PHASE II
ENVIRONMENTAL SITE ASSESSMENT
REPORT

1510 SE Water Avenue
Portland, Oregon

December 6, 2007

Prepared for:

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Portland, Oregon

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HAI Project No. 7358

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1.0 SUMMARY OF FINDINGS

Phase II Environmental Site Assessment (ESA) activities were conducted at the Portland General Electric Company (PGE) facility at 1510 SE Water Avenue in Portland, Oregon. This work was conducted to evaluate potential Recognized Environmental Conditions relating to the previous use of the subject property for the storage, maintenance, and repair of fluid-filled electrical transformers, and vehicle maintenance and repair activities, and the presence of undocumented fill.

In October 2007, 11 direct push borings were installed at the property for the collection of soil and groundwater samples. Samples were also collected from the contents of on-site stormwater catch basins.

A summary of the findings relating to the Phase II ESA testing activities is presented below.

1) Subsurface Conditions
   a) Subsurface soils, believed to be historic fill, were composed of gravelly silts, sands, and gravelly sands to depths of 15 to 16 feet below ground surface (bgs), overlying a silty sand that could be native or fill.
   b) Uppermost groundwater was encountered at a depth 11 feet below ground surface (bgs), and inferred to be flowing in a westerly direction towards the Willamette River.
2) Testing Results
   a) Analytical testing of catch basin sediment identified the presence of oil-range petroleum hydrocarbons, polychlorinated biphenyls (PCBs), and metals at elevated levels.
   b) Analytical testing of soil samples identified petroleum hydrocarbons (predominantly oil-range), polynuclear aromatic hydrocarbons (PAHs), and metals at elevated levels.
      i) The highest levels of hazardous substances were identified in near-surface soils beneath the property pavement.
      ii) Only low levels of oil-range petroleum hydrocarbons were identified in the subsurface fill soils.
   c) Benzene and naphthalene were identified in groundwater beneath the southern portion of the property.

3) Area of Potential Concern

   a) Given the industrial use of the property currently and in the foreseeable future, and given the lack of groundwater use for tap water purposes in the area, only near-surface soils are identified as an area of potential concern due to the presence of PAHs (benzo[a]pyrene and dibenzo[a,h]anthracene) and lead at levels of exceeding non-residential Direct Contact risk-screening levels.

   b) Two typical remedies for addressing PAHs and metals in near-surface soils are removal and/or capping. The existing paved cap at the property currently acts to prevent human contact with the impacted soils, as well as to prevent percolating waters from passing through the affected near-surface soil and leaching chemicals to groundwater. Accordingly, there is no complete pathway for human exposure, and thus no current unacceptable risks to human health.

4) Recommendations

   a) If future construction or repair activities were to remove the cap and expose or excavate the impacted soils, it would be prudent to remove such soils and/or re-cap the area.

   b) Soils or dewatering water generated through future below-grade repair or redevelopment activities, particularly near-surface soils, will require special management (i.e. additional characterization and/or appropriate disposal).

   c) If a change of land use from industrial/occupational to residential is ever contemplated for the property, then re-evaluation of the potential risks to human health should be conducted.

   d) Due to the use of composite sampling for metals, additional analysis/evaluation of lead and arsenic on discrete samples may be warranted to better characterize the location and magnitude of elevated levels of these metals in soils, as well as to statistically compare to background for arsenic.

   e) Catch basin sediment should be tested for leachable (TCLP) lead to conduct a RCRA waste determination. Once the waste is classified, the catch basins should be pumped and cleaned, and the catch basin contents appropriately disposed.

2.0 INTRODUCTION

Portland General Electric Company (PGE) retained Hahn and Associates, Inc. (HAI) to conduct Phase II Environmental Site Assessment (ESA) activities at the PGE facility located at 1510 SE Water Avenue in Portland, Oregon (Figures 1 and 2). The PGE facility takes up the entire block bounded by SE Water Avenue, SE Hawthorne Boulevard, the SE 1st Avenue right-of-way, and SE Clay Street. The Phase II ESA focused on the approximate 0.15-acre eastern portion of the property (i.e. Tax Lots 1100 and 1200), which is currently owned by the Portland Traction Co. We understand PGE is a potential purchaser of Tax Lots 1100 and 1200.

The Phase II ESA activities were conducted to assess potential impacts to soil and groundwater by hazardous substances relating to past uses and practices at the site. The Phase II ESA activities specifically addressed potential soil and groundwater impacts related to the former utilization of the site for the storage, maintenance, and repair of fluid-filled electrical transformers and vehicle maintenance and repair activities. The Phase II ESA activities were also intended to confirm the presence and characterize the nature of potential undocumented fill on the eastern portion of the site, and to document baseline soil and groundwater conditions.

3.0 BACKGROUND

In April 2006, HAI conducted a Phase I ESA[1] of the entire block (Tax Lots 1100, 1200, and 1300), which included subject property. The Phase I report identified the following Recognized Environmental Conditions (RECs), as defined by American Society for Testing and Materials (ASTM) Practice E1527-00, in which additional investigation would be necessary to document and further evaluate such conditions:

1. From approximately the 1930s until approximately 2000, the subject property was used for the storage, maintenance, and repair of fluid-filled electrical transformers, which prior to 1980 typically contained polychlorinated biphenyls (PCBs).
   Phase I ESA Recommendation: An investigation for the presence of

[1] Hahn and Associates, Inc. (2006). *A Phase I Environmental Site Assessment, City Block with PGE Facility, 1510 SE Water Avenue, Portland, Oregon* (HAI Project No. 6978). April 28, 2006.

PCBs should be conducted in areas historically used for the storage, maintenance and repair of transformers, including the basement floor of the site structure and the asphalt-paved outdoor storage area.
Note: Only the outdoor storage yard area is addressed by this Phase II ESA.

2. From approximately the 1930s until approximately 2000, the subject property was also used for maintenance and repair activities associated with the provision of public electrical services, including automotive repair and machine shop activities. These activities involved the use of chlorinated solvents, and acid and caustic baths. Further, the historical use of the adjacent and surrounding area has consisted of a combination of commercial, light industrial, and industrial activity since the early 1900s, including automotive repair, machine shops, and rail yards. In addition, the property was located in an historically low-lying area that received imported fill materials of unknown origin during the early 1900s.
   Phase I ESA Recommendation: A baseline subsurface investigation should be performed at the property to determine whether soil and/or groundwater at the property have been impacted by hazardous materials releases, and/or contaminated imported fill materials.

3. Several floor drains and catch basins located at the property may have served as contamination collection areas or as conduits to the subsurface. Further, sludge contaminated with PCBs, mercury, and chromium was previously identified in a sump pit located in the basement.
   Phase I ESA Recommendation: The contents of the floor drains, catch basins, and sump should be tested for the presence of hazardous materials. In addition, a video survey of the sewer lines should be performed to identify possible areas of compromised integrity that may have allowed a release of hazardous materials to the subsurface.
   Note: Three stormwater catch basins are located on the subject Tax Lot 1100. The floor drains and sump are not located on the current subject property. A video survey was not conducted as part of this Phase II ESA, as this task was meant for the indoor sumps and floor drains.

4. An hydraulically-powered sidewalk freight elevator was installed during the original construction of the building in 1911. Use of the elevator was discontinued by 1995. However, based on its age, it is possible that the hydraulic fluid associated with the elevator may contain PCBs.

Phase I ESA Recommendation (not applicable to current subject property): The elevator hydraulic fluid should be sampled and analyzed for the presence of PCBs.

In addition, while not a Recognized Environmental Condition, the following recommendation was presented in the Phase I ESA report:

5. Based on the age of the property structure (built in 1911), materials used in its construction may have contained asbestos.
   Phase I ESA Recommendation (not applicable to current subject property): It is recommended that an asbestos survey be performed for the property structure. Areas found to contain asbestos that are in a deteriorated condition should undergo abatement or be repaired by a licensed asbestos contractor. Additionally, prior to any renovation or demolition of the structures, any asbestos-containing materials should be removed by a licensed asbestos contractor and/or managed in accordance with the applicable regulations.

Based on a review of the Phase I ESA RECs, it was determined that RECs 1, 2, and 3 (in part) relate to the area to which this Phase II ESA pertains. Accordingly, the Phase II ESA scope of work was designed to address RECs 1, 2, and 3 as they pertain to Tax Lots 1100 and 1200. REC 4 (evaluation of the freight elevator hydraulic fluid) is not addressed. In addition, a survey for asbestos-containing materials in the site structure was not conducted (Item 5 above).

4.0 FIELD ACTIVITIES

The completed work activities discussed below can be subdivided into the following investigations:

- Sampling of catch basin sediment to characterize the contents
- A soil investigation to assess potential impacts to near-surface soils from historic site uses, and to assess subsurface fill soils for the presence of imported hazardous substances
- A baseline groundwater investigation to evaluate potential impacts to groundwater from historical on-site and off-site activities, with focus on chlorinated solvents.

4.1 Catch Basin Sampling

On October 29, 2007, HAI collected grab samples of sediment from the three storm water catch basins located on the eastern portion of the property (Figure 2). The catch basins were concrete-lined and appeared in good condition at the time of sampling. The catch basins are reported to discharge to the municipal storm water sewer system. The catch basin at the southeast corner of the property contained approximately 5 inches of standing water at the time of sampling, while the two northern catch basins contained sediment. All three catch basins contained abundant leaves and organic debris. Organic debris was removed from the sample collection area prior to sampling.

A stainless steel decontaminated hand trowel was used to collect sediment samples from the catch basins. The collected sediment samples were placed in a laboratory-supplied glass jar, sealed in a cooler, and transported under chain-of-custody documentation to the analytical laboratory.

4.2 Subsurface Investigation Activities

4.2.1 Drilling Locations and Rationale

On October 29, 2007, eleven (11) push probe borings (P-1 through P-11) were installed at the site for the collection of soil and groundwater samples (Figure 2). Eight of the borings (P-1, P-2, P-3, P-5, P-6, P-7, P-8, and P-11) were placed on the subject property (Tax Lot 1100). Since PGE owns Tax Lot 1300 and since the storage yard encompasses both Tax Lot 1100 and a portion of Tax Lot 1300, and since Tax Lot 1300 is inferred to be hydrogeologically down-gradient with respect to Tax Lot 1100, it was decided to place three of the borings (P-4, P-9, and P-10) on Tax Lot 1300. The final locations of the borings were also influenced by physical constraints and accessibility.

Investigation of site soil conditions focused on the collection of near-surface samples from below pavement since the primary historic operations of concern in the this area of the property (i.e. the outdoor storage yard) relate to activities that took place at the ground surface and were most likely to impact soils at shallow depths (e.g. transformer storage, maintenance, and repair). Near-surface soil samples were collected from all 11 borings. In addition, soil samples were collected from greater depths in four deeper borings (P-1 through P-4) to evaluate the fill soils.

In summary, 7 shallow borings (P-5 through P-11) were installed to depths of 6 feet below ground surface (bgs) at representative locations throughout the site to evaluate near-surface soils. The four deeper borings (P-1 through P-4) were installed to depths of 20 feet bgs in central and down-gradient locations at the site to evaluate potential imported fill and groundwater conditions.

4.2.2 Drilling Procedures

On October 29, 2007, the 11 direct push borings (P-1 through P-11) were installed at the subject site to depths ranging from 6 to 20 feet bgs. The borings were installed by Cascade Drilling Inc., of Clackamas, Oregon with a track-mounted Geo-Probe 6600 hydraulic hammer unit using a 2-inch outside diameter (OD) coring device. Groundwater samples were collected from four of the push probe borings (P-1 through P-4).

Following completion of the soil boring activities, the borings were backfilled with 3/8-inch bentonite chips to within 6 inches of the ground surface. Asphalt was placed in the upper 6 inches of the boring to match the surrounding land surface.

All boring installation work was performed by an Oregon bonded and licensed monitoring well constructor. The boring installations were completed in accordance with the Oregon Groundwater Law (Oregon Revised Statute (ORS) Chapter 537) and the Rules for Construction and Maintenance of Monitoring Wells and Other Holes in Oregon (Oregon Administrative Rules (OAR) Chapter 690, Division 240).

The field boring logs, indicating the soil types encountered and field screening results, are included in Appendix A.

4.2.3 Soil Sampling and Screening Procedures

Continuous soil cores were collected using a 6-foot long, 2-inch OD Macro-Core Sampler. Discrete soil samples were selected from the cores for field screening and possible laboratory analyses based on field observation of soil type or contaminant occurrence. The properties of each soil core were noted in the field by the HAI scientist. The boring characteristics and observed soil types are documented on the push probe boring logs included in Appendix A.

Upon collection, each soil sample was immediately placed in an 8-ounce sample jar and capped with a teflon-lined lid. The sample jars were then labeled and transferred to a chilled container for shipment to the analytical laboratory. Standard sampling protocols, including the use of chain-of-custody documentation, were followed for all sampling procedures.

The soil samples were field-screened for the presence of potential contamination by the visual, olfactory, sheen test, and headspace vapor methods. The presence of sheen was assessed by placing clean tap water in a black pan and introducing approximately 5 grams of disaggregated soil to the water. Screening for the presence of organic vapors was conducted by the headspace method using a photoionization detector (PID) equipped with a 10.6 ev lamp. The results of the headspace screening are recorded on the boring logs in parts per million (ppm). The headspace method results are a qualitative indicator of possible contamination and used for relative comparison purposes.

4.2.4 Groundwater Sampling Procedures

Groundwater samples were collected at four of the direct push borings (P-1 through P-4) with a temporary well point. To collect the groundwater samples, a 5-foot section of 1-inch OD, 0.010-inch slotted PVC well screen was pushed to beneath the suspected groundwater level. Water was detected at approximate depths of 11 feet bgs in well points. The well screen interval was from 15 to 20 feet bgs at all four boring locations.

The groundwater samples were collected from the well points with a low-flow peristaltic pump and disposable tubing after purging one liter of water. Sample containers were completely filled such that no headspace was present that would allow for the loss of volatiles. The sample containers were then labeled and transferred to a chilled container for shipment to the analytical laboratory.

4.2.5 Decontamination Procedures

All reusable drilling and soil and groundwater sampling equipment was steam cleaned with potable water prior to use, and between boring locations, to prevent cross-contamination. All soil sampling equipment was decontaminated after each sample by using a detergent solution wash, and two potable water rinses. New disposable tubing was used for each groundwater sample.

4.2.6 Investigative Derived Waste

Soil cuttings were not generated during the investigative activities. Equipment decontamination water was placed within a 55-gallon drum, and minor excess soil sample waste was placed in a covered 5-gallon bucket. The containers were left on-site for appropriate disposal at a later date.

5.0 ANALYTICAL TESTS

The soil and groundwater samples were shipped with chain-of-custody documentation in sealed and chilled containers to Apex Laboratories located in Tigard, Oregon.

Based on the proposed scope of work and field screening results, 19 soil samples and one composite catch basin sediment sample were selected for testing of diesel- and oil-range total petroleum hydrocarbons (TPH) by Northwest Method TPH-Dx. This testing included a near-surface sample from each of the 11 borings, as well as 2 deeper samples (of fill) from each of the 4 deeper borings.

One near-surface sample from each of the 11 borings and the composite catch basin sediment sample were analyzed for PCBs by EPA Method 8082. Four soil samples (2 from near surface soils and 2 from subsurface fill) were selected for testing of polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270 SIM based on TPH-Dx results.

Eight composite soil samples, composed of 2 sub-samples each, were analyzed for 13 Priority Pollutant metals (total basis) by EPA Method 6000/7000 Series. Four of the composite samples were from near surface soils composited from adjacent borings. The other four composite samples were from subsurface fill soils composited from different depths within the same boring. The composite catch basin sediment sample was analyzed for 8 RCRA metals (total basis) by EPA Method 6000/7000 Series.

The four groundwater samples were analyzed for volatile organic compounds (VOCs), including chlorinated solvents, by EPA Method 8260B.

The results of the catch basin sediment analytical testing are summarized on Table 1. The results of the soil analytical testing are summarized on Table 2 (TPH and PCBs), Table 3 (PAHs), and Table 4 (metals). The results of the groundwater analytical testing are summarized on Table 5. The laboratory

reports The laboratory reports and chain-of-custody documentation for the soil and groundwater sampling activities are included in Appendices B and C, respectively.

6.0 RESULTS AND DISCUSSION

6.1 Subsurface Conditions

The subsurface soils encountered beneath the paved surface at the site were typically gravelly silts to depths of 3 to 5 feet bgs (likely fill), underlain by loose fine- to medium-grain sands and gravelly sands (likely fill) to depths of 15 to 16 feet bgs. These likely fill units were underlain by a silty sand that could be native or fill. Field observations made by HAI staff and subcontracted drillers suggests that the observed subsurface materials constitute fill rather than native materials.

Groundwater was encountered in borings P-1 through P-4 at depths of approximately 11 feet bgs. Based on topography and local hydrogeologic features, it is inferred that uppermost groundwater flows to the west towards the Willamette River, located approximately 800 feet to the west. Groundwater flow direction was not confirmed by direct measurement from monitoring wells.

6.2 Reference Levels

With respect to human health, soil and groundwater testing results were compared to applicable DEQ Risk-Based Concentrations (RBCs)[2], where established. Because of the current and likely future industrial use of the property, only non-residential RBCs were utilized, except for the Leaching to Groundwater and Tap Water exposure pathways.

If a DEQ RBC was not established for a detected chemical, then the testing results were compared EPA Region 6 Human Health Screening Levels (December 2006).

Since a generic DEQ RBC is not established for oil (other than mineral oil), petroleum hydrocarbon testing results in the oil-range for soils were

[2] Oregon Department of Environmental Quality (2003). *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites.* September 22, 2003, RBCs Updated March 2007

compared to the DEQ Level 2 Soil Matrix Cleanup Standard of 500 mg/kg (OAR 340-122-0335).

Since the DEQ RBCs for metals in soil do not address the "Leaching to Groundwater Pathway" (except for lead), metals soil testing results were also compared to EPA Region 6 Human Health Screening Levels (December 2006) for Leaching to Groundwater [Dilution Attenuation Factor (DAF) of 20], where established.

For metals in soil, detected levels were also compared to DEQ Default Background Concentrations for Metals (October 2003).

The reference levels discussed above are listed on Tables 1 through 5 for comparison purposes. Exceeding one of the reference levels does not necessarily mean that cleanup is required or necessary, but would suggest that additional evaluation or investigation may be necessary to determine the need for remedial action. Only upon completion of the full risk evaluation, where reasonably-likely land and water uses, as well as complete exposure pathways, are considered is it determined whether unacceptable risks to human health or the environment are present that require corrective action.

6.3 Catch Basin Sediment Testing Results

The catch basin sediment sample (No. 028) was a 2-part composite sample composed of sub-samples from two of the three on-site catch basins (see sample locations 025 and 027 on Figure 2). This testing was done to determine if catch basin sediment contained hazardous substances, as well as to begin characterization/profiling for possible disposal of this material. A composite sample should be appropriate for characterizing this material for disposal.

Analytical testing of the catch basin sediment sample indicates oil-range petroleum hydrocarbons were detected at a concentration of 4,170 mg/kg (ppm) (Table 1). PCBs were detected at a concentration of 0.15 mg/kg. Lead was the only metal detected at concentrations significantly above potential background.

Cleaning of the on-site catch basins is recommended, including appropriate disposal of the catch basin contents. Additional testing for leachable (TCLP) lead would be appropriate to conduct a RCRA waste determination prior to disposal of catch basin sediment.

6.4 Soil Testing Results

Analytical testing indicates that petroleum hydrocarbons (predominantly oil-range) were detected in 13 of the 19 selected soil samples (Table 2, Figure 3). The higher concentrations were typically found in the near-surface soil samples (up to 2.5 feet bgs) at total concentrations up to 4,437 milligrams/kilogram (mg/kg or ppm). Only oil-range petroleum hydrocarbons were found in subsurface fill samples (6 to 19 feet bgs) at total concentrations ranging from 96 to 397 mg/kg.

The detected oil-range petroleum hydrocarbon concentrations in 4 of the near-surface soil samples are greater than the DEQ Level 2 Soil Matrix Cleanup Standard of 500 ppm. Based on experience at other sites where TPH fraction testing was conducted to calculate site-specific RBCs for oil, it would appear unlikely that the detected oil concentrations at the subject property would exceed site-specific RBCs for non-residential exposure pathways. TPH fraction testing [i.e. volatile petroleum hydrocarbons (VPH) / extractable petroleum hydrocarbons (EPH)] of representative near-surface soils would be necessary to confirm this supposition.

Analytical testing of the 11 near-surface soil samples collected from the property indicates PCBs were not detected above method reporting levels (Table 2).

Selected testing of soil samples containing elevated petroleum hydrocarbon concentrations indicates that polynuclear aromatic hydrocarbons (PAHs) were detected in near-surface soil at two locations (P-2 and P-4), but were not detected in subsurface fill soil (P-1 and P-4) (Table 3). The detected concentrations of two PAHs (benzo[a]pyrene and dibenzo[a,h]anthracene) exceed the DEQ RBC for Occupational Direct Contact in the near-surface soil sample from boring P-2.

Analytical testing of composite soil samples indicates that three metals (arsenic, lead, and mercury) were found at concentrations exceeding adjusted screening levels (i.e. adjusted downward to account for the two-part composite) (Table 4, Figure 4 for lead). Arsenic was found at 2 locations (7.48 mg/kg at P-8/P-9 and 7.91 mg/kg at P-3) just barely above the generic background level (7 mg/kg), which is also above the adjusted screening level for Occupational Direct Contact. Testing of discrete samples and statistical analysis would most likely show that the arsenic levels are within acceptable levels as background.

Lead was identified in the P-4/P-10 composite soil sample location at a concentration (1,940 mg/kg), exceeding the adjusted screening levels for Leaching to Groundwater (15 mg/kg) and Occupational Direct Contact (400 mg/kg). In this same sample, the detected mercury level (5.38 mg/kg) also exceeds the adjusted screening level for Leaching to Groundwater (1 mg/kg). Lastly, the detected lead concentration at the P-8/P-9 location (181 mg/kg) also exceeds the adjusted screening level for Leaching to Groundwater (15 mg/kg).

The existing paved cap at the property currently acts to prevent human contact with the impacted soils, as well as to prevent percolating waters from passing through the affected near-surface soil and leaching the chemicals to groundwater. Two typical remedies for addressing oil, PAHs, or metals in near-surface soils are removal and/or capping. Since this property already has a paved cap in place over the affected soils, there is no complete pathway for human health exposure, and thus no current unacceptable risks to human health. If future construction or repair activities were to remove the cap and expose or excavate the impacted soils, it would be prudent to remove such soils and/or re-cap the area.

6.5 Groundwater Testing Results

Analytical testing of groundwater samples collected from four of the borings indicates VOCs were not detected above method reporting levels excepting low levels of benzene and naphthalene detected at one location (P-1). Chlorinated solvents were not detected at any location in groundwater.

The detected petroleum-related VOCs (benzene and naphthalene) were found only in the southernmost boring at the site (P-1), suggesting that groundwater impacts are likely limited to the southern portion of the property. It is not clear what the source of the detected VOCs may be, but it is possible that they originate from an up-gradient off-site location given the inferred groundwater flow direction (i.e. westerly). Since the PGE building is located west (i.e. down-gradient) of boring P-1, operations in this facility do not appear to be the source of the detected VOCs.

The detected concentrations of benzene and naphthalene in groundwater exceed RBCs only for the Residential Tap Water exposure pathway, a pathway that is not reasonably-likely to be complete for the property or surrounding area.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Areas of Identified Hazardous Substance Contamination

Based on the Phase II ESA testing, the areas with identified hazardous substance contamination are:

- Catch basin sediment (petroleum hydrocarbons, PCBs, and lead)
- Near-surface soils (petroleum hydrocarbons, PAHs, and metals)
- Subsurface fill soils (petroleum hydrocarbons)
- Groundwater in the southern portion of the property (benzene and naphthalene).

Area of Potential Concern – Near-Surface Soils

Upon preliminary review of reasonably-likely land uses, groundwater uses, and exposure pathways for the property and surrounding area, the areas of identified hazardous substance contamination can be narrowed down to one area of potential concern, i.e. near-surface soils.

Given the industrial use of the property currently and in the foreseeable future, and given the lack of groundwater use for tap water purposes in the area, only near-surface soils are identified as an area of potential concern due to the presence of PAHs (benzo[a]pyrene and dibenzo[a,h]anthracene) and lead at concentrations exceeding non-residential Direct Contact risk-screening levels.

The existing paved cap at the property currently acts to prevent human contact with the impacted soils, as well as to prevent percolating waters from passing through the affected near-surface soil and leaching the chemicals to groundwater. Accordingly, there is no complete pathway for human exposure, and thus no current unacceptable risks to human health. If future construction or repair activities were to remove the cap and expose or excavate the impacted soils, it would be prudent to remove such soils and/or re-cap the area.

Two typical remedies for addressing oil, PAHs, or metals in near-surface soils are removal and/or capping.

Recommendation: If future construction or repair activities were to remove the cap and expose or excavate the impacted soils, it would be prudent to remove such soils and/or re-cap the area.

Recommendation: Due to the use of composite sampling for metals, additional analysis/ evaluation of lead and arsenic on discrete samples may be warranted to better characterize the location and magnitude of elevated levels of these metals in near-surface soils, as well as to statistically compare to background for arsenic.

Catch Basin Sediment

Catch basin sediment at the property contains petroleum hydrocarbons, PCBs, and elevated metals. Lead may be present at a level of concern with respect to waste classification.

Recommendation: Catch basin sediment should be tested for leachable (TCLP) lead to conduct a RCRA waste determination. Once the waste is classified, the catch basins should be pumped and cleaned and the catch basin contents appropriately disposed.

Subsurface Fill Soils

Although petroleum hydrocarbons are present in the subsurface fill soils, they were found at concentrations below levels of concern with respect to human health.

Recommendation: Additional analysis/evaluation of arsenic may be warranted to verify this naturally-occurring metal is present at acceptable levels (i.e. statistically below background levels).

Groundwater

Benzene and naphthalene are present in groundwater beneath the southern portion of the property, the full extent of which has not been determined. The source of the detected VOCs is not known, but could originate from an up-gradient off-site location. The detected concentrations of benzene and naphthalene in groundwater only exceed risk-screening levels for Residential Tap Water, a pathway that is not reasonably-likely complete for the property or surrounding area.

General Recommendations

Although the identified areas of hazardous substance contamination do not appear to present a current threat to human health, recommendations are presented below if future use of the property is to change or if any site repair or redevelopment activities occur that would encounter groundwater, or near-surface or subsurface soils beneath the existing paved cap.

- If future construction or repair activities were to remove the existing paved cap and expose or excavate the impacted soils, it would be prudent to remove such soils and/or re-cap the area.
- Soils generated through future below-grade repair or redevelopment activities, particularly near-surface soils, will require special management (i.e. additional characterization and/or appropriate disposal). Certain uses of the affected soil may not be appropriate. Likewise, dewatering water may require special management, treatment, and/or permitting prior to discharge.
- If a change of land use from industrial/occupational to residential is ever contemplated for the property, then re-evaluation of the potential risks to human health should be re-evaluated.

8.0 LIMITATIONS AND SIGNATURES

The information presented in this report was collected, analyzed, and interpreted following the standards of care, skill, and diligence ordinarily provided by a professional in the performance of similar services as of the time the services were performed. This report and the conclusions and/or recommendations contained in it are based solely upon research and/or observations, and physical sampling and analytical activities that were conducted.

The information presented in this report is based only upon activities witnessed by HAI or its contractors, and/or upon information provided to HAI by the Client and/or its contractors. The analytical data presented in this report document only the concentrations of the target analytes in the particular sample, and not the property as a whole.

Unless otherwise specified in writing, this report has been prepared solely for the use by the Client and for use only in connection with the evaluation of the subject property. Any other use by the Client or any use by any other person shall be at the user's sole risk, and HAI shall have neither liability nor responsibility with respect to such use.

Hahn and Associates, Inc.

Roger E. Brown

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Principal

Date December 6, 2007

9.0 GLOSSARY OF ABBREVIATIONS

bgs	below existing ground surface
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
HAI	Hahn and Associates, Inc.
NW	Northwest
OAR	Oregon Administrative Rules
DEQ	Oregon Department of Environmental Quality
mg/kg	milligrams/kilogram
OWRD	Oregon Water Resources Department
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PGE	Portland General Electric Company
ppm	parts per million
RBC	DEQ Risk-Based Concentration
RCRA	Resource Conservation and Recovery Act
RECs	Recognized Environmental Conditions
TCLP	toxicity characteristic leaching procedure
TPH	total petroleum hydrocarbons
VOCs	volatile organic compounds

TABLE 1 – Summary of Catch Basin Sediment Testing Results

	Sample Location ==>	Catch Basins
	Composite Sample Number ==>	7358-071029-028
	Sub-Sample Number ==>	025 / 027
	Sample Date ==>	29-Oct-07
Analytical Parameters	**Screening Level** [1] mg/kg (ppm)	**Laboratory Testing Results** mg/kg (ppm)
Total Petroleum Hydrocarbons (TPH) by Northwest Method TPH-Dx		
Diesel-Range		404. U
Oil-Range		4,170.
Polychlorinated Biphenyls (PCBs) by EPA Method 8082		
Aroclor 1260		0.15
Other Aroclors		0.13 U
RCRA Total Metals by EPA Method 6000/7000 Series		
Arsenic	100.	11.7
Barium	2,000.	167.
Cadmium	20.	2.42
Chromium	100.	48.8
Lead	100.	**302.**
Mercury	4.	0.211
Selenium	20.	1.14
Silver	100.	1.99

EPA = U.S. Environmental Protection Agency
mg/kg = milligrams/kilogram
ppm = parts per million
U = not detected above concentration indicated

1 = RCRA Characteristic Hazardous Waste screening level to determine whether TCLP testing should be conducted (i.e. RCRA Level X 20)

Bold = Concentration exceeds screening level

TABLE 2 – Summary of Soil Testing Results

Area of Interest	Sample Location	Sample Number	Sub-Sample Numbers	Sample Date	Sample Depth (feet bgs)	Laboratory Testing Results - mg/kg (ppm)					
						NW TPH-Dx			EPA 8082	EPA 8270 SIM	EPA 6010/7000
						Diesel-Range	Oil-Range	Diesel + Oil	PCBs	PAHs	Metals
					Reference Levels [1] ==>	2,800.	500. [2]		0.22	Table 2	Table 3
Surface Soil	P-1	7358-071029-001		29-Oct-07	1.5 - 2.5	29.3 U	58.6 U	U	0.096 U		
	P-2	7358-071029-005		29-Oct-07	0.5 - 1.5	437.	**4,000.**	4,437.	0.089 U	Table 2	
	P-3	7358-071029-010		29-Oct-07	1.0 - 2.0	31.6 U	63.1 U	U	0.096 U		
	P-4	7358-071029-014		29-Oct-07	0.5 - 1.5	97.4	**1,060.**	1,157.4	0.089 U	Table 2	
	P-5	7358-071029-018		29-Oct-07	0.5 - 1.5	337. U	**2,570.**	2,570.	0.099 U		
	P-6	7358-071029-019		29-Oct-07	1.0 - 2.0	30.9 U	84.	84.	0.1 U		
	P-7	7358-071029-020		29-Oct-07	1.0 - 2.0	40.7	**769.**	809.7	0.098 U		
	P-8	7358-071029-021		29-Oct-07	1.0 - 2.0	27.3 U	340.	340.	0.1 U		
	P-9	7358-071029-022		29-Oct-07	1.0 - 2.0	36.3 U	387.	387.	0.11 U		
	P-10	7358-071029-023		29-Oct-07	1.0 - 2.0	28.	470.	498.	0.092 U		
	P-11	7358-071029-024		29-Oct-07	1.0 - 2.0	29.7 U	103.	103.	0.095 U		
	P-1,P-2 Comp	7358-071029-032	001, 005	29-Oct-07	0.5 - 2.5						Table 3
	P-3,P-5 Comp	7358-071029-029	010, 018	29-Oct-07	0.5 - 2.0						Table 3
	P-4,P-10 Comp	7358-071029-030	014, 023	29-Oct-07	0.5 - 2.0						Table 3
	P-8,P-9 Comp	7358-071029-031	021, 022	29-Oct-07	1.0 - 2.0						Table 3
Subsurface Fill	P-1	7358-071029-002		29-Oct-07	8.0 - 9.0	28. U	397.	397.		Table 2	
	P-1	7358-071029-004		29-Oct-07	18.0 - 19.0	41.1 U	122.	122.			
	P-2	7358-071029-008		29-Oct-07	10.0 - 11.0	33. U	66. U	U			
	P-2	7358-071029-009		29-Oct-07	15.5 - 16.5	43. U	95.7	95.7			
	P-3	7358-071029-012		29-Oct-07	11.0 - 12.0	38.2 U	76.3 U	U			
	P-3	7358-071029-013		29-Oct-07	18.0 - 19.0	39.9 U	79.8 U	U			
	P-4	7358-071029-015		29-Oct-07	6.0 - 7.0	28.4 U	56.8 U	U			
	P-4	7358-071029-016		29-Oct-07	10.0 - 11.0	31.4 U	102.	102.		Table 2	
	P-1 Comp	7358-071029-033	002, 004	29-Oct-07	8.0 - 19.0						Table 3
	P-2 Comp	7358-071029-034	008, 009	29-Oct-07	10.0 - 16.5						Table 3
	P-3 Comp	7358-071029-035	012, 013	29-Oct-07	11.0 - 19.0						Table 3
	P-4 Comp	7358-071029-036	015, 016	29-Oct-07	6.0 - 11.0						Table 3

bgs = below ground surface
Comp = Composite of two sub-samples
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency

mg/kg = milligrams/kilogram
NW = Northwest Method
PAHs = polynuclear aromatic hydrocarbons
PCBs = polychlorinated biphenyls

ppm = parts per million
TPH = total petroleum hydrocarbons
U = not detected above concentration indicated

1 = Most-Stringent DEQ Risk-Based Concentration (RBC), March 2007
2 = DEQ Level 2 Soil Matrix Cleanup Standard (OAR 340-122-0335)
Bold and Yellow Shade = Concentration is greater than Reference Level

TABLE 3 – Summary of Soil Testing Results: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270 SIM

		Area of Interest ==>	Near-Surface Soil		Subsurface Fill	
		Sample Location ==>	P-2	P-4	P-1	P-4
		Sample Number ==>	7358-071029-005	7358-071029-014	7358-071029-002	7358-071029-016
		Sample Date ==>	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07
		Depth (feet bgs) ==>	0.5 - 1.5	0.5 - 1.5	8.0 - 9.0	10.0 - 11.0
Analytical Parameters	**Reference Levels [1] – mg/kg (ppm)**		**Laboratory Testing Results** mg/kg (ppm)			
	Direct Contact	Leaching to Groundwater				
Acenaphthene	16,000. [2]	540.	0.265 U	0.0946 U	0.115 U	0.0177 U
Acenaphthylene			0.23 U	0.0822 U	0.0999 U	0.0153 U
Anthracene	90,000. [2]	16,000.	0.224 U	0.0797 U	0.0969 U	0.0149 U
Benzo (a) anthracene	2.7 [3]	3.5	0.204 U	0.0728 U	0.0885 U	0.0136 U
Benzo (a) pyrene	0.27 [3]	0.9	0.277 J	0.0756 J	0.0704 U	0.0108 U
Benzo (b) fluoranthene	2.7 [3]	11.	0.407 J	0.117 U	0.142 U	0.0218 U
Benzo (ghi) perylene			0.38 J	0.101 U	0.123 U	0.0188 U
Benzo (k) fluoranthene	27. [3]	110.	0.203 U	0.0724 U	0.0881 U	0.0135 U
Chrysene	270. [3]	350.	0.408 J	0.0954 J	0.0881 U	0.0135 U
Dibenzo (a,h) anthracene	0.27 [3]	3.4	0.319 U	0.114 U	0.138 U	0.0212 U
Fluoranthene	8,900. [2]	47,000.	0.249 U	0.103 J	0.108 U	0.0166 U
Fluorene	12,000. [2]	1,000.	0.264 U	0.0939 U	0.114 U	0.0176 U
Indeno (1,2,3-cd) pyrene	2.7 [3]	31.	0.478 J	0.112 J	0.121 U	0.0186 U
Naphthalene	710. [2]	3.8	0.35 J	0.137 J	0.121 U	0.0186 U
Phenanthrene			0.357 U	0.127 U	0.155 U	0.0237 U
Pyrene	6,700. [2]	34,000.	0.485 J	0.13 J	0.094 U	0.0144 U
Total PAHs			2.79	0.65	U	U

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
J = estimated concentration

mg/kg = milligrams/kilogram
ppm = parts per million
U = not detected above concentration indicat

1 = Lowest DEQ Risk-Based Concentration (RBC) for Non-Residential pathway, March 2007
2 = DEQ RBC for Construction Worker
3 = DEQ RBC for Occupational Worker
Bold = Concentration exceeds DEQ RBC or EPA Screening Level

