range Hydrocarbons[3] (mg/kg)	Polychlorinated Biphenyls[4] (mg/kg)
Soil Characterization Samples					
EX-1-0.25	9/2/2010	0.25	NS	--	<0.10
EX-2-0.25	9/2/2010	0.25	NS	--	<0.10
EX-3-0.25	9/2/2010	0.25	NS	--	<0.10
EX-4-0.5[5]	9/2/2010	0.5	NS	--	**3.87**
T-1-1.0[5]	9/2/2010	1.0	HS	**9,200**	**5.53**
T-2-1.0[5]	9/2/2010	1.0	MS	--	**0.23**
T-3-1.0	9/2/2010	1.0	NS	--	<0.10
EX-22-0.25	9/3/2010	0.25	NS	--	<0.10
EX-23-0.25	9/3/2010	0.25	NS	--	<0.10
EX-24-0.25	9/3/2010	0.25	NS	--	<0.10
EX-147-2.0[5]	9/21/2010	2.0	NS	--	**16.5**
EX-147-2.25[5]	9/22/2010	2.25	NS	--	**10.7**
EX-152-0.5[5]	9/22/2010	0.5	SS	**6,950**	**16.4**
CR-1-1.5[5]	09/24/10	1.5	HS	**290**	**1.9**
Cleanup Confirmation Samples					
EX-5-0.5	9/2/2010	0.5	NS	--	<0.10
EX-6-0.5	9/2/2010	0.5	NS	--	<0.10
EX-7-0.5	9/2/2010	0.5	NS	--	<0.10
EX-8-0.5	9/2/2010	0.5	NS	--	**0.24**
EX-9-0.5	9/2/2010	0.5	NS	--	<0.10
EX-10-0.5	9/2/2010	0.5	SS	--	<0.10
EX-11-0.5	9/2/2010	0.5	SS	--	<0.10
EX-12-0.5	9/2/2010	0.5	SS	--	<0.10
EX-13-0.5	9/2/2010	0.5	SS	--	<0.10
EX-14-0.5	9/2/2010	0.5	NS	--	<0.10
EX-15-0.5	9/2/2010	0.5	NS	--	<0.10
EX-16-0.5	9/2/2010	0.5	NS	--	<0.10
EX-17-0.5	9/2/2010	0.5	NS	--	<0.10
EX-18-0.5	9/2/2010	0.5	NS	--	<0.10
EX-19-0.5	9/2/2010	0.5	NS	--	<0.10
EX-20-0.5	9/2/2010	0.5	NS	--	<0.10
EX-21-0.5	9/2/2010	0.5	NS	--	<0.10
EX-101-0.25	9/17/2010	0.25	SS	--	<0.10
EX-102-0.25	9/17/2010	0.25	NS	--	<0.10
EX-103-1.0	9/17/2010	1.0	NS	<40	<0.10

Sample Identification[2]	Date Sampled	Sample Depth (feet bgs)	Water Sheen Screening	Mineral Oil-Range Hydrocarbons[3] (mg/kg)	Polychlorinated Biphenyls[4] (mg/kg)
EX-104-1.0	9/17/2010	1.0	NS	<40	<0.10
EX-105-0.5	9/17/2010	0.5	NS	--	<0.10
EX-106-0.5	9/17/2010	0.5	NS	<40	<0.10
EX-107-0.5	9/17/2010	0.5	NS	--	<0.10
EX-108-0.5	9/17/2010	0.5	NS	<40	<0.10
EX-109-0.25[5]	9/17/2010	0.5	SS	--	2.20
EX-110-0.5	9/18/2010	0.5	NS	--	<0.10
EX-111-0.5	9/18/2010	0.5	NS	--	<0.10
EX-112-1.0	9/18/2010	1.0	NS	--	<0.10
EX-113-0.5	9/18/2010	0.5	NS	--	<0.10
EX-114-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-115-0.5	9/18/2010	0.5	NS	--	<0.10
EX-116-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-117-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-118-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-119-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-120-0.5	9/18/2010	0.5	NS	126	<0.10
EX-121-0.5	9/18/2010	0.5	NS	123	<0.10
EX-122-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-123-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-124-0.0	9/18/2010	surface	NS	<40	<0.10
EX-125-0.0	9/18/2010	surface	NS	<40	<0.10
EX-126-1.0	9/18/2010	1.0	NS	<40	<0.10
EX-127-1.0	9/18/2010	1.0	NS	<40	<0.10
EX-128-0.5	9/18/2010	0.5	NS	<40	<0.10
EX-129-0.5	9/18/2010	0.5	NS	--	<0.10
EX-130-0.5	9/18/2010	0.5	NS	--	<0.10
EX-131-0.5	9/18/2010	0.5	NS	--	<0.10
EX-132-1.0	9/18/2010	1.0	NS	<40	<0.10
EX-133-1.5	9/18/2010	1.5	NS	--	<0.10
EX-134-1.0	9/18/2010	1.0	NS	--	<0.10
EX-135-1.0	9/18/2010	1.0	NS	--	<0.10
EX-136-1.0	9/18/2010	1.0	NS	--	<0.10
EX-137-0.25	9/18/2010	0.5	NS	<40	<0.10
EX-138-1.0	9/18/2010	1.0	NS	--	<0.10
EX-139-0.5	9/18/2010	0.5	NS	--	<0.10
EX-140-0.5[5]	9/18/2010	0.5	NS	--	8.10
EX-140-2.0	9/21/2010	2.0	NS	--	<0.10
EX-141-2.0	9/21/2010	2.0	NS	--	<0.10
EX-142-1.0	9/21/2010	1.0	NS	200	<0.10
EX-143-2.0	9/21/2010	2.0	NS	--	<0.10
EX-144-1.0	9/21/2010	1.0	NS	--	<0.10
EX-145-2.0	9/21/2010	2.0	NS	117	0.56
EX-146-1.0	9/21/2010	1.0	NS	--	<0.10

Sample Identification[2]	Date Sampled	Sample Depth (feet bgs)	Water Sheen Screening	Mineral Oil-Range Hydrocarbons[3] (mg/kg)	Polychlorinated Biphenyls[4] (mg/kg)
EX-147-3.0	9/22/2010	2.0-3.0	NS	--	<0.10
EX-148-2.0	9/22/2010	2.0	NS	--	<0.10
EX-149-1.0	9/22/2010	1.0	NS	--	<0.10
EX-150-2.25	9/22/2010	2.25	NS	--	**0.61**
EX-151-1.0	9/22/2010	1.0	NS	--	<0.10
EX-153-1.0	9/22/2010	1.0	NS	<91	<0.10
CR-2-0.5	09/24/10	0.5	NS	<96	<0.10
CR-3-1.0	09/24/10	1.0	SS	<91	<0.10
CR-4-1.0	09/24/10	1.0	NS	<104	<0.10
CR-5-1.0	09/24/10	1.0	NS	<97	<0.10
MTCA Method A Cleanup Level				4,000	1

Notes:

[1] Chemical analyses by Libby Environmental, Inc. in Olympia, Washington.

[2] Approximate sample locations are shown on Figure 2 or 3.

[3] Petroleum hydrocarbons analyzed by Ecology Northwest Method NWTPH-Dx with sulfuric acid/silica gel cleanup.

[4] Polychlorinated biphenyls analyzed by EPA Method 8082.

[5] Soil represented by this sample was subsequently overexcavated and removed from the site for permitted disposal.

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons - Diesel Extended

bgs = below surrounding ground surface

mg/kg = milligrams per kilogram

HS = heavy sheen, MS = moderate sheen, SS = slight sheen, NS = no sheen.

MTCA = Model Toxics Control Act

Shaded values represent concentrations that are greater than the MTCA Method A cleanup level.

A bolded value indicates an analyte has been detected at the indicated concentration.

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Table 2

Surface Wipe Sample Chemical Analytical Data[1]

Glen Grove Apartments
10295 NE 189th Street
Bothell, Washington
Puget Sound Energy
File Number 0186-853-00

Sample Identification[2]	Date Sampled	Polychlorinated Biphenyls[3] (mg/100 cm^2)
W-105A	9/3/2010	<0.5
W-105B	9/3/2010	<0.5
W-105C	9/3/2010	<0.5
W-105D	9/3/2010	**5.2**
W-106A	9/3/2010	<0.5
W-106B	9/3/2010	<0.5
W-106C	9/3/2010	<0.5
W-106D	9/3/2010	<0.5
W-107A	9/3/2010	<0.5
W-107B	9/3/2010	<0.5
W-107C	9/3/2010	<0.5
W-107D	9/3/2010	<0.5
W-108A	9/3/2010	<0.5
W-108B	9/3/2010	<0.5
W-108C	9/3/2010	<0.5
W-108D	9/3/2010	<0.5
W-1-[092110]	9/21/2010	**7.12**
W-2-[092110]	9/21/2010	**827**
W-3-[092110]	9/21/2010	<0.5
W-4-[092110]	9/21/2010	**1.7**
W-5-[092110]	9/21/2010	<0.5
EPA Cleanup Level[4]		10

Notes:

[1] Chemical analyses by Libby Environmental, Inc. in Olympia, Washington.

[2] Approximate sample locations are shown in Figure 2.

[3] Polychlorinated biphenyls analyzed by EPA Method 8082.

[4] Decontamination standard as per 40 CFR 761.79(b)(4).

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons - Diesel Extended

µg/100 cm2 = micrograms per 100 square centimeters

A shaded value represents a concentration that is greater than the EPA cleanup level.

A bolded value indicates an analyte has been detected at the indicated concentration.

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FIGURES

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N
W E
S

2,000 0 2,000

Feet

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Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

Vicinity Map

PSE Bothell TSCA Spill
10295 NE 189th Street
Bothell, Washington

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Figure 1

Office: RED Path: P:\0\018685300\GIS\018685300_F1.mxd Map Revised: October 15, 2010 MM2

10 0 10
FEET

S E W N

TIGHTLINE CONNECT TO STORM DRAIN

Legend

W-2-[092110] Wipe Characterization Sample

EX-152-0.5 Soil Characterization Sample

EX-147-2.0/2.25

HALLWAY

HALLWAY

HALLWAY

LAUNDRY ROOM

STORAGE ROOM

GLEN GROVE APARTMENT BUILDING
10295 NE 189th STREET
BOTHELL, WASHINGTON

APARTMENT 105

APARTMENT 106

APARTMENT 107

APARTMENT 108

CONCRETE PATIO DECK (REMOVED)

WOOD FENCE

ROCKERY

METER ROOM

CR-1-0.5

W105-C W105-B W106-C W106-B W107-C W107-B W108-C W108-B

W-1-[092110]

W-2-[092110]

EX-152-0.5

W105-D W105-A W106-D W107-D W107-A

T-1-1.0 T-2-1.0 T-3-1.0 W106-A W108-D W108-A

PERFORATED DRAIN PIPES (REMOVED)

TRANSFORMER ON CONCRETE PAD (REMOVED)

ROCKERY

IVY LANDSCAPING

CONCRETE PAD (REMOVED)

CONCRETE PAD

EX-24-0.25 EX-23-0.25 EX-22-0.25 EX-3-0.25 EX-2-0.25 EX-1-0.25

SIDEWALK

GRASS STRIP

NE 189th STREET

Notes

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Reference: Sketch by GeoEngineers Staff.

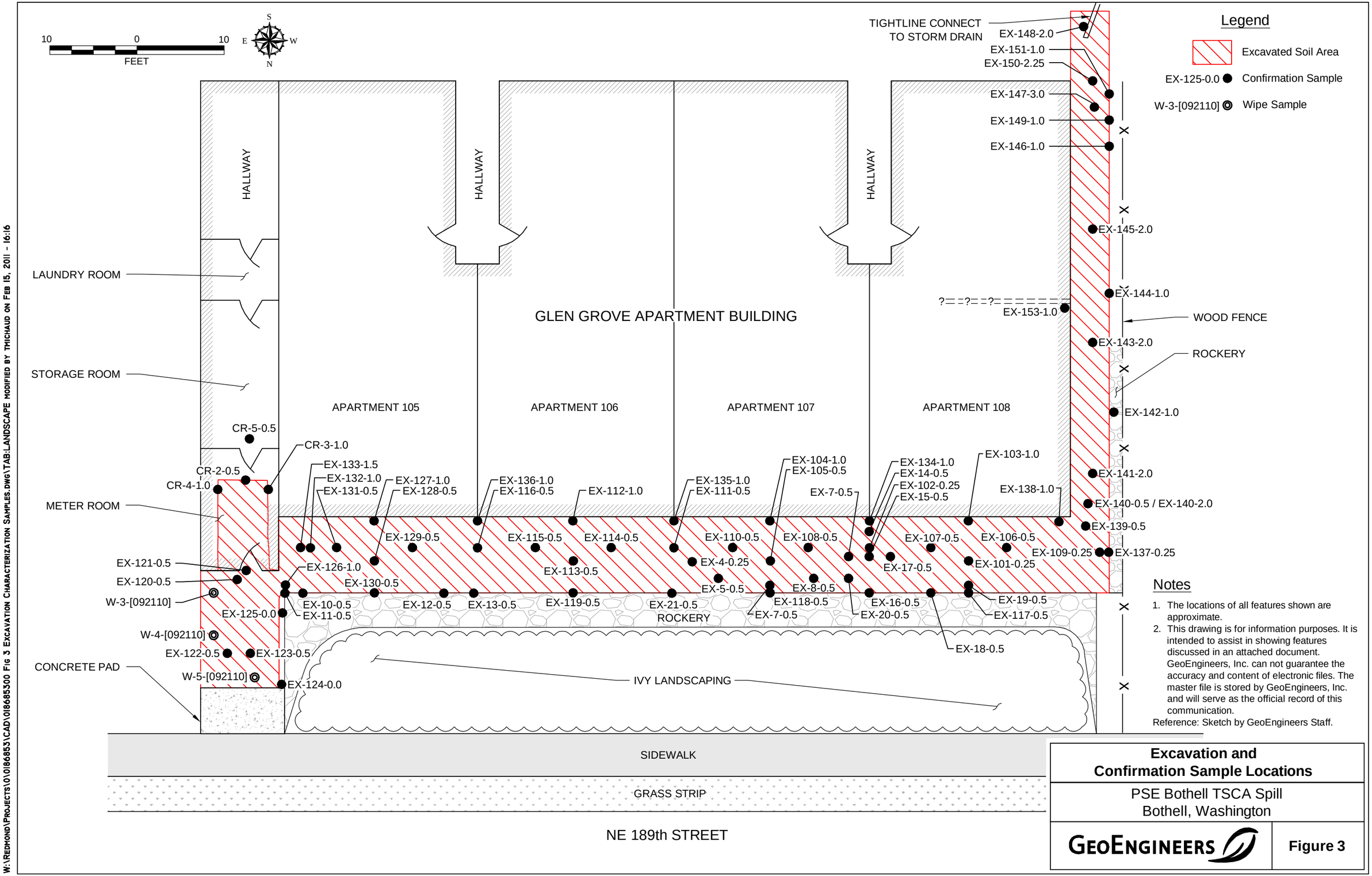
Characterization Sample Locations

PSE Bothell TSCA Spill
Bothell, Washington

GeoEngineers

Figure 2

W:\Redmond\Projects\0\0186853\CAD\0186853300 Fig 2 Characterization Samples.dwg\TAB:LANDSCAPE Modified by THICHAUD on Feb 15, 2011 - 16:15



Notes

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Reference: Sketch by GeoEngineers Staff.

Excavation and Confirmation Sample Locations

PSE Bothell TSCA Spill
Bothell, Washington

GeoEngineers

Figure 3

W:\Redmond\Projects\0\0186853\CAD\0186853300 Fig 3 Excavation Characterization Samples.dwg\TAB:LANDSCAPE modified by tmichaud on Feb 15, 2011 - 16:16

Clean Out Catch Basin

Not Cleaned Or Inaccessible Catch Basin

Cleaned and Flushed Portion of Storm Water Drainage System

Inaccessible for Cleaning

Tightline Pipe

Property Boundary

CB-1 = Sediment Sample Location within Catch Basin

CB-A = Catch Basin

N
W E
S

0 110
Feet

Notes:
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Data Sources: Catch Basins, Pipes, Parcel & Street from City of Bothell, GIS.
Bing Maps Aerial from ESRI ArcGIS Online

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

City of Bothell Stormwater Drainage System

PSE Bothell TSCA Spill
Bothell, Washington

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Figure 4

Map Revised: February 23, 2011

Office: PORT Path: P:\0018685\3\018685300 F4 CRC

APPENDICES

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APPENDIX A
Photos

Original transformer location on September 1, 2010; after initial spill cleanup activities.

Cones mark access hole cut in top of pedestrian bridge to remove damaged transformer on August 31, 2010.

Sump pump used on north side of building for construction dewatering prior to initial spill response activities on August 31, 2010.

Sump pump discharge location prior to initial spill response activities on August 31, 2010 (perforated pipe on west side of building, which transferred water to City of Bothell storm drain system).

Exclusion zone to help isolate casual contact with potentially contaminated materials at the site; September 1, 2010.

Northwest corner of the building exposing subsurface perforated piping on September 1, 2010.

Containment of potentially impacted surface water by pumping
to poly totes between September 1 and 18, 2010.

Temporary water storage in poly totes. Totes were emptied using a vacuum truck every two days and the fluids transferred off-site for permitted treatment and disposal between September 1 and 18, 2010.

Concrete removal at patio decks during remedial activities; September 16, 2010.

Soil removal using vactor trucks on September 16, 2010
at perforated pipes beneath concrete patio decks.

APPENDIX B
Field Methods

APPENDIX B
FIELD METHODS

Personal Protective Equipment

Personnel that participated in excavation activities in the release area wore Tyvek coveralls along with Level D personal protection equipment (PPE). Additionally, half-face or full-face respirators were worn by personnel in the work zone when dust or mist was generated during the cleanup process.

Soil/Sludge Sampling Procedures

Soil/sludge samples were obtained for field screening and chemical analysis. The samples were obtained using a shovel, hand auger and/or a stainless steel trowel (hand tools). The hand tools were decontaminated with a soap solution (Simple Green™ and distilled water) and a distilled water rinse prior to and after sampling attempts.

A representative from our staff characterized the soil/sludge samples, field screened the soil/sludge and placed a portion of the sample in a laboratory-prepared sample jar for potential chemical analysis. The sample containers were completely filled to minimize headspace.

Soil samples from the excavation were selected for chemical analysis, based on field screening results and/or the sample location relative to potential sources of contamination. Sludge samples from the catch basins were selected based on their location (upstream or downstream) relative to the section of the stormwater drainage system that was cleaned. Standard chain-of-custody procedures were followed in transporting the samples to the laboratory.

Field Screening of Soil Samples

Soil samples were obtained in the field for screening of potential mineral oil-related contamination using visual examination and sheen screening. Visual screening consists of observing the soil for stains. Water sheen screening involves placing soil in water and observing the water surface for signs of sheen. Sheen classifications are as follows:

- No Sheen (NS) — No visible sheen on water surface.
- Slight Sheen (SS) — Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly. Natural organic matter in the soil may produce a slight sheen.
- Moderate Sheen (MS) — Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on water surface.
- Heavy Sheen (HS) — Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Field screening results are site-specific. The effectiveness of field screening results will vary with temperature, moisture content, organic content, soil type, and type and age of contaminant. The presence or absence of sheen does not necessarily indicate the presence or absence of petroleum hydrocarbons.

Wipe Sampling Procedures

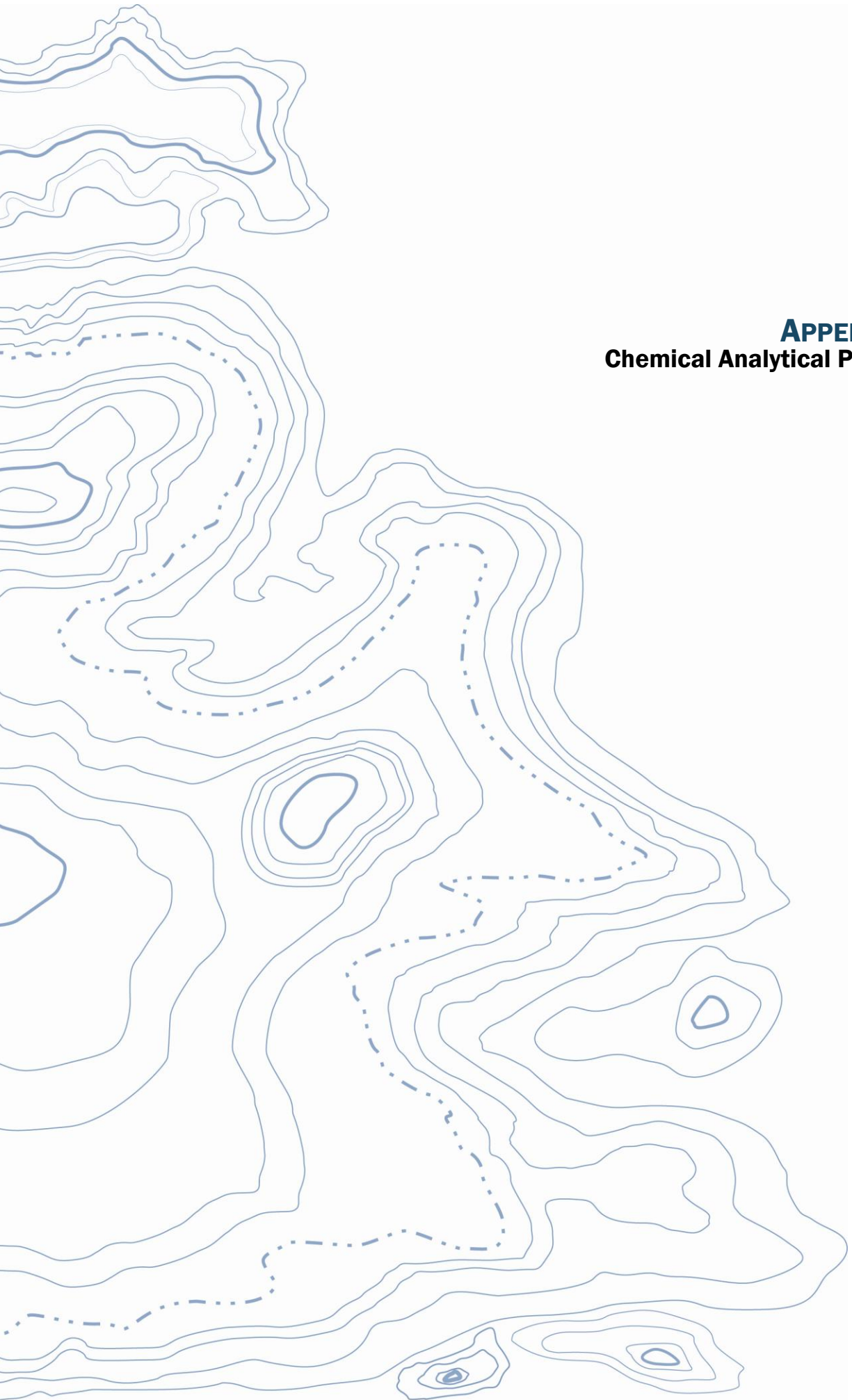
Wipe samples were obtained from concrete surfaces for chemical analysis of PCBs using EPA procedures for this type of sampling. Each sample was obtained using a standard-sized disposable template (10 centimeters (cm) x 10 cm) to delineate the area of sampling. The wiping medium was a laboratory-prepared gauze pad, which had been saturated with hexane and stored in a clear 4-ounce glass jar prepared by the laboratory. Following the concrete wipe sample procedure, the gauze pad was returned to the jar and secured with a Teflon lid for transport to the testing laboratory. A new standard-sized template and new disposable nitrile gloves were used for each wipe sample location.