TABLE 4 – Summary of Soil Testing Results: Total Metals by EPA 6010/7000 Series

		Area of Interest ==>	Near-Surface Soil				Subsurface Fill			
		Sample Location ==>	P-1/P-2	P-3/P-5	P-4/P-10	P-8/P-9	P-1	P-2	P-3	P-4
		Composite Sample Number ==>	7358-071029-032	7358-071029-029	7358-071029-030	7358-071029-031	7358-071029-033	7358-071029-034	7358-071029-035	7358-071029-036
		Sub-Sample Number ==>	001/005	010/018	014/023	021/022	002/004	008/009	012/013	015/016
		Sample Date ==>	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07
		Depth (feet bgs) ==>	0.5 - 2.5	0.5 - 2.0	0.5 - 2.0	1.0 - 2.0	8.0 - 19.0	10. 0 - 16.5	11.0 - 19.0	6.0 - 11.0
Analytical Parameters	**Adjusted ª Reference Levels** – mg/kg (ppm)			**Laboratory Testing Results** mg/kg (ppm)							
	Direct Contact [1]	Leaching to Groundwater [3]	Background [5]								
Antimony	15.5 [2]	3.	4.	0.531 U	0.552 U	1.54	2.55	0.622 U	0.662 U	0.8 U	0.641 U
Arsenic	0.85	10.	7.	2.18	3.71	2.23	7.48	2.91	2.78	7.91	3.82
Barium	31,000.	820.	670. [6]								
Beryllium	305.	30.	2. [7]	1.06 U	1.1 U	0.961 U	1.17 U	1.24 U	1.32 U	1.6 U	1.28 U
Cadmium	4,300.	4.	1.	0.701	0.679	0.831	1.29	0.684	0.992	0.816	0.827
Chromium	90.	20.	42.	10.6 U	14.7	9.61 U	16.5	14.4	13.2 U	16. U	12.8 U
Copper	5,500.		36.	23.1	33.9	82.1	162.	21.4	23.1	21.4	19.
Lead	400.	15. [4]	17.	10.9	16.6	1,940.	**181.**	4.15	4.11	11.5	5.12
Mercury	46.5	1.	0.07	0.0796	0.0265	**5.38**	0.809	0.0211	0.0198 U	0.0608	0.0205
Nickel	3,100.	70.	38.	12.5	18.9	15.8	28.4	16.9	17.6	18.2	18.8
Selenium	195. [2]	3.	2.	0.531 U	0.563	0.48 U	0.879	0.622 U	0.662 U	0.8 U	0.641 U
Silver	750.	20.	1.	1.06 U	1.1 U	0.961 U	1.7	1.24 U	1.32 U	1.6 U	1.28 U
Thallium	2.75 [2]	4.		0.531 U	0.552 U	0.48 U	0.586 U	0.622 U	0.662 U	0.8 U	0.641 U
Zinc	11,500. [2]	6,200.	86.	55.9	59.6	111.	466.	51.1	56.6	56.7	56.4

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
mg/kg = milligrams/kilogram
ppm = parts per million
U = not detected above concentration indicated

a = Reference Level is adjusted by dividing by a factor of 2 to account for a 2-part composite sample (except Background)
1 = Lowest DEQ Risk-Based Concentration (RBC) for Non-Residential Direct Contact, March 2007 Update
2 = EPA Region 6 Human Health Screening Level for Industrial, December 2006
3 = EPA Region 6 Human Health Screening Level for Leaching to Groundwater (DAF 20), December 2006
4 = DEQ RBC for Leaching to Groundwater, March 2007 Update
5 = DEQ Default Background Concentrations for Metals, October 2002
6 = Elemental Concentrations in Soils of the Conterminous United States (Arithmetic Mean, Western US), USGS 1984
7 = Natural Background Soil Metals Concentrations in Washington State, WA Dept. of Ecology, October 1994

Yellow Shade = Concentration exceeds DEQ RBC for Direct Contact (Non-Residential) and Background Concentration
Bold = Concentration exceeds DEQ RBC for Leaching to Groundwater and Background Concentration

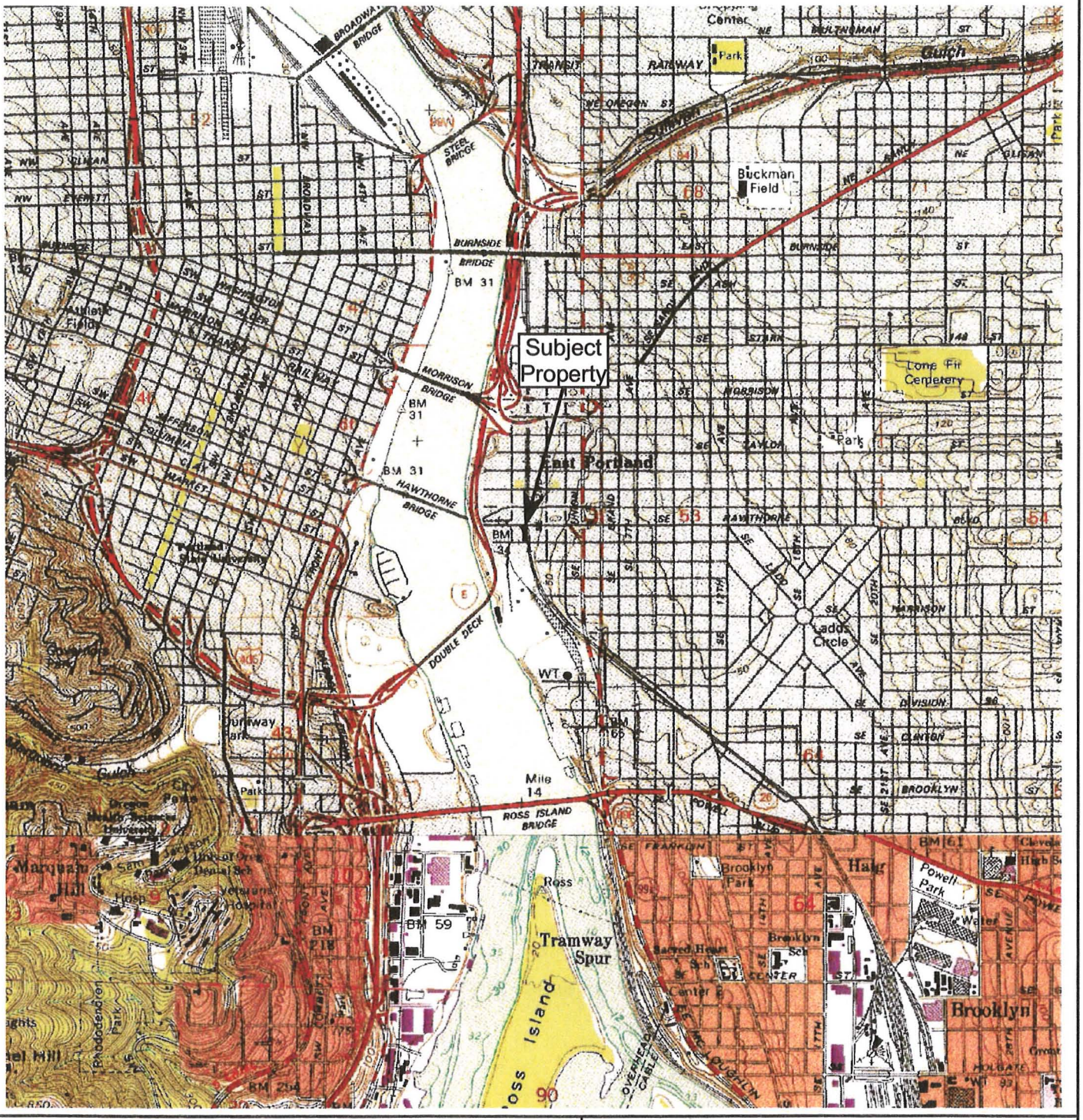
TABLE 5 – Summary of Groundwater Testing Results: Volatile Organic Compounds (VOCs) by EPA 8260B

			Sample Location ==>	P-1	P-2	P-3	P-4
			Screen Depth (feet bgs) ==>	15 - 20	15 - 20	15 - 20	15 - 20
			Sample Number ==>	7358-071029-100	7358-071029-101	7358-071029-102	7358-071029-103
			Sample Date ==>	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07
Analytical Parameters	**Reference Levels** [1] – ug/L (ppb)			**Laboratory Testing Results** ug/L (ppb)			
	Tap Water	Occupational Vapor Intrusion	Excavation Worker				
Benzene	0.35	2,700.	1,700.	**6.**	**0.5** U	**0.5** U	**0.5** U
Toluene	2,300.		200,000.	2. U	2. U	2. U	2. U
Ethylbenzene	1,300.		110,000.	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	210.		22,000.	1. U	1. U	1. U	1. U
Naphthalene	6.2		680.	**16.2**	5. U	5. U	5. U
Tetrachloroethene (PCE)	0.091	1,300.	240.	**0.5** U	**0.5** U	**0.5** U	**0.5** U
Trichloroethene (TCE)	0.029	110.	130.	**0.5** U	**0.5** U	**0.5** U	**0.5** U
Other VOCs				U	U	U	U
Total VOCs				22.2	U	U	U

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
ppb = parts per billion

U = not detected above concentration indicated
ug/L = micrograms/liter
VOCs = volatile organic compounds

1 = DEQ Risk-Based Concentration (RBC) for indicated pathway, March 2007
Bold = Concentration exceeds DEQ RBC for Residential Tap Water Ingestion



Note: Base Map from the Portland (1990) and
Lake Oswego (1984), Oregon, USGS 7.5-Minute Quadrangles
Contour Interval: 10 Feet

NORTH

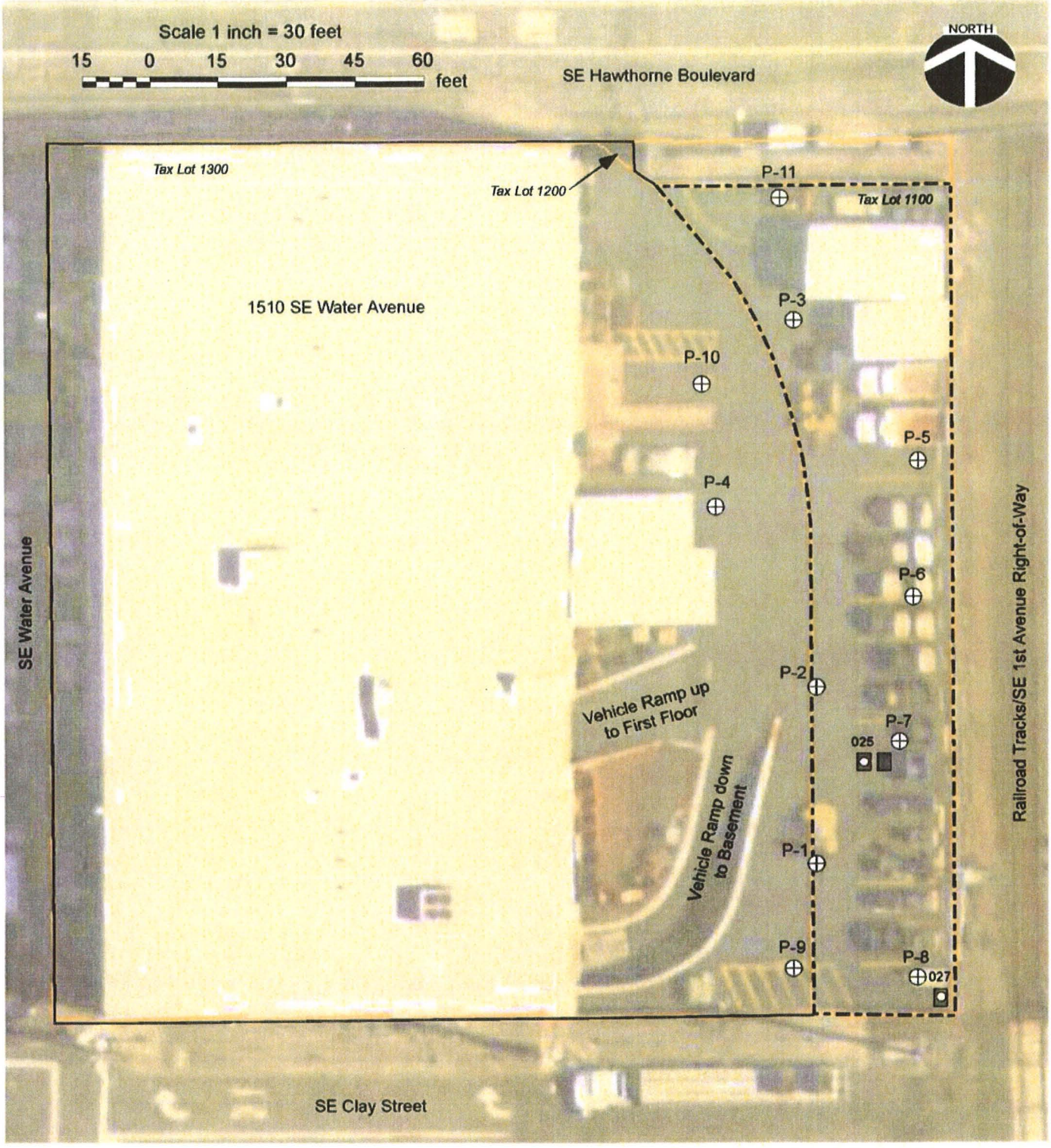
0 1000 2000 4000

1"=2000' Scale in Feet

FIGURE 1
Location Map

Phase II Environmental Site Assessment
1501 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 7358 November 2007



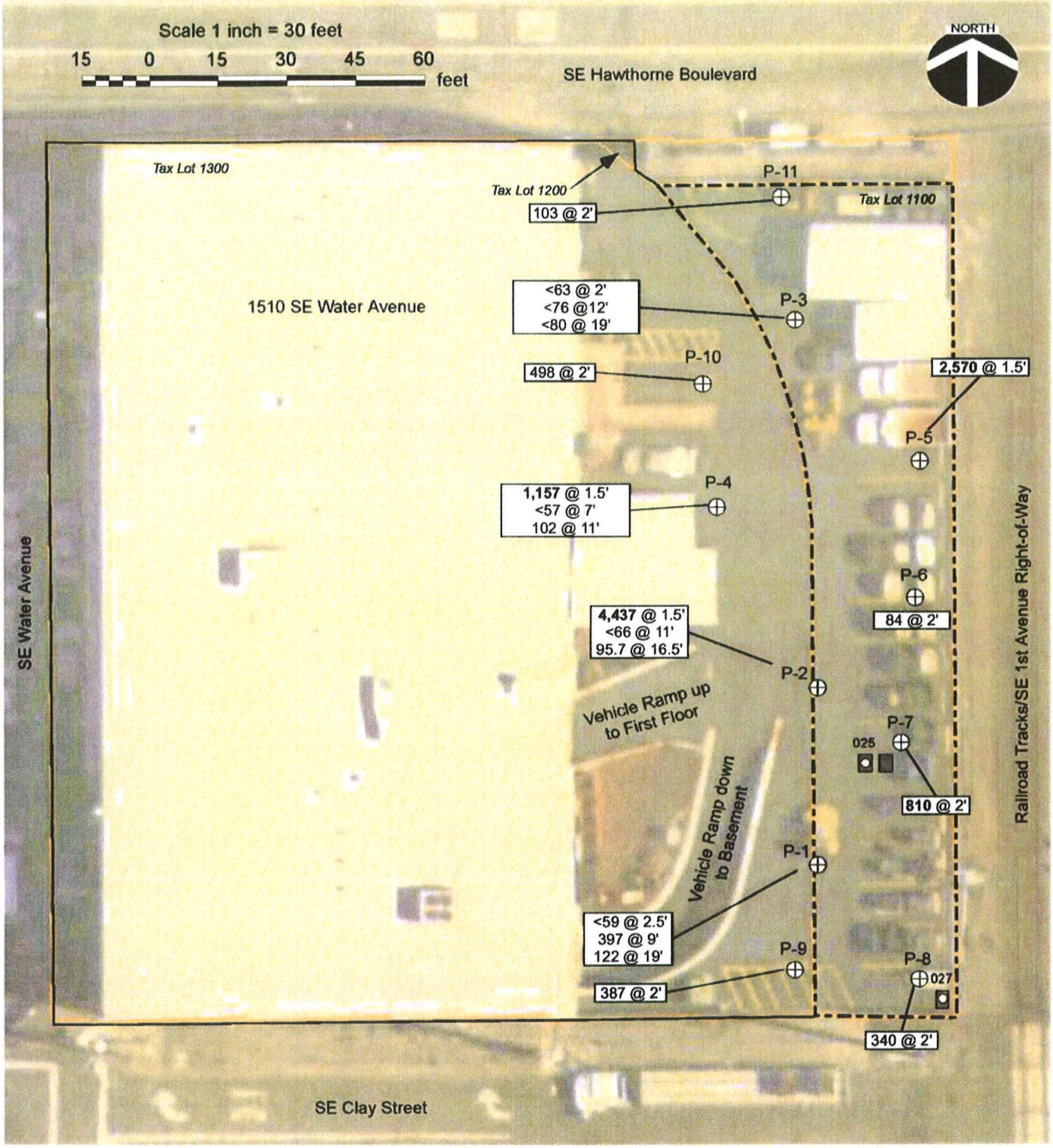
LEGEND

- Subject Property
- Catch Basin
- P-4 Soil Boring
- 027 Grab Sample

FIGURE 2 – Site Map

Phase II Environmental Site Assessment
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 7358 November 2007

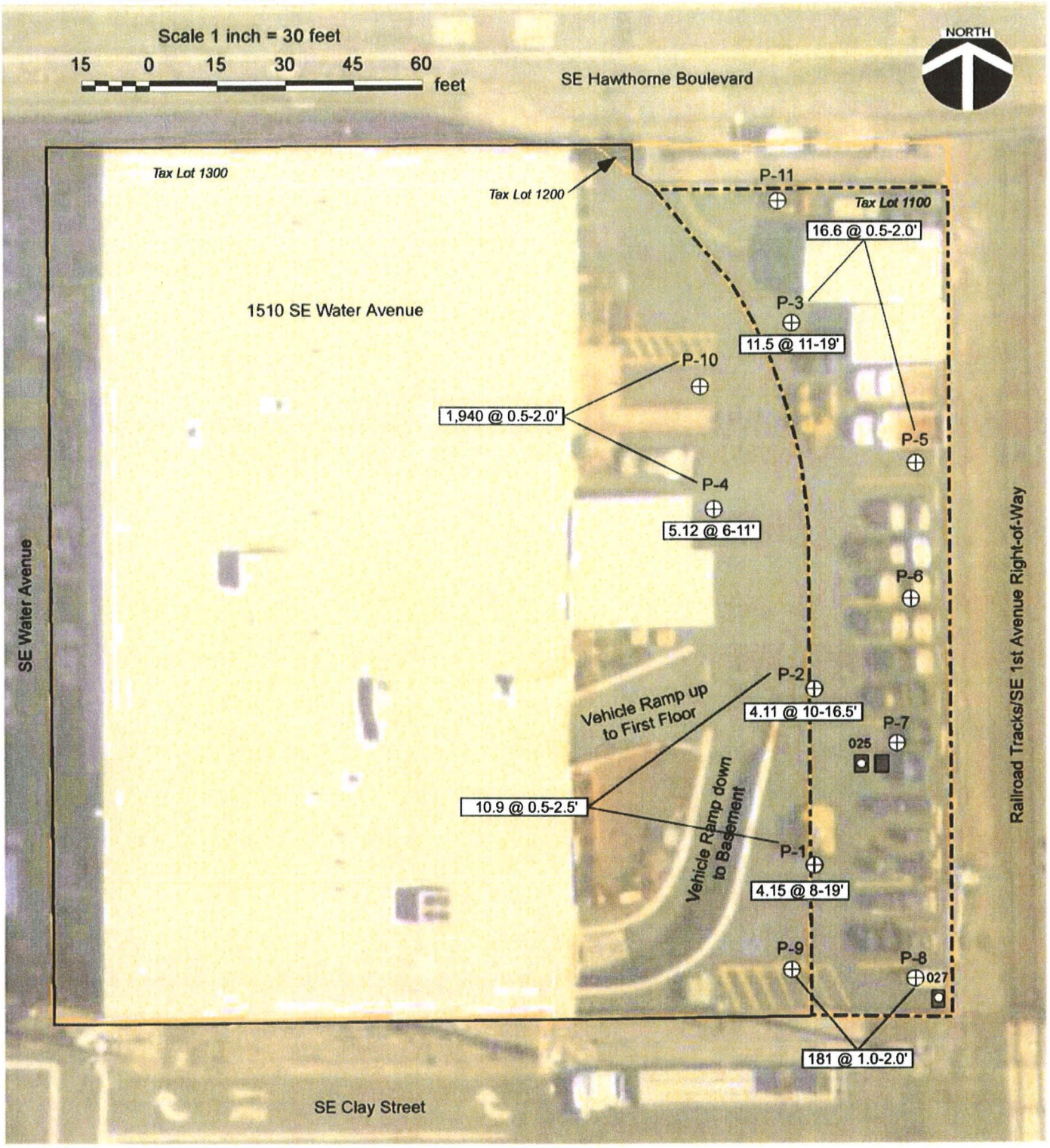


LEGEND

- Subject Property
- Catch Basin
- P-4 Soil Boring
- 027 Grab Sample
- 84 @ 2' Diesel + Oil (TPH-Dx) in Soil in mg/kg (ppm) at Depth in feet bgs

FIGURE 3
Diesel and Oil in Soil
Phase II Environmental Site Assessment
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 7358 November 2007



LEGEND

- Subject Property
- Catch Basin
- P-4 Soil Boring
- 027 Grab Sample
- 84 @ 2' Lead in Soil in mg/kg (ppm) at Depth in feet bgs

FIGURE 4 – Lead in Soil
(2-Part Composite Samples)
Phase II Environmental Site Assessment
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 7358 November 2007

APPENDIX A

Field Boring Logs

W

HAHN AND ASSOCIATES, INC.
434 NW Sixth Avenue
Portland, Oregon 97209
(503) 796-0717

PROJECT:

PROJECT No. 7358

PUSH PROBE NUMBER P- 1

Page 1 of 1

HAI LOGGER: Ben Uhl
SAMPLING METHOD: Macrocore - grab
DRILLING METHOD: Push Probe
EQUIPMENT TYPE Track - 6600
DRILLER: Tyler Day / Richard Rangel
DRILLING CONTRACTOR: Cascade Drilling.

DRILL START	DRILL FINISH
Time: 911	Time: 950
Date: 8-29-07	Date: 8-29-07

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
A. Patch											
3/8" BENTONITE CHIPS							1			SP	(0.0'- 1.0') Asphalt + coarse, angular fill gravel, loose,
	001	918	0.0				2				(1.0'-2.5') SAND, brown, med grain, poorly graded, damp, loose, no OSD
							3				
							4				
							5				
	002	~~AA~~ 920	-				6			SP	(5.0'-6.0' bgs) gravelly SAND, brown loose, med graded, damp, no OSD, gravelly-med grain, sub-rounded, gray
							7				
							8				
							9				
							10				
	003	925	0.0				11	▽		SP	(10.0'-11.5' bgs) gravelly SAND, As Above, no OSD, pocket of saturation @ 11.0' bgs, not enough for VOAs, redish SILT in shoe @ bottom of macro core
							12				
							13				
							14				
							15				
							16			SM	(15.0'-19.0' bgs) silty SAND saturated, brown becoming gray @ 16.5' bgs, poorly graded, non plastic, loose, no OSD. • 15'-20' bgs = screen, 0.01" PVC
							17				
							18				
	004	934	0.0				19				* Driller explains "loose/easy" drilling conditions ⇒ bad recovery, fill?
							20				

END Boring @ 20.0' bgs

* Sample No. Prefix: 7358-071029-

GW Sample Info: ▽ = 11' bgs

AA = as above
OSD = odor, sheen by sheen test, discoloration

Collect 3x40mL HCl @ 940
-100
• No sheen on sample water

W

HAHN AND ASSOCIATES, INC. 434 NW Sixth Avenue Portland, Oregon 97209 (503) 796-0717	**PUSH PROBE NUMBER** P-2 Page 1 of 1	
PROJECT:	HAI LOGGER: Ben Uhl SAMPLING METHOD: Macrocore - grab DRILLING METHOD: Geoprobe - direct push EQUIPMENT TYPE Track Unit - 6,600 DRILLER: Tyler Day / Richard Rangel DRILLING CONTRACTOR: Cascade Drilling	DRILL START Time: 953 Date: 10-29-07 DRILL FINISH Time: 1035 Date: 10-29-07
PROJECT No. 7358		

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
A. patch											(0.0'-1.0' bgs) Asphalt ~~silty~~ gravelly SILT soft, brown 6" then black, ~~no~~ damp mild oily aroma, black rainbow sheen in water black ~6" gravel coarse, sub rounded
3/8" BENTONITE CHIPS	005	1001	NA*				1			mL	
	006	1002	NA*				2				
							3				
							4				(1.0'-2.0' bgs) SAND brown, damp, no OSD, loose, poorly graded, medium grain
							5				
	007	1004	NA*				6			SP	
							7				(5.0'-6.0' bgs) SAND damp As Above no OSD, a couple fine grain, sub rounded gravels present
							8				
							9				
							10				
	008	1009	NA*				11	▽		SP	(10.0'-11.5' bgs) gravelly SAND loose, brown → redish brown w/ depth moist → saturated @ 10.3 to 11.5, no OSD, med grain, sub rounded
							12				
							13				
							14				
							15				
	009	1013	0.0 ppm				16			SP	(15.0'-16.0' bgs) gravelly SAND, As Above, brn, saturated, no OSD
							17				
							18			SM	(16.0'-20.0' bgs) silty SAND gray wet loose fine grain, poorly graded, no OSD, non plastic
							19				• Screen: 15.0'-20.0' bgs, 0.01" slot, PVC
							20				END BORING @ 20.0' bgs

* Sample No. Prefix: 7358-071029-

GW Sample Info: ▽ = 10.3'
Collect 3x40 mL (HCl) VOA
= 101 @ 1023

AA = as above
OSD = odor, sheen by sheen test, discoloration

* NOT ENOUGH SAMPLE VOLUME (RECOVERY) FOR HEADSPACE (PID) MEASUREMENTS

W

HAHN AND ASSOCIATES, INC. 434 NW Sixth Avenue Portland, Oregon 97209 (503) 796-0717	**PUSH PROBE NUMBER** P-3	Page 1 of 1	
PROJECT:	HAI LOGGER: Ben Wahl	DRILL START	DRILL FINISH
	SAMPLING METHOD: macrocore - grab		
	DRILLING METHOD: GeoProbe - Direct Push	Time: 1042	Time: 1125
	EQUIPMENT TYPE Track Unit - 6600		
	DRILLER: Tyler Day / Richard Rangel	Date: 10-27-07	Date: 10-27-07
PROJECT No. 7358	DRILLING CONTRACTOR: Cascade Drilling		

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
A. auch											(0.0'-1.0' bgs) Asphalt then gravelly SILT dark brown soft, non plastic, gravel = medium grain, sub-rounded, overall, no OSD
	010	1048	0.0ppm				1			ML	
							2				
							3				(1.0'-2.0' bgs) SAND, brown, damp loose, medium grain, poorly graded no OSD
							4				
							5				
	011	1050	NA*				6			SP	(5.0'-6.0' bgs) SAND, As Above, no OSD
							7				
							8				
							9				
							10				
							11	▽		ML	(10.0'-11.0' bgs) gravelly SILT brown-red from 10.8-11.0', then saturated from 10.8-11.0' gravel = large (coarse), sub-rounded, no OSD overall, Red color DOES NOT LOOK LIKE POWDERED BRICK
	012	1100	0.0ppm				12				
							13				(11.0-11.2' bgs) WOOD chips w/ some gray, ~~damp~~ @ moist, SILT, no OSD
							14				
							15				
							16			ML	(11.2'-12.0' bgs) SILT w/ some sand, gray, damp soft non-plastic, no OSD, sand = fine grain, gray, sub-rounded, damp
							17				
							18				(15.0'-15.5' bgs) gravelly SILT, brown gray, saturated, no OSD
	013	1104	0.0ppm				19				(15.5-19.0' bgs) silty SAND, gray, wet, loose, fine grain, poorly graded sub-rounded no OSD
							20				

Screen: 15.0'-20.0' bgs, 0.01" slot
END BORING 20.0' bgs

BENTONITE CHIPS

3/8"

* Sample No. Prefix: 7358-071029 -

GW Sample Info: ▽ = 10.8'
Collect 3x40mL (HCl) VOA
-102 @ 1113

AA = as above
OSD = odor, sheen by sheen test, discoloration

* NOT ENOUGH SAMPLE VOLUME FOR HEADSPACE READING.

W

HAHN AND ASSOCIATES, INC. 434 NW Sixth Avenue Portland, Oregon 97209 (503) 796-0717	**PUSH PROBE NUMBER** P-4	Page 1 of 1	
PROJECT:	HAI LOGGER: Ben Uhl	DRILL START	DRILL FINISH
	SAMPLING METHOD: Macrocore-grab		
	DRILLING METHOD: GeoProbe – Direct Push	Time:	Time:
	EQUIPMENT TYPE Track Mount – 6,600	1130	
	DRILLER: Tyler Day / Richard Rangel	Date:	Date:
PROJECT No. 7358	DRILLING CONTRACTOR: Cascade Drilling	10-29	10-29-07

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
A. Patch											(0.0'-2.0' bgs) Asphalt then
	014	1135	0.0ppm				1			ML	gravelly SILT, soft, damp, gray, no Odor, Sheen (mild) present, gravel: large, sub-rounded
							2				
							3				
							4				
							5				
							6			SP	(5.0'-7.0' bgs) SAND w/ some gravel, Brown, loose, fine grain, poorly graded, no OSD, Gravel: fine grain, sub-angular
	015	1140	0.4ppm				7				
							8				
							9				
							10				
	016	1145	0.0ppm				11	▽		SP	(10.0'-12.5' bgs) SAND w/ some gravel, As Above, becoming gray @ 12.0' bgs, saturated @ 11.0' bgs, otherwise moist
							12				
							13				
							14				
							15				
							16			SM	(15.0'-~~16.0~~ 15.5' bgs) SAND w/ some gravel, saturated, AA, no OSD
							17				(15.5'-19.0' bgs) = silty SAND, gray, moist, loose, fine grain, poorly graded, non-plastic, no OSD, small wood fragments @ 15.5' bgs
							18				
	017	1151	0.0ppm				19				Screen: 15-20' bgs, 0.01" slot PVC
							20				END BORING @ 20.0' bgs

BENTONITE CHIPS 3/8"

* Sample No. Prefix: 7358-071029-

GW Sample Info: ▽ = 11.0' bgs

AA = as above
OSD = odor, sheen by sheen test, discoloration

Collect 3x40mL (HCl) VOAs
– 103 @ 1155

W

HAHN AND ASSOCIATES, INC. 434 NW Sixth Avenue Portland, Oregon 97209 (503) 796-0717	PUSH PROBE NUMBER	P-5 Page 1 of 1	
PROJECT:	HAI LOGGER: Ben Uhl	DRILL START	DRILL FINISH
	SAMPLING METHOD: macrocore - grab		
	DRILLING METHOD: Direct Push - GeoProbe	Time:	Time:
	EQUIPMENT TYPE Track Mount - 6600	1254	1301
	DRILLER: Tyler Day / Richard Ranged	Date:	Date:
PROJECT No. 7358	DRILLING CONTRACTOR: Cascade Drilling	10-29	10-29-07

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
A. patch											(0.0 - 2.0' bgs) gravelly SILT w/some sand, soft, gray, damp non-plastic, no OSD
3/4" Bentonite chips	018	1301	0.0 ppm				1			ML	gravel - med grain, sub-angular
							2				wood chips @ 1' bgs
							3				(2.0' - 3.0' bgs) SAND brown, damp, fine grain, poorly graded, loose, no OSD
							4				
							5				
							6				
							7				END BORING 6' bgs
							8				
							9				
							10				
							11				
							12				
							13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				

* Sample No. Prefix: 7358-071029 - GW Sample Info: NA

AA = as above
OSD = odor, sheen by sheen test, discoloration

W

HAHN AND ASSOCIATES, INC.
434 NW Sixth Avenue
Portland, Oregon 97209
(503) 796-0717

PROJECT:

PROJECT No. 7358

PUSH PROBE NUMBER P-6

Page 1 of 1

HAI LOGGER: Ben Uhl
SAMPLING METHOD: macrocore – ~~Direct Push~~ grab
DRILLING METHOD: Push probe – direct Push – GeoProbe
EQUIPMENT TYPE Track-mount, 6,600
DRILLER: Tyler Day / Richard Rengal
DRILLING CONTRACTOR: Cascade Drilling

DRILL START	DRILL FINISH
Time: 1304	Time: 1317
Date: 10-29	Date: 10-29-07

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
3/8" BENTONITE CHIPS											(0.0'-1.0' bgs) ~~gravel~~ Asphalt
							1				gravelly SILT, gray, damp,
	019	1316	0.0ppm								loose, no OSD, gravel-med
							2			ML	grain, sub-angular, wood
											fragments @ 1.0' bgs
							3				(1.0'-1.2') gravelly silt,
											moist, brown, soft, non-plastic,
							4				no OSD, gravel-large,
											sub rounded
							5				(1.2'-3.0' bgs) SAND, brown,
											damp, fine grain, poorly graded,
							6				loose, no OSD
							7				END BORING 6' bgs
							8				
							9				
							10				
							11				
							12				
							13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				

* Sample No. Prefix: 7358-071029–

GW Sample Info: NA

AA = as above
OSD = odor, sheen by sheen test, discoloration

W

HAHN AND ASSOCIATES, INC.
434 NW Sixth Avenue
Portland, Oregon 97209
(503) 796-0717

PROJECT:

PROJECT No. 7358

PUSH PROBE NUMBER P- 7

Page 1 of 1

HAI LOGGER: Ben Uhl
SAMPLING METHOD: macrocore - grab
DRILLING METHOD: Geoprobe Direct Push
EQUIPMENT TYPE: Truck mount - 6,600
DRILLER: Tyler Day / Richard Rengal
DRILLING CONTRACTOR: Cascade Drilling

DRILL START	DRILL FINISH
Time: 1320	Time: 1328
Date: 10-29	Date: 10-27-07

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
A. patch											(0.0-2.0' bgs) Asphalt
							1			ML	gravelly SILT, dark brown,
	026	1328	3.1 ppm								moist soft, non-plastic,
							2				no OSD
3/8" BENTONITE CHIPS							3				
							4				
							5				
							6				
							7				END BORING @ 6.0' bgs
							8				
							9				
							10				
							11				
							12				
							13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				

* Sample No. Prefix: 7358-071029-

GW Sample Info: NA

AA = as above
OSD = odor, sheen by sheen test, discoloration

W

HAHN AND ASSOCIATES, INC.
434 NW Sixth Avenue
Portland, Oregon 97209
(503) 796-0717

PROJECT:

PROJECT No. 7358

PUSH PROBE NUMBER P-8

Page 1 of 1

HAI LOGGER: Ben Uhl
SAMPLING METHOD: macro core - grab
DRILLING METHOD: GeoProbe - Direct Push
EQUIPMENT TYPE Track Mount - 6,600
DRILLER: Tyler Day / Richard Renaud
DRILLING CONTRACTOR: Cosca de Drilling

DRILL START	DRILL FINISH
Time: 1332	Time: 1338
Date: 10-29	Date: 10-29-07

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
A patch											(0.0'-2.0' bgs) Asphalt
							1				gravelly SILT dark brown,
	021	1338	0.0ppm							ML	soft, moist non-plastic,
							2				no OSD, Gravel - course grain,
											sub-angular to angular
							3				
							4				
							5				
3" BENTONITE CHIPS											
							6				
											END BORING @ 6.0' bgs
							7				
							8				
							9				
							10				
							11				
							12				
							13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				

* Sample No. Prefix: 7358-071029-

GW Sample Info: NA

AA = as above
OSD = odor, sheen by sheen test, discoloration

W

HAHN AND ASSOCIATES, INC. 434 NW Sixth Avenue Portland, Oregon 97209 (503) 796-0717	PUSH PROBE NUMBER P-9	Page 1 of 1
PROJECT:	HAI LOGGER: Ben Uhl SAMPLING METHOD: macro core - grab DRILLING METHOD: Geoprobe - Direct Push EQUIPMENT TYPE Track Mount - 6600 DRILLER: Tyler Day / Richard Rengel DRILLING CONTRACTOR: Cascade Drilling	DRILL START Time: 1340 Date: 10-29 DRILL FINISH Time: 1350 Date: 10-29-07
PROJECT No. 7358		

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
3" BENTONITE CHIPS							1				(0.0'-2.0' bgs) Asphalt
	022	1348	0.0 ppm				2			ML	gravelly silt, dark brown, moist, soft, non-plastic, no OSD, gravel - fine to coarse grain, sub-angular.
							3				
							4				
							5				
							6				
							7				END BORING @ 6.0' bgs
							8				
							9				
							10				
							11				
							12				
							13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				