In order to systematically, thoroughly and consistently wipe each sample location, the standard-sized template was placed on the concrete surface and the entire wipe surface within the framed area of the template was wiped twice. Wiping generally proceeded from left to right in rows from the top to the bottom of the framed sampling area, which was then wiped again with the same uniform pressure in columns from top to bottom from the left side to the right side of the entire framed area. Once the area had been wiped, the gauze was placed in the clear, 4-ounce glass laboratory-prepared jar. Standard chain-of-custody procedures were followed in transporting the wipe samples to the laboratory.

Tap Water Sampling Procedures

One tap water sample was obtained from the kitchen faucet in apartment Unit 107. Sample containers were provided by the testing laboratory and were completely filled to eliminate headspace. The sample container was held beneath the tap water stream such that the top of the container did not contact the faucet. There was no purging of the water lines prior to the collection of the tap water sample; after the valve on the faucet was opened, each container was filled and capped before tap water was introduced to the next container. This method was repeated until each of the containers was filled and capped.

The sample containers were kept cool during transport to the testing laboratory and chain-of-custody procedures were observed during transport of the samples to the testing laboratory.



APPENDIX C
Chemical Analytical Program

APPENDIX C
CHEMICAL ANALYTICAL PROGRAM

Analytical Methods

Chain-of-custody procedures were followed during the transport of the soil sample(s) to the testing laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference and laboratory quality assurance/quality control (QA/QC) records are included in this Appendix.

Analytical Data Review

The laboratory maintains an internal quality assurance program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike recoveries, matrix spike duplicate recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The data quality goals were included in the laboratory reports. The laboratory compared each group of samples with the existing data quality goals and noted any exceptions in the laboratory report. Data quality exceptions documented by the accredited laboratory were reviewed by GeoEngineers and are addressed in the data quality exception section of this Appendix.

Data Quality Exception Summary

No quality control exceptions were noted by the testing laboratory. It is our opinion that the analytical data are of acceptable quality for their intended use in this report.

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

September 1, 2010

Paul Craig
GeoEngineers, Inc.
8410 154th Avenue NE
Redmond, WA 98052

Re: Analytical Data for Project 0186-831-03-T10; PSE-Bothell (189)
Laboratory Reference No. 1008-249

Dear Paul:

Enclosed are the analytical results and associated quality control data for samples submitted on August 31, 2010.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 1, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-249
Project: 0186-831-03-T10; PSE-Bothell (189)

Case Narrative

Samples were collected on August 31, 2010 and received by the laboratory on August 31, 2010. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

Date of Report: September 1, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-249
Project: 0186-831-03-T10; PSE-Bothell (189)

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
67E16114	08-249-01	Oil	8-31-10	8-31-10	

Date of Report: September 1, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-249
Project: 0186-831-03-T10; PSE-Bothell (189)

PCBs by EPA 8082
SAMPLE SUMMARY

Date Extracted: 8-31-10
Date Analyzed: 8-31-10

Matrix: Oil
Units: mg/Kg (ppm)

Lab ID	Client ID	Results	PCB Type	Surrogate % Recovery	PQL	Flags
08-249-01	67E16114	300	1254	98	15	

Date of Report: September 1, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-249
Project: 0186-831-03-T10; PSE-Bothell (189)

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Oil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0831O2					
Aroclor 1016	**ND**	0.20	EPA 8082	8-31-10	8-31-10	
Aroclor 1221	**ND**	0.20	EPA 8082	8-31-10	8-31-10	
Aroclor 1232	**ND**	0.20	EPA 8082	8-31-10	8-31-10	
Aroclor 1242	**ND**	0.20	EPA 8082	8-31-10	8-31-10	
Aroclor 1248	**ND**	0.20	EPA 8082	8-31-10	8-31-10	
Aroclor 1254	**ND**	0.20	EPA 8082	8-31-10	8-31-10	
Aroclor 1260	**ND**	0.20	EPA 8082	8-31-10	8-31-10	
Surrogate:	***Percent Recovery***	***Control Limits***				
DCB	***85***	***33-120***				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-186-40										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**6.55**	**6.33**	4.96	4.98	2.00	**92**	**87**	25-130	5	8	
Surrogate:											
DCB						***89***	***84***	***33-120***			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page _____ of _____

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

Company: GeoEngineers
Project Number: 0186-831-03-T10
Project Name: PSE-Bothell (189)
Project Manager: Paul Craig
Sampled by: Paul Craig

Turnaround Request (in working days)

(Check One)

- [x] Same Day
- [ ] 1 Day
- [ ] 2 Day
- [ ] 3 Day
- [ ] Standard (7 working days)

(TPH analysis 5 working days)

- [x] 2-hr TAT (other)

Laboratory Number: 08-249

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	67E 16114	8/31/10	1730	OIL	1								X						

	Signature	Company	Date	Time
Relinquished by		GeoEngineers	8/31/10	1810
Received by		ODE	8/31/10	1810
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:
Call Paul Craig @ 206 793-4589 w/ Verbals

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

September 16, 2010

Paul Craig
GeoEngineers Inc.
8410 154th Avenue NE
Redmond, WA 98052

Dear Mr. Craig:

Please find enclosed the analytical data report for the PSE – Glen Grove Project located in Bellingham, Washington. Soil samples were analyzed for PCB (Polychlorinated Biphenyls) by EPA Method 8082, Diesel & Oil by NWTPH-Dx/Dx Extended and Mineral Oil by NWTPH-Dx/Dx Extended on September 2 & 6, 2010.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

Analyses of PCB (Polychlorinated Biphenyls) in Wipes by EPA Method 8082

Sample Description	PQL	Method Blank	LCS	W-105A	W-105B	W-105C	W-105D
Date Extracted		N/A	N/A	9/3/10	9/3/10	9/3/10	9/3/10
Date Analyzed		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)
Aroclor 1016	1.0	nd	118%	nd	nd	nd	nd
Aroclor 1221	1.0	nd		nd	nd	nd	nd
Aroclor 1232	1.0	nd		nd	nd	nd	nd
Aroclor 1242	1.0	nd		nd	nd	nd	nd
Aroclor 1248	1.0	nd		nd	nd	nd	nd
Aroclor 1254	0.5	nd		nd	nd	nd	5.2
Aroclor 1260	0.5	nd	119%	nd	nd	nd	nd
Surrogate Recovery							
TCMX		101	79	85	77	82	117
DCBP		98	88	94	76	99	98

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

Analyses of PCB (Polychlorinated Biphenyls) in Wipes by EPA Method 8082

Sample Description	PQL	W-106A	W-106B	W-106C	W-106D	W-107A	W-107B
Date Extracted		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
Date Analyzed		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)
Aroclor 1016	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1221	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1232	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1242	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1248	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1254	0.5	nd	nd	nd	nd	nd	nd
Aroclor 1260	0.5	nd	nd	nd	nd	nd	nd
Surrogate Recovery							
TCMX		95	99	89	78	92	87
DCBP		97	109	111	89	73	102

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

Analyses of PCB (Polychlorinated Biphenyls) in Wipes by EPA Method 8082

Sample Description	PQL	W-107C	W-107D	W-108A	W-108B	W-108C	W-108D
Date Extracted		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
Date Analyzed		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)
Aroclor 1016	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1221	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1232	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1242	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1248	1.0	nd	nd	nd	nd	nd	nd
Aroclor 1254	0.5	nd	nd	nd	nd	nd	nd
Aroclor 1260	0.5	nd	nd	nd	nd	nd	nd
Surrogate Recovery							
TCMX		115	101	114	132	89	129
DCBP		79	78	130	82	108	95

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		Method Blank	LCS	EX-1-0.25	EX-2-0.25	EX-3-0.25	EX-3-0.25 Dup
Date Sampled		N/A	N/A	9/2/10	9/2/10	9/2/10	9/2/10
Date Analyzed		9/2/10	9/2/10	9/2/10	9/2/10	9/2/10	9/2/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	98%	nd	nd	nd	nd
PCB-1221	0.20	nd		nd	nd	nd	nd
PCB-1232	0.20	nd		nd	nd	nd	nd
PCB-1242	0.10	nd		nd	nd	nd	nd
PCB-1248	0.10	nd		nd	nd	nd	nd
PCB-1254	0.10	nd		nd	nd	nd	nd
PCB-1260	0.10	nd	114%	nd	nd	nd	nd
Total	0.10	nd		nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		97	70	73	82	118	89
Surrogate Recovery (DCBP) (%)		76	66	96	83	128	int

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		T-1-1.0	T-2-1.0	T-3-1.0	EX-4-0.5	EX-5-0.5	EX-6-0.5
Date Sampled		9/2/10	9/2/10	9/2/10	9/2/10	9/2/10	9/2/10
Date Analyzed		9/2/10	9/2/10	9/2/10	9/2/10	9/2/10	9/2/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	nd
PCB-1221	0.20	nd	nd	nd	nd	nd	nd
PCB-1232	0.20	nd	nd	nd	nd	nd	nd
PCB-1242	0.10	nd	nd	nd	nd	nd	nd
PCB-1248	0.10	nd	nd	nd	nd	nd	nd
PCB-1254	0.10	5.53	0.23	nd	3.87	nd	nd
PCB-1260	0.10	nd	nd	nd	nd	nd	nd
Total	0.10	5.53	0.23	nd	3.87	nd	nd
Surrogate Recovery (TCMX) (%)		120	99	68	97	105	99
Surrogate Recovery (DCBP) (%)		111	103	86	121	135	118

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-7-0.5	EX-8-0.5	EX-9-0.5	EX-10-0.5	EX-11-0.5	EX-12-0.5
Date Sampled		9/2/10	9/2/10	9/2/10	9/2/10	9/2/10	9/2/10
Date Analyzed		9/2/10	9/2/10	9/2/10	9/2/10	9/2/10	9/2/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	nd
PCB-1221	0.20	nd	nd	nd	nd	nd	nd
PCB-1232	0.20	nd	nd	nd	nd	nd	nd
PCB-1242	0.10	nd	nd	nd	nd	nd	nd
PCB-1248	0.10	nd	nd	nd	nd	nd	nd
PCB-1254	0.10	nd	0.24	nd	nd	nd	nd
PCB-1260	0.10	nd	nd	nd	nd	nd	nd
Total	0.10	nd	0.24	nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		91	97	94	92	86	102
Surrogate Recovery (DCBP) (%)		128	124	121	134	108	121

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-7-0.5 MS
Date Sampled		9/2/10
Date Analyzed		9/2/10
	PQL (mg/kg)	(mg/kg)
PCB-1016	0.20	90%
PCB-1221	0.20	
PCB-1232	0.20	
PCB-1242	0.10	
PCB-1248	0.10	
PCB-1254	0.10	
PCB-1260	0.10	114%
Total	0.10	
Surrogate Recovery (TCMX) (%)		75
Surrogate Recovery (DCBP) (%)		65

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		Method Blank	LCS	EX-13-0.5	EX-14-0.5	EX-15-0.5	EX-16-0.5
Date Sampled		N/A	N/A	9/2/10	9/2/10	9/2/10	9/2/10
Date Analyzed		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	98%	nd	nd	nd	nd
PCB-1221	0.20	nd		nd	nd	nd	nd
PCB-1232	0.20	nd		nd	nd	nd	nd
PCB-1242	0.10	nd		nd	nd	nd	nd
PCB-1248	0.10	nd		nd	nd	nd	nd
PCB-1254	0.10	nd		nd	nd	nd	nd
PCB-1260	0.10	nd	114%	nd	nd	nd	nd
Total	0.10	nd		nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		113	76	83	92	106	81
Surrogate Recovery (DCBP) (%)		92	87	127	87	125	112