* Sample No. Prefix: 7358-071029- GW Sample Info: NA

AA = as above
OSD = odor, sheen by sheen test, discoloration

W

HAHN AND ASSOCIATES, INC. 434 NW Sixth Avenue Portland, Oregon 97209 (503) 796-0717	**PUSH PROBE NUMBER** P- 10	
	Page 1 of 1	
PROJECT:	HAI LOGGER: Ben Uhl	DRILL START
	SAMPLING METHOD: Macrocore – grab	
	DRILLING METHOD: GeoProbe – Direct Push	Time: 1355
	EQUIPMENT TYPE: Track Mount – 6,600	
	DRILLER: Tyler Day / Richard Ragsdale	Date: 10-29
PROJECT No. 7358	DRILLING CONTRACTOR: Cascade Drilling	

DRILL FINISH
Time: 1403
Date: 10-29-07

BORING DIAMETER: 2"
CASING DIAMETER: N/A
SURFACE ELEVATION: Not Surveyed
TOP OF CASING ELEVATION: N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
3/8" BENTONITE CHIPS	023	1359					1			ML	(0.0'-3.0' bgs) Asphalt gravelly silt dark brown to dark gray, soft, non-plastic, no OSD. Gravel - fine to coarse grain, sub-angular, moist
							2				
							3			SP	(3.0'-4.0') bgs SAND brown damp, loose brown fine grain, poorly graded, no OSD
							4				
							5				
							6				
							7				END BORING 6.0' bgs
							8				
							9				
							10				
							11				
							12				
							13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				

* Sample No. Prefix: 7358-071029-

GW Sample Info: NA

AA = as above
OSD = odor, sheen by sheen test, discoloration

W

HAHN AND ASSOCIATES, INC. 434 NW Sixth Avenue Portland, Oregon 97209 (503) 796-0717	**PUSH PROBE NUMBER** P- 11 Page 1 of 1	
PROJECT:	HAI LOGGER: Ben UM	DRILL START / DRILL FINISH
	SAMPLING METHOD: macrocore - grab	
	DRILLING METHOD: GeoProbe - Direct Push	Time: 1406 / Time: 1415
	EQUIPMENT TYPE Track Mount - 6,600	
	DRILLER: Tyler Day / Richard Rengal	Date: 10-29 / Date: 10-29-07
PROJECT No. 7358	DRILLING CONTRACTOR: Cascade Drilling	

BORING DIAMETER:	2"
CASING DIAMETER:	N/A
SURFACE ELEVATION:	Not Surveyed
TOP OF CASING ELEVATION:	N/A

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx (ppm)	CORE INTERVAL	% RECOVERY	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	SOIL DESCRIPTION
3" BENTONITE CHIPS	024	1410					1			ML	(0.0' - 2.0' bgs) Asphalt, gravelly SILT w/ some sand brown, soft damp no OSD non-plastic, gravelly fine to coarse grain sub-angular sand - brown, fine grain, no OSD
							2				
							3				
							4				
							5				
							6				
							7				END BORING @ 6.0' bgs
							8				
							9				
							10				
							11				
							12				
							13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				

* Sample No. Prefix: 7358-071029-

GW Sample Info: NA

AA = as above
OSD = odor, sheen by sheen test, discoloration

APPENDIX B

Laboratory Analytical Reports and Chain-of-Custody Documentation
Soil Samples

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No.: 1 of 3

Project Manager	Siobhan McConnell
Project No.	7358
Project Name	WTRINV
Collected by	~~Siobhan McConnell~~ Ben Uhl

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

***Sample Number Prefix: 7358-071029-**

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH-Dx	EPA 8082 PCBs	EPA 8270 SIM (PAHs)	EPA 6000/7000 PP Metals			RUSH 5 DAY TURN	Remarks
	001	29-Oct-07	0918	P-1 (1.5'-2.5')	X			1	X	X					X	
	002	29-Oct-07	0920	P-1 (8.0'-9.0')	X			1	X						X	
	003	29-Oct-07	0925	P-1 (10.0'-11.0')	X			1								
	004	29-Oct-07	0934	P-1 (18.0'-19.0')	X			1	X						X	
	005	29-Oct-07	1001	P-2 (0.5'-1.5')	X			1	X	X					X	
	006	29-Oct-07	1002	P-2 (1.5'-2.0')	X			1								
	007	29-Oct-07	1004	P-2 (5.0-6.0')	X			1								
	008	29-Oct-07	1009	P-2 (10.0'-11.0')	x			1	X						X	
	009	29-Oct-07	1013	P-2 (15.5'-16.5')	x			1	X						X	
	010	29-Oct-07	1048	P-3 (1.0-2.0')	x			1	X	X					X	

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn and Assoc Inc	10/30/07	9:00	[illegible]	HAI
Siobhan McConnell	HAI	10/30/07	1215	[illegible]	Apex

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No. 2 of 5

Project Manager	Siobhan McConnell	Samples Received at 4C (Y or N)
Project No.	7358	Appropriate Containers Used (Y or N)
Project Name	WTRINV	Provide Verbal Results (Y or N)
Collected by	~~Siobhan McConnell~~ Ben Uhl	Provide Preliminary Fax Results

***Sample Number Prefix: 7358-071029-**

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH-Dx	EPA 8082 PCBs	EPA 8270 SIM (PAHs)	EPA 6000/7000 PP/Metals			RUSH 5 DAY TURN	Remarks
	011	29-Oct-07	1050	P-3 (5.0'-6.0')	X			1								
	012	29-Oct-07	1100	P-3 (11.0'-12.0')	X			1	X						X	
	013	29-Oct-07	1104	P-3 (18.0'-19.0')	X			1	X						X	
	014	29-Oct-07	1135	P-4 (0.5'-1.5')	X			1	X	X					X	
	015	29-Oct-07	1140	P-4 (6.0'-7.0')	X			1	X						X	
	016	29-Oct-07	1145	P-4 (10.0'-11.0')	X			1	X						X	
	017	29-Oct-07	1151	P-4 (18.0-19.0')	X			1								
	018	29-Oct-07	1302	P-5 (0.5'-1.5')	x			1	X	X					X	
	019	29-Oct-07	1316	P-6 (1.0-2.0')	x			1	X	X					X	
	020	29-Oct-07	1328	P-7 (1.0'-2.0')	x			1	X	X					X	

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn + Ass Inc	10/30/07	9:00	[illegible]	HAI
[illegible]	HAI	10/30/07	1215	[illegible]	Apex

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No. 3 of 3

Project Manager	Siobhan McConnell	Samples Received at 4C (Y or N)
Project No.	7358	Appropriate Containers Used (Y or N)
Project Name	WTRINV	Provide Verbal Results (Y or N)
Collected by	~~Siobhan McConnell~~ Ben Uhl	Provide Preliminary Fax Results

***Sample Number Prefix: 7358-071029-**

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH-Dx	EPA 8082 PCBs	EPA 8270 SIM (PAHs)	EPA 6000/7000 RCRA Metals	EPA 6010B/7000 RCRA Metals		RUSH 5DAY TURN	Remarks
	021	29-Oct-07	1338	P-8 (1.0-2.0')	X			1	X	X					X	
	022	29-Oct-07	1348	P-9 (1.0-2.0')	X			1	X	X					X	
	023	29-Oct-07	1359	P-10 (1.0-2.0')	X			1	X	X					X	
	024	29-Oct-07	1410	P-11 (1.0-2.0')	X			1	X	X					X	
	025	29-Oct-07	1435	Western Catch Basin	X			1								
	026	29-Oct-07	1440	Eastern Catch Basin	X			1								
	027	29-Oct-07	1455	Southern Catch Basin	X			1								

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn + Ass. Inc.	10/30/07	9 am	[illegible]	HAI
[illegible]	HAI	10/30/07	1215	[illegible]	Apex
Relinquished by	Company	Date	Time	Received by	Company

Apex Labs

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

Monday, November 26, 2007

Siobhan McConnell
Hahn and Associates
434 NW 6th Ave. Suite 203
Portland, OR 97209

RE: WTRINV / 7358

Enclosed are the results of analyses for samples received by the laboratory on 10/30/2007 at12:15:00PM.

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

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

Apex Labs

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

Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
7358-071029-001	A710267-01	Soil	10/29/07 09:18	10/30/07 12:15
7358-071029-002	A710267-02	Soil	10/29/07 09:20	10/30/07 12:15
7358-071029-004	A710267-04	Soil	10/29/07 09:34	10/30/07 12:15
7358-071029-005	A710267-05	Soil	10/29/07 10:01	10/30/07 12:15
7358-071029-008	A710267-08	Soil	10/29/07 10:09	10/30/07 12:15
7358-071029-009	A710267-09	Soil	10/29/07 10:13	10/30/07 12:15
7358-071029-010	A710267-10	Soil	10/29/07 10:48	10/30/07 12:15
7358-071029-012	A710267-12	Soil	10/29/07 11:00	10/30/07 12:15
7358-071029-013	A710267-13	Soil	10/29/07 11:04	10/30/07 12:15
7358-071029-014	A710267-14	Soil	10/29/07 11:35	10/30/07 12:15
7358-071029-015	A710267-15	Soil	10/29/07 11:40	10/30/07 12:15
7358-071029-016	A710267-16	Soil	10/29/07 11:45	10/30/07 12:15
7358-071029-018	A710267-18	Soil	10/29/07 13:01	10/30/07 12:15
7358-071029-019	A710267-19	Soil	10/29/07 13:16	10/30/07 12:15
7358-071029-020	A710267-20	Soil	10/29/07 13:28	10/30/07 12:15
7358-071029-021	A710267-21	Soil	10/29/07 13:38	10/30/07 12:15
7358-071029-022	A710267-22	Soil	10/29/07 13:48	10/30/07 12:15
7358-071029-023	A710267-23	Soil	10/29/07 13:59	10/30/07 12:15
7358-071029-024	A710267-24	Soil	10/29/07 14:10	10/30/07 12:15

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL SAMPLE RESULTS

Petroleum Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-001 (A710267-01)			**Matrix: Soil**					
Diesel Range Organics	ND	---	29.3	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	ND	---	58.6	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-002 (A710267-02)			**Matrix: Soil**					
Diesel Range Organics	ND	---	28.0	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**397**	---	56.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-004 (A710267-04RE1)			**Matrix: Soil**					
Diesel Range Organics	ND	---	41.1	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**122**	---	82.1	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-005 (A710267-05)			**Matrix: Soil**					
Diesel Range Organics	**437**	---	130	mg/kg dry	5	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**4000**	---	260	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 114 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-008 (A710267-08)			**Matrix: Soil**					
Diesel Range Organics	ND	---	33.0	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	ND	---	66.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 85 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-009 (A710267-09RE1)			**Matrix: Soil**					
Diesel Range Organics	ND	---	43.0	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**95.7**	---	86.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 82 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-010 (A710267-10)			**Matrix: Soil**					
Diesel Range Organics	ND	---	31.6	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	ND	---	63.1	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 83 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-012 (A710267-12RE1)			**Matrix: Soil**					
Diesel Range Organics	ND	---	38.2	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	ND	---	76.3	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 77 %*	*Limits: 50-150 %*	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL SAMPLE RESULTS

Petroleum Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-013 (A710267-13RE1)			**Matrix: Soil**					
Diesel Range Organics	ND	---	39.9	mg/kg dry	1	11/02/07 00:00	NWTPH-Dx	
Oil Range Organics	ND	---	79.8	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 99 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-014 (A710267-14)			**Matrix: Soil**					
Diesel Range Organics	**97.4**	---	21.7	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	F-07
Oil Range Organics	**1060**	---	43.3	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-015 (A710267-15)			**Matrix: Soil**					
Diesel Range Organics	ND	---	28.4	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	ND	---	56.8	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-016 (A710267-16)			**Matrix: Soil**					
Diesel Range Organics	ND	---	31.4	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**102**	---	62.8	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-018 (A710267-18)			**Matrix: Soil**					
Diesel Range Organics	ND	---	337	mg/kg dry	10	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**2570**	---	673	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 149 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-019 (A710267-19)			**Matrix: Soil**					
Diesel Range Organics	ND	---	30.9	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**84.0**	---	61.8	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-020 (A710267-20)			**Matrix: Soil**					
Diesel Range Organics	**40.7**	---	28.6	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	F-07
Oil Range Organics	**769**	---	57.2	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-021 (A710267-21)			**Matrix: Soil**					
Diesel Range Organics	ND	---	27.3	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**340**	---	54.6	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL SAMPLE RESULTS

Petroleum Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-022 (A710267-22)			**Matrix: Soil**					
Diesel Range Organics	ND	---	36.3	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**387**	---	72.6	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-023 (A710267-23)			**Matrix: Soil**					
Diesel Range Organics	**28.0**	---	27.2	mg/kg dry	1	10/31/07 18:11	NWTPH-Dx	F-07
Oil Range Organics	**470**	---	54.3	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 108 %*	*Limits: 50-150 %*	"	"	"	
7358-071029-024 (A710267-24)			**Matrix: Soil**					
Diesel Range Organics	ND	---	29.7	mg/kg dry	1	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**103**	---	59.4	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 107 %*	*Limits: 50-150 %*	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-002 (A710267-02)			**Matrix: Soil**					**R-04**
Acenaphthene	ND	115	351	ug/kg dry	10	11/06/07 12:39	EPA 8270 SIM	
Acenaphthylene	ND	99.9	351	"	"	"	"	
Anthracene	ND	96.9	351	"	"	"	"	
Benz(a)anthracene	ND	88.5	351	"	"	"	"	
Benzo(a)pyrene	ND	70.4	351	"	"	"	"	
Benzo(b)fluoranthene	ND	142	351	"	"	"	"	
Benzo(k)fluoranthene	ND	88.1	351	"	"	"	"	
Benzo(g,h,i)perylene	ND	123	351	"	"	"	"	
Chrysene	ND	88.1	351	"	"	"	"	
Dibenz(a,h)anthracene	ND	138	351	"	"	"	"	
Fluoranthene	ND	108	351	"	"	"	"	
Fluorene	ND	114	351	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	121	351	"	"	"	"	
Naphthalene	ND	121	351	"	"	"	"	
Phenanthrene	ND	155	351	"	"	"	"	
Pyrene	ND	94.0	351	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 88 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*82 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*89 %*	*Limits: 30-120 %*	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-005 (A710267-05)			**Matrix: Soil**					**R-04**
Acenaphthene	ND	265	810	ug/kg dry	25	11/06/07 13:02	EPA 8270 SIM	
Acenaphthylene	ND	230	810	"	"	"	"	
Anthracene	ND	224	810	"	"	"	"	
Benz(a)anthracene	ND	204	810	"	"	"	"	
Benzo(a)pyrene	**277**	162	810	"	"	"	"	J
Benzo(b)fluoranthene	**407**	327	810	"	"	"	"	J
Benzo(k)fluoranthene	ND	203	810	"	"	"	"	
Benzo(g,h,i)perylene	**380**	283	810	"	"	"	"	J
Chrysene	**408**	203	810	"	"	"	"	J
Dibenz(a,h)anthracene	ND	319	810	"	"	"	"	
Fluoranthene	ND	249	810	"	"	"	"	
Fluorene	ND	264	810	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**478**	279	810	"	"	"	"	J
Naphthalene	**350**	279	810	"	"	"	"	J
Phenanthrene	ND	357	810	"	"	"	"	
Pyrene	**485**	217	810	"	"	"	"	J
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 87 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*92 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*96 %*	*Limits: 30-120 %*	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-014 (A710267-14)			**Matrix: Soil**					**R-04**
Acenaphthene	ND	94.6	289	ug/kg dry	10	11/06/07 13:26	EPA 8270 SIM	
Acenaphthylene	ND	82.2	289	"	"	"	"	
Anthracene	ND	79.7	289	"	"	"	"	
Benz(a)anthracene	ND	72.8	289	"	"	"	"	
Benzo(a)pyrene	**75.6**	57.9	289	"	"	"	"	J
Benzo(b)fluoranthene	ND	117	289	"	"	"	"	
Benzo(k)fluoranthene	ND	72.4	289	"	"	"	"	
Benzo(g,h,i)perylene	ND	101	289	"	"	"	"	
Chrysene	**95.4**	72.4	289	"	"	"	"	J
Dibenz(a,h)anthracene	ND	114	289	"	"	"	"	
Fluoranthene	**103**	88.7	289	"	"	"	"	J
Fluorene	ND	93.9	289	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**112**	99.5	289	"	"	"	"	J
Naphthalene	**137**	99.5	289	"	"	"	"	J
Phenanthrene	ND	127	289	"	"	"	"	
Pyrene	**130**	77.3	289	"	"	"	"	J
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 88 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*91 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*91 %*	*Limits: 30-120 %*	"	"	"	

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ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-016 (A710267-16)			**Matrix: Soil**					**R-04**
Acenaphthene	ND	17.7	54.0	ug/kg dry	2	11/06/07 13:49	EPA 8270 SIM	
Acenaphthylene	ND	15.3	54.0	"	"	"	"	
Anthracene	ND	14.9	54.0	"	"	"	"	
Benz(a)anthracene	ND	13.6	54.0	"	"	"	"	
Benzo(a)pyrene	ND	10.8	54.0	"	"	"	"	
Benzo(b)fluoranthene	ND	21.8	54.0	"	"	"	"	
Benzo(k)fluoranthene	ND	13.5	54.0	"	"	"	"	
Benzo(g,h,i)perylene	ND	18.8	54.0	"	"	"	"	
Chrysene	ND	13.5	54.0	"	"	"	"	
Dibenz(a,h)anthracene	ND	21.2	54.0	"	"	"	"	
Fluoranthene	ND	16.6	54.0	"	"	"	"	
Fluorene	ND	17.6	54.0	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	18.6	54.0	"	"	"	"	
Naphthalene	ND	18.6	54.0	"	"	"	"	
Phenanthrene	ND	23.7	54.0	"	"	"	"	
Pyrene	ND	14.4	54.0	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 74 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*78 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*83 %*	*Limits: 30-120 %*	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-001 (A710267-01)			**Matrix: Soil**					
% Solids	**88.8**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-002 (A710267-02)			**Matrix: Soil**					
% Solids	**90.8**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-004 (A710267-04)			**Matrix: Soil**					
% Solids	**72.2**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-005 (A710267-05)			**Matrix: Soil**					
% Solids	**93.9**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-008 (A710267-08)			**Matrix: Soil**					
% Solids	**86.6**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-009 (A710267-09)			**Matrix: Soil**					
% Solids	**69.4**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-010 (A710267-10)			**Matrix: Soil**					
% Solids	**90.8**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-012 (A710267-12)			**Matrix: Soil**					
% Solids	**75.8**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-013 (A710267-13)			**Matrix: Soil**					
% Solids	**72.0**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-014 (A710267-14)			**Matrix: Soil**					
% Solids	**94.9**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-015 (A710267-15)			**Matrix: Soil**					
% Solids	**87.3**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-016 (A710267-16)			**Matrix: Soil**					
% Solids	**86.1**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-018 (A710267-18)			**Matrix: Soil**					
% Solids	**84.9**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-019 (A710267-19)			**Matrix: Soil**					
% Solids	**85.1**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-020 (A710267-20)			**Matrix: Soil**					
% Solids	**88.3**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-021 (A710267-21)			**Matrix: Soil**					
% Solids	**88.7**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-022 (A710267-22)			**Matrix: Soil**					
% Solids	**76.6**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-023 (A710267-23)			**Matrix: Soil**					
% Solids	**93.8**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-024 (A710267-24)			**Matrix: Soil**					
% Solids	**89.8**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	

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Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Polychlorinated Biphenyls

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-001 (A710267-01)			**Matrix: Soil**					
PCB 1016	ND	---	0.096	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.096	"	"	"	"	
PCB 1232	ND	---	0.096	"	"	"	"	
PCB 1242	ND	---	0.096	"	"	"	"	
PCB 1248	ND	---	0.096	"	"	"	"	
PCB 1254	ND	---	0.096	"	"	"	"	
PCB 1260	ND	---	0.096	"	"	"	"	
Surrogate: Decachlorobiphenyl			*Recovery: 86.41 %*	*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*104.25 %*	*Limits: 49-132 %*	"	"	"	
7358-071029-005 (A710267-05)			**Matrix: Soil**					
PCB 1016	ND	---	0.089	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.089	"	"	"	"	
PCB 1232	ND	---	0.089	"	"	"	"	
PCB 1242	ND	---	0.089	"	"	"	"	
PCB 1248	ND	---	0.089	"	"	"	"	
PCB 1254	ND	---	0.089	"	"	"	"	
PCB 1260	ND	---	0.089	"	"	"	"	
Surrogate: Decachlorobiphenyl			*Recovery: 64.4 %*	*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*93.78 %*	*Limits: 49-132 %*	"	"	"	
7358-071029-010 (A710267-10)			**Matrix: Soil**					
PCB 1016	ND	---	0.096	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.096	"	"	"	"	
PCB 1232	ND	---	0.096	"	"	"	"	
PCB 1242	ND	---	0.096	"	"	"	"	
PCB 1248	ND	---	0.096	"	"	"	"	
PCB 1254	ND	---	0.096	"	"	"	"	
PCB 1260	ND	---	0.096	"	"	"	"	
Surrogate: Decachlorobiphenyl			*Recovery: 103.26 %*	*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*119.74 %*	*Limits: 49-132 %*	"	"	"	
7358-071029-014 (A710267-14)			**Matrix: Soil**					
PCB 1016	ND	---	0.089	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.089	"	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Polychlorinated Biphenyls

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-014 (A710267-14)			**Matrix: Soil**					
PCB 1232	ND	---	0.089	mg/kg	5	"	8082	
PCB 1242	ND	---	0.089	"	"	"	"	
PCB 1248	ND	---	0.089	"	"	"	"	
PCB 1254	ND	---	0.089	"	"	"	"	
PCB 1260	ND	---	0.089	"	"	"	"	
Surrogate: Decachlorobiphenyl		*Recovery: 97.15 %*		*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*115.39 %*	*Limits: 49-132 %*	"	"	"	
7358-071029-018 (A710267-18)			**Matrix: Soil**					
PCB 1016	ND	---	0.099	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.099	"	"	"	"	
PCB 1232	ND	---	0.099	"	"	"	"	
PCB 1242	ND	---	0.099	"	"	"	"	
PCB 1248	ND	---	0.099	"	"	"	"	
PCB 1254	ND	---	0.099	"	"	"	"	
PCB 1260	ND	---	0.099	"	"	"	"	
Surrogate: Decachlorobiphenyl		*Recovery: 90.96 %*		*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*109.73 %*	*Limits: 49-132 %*	"	"	"	
7358-071029-019 (A710267-19)			**Matrix: Soil**					
PCB 1016	ND	---	0.1	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.1	"	"	"	"	
PCB 1232	ND	---	0.1	"	"	"	"	
PCB 1242	ND	---	0.1	"	"	"	"	
PCB 1248	ND	---	0.1	"	"	"	"	
PCB 1254	ND	---	0.1	"	"	"	"	
PCB 1260	ND	---	0.1	"	"	"	"	
Surrogate: Decachlorobiphenyl		*Recovery: 83.77 %*		*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*104.73 %*	*Limits: 49-132 %*	"	"	"	
7358-071029-020 (A710267-20)			**Matrix: Soil**					
PCB 1016	ND	---	0.098	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.098	"	"	"	"	
PCB 1232	ND	---	0.098	"	"	"	"	
PCB 1242	ND	---	0.098	"	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Polychlorinated Biphenyls

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-020 (A710267-20)			**Matrix: Soil**					
PCB 1248	ND	---	0.098	mg/kg	5	"	8082	
PCB 1254	ND	---	0.098	"	"	"	"	
PCB 1260	ND	---	0.098	"	"	"	"	
Surrogate: Decachlorobiphenyl		*Recovery: 85.29 %*		*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene		*110.11 %*		*Limits: 49-132 %*	"	"	"	
7358-071029-021 (A710267-21)			**Matrix: Soil**					
PCB 1016	ND	---	0.1	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.1	"	"	"	"	
PCB 1232	ND	---	0.1	"	"	"	"	
PCB 1242	ND	---	0.1	"	"	"	"	
PCB 1248	ND	---	0.1	"	"	"	"	
PCB 1254	ND	---	0.1	"	"	"	"	
PCB 1260	ND	---	0.1	"	"	"	"	
Surrogate: Decachlorobiphenyl		*Recovery: 84.61 %*		*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene		*107.28 %*		*Limits: 49-132 %*	"	"	"	
7358-071029-022 (A710267-22)			**Matrix: Soil**					
PCB 1016	ND	---	0.11	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.11	"	"	"	"	
PCB 1232	ND	---	0.11	"	"	"	"	
PCB 1242	ND	---	0.11	"	"	"	"	
PCB 1248	ND	---	0.11	"	"	"	"	
PCB 1254	ND	---	0.11	"	"	"	"	
PCB 1260	ND	---	0.11	"	"	"	"	
Surrogate: Decachlorobiphenyl		*Recovery: 81.25 %*		*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene		*108.24 %*		*Limits: 49-132 %*	"	"	"	
7358-071029-023 (A710267-23)			**Matrix: Soil**					
PCB 1016	ND	---	0.092	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.092	"	"	"	"	
PCB 1232	ND	---	0.092	"	"	"	"	
PCB 1242	ND	---	0.092	"	"	"	"	
PCB 1248	ND	---	0.092	"	"	"	"	
PCB 1254	ND	---	0.092	"	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Polychlorinated Biphenyls

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-023 (A710267-23)			**Matrix: Soil**					
PCB 1260	ND	---	0.092	mg/kg	5	"	8082	
Surrogate: Decachlorobiphenyl			*Recovery: 86.68 %*	*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*107.91 %*	*Limits: 49-132 %*	"	"	"	
7358-071029-024 (A710267-24)			**Matrix: Soil**					
PCB 1016	ND	---	0.095	mg/kg	5	11/04/07 00:00	8082	
PCB 1221	ND	---	0.095	"	"	"	"	
PCB 1232	ND	---	0.095	"	"	"	"	
PCB 1242	ND	---	0.095	"	"	"	"	
PCB 1248	ND	---	0.095	"	"	"	"	
PCB 1254	ND	---	0.095	"	"	"	"	
PCB 1260	ND	---	0.095	"	"	"	"	
Surrogate: Decachlorobiphenyl			*Recovery: 91.95 %*	*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*110.18 %*	*Limits: 49-132 %*	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Total Solids

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-001 (A710267-01)			**Matrix: Soil**					
Total Solids	**88.9**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-005 (A710267-05)			**Matrix: Soil**					
Total Solids	**95.6**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-010 (A710267-10)			**Matrix: Soil**					
Total Solids	**88.2**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-014 (A710267-14)			**Matrix: Soil**					
Total Solids	**95.2**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-018 (A710267-18)			**Matrix: Soil**					
Total Solids	**85.9**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-019 (A710267-19)			**Matrix: Soil**					
Total Solids	**82.1**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-020 (A710267-20)			**Matrix: Soil**					
Total Solids	**87**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-021 (A710267-21)			**Matrix: Soil**					
Total Solids	**82.9**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-022 (A710267-22)			**Matrix: Soil**					
Total Solids	**79.5**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-023 (A710267-23)			**Matrix: Soil**					
Total Solids	**92.6**	---	0.1	Percent	1	11/02/07 00:00	2540G	
7358-071029-024 (A710267-24)			**Matrix: Soil**					
Total Solids	**89.4**	---	0.1	Percent	1	11/02/07 00:00	2540G	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

QUALITY CONTROL (QC) SAMPLE RESULTS

Petroleum Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100299 - EPA 3546 (Fuels)							**Soil**					
Blank (7100299-BLK1)						**Analyzed: 10/31/07 17:06**						
Diesel Range Organics	ND	---	20.0	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	40.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 104 %*		*Limits: 50-150 %*		*Dilution: 1x*						
LCS (7100299-BS1)						**Analyzed: 10/31/07 16:44**						
Diesel Range Organics	82.3	---	20.0	mg/kg wet	1	83.3	---	99	75-125%	---	---	
Oil Range Organics	83.4	---	40.0	"	"	83.3	---	100	75-125%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 100 %*		*Limits: 50-150 %*		*Dilution: 1x*						
Duplicate (7100299-DUP2)			**Source: A710267-23**			**Analyzed: 11/01/07 00:00**						
Diesel Range Organics	ND	---	27.4	mg/kg dry	1	---	ND	---	---		40%	
Oil Range Organics	**579**	---	54.9	"	"	---	470	---	---	21	40%	
Surr: o-Terphenyl (Surr)		*Recovery: 106 %*		*Limits: 50-150 %*		*Dilution: 1x*						
Duplicate (7100299-DUP3)			**Source: A710267-04RE1**			**Analyzed: 11/01/07 00:00**						
Diesel Range Organics	ND	---	48.0	mg/kg dry	1	---	ND	---	---		40%	
Oil Range Organics	ND	---	96.0	"	"	---	ND	---	---		40%	
Surr: o-Terphenyl (Surr)		*Recovery: 101 %*		*Limits: 50-150 %*		*Dilution: 1x*						

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

QUALITY CONTROL (QC) SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110037 - EPA 3546							**Soil**					
Blank (7110037-BLK1)						**Analyzed: 11/05/07 18:03**						
Acenaphthene	ND	8.19	25.0	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	7.11	25.0	"	"	---	---	---	---	---	---	
Anthracene	ND	6.90	25.0	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	6.30	25.0	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	5.01	25.0	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	10.1	25.0	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	6.27	25.0	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	8.73	25.0	"	"	---	---	---	---	---	---	
Chrysene	ND	6.27	25.0	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	9.84	25.0	"	"	---	---	---	---	---	---	
Fluoranthene	ND	7.68	25.0	"	"	---	---	---	---	---	---	
Fluorene	ND	8.13	25.0	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	8.61	25.0	"	"	---	---	---	---	---	---	
Naphthalene	ND	8.61	25.0	"	"	---	---	---	---	---	---	
Phenanthrene	ND	11.0	25.0	"	"	---	---	---	---	---	---	
Pyrene	ND	6.69	25.0	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 73 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*91 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*98 %*	*30-120 %*			*"*					
LCS (7110037-BS1)						**Analyzed: 11/05/07 18:24**						**Q-18**
Acenaphthene	154	8.19	25.0	ug/kg wet	1	167	---	92	45-120%	---	---	
Acenaphthylene	144	7.11	25.0	"	"	167	---	86	45-120%	---	---	
Anthracene	121	6.90	25.0	"	"	167	---	73	55-120%	---	---	
Benz(a)anthracene	119	6.30	25.0	"	"	167	---	71	50-120%	---	---	
Benzo(a)pyrene	125	5.01	25.0	"	"	167	---	75	50-120%	---	---	
Benzo(b)fluoranthene	120	10.1	25.0	"	"	167	---	72	45-120%	---	---	
Benzo(k)fluoranthene	142	6.27	25.0	"	"	167	---	85	45-125%	---	---	
Benzo(g,h,i)perylene	131	8.73	25.0	"	"	167	---	79	40-125%	---	---	
Chrysene	156	6.27	25.0	"	"	167	---	94	55-120%	---	---	
Dibenz(a,h)anthracene	103	9.84	25.0	"	"	167	---	62	40-125%	---	---	
Fluoranthene	143	7.68	25.0	"	"	167	---	86	55-120%	---	---	
Fluorene	139	8.13	25.0	"	"	167	---	84	50-120%	---	---	
Indeno(1,2,3-cd)pyrene	112	8.61	25.0	"	"	167	---	67	40-120%	---	---	
Naphthalene	152	8.61	25.0	"	"	167	---	91	40-120%	---	---	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

QUALITY CONTROL (QC) SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110037 - EPA 3546							**Soil**					
LCS (7110037-BS1)						**Analyzed: 11/05/07 18:24**						**Q-18**
Phenanthrene	139	11.0	25.0	ug/kg wet	"	167	---	83	50-120%	---	---	
Pyrene	151	6.69	25.0	"	"	167	---	90	45-125%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 75 %*		*Limits: 35-120 %*		*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*91 %*		*45-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*89 %*		*30-120 %*		*"*					
Duplicate (7110037-DUP1)			**Source: A710267-16**			**Analyzed: 11/06/07 14:13**						**R-04**
Acenaphthene	ND	25.1	76.6	ug/kg dry	2	---	ND	---	---		30%	
Acenaphthylene	ND	21.8	76.6	"	"	---	ND	---	---		30%	
Anthracene	ND	21.1	76.6	"	"	---	ND	---	---		30%	
Benz(a)anthracene	ND	19.3	76.6	"	"	---	ND	---	---		30%	
Benzo(a)pyrene	ND	15.4	76.6	"	"	---	ND	---	---		30%	
Benzo(b)fluoranthene	ND	31.0	76.6	"	"	---	ND	---	---		30%	
Benzo(k)fluoranthene	ND	19.2	76.6	"	"	---	ND	---	---		30%	
Benzo(g,h,i)perylene	ND	26.8	76.6	"	"	---	ND	---	---		30%	
Chrysene	ND	19.2	76.6	"	"	---	ND	---	---		30%	
Dibenz(a,h)anthracene	ND	30.2	76.6	"	"	---	ND	---	---		30%	
Fluoranthene	ND	23.5	76.6	"	"	---	ND	---	---		30%	
Fluorene	ND	24.9	76.6	"	"	---	ND	---	---		30%	
Indeno(1,2,3-cd)pyrene	ND	26.4	76.6	"	"	---	ND	---	---		30%	
Naphthalene	ND	26.4	76.6	"	"	---	ND	---	---		30%	
Phenanthrene	ND	33.7	76.6	"	"	---	ND	---	---		30%	
Pyrene	ND	20.5	76.6	"	"	---	ND	---	---		30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 79 %*		*Limits: 35-120 %*		*Dilution: 2x*					
2-Fluorobiphenyl (Surr)			*80 %*		*45-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*81 %*		*30-120 %*		*"*					

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Philip Nerenberg, Lab Director

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100305 - Dry Weight							**Soil**					
Duplicate (7100305-DUP1)			**Source: A710267-04**			**Analyzed: 11/01/07 09:13**						
% Solids	**71.4**	---	1.00	% by Weight	1	---	72.2	---	---	1	20%	
Duplicate (7100305-DUP2)			**Source: A710267-23**			**Analyzed: 11/01/07 09:13**						
% Solids	**94.0**	---	1.00	% by Weight	1	---	93.8	---	---	0.2	20%	

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Hahn and Associates 434 NW 6th Ave. Suite 203 Portland, OR 97209	Project: **WTRINV** Project Number: 7358 Project Manager: Siobhan McConnell	**Reported:** 11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 328770 - 3546							**Soil**					
BLANK (WG328770-BLK1)						**Analyzed: 11/05/07 00:00**						
PCB 1016	ND	---	0.017	mg/kg	1	---	---	---	---	---	---	
PCB 1221	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1232	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1242	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1248	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1254	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1260	ND	---	0.017	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl		*Recovery:*	*90.78 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*88.35 %*		*49-132 %*			*"*				
LCS (WG328770-LCS1)						**Analyzed: 11/05/07 00:00**						
PCB 1260	0.146	---	0.017	mg/kg	1	0.167	---	87.7	64-120%	---	---	
Surr: Decachlorobiphenyl		*Recovery:*	*84.62 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*77.79 %*		*49-132 %*			*"*				
LCSD (WG328770-LCSD1)						**Analyzed: 11/05/07 00:00**						
PCB 1260	0.163	---	0.017	mg/kg	1	0.167	ND	97.8	64-120%	11	20%	
Surr: Decachlorobiphenyl		*Recovery:*	*97.75 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*86.08 %*		*49-132 %*			*"*				
MS (WG328770-MS1)			**Source: A710267-24**			**Analyzed: 11/04/07 00:00**						
PCB 1260	0.161	---	0.017	mg/kg	1	---	ND	96.6	59-134%	0	---	
Surr: Decachlorobiphenyl		*Recovery:*	*80.57 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*106.8 %*		*49-132 %*			*"*				
MSD (WG328770-MSD1)			**Source: A710267-24**			**Analyzed: 11/04/07 00:00**						
PCB 1260	0.167	---	0.017	mg/kg	1	---	ND	100.2	59-134%	3.6	20%	
Surr: Decachlorobiphenyl		*Recovery:*	*81.53 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*106.71 %*		*49-132 %*			*"*				

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Solids

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 328360 -							**Soil**					
BLANK (WG328360-BLK1)						**Analyzed: 11/02/07 00:00**						
Total Solids	ND	---	0.1	Percent	1	---	---	---	---	---	---	
DUP (WG328360-DUP1)			**Source: A710267-18**			**Analyzed: 11/02/07 00:00**						
Total Solids	86.2	---	0.1	Percent	1	---	85.9		---	552281	%	
LCS (WG328360-LCS1)						**Analyzed: 11/02/07 00:00**						
Total Solids	49.9	---	0.1	Percent	1	50	---	99.9	85-115%	---	---	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Solids

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 328361 -							**Soil**					
BLANK (WG328361-BLK1)						**Analyzed: 11/02/07 00:00**						
Total Solids	ND	---	0.1	Percent	1	---	---	---	---	---	---	
DUP (WG328361-DUP1)			**Source: L317439-09**			**Analyzed: 11/02/07 00:00**						
Total Solids	80.1	---	0.1	Percent	1	---	76.4		---	:73034	%	
LCS (WG328361-LCS1)						**Analyzed: 11/02/07 00:00**						
Total Solids	50.0	---	0.1	Percent	1	50	---	100	85-115%	---	---	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

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Petroleum Hydrocarbons by NWTPH-Dx

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3546 (Fuels)							
Batch: 7100299							
A710267-01	Soil	NWTPH-Dx	10/29/07 09:18	10/31/07 09:27	11.53g/5mL	15g/5mL	1.30
A710267-02	Soil	NWTPH-Dx	10/29/07 09:20	10/31/07 09:27	11.8g/5mL	15g/5mL	1.27
A710267-04RE1	Soil	NWTPH-Dx	10/29/07 09:34	10/31/07 09:27	10.12g/5mL	15g/5mL	1.48
A710267-05	Soil	NWTPH-Dx	10/29/07 10:01	10/31/07 09:27	12.27g/5mL	15g/5mL	1.22
A710267-08	Soil	NWTPH-Dx	10/29/07 10:09	10/31/07 09:27	10.5g/5mL	15g/5mL	1.43
A710267-09RE1	Soil	NWTPH-Dx	10/29/07 10:13	10/31/07 09:27	10.05g/5mL	15g/5mL	1.49
A710267-10	Soil	NWTPH-Dx	10/29/07 10:48	10/31/07 09:27	10.47g/5mL	15g/5mL	1.43
A710267-12RE1	Soil	NWTPH-Dx	10/29/07 11:00	10/31/07 09:27	10.37g/5mL	15g/5mL	1.45
A710267-13RE1	Soil	NWTPH-Dx	10/29/07 11:04	10/31/07 09:27	10.44g/5mL	15g/5mL	1.44
A710267-14	Soil	NWTPH-Dx	10/29/07 11:35	10/31/07 09:27	14.59g/5mL	15g/5mL	1.03
A710267-15	Soil	NWTPH-Dx	10/29/07 11:40	10/31/07 09:27	12.1g/5mL	15g/5mL	1.24
A710267-16	Soil	NWTPH-Dx	10/29/07 11:45	10/31/07 09:27	11.1g/5mL	15g/5mL	1.35
A710267-18	Soil	NWTPH-Dx	10/29/07 13:01	10/31/07 09:27	10.5g/5mL	15g/5mL	1.43
A710267-19	Soil	NWTPH-Dx	10/29/07 13:16	10/31/07 09:27	11.41g/5mL	15g/5mL	1.31
A710267-20	Soil	NWTPH-Dx	10/29/07 13:28	10/31/07 09:27	11.87g/5mL	15g/5mL	1.26
A710267-21	Soil	NWTPH-Dx	10/29/07 13:38	10/31/07 09:27	12.38g/5mL	15g/5mL	1.21
A710267-22	Soil	NWTPH-Dx	10/29/07 13:48	10/31/07 09:27	10.79g/5mL	15g/5mL	1.39
A710267-23	Soil	NWTPH-Dx	10/29/07 13:59	10/31/07 09:27	11.77g/5mL	15g/5mL	1.27
A710267-24	Soil	NWTPH-Dx	10/29/07 14:10	10/31/07 09:27	11.24g/5mL	15g/5mL	1.33

PAH by EPA 8270C SIM

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3546							
Batch: 7110037							
A710267-02	Soil	EPA 8270 SIM	10/29/07 09:20	11/05/07 08:09	11.76g/5mL	15g/5mL	1.28
A710267-05	Soil	EPA 8270 SIM	10/29/07 10:01	11/05/07 08:09	12.32g/5mL	15g/5mL	1.22
A710267-14	Soil	EPA 8270 SIM	10/29/07 11:35	11/05/07 08:09	13.68g/5mL	15g/5mL	1.10
A710267-16	Soil	EPA 8270 SIM	10/29/07 11:45	11/05/07 08:09	16.14g/5mL	15g/5mL	0.93

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Environmental Science Corp., Mt. Juliet, TN

Polychlorinated Biphenyls

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
3546							
Batch: 328770							
A710267-01	Soil	8082	10/29/07 09:18	11/03/07 00:00			NA
A710267-05	Soil	8082	10/29/07 10:01	11/03/07 00:00			NA
A710267-10	Soil	8082	10/29/07 10:48	11/03/07 00:00			NA
A710267-14	Soil	8082	10/29/07 11:35	11/03/07 00:00			NA
A710267-18	Soil	8082	10/29/07 13:01	11/03/07 00:00			NA
A710267-19	Soil	8082	10/29/07 13:16	11/03/07 00:00			NA
A710267-20	Soil	8082	10/29/07 13:28	11/03/07 00:00			NA
A710267-21	Soil	8082	10/29/07 13:38	11/03/07 00:00			NA
A710267-22	Soil	8082	10/29/07 13:48	11/03/07 00:00			NA
A710267-23	Soil	8082	10/29/07 13:59	11/03/07 00:00			NA
A710267-24	Soil	8082	10/29/07 14:10	11/03/07 00:00			NA

Total Solids

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Method							
Batch: 328360							
A710267-01	Soil	2540G	10/29/07 09:18	11/03/07 00:00			NA
A710267-05	Soil	2540G	10/29/07 10:01	11/03/07 00:00			NA
A710267-10	Soil	2540G	10/29/07 10:48	11/03/07 00:00			NA
A710267-14	Soil	2540G	10/29/07 11:35	11/03/07 00:00			NA
A710267-18	Soil	2540G	10/29/07 13:01	11/03/07 00:00			NA
Batch: 328361							
A710267-19	Soil	2540G	10/29/07 13:16	11/03/07 00:00			NA
A710267-20	Soil	2540G	10/29/07 13:28	11/03/07 00:00			NA
A710267-21	Soil	2540G	10/29/07 13:38	11/03/07 00:00			NA
A710267-22	Soil	2540G	10/29/07 13:48	11/03/07 00:00			NA
A710267-23	Soil	2540G	10/29/07 13:59	11/03/07 00:00			NA
A710267-24	Soil	2540G	10/29/07 14:10	11/03/07 00:00			NA

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

Notes and Definitions

Qualifiers:

F-07	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
J	Estimated Result . Result detected below the lowest point of the calibration curve, but above the statistical MDL.
Q-18	Matrix Spike for this Batch is not reported due to dilution necessary for analysis.
R-04	Reporting levels elevated due to dilution necessary for analysis.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
Batch QC	Unless specifically stated, all analyses include full Batch QC, including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates, in order to meet or exceed method and regulatory requirements. This report contains only results for Batch QC derived from samples included in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

A710267

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Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No.: 1 of 3

Project Manager: Siobhan McConnell
Project No.: 7358
Project Name: WTRINV
Collected by: ~~Siobhan McConnell~~ Ben Uhl

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

*Sample Number Prefix: 7358-071029-

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Soil	Water	Other	Number of Containers	NWTPH-Dx	EPA 8082 PCBs	EPA 8270 SIM (PAHs)	EPA 6000/7000 Metals			RUSH 5 DAY TURN	Remarks
	001	29-Oct-07	0918	P-1 (1.5'-2.5')	X			1	X	X					X	
	002	29-Oct-07	0920	P-1 (8.0'-9.0')	X			1	X						X	
	003	29-Oct-07	0925	P-1 (10.0'-11.0')	X			1								
	004	29-Oct-07	0934	P-1 (18.0'-19.0')	X			1	X						X	
	005	29-Oct-07	1001	P-2 (0.5'-1.5')	X			1	X	X					X	
	006	29-Oct-07	1002	P-2 (1.5'-2.0')	X			1								
	007	29-Oct-07	1004	P-2 (5.0'-6.0')	X			1								
	008	29-Oct-07	1009	P-2 (10.0'-11.0')	X			1	X						X	
	009	29-Oct-07	1013	P-2 (15.5'-16.5')	X			1	X						X	
	010	29-Oct-07	1048	P-3 (1.0-2.0')	X			1	X	X					X	

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn and Assoc. Inc	10/30/07	9:00	[illegible]	HAI
[illegible]	HAI	10/30/07	1:25	[illegible]	Apex
Relinquished by	Company	Date	Time	Received by	Company

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Hahn and Associates 434 NW 6th Ave. Suite 203 Portland, OR 97209	Project: **WTRINV** Project Number: 7358 Project Manager: Siobhan McConnell	**Reported:** 11/26/07 17:52

A7102607

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Environmental Consultants
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CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No. 2 of 5

Project Manager	Siobhan McConnell	Samples Received at 4C (Y or N)	
Project No.	7358	Appropriate Containers Used (Y or N)	
Project Name	WTRINV	Provide Verbal Results (Y or N)	
Collected by	~~Siobhan McConnell~~ Ben Uhl	Provide Preliminary Fax Results	

*Sample Number Prefix: 7358-071029-

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH-Dx	EPA 8082 PCBs	EPA 8270 SIM (PAHs)	EPA 6000/7000 PPMetals			RUSH 5 DAY TURN	Remarks
	011	29-Oct-07	1050	P-3 (5.0'-6.0')	X			1								
	012	29-Oct-07	1100	P-3 (11.0'-12.0')	X			1	X						X	
	013	29-Oct-07	1104	P-3 (18.0'-19.0')	X			1	X						X	
	014	29-Oct-07	1135	P-4 (0.5'-1.5')	X			1	X	X					X	
	015	29-Oct-07	1140	P-4 (6.0'-7.0')	X			1	X						X	
	016	29-Oct-07	1145	P-4 (10.0'-11.0')	X			1	X						X	
	017	29-Oct-07	1151	P-4 (18.0-19.0')	X			1								
	018	29-Oct-07	1301	P-5 (0.5'-1.5')	X			1	X	X					X	
	019	29-Oct-07	1316	P-6 (1.0-2.0')	X			1	X	X					X	
	020	29-Oct-07	1328	P-7 (1.0'-2.0')	X			1	X	X					X	

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn & Ass Inc	10/30/07	9:00	[illegible]	HAI
[illegible]	HAI	10/30/07	12:15	[illegible]	Apex

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 17:52

A710267

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CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No. 3 of 3

Project Manager	Siobhan McConnell	Samples Received at 4C (Y or N)
Project No.	7358	Appropriate Containers Used (Y or N)
Project Name	WTRINV	Provide Verbal Results (Y or N)
Collected by	Siobhan McConnell [signature]	Provide Preliminary Fax Results

*Sample Number Prefix: 7358-071029-

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH-Dx	EPA 8082 PCBs	EPA 8270 SIM (PAHs)	EPA 6000/7000 PPMetals	EPA 6010B/7000 RCRAB		RUSH 5DAY TURN	Remarks
	021	29-Oct-07	1338	P-8 (1.0-2.0')	X			1	X	X					X	
	022	29-Oct-07	1348	P-9 (1.0-2.0')	X			1	X	X					X	
	023	29-Oct-07	1359	P-10 (1.0-2.0')	X			1	X	X					X	
	024	29-Oct-07	1410	P-11 (1.0-2.0')	X			1	X	X					X	
	025	29-Oct-07	1435	Western Catch Basin	X			1								
	026	29-Oct-07	1440	Eastern Catch Basin	X			1								
	027	29-Oct-07	1455	Southern Catch Basin	X			1								

Relinquished by	Company	Date	Time	Received by	Company
[signature]	Hahn + Ass., Inc.	10/30/07	[illegible]	[signature]	HAI
[signature]	HAI	10/30/07	1215	[signature]	Apex

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Philip Nerenberg

Philip Nerenberg, Lab Director

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No.: 1 of

Project Manager	Siobhan McConnell	Samples Received at 4C (Y or N)	
Project No.	7359	Appropriate Containers Used (Y or N)	
Project Name	WTRINV	Provide Verbal Results (Y or N)	
Collected by	Ben Uhl	Provide Preliminary Fax Results	

***Sample Number Prefix: 7358-071029**

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH-Dx	EPA 8082 PCBs	EPA 6010B/7000 RCRA 8	EPA 6000/7000 13 PP metals			RUSH 5 DAY TURN	Remarks
	028	29-Oct-07	—	Composite 025 + 027	X			–	X	X	X				X	
	029	29-Oct-07	–	Composite 018 + 010	X			–				X			X	
	030	29-Oct-07	–	Composite 023 + 014	X			–				X			X	
	031	29-Oct-07	–	Composite 021 + 022	X			–				X			X	
	032	29-Oct-07	—	Composite 001 + 005	X			–				X			X	
	033	29-Oct-07	–	Composite 002 + 004	X			–				X			X	
	034	29-Oct-07	—	Composite 008 + 009	X			–				X			X	
	035	29-Oct-07	–	Composite 012 + 013	X			–				X			X	
	036	29-Oct-07	–	Composite 015 + 016	X			–				X			X	
					(Total Basis)											

Relinquished by	Company	Date	Time	Received by	Company
[signature]	HAI	10/30/07	1215	Kello	Apex
Relinquished by	Company	Date	Time	Received by	Company
Relinquished by	Company	Date	Time	Received by	Company

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Monday, November 26, 2007

Siobhan McConnell
Hahn and Associates
434 NW 6th Ave. Suite 203
Portland, OR 97209

RE: WTRINV / 7358

Enclosed are the results of analyses for samples received by the laboratory on 10/30/2007 at12:15:00PM.

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

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

Apex Labs

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
7358-071029-028	A710268-01	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-029	A710268-02	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-030	A710268-03	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-031	A710268-04	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-032	A710268-05	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-033	A710268-06	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-034	A710268-07	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-035	A710268-08	Soil	10/29/07 00:00	10/30/07 12:15
7358-071029-036	A710268-09	Soil	10/29/07 00:00	10/30/07 12:15

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL SAMPLE RESULTS

Petroleum Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-028 (A710268-01)			**Matrix: Soil**					
Diesel Range Organics	ND	---	404	mg/kg dry	10	11/01/07 00:00	NWTPH-Dx	
Oil Range Organics	**4170**	---	808	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 145 %*	*Limits: 50-150 %*	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-028 (A710268-01)			**Matrix: Soil**					
Arsenic	**11.7**	---	0.763	mg/kg dry	5	11/02/07 11:52	EPA 6020	
Barium	**167**	---	7.63	"	50	11/02/07 11:57	"	
Cadmium	**2.42**	---	0.763	"	5	11/02/07 11:52	"	
Chromium	**48.8**	---	15.3	"	50	11/02/07 11:57	"	
Lead	**302**	---	7.63	"	"	"	"	
Selenium	**1.14**	---	0.763	"	5	11/02/07 11:52	"	
Silver	**1.99**	---	1.53	"	"	"	"	
7358-071029-029 (A710268-02)			**Matrix: Soil**					
Antimony	ND	---	0.552	mg/kg dry	5	11/02/07 14:57	EPA 6020	
Arsenic	**3.71**	---	0.552	"	"	"	"	
Beryllium	ND	---	1.10	"	"	"	"	
Cadmium	**0.679**	---	0.552	"	"	"	"	
Chromium	**14.7**	---	11.0	"	50	11/02/07 14:28	"	
Copper	**33.9**	---	1.10	"	5	11/02/07 14:57	"	
Lead	**16.6**	---	0.552	"	"	"	"	
Nickel	**18.9**	---	1.10	"	"	"	"	
Selenium	**0.563**	---	0.552	"	"	"	"	
Silver	ND	---	1.10	"	"	"	"	
Thallium	ND	---	0.552	"	"	"	"	
Zinc	**59.6**	---	1.10	"	"	"	"	
7358-071029-030 (A710268-03)			**Matrix: Soil**					
Antimony	**1.54**	---	0.480	mg/kg dry	5	11/02/07 15:04	EPA 6020	
Arsenic	**2.23**	---	0.480	"	"	"	"	
Beryllium	ND	---	0.961	"	"	"	"	
Cadmium	**0.831**	---	0.480	"	"	"	"	
Chromium	ND	---	9.61	"	50	11/02/07 14:35	"	
Copper	**82.1**	---	0.961	"	5	11/02/07 15:04	"	
Lead	**1940**	---	19.2	"	200	11/05/07 16:09	"	
Nickel	**15.8**	---	0.961	"	5	11/02/07 15:04	"	
Selenium	ND	---	0.480	"	"	"	"	
Silver	ND	---	0.961	"	"	"	"	
Thallium	ND	---	0.480	"	"	"	"	
Zinc	**111**	---	9.61	"	50	11/02/07 14:35	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-031 (A710268-04)			**Matrix: Soil**					
Antimony	**2.55**	---	0.586	mg/kg dry	5	11/02/07 15:13	EPA 6020	
Arsenic	**7.48**	---	0.586	"	"	"	"	
Beryllium	ND	---	1.17	"	"	"	"	
Cadmium	**1.29**	---	0.586	"	"	"	"	
Chromium	**16.5**	---	11.7	"	50	11/02/07 14:39	"	
Copper	**162**	---	11.7	"	"	"	"	
Lead	**181**	---	5.86	"	"	"	"	
Nickel	**28.4**	---	1.17	"	5	11/02/07 15:13	"	
Selenium	**0.879**	---	0.586	"	"	"	"	
Silver	**1.70**	---	1.17	"	"	"	"	
Thallium	ND	---	0.586	"	"	"	"	
Zinc	**466**	---	11.7	"	50	11/02/07 14:39	"	
7358-071029-032 (A710268-05)			**Matrix: Soil**					
Antimony	ND	---	0.531	mg/kg dry	5	11/02/07 15:16	EPA 6020	
Arsenic	**2.18**	---	0.531	"	"	"	"	
Beryllium	ND	---	1.06	"	"	"	"	
Cadmium	**0.701**	---	0.531	"	"	"	"	
Chromium	ND	---	10.6	"	50	11/02/07 14:46	"	
Copper	**23.1**	---	1.06	"	5	11/02/07 15:16	"	
Lead	**10.9**	---	0.531	"	"	"	"	
Nickel	**12.5**	---	1.06	"	"	"	"	
Selenium	ND	---	0.531	"	"	"	"	
Silver	ND	---	1.06	"	"	"	"	
Thallium	ND	---	0.531	"	"	"	"	
Zinc	**55.9**	---	1.06	"	"	"	"	
7358-071029-033 (A710268-06)			**Matrix: Soil**					
Antimony	ND	---	0.622	mg/kg dry	5	11/02/07 15:18	EPA 6020	
Arsenic	**2.91**	---	0.622	"	"	"	"	
Beryllium	ND	---	1.24	"	"	"	"	
Cadmium	**0.684**	---	0.622	"	"	"	"	
Chromium	**14.4**	---	12.4	"	50	11/02/07 14:48	"	
Copper	**21.4**	---	1.24	"	5	11/02/07 15:18	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-033 (A710268-06)			**Matrix: Soil**					
Lead	**4.15**	---	0.622	mg/kg dry	5	"	EPA 6020	
Nickel	**16.9**	---	1.24	"	"	"	"	
Selenium	ND	---	0.622	"	"	"	"	
Silver	ND	---	1.24	"	"	"	"	
Thallium	ND	---	0.622	"	"	"	"	
Zinc	**51.1**	---	1.24	"	"	"	"	
7358-071029-034 (A710268-07)			**Matrix: Soil**					
Antimony	ND	---	0.662	mg/kg dry	5	11/02/07 15:20	EPA 6020	
Arsenic	**2.78**	---	0.662	"	"	"	"	
Beryllium	ND	---	1.32	"	"	"	"	
Cadmium	**0.992**	---	0.662	"	"	"	"	
Chromium	ND	---	13.2	"	50	11/02/07 14:51	"	
Copper	**23.1**	---	1.32	"	5	11/02/07 15:20	"	
Lead	**4.11**	---	0.662	"	"	"	"	
Nickel	**17.6**	---	1.32	"	"	"	"	
Selenium	ND	---	0.662	"	"	"	"	
Silver	ND	---	1.32	"	"	"	"	
Thallium	ND	---	0.662	"	"	"	"	
Zinc	**56.6**	---	1.32	"	"	"	"	
7358-071029-035 (A710268-08)			**Matrix: Soil**					
Antimony	ND	---	0.800	mg/kg dry	5	11/02/07 15:22	EPA 6020	
Arsenic	**7.91**	---	0.800	"	"	"	"	
Beryllium	ND	---	1.60	"	"	"	"	
Cadmium	**0.816**	---	0.800	"	"	"	"	
Chromium	ND	---	16.0	"	50	11/02/07 14:53	"	
Copper	**21.4**	---	1.60	"	5	11/02/07 15:22	"	
Lead	**11.5**	---	0.800	"	"	"	"	
Nickel	**18.2**	---	1.60	"	"	"	"	
Selenium	ND	---	0.800	"	"	"	"	
Silver	ND	---	1.60	"	"	"	"	
Thallium	ND	---	0.800	"	"	"	"	
Zinc	**56.7**	---	1.60	"	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-036 (A710268-09)			**Matrix: Soil**					
Antimony	ND	---	0.641	mg/kg dry	5	11/02/07 15:25	EPA 6020	
Arsenic	**3.82**	---	0.641	"	"	"	"	
Beryllium	ND	---	1.28	"	"	"	"	
Cadmium	**0.827**	---	0.641	"	"	"	"	
Chromium	ND	---	12.8	"	50	11/02/07 14:55	"	
Copper	**19.0**	---	1.28	"	5	11/02/07 15:25	"	
Lead	**5.12**	---	0.641	"	"	"	"	
Nickel	**18.8**	---	1.28	"	"	"	"	
Selenium	ND	---	0.641	"	"	"	"	
Silver	ND	---	1.28	"	"	"	"	
Thallium	ND	---	0.641	"	"	"	"	
Zinc	**56.4**	---	1.28	"	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL SAMPLE RESULTS

Total Mercury by EPA 7471

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-028 (A710268-01)			**Matrix: Soil**					
Mercury	**0.211**	---	0.0229	mg/kg dry	1	11/05/07 12:12	EPA 7471A	
7358-071029-029 (A710268-02)			**Matrix: Soil**					
Mercury	**0.0265**	---	0.0166	mg/kg dry	1	11/05/07 12:12	EPA 7471A	
7358-071029-030 (A710268-03RE1)			**Matrix: Soil**					
Mercury	**5.38**	---	0.288	mg/kg dry	20	11/05/07 12:12	EPA 7471A	
7358-071029-031 (A710268-04RE1)			**Matrix: Soil**					
Mercury	**0.809**	---	0.176	mg/kg dry	10	11/05/07 12:12	EPA 7471A	
7358-071029-032 (A710268-05)			**Matrix: Soil**					
Mercury	**0.0796**	---	0.0159	mg/kg dry	1	11/05/07 12:12	EPA 7471A	
7358-071029-033 (A710268-06)			**Matrix: Soil**					
Mercury	**0.0211**	---	0.0187	mg/kg dry	1	11/05/07 12:12	EPA 7471A	
7358-071029-034 (A710268-07)			**Matrix: Soil**					
Mercury	ND	---	0.0198	mg/kg dry	1	11/05/07 12:12	EPA 7471A	
7358-071029-035 (A710268-08)			**Matrix: Soil**					
Mercury	**0.0608**	---	0.0240	mg/kg dry	1	11/05/07 12:12	EPA 7471A	
7358-071029-036 (A710268-09)			**Matrix: Soil**					
Mercury	**0.0205**	---	0.0192	mg/kg dry	1	11/05/07 12:12	EPA 7471A	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-028 (A710268-01)			**Matrix: Soil**					
% Solids	**68.4**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-029 (A710268-02)			**Matrix: Soil**					
% Solids	**86.6**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-030 (A710268-03)			**Matrix: Soil**					
% Solids	**95.3**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-031 (A710268-04)			**Matrix: Soil**					
% Solids	**82.2**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-032 (A710268-05)			**Matrix: Soil**					
% Solids	**90.2**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-033 (A710268-06)			**Matrix: Soil**					
% Solids	**77.9**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-034 (A710268-07)			**Matrix: Soil**					
% Solids	**73.1**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-035 (A710268-08)			**Matrix: Soil**					
% Solids	**73.5**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	
7358-071029-036 (A710268-09)			**Matrix: Soil**					
% Solids	**85.5**	---	1.00	% by Weight	1	11/01/07 09:13	D2216	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

Environmental Science Corp., Mt. Juliet, TN

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Polychlorinated Biphenyls

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-028 (A710268-01)			**Matrix: Soil**					
PCB 1016	ND	---	0.13	mg/kg	5	11/05/07 00:00	8082	
PCB 1221	ND	---	0.13	"	"	"	"	
PCB 1232	ND	---	0.13	"	"	"	"	
PCB 1242	ND	---	0.13	"	"	"	"	
PCB 1248	ND	---	0.13	"	"	"	"	
PCB 1254	ND	---	0.13	"	"	"	"	
PCB 1260	**0.15**	---	0.13	"	"	"	"	
Surrogate: Decachlorobiphenyl			*Recovery: 104.5 %*	*Limits: 58-134 %*	"	"	"	
Tetrachloro-m-xylene			*101.23 %*	*Limits: 49-132 %*	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

Environmental Science Corp., Mt. Juliet, TN

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Total Solids

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-028 (A710268-01)			**Matrix: Soil**					
Total Solids	**63**	---	0.1	Percent	1	11/02/07 00:00	2540G	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Petroleum Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100299 - EPA 3546 (Fuels)							**Soil**					
Blank (7100299-BLK1)						**Analyzed: 10/31/07 17:06**						
Diesel Range Organics	ND	---	20.0	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	40.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 104 %*		*Limits: 50-150 %*		*Dilution: 1x*						
LCS (7100299-BS1)						**Analyzed: 10/31/07 16:44**						
Diesel Range Organics	82.3	---	20.0	mg/kg wet	1	83.3	---	99	75-125%	---	---	
Oil Range Organics	83.4	---	40.0	"	"	83.3	---	100	75-125%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 100 %*		*Limits: 50-150 %*		*Dilution: 1x*						

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100309 - EPA 3051							**Soil**					
Blank (7100309-BLK1)						**Analyzed: 11/02/07 11:13**						
Arsenic	ND	---	0.500	mg/kg wet	5	---	---	---	---	---	---	
Barium	ND	---	0.500	"	"	---	---	---	---	---	---	
Beryllium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	---	0.500	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Copper	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.500	"	"	---	---	---	---	---	---	
Nickel	ND	---	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	0.500	"	"	---	---	---	---	---	---	
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	
Thallium	ND	---	0.500	"	"	---	---	---	---	---	---	
Zinc	ND	---	1.00	"	"	---	---	---	---	---	---	
						Analyzed: 11/02/07 14:23						
Antimony	ND	---	0.500	"	"	---	---	---	---	---	---	
LCS (7100309-BS1)						**Analyzed: 11/02/07 11:16**						
Arsenic	54.4	---	0.500	mg/kg wet	5	50.0	---	109	80-120%	---	---	
Barium	52.0	---	0.500	"	"	50.0	---	104	80-120%	---	---	
Beryllium	26.0	---	1.00	"	"	25.0	---	104	80-120%	---	---	
Cadmium	52.6	---	0.500	"	"	50.0	---	105	80-120%	---	---	
Chromium	51.1	---	1.00	"	"	50.0	---	102	80-120%	---	---	
Copper	51.4	---	1.00	"	"	50.0	---	103	80-120%	---	---	
Lead	50.0	---	0.500	"	"	50.0	---	100	80-120%	---	---	
Nickel	51.6	---	1.00	"	"	50.0	---	103	80-120%	---	---	
Selenium	26.8	---	0.500	"	"	25.0	---	107	80-120%	---	---	
Silver	25.0	---	1.00	"	"	25.0	---	100	80-120%	---	---	
Thallium	24.8	---	0.500	"	"	25.0	---	99	80-120%	---	---	
Zinc	54.3	---	1.00	"	"	50.0	---	109	80-120%	---	---	
						Analyzed: 11/02/07 14:26						
Antimony	27.0	---	0.500	"	"	25.0	---	108	80-120%	---	---	
Duplicate (7100309-DUP1)			**Source: A710268-02**			**Analyzed: 11/02/07 14:30**						
Chromium	**14.8**	---	12.6	mg/kg dry	50	---	14.7	---	---	0.9	40%	
						Analyzed: 11/02/07 15:00						

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100309 - EPA 3051							**Soil**					
Duplicate (7100309-DUP1)			**Source: A710268-02**			**Analyzed: 11/02/07 15:00**						
Antimony	ND	---	0.630	mg/kg dry	5	---	ND	---	---		40%	
Arsenic	**4.33**	---	0.630	"	"	---	3.71	---	---	15	40%	
Barium	**109**	---	0.630	"	"	---	86.5	---	---	23	40%	
Beryllium	ND	---	1.26	"	"	---	ND	---	---		40%	
Cadmium	**0.958**	---	0.630	"	"	---	0.679	---	---	34	40%	
Copper	**52.0**	---	1.26	"	"	---	33.9	---	---	42	40%	Q-04
Lead	**20.6**	---	0.630	"	"	---	16.6	---	---	21	40%	
Nickel	**24.3**	---	1.26	"	"	---	18.9	---	---	25	40%	
Selenium	ND	---	0.630	"	"	---	ND	---	---		40%	
Silver	ND	---	1.26	"	"	---	ND	---	---		40%	
Thallium	ND	---	0.630	"	"	---	ND	---	---		40%	
Zinc	**72.7**	---	1.26	"	"	---	59.6	---	---	20	40%	
Matrix Spike (7100309-MS1)			**Source: A710268-02**			**Analyzed: 11/02/07 14:32**						
Barium	134	---	5.51	mg/kg dry	50	55.1	86.5	86	75-125%	---	---	
Chromium	62.1	---	11.0	"	"	55.1	14.7	86	75-125%	---	---	
						Analyzed: 11/02/07 15:02						
Antimony	24.9	---	0.551	"	5	27.5	0.364	89	75-125%	---	---	
Arsenic	60.1	---	0.551	"	"	55.1	3.71	102	75-125%	---	---	
Beryllium	28.9	---	1.10	"	"	27.5	0.431	103	75-125%	---	---	
Cadmium	57.2	---	0.551	"	"	55.1	0.679	103	75-125%	---	---	
Copper	81.6	---	1.10	"	"	55.1	33.9	87	75-125%	---	---	
Lead	62.8	---	0.551	"	"	55.1	16.6	84	75-125%	---	---	
Nickel	67.7	---	1.10	"	"	55.1	18.9	89	75-125%	---	---	
Selenium	28.8	---	0.551	"	"	27.5	0.563	103	75-125%	---	---	
Silver	26.7	---	1.10	"	"	27.5	ND	97	75-125%	---	---	
Thallium	27.0	---	0.551	"	"	27.5	ND	98	75-125%	---	---	
Zinc	108	---	1.10	"	"	55.1	59.6	89	75-125%	---	---	
Matrix Spike (7100309-MS2)			**Source: A710268-03**			**Analyzed: 11/02/07 14:37**						
Chromium	50.4	---	9.64	mg/kg dry	50	48.2	6.10	92	75-125%	---	---	
Lead	674	---	4.82	"	"	48.2	1940	-2630	75-125%	---	---	Q-04
Zinc	123	---	9.64	"	"	48.2	111	24	75-125%	---	---	Q-04
						Analyzed: 11/02/07 15:06						
Antimony	23.5	---	0.482	"	5	24.1	1.54	91	75-125%	---	---	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100309 - EPA 3051							**Soil**					
Matrix Spike (7100309-MS2)			**Source: A710268-03**			**Analyzed: 11/02/07 15:06**						
Arsenic	51.5	---	0.482	mg/kg dry	"	48.2	2.23	102	75-125%	---	---	
Barium	78.9	---	0.482	"	"	48.2	46.8	67	75-125%	---	---	Q-04
Beryllium	24.8	---	0.964	"	"	24.1	ND	103	75-125%	---	---	
Cadmium	49.9	---	0.482	"	"	48.2	0.831	102	75-125%	---	---	
Copper	93.4	---	0.964	"	"	48.2	82.1	23	75-125%	---	---	Q-04
Nickel	59.9	---	0.964	"	"	48.2	15.8	91	75-125%	---	---	
Selenium	24.7	---	0.482	"	"	24.1	0.365	101	75-125%	---	---	
Silver	23.2	---	0.964	"	"	24.1	ND	96	75-125%	---	---	
Thallium	23.6	---	0.482	"	"	24.1	ND	98	75-125%	---	---	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Mercury by EPA 7471

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100309 - EPA 3051							**Soil**					
Blank (7100309-BLK1)						**Analyzed: 11/05/07 12:12**						
Mercury	ND	---	0.0150	mg/kg wet	1	---	---	---	---	---	---	B-02
LCS (7100309-BS1)						**Analyzed: 11/05/07 12:12**						
Mercury	0.281	---	0.0150	mg/kg wet	1	0.300	---	94	85-115%	---	---	
Duplicate (7100309-DUP1)			**Source: A710268-02**			**Analyzed: 11/05/07 12:12**						
Mercury	**0.0340**	---	0.0189	mg/kg dry	1	---	0.0265	---	---	25	25%	
Matrix Spike (7100309-MS1)			**Source: A710268-02**			**Analyzed: 11/05/07 12:12**						
Mercury	0.365	---	0.0165	mg/kg dry	1	0.331	0.0265	102	75-125%	---	---	
Matrix Spike (7100309-MS2)			**Source: A710268-03**			**Analyzed: 11/05/07 12:12**						
Mercury	0.868	---	0.289	mg/kg dry	20	0.289	2.79	-665	75-125%	---	---	Q-04

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100305 - Dry Weight							**Soil**					
Duplicate (7100305-DUP5)			**Source: A710268-03**			**Analyzed: 11/01/07 09:13**						
% Solids	**95.0**	---	1.00	% by Weight	1	---	95.3	---	---	0.3	20%	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

Environmental Science Corp., Mt. Juliet, TN

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 328770 - 3546							**Soil**					
BLANK (WG328770-BLK1)						**Analyzed: 11/05/07 00:00**						
PCB 1016	ND	---	0.017	mg/kg	1	---	---	---	---	---	---	
PCB 1221	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1232	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1242	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1248	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1254	ND	---	0.017	"	"	---	---	---	---	---	---	
PCB 1260	ND	---	0.017	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl		*Recovery:*	*90.78 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*88.35 %*		*49-132 %*			*"*				
LCS (WG328770-LCS1)						**Analyzed: 11/05/07 00:00**						
PCB 1260	0.146	---	0.017	mg/kg	1	0.167	---	87.7	64-120%	---	---	
Surr: Decachlorobiphenyl		*Recovery:*	*84.62 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*77.79 %*		*49-132 %*			*"*				
LCSD (WG328770-LCSD1)						**Analyzed: 11/05/07 00:00**						
PCB 1260	0.163	---	0.017	mg/kg	1	0.167	ND	97.8	64-120%	11	---	
Surr: Decachlorobiphenyl		*Recovery:*	*97.75 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*86.08 %*		*49-132 %*			*"*				
MS (WG328770-MS1)			**Source: L317585-11**			**Analyzed: 11/04/07 00:00**						
PCB 1260	0.161	---	0.017	mg/kg	1	---	ND	96.6	59-134%	0	---	
Surr: Decachlorobiphenyl		*Recovery:*	*80.57 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*106.8 %*		*49-132 %*			*"*				
MSD (WG328770-MSD1)			**Source: L317585-11**			**Analyzed: 11/04/07 00:00**						
PCB 1260	0.167	---	0.017	mg/kg	1	---	ND	100.2	59-134%	3.6	---	
Surr: Decachlorobiphenyl		*Recovery:*	*81.53 %*	*Limits:*	*58-134 %*		*Dilution:*	*1x*				
Tetrachloro-m-xylene			*106.71 %*		*49-132 %*			*"*				

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

Environmental Science Corp., Mt. Juliet, TN

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Solids

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 328363 - Method							**Soil**					
BLANK (WG328363-BLK1)						**Analyzed: 11/02/07 00:00**						
Total Solids	ND	---	0.1	Percent	1	---	---	---	---	---	---	
DUP (WG328363-DUP1)			**Source: A710268-01**			**Analyzed: 11/02/07 00:00**						
Total Solids	65.7	---	0.1	Percent	1	---	63		---	66585	%	
LCS (WG328363-LCS1)						**Analyzed: 11/02/07 00:00**						
Total Solids	50.0	---	0.1	Percent	1	50	---	100	85-115%	---	---	

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434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

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Petroleum Hydrocarbons by NWTPH-Dx

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3546 (Fuels)							
Batch: 7100299							
A710268-01	Soil	NWTPH-Dx	10/29/07 00:00	10/31/07 09:27	10.85g/5mL	15g/5mL	1.38

Total Metals by EPA 6020 (ICPMS)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3051							
Batch: 7100309							
A710268-01	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.479g/50mL	0.5g/50mL	1.04
A710268-02	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.523g/50mL	0.5g/50mL	0.96
A710268-03	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.546g/50mL	0.5g/50mL	0.92
A710268-04	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.519g/50mL	0.5g/50mL	0.96
A710268-05	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.522g/50mL	0.5g/50mL	0.96
A710268-06	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.516g/50mL	0.5g/50mL	0.97
A710268-07	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.517g/50mL	0.5g/50mL	0.97
A710268-08	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.425g/50mL	0.5g/50mL	1.18
A710268-09	Soil	EPA 6020	10/29/07 00:00	10/31/07 10:34	0.456g/50mL	0.5g/50mL	1.10

Total Mercury by EPA 7471

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 3051							
Batch: 7100309							
A710268-01	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.479g/50mL	0.5g/50mL	1.04
A710268-02	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.523g/50mL	0.5g/50mL	0.96
A710268-03RE1	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.546g/50mL	0.5g/50mL	0.92
A710268-04RE1	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.519g/50mL	0.5g/50mL	0.96
A710268-05	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.522g/50mL	0.5g/50mL	0.96
A710268-06	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.516g/50mL	0.5g/50mL	0.97
A710268-07	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.517g/50mL	0.5g/50mL	0.97
A710268-08	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.425g/50mL	0.5g/50mL	1.18
A710268-09	Soil	EPA 7471A	10/29/07 00:00	10/31/07 10:34	0.456g/50mL	0.5g/50mL	1.10

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Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

Environmental Science Corp., Mt. Juliet, TN

Polychlorinated Biphenyls

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
3546							
Batch: 328770							
A710268-01	Soil	8082	10/29/07 00:00	11/03/07 00:00			NA

Total Solids

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Method							
Batch: 328363							
A710268-01	Soil	2540G	10/29/07 00:00	11/03/07 00:00			NA

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

Notes and Definitions

Qualifiers:

B-02 Analyte detected in the extraction blank at a level below the MRL, but greater than one-half the MRL.