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-17-0.5	EX-18-0.5	EX-19-0.5	EX-20-0.5	EX-21-0.5	EX-21-0.5 Dup
Date Sampled		9/2/10	9/2/10	9/2/10	9/2/10	9/2/10	9/2/10
Date Analyzed		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	nd
PCB-1221	0.20	nd	nd	nd	nd	nd	nd
PCB-1232	0.20	nd	nd	nd	nd	nd	nd
PCB-1242	0.10	nd	nd	nd	nd	nd	nd
PCB-1248	0.10	nd	nd	nd	nd	nd	nd
PCB-1254	0.10	nd	nd	nd	nd	nd	nd
PCB-1260	0.10	nd	nd	nd	nd	nd	nd
Total	0.10	nd	nd	nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		99	87	131	104	96	85
Surrogate Recovery (DCBP) (%)		132	95	124	99	127	111

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-21-0.5 MS	EX-22-0.25	EX-23-0.25	EX-24-0.25	EX-24-0.25 Dup	EX-22-0.25 MS
Date Sampled		9/2/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
Date Analyzed		9/3/10	9/3/10	9/3/10	9/3/10	9/3/10	9/3/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	99%	nd	nd	nd	nd	91%
PCB-1221	0.20		nd	nd	nd	nd	
PCB-1232	0.20		nd	nd	nd	nd	
PCB-1242	0.10		nd	nd	nd	nd	
PCB-1248	0.10		nd	nd	nd	nd	
PCB-1254	0.10		nd	nd	nd	nd	
PCB-1260	0.10	115%	nd	nd	nd	nd	128%
Total	0.10		nd	nd	nd	nd	
Surrogate Recovery (TCMX) (%)		68	116	128	100	91	65
Surrogate Recovery (DCBP) (%)		81	131	129	98	85	92

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Oil (mg/kg)
Method Blank	9/6/2010	103	nd	nd	nd
T-1-1.0	9/6/2010	int	nd	9200	nd
T-1-1.0 Dup	9/6/2010	int	nd	11100	nd
Practical Quantitation Limit			25	40	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Athanasius Shaw

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100902-30

Analyses of Mineral Spirits (NWTPH-Gx) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Mineral Spirits (mg/kg)
Method Blank	9/6/10	108	nd
T-1-1.0	9/6/10	int	1890
T-1-1.0 Dup	9/6/10	int	1530
Practical Quantitation Limit			10

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Trifluorotoluene): 65% TO 135%

ANALYSES PERFORMED BY: Athanasius Shaw

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-2-10 Page: 1 of 2

Client: GeoEngineers, Inc Project Manager: P Craig

Address: Project Name: PSE

Phone: Fax: Location: Bothell, Washington

Client Project # 0186-853-00 Collector: Paul Craig Date of Collection: 9-2-10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1 ~~X~~ S-1-0.25		1010	S	4oz Jar									X					1
2 ~~X~~ S-2-0.25		1015	S										X					1
3 ~~X~~ S-3-0.25		1020	S										X					1
4 T-1-1.0		1345	S										X					1
5 T-2-1.0		1347	S										X					1
6 T-3-1.0		1350	S									X	X					1
7 EX-4-0.5		1435	S										X					1
8 EX-5-0.5		1440	S										X					1
9 EX-6-0.5		1447	S										X					1
10 EX-7-0.5		1445	S										X					1
11 EX-8-0.5		1452	S										X					1
12 EX-9-0.5		1450	S										X					1
13 EX-10-0.5		1507	S										X					1
14 EX-11-0.5		1510	S										X					1
15 EX-12-0.5		1513	S										X					1
16 EX-13-0.5		1515	S										X					1
17 EX-14-0.5		1545	S										X					1
18 EX-15-0.5		1548	S										X					1

Relinquished by:	Date / Time	Received by	Date / Time
Clare Breen	9/3/10 1350	[signature]	9-2-10
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-2-10 Page: 2 of 2

Client: Geo Engineers, Inc

Project Manager: P Craig

Address:

Project Name: Glen Grove

Phone: Fax:

Location: Bothell, Washington

Client Project # 01860-853-00

Collector: P Craig Date of Collection: 9-2-10

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1	EX-16-0.5		1550	S	4oz									X					1
2	EX-17-0.5		1553	S										X					1
3	EX-18-0.5		1555	S										X					1
4	EX-19-0.5		1600	S										X					1
5	EX-20-0.5		1603	S										X					1
6	EX-21-0.5		1605	S										X					1
7											X								
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			

Relinquished by:	Date / Time	Received by	Date / Time
Clair Reeson	9/3/10 1350	[signature]	9-2-10
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-3-10 Page: 1 of 2

Client: GEI

Project Manager: P Craig

Address:

Project Name: PSE - Glen Grove

Phone: Fax:

Location: Bothell, Washington

Client Project #

Collector: Chris Date of Collection: 9-3-10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
EX/-																		
EX/-																		
EX/-																		
1 W-105A		1332	Wipe	40z Jar									X					1 100 cm²
2 W-105B		1333											X					1
3 W-105C		1334											X					1
4 W-105D		1335											X					1
5 W-106A		1340											X					1
6 W-106B		1341											X					1
7 W-106C		1342											X					1
8 W-106D		1343											X					1
9 W-107A		1345											X					1
10 W-107B		1346											X					1
11 W-107C		1347											X					1
12 W-107D		1348											X					1
13 W-108A		1350											X					1
14 W-108B		1351											X					1
15 W-108C		1357											X					1
16 W-108D		1353	↓	↓									X					1
EX/- 17 S-23-0.25		1401	S	4oz									X					
EX/- 18 S-24-0.25		1359	S	↓									X					

Relinquished by:	Date / Time	Received by	Date / Time
[signature]	9/3/10 1350	[signature]	9-3-10 1350
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-3-10 Page: 2 of 2

Client: LEI

Project Manager: P Craig

Address:

Project Name: PSE - Glen Grove

Phone: Fax:

Location: Bothell, WA

Client Project # 0186-853-00

Collector: Date of Collection: 9-3-10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
EX/ EX/ EX/																		
EX/ SS-27-0.25		1403	S	1x4oz									X					1
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17 EX/																		
18 EX/																		

Relinquished by:	Date / Time	Received by	Date / Time
[illegible]	9/3/10 1350	[illegible]	9 3 1635
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

September 20, 2010

Paul Craig
GeoEngineers Inc.
8410 154th Avenue NE
Redmond, WA 98052

Dear Mr. Craig:

Please find enclosed the analytical data report for the Glen Grove Project located in Centralia, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended and PCB (Polychlorinated Biphenyls) by EPA Method 8082 on September 17, 18 & 19, 2010.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		Method Blank	LCS	EX-101-0.25	X-102-0.25	X-102-0.25 Dup	EX-103-1.0
Date Sampled		N/A	N/A	9/17/10	9/17/10	9/17/10	9/17/10
Date Analyzed		9/17/10	9/17/10	9/17/10	9/17/10	9/17/10	9/17/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	97%	nd	nd	nd	nd
PCB-1221	0.20	nd		nd	nd	nd	nd
PCB-1232	0.20	nd		nd	nd	nd	nd
PCB-1242	0.10	nd		nd	nd	nd	nd
PCB-1248	0.10	nd		nd	nd	nd	nd
PCB-1254	0.10	nd		nd	nd	nd	nd
PCB-1260	0.10	nd	84%	nd	nd	nd	nd
Total	0.10	nd		nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		71	113	113	97	112	68
Surrogate Recovery (DCBP) (%)		89	91	127	97	101	105

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-103-1.0 MS	EX-104-1.0	EX-105-0.5	EX-106-0.5	EX-107-0.5	EX-108-0.5
Date Sampled		9/17/10	9/17/10	9/17/10	9/17/10	9/17/10	9/17/10
Date Analyzed		9/17/10	9/17/10	9/17/10	9/17/10	9/17/10	9/17/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	94%	nd	nd	nd	nd	nd
PCB-1221	0.20		nd	nd	nd	nd	nd
PCB-1232	0.20		nd	nd	nd	nd	nd
PCB-1242	0.10		nd	nd	nd	nd	nd
PCB-1248	0.10		nd	nd	nd	nd	nd
PCB-1254	0.10		nd	nd	nd	nd	nd
PCB-1260	0.10	99%	nd	nd	nd	nd	nd
Total	0.10		nd	nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		113	105	74	115	75	74
Surrogate Recovery (DCBP) (%)		91	135	69	int	69	112

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-109-0.2	Method Blank	LCS	EX-110-0.5	EX-111-0.5	EX-112-0.5
Date Sampled		9/17/10	N/A	N/A	9/18/10	9/18/10	9/18/10
Date Analyzed		9/17/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	104%	nd	nd	nd
PCB-1221	0.20	nd	nd		nd	nd	nd
PCB-1232	0.20	nd	nd		nd	nd	nd
PCB-1242	0.10	nd	nd		nd	nd	nd
PCB-1248	0.10	nd	nd		nd	nd	nd
PCB-1254	0.10	2.20	nd		nd	nd	nd
PCB-1260	0.10	nd	nd	88%	nd	nd	nd
Total	0.10	2.20	nd		nd	nd	nd
Surrogate Recovery (TCMX) (%)		126	72	134	71	92	109
Surrogate Recovery (DCBP) (%)		118	89	69	94	88	133

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-112-0.5 DUP	EX-113-0.5	EX-114-0.5	EX-115-0.5	EX-116-0.5	EX-116-0.5 MS
Date Sampled		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
Date Analyzed		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	103%
PCB-1221	0.20	nd	nd	nd	nd	nd	
PCB-1232	0.20	nd	nd	nd	nd	nd	
PCB-1242	0.10	nd	nd	nd	nd	nd	
PCB-1248	0.10	nd	nd	nd	nd	nd	
PCB-1254	0.10	nd	nd	nd	nd	nd	
PCB-1260	0.10	nd	nd	nd	nd	nd	111%
Total	0.10	nd	nd	nd	nd	nd	
Surrogate Recovery (TCMX) (%)		116	68	73	67	72	123
Surrogate Recovery (DCBP) (%)		113	108	80	111	72	79

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-117-0.5	EX-118-0.5	EX-119-0.5	EX-119-0.5 Dup	EX-120-0.5	EX-121-0.5
Date Sampled		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
Date Analyzed		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	nd
PCB-1221	0.20	nd	nd	nd	nd	nd	nd
PCB-1232	0.20	nd	nd	nd	nd	nd	nd
PCB-1242	0.10	nd	nd	nd	nd	nd	nd
PCB-1248	0.10	nd	nd	nd	nd	nd	nd
PCB-1254	0.10	nd	nd	nd	nd	nd	nd
PCB-1260	0.10	nd	nd	nd	nd	nd	nd
Total	0.10	nd	nd	nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		112	83	98	75	97	77
Surrogate Recovery (DCBP) (%)		int	76	126	66	128	93

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-122-0.5	EX-123-0.5	EX-124-0.0	EX-125-0.0	EX-126-1.0	EX-126-1.0 Dup
Date Sampled		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
Date Analyzed		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	nd
PCB-1221	0.20	nd	nd	nd	nd	nd	nd
PCB-1232	0.20	nd	nd	nd	nd	nd	nd
PCB-1242	0.10	nd	nd	nd	nd	nd	nd
PCB-1248	0.10	nd	nd	nd	nd	nd	nd
PCB-1254	0.10	nd	nd	nd	nd	nd	nd
PCB-1260	0.10	nd	nd	nd	nd	nd	nd
Total	0.10	nd	nd	nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		80	79	121	113	87	104
Surrogate Recovery (DCBP) (%)		125	94	133	125	85	131

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-127-1.0	EX-128-0.5	Method Blank	LCS	EX-129-0.5	EX-130-0.5
Date Sampled		9/18/10	9/18/10	N/A	N/A	9/18/10	9/18/10
Date Analyzed		9/18/10	9/18/10	9/19/10	9/19/10	9/19/10	9/19/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	124%	nd	nd
PCB-1221	0.20	nd	nd	nd		nd	nd
PCB-1232	0.20	nd	nd	nd		nd	nd
PCB-1242	0.10	nd	nd	nd		nd	nd
PCB-1248	0.10	nd	nd	nd		nd	nd
PCB-1254	0.10	nd	nd	nd		nd	nd
PCB-1260	0.10	nd	nd	nd	112%	nd	nd
Total	0.10	nd	nd	nd		nd	nd
Surrogate Recovery (TCMX) (%)		98	84	79	79	103	73
Surrogate Recovery (DCBP) (%)		119	125	88	100	133	78

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-131-0.5	EX-132-1.0	EX-133-1.5	EX-134-1.0	EX-135-1.0	EX-135-1.0 MS
Date Sampled		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
Date Analyzed		9/19/10	9/19/10	9/19/10	9/19/10	9/19/10	9/19/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	118%
PCB-1221	0.20	nd	nd	nd	nd	nd	
PCB-1232	0.20	nd	nd	nd	nd	nd	
PCB-1242	0.10	nd	nd	nd	nd	nd	
PCB-1248	0.10	nd	nd	nd	nd	nd	
PCB-1254	0.10	nd	nd	nd	nd	nd	
PCB-1260	0.10	nd	nd	nd	nd	nd	113%
Total	0.10	nd	nd	nd	nd	nd	
Surrogate Recovery (TCMX) (%)		82	79	75	108	90	86
Surrogate Recovery (DCBP) (%)		122	66	123	107	117	int

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-136-1.0 Dup	EX-136-1.0 Dup	EX-137-0.25	EX-138-1.0	EX-139-0.5	EX-140-0.5
Date Sampled		9/18/10	9/18/10	9/18/10	9/18/10	9/18/10	9/18/10
Date Analyzed		9/19/10	9/19/10	9/18/10	9/19/10	9/19/10	9/19/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	nd	nd
PCB-1221	0.20	nd	nd	nd	nd	nd	nd
PCB-1232	0.20	nd	nd	nd	nd	nd	nd
PCB-1242	0.10	nd	nd	nd	nd	nd	nd
PCB-1248	0.10	nd	nd	nd	nd	nd	nd
PCB-1254	0.10	nd	nd	nd	nd	nd	8.10
PCB-1260	0.10	nd	nd	nd	nd	nd	nd
Total	0.10	nd	nd	nd	nd	nd	8.10
Surrogate Recovery (TCMX) (%)		88	76	100	76	80	DIL
Surrogate Recovery (DCBP) (%)		92	108	99	77	110	DIL

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Oil (mg/kg)
Method Blank	9/18/2010	75	nd	nd	nd
Method Blank	9/19/2010	117	nd	nd	nd
EX-103-1.0	9/18/2010	68	nd	nd	nd
EX-104-1.0	9/18/2010	116	nd	nd	nd
EX-106-0.5	9/18/2010	71	nd	nd	nd
EX-108-0.5	9/18/2010	70	nd	nd	nd
EX-114-0.5	9/18/2010	70	nd	nd	nd
EX-116-0.5	9/18/2010	65	nd	nd	nd
EX-117-0.5	9/18/2010	70	nd	nd	nd
EX-118-0.5	9/18/2010	74	nd	nd	nd
EX-119-0.5	9/18/2010	124	nd	nd	nd
EX-119-0.5 Dup	9/18/2010	117	nd	nd	nd
EX-120-0.5	9/18/2010	121	nd	126	nd
EX-121-0.5	9/18/2010	124	nd	123	nd
EX-122-0.5	9/18/2010	96	nd	nd	nd
EX-123-0.5	9/18/2010	130	nd	nd	nd
EX-124-0.0	9/19/2010	123	nd	nd	nd
EX-125-0.0	9/19/2010	86	nd	nd	nd
EX-126-1.0	9/19/2010	109	nd	nd	nd
EX-127-1.0	9/19/2010	88	nd	nd	nd
EX-128-1.0	9/19/2010	87	nd	nd	nd
EX-132-1.0	9/19/2010	105	nd	nd	nd
EX-132-1.0 Dup	9/19/2010	83	nd	nd	nd
EX-137-0.25	9/19/2010	77	nd	nd	nd
Practical Quantitation Limit			25	40	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100917-30

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: GEI

Address:

Phone: Fax:

Client Project #

Date: 9/17/10 Page: 1 of 1

Project Manager: Paul Craig

Project Name: Glen grove Apts

Location:

Collector: Chris Brown Date of Collection: 9/17/10

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1	Ex-101-0.25	0.25	1115	S	1									X					
2	Ex-102-0.25	0.25	1117	S	1									X					
3	Ex-103-1.0	1.0	1200	S	1							X		X					
4	Ex-104-1.0	1.0	1455	S	1							X		X					
5	Ex-105-0.5	0.5	1457	S	1									X					
6	Ex-106-0.5	0.5	1555	S	1							X		X					
7	Ex-107-0.5	0.5	1600	S	1									X					
8	Ex-108-0.5	0.5	1605	S	1							X		X					
9	Ex-109-0.5	0.5	1607	S	1									X					
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			

Relinquished by:	Date / Time	Received by	Date / Time
Chris Brown	9/17/10 1650	[illegible]	9-17-10 1650
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: GEI
Address:
Phone: Fax:
Client Project #

Date: 9-18-10 Page: 1 of 2
Project Manager: Paul Craig
Project Name: Glen Grove Apts
Location: Bothell, WA
Collector: Chris Brown Date of Collection: 9-18-10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1 Ex-110-0.5	0.5	1050	S	1									X					
2 Ex-111-0.5	0.5	1055	S	1									X					
3 Ex-112-0.5	0.5	1100	S	1									X					
4 Ex-113-0.5	0.5	1145	S	1									X					
5 Ex-114-0.5	0.5	1150	S	1								X	X					
6 Ex-115-0.5	0.5	1155	S	1								X	X					
7 Ex-116-0.5	0.5	1200	S	1								X	X					
8 Ex-117-0.5	0.5	1400	S	1								X	X					
9 Ex-118-0.5	0.5	1405	S	1								X	X					
10 Ex-119-0.5	0.5	1410	S	1								X	X					
11 EX-120-0.5	0.5	1655	S	1								X	X					
12 EX-121-0.5	0.5	1700	S	1								X	X					
13 EX-22-0.5	0.5	1702	S	1								X	X					
14 EX-23-0.5	0.5	1708	S	1								X	X					
15 EX-24-0.0	0.0	1712	S	1								X	X					
16 EX-25-0.0	0.0	1714	S	1								X	X					
17 EX-26-1.0	1.0	1718	S	1								X	X					
18 Ex-127-1.0	1.0	1727	S	1								X	X					

Relinquished by:	Date / Time	Received by	Date / Time
Chris Brown	9/18/10 1915	Shyn Unt	9-18-10 1915
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/18/10 Page: 2 of 2

Client: GEI

Project Manager: Paul Craig

Address:

Project Name: Glen Grove Apts

Phone: Fax:

Location: Bothell, WA

Client Project #

Collector: Chris Brown Date of Collection: 9/18/10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1 Ex-128-0.5	0.5	1729	S	1							X		X					
2 Ex-129-0.5	0.5	1731	S	1									X					
3 Ex-130-0.5	0.5	1732	S	1									X					
4 Ex-131-0.5	0.5	1734	S	1									X					
5 Ex-132-1.0	1.0	1736	S	1							X		X					
6 Ex-133-1.5	1.5	1739	S	1									X					
7 Ex-134-1.0	1.0	1808	S	1									X					
8 Ex-135-1.0	1.0	1810	S	1									X					
9 Ex-136-1.0	1.0	1816	S	1									X					
10 Ex-137-0.5	0.5	1833	S	1							X		X					
11 Ex-138-1.0	1.0	1835	S	1									X					
12 Ex-139-0.5	0.5	1838	S	1									X					
13 Ex-140-0.5	0.5	1840	S	1									X					
14																		
15																		
16				Chris Brown														
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
Chris Brown	9/18/10 1915	JJM / LHA	9-18-10 1915
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

September 27, 2010

Paul Craig
GeoEngineers Inc.
8410 154th Avenue NE
Redmond, WA 98052

Dear Mr. Craig:

Please find enclosed the analytical data report for the Glen Grove Project located in Centralia, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended and PCB (Polychlorinated Biphenyls) by EPA Method 8082 on September 21 & 22 , 2010.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

Analyses of PCB (Polychlorinated Biphenyls) in Wipes by EPA Method 8081

Sample Description	PQL	Method Blank	LCS	W-1 [092110]	W-2 [092110]	W-3 [092110]	W-4 [092110]
Date Extracted		N/A	N/A	9/21/10	9/21/10	9/21/10	9/21/10
Date Analyzed		9/21/10	9/21/10	9/21/10	9/21/10	9/21/10	9/21/10
	(ug/100cm2	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)	(ug/100cm2)
		nd	99%				
Aroclor 1016	1.0	nd		nd	nd	nd	nd
Aroclor 1221	1.0	nd		nd	nd	nd	nd
Aroclor 1232	1.0	nd		nd	nd	nd	nd
Aroclor 1242	1.0	nd		nd	nd	nd	nd
Aroclor 1248	1.0	nd		nd	nd	nd	nd
Aroclor 1254	0.5	nd	102%	7.12	827	nd	1.7
Aroclor 1260	0.5			nd	nd	nd	nd
Surrogate Recovery							
TCMX		72	130	int	DIL	68	117
DCBP		123	67	88	DIL	int	133

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

Analyses of PCB (Polychlorinated Biphenyls) in Wipes by EPA Method 8081

Sample Description	PQL	W-5 [092110]	W-5 [092110] Dup
Date Extracted		9/21/10	9/21/10
Date Analyzed		9/21/10	9/21/10
	(ug/100cm2	(ug/100cm2)	(ug/100cm2)
Aroclor 1016	1.0	nd	nd
Aroclor 1221	1.0	nd	nd
Aroclor 1232	1.0	nd	nd
Aroclor 1242	1.0	nd	nd
Aroclor 1248	1.0	nd	nd
Aroclor 1254	0.5	nd	nd
Aroclor 1260	0.5	nd	nd
Surrogate Recovery			
TCMX		118	98
DCBP		71	115

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		Method Blank	LCS	EX-140-1-2.0	EX-141-2.0	EX-141-2.0 Dup	EX-142-1.0
Date Sampled		N/A	N/A	9/21/10	9/21/10	9/21/10	9/21/10
Date Analyzed		9/21/10	9/21/10	9/21/10	9/21/10	9/21/10	9/21/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	99%	nd	nd	nd	nd
PCB-1221	0.20	nd		nd	nd	nd	nd
PCB-1232	0.20	nd		nd	nd	nd	nd
PCB-1242	0.10	nd		nd	nd	nd	nd
PCB-1248	0.10	nd		nd	nd	nd	nd
PCB-1254	0.10	nd		nd	nd	nd	nd
PCB-1260	0.10	nd	102%	nd	nd	nd	nd
Total	0.10	nd		nd	nd	nd	nd
Surrogate Recovery (TCMX) (%)		72	130	113	92	67	75
Surrogate Recovery (DCBP) (%)		123	67	103	130	88	109