Q-04 The RPD and/or Percent Recovery for this QC sample is outside control limits due to a non-homogeneous sample matrix.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

Batch QC Unless specifically stated, all analyses include full Batch QC, including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates, in order to meet or exceed method and regulatory requirements. This report contains only results for Batch QC derived from samples included in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Labs

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/26/07 09:27

A710269

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 795-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No: Chain of Custody No.: 1 of

Project Manager	Siobhan McConnell
Project No.	7359
Project Name	WTRINV
Collected by	Ben Uhl

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

*Sample Number Prefix: 7358-071029

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Description	Soil	Water	Other	Number of Containers	NWTPH-Dx	EPA 8021 BTEX	EPA 6010B/7000 RCRA	EPA 6020/7000 13 PP Metals			RUSH 5 DAY TURN	Remarks
1	028	29-Oct-07	—	Composite 025 + 027	X			-	X	X	X				X	
2	029	29-Oct-07	-	Composite 018 + 010	X			-				X			X	
3	030	29-Oct-07	-	Composite 023 + 014	X			-				X			X	
4	031	29-Oct-07	-	Composite 021 + 022	X			-				X			X	
5	032	29-Oct-07	—	Composite 001 + 005	X			-				X			X	
6	033	29-Oct-07	—	Composite 002 + 004	X			-				X			X	
7	034	29-Oct-07	—	Composite 008 + 009	X			-				X			X	
8	035	29-Oct-07	-	Composite 012 + 013	X			-				X			X	
9	036	29-Oct-07	-	Composite 015 + 016	X			-				X			X	
					(Total Basis)											

Relinquished by	Company	Date	Time	Received by	Company
Siobhan McConnell	HAI	10/30/07	1:25	Kelly	Apex
Relinquished by	Company	Date	Time	Received by	Company
Relinquished by	Company	Date	Time	Received by	Company

Apex Laboratories

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Philip Nerenberg

Philip Nerenberg, Lab Director

APPENDIX C

Laboratory Analytical Reports and Chain-of-Custody Documentation
Groundwater Samples

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex
Lab Project No.: Chain of Custody No. 1 of 1

Project Manager	Siobhan McConnell	Samples Received at 4C (Y or N)
Project No.	7358	Appropriate Containers Used (Y or N)
Project Name	WTRINV	Provide Verbal Results (Y or N)
Collected by	~~Siobhan McConnell~~ Ben Uhl	Provide Preliminary Fax Results

***Sample Number Prefix: 7358-071029-**

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Descriptions	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	8260 B VOCs w/ Calcs					RUSH 5 DAY TURN	Remarks
	100	29-Oct-07	940	P-1 (15.0'-20.0')		x		3	X					X	1
	101	29-Oct-07	1023	P-2 (15.0'-20.0')		x		3	X					X	1
	102	29-Oct-07	1113	P-3 (15.0'-20.0')		x		3	X					X	1
	103	29-Oct-07	1155	P-4 (15.0'-20.0')		x		3	X					X	1
	~~104~~	~~29-Oct-07~~				~~x~~		~~3~~							~~1~~
															1
															1
															1
															1

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn + Ass, Inc	10/30/07	9:00	[illegible]	HAI
[illegible]	HAI	10/30/07	1215	[illegible]	Apex
Relinquished by	Company	Date	Time	Received by	Company

Apex Labs

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

Wednesday, November 21, 2007

Siobhan McConnell
Hahn and Associates
434 NW 6th Ave. Suite 203
Portland, OR 97209

RE: WTRINV / 7358

Enclosed are the results of analyses for samples received by the laboratory on 10/30/2007 at12:15:00PM.

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

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

Apex Laboratories

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Philip Nerenberg

Philip Nerenberg, Lab Director

Apex Labs

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
7358-071029-100	A710271-01	Water	10/29/07 09:40	10/30/07 12:15
7358-071029-101	A710271-02	Water	10/29/07 10:23	10/30/07 12:15
7358-071029-102	A710271-03	Water	10/28/07 11:13	10/30/07 12:15
7358-071029-103	A710271-04	Water	10/29/07 11:55	10/30/07 12:15

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Philip Nerenberg

Philip Nerenberg, Lab Director

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-100 (A710271-01)			**Matrix: Water**					**V-04**
Acetone	ND	---	20.0	ug/L	1	11/03/07 21:30	EPA 8260B	
Benzene	**0.600**	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-100 (A710271-01)			**Matrix: Water**					**V-04**
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	**16.2**	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 154 %*	*Limits: 80-120 %*	"	"	"	*S-06*
1,4-Difluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	

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Philip Nerenberg, Lab Director

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-101 (A710271-02)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	11/03/07 22:00	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	R-01
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-101 (A710271-02)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 152 %*	*Limits: 80-120 %*	"	"	"	*S-06*
1,4-Difluorobenzene (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-102 (A710271-03)			**Matrix: Water**					
Acetone	ND	---	20.0	ug/L	1	11/03/07 22:30	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-102 (A710271-03)			**Matrix: Water**					
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 151 %*	*Limits: 80-120 %*	"	"	"	*S-06*
1,4-Difluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-103 (A710271-04)			**Matrix: Water**					**V-04**
Acetone	ND	---	30.0	ug/L	1	11/03/07 23:00	EPA 8260B	
Benzene	ND	---	0.500	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	0.500	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	0.500	"	"	"	"	
sec-Butylbenzene	ND	---	0.500	"	"	"	"	
tert-Butylbenzene	ND	---	0.500	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	2.00	"	"	"	"	
Chloroform	ND	---	2.00	"	"	"	"	
Chloromethane	ND	---	2.00	"	"	"	"	
2-Chlorotoluene	ND	---	0.500	"	"	"	"	
4-Chlorotoluene	ND	---	0.500	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	"	"	
Dibromochloromethane	ND	---	0.500	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	0.500	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	0.500	"	"	"	"	
2,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
7358-071029-103 (A710271-04)			**Matrix: Water**					**V-04**
1,1-Dichloropropene	ND	---	0.500	ug/L	1	"	EPA 8260B	
cis-1,3-Dichloropropene	ND	---	0.500	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	2.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	0.500	"	"	"	"	
4-Isopropyltoluene	ND	---	0.500	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	5.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	0.500	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	2.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	1.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	"	"	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 153 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110021 - EPA 5030B							**Water**					
Blank (7110021-BLK1)						**Analyzed: 11/03/07 15:32**						
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	2.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	2.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	2.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	0.500	"	"	---	---	---	---	---	---	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110021 - EPA 5030B							**Water**					
Blank (7110021-BLK1)						**Analyzed: 11/03/07 15:32**						
cis-1,3-Dichloropropene	ND	---	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	2.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	0.500	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	5.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3,5-Trimethybenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 119 %*	*Limits: 80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*101 %*	*80-120 %*	*"*
Toluene-d8 (Surr)	*98 %*	*80-120 %*	*"*
4-Bromofluorobenzene (Surr)	*101 %*	*80-120 %*	*"*

LCS (7110021-BS1) **Analyzed: 11/03/07 14:30**

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110021 - EPA 5030B							**Water**					
LCS (7110021-BS1)						**Analyzed: 11/03/07 14:30**						
Acetone	33.6	---	20.0	ug/L	1	40.0	---	84	70-130%	---	---	
Benzene	19.6	---	0.500	"	"	20.0	---	98	70-130%	---	---	
Bromobenzene	19.7	---	0.500	"	"	20.0	---	98	70-130%	---	---	
Bromochloromethane	20.1	---	0.500	"	"	20.0	---	101	70-130%	---	---	
Bromodichloromethane	25.0	---	0.500	"	"	20.0	---	125	70-130%	---	---	
Bromoform	24.1	---	1.00	"	"	20.0	---	120	70-130%	---	---	
Bromomethane	61.1	---	5.00	"	"	20.0	---	305	70-130%	---	---	Q-08
2-Butanone (MEK)	35.7	---	10.0	"	"	40.0	---	89	70-130%	---	---	
n-Butylbenzene	19.1	---	0.500	"	"	20.0	---	95	70-130%	---	---	
sec-Butylbenzene	17.7	---	0.500	"	"	20.0	---	89	70-130%	---	---	
tert-Butylbenzene	18.1	---	0.500	"	"	20.0	---	90	70-130%	---	---	
Carbon tetrachloride	27.2	---	0.500	"	"	20.0	---	136	70-130%	---	---	Q-08
Chlorobenzene	20.2	---	0.500	"	"	20.0	---	101	70-130%	---	---	
Chloroethane	63.6	---	2.00	"	"	20.0	---	318	70-130%	---	---	Q-08
Chloroform	23.1	---	2.00	"	"	20.0	---	115	70-130%	---	---	
Chloromethane	20.7	---	2.00	"	"	20.0	---	103	70-130%	---	---	
2-Chlorotoluene	19.3	---	0.500	"	"	20.0	---	96	70-130%	---	---	
4-Chlorotoluene	19.1	---	0.500	"	"	20.0	---	96	70-130%	---	---	
1,2-Dibromo-3-chloropropane	19.5	---	2.00	"	"	20.0	---	97	70-130%	---	---	
Dibromochloromethane	25.7	---	0.500	"	"	20.0	---	128	70-130%	---	---	
1,2-Dibromoethane (EDB)	21.9	---	0.500	"	"	20.0	---	110	70-130%	---	---	
Dibromomethane	22.3	---	0.500	"	"	20.0	---	112	70-130%	---	---	
1,2-Dichlorobenzene	18.8	---	0.500	"	"	20.0	---	94	70-130%	---	---	
1,3-Dichlorobenzene	19.3	---	0.500	"	"	20.0	---	96	70-130%	---	---	
1,4-Dichlorobenzene	19.2	---	0.500	"	"	20.0	---	96	70-130%	---	---	
Dichlorodifluoromethane	23.7	---	1.00	"	"	20.0	---	118	70-130%	---	---	
1,1-Dichloroethane	21.7	---	0.500	"	"	20.0	---	108	70-130%	---	---	
1,2-Dichloroethane (EDC)	26.3	---	0.500	"	"	20.0	---	132	70-130%	---	---	Q-08
1,1-Dichloroethene	21.5	---	0.500	"	"	20.0	---	108	70-130%	---	---	
cis-1,2-Dichloroethene	22.4	---	0.500	"	"	20.0	---	112	70-130%	---	---	
trans-1,2-Dichloroethene	21.4	---	0.500	"	"	20.0	---	107	70-130%	---	---	
1,2-Dichloropropane	18.6	---	0.500	"	"	20.0	---	93	70-130%	---	---	
1,3-Dichloropropane	22.0	---	0.500	"	"	20.0	---	110	70-130%	---	---	
2,2-Dichloropropane	25.6	---	0.500	"	"	20.0	---	128	70-130%	---	---	
1,1-Dichloropropene	19.2	---	0.500	"	"	20.0	---	96	70-130%	---	---	

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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110021 - EPA 5030B							**Water**					
LCS (7110021-BS1)						**Analyzed: 11/03/07 14:30**						
cis-1,3-Dichloropropene	20.3	---	0.500	ug/L	"	20.0	---	102	70-130%	---	---	
trans-1,3-Dichloropropene	24.4	---	1.00	"	"	20.0	---	122	70-130%	---	---	
Ethylbenzene	19.4	---	0.500	"	"	20.0	---	97	70-130%	---	---	
Hexachlorobutadiene	18.9	---	2.00	"	"	20.0	---	94	70-130%	---	---	
2-Hexanone	42.2	---	10.0	"	"	40.0	---	105	70-130%	---	---	
Isopropylbenzene	18.6	---	0.500	"	"	20.0	---	93	70-130%	---	---	
4-Isopropyltoluene	18.1	---	0.500	"	"	20.0	---	90	70-130%	---	---	
4-Methyl-2-pentanone (MiBK)	47.6	---	10.0	"	"	40.0	---	119	70-130%	---	---	
Methyl tert-butyl ether (MTBE)	18.7	---	0.500	"	"	20.0	---	94	70-130%	---	---	
Methylene chloride	20.1	---	5.00	"	"	20.0	---	100	70-130%	---	---	
Naphthalene	15.5	---	5.00	"	"	20.0	---	78	70-130%	---	---	
n-Propylbenzene	18.4	---	0.500	"	"	20.0	---	92	70-130%	---	---	
Styrene	18.6	---	0.500	"	"	20.0	---	93	70-130%	---	---	
1,1,1,2-Tetrachloroethane	24.4	---	1.00	"	"	20.0	---	122	70-130%	---	---	
1,1,2,2-Tetrachloroethane	18.3	---	0.500	"	"	20.0	---	92	70-130%	---	---	
Tetrachloroethene (PCE)	21.6	---	0.500	"	"	20.0	---	108	70-130%	---	---	
Toluene	18.6	---	2.00	"	"	20.0	---	93	70-130%	---	---	
1,2,3-Trichlorobenzene	16.2	---	2.00	"	"	20.0	---	81	70-130%	---	---	
1,2,4-Trichlorobenzene	16.0	---	2.00	"	"	20.0	---	80	70-130%	---	---	
1,1,1-Trichloroethane	26.3	---	0.500	"	"	20.0	---	132	70-130%	---	---	Q-08
1,1,2-Trichloroethane	21.3	---	0.500	"	"	20.0	---	107	70-130%	---	---	
Trichloroethene (TCE)	20.7	---	0.500	"	"	20.0	---	103	70-130%	---	---	
Trichlorofluoromethane	44.3	---	1.00	"	"	20.0	---	222	70-130%	---	---	Q-08
1,2,3-Trichloropropane	20.2	---	1.00	"	"	20.0	---	101	70-130%	---	---	
1,2,4-Trimethylbenzene	18.4	---	0.500	"	"	20.0	---	92	70-130%	---	---	
1,3,5-Trimethybenzene	20.4	---	0.500	"	"	20.0	---	102	70-130%	---	---	
Vinyl chloride	24.7	---	0.500	"	"	20.0	---	124	70-130%	---	---	
m,p-Xylene	43.0	---	1.00	"	"	40.0	---	108	70-130%	---	---	
o-Xylene	19.2	---	0.500	"	"	20.0	---	96	70-130%	---	---	
Xylenes, total	62.2	---	1.50	"	"	60.0	---	104	70-130%	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 126 %*	*Limits: 80-120 %*	*Dilution: 1x*		*S-06*
1,4-Difluorobenzene (Surr)	*98 %*	*80-120 %*	"		
Toluene-d8 (Surr)	*105 %*	*80-120 %*	"		
4-Bromofluorobenzene (Surr)	*97 %*	*80-120 %*	"		

Apex Laboratories

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

Philip Nerenberg

Philip Nerenberg, Lab Director

Apex Labs

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

Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

Apex Laboratories

Volatile Organic Compounds by EPA 8260B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
EPA 5030B							
Batch: 7110021							
A710271-01	Water	EPA 8260B	10/29/07 09:40	11/03/07 14:50	5mL/5mL	5mL/5mL	1.00
A710271-02	Water	EPA 8260B	10/29/07 10:23	11/03/07 14:50	5mL/5mL	5mL/5mL	1.00
A710271-03	Water	EPA 8260B	10/28/07 11:13	11/03/07 14:50	5mL/5mL	5mL/5mL	1.00
A710271-04	Water	EPA 8260B	10/29/07 11:55	11/03/07 14:50	5mL/5mL	5mL/5mL	1.00

Apex Laboratories

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503-718-2323 Phone
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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

Notes and Definitions

Qualifiers:

Q-08	Recovery of Lab Control Spike or Matrix Spike was above established control limits for this analyte. Analyte was not detected, therefore data quality is not affected.
R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
S-06	Surrogate recovery is outside of established control limits.
V-04	Composite of VOA vials analyzed due to sediment in vials.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
Batch QC	Unless specifically stated, all analyses include full Batch QC, including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates, in order to meet or exceed method and regulatory requirements. This report contains only results for Batch QC derived from samples included in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

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Philip Nerenberg

Philip Nerenberg, Lab Director

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503-718-2323 Phone
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Hahn and Associates	Project: **WTRINV**	
434 NW 6th Ave. Suite 203	Project Number: 7358	**Reported:**
Portland, OR 97209	Project Manager: Siobhan McConnell	11/21/07 08:56

~~A710268~~

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY
Laboratory: Apex A710271
Lab Project No.: Chain of Custody No. 1 of 1

Project Manager	Siobhan McConnell	Samples Received at 4C (Y or N)
Project No.	7358	Appropriate Containers Used (Y or N)
Project Name	WTRINV	Provide Verbal Results (Y or N)
Collected by	~~Siobhan McConnell~~ Ben Uhl	Provide Preliminary Fax Results

*Sample Number Prefix: 7358-071029-

Electronic Copy of Results to HAI

Lab ID	Sample #*	Date	Time	Sample Descriptions	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	Analyses to be Performed: 8260 B VOCs w/ Silica Gel						RUSH 5 DAY TURN	Remarks
28	100	29-Oct-07	940	P-1 (15.0'-20.0')		x		3	X						X	1
29	101	29-Oct-07	1023	P-2 (15.0'-20.0')		x		3	X						X	1
30	102	29-Oct-07	1113	P-3 (15.0'-20.0')		x		3	X						X	1
31	103	29-Oct-07	1155	P-4 (15.0'-20.0')		x		3	X						X	1
	~~104~~	~~29-Oct-07~~				~~x~~		~~3~~								~~1~~
																1
																1
																1
																1

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn + Ass, Inc.	11/30/07	9:00	[illegible]	HAI
Siobhan McConnell	HAI	10/30/07	12:15	[illegible]	Apex

Apex Laboratories

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Philip Nerenberg

Philip Nerenberg, Lab Director

Catch Basin and Floor Drain Filter Liner Sediment Sample Analytical Results
Portland General Electric
Hawthorne Building

Hawthorne Building	Sample Location	Sample Date	Polychlorinated Biphenyls (mg/kg)						
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
110207Hawthorne 1	Catch Basin 1	2/7/11	0.0327 U	0.0657 U	0.0327 U	0.0327 U	0.0327 U	0.0327 U	**0.0389**
110207Hawthorne 2a	Catch Basin 2a	2/7/11	0.0612 U	0.1230 U	0.0612 U	0.0612 U	0.0612 U	0.0612 U	**0.194**
110207Hawthorne 2b	Catch Basin 2b	2/7/11	0.0447 U	0.0899 U	0.0447 U	0.0447 U	0.0447 U	0.0447 U	**0.359**
110207Hawthorne 3	Floor Drain FD-F	2/7/11	0.0928 U	0.1870 U	0.0928 U	0.0928 U	0.0928 U	0.0928 U	**1.17**
110215CB3	Catch Basin 3	2/15/11	0.0675 U	0.1360 U	0.0675 U	0.0675 U	0.0675 U	0.0675 U	0.0675 U

Notes:
Bold = analyte was detected at or above the method reporting limit.
U = The analyte was not detected at or above the method reporting limit.
mg/Kg = milligrams per Kilogram

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Tel: (503) 906-9200

TestAmerica Job ID: PUB0309
TestAmerica Sample Delivery Group: PUB0309
Client Project/Site: RC841/PO#TERM010972
Client Project Description: Hawthorne Building

For:
PGE-Environmental Sciences (RC841)
121 SW Salmon St. 3WTCBR05
Portland, OR 97204

Attn: Chip Bloomer

Authorized for release by:
3/1/2011 4:12 PM

Brian Cone
Industrial Services Manager
brian.cone@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Sample Summary

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0309

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
PUB0309-01	110207 Hawthorne 1	Soil	02/07/11 12:00	02/09/11 17:30
PUB0309-02	110207 Hawthorne 2a	Soil	02/07/11 12:05	02/09/11 17:30
PUB0309-03	110207 Hawthorne 2b	Soil	02/07/11 12:10	02/09/11 17:30
PUB0309-04	110207 Hawthorne 3	Soil	02/07/11 12:51	02/09/11 17:30

Qualifier Definition/Glossary

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0309
SDG: PUB0309

Qualifiers

Semivolatiles

Qualifier	Qualifier Description
ID7	Due to weathering or the presence of multiple aroclors, the aroclor pattern in the sample does not closely match reference aroclor standards used for calibration.

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

Client Sample ID: 110207 Hawthorne 1

Lab Sample ID: PUB0309-01
Date Collected: 02/07/11 12:00
Matrix: Soil
Date Received: 02/09/11 17:30

Method: EPA 8082 - Polychlorinated Biphenyls per EPA Method 8082

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.0327		mg/kg wet		02/18/11 13:46	02/25/11 13:39	1.00
Aroclor 1221	ND		0.0657		mg/kg wet		02/18/11 13:46	02/25/11 13:39	1.00
Aroclor 1232	ND		0.0327		mg/kg wet		02/18/11 13:46	02/25/11 13:39	1.00
Aroclor 1242	ND		0.0327		mg/kg wet		02/18/11 13:46	02/25/11 13:39	1.00
Aroclor 1248	ND		0.0327		mg/kg wet		02/18/11 13:46	02/25/11 13:39	1.00
Aroclor 1254	ND		0.0327		mg/kg wet		02/18/11 13:46	02/25/11 13:39	1.00
Aroclor 1260	**0.0389**		0.0327		mg/kg wet		02/18/11 13:46	02/25/11 13:39	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl	*78.1*		*16 - 149*	*02/18/11 13:46*	*02/25/11 13:39*	*1.00*

Client Sample ID: 110207 Hawthorne 2a

Lab Sample ID: PUB0309-02
Date Collected: 02/07/11 12:05
Matrix: Soil
Date Received: 02/09/11 17:30
Percent Solids: 54.3

Method: EPA 8082 - Polychlorinated Biphenyls per EPA Method 8082

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.0612		mg/kg dry	☼	02/18/11 13:46	02/25/11 14:59	1.00
Aroclor 1221	ND		0.123		mg/kg dry	☼	02/18/11 13:46	02/25/11 14:59	1.00
Aroclor 1232	ND		0.0612		mg/kg dry	☼	02/18/11 13:46	02/25/11 14:59	1.00
Aroclor 1242	ND		0.0612		mg/kg dry	☼	02/18/11 13:46	02/25/11 14:59	1.00
Aroclor 1248	ND		0.0612		mg/kg dry	☼	02/18/11 13:46	02/25/11 14:59	1.00
Aroclor 1254	ND		0.0612		mg/kg dry	☼	02/18/11 13:46	02/25/11 14:59	1.00
Aroclor 1260	**0.194**		0.0612		mg/kg dry	☼	02/18/11 13:46	02/25/11 14:59	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl	*86.8*		*16 - 149*	*02/18/11 13:46*	*02/25/11 14:59*	*1.00*

Method: ASTM D2216-80 - Percent Dry Weight (Solids) per ASTM D2216-80

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Solids	**54.3**		0.0100		% by Weight		02/15/11 16:09	02/16/11 13:15	1.00

Client Sample ID: 110207 Hawthorne 2b

Lab Sample ID: PUB0309-03
Date Collected: 02/07/11 12:10
Matrix: Soil
Date Received: 02/09/11 17:30
Percent Solids: 73.8

Method: EPA 8082 - Polychlorinated Biphenyls per EPA Method 8082

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.0447		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:27	1.00
Aroclor 1221	ND		0.0899		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:27	1.00
Aroclor 1232	ND		0.0447		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:27	1.00
Aroclor 1242	ND		0.0447		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:27	1.00
Aroclor 1248	ND		0.0447		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:27	1.00
Aroclor 1254	ND		0.0447		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:27	1.00
Aroclor 1260	**0.359**	**ID7**	0.0447		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:27	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl	*62.0*		*16 - 149*	*02/18/11 13:46*	*02/25/11 15:27*	*1.00*

Method: ASTM D2216-80 - Percent Dry Weight (Solids) per ASTM D2216-80

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Solids	**73.8**		0.0100		% by Weight		02/15/11 16:09	02/16/11 13:15	1.00

Analytical Data

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0309
SDG: PUB0309

Client Sample ID: 110207 Hawthorne 3

Date Collected: 02/07/11 12:51
Date Received: 02/09/11 17:30

Lab Sample ID: PUB0309-04

Matrix: Soil
Percent Solids: 71.2

Method: EPA 8082 - Polychlorinated Biphenyls per EPA Method 8082

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.0928		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:55	2.00
Aroclor 1221	ND		0.187		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:55	2.00
Aroclor 1232	ND		0.0928		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:55	2.00
Aroclor 1242	ND		0.0928		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:55	2.00
Aroclor 1248	ND		0.0928		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:55	2.00
Aroclor 1254	ND		0.0928		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:55	2.00
Aroclor 1260	**1.17**		0.0928		mg/kg dry	☼	02/18/11 13:46	02/25/11 15:55	2.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl	*93.9*		*16 - 149*	*02/18/11 13:46*	*02/25/11 15:55*	*2.00*

Method: ASTM D2216-80 - Percent Dry Weight (Solids) per ASTM D2216-80

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Solids	**71.2**		0.0100		% by Weight		02/15/11 16:09	02/16/11 13:15	1.00

Method: EPA 8082 - Polychlorinated Biphenyls per EPA Method 8082

Lab Sample ID: 11B0567-BLK2 | **Client Sample ID: 11B0567-BLK2**
Matrix: Soil | **Prep Type: total**
Analysis Batch: 11B0567 | **Prep Batch: 11B0567_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.0331		mg/kg wet		02/18/11 13:46	02/25/11 16:23	1.00
Aroclor 1221	ND		0.0666		mg/kg wet		02/18/11 13:46	02/25/11 16:23	1.00
Aroclor 1232	ND		0.0331		mg/kg wet		02/18/11 13:46	02/25/11 16:23	1.00
Aroclor 1242	ND		0.0331		mg/kg wet		02/18/11 13:46	02/25/11 16:23	1.00
Aroclor 1248	ND		0.0331		mg/kg wet		02/18/11 13:46	02/25/11 16:23	1.00
Aroclor 1254	ND		0.0331		mg/kg wet		02/18/11 13:46	02/25/11 16:23	1.00
Aroclor 1260	ND		0.0331		mg/kg wet		02/18/11 13:46	02/25/11 16:23	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl	*83.4*		*16 - 149*	*02/18/11 13:46*	*02/25/11 16:23*	*1.00*

Lab Sample ID: 11B0567-BS2 | **Client Sample ID: 11B0567-BS2**
Matrix: Soil | **Prep Type: total**
Analysis Batch: 11B0567 | **Prep Batch: 11B0567_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Aroclor 1016			0.332	0.337		mg/kg wet		101	57 - 135		
Aroclor 1260			0.332	0.383		mg/kg wet		115	60 - 135		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Decachlorobiphenyl	*116*		*16 - 149*

Method: ASTM D2216-80 - Percent Dry Weight (Solids) per ASTM D2216-80

Lab Sample ID: 11B0457-DUP1 | **Client Sample ID: PUB0304-09**
Matrix: Soil | **Prep Type: total**
Analysis Batch: 11B0457 | **Prep Batch: 11B0457_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
% Solids	84.4			84.4		% by Weight				0.05 44	20

Certification Summary

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0309
SDG: PUB0309

Laboratory	Authority	Program	EPA Region	Certification ID	* Expiration Date
TestAmerica Portland		USDA		P330-07-XXXXXX	02/17/14
TestAmerica Portland	Alaska	Alaska UST	10	UST-012	12/26/10
TestAmerica Portland	Alaska	State Program	10	OR00040	04/21/11
TestAmerica Portland	California	State Program	9	2597	09/30/11
TestAmerica Portland	Oregon	NELAC	10	OR100021	01/09/12
TestAmerica Portland	Washington	State Program	10	C586	06/23/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.
* Any expired certifications in this list are currently pending renewal and are considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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9405 SW Nimbus Ave,Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PUB0309

CLIENT:

REPORT TO: ADDRESS: Brandy + Chip

PHONE: FAX:

INVOICE TO: PGE

P.O. NUMBER:

PROJECT NAME:

PROJECT NUMBER: Hawthorne

SAMPLED BY: Chip Bloomer

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: 10 (STD) 7 5 4 3 2 1 <1

Petroleum Hydrocarbon Analyses: 5 (STD.) 4 3 2 1 <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PCBs													MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	110207 Hawthorne 1	2/7/11 12:00																	
2	2a	12:05																	
3	2a	12:10																	
4	3	12:51																	
5																			
6																			
7																			
8																			
9																			
10																			

RELEASED BY: [signature] PRINT NAME: Chip	FIRM: PGE	DATE: 2/8/11 TIME: 1400	RECEIVED BY: [signature] PRINT NAME: Bob F	FIRM: TAP	DATE: 2/9/11 TIME: 13:50
RELEASED BY: [signature] PRINT NAME: Bob F	FIRM: TAP	DATE: 2/9/11 TIME: 17:30	RECEIVED BY: [signature] PRINT NAME: [signature]	FIRM: TAP	DATE: 2/9/11 TIME: 1730

ADDITIONAL REMARKS:

TEMP: 53 PAGE OF

TAL-1000(0408)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Portland Sample Control Checklist

Work Order #: PUB0309 **Date/Time Received:** 2/9/11 1730

Client Name: PGE

Project Name: Hawthorne

Time Zone:

☐EDT/EST ☐CDT/CST ☐MDT/MST ☑PDT/PST ☐AK ☐HI ☐OTHER

Unpacking Checks:

Cooler (s): 1

Temperature (s): 5.3

Digi #1 ☐ **Digi #2** ☐ **IR Gun** ☑ (☐Plastic ☑Glass)

Raytek ☐ (☐Plastic ☐Glass)

Temperature out of Range:

__Not enough or No Ice

__Ice Melted

__W/in 4 Hrs of collection

__Ice Not Needed

__ Other:_____

Ice used: (circle one) GEL LOOSE BLUE NONE OTHER: _____ **Initials:** JM

N/A	Yes	No		
☑	☐	☐	1. If ESI client, were temp blanks received? If no, document on NOD.	
☑	☐	☐	2. Cooler Seals intact? (N/A if hand delivered) if no and ESI client, document on NOD.	
	☑	☐	3. Chain of Custody present? If no, document on NOD. Along with "received by" & "relinquished by" signatures with date & time?	
	☑	☐	4. Bottles received intact? If no, document on NOD.	#2 #3
	☑	☐	5. Sample is not multiphasic? If no, document on NOD.	COC = 2a, 2a
	☑	☐	6. Sampler name/signature documented on COC?	Jar = 2a, 2b
	☑	☐	7. Proper Container and preservatives used? If no, document on NOD.	
☑	☐	☐	8. pH of all samples checked and meet requirements? If no, document on NOD.	
☑	☐	☐	9. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.	
☑	☐	☐	10. HF Dilution required?	
	☑	☐	11. Sufficient volume provided for all analysis and requested MS/MSD? If no, document on NOD and consult PM before proceeding.	
JM	~~JM~~	☑	12. Did chain of custody agree with samples received? If no, document on NOD.	
☑	☐	☐	13. Were VOA samples received without headspace?	
	☐	☑	14. Did samples require preservation with sodium thiosulfate?	
☑	☐	☐	15. If yes to #14, was the residual chlorine test negative? If no, document on NOD.	
☑	☐	☐	16. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.	
☑	☐	☐	17. Are analyses with short holding times received in hold?	
☐	☑	☐	18. Were special log- in instructions read and followed?	

Checklist Reviewed: **Log-in initials:** JM **Labeler initials:** JM

9405 SW Nimbus Ave, Beaverton OR 97008 **tel** 503.906.9200 **fax** 503.906.9210 **www.testamericainc.com**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Tel: (503) 906-9200

TestAmerica Job ID: PUB0536
TestAmerica Sample Delivery Group: PUB0536
Client Project/Site: RC841/PO#TERM010972
Client Project Description: Hawthorne Building

For:
PGE-Environmental Sciences (RC841)
121 SW Salmon St. 3WTCBR05
Portland, OR 97204

Attn: Brandy Domina

Authorized for release by:
03/03/2011 05:41:15 PM

Brian Cone
Industrial Services Manager
brian.cone@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Sample Summary

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0536

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
PUB0536-01	110215 CB3	Soil	02/15/11 13:30	02/16/11 15:10

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

Analytical Data

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0536
SDG: PUB0536

Client Sample ID: 110215 CB3

Lab Sample ID: PUB0536-01

Date Collected: 02/15/11 13:30
Date Received: 02/16/11 15:10
Sampler Name:

Matrix: Soil
Percent Solids: 49
Sampler Phone Number: (503) 464-8970

Method: EPA 8082 - Polychlorinated Biphenyls per EPA Method 8082

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.0675		mg/kg dry	☼	02/22/11 08:25	02/23/11 14:05	1.00
Aroclor 1221	ND		0.136		mg/kg dry	☼	02/22/11 08:25	02/23/11 14:05	1.00
Aroclor 1232	ND		0.0675		mg/kg dry	☼	02/22/11 08:25	02/23/11 14:05	1.00
Aroclor 1242	ND		0.0675		mg/kg dry	☼	02/22/11 08:25	02/23/11 14:05	1.00
Aroclor 1248	ND		0.0675		mg/kg dry	☼	02/22/11 08:25	02/23/11 14:05	1.00
Aroclor 1254	ND		0.0675		mg/kg dry	☼	02/22/11 08:25	02/23/11 14:05	1.00
Aroclor 1260	ND		0.0675		mg/kg dry	☼	02/22/11 08:25	02/23/11 14:05	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl	*92.4*		*16 - 149*	*02/22/11 08:25*	*02/23/11 14:05*	*1.00*

Method: ASTM D2216-80 - Percent Dry Weight (Solids) per ASTM D2216-80

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Solids	**49.0**		0.0100		% by Weight		02/22/11 17:32	02/24/11 07:40	1.00

Method: EPA 8082 - Polychlorinated Biphenyls per EPA Method 8082

Lab Sample ID: 11B0594-BLK1 — **Client Sample ID: 11B0594-BLK1**
Matrix: Soil — **Prep Type: total**
Analysis Batch: 11B0594 — **Prep Batch: 11B0594_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.0332		mg/kg wet		02/22/11 08:25	02/22/11 16:11	1.00
Aroclor 1221	ND		0.0669		mg/kg wet		02/22/11 08:25	02/22/11 16:11	1.00
Aroclor 1232	ND		0.0332		mg/kg wet		02/22/11 08:25	02/22/11 16:11	1.00
Aroclor 1242	ND		0.0332		mg/kg wet		02/22/11 08:25	02/22/11 16:11	1.00
Aroclor 1248	ND		0.0332		mg/kg wet		02/22/11 08:25	02/22/11 16:11	1.00
Aroclor 1254	ND		0.0332		mg/kg wet		02/22/11 08:25	02/22/11 16:11	1.00
Aroclor 1260	ND		0.0332		mg/kg wet		02/22/11 08:25	02/22/11 16:11	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl	*89.1*		*16 - 149*	*02/22/11 08:25*	*02/22/11 16:11*	*1.00*

Lab Sample ID: 11B0594-BS1 — **Client Sample ID: 11B0594-BS1**
Matrix: Soil — **Prep Type: total**
Analysis Batch: 11B0594 — **Prep Batch: 11B0594_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Aroclor 1016			0.329	0.280		mg/kg wet		85.3	57 - 135		
Aroclor 1260			0.329	0.276		mg/kg wet		83.8	60 - 135		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Decachlorobiphenyl	*89.4*		*16 - 149*

Lab Sample ID: 11B0594-MS1 — **Client Sample ID: PUB0627-01**
Matrix: Soil — **Prep Type: total**
Analysis Batch: 11B0594 — **Prep Batch: 11B0594_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits		
Aroclor 1016	ND		0.423	0.349		mg/kg dry	☼	82.6	37 - 145		
Aroclor 1260	0.0317		0.423	0.385		mg/kg dry	☼	83.5	25 - 144		

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
Decachlorobiphenyl	*90.4*		*16 - 149*

Lab Sample ID: 11B0594-MSD1 — **Client Sample ID: PUB0627-01**
Matrix: Soil — **Prep Type: total**
Analysis Batch: 11B0594 — **Prep Batch: 11B0594_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Aroclor 1016	ND		0.428	0.356		mg/kg dry	☼	83.3	37 - 145	1.93	26
Aroclor 1260	0.0317		0.428	0.387		mg/kg dry	☼	83.1	25 - 144	0.50 7	30

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Decachlorobiphenyl	*91.9*		*16 - 149*

Quality Control Data

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0536
SDG: PUB0536

Method: ASTM D2216-80 - Percent Dry Weight (Solids) per ASTM D2216-80

Lab Sample ID: 11B0627-DUP1 — **Client Sample ID: 110215 CB3**
Matrix: Soil — **Prep Type: total**
Analysis Batch: 11B0627 — **Prep Batch: 11B0627_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
% Solids	49.0			43.8		% by Weight				11.2	20

Lab Sample ID: 11B0627-DUP2 — **Client Sample ID: PUB0572-01**
Matrix: Soil — **Prep Type: total**
Analysis Batch: 11B0627 — **Prep Batch: 11B0627_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
% Solids	86.8			87.3		% by Weight				0.592	20

Certification Summary

Client: PGE-Environmental Sciences (RC841)
Project/Site: RC841/PO#TERM010972

TestAmerica Job ID: PUB0536
SDG: PUB0536

Laboratory	Authority	Program	EPA Region	Certification ID	* Expiration Date
TestAmerica Portland		USDA		P330-07-XXXXXX	02/17/14
TestAmerica Portland	Alaska	Alaska UST	10	UST-012	12/26/10
TestAmerica Portland	Alaska	State Program	10	OR00040	04/21/11
TestAmerica Portland	California	State Program	9	2597	09/30/11
TestAmerica Portland	Oregon	NELAC	10	OR100021	01/09/12
TestAmerica Portland	Washington	State Program	10	C586	06/23/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.
* Any expired certifications in this list are currently pending renewal and are considered valid.