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-143-1.0	EX-144-1.0	EX-145-2.0	EX-146-1.0	EX-146-1.0 MS	EX-147-2.0
Date Sampled		9/21/10	9/21/10	9/21/10	9/21/10	9/21/10	9/21/10
Date Analyzed		9/21/10	9/21/10	9/21/10	9/21/10	9/21/10	9/21/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	nd	nd	109%	nd
PCB-1221	0.20	nd	nd	nd	nd		nd
PCB-1232	0.20	nd	nd	nd	nd		nd
PCB-1242	0.10	nd	nd	nd	nd		nd
PCB-1248	0.10	nd	nd	nd	nd		nd
PCB-1254	0.10	nd	nd	0.56	nd		16.5
PCB-1260	0.10	nd	nd	nd	nd	126%	nd
Total	0.10	0.00	0.00	0.56	nd		16.5
Surrogate Recovery (TCMX) (%)		107	90	75	68	74	74
Surrogate Recovery (DCBP) (%)		92	97	106	67	72	100

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		Method Blank	LCS	EX-147-1-2.25	EX-148-2.0	EX-149-1.0	EX-150-2.25
Date Sampled		N/A	N/A	9/22/10	9/22/10	9/22/10	9/22/10
Date Analyzed		9/22/10	9/22/10	9/22/10	9/22/10	9/22/10	9/22/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	128%	nd	nd	nd	nd
PCB-1221	0.20	nd		nd	nd	nd	nd
PCB-1232	0.20	nd		nd	nd	nd	nd
PCB-1242	0.10	nd		nd	nd	nd	nd
PCB-1248	0.10	nd		nd	nd	nd	nd
PCB-1254	0.10	nd		10.7	nd	nd	0.61
PCB-1260	0.10	nd	129%	nd	nd	nd	nd
Total	0.10	nd		10.7	nd	nd	0.61
Surrogate Recovery (TCMX) (%)		83	93	92	96	110	90
Surrogate Recovery (DCBP) (%)		114	107	115	78	132	126

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

PCB Analyses of Soil (EPA Method 8082)

Sample Description		EX-151-1.0	EX-151-1.0 Dup	EX-151-1.0 MS	EX-147-2-3.0	EX-152-0.50	EX-153-1.0
Date Sampled		9/22/10	9/22/10	9/2/10	9/22/10	9/22/10	9/22/10
Date Analyzed		9/22/10	9/22/10	9/2/10	9/22/10	9/22/10	9/22/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	nd	100%	nd	nd	nd
PCB-1221	0.20	nd	nd		nd	nd	nd
PCB-1232	0.20	nd	nd		nd	nd	nd
PCB-1242	0.10	nd	nd		nd	nd	nd
PCB-1248	0.10	nd	nd		nd	nd	nd
PCB-1254	0.10	nd	nd		nd	16.4	nd
PCB-1260	0.10	nd	nd	122%	nd	nd	nd
Total	0.10	nd	nd		nd	16.4	nd
Surrogate Recovery (TCMX) (%)		85	89	126	102	DIL	115
Surrogate Recovery (DCBP) (%)		87	107	int	int	DIL	int

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Oil (mg/kg)
Method Blank	9/21/2010	119	nd	nd	nd
EX-142-1.0	9/21/2010	130	nd	200	nd
EX-145-2.0	9/21/2010	114	nd	117	nd
EX-145-2.0 Dup	9/21/2010	119	nd	195	nd
Practical Quantitation Limit			25	40	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100921-30

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Oil (mg/kg)
Method Blank	9/22/2010	92	nd	nd	nd
EX-152-0.50	9/22/2010	int	nd	6950	nd
EX-153-1.0	9/22/2010	91	nd	nd	nd
Practical Quantitation Limit			25	40	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: GEI
Address:
Phone: Fax:
Client Project #

Date: 9-21-10
Page: 1 of 1
Project Manager: Paul Craig
Project Name: Glen Grove
Location: Bothell, Washington
Collector: Chris Brown
Date of Collection: 9-21-10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1 W-1-L092110]		1245	W.Pe	40z Jar									X					1 10am Tw.pe
2 W-2-L092110]		1250	W.Pe	"									X					1 10am Tw.pe
3 W-3-L092110]		1315	W.Pe	"									X					1 "
4 W-4-L092110]		1325	W.Pe	"									X					1 "
5 W-5-L092110]		1355	W.Pe	"									X					1 "
6 EX-140-1-2.0		1430	S	40z Jar									X					1
7 EX-141-2.0		1435	S	"						X			X					1
8 EX-142-1.0		1438	S	"						X			X					1
9 EX-143-2.0		1445	S	"									X					1
10 EX-144-1.0		1521	S	"									X					1
11 EX-145-2.0		1530	S	"						X			X					1
12 EX-146-1.0		1535	S	"									X					1
13 EX-147-2.0			S	"									X					1
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
[signature]	9/21/10 1600	[signature]	9-21-10 1600
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-22-10 Page: 1 of 1

Client: GEI

Project Manager: Paul Craig

Address:

Project Name: Ex. Grove

Phone: Fax:

Location: Bothell, Washington

Client Project #

Collector: Chris Brown Date of Collection: 9-22-10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals				Field Note/# Containers
1 Ex-147-1-2.25		1025	S	1									X						
2 Ex-148-2.0		1020	S	1									X						
3 Ex-149-1.0		1032	S	1									X						
4 Ex-150-2.25		1030	S	1									X						
5 Ex-151-1.0		1035	S	1									X						
6 EX-147-2-3.0		1310	S	1									X						
7 ~~Ex-152-0.25~~		~~1500~~	~~S~~	~~1~~								X	X						
8 EX-152-0.5		1630	S	1								X	X						
9 EX-153-1.0		1637	S	1								X	X						
10																			
11																			
12																			
13	3.0																		
14																			
15																			
16																			
17																			
18																			

Relinquished by:	Date / Time	Received by	Date / Time
Chris Brown	9/22/10 1645	UPS 2 UPS	9-22-10 1645
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

September 27, 2010

Paul Craig
GeoEngineers Inc.
8410 154th Avenue NE
Redmond, WA 98052

Dear Mr. Craig:

Please find enclosed the analytical data report for the Glen Grove Project located in Centralia, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended and PCB (Polychlorinated Biphenyls) by EPA Method 8082 on September 26, 2010.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.

Libby Project No.L100924-8

PCB Analyses of Soil (EPA Method 8082)

Sample Description		Method Blank	LCS	CR-1-1.5	CR-2-0.5	CR-3-1.0	CR-4-1.0
Date Sampled		N/A	N/A	9/24/10	9/24/10	9/24/10	9/24/10
Date Analyzed		9/26/10	9/26/10	9/26/10	9/26/10	9/26/10	9/26/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	78%	nd	nd	nd	nd
PCB-1221	0.20	nd		nd	nd	nd	nd
PCB-1232	0.20	nd		nd	nd	nd	nd
PCB-1242	0.10	nd		nd	nd	nd	nd
PCB-1248	0.10	nd		nd	nd	nd	nd
PCB-1254	0.10	nd		1.90	nd	nd	nd
PCB-1260	0.10	nd	99%	nd	nd	nd	nd
Total	0.10	nd		1.90	nd	nd	nd
Surrogate Recovery (TCMX) (%)		89	104	87	135	92	100
Surrogate Recovery (DCBP) (%)		125	104	112	134	int	101

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.

Libby Project No.L100924-8

PCB Analyses of Soil (EPA Method 8082)

Sample Description		CB-5-1.0	L100924-11 MS
Date Sampled		9/24/10	9/24/10
Date Analyzed		9/26/10	9/26/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	106%
PCB-1221	0.20	nd	
PCB-1232	0.20	nd	
PCB-1242	0.10	nd	
PCB-1248	0.10	nd	
PCB-1254	0.10	nd	
PCB-1260	0.10	nd	119%
Total	0.10	nd	
Surrogate Recovery (TCMX) (%)		96	int
Surrogate Recovery (DCBP) (%)		135	128

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.

Libby Project No.L100924-8

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Oil (mg/kg)
Method Blank	9/26/2010	110	nd	nd	nd
CR-1-1.5	9/26/2010	101	nd	290	nd
CR-2-0.5	9/26/2010	96	nd	nd	nd
CR-3-1.0	9/26/2010	91	nd	nd	nd
CR-4-1.0	9/26/2010	104	nd	nd	nd
CB-5-1.0	9/26/2010	97	nd	nd	nd
CB-5-1.0 Dup	9/26/2010	102	nd	nd	nd
Practical Quantitation Limit			25	40	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

CHAIN OF CUSTODY RECORD

GEOENGINEERS, INC.
8410 154TH AVENUE N.E.
REDMOND, WASHINGTON 98052
(425) 861-6000

GeoEngineers

DATE 9/24/10
PAGE 1 OF 1
LAB Libby
LAB NO.

PROJECT NAME/LOCATION Glen Grove Apts, Bothell
PROJECT NUMBER
PROJECT MANAGER Paul Craig
SAMPLED BY Chris Brown

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED		NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	PCB	TPH-Dx	(Preserved, filtered, etc.)
	CR-1-1.5	9/24/10	1000	S	1	X	X	
	CR-2-0.5		1030			X	X	
	CR-3-1.0		1227			X	X	
	CR-4-1.0		1229			X	X	
	CB-5-1.0		1232			X	X	

Chris Brown

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE Chris Brown	GEF	SIGNATURE		SIGNATURE	
PRINTED NAME Chris Brown		PRINTED NAME		PRINTED NAME	
DATE 9/24/10 TIME 1500		DATE TIME		DATE TIME	
RECEIVED BY	**FIRM**	**RECEIVED BY**	**FIRM**	**RECEIVED BY**	**FIRM**
SIGNATURE	Libby Env.	SIGNATURE		SIGNATURE	
PRINTED NAME Emily Ackerman		PRINTED NAME		PRINTED NAME	
DATE 9-24-10 TIME 1500		DATE TIME		DATE TIME	

ADDITIONAL COMMENTS: Please quantify to Mineral oil as previously done for this site's samples.

RUSH

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

October 6, 2010

Paul Craig
GeoEngineers Inc.
8410 154th Avenue NE
Redmond, WA 98052

Dear Mr. Craig:

Please find enclosed the analytical data report for the Glen Grove Project located in Centralia, Washington. A soil sample was analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended and PCB (Polychlorinated Biphenyls) by EPA Method 8082 on September 29, 2010.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100929-1

PCB Analyses of Soil (EPA Method 8082)

Sample Description		Method Blank	LCS	CR-1-1-2.0	CR-1-1-2.0 Dup	CR-1-1-2.0 MS
Date Sampled		N/A	N/A	9/27/10	9/27/10	9/24/10
Date Analyzed		9/29/10	9/29/10	9/29/10	9/29/10	9/29/10
	PQL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCB-1016	0.20	nd	106%	nd	nd	105%
PCB-1221	0.20	nd		nd	nd	
PCB-1232	0.20	nd		nd	nd	
PCB-1242	0.10	nd		nd	nd	
PCB-1248	0.10	nd		nd	nd	
PCB-1254	0.10	nd		nd	nd	
PCB-1260	0.10	nd	95%	nd	nd	122%
Total	0.10	nd		nd	nd	
Surrogate Recovery (TCMX) (%)		85	93	66	98	128
Surrogate Recovery (DCBP) (%)		123	102	67	93	132

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX) AND (DCBP): 65% - 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PSE-GLEN GROVE PROJECT
Bothell, Washington
GeoEngineers, Inc.
Libby Project No. L100929-1

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Oil (mg/kg)
Method Blank	9/29/2010	95	nd	nd	nd
CR-1-1-2.0	9/29/2010	100	nd	nd	nd
CR-1-1-2.0 Dup	9/29/2010	102	nd	nd	nd
Practical Quantitation Limit			25	40	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Athanasius Shaw

CHAIN OF CUSTODY RECORD

GEOENGINEERS, INC.
8410 154TH AVENUE N.E.
REDMOND, WASHINGTON 98052
(425) 861-6000

GeoEngineers

263.3028.

DATE 9/29/10
PAGE 1 OF 1
LAB Libby
LAB NO.

PROJECT NAME/LOCATION PSE Bothell GlenGrove
PROJECT NUMBER
PROJECT MANAGER Paul Craig
SAMPLED BY Chris Brown

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED		NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	PCB	NWTPH-Dx DX	(Preserved, filtered, etc.)
	CR-1-1-2.0	9/27/10	1400	S	1	X	X	KUSH

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GET	SIGNATURE		SIGNATURE	
PRINTED NAME	Chris Brown	PRINTED NAME		PRINTED NAME	
DATE 9/29/10	TIME 1200	DATE	TIME	DATE	TIME
RECEIVED BY	**FIRM**	**RECEIVED BY**	**FIRM**	**RECEIVED BY**	**FIRM**
SIGNATURE		SIGNATURE		SIGNATURE	
PRINTED NAME	A Sight D	PRINTED NAME		PRINTED NAME	
DATE 9/29/10	TIME 12:00PM	DATE	TIME	DATE	TIME

ADDITIONAL COMMENTS: Quantify to M.H. Oil.

OnSite Environmental Inc.

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

September 21, 2010

Paul Craig
GeoEngineers, Inc.
8410 154th Avenue NE
Redmond, WA 98052

Re: Analytical Data for Project 0186-853-00
Laboratory Reference No. 1009-155

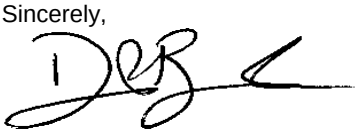
Dear Paul:

Enclosed are the analytical results and associated quality control data for samples submitted on September 16, 2010.

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

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

Sincerely,



David Baumeister
Project Manager

Enclosures

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

Reference Number: 10-14156
Project: 0186-853-00

Project::
Field ID: W-107-(09-16-10)
Sample Description: 0186-853-00
Sampled By: Unknown
Sample Date: 9/16/10
Source Type:
Sampler Phone:

Lab Number: 31401
Report Date: 9/21/10
Date Analyzed: 09/20/10
Date Extracted: 508_100920
Analyst: BCV
Peer Review:
Analytical Method: 508.1
Synthetic Organics

CAS	COMPOUND	RESULTS	UNITS	PQL	MDL	MCL	COMMENT
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L	0.2		0.5	
11104-28-2	AROCLOR 1221	**ND**	ug/L	0.1	0.1^		
11141-16-5	AROCLOR 1232	**ND**	ug/L	0.1	0.1^		
53469-21-9	AROCLOR 1242	**ND**	ug/L	0.1	0.1^		
12672-29-6	AROCLOR 1248	**ND**	ug/L	0.1	0.1^		
11097-69-1	AROCLOR 1254	**ND**	ug/L	0.1	0.1^		
11096-82-5	AROCLOR 1260	**ND**	ug/L	0.1	0.08		
12674-11-2	AROCLOR 1016	**ND**	ug/L	0.1	0.1		
8001-35-2	TOXAPHENE	**ND**	ug/L	1	0.5	3	

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

If you have any questions concerning this report contact at the above phone number.

FORM: SOC_gen.rpt

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 10-14156
Report Date: 09/21/10

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
508_100920	TETRACHLORO-M-XYLENE (SURR)	83		%	508.1		70-130		LFB	
	TOXAPHENE	1.5	2	ug/L	508.1	75	60-140			

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 10-14156
Report Date: 09/21/10

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
508_100920	AROCLOR 1016	ND		ug/L	508.1		0.02000		MB	
	AROCLOR 1221	ND		ug/L	508.1		0.12000			
	AROCLOR 1232	ND		ug/L	508.1		0.02000			
	AROCLOR 1242	ND		ug/L	508.1		0.02000			
	AROCLOR 1248	ND		ug/L	508.1		0.02000			
	AROCLOR 1254	ND		ug/L	508.1		0.02000			
	AROCLOR 1260	ND		ug/L	508.1		0.02000			
	PCBS (Total Aroclors)	ND		ug/L	508.1		0.20000			
	TETRACHLORO-M-XYLENE (SURR)	85		%	508.1		0.00000			
	TOXAPHENE	ND		ug/L	508.1		0.02000			

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

OnSite Environmental Inc.

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

Laboratory Reference #: 09-155

Subcontract Laboratory: EDGE

Contact Person: CINDY O'TOOLE / ERIC MADDEN

Address:

Phone Number: 1 800 755 9295

Date/Time:

Turnaround Request: (1 Day) 2 Day 3 Day Standard

Other:

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 0186-853-00

Project Name:

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analysis
	W-107-[09-16-10]	9/16/10	1515	W	2	PCB 525.2

10-14156
31401

Signature	Company	Date	Time
Relinquished by:	OSE to Ed	9/17/10	1447
Received by:	Speedy	9-17-10	1447
Relinquished by:	Speedy	9-17-10	1610
Received by: HH	EAL	9/17/10	1610
Relinquished by:			
Received by:			

Comments/Special Instructions

EDDs
RUSH
9/21

(W1) 3.4

10-14156

Chain of Custody

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

Company: GeoEngineers Inc
Project Number: 0186-853-00
Project Name: GlenGrove Apts
Project Manager: Paul Craig
Sampled by: Chris Brown

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days)
(TPH analysis 5 Days)
☒ ASAP
(other)

Laboratory Number: 09-155

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	X PCB 525.2	% Moisture
1	W-107-[09-16-10]	9/16/10	1515	W	2																X	

Cloe Beeson

	Signature	Company	Date	Time
Relinquished	Cloe Beeson	GEI	9/16/10	1605
Received			9/16/10	1605
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* Drinking water

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.

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

November 4, 2010

Paul Craig
GeoEngineers, Inc.
8410 154th Avenue NE
Redmond, WA 98052

Re: Analytical Data for Project 0186-853-00; PSE-Glen Grove Apts.
Laboratory Reference No. 1010-260

Dear Paul:

Enclosed are the analytical results and associated quality control data for samples submitted on October 29, 2010.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: November 4, 2010
Samples Submitted: October 29, 2010
Laboratory Reference: 1010-260
Project: 0186-853-00; PSE-Glen Grove Apts.

Case Narrative

Samples were collected on October 29, 2010 and received by the laboratory on October 29, 2010. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

Date of Report: November 4, 2010
Samples Submitted: October 29, 2010
Laboratory Reference: 1010-260
Project: 0186-853-00; PSE-Glen Grove Apts.

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
CB-1	10-260-01	Soil	10-29-10	10-29-10	
CB-2	10-260-02	Soil	10-29-10	10-29-10	

Date of Report: November 4, 2010
Samples Submitted: October 29, 2010
Laboratory Reference: 1010-260
Project: 0186-853-00; PSE-Glen Grove Apts.

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CB-1**					
Laboratory ID:	10-260-01					
Aroclor 1016	**ND**	0.059	EPA 8082	11-3-10	11-3-10	
Aroclor 1221	**ND**	0.059	EPA 8082	11-3-10	11-3-10	
Aroclor 1232	**ND**	0.059	EPA 8082	11-3-10	11-3-10	
Aroclor 1242	**ND**	0.059	EPA 8082	11-3-10	11-3-10	
Aroclor 1248	**ND**	0.059	EPA 8082	11-3-10	11-3-10	
Aroclor 1254	**ND**	0.059	EPA 8082	11-3-10	11-3-10	
Aroclor 1260	**ND**	0.059	EPA 8082	11-3-10	11-3-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*106*	*46-122*				
Client ID:	**CB-2**					
Laboratory ID:	10-260-02					
Aroclor 1016	**ND**	0.065	EPA 8082	11-3-10	11-3-10	
Aroclor 1221	**ND**	0.065	EPA 8082	11-3-10	11-3-10	
Aroclor 1232	**ND**	0.065	EPA 8082	11-3-10	11-3-10	
Aroclor 1242	**ND**	0.065	EPA 8082	11-3-10	11-3-10	
Aroclor 1248	**ND**	0.065	EPA 8082	11-3-10	11-3-10	
Aroclor 1254	**ND**	0.065	EPA 8082	11-3-10	11-3-10	
Aroclor 1260	**ND**	0.065	EPA 8082	11-3-10	11-3-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*109*	*46-122*				

Date of Report: November 4, 2010
Samples Submitted: October 29, 2010
Laboratory Reference: 1010-260
Project: 0186-853-00; PSE-Glen Grove Apts.

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1103S1					
Aroclor 1016	**ND**	0.050	EPA 8082	11-3-10	11-3-10	
Aroclor 1221	**ND**	0.050	EPA 8082	11-3-10	11-3-10	
Aroclor 1232	**ND**	0.050	EPA 8082	11-3-10	11-3-10	
Aroclor 1242	**ND**	0.050	EPA 8082	11-3-10	11-3-10	
Aroclor 1248	**ND**	0.050	EPA 8082	11-3-10	11-3-10	
Aroclor 1254	**ND**	0.050	EPA 8082	11-3-10	11-3-10	
Aroclor 1260	**ND**	0.050	EPA 8082	11-3-10	11-3-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*103*	*46-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-248-04										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.458**	**0.488**	0.500	0.500	ND	**92**	**98**	36-121	6	15	
Surrogate:											
DCB						*90*	*93*	*46-122*			

Date of Report: November 4, 2010
Samples Submitted: October 29, 2010
Laboratory Reference: 1010-260
Project: 0186-853-00; PSE-Glen Grove Apts.

% MOISTURE

Date Analyzed: 11-3-10

Client ID	Lab ID	% Moisture
CB-1	10-260-01	15
CB-2	10-260-02	23

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

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

Company: GeoEngineers
Project Number: 01586-853-00
Project Name: Glen Grove Apts. PSE
Project Manager: Paul Craig
Sampled by: Chris Brown

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 10-260

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	CB-1	10/29/10	1135	S	1									X							X
2	CB-2	10/29/10	1145	S	1									X							↓

	Signature	Company	Date	Time
Relinquished		CET	10/29/10	1225
Received		GE	10/29/10	1225
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

APPENDIX D
Disposal Tickets

Clean Harbors Aragonite LLC
11600 North Aptus Road
Grantsville, UT 84029
435-884-8100

09/29/2010

	UOM	Time In	Time Out
GROSS	**50660 LBS**		
TARE	**35520 LBS**		
NET	**15140 LBS**		

Container # or Fleet #	276408
Load #	51716
Manifest #	002939203FLE
Sales Order #	DI3112539
Profile #	GB94-0085-01BB
Tracking #	22401310

Puget Sound Energy
10295 NE 189th Street
Bothell, WA 98011

CleanHarbors
ENVIRONMENTAL SERVICES®

LOAD SUMMARY RECORD

GM

LOAD DISPOSAL DESTINATION

STABILIZATION	RCRA CELL	TSCA CELL	SPOT STABILIZATION
☐	☒	☒ B6	☐

LOAD TRACKING INFORMATION

PLANT RECEIVED	DROPPED	FINAL CODE	REVIEWED	WEIGHTS	GRIDS	MANIFEST MAILED
		GW	SB	TL	TL	9/29

DATE: 9/29/10	LOAD NO.: 2010006133
GENERATOR: Puget Sound	HAULER: MP
ORDER NO.: DI3098581	DRUM NO.: 22400158
TRUCK NO.: 728	CONTAINER NO. (s)/ RAILCAR NO.: MP5609

CONTAINER TYPE: ED (G) TT FB V OTHER

LOAD COUNT (RAIL ONLY): 1 2 3 4

OPERATOR SIGNATURE	COUNT	DATE

12:20 29.09.10
69740 lb GROSS
0 lb TARE

69740 NET

29.09.10 13:48
~~79740 lb~~ should be 69740
~~60940 lb TR~~ ~~60940~~
18800 lb NET