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11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave,Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PUB0536

CLIENT:

REPORT TO: Chip Bloomer
ADDRESS: Brandy Domina
PHONE: FAX:

INVOICE TO: PGE

P.O. NUMBER:

PROJECT NAME: Hawthorne
PROJECT NUMBER:
SAMPLED BY: Chip Bloomer

TURNAROUND REQUEST
in Business Days *

Organic & Inorganic Analyses: 10 (STD.) 7 5 4 3 2 1 <1

Petroleum Hydrocarbon Analyses: 5 (STD.) 4 3 2 1 <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PCBs													MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	40215 HawCB3	2/15/11 1:30Pm	X													O	1		
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

RELEASED BY: Chip B DATE: 3:00Pm
PRINT NAME: FIRM: PGE TIME: 2/15/11

RECEIVED BY: [signature] DATE: 2/16/11
PRINT NAME: Bob F FIRM: TAP TIME: 14:45

RELEASED BY: Brandy Domina DATE: 7:35am
PRINT NAME: FIRM: PGE TIME: 2/16/11

~~RECEIVED BY:~~ [signature] DATE: 2/16/11
PRINT NAME: Bob F FIRM: TAP TIME: 15:10

ADDITIONAL REMARKS:

Jessica [signature] TAP 2/16/11 1510

TEMP: 2.1

PAGE OF

TAL-1000(0408)

03/03/2011

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Portland Sample Control Checklist

Work Order #: PVB0536 **Date/Time Received:** 2/16/11 1510

Client Name: PGE

Project Name: Hawthorne

Time Zone:

☐EDT/EST ☐CDT/CST ☐MDT/MST ☑PDT/PST ☐AK ☐HI ☐OTHER

Unpacking Checks:

Cooler (s): 1

Temperature (s): 2.1

Digi #1 ☐ **Digi #2** ☐ **IR Gun** ☑ (☐Plastic ☑Glass)

Raytek ☐ (☐Plastic ☐Glass)

Temperature out of Range:

__Not enough or No Ice

__Ice Melted

__W/in 4 Hrs of collection

__Ice Not Needed

__ Other:_____

Ice used: (circle one) GEL LOOSE BLUE NONE OTHER: _____ **Initials:** SM

N/A	Yes	No	
☑	☐	☐	1. If ESI client, were temp blanks received? If no, document on NOD.
☑	☐	☐	2. Cooler Seals intact? (N/A if hand delivered) if no and ESI client, document on NOD.
☑	☐	☐	3. Chain of Custody present? If no, document on NOD. Along with "received by" & "relinquished by" signatures with date & time?
☑	☐	☐	4. Bottles received intact? If no, document on NOD.
☑	☐	☐	5. Sample is not multiphasic? If no, document on NOD.
☑	☐	☐	6. Sampler name/signature documented on COC?
☑	☐	☐	7. Proper Container and preservatives used? If no, document on NOD.
☑	☐	☐	8. pH of all samples checked and meet requirements? If no, document on NOD.
☑	☐	☐	9. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.
☑	☐	☐	10. HF Dilution required?
☑	☐	☐	11. Sufficient volume provided for all analysis and requested MS/MSD? If no, document on NOD and consult PM before proceeding.
☑	☐	☐	12. Did chain of custody agree with samples received? If no, document on NOD.
☑	☐	☐	13. Were VOA samples received without headspace?
	☐	☑	14. Did samples require preservation with sodium thiosulfate?
☑	☐	☐	15. If yes to #14, was the residual chlorine test negative? If no, document on NOD.
☑	☐	☐	16. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.
☑	☐	☐	17. Are analyses with short holding times received in hold?
☐	☑	☐	18. Were special log- in instructions read and followed?

Checklist Reviewed: **Log-in initials:** SM **Labeler initials:** SM

9405 SW Nimbus Ave, Beaverton OR 97008 **tel** 503.906.9200 **fax** 503.906.9210 **www.testamericainc.com**

DATA REPORT

Portland General Electric Hawthorne Building Upland Assessment

1510 SE Water Avenue
Portland, Oregon

September 8, 2010

Prepared for:
Portland General Electric Company
121 SW Salmon Street
Portland, OR 97204

Prepared by:
URS
111 S.W. Columbia, Suite 1500
Portland, Oregon 97201-5850

URS Job No. 25697063.00006

PGE0095148

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PGE0095150

LIST OF ACRONYMS

Apex	Apex Laboratories, LLC
bgs	below ground surface
CCS	Cowlitz Clean Sweep
COC	chain of custody
COI	contaminants of interest
CLP	Contract Laboratory Program
DEQ	Oregon Department of Environmental Quality
DDx	sum of DDT, DDE, and DDD
DOT	Department of Transportation
DPSC	Downtown Portland Sediment Characterization
DQCR	daily quality control report
DQRR	data quality review report
EBS	Environmental Business Solutions
EDD	electronic data deliverable
EMPC	estimated maximum potential concentration
EPA	Environmental Protection Agency
FD	field duplicate
GSI	GSI Water Solutions, Inc.
HASP	health and safety plan
HPAHs	high molecular weight polycyclic aromatic hydrocarbons
ID	identification
IDW	investigation-derived waste
JSCS	Joint Source Control Strategy
LDU	Locates Down Under
LPAHs	low molecular weight polycyclic aromatic hydrocarbons
LWG	Lower Willamette Group
Maxxam	Maxxam Analytics
MS	matrix spike
MSD	matrix spike duplicate
PAHs	polycyclic aromatic hydrocarbons
PCDD/F	polychlorinated dibenzo-p-dioxins and furans
PCBs	polychlorinated biphenyls
PGE	Portland General Electric Company
PSW	Pacific Soil and Water, LLC
QA	quality assurance
QC	quality control
RB	equipment rinsate blank
RI	remedial investigation
RM	river mile
SLV	screening level value
SQL	sample quantitation limit
SVOC	semivolatile organic compound
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TEF	toxic equivalency factor

PGE0095151

TEQ	toxic equivalency quotient
TPH	total petroleum hydrocarbons
URS	URS Corporation
WHO	World Health Organization
WP	Work Plan

PGE0095152

1.0 INTRODUCTION

This data report provides the results of the Portland General Electric Company (PGE) Upland Assessment associated with the Hawthorne Building property located at 1510 SE Water Avenue in Portland, Oregon (hereafter referred to as "the Property") (Figure 1). This work is proceeding in accordance with the Oregon Department of Environmental Quality (DEQ) No. LQSR-NWR-10-01 Order Requiring Remedial Investigation issued on January 8, 2010.

1.1 Background

The Property is located within the stormwater drainage area for the City of Portland's (City's) Outfall 33, which discharges stormwater into the Downtown Reach of the Willamette River, along the east bank at river mile (RM) 13.1. During the 2008 Downtown Portland Sediment Characterization (DPSC), the DEQ detected elevated levels of contaminants in a surface sediment sample near Outfall 33 (GSI, 2009). The DEQ conducted an initial review of the data and designated RM 13.1 as a Focus Area (DEQ, 2009) based on elevated concentrations of total polychlorinated biphenyls (PCBs), DDx (sum of DDT and its breakdown products DDE and DDD), chlordanes, and polychlorinated dibenzo-p-dioxins and furans (PCDD/F).

The *Preliminary Assessment for the Outfall 33 Drainage Area* (PA) (URS, 2010c) identified two pathways by which the Property may have been a historical source or may be a current source of contamination to Willamette River sediments via Outfall 33. These two pathways at the Property include:

1. The exterior stormwater catch basins historically and currently discharge to the City's stormwater system and Outfall 33. Potential historical or ongoing releases to this system represent a potential historical source of contamination to Willamette River sediments near Outfall 33. The Property and the stormwater system drainage lines which discharge to Outfall 33 are shown on Figure 2.
2. Composed of multiple floor drains and pumps, the basement drainage system receives drainage water both from inside the basement and from stormwater that flows down the exterior basement loading ramp from outside the building (Figures 2 and 3). Prior to its connection with the City's sanitary sewer, the basement drainage system discharged to the stormwater system connected to Outfall 33 and later to the City's combined stormwater/sanitary system. PGE re-routed the basement drainage system to the City's sanitary sewer system sometime between 1969 and 1984. Discharges from historical operations and materials storage within the basement prior to the drainage connection with the sanitary sewer represent a potential historical source of contamination to Willamette River sediments near Outfall 33.

This Upland Assessment describes recently collected data that, when combined with existing data, support the evaluation of whether these pathways were historical or are current sources of contamination to Willamette River sediments in the vicinity of Outfall 33.

The approach and procedures for this Upland Assessment are detailed in the following two documents, which were prepared by URS Corporation (URS).

- *Hawthorne Building Upland Site Assessment Work Plan* (hereafter referred to as the WP) (URS, 2010a)
- *Addendum to Hawthorne Building Work Plan* (hereafter referred to as the Addendum) (URS, 2010b)

Deviations from the WP and Addendum are described in this report. This Upland Assessment is intended to describe field activities and present analytical results. A detailed interpretation and discussion of these data are beyond the scope of this report. The results will be discussed in detail in the Remedial Investigation (RI) Report for the RM 13.1 and 13.5 drainage areas.

1.2 Purpose and Scope

Although many properties contribute stormwater to Outfall 33, this Upland Assessment focuses only on the Hawthorne Building Property, which is currently owned and operated by PGE. An extensive summary of available information regarding the Hawthorne Building is included in the PA (URS, 2010c). The PA identified two pathways by which the Property may have been a historical source or may be a current source of contamination to Willamette River sediments via Outfall 33. These two pathways are described earlier in Section 1.0.

Previous environmental investigations at the Property have not sufficiently characterized the basement drainage system and exterior stormwater catch basins at the Property to evaluate whether the Property potentially contributed to the contamination present in the sediments near Outfall 33. The scope of work included the following:

- Drilling direct-push borings in the vicinity of the basement drainage system's historical connection to the City's stormwater system as an indirect method of assessing contaminants associated with historical discharges from the basement drainage system to the City's stormwater system and Outfall 33. This area is currently paved and there is no complete pathway from surface soils to the City's stormwater system. These borings were drilled in the vicinity of where the discharge from Sump A (Figure 3) was historically connected to the City's combined stormwater/sanitary or stormwater system. If the connection leaked, the discharge may have impacted the surface soils in this area. Therefore, the Upland Assessment included the collection and analysis of soils immediately beneath the paved surface in this area. In addition, the Addendum included the collection of two grab groundwater samples from the borings located immediately downgradient of Sump A.
- Collection and analysis of concrete samples from concrete cores located in stained areas of the basement floor. If these stains represent historical releases within the basement, residues which may have soaked into the porous concrete might yield additional information regarding the types of contamination that might be associated with these historical releases.

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- Collection and analysis of solids adhering to the bottom and sides of the floor drains and sumps of the basement drainage system. Between 1984 and the present, the basement floor drains and sumps were cleaned multiple times. The water and solids removed during these events were analyzed and historical data are available for selected analytes (URS, 2010c).

1.3 Document Organization

This report summarizes the field sampling procedures and laboratory findings of the Upland Assessment. Additional details of the investigative approach and sampling protocols are provided in the WP and Addendum. This report is organized into the following sections:

- Section 1 provides an introduction,
- Section 2 outlines the project organization,
- Section 3 summarizes the field sampling, sample handling, and documentation procedures,
- Section 4 describes the laboratory analysis program, including laboratory quality assurance/quality control (QA/QC) protocols and data validation procedures,
- Section 5 describes data management procedures;
- Section 6 presents the analytical results, and
- Section 7 lists cited references.

Supporting documentation is provided in the appendices.

2.0 PROJECT ORGANIZATION

This section summarizes the organizational structure, responsibilities, and resources employed to support PGE, including field activities, laboratory services, data validation, and data management and reporting. Additional details are presented in the WP and Addendum.

2.1 Team Organization and Responsibilities

The Upland Assessment was implemented by URS under its contract with PGE. Additional support was provided by the following contractors:

- Apex Laboratories (Apex) of Tigard, Oregon – Chemical Analyses
- Maxxam Analytics (Maxxam) of Ontario, Canada – Apex subcontracted to Maxxam for PCDD/F analysis
- Pacific Soil and Water, LLC (PSW) of Tigard, Oregon – Operation of direct-push drilling rig and concrete coring machine
- Cowlitz Clean Sweep (CCS) of Portland, Oregon – Vacuum truck and confined space entry support

2.2 Health and Safety

The field activities were completed in compliance with Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations under Chapter 29 Code of Federal Regulations 1910.120. URS prepared a site-specific Health and Safety Plan (HASP) to cover the field activities. Morning safety meetings were directed by the URS Site Safety Officer as described in the HASP.

2.3 Project Schedule

The DEQ approved the WP and Addendum on May 3, 2010. On May 4, 2010, PSW drilled the direct-push borings and collected the concrete cores under URS oversight. URS collected the soil and groundwater samples during the direct-push drilling activities. PSW sliced the concrete cores to create the concrete samples at the URS warehouse on May 5, 2010. With assistance from CCS, URS collected samples of solids from both the basement drainage system and exterior catch basins on May 13, 2010. Laboratory analyses and data validation were performed between May and June 2010.

3.0 SAMPLE COLLECTION

The WP and Addendum specify the procedures and methods used for sample collection, record keeping, sample handling, storage, shipping, and field quality control. Deviations from the WP and Addendum are described in this section. Samples collected during the Upland Assessment include the following:

- Direct-push borings – soil and groundwater samples
- Concrete cores – concrete samples
- Catch basin solids samples
- Basement drainage system solids samples

Sample locations are shown on Figures 2 and 3.

3.1 Field Documentation

Field documentation included Daily Quality Control Reports (DQCRs), photographs, boring logs, and sample datasheets (for the concrete, basement drainage system solids, and catch basin solids samples).

The DQCRs documented information such as personnel on site, date, time, types of samples collected, and any modifications to the WP and Addendum. The datasheets and logs documented the sample identifications (IDs), sample dates, sample times, sample depths, number of sample containers filled, soil type, soil color, and other observations (e.g., moisture, odor, and sheen).

The DQCRs and datasheets completed by hand in the field are provided in Appendix A. Typed boring logs are provided in Appendix B. A project photographic log is provided in Appendix C.

3.2 Sample Identification

All samples were assigned unique sample IDs as described in the WP and Addendum. The sample IDs for the collected samples are listed in Table 1. The sample identification scheme was designed to distinguish among the individual types of samples collected and field QC samples.

3.3 Sample Collection

Samples were collected in accordance with the procedures described in the WP and Addendum. Modifications to the procedures outlined in these documents are described in this section for each sample type.

3.3.1 Direct-Push Borings - Soil and Groundwater Samples

Before drilling, a One-Call Utilities Notification was conducted, and a private utility locator, Locates Down Under (LDU), assessed each proposed boring location for buried utilities. No utilities were identified at any of the boring locations.

Under the supervision of URS, PSW advanced four borings (HB-1 though HB-4) on the Property outside the southwest corner of the building. Borings HB-1 and HB-3 were advanced to 10 below ground surface (bgs), and borings HB-2 and HB-4 were advanced deeper to 30 feet bgs and 25 feet bgs, respectively, for the collection of groundwater samples. The locations were not moved significantly compared to the WP proposed locations. The "H" was added to the location names to distinguish them from the borings that were installed as part of the former Station L Southern Yard Upland Assessment (URS, 2010d). The "H" was not included in the sample IDs of the samples collected from borings HB-1 though HB-4.

The borings were completed using a truck-mounted direct-push drill rig. During the advancement of the borings, soil samples were continuously collected using 5-foot long, 2-inch diameter macrocore sampling device lined with new polyvinyl chloride sleeves. The soil samples were classified according to the Unified Soil Classification System and field screened for staining and odor. The boring logs note the soil descriptions and other observations (Appendix B).

During the soil sampling, the URS geologist observed no indication of sheen or odors in the soil cores. Multiple soil samples were collected from each boring location. The soil samples and their sample depths are listed on the boring logs in Appendix B and in Table 1.

Soil samples analyzed from borings HB-1 and HB-3 were collected from a depth of 0.5 to 1.25 feet bgs (the soil immediately below the asphalt). Soil samples selected for analysis from borings HB-2 and HB-4 were collected from depths of 16.5 to 17.5 feet bgs and 21 to 22 feet bgs, respectively. All soil samples were submitted to Apex for laboratory analysis. The samples selected for laboratory analysis are indicated on Table 1. The remaining soil samples were placed on hold at the analytical laboratory, pending the results of the analyzed samples. Based on review of the draft analytical results, URS, in collaboration with DEQ, selected the most shallow soil samples (0.5 to 1.25 feet bgs from borings HB-1 and HB-3) for PCDD/F analysis.

Grab groundwater samples were collected from borings HB-2 and HB-4. To collect the groundwater samples, a decontaminated stainless steel temporary well screen was set in the bottom 4 feet of the two borings. The groundwater sample interval depths are included on the boring logs in Appendix B and in Table 1. The screen consists of a 4-foot long, stainless steel, wire-wrapped screen with slots measuring 0.010 inches in width. The screen unit is contained inside 2-inch steel drive rods. Once the sample interval was reached at each location, the outer rods were retracted while the driller maintained pressure on the screen unit. This opened the screen interval to the formation and allowed groundwater to enter the casing.

Following sampling, the borings were backfilled with bentonite chips and then hydrated with water. The borings were finished at-grade to match the surrounding ground surface. Soil cuttings and decontamination water generated from the drilling were placed in Department of Transportation (DOT) approved 55-gallon drums, labeled, and placed at the Property. This investigation-derived waste (IDW) was handled by PGE (Section 3.6).

3.3.2 Concrete Samples

PSW successfully cut five concrete cores (C-1 through C-5) inside the Hawthorne Building basement using an electric concrete core machine (wet type) equipped with a 6-inch diameter diamond core bit. After examining the floor staining, the location of core C-1 was moved from the southwest corner of the building to between cores C-2 and C-5 (Figure 2).

Using the wet concrete saw, PSW cut approximately 0.5-inch thick slices off the top of each of the five concrete cores. Two concrete layers were observed in cores C-2 through C-4, so two sequential slices were collected from these cores. PSW decontaminated the concrete saw blade and stand after each cut. Decontamination procedures consisted of an Alconox® rinse, methanol rinse, nitric acid rinse, and a deionized water rinse. In addition, deionized water was used as the water run through the wet saw during cutting.

In order to fit the slices into the laboratory containers, URS used a decontaminated stainless steel hammer to break the slices into smaller pieces. Eight concrete samples were collected and sent to Apex. Apex pulverized each entire concrete sample using a rock crusher. The top slice was analyzed from each of the five cores. The pulverized sample was then homogenized prior to analysis. Five concrete samples (one per core) were submitted for the chemical analyses in accordance with the WP.

Table 1 includes a list of the eight concrete samples and indicates the sample depths, dates, and chemical analyses. Based on review of the draft analytical results, URS selected three of the five concrete slice samples for PCDD/F analysis. The concrete sample datasheets, which include information from each concrete core and lists the concrete slice sample(s) from each core, are included in Appendix A.

3.3.3 Catch Basin and Basement Drainage System Solids Samples

URS collected catch basin solids samples from four of the five exterior catch basins listed in the WP (CB-1, CB-2A, CB-2B, and CB-3) (Figure 2). In accordance with the Addendum, URS did not collect a solids sample from sample location CB-4 because the City sampled this catch basin during their investigation of the Outfall 33 stormwater system in August and November 2009. During the investigation, it was determined that water entering CB-3 was piped directly to the sanitary sewer. The sample collected from this catch basin is therefore grouped with the samples collected from the basement drainage system, all of which are connected to the sanitary sewer, and not to the stormwater system.

Inside the basement, URS collected basement drainage system solids samples from seven sumps (Sump A, B, C, E, I, J, and K) and three floor drains (FD-D, FD-F, and FD-H) (Figure 3). Three of the sumps (Sump I, J, and K) were not originally included as sample locations in the WP, but were discovered during the field activities. The WP prescribed the collection of two samples from Sump A, however, URS only collected one solids sample at this location due to an insufficient volume of solids.

In accordance with the WP, URS collected solids samples composed of aliquots of solids

retrieved from the four corners and bottom of each drainage feature. For each sample, URS placed the solids aliquots into a decontaminated stainless steel bowl and homogenized the solids using a decontaminated stainless steel spoon.

CCS was subcontracted by URS to assist with mapping the basement drainage system and the collection of the solids samples. The historical basement drainage maps did not present a clear picture of the drainage features and piping flow directions. Under URS oversight, CCS completed the following tasks:

- Opened the exterior catch basin vaults providing URS access to collect the solids samples.
- Removed standing water from the drainage system using a vacuum truck to provide URS access to collect the solids samples. URS completed the solids sampling during a period of dry weather to minimize the volume of water required to be removed from the drainage system. Most water removed from the drainage system was from Sumps A and C. The water removed from the system was containerized in 55-gallon drums and stored temporarily on the Property. PGE handled the water drums as IDW (Section 3.5).
- Completed confined space entry procedures to enter Sump A for the collection of the solids sample.
- Used the vacuum truck's air compressor to blow air into the floor drains, sumps, and drainage pipes to assist with mapping the basement drainage system. A revised map of the basement drainage system is included on Figure 3 and detailed photographs of the system are included in Appendix C.

Table 1 lists the 14 solids samples, and indicates the sample dates and chemical analyses. Table 2 summarizes the physical descriptions for each solids sample. The field datasheets are include in Appendix A. In accordance with the WP, all the solids samples were submitted for chemical analyses. Based on a review of the draft analytical results, URS, in collaboration with DEQ, selected half of the solids samples for PCDD/F analysis.

3.3.4 Basement Oil Sample

During the basement sampling activities, URS observed an oily liquid inside four bolt holes on a concrete batch of the basement floor. Using a peristaltic pump and dedicated tubing, URS pumped all the oily liquid from the four bolt holes into two glass laboratory-provided sampling containers. URS submitted one of the containers to the laboratory for analysis. This oil sample is listed on the bottom of Table 1, which also indicates its sample date and requested chemical analyses.

The additional container was wrapped in bubble wrap, placed inside a zipper-lock bag, and temporarily stored inside a sealed 5-gallon plastic bucket. URS labeled and placed this bucket with the 55-gallon IDW drums at the Property. PGE handled the bucket as IDW (Section 3.5).

3.4 Equipment Decontamination Procedures

Equipment that came in direct contact with samples was decontaminated before use at each location. Field personnel conducted decontamination activities on the concrete saw, stainless steel hammer, stainless steel well screen, stainless steel spoons, and stainless steel bowls using the following procedures:

1. Clean equipment with tap water and phosphate-free detergent using a brush if necessary to remove particulate matter and surface films.
2. Rinse equipment thoroughly with tap water.
3. Rinse equipment with 10% nitric acid.
4. Rinse equipment with 10% methanol.
5. Rinse equipment thoroughly with analyte-free water (e.g., deionized water).

The direct-push drilling equipment and concrete core machine were decontaminated by PSW using a steam cleaner.

3.5 Waste Management

Liquid and solid IDW from the Upland Assessment was managed as specified in the WP. Decontamination liquid, drainage system water, and soil cuttings from the field work were placed in DOT approved 55-gallon drums. The additional container of oily liquid was placed inside a 5-gallon bucket. These containers were labeled and placed at the Property. PGE handled the IDW.

Miscellaneous non-hazardous wastes (e.g., paper towels, aluminum foil, and nitrile gloves) generated during field activities and at the URS warehouse were collected in heavyweight garbage bags. These bags were placed in trash dumpsters at the URS warehouse for disposal as solid waste.

3.6 Sample Handling, Transport, and Custody

Samples collected during the Upland Assessment were tracked from the time of sample collection through laboratory and data analysis using standard chain of custody (COC) and sample shipping/transfer procedures. These procedures are detailed in the WP. Copies of the COC forms are provided with the laboratory reports in Appendix D.

3.7 Field Quality Control Samples

QC samples were collected during field sampling to ensure that data quality objectives were met. Field QC samples collected during the Upland Assessment are specified in the WP and Addendum. These samples included field duplicate (FD) samples collected at approximately 5% of the primary samples for each sample matrix (e.g., one duplicate for every 20 samples), and equipment rinsate blank (RB) samples on each type of decontaminated field equipment.

As directed in the WP, URS did not collect a FD sample from the concrete samples. URS submitted four primary soil, two primary groundwater, and 14 primary sediment samples for laboratory analysis. One FD was collected for each of the three sample matrices. URS submitted the following FD samples for laboratory analysis:

- One FD from the direct-push soil sampling (FD sample B-5-16.5-17.5, duplicate of primary sample B-2-16.5-17.5).
- One FD from the direct-push groundwater sampling (FD sample B-5-GW, duplicate of primary sample B-4-GW).
- One FD from the exterior catch basin and basement drainage system sediment sampling (FD sample CB-4-051310, duplicate of primary sample CB-2B-051310).

URS submitted the following RB samples for laboratory analysis:

- One RB from the stainless steel direct-push drilling equipment used in the collection of soil samples from borings completed in this Upland Assessment and also the Station L Southern Yard Upland Assessment (sample RINSATE-050310). The analytical results for this RB are in the laboratory data package included in the Data Report for the Station L Southern Yard Upland Assessment (URS, 2010d).
- One RB from the decontaminated stainless steel temporary well screen used in the collection of the groundwater samples (sample RINSATE-050510).
- One RB from the stainless steel concrete saw used to slice concrete cores for concrete samples collected as part of this Upland Assessment and also the Rexel Taylor Property Upland Assessment (sample RINSATE-052810). The analytical results for this RB are in the laboratory data package included in the Data Report for the Rexel Taylor Property Upland Assessment (URS, 2010e).
- One RB blank from a stainless steel bowl used in the collection of both the exterior catch basin and basement drainage system sediment samples (sample RINSATE-051310).

The field quality control samples with the analyses conducted are listed on Table 1.

4.0 LABORATORY ANALYSIS AND QUALITY ASSURANCE/QUALITY CONTROL

This section summarizes the physical and chemical analyses conducted during this Upland Assessment. Laboratory QC and data validation protocols also are described. These protocols were followed to ensure that data quality and representation are in accordance with method requirements, and data usability is appropriately assessed for the project objectives.

4.1 Chemical Analyses

Apex performed the chemical analyses on all the samples submitted, except for PCDD/F analyses, which were subcontracted by Apex to Maxxam.

Soil, solids, and groundwater samples were analyzed for PCB Aroclors, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH) (diesel- and oil-range fractions with silica gel clean-up), total metals, and semivolatile organic compounds (SVOCs).

Selected samples were also analyzed for PCDD/F. The three groundwater samples were also submitted for volatile organic compounds (VOC) and dissolved metals analysis.

The analytical methods for sample testing are presented in the Data Quality Review Report (DQRR) included in Appendix D.

4.2 Laboratory QA/QC Procedures

Laboratory QA/QC was maintained through the use of standard U.S. Environmental Protection Agency (EPA) methods, and other accepted methods and standard analytical procedures for the analytes. The analytical methods, and QC measurements and criteria used are based on current Contract Laboratory Program (CLP) and SW-846 requirements, and EPA guidance. The method-specific procedures, and other analytical and laboratory QC procedures and protocols followed are detailed in the WP. These procedures incorporated the collection and analysis of the following laboratory QA/QC components:

- Internal QC samples
- Method reporting limit checks
- Method blanks
- Laboratory duplicates
- Surrogate spikes
- Laboratory control samples
- Matrix spike (MS) and matrix spike duplicate (MSD) samples.

Analytical QC measurements were performed exclusively on sample matrices from this project.

4.3 Data Review, Verification, and Validation Procedures

Field and laboratory data collected for this project were subjected to a verification and validation process in accordance with EPA guidance documents as described in the WP. URS validated the data to determine its usability for meeting project objectives. The DQRR provided in Appendix D summarizes the validation procedures conducted.

Performance-based control limits established by the laboratory and control limits provided in the method protocols were used to evaluate data quality and determine the need for data qualification. Data qualifiers were assigned during data validation to the electronic data deliverables (EDD) when applicable QA/QC limits were not met and the qualification was warranted (based EPA guidance, QC requirements specified in the WP, and method-specific QC requirements, as applicable). Data validation qualifiers and definitions are presented in the DQRR (Appendix D).

Final, qualified (as necessary) laboratory results were transmitted in EDDs to the URS data manager for data management, further evaluation, and reporting as described in Section 5.0.

5.0 DATA MANAGEMENT

Data generated by this sampling effort were documented and managed as described in previous sections. These data consisted of field data sheets, photographs, field notebooks, and electronic data files. To the extent practicable, all measurements and other quantitative data were incorporated into an Access database (Microsoft, Inc.).

5.1 Project Database

After analyses were completed, the analytical laboratory provided EDDs following the GISkey EDD format. The EDDs were organized by sample delivery groups and delivered in a database file (".dbf") format. The laboratory data reports were reviewed by URS chemists for data quality in accordance with the WP. Database values were modified to reflect modifications identified during the data validation process. The primary modification was the addition of two additional qualifier fields: one containing only the qualifiers identified during the data quality review, and another containing the final qualifier for the result (combining relevant qualifiers from the data quality review and original laboratory results). This ensured that the original laboratory qualifiers remained intact.

Additionally, a separate field was created containing the final "selected" sample quantitation limit (SQL). The SQL, which is determined by the data quality review, is the quantity of substance that can be reasonably quantified given the limits of detection for the methods of analysis and sample characteristics that may affect quantitation (e.g., dilution, concentration). The SQLs represent the detection level for all nondetect results in the data tables.

The project database contains all of the data reported by the analytical laboratories. These data include field splits, laboratory duplicates, laboratory dilutions, results for the same analyte from multiple analytical methods (e.g., SW8270 and SW8270-SIM), and laboratory QA samples such as MS, surrogates, and method blanks.

All the samples submitted for laboratory analysis (except the basement oil sample) were analyzed for both PAHs (EPA Method 8270C-SIM and EPA Method 8270D) and some VOCs (EPA Method 8260 and EPA Method 8270) by multiple analytical methods (Appendix D). Rather than report two results for each sample analyte, the results of the multiple methods were consolidated using the following criteria:

- If the results of both methods were nondetect, then the nondetect result with the lower SQL is shown on the attached data tables.
- If the results of both methods were detected, the higher detected result is shown on the attached data tables.
- If one the result of one method was nondetect and the result of the other method was a detection, the detected result is shown on the attached data tables.

5.2 Data Reduction and Handling

Data reduction and handling consisted of the following:

- Averaging primary and FD samples
- Calculating total PCBs as Aroclors, total PAHs, and total PCDD/F
- Calculating 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalency quotients (TEQs) from PCDD/F data

Data reduction was carried out using the "data rules" as specified in Appendix L of the DPSC Phase II Report (GSI, 2009). These data rules use Lower Willamette Group (LWG) guidelines (LWG, 2004 and LWG, 2008).

5.2.1 Sample Averaging

The LWG guidelines describe the rules for averaging data and retaining or modifying qualifiers. These rules were used to generate a single average value from the primary and FD samples. Qualifiers resulting from the data quality review were applied to the data before data reduction and summation.

The LWG averaging rules applied to three general combinations of detected and nondetected results:

- If the analyte was detected in both primary and FD samples, the detected results were averaged.
- If the analyte was detected in only one sample, the detected value was reported as the average (the nondetected result was ignored).
- If the analyte was not detected in either sample, the lowest SQL.

When averaging multiple results, the data validation qualifiers were propagated according to the LWG guidelines. If all of the results in the calculated average included the same qualifier (Table 4-2), then the qualifier was applied to the calculated average. If one or both of the results were qualified as estimated (J - flagged), then the calculated average was similarly qualified (J). A "T" qualifier was added to all results that were mathematically derived, including averaged and summed results.

5.2.2 Calculation of Sums

The LWG guidelines specify summation rules for select analytical groups such as: PCB as Aroclors, PAHs, and PCDD/F. In general, the calculated totals are the sum of all detected concentrations. Estimated maximum potential concentration (EMPC) qualified data were considered to be detections. If all of the analytes were not detected, then the highest SQL was selected for the calculated total and a "U" qualifier was carried through to indicate that all results were reported as undetected. All calculated totals were flagged with a "T" indicating they are mathematically derived values.

As per the LWG guidelines, total low molecular weight PAHs (LPAHs) were calculated using the concentrations for 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene. Total high molecular weight PAHs (HPAHs) were

calculated using the concentrations for benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, benzofluoranthenes, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3,-cd)pyrene, and pyrene. Total PAHs were calculated by summing the LPAH and HPAH values.

When totals were calculated for select analytical groups, the total was calculated for individual samples and added to the database as individual sample results. These calculated total results were then reduced for primary / FD pairs in accordance with the data reduction rules given above.

5.2.3 Calculation of TCDD TEQ

Following the guidelines established for the Portland Harbor, TCDD TEQs were calculated as the sum of each detected congener concentration multiplied by congener-specific toxic equivalency factors (TEFs). Human and mammalian World Health Organization (WHO) 2005 TEF values were used (Van den Berg et al., 2005). EMPC-qualified data were considered detections at the reported value. Undetected values were treated as zero. When all values were undetected, the TEQ value reported (U qualified) for that sample is equal to the sum of each of the individual congener detection limits multiplied by their respective TEF values.

6.0 RESULTS

The analytical results for this Upland Assessment are presented in Tables 3 through 8. The primary and duplicate sample results, and their averages for the three field duplicates collected are presented in Table 9. Data reduction, including averaging of the primary and duplicate samples, calculation of sums, and calculation of TCDD TEQs, are discussed in Section 5.0. Chemical concentrations are highlighted where they exceed the Joint Source Control Strategy (JSCS) screening level values (SLVs) (DEQ, 2007).

- Tables 3 and 4 present the results from the surface and subsurface soil samples and groundwater samples collected from borings advanced outside the building near Sump A.
- Table 5 presents the solids sample results from the three exterior parking lot catch basins.
- Table 6 presents the solids sample results from the basement drainage system. Note that CB-3 was determined to discharge to the basement drainage system so it is included in this table.
- Table 7 presents the concrete sample results from the basement floor.
- Table 8 presents the oil sample results. The sample was collected from four bolt holes in a concrete patch of the basement floor.

In reviewing these results, it is important to recognize that only the two groundwater samples (Table 4) and the three samples of solids from exterior catch basins (CB-1, CB-2A, and CB-2B, Table 5) represent media that may currently be transported to the Willamette River near RM 13.1. Collection of all the other samples was designed to investigate potential historical sources (prior to sometime between 1969 and 1984) of river sediment contamination.

Historically, the basement drainage system discharged to either the City's combined stormwater/ sanitary system or the City's stormwater system connected to Outfall 33. PGE re-routed the basement drainage system to the City's sanitary sewer system sometime between 1969 and 1984. Prior to that time, water that collected in basement Sump A was pumped to a pipe exiting the Hawthorne Building at street level near the location of boring HB-2. This pipe no longer exists and the ground surface at the discharge point was paved to construct a parking lot (see Photo 1, Appendix C).

Soil samples collected from immediately below the asphalt at borings HB-1 and HB-3 were analyzed (Table 3) to investigate the possibility that historical surface soils may have been impacted by historical discharges. At DEQ's request, the soil sample analyzed from HB-2 was collected from the depth interval equivalent to the bottom of Sump A, and the soil sample analyzed from HB-4 was collected from the groundwater-saturated zone (Table 3). Although none of the soils represented by the samples collected from the borings may currently be transported to the river, the analytical results of these samples may provide information regarding historical releases.