69740 lbs
60940 tare
8800 lbs

LOAD WASHOUT INFORMATION

WASHOUT: YES (NO)

TYPE: INTERIOR EXTERIOR

WASHOUT SIGNATURE	DATE
S Potochnick	9-29-10
DRIVER SIGNATURE	DATE

WASHOUT STAMP

ITEM	COMMENTS	NAME	DA
	Weight Discrepancy		
			4.[illegible]
			9[illegible]

Clean Harbors Grassy Mountain Facility, Tooele County, Utah

CleanHarbors ENVIRONMENTAL SERVICES®

GM

LOAD SUMMARY RECORD

LOAD DISPOSAL DESTINATION

☐ STABILIZATION	☐ RCRA CELL	☒ TSCA CELL B6	☐ SPOT STABILIZATION

10:55 29.09.10
81600 lb GRO
0 lb TAR

81600 NET

LOAD TRACKING INFORMATION

PLANT RECEIVED	DROPPED	FINAL CODE	REVIEWED	WEIGHTS	GRIDS	MANIFEST MAILED
		GW	SB	TL	TL	9/29

DATE	LOAD NO.
9-29-10	2010006130

GENERATOR	HAULER
Puget Sound	NRC

ORDER NO.	DRUM NO.
DI3098581	223986069

29.09.10 12:28
81600 lb
63200 lb TR
18400 lb NET

TRUCK NO.	CONTAINER NO. (s)/ RAILCAR NO.
2131	MP 5611

CONTAINER TYPE:	LOAD COUNT (RAIL ONLY):
ED (G) TT FB V OTHER	1 2 3 4

OPERATOR SIGNATURE	COUNT	DATE

LOAD WASHOUT INFORMATION

WASHOUT:	TYPE:	
YES (NO)	INTERIOR	EXTERIOR

WASHOUT SIGNATURE	DATE
S. Potocnik	9-29-10
DRIVER SIGNATURE	DATE

WASHOUT STAMP

ITEM	COMMENTS	NAME	DA
	S10 Pending		
	NO OSD		
	NO Key		
			83
			9.2

Clean Harbors Grassy Mountain Facility, Tooele County, Utah

Clean Harbors
ENVIRONMENTAL SERVICES®

GM ✓

LOAD SUMMARY RECORD

LOAD DISPOSAL DESTINATION

☐ STABILIZATION	☐ RCRA CELL	☒ TSCA CELL B6	☐ SPOT STABILIZATION

8:17 29.09.10
74380 lb GROSS
0 lb TARE

74380 NET

LOAD TRACKING INFORMATION

PLANT RECEIVED	DROPPED	FINAL CODE	REVIEWED	WEIGHTS	GRIDS	MANIFEST MAILED
		GW	SB	TR	TR	9/29 CD

DATE	LOAD NO.
9-29-10	201000 6124

GENERATOR	HAULER
Puget Sound	MP

29.09.10 11:51
74380 lb
64680 lb TR
9700 lb NET

ORDER NO.	DRUM NO.
D130985581	22398150

TRUCK NO.	CONTAINER NO. (s)/ RAILCAR NO.
697	MPSS58

CONTAINER TYPE:	LOAD COUNT (RAIL ONLY):
ED (G) TT FB V OTHER	1 2 3 4

OPERATOR SIGNATURE	COUNT	DATE

LOAD WASHOUT INFORMATION

WASHOUT: (YES) NO TYPE: INTERIOR (EXTERIOR)

WASHOUT SIGNATURE	DATE
[signature]	9/29/10
DRIVER SIGNATURE	DATE

WASHOUT STAMP

ITEM	COMMENTS	NAME	DATE
	NO SO#		OK
	NO OSD NOT MANIFESTED IN KILOS		
			4400kg
			4.85

Clean Harbors Grassy Mountain Facility, Tooele County, Utah

3

WHITE - Facility CANARY - Generator PINK - Transporter GREEN - Receiving GOLD - Operations

CHI 208

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

SC MA PPW 7/14/2010

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
40CFRPART761	1	(800) 483-3718	002939208 FLE

GENERATOR

5. Generator's Name and Mailing Address
Puget Sound Energy
10295 NE 189th Street
Bothell, WA 98011
Generator's Phone: (425) 456-2285 ATTN:LeaBoyle

Generator's Site Address (if different than mailing address)

CR
FS
OFEC

6. Transporter 1 Company Name
NRC ENVIRONMENTAL SERVICES INC
U.S. EPA ID Number
WAH000036171

7. Transporter 2 Company Name
MP Environmental
U.S. EPA ID Number
CAT000624247

8. Designated Facility Name and Site Address
Clean Harbors ~~Aragonite LLC~~ GRASSY MOUNTIAN LLC.
~~11600 North Aptus Road~~ 3 miles east 7 miles north of Knolls
Grantsville, UT 84029
Facility's Phone: 4358848100
U.S. EPA ID Number
OK. UTD981552177

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, UN3432, POLYCHLORINATED BIPHENYLS, SOLID, 9, PG III, (PCB CONTAMINATED DEBRIS)	001	CM	10,000	P	WPCB
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. GB94-0085-01B
2.
3.
4.
BIN # 5558

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Gordon Johnston
Signature: Gordon Johnston
Month 09 Day 20 Year 10

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: THOMAS HOWELL
Signature: Tom Howell
Month 09 Day 20 Year 10

Transporter 2 Printed/Typed Name: Matthew Holp
Signature: Matthew Holp
Month 9 Day 27 Year 10

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
OK to use gm weight in Kgs. per OSD 9/31/10 - per Scott St. John. on 9/29/10
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
2010000624

Printed/Typed Name: Samantha R Muir
Signature: Samantha R Muir
Month 9 Day 29 Year 10

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the Generator is shipping

CleanHarbors
ENVIRONMENTAL SERVICES®

LOAD SUMMARY RECORD

LOAD DISPOSAL DESTINATION

☐ STABILIZATION	☐ RCRA CELL____	☒ TSCA CELL B6	☐ SPOT STABILIZATION

LOAD TRACKING INFORMATION

PLANT RECEIVED	DROPPED	FINAL CODE	REVIEWED	WEIGHTS	GRIDS	MANIFEST MAILED
		GW	SB	TL	TL	9/30

DATE	LOAD NO.
9-30-10	2010006169

GENERATOR	HAULER
Puget Sound	NRC

ORDER NO.	DRUM NO.
DI3098581	22414147

TRUCK NO.	CONTAINER NO. (s)/ RAILCAR NO.
16	NRC5622 (B) SM

CONTAINER TYPE:	LOAD COUNT (RAIL ONLY):
ED (G) TT FB V OTHER	1 2 3 4

OPERATOR SIGNATURE	COUNT	DATE

LOAD WASHOUT INFORMATION

WASHOUT STAMP

WASHOUT:	TYPE:
(YES) NO	INTERIOR ~~EXTERIOR~~

WASHOUT SIGNATURE	DATE
[signature]	9/30/10

DRIVER SIGNATURE	DATE
[signature]	

ITEM	COMMENTS

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

SC MA PPW 7/14/2010

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	40CFRPART761	1	(800) 483-3718	002939209 FLE

GENERATOR

5. Generator's Name and Mailing Address
Puget Sound Energy
10295 NE 189th Street
Bothell, WA 98011
Generator's Phone: (425) 456-2285 ATTN:LeaBoyle

Generator's Site Address (if different than mailing address)
CR
FS SM
OFFC

6. Transporter 1 Company Name
NRC ENVIRONMENTAL SERVICES, INC
U.S. EPA ID Number
WAH000036171

7. Transporter 2 Company Name
NRC ENVIRONMENTAL SERVICES, INC
U.S. EPA ID Number
WAH000036171

8. Designated Facility Name and Site Address
~~Clean Harbors Aragonite LLC~~
~~11600 North Aptus Road~~
~~Grantsville, UT 84029~~
~~4358848100~~
CLEAN HARBORS GRASSY MOUNTAIN, LLC
3 MILES EAST 7 MILES NORTH OF KNOLLS
GRANTSVILLE, UT 84029
801-323-8900
U.S. EPA ID Number
~~UTD981552477~~ GSM
UTD991301748

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, UN3432, POLYCHLORINATED BIPHENYLS, SOLID, 9, PG III, (PCB CONTAMINATED DEBRIS)	001	CM	13000	P	WPCB
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. GB94-0085-01B
2.
3.
4.
BOX II 5622 ERG# 171

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Gordon Johnston
Signature: Gordon Johnston
Month Day Year: 09 16 10

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Thomas Howell
Signature: Thomas Howell
Month Day Year: 09 16 10

Transporter 2 Printed/Typed Name: James Artley
Signature: James Artley
Month Day Year: 09 29 10

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

OK to use gm weights in KGS per Scott St. John on 9/30/10 OSP 9/31/10

18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
2010006169

Printed/Typed Name: Connie Wallett
Signature: Connie Wallett
Month Day Year: 9 30 10

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

Clean Harbors Aragonite LLC
11600 North Aptus Road
Grantsville, UT 84029
435-884-8100

09/29/2010

		UOM	Time In
GROSS	**52680**	**LBS**	
TARE	**38200**	**LBS**	
NET	**14480**	**LBS**	

Container # or Fleet #	276361
Load #	51714
Manifest #	002939197FLE
Sales Order #	DI3112539
Profile #	GB94-0085-01BB
Tracking #	22401814

Puget Sound Energy
10295 NE 189th Street
Bothell, WA 98011

CLEAN HARBORS ARAGONITE LLC

11600 North Aptus Road

Grantsville, UT 84029

435-884-8100

10/01/10

GROSS	55,580 LBS
TARE	35,960 LBS
NET	19,620 LBS

BIN #	5019
LOAD #	51717
SALE ORDER	DI3112539
TRACKING #	22423607
MANIFEST	002939198FLE

Clean Harb
11600 N
Grantsv
435

09

		UOM
GROSS	**49860**	**LBS**
TARE	**35040**	**LBS**
NET	**14820**	**LBS**

Container # or Fleet #	276510
Load #	51715

APPENDIX E
Report Limitations and Guidelines for Use

APPENDIX E
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This Appendix provides information to help you manage your risks with respect to the use of this report.

Environmental Services Are Performed For Specific Purposes, Persons and Projects

This report has been prepared for use by Puget Sound Energy (PSE). This report may be provided to regulatory agencies for their review. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except those named above should rely on this environmental report without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

This Environmental Report Is Based On A Unique Set Of Project-Specific Factors

This report has been prepared to document the remedial activities related to the removal of contaminated soil and water at the Glen grove Apartment complex site. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Environmental Regulations Are Always Evolving

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

---

[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

Reliance Conditions For Third Parties

Our report was prepared for the exclusive use of our Client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted environmental practices in this area at the time this report was prepared.

Uncertainty May Remain Even After This Cleanup Project Is Completed

Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from widely-spaced sampling locations. It is always possible that contamination exists in areas that were not explored, sampled or analyzed.

Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the remediation was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

Soil End Use

The cleanup levels referenced in this report are site- and situation-specific. The cleanup levels may not be applicable for other sites or for other on-site uses of the effected media (soil). Note that hazardous substances may be present in some of the site soil at detectable concentrations that are less than the referenced cleanup levels. GeoEngineers should be contacted prior to the export of soil or groundwater from the subject site or reuse of the effected media on site to evaluate the potential for associated environmental liabilities. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the subject site to another location or its reuse on site in instances that we were not aware of or could not control.

Most Environmental Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic And Geoenvironmental Reports Should Not Be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants and no conclusions or inferences should be drawn regarding Biological Pollutants, as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. If the Client desires these specialized services, they should be obtained from a consultant who offers services in this specialized field.

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