Table 6 presents the analytical results of solids samples collected from within the basement drainage system. Table 7 presents the analytical results of concrete samples collected from

stained concrete on the basement floor. Table 8 presents the analytical results of oil collected from depressions (bolt holes) in the basement floor. The purpose of collecting samples from inside the basement was to investigate the types of materials that have historically been handled in the Hawthorne Building basement. The residues of these materials may have historically been transported to the river sediments via stormwater discharge through Sump A. Since sometime between 1969 and 1984, however, Sump A has discharged to the City's sanitary sewer. Since there are no combined stormwater overflow diversion points between the Hawthorne Building and the sewage treatment plant, there has been no potential for sanitary effluent from the Hawthorne Building to be transported to the Willamette River following the sump's connection with the sanitary sewer.

The results of this Upland Assessment will further discussed in the RI Report for the RM 13.1 and 13.5 drainage areas.

Following the URS sampling program, PGE contracted with Environmental Business Solutions (EBS) to clean out all of the exterior catch basins and all of the sumps/catch basins associated with the basement drainage system. EBS also cleaned the various lines using a pressurized water jet, and inspected the lines using a video camera. During the video inspection, EBS clarified a few of the basement connections that URS was unable to map, and located two additional basement features (FD-M and Sump N) that were not sampled by URS. A report of the cleanout activities, including an annotated map showing the revised understanding of the basement drainage system, is included in Appendix E. EBS confirmed that CB-3 and all of the basement drainage features discharge to the sanitary sewer. Only the three external catch basins (CB-1, CB-2A, and CB-2B, Table 5) represent media that may currently be transported to the Willamette River.

A total of ten drums of waste solids and liquid were collected by EBS. A single composite sample of this waste was analyzed; the waste characterization results are included in Appendix E. Based on this characterization the waste was disposed of at an appropriate facility.

7.0 REFERENCES

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FIGURES

PGE0095171

Source: USGS, 2005

0 1,000 2,000 Feet

URS

SITE LOCATION MAP

HAWTHORNE BUILDING DATA REPORT
1510 SE WATER AVE
PORTLAND, OREGON

SEPTEMBER 2010
25697063

FIGURE 1

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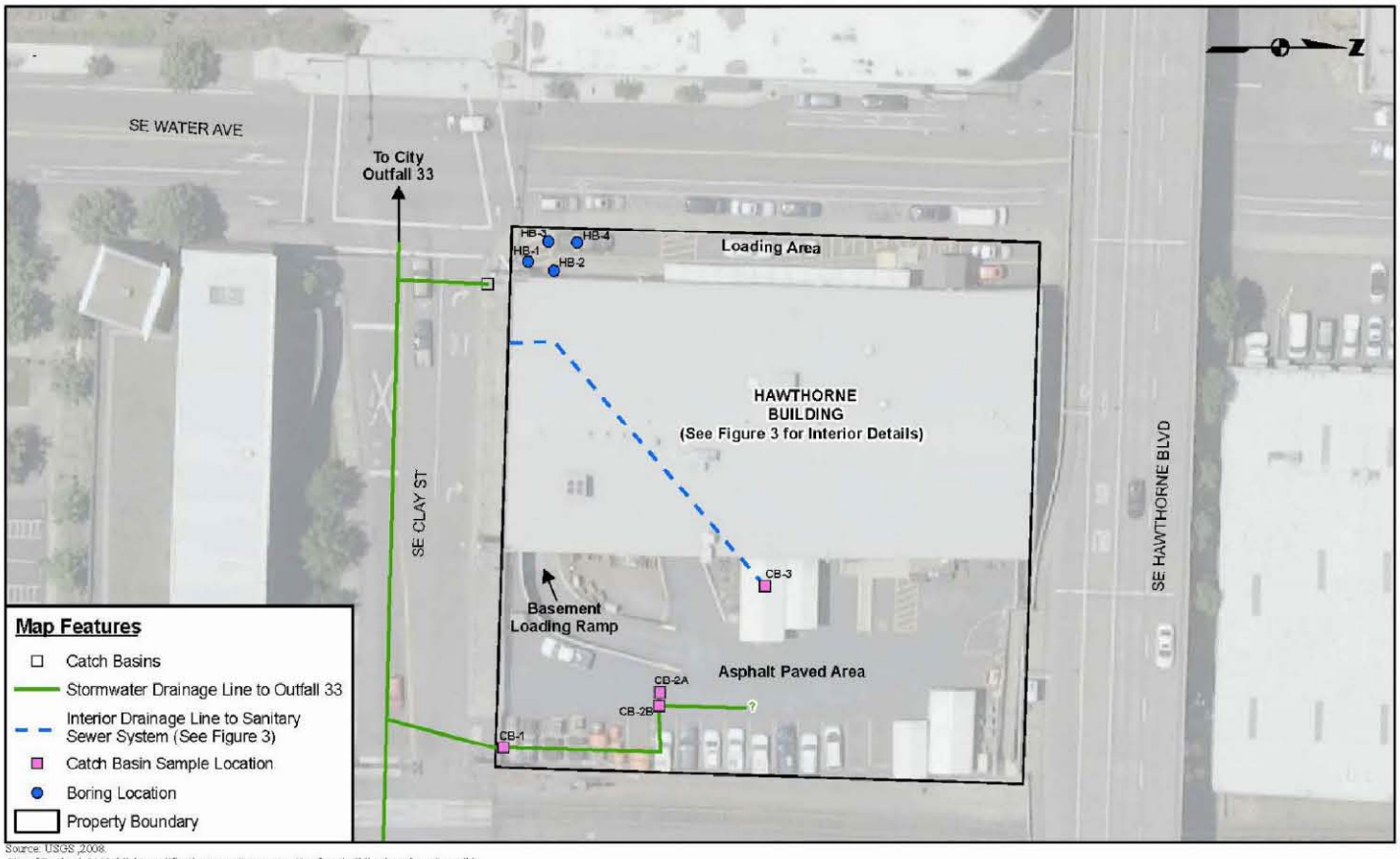
PGE0095172



Source: USGS ,2008
City of Portland, 2008 (slight modification to sanitary connection from building based on site walk)

0 50 100 Feet

EXTERIOR SAMPLE LOCATIONS

URS

SEPTEMBER 2010
25697063

HAWTHORNE BUILDING DATA REPORT
1510 SE WATER AVE
PORTLAND, OR

FIGURE 2

PGE0095173

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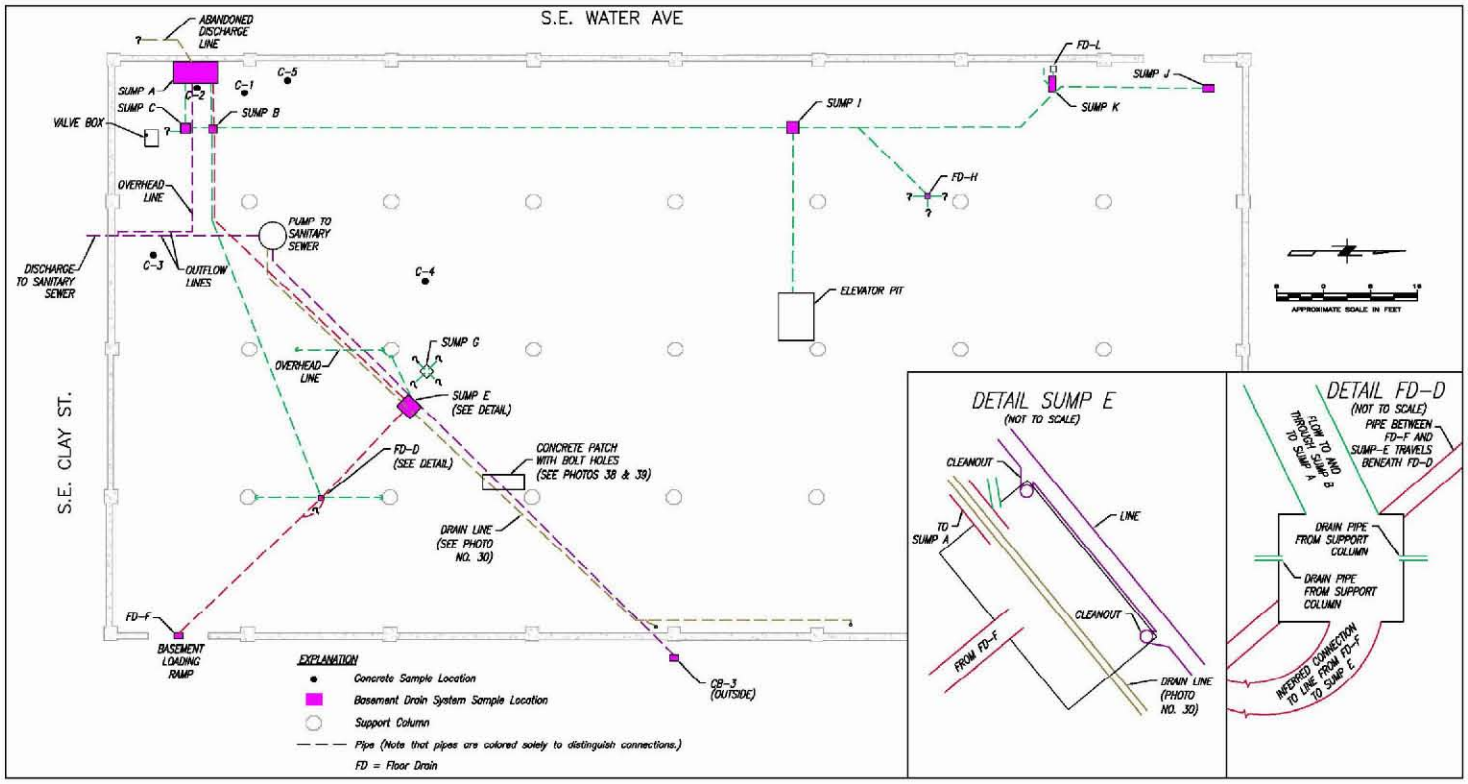

URS

INTERIOR SAMPLE LOCATIONS

HAWTHORNE BUILDING DATA REPORT
1510 SE WATER AVE
PORTLAND, OREGON

SEPTEMBER 2010
25697063

FIGURE 3

PGE0095174

TABLES

PGE0095175

Table 1. Sample Summary
Hawthorne Building - Field and Data Report

Boring or Sample Location	URS Sample IDs	Lab Sample IDs	Sample Date	Depth Interval (ft bgs)	QA/QC	Analyses Conducted: PCBs	PAHs	TPH-Dx w/ SGC	Total Metals	Dissolved Metals	SVOCs	Dioxins/Furans	VOCs
Direct-Push Drilling Soil Samples													
B-1	B-1-0.5-1.25	A10E075-01	05/04/10	0.5 - 1.25	MS/MSD	X	X	X	X		X	X	
	B-1-6-7	A10E075-02	05/04/10	6 - 7									
B-2	B-2-0.75-1.25	A10E075-03	05/04/10	0.75 - 1.25									
	B-2-1.5-2	A10E075-04	05/04/10	1.5 - 2									
	B-2-9.5-10	A10E075-05	05/04/10	9.5 - 10									
	B-2-16.5-17.5	A10E075-06	05/04/10	16.5 - 17.5	Primary	X	X	X	X		X		
	B-5-16.5-17.5	A10E075-23	05/04/10	16.5 - 17.5	FD	X	X	X	X		X		
	B-2-22-23	A10E075-07	05/04/10	22 - 23									
	B-2-26-27	A10E075-08	05/04/10	26 - 27									
B-3	B-3-0.5-1.5	A10E075-09	05/04/10	0.5 - 1.5		X	X	X	X		X	X	
	B-3-9-10	A10E075-10	05/04/10	9 - 10									
B-4	B-4-0.5-1.5	A10E075-11	05/04/10	0.5 - 1.5									
	B-4-4-5	A10E075-12	05/04/10	4 - 5									
	B-4-16-17	A10E075-13	05/04/10	16 - 17									
	B-4-21-22	A10E075-14	05/04/10	21 - 22		X	X	X	X		X		
Rinsate on Probe Rod[1]	RINSATE-050310[1]	A10E077-53[1]	05/03/10	-	Rinsate	X	X	X	X			X	
Direct-Push Drilling Grab Groundwater Samples													
B-2	B-2-GW	A10E075-24	05/04/10	26 - 30		X	X	X	X	X	X		X
B-4	B-4-GW	A10E075-25	05/04/10	21 - 25	Primary	X	X	X	X	X	X		X
	B-5-GW	A10E075-26	05/04/10	21 - 25	FD	X	X	X	X	X	X		X
Rinsate on SS Screen	RINSATE-050510	A10E075-27	05/05/10	-	Rinsate	X	X	X	X		X		X
N/A	TRIP BLANK	A10E075-28	05/04/10	-	TB								X
Exterior Catch Basin Solids Samples													
CB-1	CB-1-051310	A10E130-08	05/13/10	-		X	X	X	X		X		
CB-2A	CB-2A-051310	A10E130-09	05/13/10	-		X	X	X	X		X		
CB-2B	CB-2B-051310	A10E130-10	05/13/10	-	Primary	X	X	X	X		X	X	
	CB-4-051310	A10E130-12	05/13/10	-	FD	X	X	X	X		X	X	
Rinsate on bowl	RINSATE-051310	A10E130-06	05/13/10	-	Rinsate	X	X	X	X		X	X	
Basement Drainage System Solids Samples													
CB-3	CB-3-051310	A10E130-11	05/13/10	-		X	X	X	X		X	X	
Sump A	HB-A-051310	A10E130-15	05/13/10	-		X	X	X	X		X		
Sump B	HB-B-051310	A10E130-16	05/13/10	-		X	X	X	X		X	X	
Sump C	HB-C-051310	A10E130-17	05/13/10	-		X	X	X	X		X	X	
FD-D	HB-D-051310	A10E130-14	05/13/10	-		X	X	X	X		X	X	
Sump E	HB-E-051310	A10E130-01	05/13/10	-	MS/MSD	X	X	X	X		X		
FD-F	CB-F-051310	A10E130-13	05/13/10	-		X	X	X	X		X		
FD-H	HB-H-051310	A10E130-02	05/13/10	-		X	X	X	X		X		
Sump I	HB-I-051310	A10E130-03	05/13/10	-		X	X	X	X		X	X	
Sump J	HB-J-051310	A10E130-04	05/13/10	-		X	X	X	X		X	X	
Sump K	HB-K-051310	A10E130-05	05/13/10	-		X	X	X	X		X		
Rinsate on bowl	RINSATE-051310	A10E130-06	05/13/10	-	Rinsate	X	X	X	X		X	X	

Table 1. Sample Summary
Hawthorne Building - Field and Data Report

Boring or Sample Location	URS Sample IDs	Lab Sample IDs	Sample Date	Depth Interval (ft bgs)	QA/QC	Analyses Conducted							
						PCBs	PAHs	TPH-Dx w/ SGC	Total Metals	Dissolved Metals	SVOCs	Dioxins/Furans	VOCs
Concrete Samples													
C-1	C-01-050410	A10E075-15	05/04/10	0 - 0.0625		X	X	X	X		X		
C-2	C-02-a-050410	A10E075-16	05/04/10	0 - 0.042	MS/MSD	X	X	X	X		X	X	
	C-02-b-050410	A10E075-17	05/04/10	0.042 - 0.083									
C-3	C-03-a-050410	A10E075-18	05/04/10	0 - 0.042		X	X	X	X		X	X	
	C-03-b-050410	A10E075-19	05/04/10	0.042 - 0.083									
C-4	C-04-a-050410	A10E075-20	05/04/10	0 - 0.042		X	X	X	X		X		
	C-04-b-050410	A10E075-21	05/04/10	0.042 - 0.083									
C-5	C-05-050410	A10E075-22	05/04/10	0 - 0.0625		X	X	X	X		X	X	
Concrete Saw[2]	RINSATE-052810[2]	A10F002-37[2]	05/28/10	-	Rinsate	X	X	X	X		X	X	
Basement Oil													
N/A	HB-OIL-051310	A10E130-07	05/13/10	-		X	X	X					

Notes:
Highlighted rows indicate QA/QC samples
Dioxins/Furans by EPA Method 1613B
EPA = Environmental Protection Agency
FD = field duplicate sample
ft bgs = feet below ground surface
Metals = Al, Sn, As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Se and Zn by EPA Methods 6020/7471A
MS/MSD = matrix spike / matrix spike duplicate
PAHs = polycyclic aromatic hydrocarbons by EPA Method 8270C-SIM
PCBs = polychlorinated biphenyls by EPA Method 8082 Low Level
Primary = primary sample
Rinsate = equipment rinsate sample
QA/QC = quality control / quality assurance
SGC = silica gel cleanup
SIM = selected ion monitoring
SVOCs = semi-volatile organic compounds by EPA Method 8270D
TB = trip blank
TPH-Dx = diesel and heavy oil range hydrocarbons by NWTPH-Dx method
URS = URS Corporation
VOCs = volatile organic compounds by EPA Method 8260B
1 = This rinsate sample was collected during the Station L Southern Yard Upland Assessment (URS, 2010d).
2 = This rinsate sample was collected during the Rexel Taylor Upland Assessment (URS, 2010e).

Table 2. Exterior Catch Basin and Basement Drainage System Sample Physical Descriptions
Hawthorne Building - Field and Data Report

Station	URS Sample ID	Sample Date	Physical Description
Exterior Catch Basin Solids Samples			
CB-1	CB-1	05/13/10	Dark brown silt. Leaves throughout. No odor, sheen, or discoloration on soil.
CB-2A	CB-2A	05/13/10	Dark brown silt with sand and gravels. Leaves on surface. Moderate sheen on standing water in soil. Slight hydrocarbon odor.
CB-2B	CB-2B	05/13/10	Black silt with sand and gravels. Leaves and trash throughout. Heavy sheen, moderate organic odor.
Basement Drainage System Solids Samples			
CB-3	CB-3	05/13/10	Black silt. Trash throughout. Slight sheen, no odor.
Sump A	HB-A	05/13/10	Black silt with trace sand. Twigs throughout. Slight sheen, organic odor.
Sump B	HB-B	05/13/10	Black silt with trace sand. Leaves and sticks throughout. No sheen, strong organic odor.
Sump C	HB-C	05/13/10	Black silt. Leaves throughout. Slight sheen, strong organic odor.
Sump E	HB-E	05/13/10	Black silt with sand. Few leaves. No sheen, slight organic odor.
Sump I	HB-I	05/13/10	Dark brown silt with sand. Slight sheen.
Sump J	HB-J	05/13/10	Brown silt. Soft. Trace trash debris. No sheen, no odor.
Sump K	HB-K	05/13/10	Black silt. Twigs throughout. Slight sheen, organic and hydrocarbon odor.
FD-D	HB-D	05/13/10	Light brown silt with sand. Few leaves. No sheen, slightly organic odor.
FD-F	CB-F	05/13/10	Black silt with trace sand. Leaves and twigs throughout. Heavy sheen, strong organic odor.
FD-H	HB-H	05/13/10	Dark brown silt with sand. No sheen, moderate hydrocarbon odor.

Table 3. Direct-Push Borings - Soil Sample Analytical Results
Hawthorne Building - Data Repoort

Station	HB-1	HB-2*	HB-3	HB-4	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	B-1-0.5-1.25	B-2-16.5-17.5	B-3-0.5-1.5	B-4-21-22		
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010		
Depth Interval (feet bgs)	0.5-1.25	16.5-17.5	0.5-1.5	21.0-22.0	Toxicity	Bioaccumulation
PCB Aroclors (mg/kg)						
Aroclor 1016	0.00605 U	0.00165 UJ	0.00159 U	0.00236 UJ	0.530	--
Aroclor 1221	0.00605 U	0.00165 UJ	0.00159 U	0.00236 UJ	--	--
Aroclor 1232	0.00605 U	0.00165 UJ	0.00159 U	0.00236 UJ	--	--
Aroclor 1242	0.00605 U	0.00165 UJ	0.00159 U	0.00236 UJ	--	--
Aroclor 1248	0.00605 U	0.00165 UJ	0.00159 U	0.00236 UJ	1.50	--
Aroclor 1254	**0.105**	0.00165 UJ	0.00159 U	0.00236 UJ	0.300	--
Aroclor 1260	**0.187**	0.00165 UJ	0.00159 U	0.00236 UJ	0.200	--
Aroclor 1262	**0.148**	0.00165 UJ	0.00159 U	0.00236 UJ	--	--
Aroclor 1268	0.00605 U	0.00165 UJ	0.00159 U	0.00236 UJ	--	--
Total PCBs as Aroclors	**0.440 T**	**0.00165 JT**	**0.00159 JT**	**0.00236 JT**	0.676	0.000390
Metals (mg/kg)						
Aluminum	**9,090**	**19,900**	**7,370**	**16,800**	--	--
Antimony	**1.67 J**	**0.384 J**	**0.486 J**	2.71 U	64.0	--
Arsenic	**4.22**	**3.16**	**1.86 J**	**2.96**	33.0	7.00
Cadmium	**0.525 J**	**0.234 J**	**0.415 J**	**0.189 J**	4.98	1.00
Chromium	**12.8**	**27.6**	**7.86**	**24.3**	111	--
Copper	**110 J**	**28.7**	**32.9**	**22.9**	149	--
Lead	**360**	**5.66**	**38.5**	**6.62**	128	17.0
Mercury	**0.385**	**0.0484 J**	**0.0711 J**	**0.0406 J**	1.06	0.0700
Nickel	**18.8**	**27.4**	**9.88**	**25.3**	48.6	--
Selenium	0.467 U	0.530 U	0.474 U	0.541 U	5.00	2.00
Silver	**0.140 J**	0.132 U	0.118 U	0.135 U	5.00	--
Zinc	**169 J**	**63.0**	**81.4**	**57.4**	459	--
Petroleum Hydrocarbons (mg/kg)						
Diesel Range Organics	**31.5 JT**	7.24 U	14.5 U	8.90 U	--	--
Residual Range Organics	**197**	14.5 U	**109**	**50.8**	--	--
Polychlorinated Dibenzo-p-dioxins and Furans (ng/kg)						
1,2,3,4,6,7,8-HpCDD	**2,800**	-	**17.7**	-	--	690
1,2,3,4,6,7,8-HpCDF	**926**	-	**3.55 J**	-	--	690
1,2,3,4,7,8,9-HpCDF	**72.3**	-	0.359 U	-	--	690
1,2,3,4,7,8-HxCDD	**16.7**	-	**0.156 J**	-	--	--
1,2,3,4,7,8-HxCDF	**30.5**	-	**0.651 J**	-	--	2.70
1,2,3,6,7,8-HxCDD	**99.2**	-	**0.593 J**	-	--	--
1,2,3,6,7,8-HxCDF	**25.5**	-	**0.635 J**	-	--	2.70
1,2,3,7,8,9-HxCDD	**32.6**	-	**0.344 J**	-	--	--
1,2,3,7,8,9-HxCDF	0.852 U	-	**0.0623 EMPC**	-	--	2.70
1,2,3,7,8-PeCDD	**5.71**	-	0.212 U	-	--	2.60
1,2,3,7,8-PeCDF	**3.27 J**	-	0.172 U	-	--	2.60
2,3,4,6,7,8-HxCDF	**19.8**	-	0.697 U	-	--	2.70
2,3,4,7,8-PeCDF	**6.35**	-	**0.549 J**	-	--	0.0300
2,3,7,8-TCDD	**1.17**	-	**0.110 J**	-	9.00	0.00910
2,3,7,8-TCDF	**4.07 J**	-	**0.403 J**	-	--	0.770
OCDD	**24,600**	-	**204**	-	--	23,000
OCDF	**3,990**	-	**9.03 J**	-	--	23,000
Total PCDD/F	**32,600 JT**	-	**238 JT**	-	--	--
Total TCDD TEQ	**78.3 JT**	-	**0.836 JT**	-	9.00	0.00910
Polycyclic Aromatic Hydrocarbons (mg/kg)						
1-Methylnaphthalene[1]	0.0862 U	0.00904 U	0.0443 U	0.0251 U	--	--
2-Chloronaphthalene[1]	0.0862 U	0.00904 U	0.0443 U	0.0251 U	--	--
Benzo(e)pyrene[1]	**0.664 J**	0.0181 UJ	**0.114 J**	0.0503 UJ	--	--
Carbazole[1]	0.0862 U	0.00904 U	0.0443 U	0.0251 U	1.60	--
Dibenzofuran[1]	0.0862 U	0.00904 U	0.0443 U	0.0251 U	--	--
Perylene[1]	**0.218 J**	0.0181 UJ	0.0885 UJ	0.0503 UJ	--	--
HPAHs (LWG Convention)						
Benzo(a)anthracene	**0.753**	0.00904 U	**0.0557 J**	0.0251 U	1.05	--
Benzo(a)pyrene	**0.494**	0.00904 U	**0.130**	0.0251 U	1.45	--
Benzo(b)fluoranthene	**0.997**	0.00904 U	**0.100**	0.0251 U	--	--
Benzo(g,h,i)perylene	**0.347**	0.00904 U	**0.154**	0.0251 U	0.300	--
Benzo(k)fluoranthene	**0.323**	0.00904 U	0.0443 U	0.0251 U	13.0	--
Chrysene	**0.875**	0.00904 U	**0.0735 J**	0.0251 U	1.29	--
Dibenz(a,h)anthracene	**0.0874 J**	0.00904 U	0.0443 U	0.0251 U	1.30	--

Table 3. Direct-Push Borings - Soil Sample Analytical Results
Hawthorne Building - Data Repoort

Station	HB-1	HB-2*	HB-3	HB-4	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	B-1-0.5-1.25	B-2-16.5-17.5	B-3-0.5-1.5	B-4-21-22		
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010		
Depth Interval (feet bgs)	0.5-1.25	16.5-17.5	0.5-1.5	21.0-22.0	Toxicity	Bioaccumulation
Polycyclic Aromatic Hydrocarbons (Continued) (mg/kg)						
Fluoranthene	**1.18**	0.00904 U	**0.0762 J**	0.0251 U	2.23	37.0
Indeno(1,2,3-cd)pyrene	**0.257**	0.00904 U	**0.105**	0.0251 U	0.100	--
Pyrene	**1.03**	0.00904 U	**0.104**	0.0251 U	1.52	1.90
Total HPAHs (LWG Convention)	**6.34 JT**	**0.00904 JT**	**0.798 JT**	**0.0251 JT**	--	--
LPAHs (LWG Convention)						
2-Methylnaphthalene	0.0862 U	0.00904 U	0.0443 U	0.0251 U	0.200	--
Acenaphthene	0.0862 U	0.00904 U	0.0443 U	0.0251 U	0.300	--
Acenaphthylene	0.0862 U	0.00904 U	0.0443 U	0.0251 U	0.200	--
Anthracene	0.0862 U	0.00904 U	0.0443 U	0.0251 U	0.845	--
Fluorene	0.0862 U	0.00904 U	0.0443 U	0.0251 U	0.536	--
Naphthalene	0.0862 U	0.00904 U	0.0443 U	0.0251 U	0.561	--
Phenanthrene	**0.125 J**	0.00904 U	0.0443 U	0.0251 U	1.17	--
Total LPAHs (LWG Convention)	**0.125 JT**	**0.00904 JT**	**0.0443 JT**	**0.0251 JT**	--	--
Total PAHs (LWG Convention)	**6.47 JT**	**0.00904 JT**	**0.798 JT**	**0.0251 JT**	--	--
Semivolatile Organic Compounds (mg/kg)						
1,2,4-Trichlorobenzene	2.16 U	0.226 U	1.11 U	0.629 U	9.20	--
1,2-Dichlorobenzene	2.16 U	0.226 U	1.11 U	0.629 U	1.70	--
1,2-Dinitrobenzene	2.16 U	0.226 U	1.11 U	0.629 U	--	--
1,3-Dichlorobenzene	2.16 U	0.226 U	1.11 U	0.629 U	0.300	--
1,3-Dinitrobenzene	2.16 U	0.226 U	1.11 U	0.629 U	--	--
1,4-Dichlorobenzene	2.16 U	**0.416 J**	1.11 U	0.629 U	0.300	--
1,4-Dinitrobenzene	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,3,4,6-Tetrachlorophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,3,5,6-Tetrachlorophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,4,5-Trichlorophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,4,6-Trichlorophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,4-Dichlorophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,4-Dimethylphenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,4-Dinitrophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,4-Dinitrotoluene	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2,6-Dinitrotoluene	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2-Chlorophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2-Methylphenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2-Nitroaniline	2.16 U	0.226 U	1.11 U	0.629 U	--	--
2-Nitrophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
3-&4-Methylphenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
3-Nitroaniline	2.16 U	0.226 U	1.11 U	0.629 U	--	--
4,6-Dinitro-2-methylphenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
4-Bromophenyl Phenyl Ether	2.16 U	0.226 U	1.11 U	0.629 U	--	--
4-Chloro-3-methylphenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
4-Chloroaniline	2.16 U	0.226 U	1.11 U	0.629 U	--	--
4-Chlorophenyl Phenyl Ether	2.16 U	0.226 U	1.11 U	0.629 U	--	--
4-Nitroaniline	2.16 U	0.226 U	1.11 U	0.629 U	--	--
4-Nitrophenol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Aniline	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Azobenzene (1,2-DPH)	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Benzoic Acid	21.6 U	2.26 U	11.1 U	6.29 U	--	--
Benzyl Alcohol	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Bis(2-chloroethoxy)methane	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Bis(2-chloroethyl) Ether	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Bis(2-chloroisopropyl) Ether	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Bis(2-Ethylhexyl) adipate	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Bis(2-ethylhexyl) Phthalate	2.16 U	0.226 U	1.11 U	0.629 U	0.800	0.330
Butyl Benzyl Phthalate	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Diethyl Phthalate	2.16 U	0.226 U	1.11 U	0.629 U	0.600	--
Dimethyl Phthalate	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Di-n-butyl Phthalate	2.16 U	0.226 U	1.11 U	0.629 U	0.100	0.0600
Di-n-octyl Phthalate	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Hexachlorobenzene	2.16 U	0.226 U	1.11 U	0.629 U	0.100	0.0190
Hexachlorobutadiene	2.16 U	0.226 U	1.11 U	0.629 U	0.600	--
Hexachlorocyclopentadiene	2.16 U	0.226 U	1.11 U	0.629 U	0.400	--
Hexachloroethane	2.16 U	0.226 U	1.11 U	0.629 U	--	--

Table 3. Direct-Push Borings - Soil Sample Analytical Results
Hawthorne Building - Data Repoort

Station	HB-1	HB-2*	HB-3	HB-4	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	B-1-0.5-1.25	B-2-16.5-17.5	B-3-0.5-1.5	B-4-21-22		
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010		
Depth Interval (feet bgs)	0.5-1.25	16.5-17.5	0.5-1.5	21.0-22.0	Toxicity	Bioaccumulation
Semivolatile Organic Compounds (Continued) (mg/kg)						
Isophorone	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Nitrobenzene	2.16 U	0.226 U	1.11 U	0.629 U	--	--
N-Nitrosodimethylamine	2.16 U	0.226 U	1.11 U	0.629 U	--	--
N-Nitrosodi-n-propylamine	2.16 U	0.226 U	1.11 U	0.629 U	--	--
N-Nitrosodiphenylamine	2.16 U	0.226 U	1.11 U	0.629 U	--	--
Pentachlorophenol	2.16 U	0.226 U	1.11 U	0.629 U	1.00	0.250
Phenol	2.16 U	0.226 U	1.11 U	0.629 U	0.0500	--
Pyridine	4.31 U	0.452 UJ	2.21 UJ	1.26 U	--	--
Solids (%)						
Solids, Total	**86.5**	**72.3**	**85.6**	**75.4**	--	--

Notes:
Highlighted results exceed one or more SLVs
* = Result shown is the average of the primary sample and the field duplicate
EMPC = The analyte was not positively identified. The associated numerical value is the Estimated Maximum Potential Concentration.
J = The associated numerical value is an estimated quantity.
LWG = Lower Willamette Group
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
UJ = The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
T = The associated numerical value is a sum of multiple results for a class of analytes or the combination of primary and field duplicate results.
TEQ = toxic equivalency quotient
SLV = screening level value
[1] = This PAH is not included in the PAH summation.
[2] = DEQ, 2007. Screening Level Values (SLVs) for Portland Harbor Joint Source Control Strategy (JSCS) Document. Table 3-1. Oregon Department of Environmental Quality. Revised July 16.

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Table 4. Direct-Push Borings - Grab Groundwater Sample Analytical Results
Hawthorne Building - Data Repoort

Station	HB-2	HB-4*	Portland Harbor Joint Source Control SLVs[2] Recommended Value for Groundwater Initial Screening:
Sample ID	B-2-GW	B-4-GW	
Sample Date	5/4/2010	5/4/2010	
Depth Interval (feet bgs)	24-28	19-23	
PCB Aroclors (ug/L)			
Aroclor 1016	0.00952 UJ	0.00980 UJ	0.960
Aroclor 1221	0.00952 UJ	0.00990 UJ	0.0340
Aroclor 1232	0.00952 UJ	0.00990 UJ	0.0340
Aroclor 1242	0.00952 UJ	0.00990 UJ	0.0340
Aroclor 1248	0.00952 UJ	0.00990 UJ	0.0340
Aroclor 1254	**0.0306 J**	0.00990 UJ	0.0330
Aroclor 1260	0.00952 UJ	0.00990 UJ	--
Aroclor 1262	0.00952 UJ	0.00990 UJ	--
Aroclor 1268	0.00952 UJ	0.00990 UJ	--
Total PCBs as Aroclors	**0.0306 JT**	0.00990 UT	0.0000640
Total Metals (ug/L)			
Aluminum	**1,050**	**2,310**	50.0
Antimony	0.333 UT	0.333 U	6.00
Arsenic	**6.07**	**0.95 J**	0.045
Cadmium	0.100 U	**0.111 J**	0.094
Chromium	3.37 U	2.42 U	11.0
Copper	4.00 U	**4.28 J**	2.70
Lead	**0.511 J**	**1.08 J**	0.54
Mercury	0.0200 U	0.0200 U	0.77
Nickel	**19.5**	**5.73**	16.0
Selenium	**1.21 J**	**0.784 J**	5.00
Silver	0.100 U	0.100 U	0.120
Zinc	**41.6**	7.01 U	36.0
Dissolved Metals (ug/L)			
Aluminum	**4.31 J**	**10.2 J**	50.0
Antimony	0.333 U	0.333 U	6.00
Arsenic	**8.67**	0.500 U	0.0450
Cadmium	0.100 U	0.100 U	0.0940
Chromium	**0.578 J**	**0.484 J**	11.0
Copper	**0.478 J**	**1.15 J**	2.70
Lead	0.200 U	0.200 U	0.540
Mercury	0.0200 U	0.0200 U	0.770
Nickel	**10.1**	**2.79**	16.0
Selenium	**1.20 J**	**0.656 J**	5.00
Silver	0.100 U	0.100 U	0.120
Zinc	**12.3**	**2.42 J**	36.0
Petroleum Hydrocarbons (mg/L)			
Diesel Range Organics	0.111 U	0.0392 U	--
Residual Range Organics	0.0777 U	0.0784 U	--
Volatile Organic Compounds (ug/L)			
1,1,1,2-Tetrachloroethane	0.250 U	0.250 U	2.50
1,1,1-Trichloroethane (TCA)	0.250 U	**1.66**	11.0
1,1,2,2-Tetrachloroethane	0.250 U	0.250 U	0.330
1,1,2-Trichloroethane	0.250 U	0.250 U	1.20
1,1-Dichloroethane	0.250 U	**1.89**	47.0
1,1-Dichloroethene	0.250 U	0.250 U	--
1,1-Dichloropropene	0.500 U	0.500 U	--
1,2,3-Trichlorobenzene	1.00 U	**6.16**	--
1,2,3-Trichloropropane	0.500 U	0.500 U	0.00950
1,2,4-Trichlorobenzene	**145**	**31.7**	8.20
1,2,4-Trimethylbenzene	0.500 U	0.500 U	--
1,2-Dibromo-3-chloropropane	2.50 U	2.50 U	--
1,2-Dibromoethane (EDB)	0.250 U	0.250 U	0.0330
1,2-Dichlorobenzene	**8.27**	**0.535 J**	49.0
1,2-Dichloroethane (EDC)	0.250 U	0.250 U	0.730
1,2-Dichloropropane	0.500 U	0.500 U	0.970
1,3,5-Trimethylbenzene	0.500 U	0.500 U	--
1,3-Dichlorobenzene	**48.8**	**1.40**	14.0
1,3-Dichloropropane	0.250 U	0.250 U	--
1,4-Dichlorobenzene	**182**	**3.11**	2.80
2,2-Dichloropropane	0.500 U	0.500 U	--

Table 4. Direct-Push Borings - Grab Groundwater Sample Analytical Results
Hawthorne Building - Data Repoort

Station	HB-2	HB-4*	Portland Harbor Joint Source Control SLVs[2] Recommended Value for Groundwater Initial Screening:
Sample ID	B-2-GW	B-4-GW	
Sample Date	5/4/2010	5/4/2010	
Depth Interval (feet bgs)	24-28	19-23	
Volatile Organic Compounds (Continued) (ug/L)			
2-Butanone (MEK)	5.00 U	5.00 U	7,100
2-Chlorotoluene	0.500 U	0.500 U	--
2-Hexanone	5.00 U	5.00 U	99.0
4-Chlorotoluene	0.500 U	0.500 U	--
4-Isopropyltoluene	0.500 U	0.500 U	--
4-Methyl-2-pentanone (MIBK)	5.00 U	5.00 U	170
Acetone	10.0 U	10.0 U	1,500
Acrylonitrile	1.00 U	1.00 U	0.120
Benzene	0.125 U	0.125 U	1.20
Bromobenzene	0.250 U	0.250 U	--
Bromochloromethane	0.250 U	0.250 U	--
Bromodichloromethane	0.250 U	0.250 U	1.10
Bromoform	0.500 U	0.500 U	8.50
Bromomethane	5.00 U	5.00 U	8.70
Carbon Disulfide	5.00 U	5.00 U	0.920
Carbon Tetrachloride	0.250 U	0.500 U	0.510
Chlorobenzene	**6.64**	0.250 U	50.0
Chloroethane	5.00 U	5.00 U	23.0
Chloroform	0.500 U	0.500 U	0.170
Chloromethane	2.50 U	2.50 U	2.10
cis-1,2-Dichloroethlyene	0.250 U	0.250 U	61.0
cis-1,3-Dichloropropene	0.250 U	0.250 U	0.0550
Dibromochloromethane	0.250 U	0.250 U	0.790
Dibromomethane	0.500 U	0.500 U	61.0
Dichlorodifluoromethane	0.500 U	0.500 U	390
Dichloromethane (Methylene Chloride)	2.50 U	2.50 U	8.90
Ethylbenzene	0.250 U	0.250 U	7.30
Hexachlorobutadiene	1.00 U	1.00 U	0.860
Iodomethane	10.0 U	10.0 U	--
Isopropylbenzene	0.500 U	0.500 U	660
m,p-Xylenes	0.500 U	0.500 U	1.80
Methyl tert-butyl ether	0.500 U	0.500 U	37.0
Naphthalene	1.00 U	1.00 U	0.200
n-Butylbenzene	0.500 U	0.500 U	--
n-Propylbenzene	0.250 U	0.250 U	--
o-Xylene	0.250 U	0.250 U	13.0
sec-Butylbenzene	0.500 U	0.500 U	--
Styrene	0.500 U	0.500 U	100
tert-Butylbenzene	0.500 U	0.500 U	--
Tetrachloroethene (PCE)	0.250 U	0.250 U	0.120
Toluene	0.250 U	0.250 U	9.80
trans-1,2-Dichloroethene	0.250 U	0.250 U	110
trans-1,3-Dichloropropene	0.500 U	0.500 U	0.0550
Trichloroethene (TCE)	0.250 U	0.250 U	0.170
Trichlorofluoromethane	0.500 U	0.500 U	1,300
Vinyl Acetate	5.00 U	5.00 U	16.0
Vinyl Chloride	0.250 U	0.250 U	0.0150
Polycyclic Aromatic Hydrocarbons (ug/L)			
1-Methylnaphthalene[1]	**0.115**	0.0377 U	--
2-Chloronaphthalene[1]	0.0190 U	0.0189 U	490
Benzo(e)pyrene[1]	0.0379 UJ	0.0377 UJ	--
Carbazole[1]	0.0190 U	0.0189 U	3.40
Dibenzofuran[1]	0.0190 U	0.0189 U	3.70
Perylene[1]	0.0379 UJ	0.0377 UJ	--
HPAHs (LWG Convention)			
Benzo(a)anthracene	0.0190 U	0.0189 U	0.0180
Benzo(a)pyrene	0.0190 U	0.0189 U	0.0180
Benzo(b)fluoranthene	0.0190 U	0.0189 U	0.0180
Benzo(g,h,i)perylene	0.0190 U	0.0189 U	0.200
Benzo(k)fluoranthene	0.0190 U	0.0189 U	0.0180
Chrysene	0.0190 U	0.0189 U	0.0180

Table 4. Direct-Push Borings - Grab Groundwater Sample Analytical Results
Hawthorne Building - Data Repoort

Station	HB-2	HB-4*	Portland Harbor Joint Source Control SLVs[2] Recommended Value for Groundwater Initial Screening:
Sample ID	B-2-GW	B-4-GW	
Sample Date	5/4/2010	5/4/2010	
Depth Interval (feet bgs)	24-28	19-23	
HPAHs (Continued)			
Dibenz(a,h)anthracene	0.0190 U	0.0189 U	0.0180
Fluoranthene	0.0190 U	0.0189 U	0.200
Indeno(1,2,3-cd)pyrene	0.0190 U	0.0189 U	0.0180
Pyrene	0.0190 U	0.0189 U	0.200
Total HPAHs (LWG Convention)	0.0190 UT	0.0189 UT	--
LPAHs (LWG Convention)			
2-Methylnaphthalene	**0.0754 J**	0.0377 U	0.200
Acenaphthene	0.0190 U	0.0189 U	0.200
Acenaphthylene	0.0190 U	0.0189 U	0.200
Anthracene	0.0190 U	0.0189 U	0.200
Fluorene	0.0190 U	0.0189 U	0.200
Naphthalene	**0.100**	0.0377 U	0.200
Phenanthrene	0.0190 U	0.0189 U	0.200
Total LPAHs (LWG Convention)	**0.175 JT**	0.0377 UT	--
Total PAHs (LWG Convention)	**0.175 JT**	0.0377 UT	--
Semivolatile Organic Compounds (ug/L)			
1,2,4-Trichlorobenzene	**19.5**	**6.96**	8.20
1,2-Dichlorobenzene	**2.53**	0.472 U	49.0
1,2-Dinitrobenzene	0.474 U	0.472 U	--
1,3-Dichlorobenzene	**11.7**	0.472 U	14.0
1,3-Dinitrobenzene	0.474 U	0.472 U	--
1,4-Dichlorobenzene	**50.9**	0.472 U	2.80
1,4-Dinitrobenzene	0.474 U	0.472 U	--
2,3,4,6-Tetrachlorophenol	0.474 U	0.472 U	1,100
2,3,5,6-Tetrachlorophenol	0.474 U	0.472 U	--
2,4,5-Trichlorophenol	0.474 U	0.472 U	3,600
2,4,6-Trichlorophenol	0.474 U	0.472 U	2.40
2,4-Dichlorophenol	0.474 U	0.472 U	110
2,4-Dimethylphenol	0.474 U	0.472 U	730
2,4-Dinitrophenol	0.474 U	0.472 U	73.0
2,4-Dinitrotoluene	0.474 U	0.472 U	3.40
2,6-Dinitrotoluene	0.474 U	0.472 U	37.0
2-Chlorophenol	0.616 U	0.472 U	30.0
2-Methylphenol	0.474 U	0.472 U	13.0
2-Nitroaniline	0.948 U	0.943 U	110
2-Nitrophenol	0.474 U	0.472 U	150
3-&4-Methylphenol	0.474 U	0.472 U	180
3-Nitroaniline	0.948 U	0.943 U	3.20
4,6-Dinitro-2-methylphenol	0.474 U	0.472 U	150
4-Bromophenyl Phenyl Ether	0.474 U	0.472 U	--
4-Chloro-3-methylphenol	0.474 U	0.472 U	--
4-Chloroaniline	0.474 U	0.472 U	150
4-Chlorophenyl Phenyl Ether	0.474 U	0.472 U	0.0600
4-Nitroaniline	0.474 U	0.472 U	3.20
4-Nitrophenol	0.948 U	0.943 U	150
Aniline	R	R	12.0
Azobenzene (1,2-DPH)	0.474 U	0.472 U	--
Benzoic Acid	**1.06 J**	0.943 U	42.0
Benzyl Alcohol	0.474 U	0.472 U	8.60
Bis(2-chloroethoxy)methane	0.474 U	0.472 U	--
Bis(2-chloroethyl) Ether	0.474 U	0.472 U	0.0600
Bis(2-chloroisopropyl) Ether	0.474 U	0.472 U	0.950
Bis(2-Ethylhexyl) adipate	0.474 U	0.472 U	--
Bis(2-ethylhexyl) Phthalate	0.948 U	0.943 U	2.20
Butyl Benzyl Phthalate	0.948 U	0.943 U	3.00
Diethyl Phthalate	0.948 U	0.943 U	3.00
Dimethyl Phthalate	0.948 U	0.943 U	3.00
Di-n-butyl Phthalate	0.948 U	0.943 U	3.00
Di-n-octyl Phthalate	0.948 U	0.943 U	3.00
Hexachlorobenzene	0.474 U	0.472 U	0.000290
Hexachlorobutadiene	0.474 U	0.472 U	0.860

Table 4. Direct-Push Borings - Grab Groundwater Sample Analytical Results
Hawthorne Building - Data Repoort

Station	HB-2	HB-4*	Portland Harbor Joint Source Control SLVs[2] Recommended Value for Groundwater Initial Screening:
Sample ID	B-2-GW	B-4-GW	
Sample Date	5/4/2010	5/4/2010	
Depth Interval (feet bgs)	24-28	19-23	
Semivolatile Organic Compounds (Continued) (ug/l)			
Hexachlorocyclopentaciene	0.474 U	0.472 U	5.20
Hexachloroethane	0.474 U	0.472 U	3.30
Isophorone	0.474 U	0.472 U	71.0
Nitrobenzene	0.474 U	0.472 U	3.40
N-Nitrosodimethylamine	0.474 U	0.472 U	0.000420
N-Nitrosodi-n-propylamine	0.474 U	0.472 U	0.00960
N-Nitrosodiphenylamine	0.474 U	0.472 U	6.00
Pentachlorophenol	0.948 U	0.943 U	0.560
Phenol	0.474 U	0.472 U	2,560
Pyridine	R	R	--

Notes:
Highlighted results exceed one or more SLVs
* = Result shown is the average of the primary sample and the field duplicate
J = The associated numerical value is an estimated quantity.
LWG = Lower Willamette Group
mg/L = milligrams per liter
ug/L = micrograms per liter
U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
UJ = The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
T = The associated numerical value is a sum of multiple results for a class of analytes or the combination of primary and field duplicate results.
[1] = This PAH is not included in the PAH summation.
[2] = DEQ, 2007. Screening Level Values (SLVs) for Portland Harbor Joint Source Control Strategy (JSCS) Document. Table 3-1. Oregon Department of Environmental Quality. Revised July 16.

Table 5. Exterior Catch Basin Solids Sample Analytical Results
Hawthorne Building - Data Repoort

Station	CB-1	CB-2A	CB-2B*	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	CB-1-051310	CB-2A-051310	CB-2B-051310		
Sample Date	5/13/2010	5/13/2010	5/13/2010	Toxicity	Bioaccumulation
PCB Aroclors (mg/kg)					
Aroclor 1016	0.00832 U	0.0134 U	0.0170 U	0.530	--
Aroclor 1221	0.00832 U	0.0134 U	0.0170 U	--	--
Aroclor 1232	0.00832 U	0.0134 U	0.0170 U	--	--
Aroclor 1242	0.00832 U	0.0134 U	0.0170 U	--	--
Aroclor 1248	0.00832 U	0.0134 U	0.0170 U	1.50	--
Aroclor 1254	0.00832 U	**0.140 J**	**0.388 J**	0.300	--
Aroclor 1260	**0.103**	**0.307 J**	**0.770 J**	0.200	--
Aroclor 1262	0.00832 U	0.0134 U	0.0170 U	--	--
Aroclor 1268	0.00832 U	0.0134 U	0.0170 U	--	--
Total PCBs as Aroclors	**0.103 T**	**0.447 JT**	**1.16 JT**	0.676	0.000390
Metals (mg/kg)					
Aluminum	**7,490**	**9,460**	**10,355**	--	--
Antimony	**4.54**	**4.64**	**9.33**	64.0	--
Arsenic	**7.02**	**4.97**	**6.31**	33.0	7.00
Cadmium	**1.74 J**	**1.56 J**	**3.00 J**	4.98	1.00
Chromium	**41.0**	**94.2**	**68.2**	111	--
Copper	**279**	**161**	**362**	149	--
Lead	**252**	**304**	**580**	128	17.0
Mercury	**0.274**	**0.362**	**0.953**	1.06	0.0700
Nickel	**32.5**	**31.9**	**42.9**	48.6	--
Selenium	0.783 U	0.630 U	0.750 U	5.00	2.00
Silver	**1.88 J**	**0.897 J**	**1.87 J**	5.00	--
Zinc	**1,970**	**723**	**1,225**	459	--
Petroleum Hydrocarbons (mg/kg)					
Diesel Range Organics	193 U	280 J	**739**	--	--
Residual Range Organics	**2,080**	**3,470**	**3,825**	--	--
Polychlorinated Dibenzo-p-dioxins and Furans (ng/kg)					
1,2,3,4,6,7,8-HpCDD	-	-	**13,150**	--	690
1,2,3,4,6,7,8-HpCDF	-	-	**3,685**	--	690
1,2,3,4,7,8,9-HpCDF	-	-	**322**	--	690
1,2,3,4,7,8-HxCDD	-	-	**146**	--	--
1,2,3,4,7,8-HxCDF	-	-	**170 EMPC**	--	2.70
1,2,3,6,7,8-HxCDD	-	-	**398**	--	--
1,2,3,6,7,8-HxCDF	-	-	**97.9**	--	2.70
1,2,3,7,8,9-HxCDD	-	-	**308**	--	--
1,2,3,7,8,9-HxCDF	-	-	**3.36 J**	--	2.70
1,2,3,7,8-PeCDD	-	-	**67.6**	--	2.60
1,2,3,7,8-PeCDF	-	-	**13.7 J**	--	2.60
2,3,4,6,7,8-HxCDF	-	-	**73.8**	--	2.70
2,3,4,7,8-PeCDF	-	-	**26.7 J**	--	0.0300
2,3,7,8-TCDD	-	-	**12.0**	9.00	0.00910
2,3,7,8-TCDF	-	-	**12.7**	--	0.770
OCDD	-	-	**139,500**	--	23,000
OCDF	-	-	**26,100**	--	23,000
Total PCDD/F	-	-	**184,000 JT**	--	--
Total TCDD TEQ	-	-	**430 JT**	9.00	0.00910
Polycyclic Aromatic Hydrocarbons (mg/kg)					
1-Methylnaphthalene[1]	0.142 U	0.157 U	0.204 U	--	--
2-Chloronaphthalene[1]	0.142 U	0.157 U	0.204 U	--	--
Benzo(e)pyrene[1]	**1.39 J**	**2.10 J**	**2.83 J**	--	--
Carbazole[1]	0.142 U	**0.175 J**	0.204 U	1.60	--
Dibenzofuran[1]	0.142 U	0.157 U	0.204 U	--	--
Perylene[1]	**0.513 J**	**0.657 J**	**0.952 J**	--	--
HPAHs (LWG Convention)					
Benzo(a)anthracene	**0.721**	**0.827**	**1.44**	1.05	--
Benzo(a)pyrene	**1.15**	**1.45**	**2.26**	1.45	--
Benzo(b)fluoranthene	**1.85**	**2.66**	**3.72**	--	--
Benzo(g,h,i)perylene	**1.21**	**1.75**	**2.38**	0.300	--
Benzo(k)fluoranthene	**0.524**	**0.745**	**1.187**	13.0	--
Chrysene	**1.23**	**1.74**	**2.76**	1.29	--
Dibenz(a,h)anthracene	**0.245 J**	**0.387**	**0.534**	1.30	--
Fluoranthene	**1.05**	**1.74**	**3.03**	2.23	37.0

Table 5. Exterior Catch Basin Solids Sample Analytical Results
Hawthorne Building - Data Repoort

Station	CB-1	CB-2A	CB-2B*	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	CB-1-051310	CB-2A-051310	CB-2B-051310		
Sample Date	5/13/2010	5/13/2010	5/13/2010	Toxicity	Bioaccumulation
Polycyclic Aromatic Hydrocarbons (Continued) (mg/kg)					
Indeno(1,2,3-cd)pyrene	**1.07**	**1.51**	**2.15**	0.100	--
Pyrene	**1.07**	**1.75**	**2.91**	1.52	1.90
Total HPAHs (LWG Convention)	**10.1 JT**	**14.6 T**	**22.4 T**	--	--
LPAHs (LWG Convention)					
2-Methylnaphthalene	0.142 U	0.157 U	0.204 U	0.200	--
Acenaphthene	0.142 U	0.157 U	0.204 U	0.300	--
Acenaphthylene	0.142 U	0.157 U	0.204 U	0.200	--
Anthracene	0.142 U	**0.266 J**	**0.252 J**	0.845	--
Fluorene	0.142 U	0.157 U	0.204 U	0.536	--
Naphthalene	0.142 U	0.157 U	0.204 U	0.561	--
Phenanthrene	**0.408**	**0.811**	**1.33**	1.17	--
Total LPAHs (LWG Convention)	**0.408 T**	**1.08 JT**	**1.46 JT**	--	--
Total PAHs (LWG Convention)	**10.5 JT**	**15.6 JT**	**23.8 JT**	--	--
Semivolatile Organic Compounds (mg/kg)					
1,2,4-Trichlorobenzene	3.55 U	3.92 U	5.10 U	9.20	--
1,2-Dichlorobenzene	3.55 U	3.92 U	5.10 U	1.70	--
1,2-Dinitrobenzene	3.55 U	3.92 U	5.10 U	--	--
1,3-Dichlorobenzene	3.55 U	3.92 U	5.10 U	0.300	--
1,3-Dinitrobenzene	3.55 U	3.92 U	5.10 U	--	--
1,4-Dichlorobenzene	3.55 U	3.92 U	5.10 U	0.300	--
1,4-Dinitrobenzene	3.55 U	3.92 U	5.10 U	--	--
2,3,4,6-Tetrachlorophenol	3.55 U	3.92 U	5.10 U	--	--
2,3,5,6-Tetrachlorophenol	3.55 U	3.92 U	5.10 U	--	--
2,4,5-Trichlorophenol	3.55 U	3.92 U	5.10 U	--	--
2,4,6-Trichlorophenol	3.55 U	3.92 U	5.10 U	--	--
2,4-Dichlorophenol	3.55 U	3.92 U	5.10 U	--	--
2,4-Dimethylphenol	3.55 U	3.92 U	5.10 U	--	--
2,4-Dinitrophenol	3.55 U	3.92 U	5.10 U	--	--
2,4-Dinitrotoluene	3.55 U	3.92 U	5.10 U	--	--
2,6-Dinitrotoluene	3.55 U	3.92 U	5.10 U	--	--
2-Chlorophenol	3.55 U	3.92 U	5.10 U	--	--
2-Methylphenol	3.55 U	3.92 U	5.10 U	--	--
2-Nitroaniline	3.55 U	3.92 U	5.10 U	--	--
2-Nitrophenol	3.55 U	3.92 U	5.10 U	--	--
3-&4-Methylphenol	3.55 U	3.92 U	5.10 U	--	--
3-Nitroaniline	3.55 U	3.92 U	5.10 U	--	--
4,6-Dinitro-2-methylphenol	3.55 U	3.92 U	5.10 U	--	--
4-Bromophenyl Phenyl Ether	3.55 U	3.92 U	5.10 U	--	--
4-Chloro-3-methylphenol	3.55 U	3.92 U	5.10 U	--	--
4-Chloroaniline	3.55 U	3.92 U	5.10 U	--	--
4-Chlorophenyl Phenyl Ether	3.55 U	3.92 U	5.10 U	--	--
4-Nitroaniline	3.55 U	3.92 U	5.10 U	--	--
4-Nitrophenol	3.55 U	3.92 U	5.10 U	--	--
Aniline	3.55 U	3.92 U	5.10 U	--	--
Azobenzene (1,2-DPH)	3.55 U	3.92 U	5.10 U	--	--
Benzoic Acid	35.5 U	39.2 U	51.0 U	--	--
Benzyl Alcohol	3.55 U	3.92 U	5.10 U	--	--
Bis(2-chloroethoxy)methane	3.55 U	3.92 U	5.10 U	--	--
Bis(2-chloroethyl) Ether	3.55 U	3.92 U	5.10 U	--	--
Bis(2-chloroisopropyl) Ether	3.55 U	3.92 U	5.10 U	--	--
Bis(2-Ethylhexyl) adipate	3.55 U	3.92 U	5.10 U	--	--
Bis(2-ethylhexyl) Phthalate	3.55 U	**24.7**	**32.4**	0.800	0.330
Butyl Benzyl Phthalate	3.55 U	**6.73 J**	5.10 U	--	--
Diethyl Phthalate	3.55 U	3.92 U	5.10 U	0.600	--
Dimethyl Phthalate	3.55 U	3.92 U	5.10 U	--	--
Di-n-butyl Phthalate	3.55 U	3.92 U	5.10 U	0.100	0.0600
Di-n-octyl Phthalate	3.55 U	3.92 U	5.10 U	--	--
Hexachlorobenzene	3.55 U	3.92 U	5.10 U	0.100	0.0190
Hexachlorobutadiene	3.55 U	3.92 U	5.10 U	0.600	--
Hexachlorocyclopentadiene	3.55 U	3.92 U	5.10 U	0.400	--
Hexachloroethane	3.55 U	3.92 U	5.10 U	--	--
Isophorone	3.55 U	3.92 U	5.10 U	--	--
Nitrobenzene	3.55 U	3.92 U	5.10 U	--	--

Table 5. Exterior Catch Basin Solids Sample Analytical Results
Hawthorne Building - Data Repoort

Station	CB-1	CB-2A	CB-2B*	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	CB-1-051310	CB-2A-051310	CB-2B-051310		
Sample Date	5/13/2010	5/13/2010	5/13/2010	Toxicity	Bioaccumulation
Semivolatile Organic Compounds (Continued) (mg/kg)					
N-Nitrosodimethylamine	3.55 U	3.92 U	5.10 U	--	--
N-Nitrosodi-n-propylamine	3.55 U	3.92 U	5.10 U	--	--
N-Nitrosodiphenylamine	3.55 U	3.92 U	5.10 U	--	--
Pentachlorophenol	**3.76 J**	3.92 U	5.10 U	1.00	0.250
Phenol	3.55 U	3.92 U	5.10 U	0.0500	--
Pyridine	7.09 UJ	7.84 UJ	10.2 UJ	--	--
Solids (%)					
Solids, Total	**53.8**	**64.3**	**50.8**	--	--

Notes:
Highlighted results exceed one or more SLVs
* = Result shown is the average of the primary sample and the field duplicate
J = The associated numerical value is an estimated quantity.
LWG = Lower Willamette Group
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
UJ = The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
T = The associated numerical value is a sum of multiple results for a class of analytes or the combination of primary and field duplicate results.
TEQ = toxic equivalency quotient
[1] = This PAH is not included in the PAH summation.
[2] = DEQ, 2007. Screening Level Values (SLVs) for Portland Harbor Joint Source Control Strategy (JSCS) Document. Table 3-1. Oregon Department of Environmental Quality. Revised July 16.

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Table 6. Basement Drainage System Solids Sample Analytical Results
Hawthorne Building - Data Repoort

Station	CB-3	Sump A	Sump B	Sump C	FD-D	Sump E	FD-F	FD-H	Sump I	Sump J	Sump K	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	CB-3-051310	HB-A-051310	HB-B-051310	HB-C-051310	HB-D-051310	HB-E-051310	CB-F-051310	HB-H-051310	HB-I-051310	HB-J-051310	HB-K-051310		
Sample Date	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	Toxicity	Bioaccumulation
PCB Aroclors (mg/kg)													
Aroclor 1016	0.00834 U	0.763 U	0.661 U	16.3 U	0.573 U	0.190 U	0.167 U	1.48 U	0.902 U	2.34 U	0.284 U	0.530	--
Aroclor 1221	0.00834 U	0.763 U	0.661 U	16.3 U	0.573 U	0.190 U	0.167 U	1.48 U	0.902 U	2.34 U	0.284 U	--	--
Aroclor 1232	0.00834 U	0.763 U	0.661 U	16.3 U	0.573 U	0.190 U	0.167 U	1.48 U	0.902 U	2.34 U	0.284 U	--	--
Aroclor 1242	0.00834 U	0.763 U	0.661 U	16.3 U	0.573 U	0.190 U	0.167 U	1.48 U	0.902 U	2.34 U	0.284 U	--	--
Aroclor 1248	0.00834 U	0.763 U	0.661 U	16.3 U	0.573 U	0.190 U	0.167 U	1.48 U	0.902 U	2.34 U	0.284 U	1.50	--
Aroclor 1254	0.202 J	17.4	30.9	16.3 U	5.40	2.88	1.26 J	29.7	49.6	2.34 U	8.42	0.300	--
Aroclor 1260	0.418 J	34.0	35.8	575	17.0	7.07	4.09 J	42.3	46.9	69.9	8.79	0.200	--
Aroclor 1262	0.00834 U	0.763 U	0.661 U	16.3 U	0.573 U	0.190 U	0.167 U	1.48 U	0.902 U	2.34 U	0.284 U	--	--
Aroclor 1268	0.00834 U	0.763 U	0.661 U	16.3 U	0.573 U	0.190 U	0.167 U	1.48 U	0.902 U	2.34 U	0.284 U	--	--
Total PCBs as Aroclors	0.620 JT	51.4 T	66.7 T	575 T	22.4 T	9.96 T	5.35 JT	72.0 T	87.5 T	69.9 T	17.2 T	0.676	0.000390
Metals (mg/kg)													
Aluminum	9,010	14,700	8,260	18,300	112,000	14,500 J	11,600	11,700	6,610	6,750	9,250	--	--
Antimony	6.70	16.0	31.4	573	13.8	11.2	8.86	18.4	27.5	37.1	20.7	84.0	--
Arsenic	14.1	14.3	105	34.3	23.9	8.55	12.4	9.94	12.5	25.7	6.47	33.0	7.00
Cadmium	2.18	11.1	33.7	48.5	84.5	4.93	3.02	43.7	51.1	54.1	16.0	4.98	1.00
Chromium	59.1	592 J	3,360	29,900	451	90.7	54.4	519	1,800	1,240	160	111	--
Copper	259	1,040	1,740	6,730	14,600	1,870 J	393	1,210	1,750	3,700	782	149	--
Lead	641	7,660	2,380	48,800	875	709	474	2,700	3,080	3,980	1,250	129	17.0
Mercury	0.141	27.8	13.2	340	2.02	28.8	21.8	19.1	29.5	1,560	6.87	1.06	0.0700
Nickel	46.3	54.1	122	109	682	54.5	42.3	53.0	43.8	75.6	55.8	48.6	--
Selenium	0.704 U	1.49 U	1.05 U	1.27 U	1.14 U	0.735 U	0.750 U	0.977 U	0.976 U	0.653 U	0.656 U	5.00	2.00
Silver	1.42 J	7.85	18.4	143	18.9	5.57	2.42	6.72	9.01	4.54	6.16	5.00	--
Zinc	1,070	3,070	7,270	5,200	16,000	2,040 J	1,280	9,930	11,600	13,200	7,910	459	--
Petroleum Hydrocarbons (mg/kg)													
Diesel Range Organics	492 U	3,590	88,200	17,800	567 J	418 J	952 U	52,700	152,000	6,340	2,280 J	--	--
Residual Range Organics	5,650	6,880	43,500	26,800	2,420	4,300	4,260	92,900	160,000	12,700	8,080	--	--
Polychlorinated Dibenzo-p-dioxins and Furans (ng/kg)													
1,2,3,4,6,7,8-HpCDD	7,370	-	22,100	122,000	70,600	-	-	-	3,550	5,400	-	--	690
1,2,3,4,6,7,8-HpCDF	650	-	894	4,300	4,660	-	-	-	1,330	1,710	-	--	690
1,2,3,4,7,8,9-HpCDF	60.3	-	94.1	585	557	-	-	-	277	410	-	--	690
1,2,3,4,7,8-HxCDD	36.5	-	76.5	297	145	-	-	-	121	337	-	--	--
1,2,3,4,7,8-HxCDF	88.1	-	197	912	247	-	-	-	612 EMPC	1,390 EMPC	-	--	2.70
1,2,3,6,7,8-HxCDD	235	-	699	3,790	1,440	-	-	-	614	1,530	-	--	--
1,2,3,6,7,8-HxCDF	51.8	-	145	380	170	-	-	-	329	563	-	--	2.70
1,2,3,7,8,9-HxCDD	140	-	384	1,600	1,250	-	-	-	525	1,410	-	--	--
1,2,3,7,8,9-HxCDF	1.68 J	-	2.78 J	14.6 J	11.5 J	-	-	-	7.17 J	19.3 J	-	--	2.70
1,2,3,7,8-PeCDD	29.7 J	-	84.6	225	131	-	-	-	557	2,460	-	--	2.60
1,2,3,7,8-PeCDF	17.2 J	-	54.3	104	33.2 J	-	-	-	117	486	-	--	2.60
2,3,4,6,7,8-HxCDF	57.5	-	180	549	124	-	-	-	229	234	-	--	2.70
2,3,4,7,8-PeCDF	27.0 J	-	83.1	169	57.0	-	-	-	187	809	-	--	0.0300
2,3,7,8-TCDD	86.7	-	89.7	566	19.8	-	-	-	345	2,040	-	9.00	0.00910
2,3,7,8-TCDF	37.4	-	125	98.4	49.9	-	-	-	169	3,160	-	--	0.770
OCDD	56,000	-	138,000	552,000	711,000	-	-	-	23,800	36,300	-	--	23.000
OCDF	3,180	-	2,290	7,890	11,500	-	-	-	2,950	3,180	-	--	23.000
Total PCDD/F	67,100 JT	-	163,000 JT	695,000 JT	802,000 JT	-	-	-	35,700 JT	60,400 JT	-	--	--
Total TCDD TEQ	200 JT	-	654 JT	2,990 JT	1,490 JT	-	-	-	1,200 JT	5,710 JT	-	9.00	0.00910
Polycyclic Aromatic Hydrocarbons (mg/kg)													
1-Methylnaphthalene[1]	0.480 U	0.367 U	1.27 J	6.91 J	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.411 J	--	--
2-Chloronaphthalene[1]	0.480 U	0.367 U	0.840 U	0.835 U	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.237 U	--	--
Benzo(e)pyrene[1]	12.4 J	1.00 J	J	2.02 J	0.235 J	4.74 J	2.28 J	J	2.32 UJ	2.35 J	2.44 J	--	--
Carbazole[1]	0.480 U	0.367 U	0.840 U	0.835 U	0.0627 U	1.00 U	0.504 U	3.79 U	3.96	0.306 U	0.237 U	1.60	--
Dibenzofuran[1]	0.480 U	0.367 U	0.840 U	1.27 J	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.340 J	--	--
Perylene[1]	3.41 J	0.734 UJ	1.68 UJ	1.67 UJ	0.125 UJ	2.01 UJ	1.01 UJ	7.58 UJ	2.32 UJ	0.611 UJ	0.815 J	--	--
HPAHs (LWG Convention)													
Benzo(a)anthracene	18.8 J	0.441 J	0.840 U	0.891 J	0.143	3.76	1.27 J	3.79 U	1.16 U	0.508 J	2.15	1.05	--
Benzo(a)pyrene	17.6 J	0.612 J	1.02 J	0.871 J	0.152	4.35	1.74 J	3.93 J	1.53 J	1.06	2.50	1.45	--
Benzo(b)fluoranthene	16.8 J	1.02	0.840 U	1.92 J	0.202	6.04	3.05 J	3.79 U	1.28 J	1.82	3.03	--	--
Benzo(g,h,i)perylene	8.78 J	0.708 J	0.840 U	0.986 J	0.186	3.59	1.88 J	3.79 U	1.63 J	2.09	2.09	0.300	--
Benzo(k)fluoranthene	5.64 J	0.367 U	0.840 U	0.835 U	0.0668 J	1.77 J	0.958 J	3.79 U	1.16 U	0.428 J	0.972	13.0	--
Chrysene	21.3 J	1.10	0.840 U	3.68 J	0.170	5.14	3.35 J	3.79 U	2.94	1.15	3.51	1.29	--
Dibenz[a,h]anthracene	2.49 J	0.367 U	0.840 U	0.835 U	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.397 J	0.445 J	1.30	--
Fluoranthene	27.0 J	1.14	1.12 J	4.86 J	0.273	5.49	4.90 J	3.79 U	1.63 U	0.767	3.46	2.23	37.0

Table 6. Basement Drainage System Solids Sample Analytical Results
Hawthorne Building - Data Repoort

Station	CB-3	Sump A	Sump B	Sump C	FD-D	Sump E	FD-F	FD-H	Sump I	Sump J	Sump K	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	CB-3-051310	HB-A-051310	HB-B-051310	HB-C-051310	HB-D-051310	HB-E-051310	CB-F-051310	HB-H-051310	HB-I-051310	HB-J-051310	HB-K-051310		
Sample Date	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	Toxicity	Bioaccumulation
Polycyclic Aromatic Hydrocarbons (Continued) (mg/kg)													
Indeno(1,2,3-cd)pyrene	7.96 J	0.501 J	0.840 U	0.835 U	0.153	3.32	1.41 J	3.79 U	1.19 J	1.88	1.72	0.100	--
Pyrene	47.7 J	1.17	1.41 J	3.55 J	0.240	7.23	3.97 J	3.79 U	2.22 J	0.983	4.72	1.52	1.90
Total HPAHs (LWG Convention)	174 JT	6.69 JT	3.55 JT	16.6 JT	1.63 JT	40.7 JT	22.3 JT	3.93 JT	10.8 JT	10.9 JT	24.6 JT	--	--
LPAHs (LWG Convention)													
2-Methylnaphthalene	0.480 U	0.367 U	1.99	12.1 J	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.685	0.200	--
Acenaphthene	0.954 J	0.367 U	0.840 U	0.835 U	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.237 U	0.300	--
Acenaphthylene	0.480 U	0.367 U	0.840 U	0.835 U	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.237 U	0.200	--
Anthracene	2.35 J	0.367 U	0.840 U	0.835 U	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.237 U	0.845	--
Fluorene	0.499 J	0.367 U	0.840 U	3.54 J	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.237 U	0.536	--
Naphthalene	0.480 U	0.367 U	0.908 U	3.32 J	0.0627 U	1.00 U	0.504 U	3.79 U	1.16 U	0.306 U	0.237 U	0.561	--
Phenanthrene	7.94 J	0.521 J	2.65	25.8 J	0.130	1.99 J	2.40 J	3.79 U	7.69	0.579 J	1.27	1.17	--
Total LPAHs (LWG Convention)	11.7 JT	0.521 JT	4.64 T	44.8 JT	0.130 T	1.99 JT	2.40 JT	3.79 UT	7.69 T	0.579 JT	1.96 T	--	--
Total PAHs (LWG Convention)	186 JT	7.21 JT	8.19 JT	61.3 JT	1.76 JT	42.7 JT	24.7 JT	3.93 JT	18.5 JT	11.5 JT	26.6 JT	--	--
Semivolatile Organic Compounds (mg/kg)													
1,2,4-Trichlorobenzene	12.0 U	9.18 U	21.0 U	355 J	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	9.20	--
1,2-Dichlorobenzene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	1.70	--
1,2-Dinitrobenzene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
1,3-Dichlorobenzene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.300	--
1,3-Dinitrobenzene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
1,4-Dichlorobenzene	12.0 U	9.18 U	21.0 U	32.7 J	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.300	--
1,4-Dinitrobenzene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,3,4,6-Tetrachlorophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,3,5,6-Tetrachlorophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,4,5-Trichlorophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,4,6-Trichlorophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,4-Dichlorophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,4-Dimethylphenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,4-Dinitrophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,4-Dinitrotoluene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2,6-Dinitrotoluene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2-Chlorophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2-Methylphenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2-Nitroaniline	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
2-Nitrophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
3-&4-Methylphenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
3-Nitroaniline	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
4,6-Dinitro-2-methylphenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
4-Bromophenyl Phenyl Ether	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
4-Chloro-3-methylphenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
4-Chloroaniline	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
4-Chlorophenyl Phenyl Ether	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
4-Nitroaniline	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
4-Nitrophenol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Aniline	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Azobenzene (1,2-DPH)	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Benzoic Acid	120 U	91.8 U	210 U	209 U	15.7 U	251 U	126 U	948 U	290 U	76.4 U	59.3 U	--	--
Benzyl Alcohol	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Bis(2-chloroethoxy)methane	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Bis(2-chloroethyl) Ether	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Bis(2-chloroisopropyl) Ether	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Bis(2-Ethylhexyl) adipate	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Bis(2-ethylhexyl) Phthalate	20.6 J	15.2 J	51.9	138 J	4.67	31.0 J	28.8 J	94.8 U	29.0 U	7.64 U	6.99 J	0.800	0.330
Butyl Benzyl Phthalate	12.0 U	9.18 U	21.0 U	20.9 U	3.89 J	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Diethyl Phthalate	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.600	--
Dimethyl Phthalate	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Di-n-butyl Phthalate	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.100	0.0600
Di-n-octyl Phthalate	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Hexachlorobenzene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.100	0.0190
Hexachlorobutadiene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.600	--
Hexachlorocyclopentadiene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.400	--
Hexachloroethane	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Isophorone	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Nitrobenzene	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--

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Table 6. Basement Drainage System Solids Sample Analytical Results
Hawthorne Building - Data Repoort

Station	CB-3	Sump A	Sump B	Sump C	FD-D	Sump E	FD-F	FD-H	Sump I	Sump J	Sump K	Portland Harbor Joint	
Sample ID	CB-3-051310	HB-A-051310	HB-B-051310	HB-C-051310	HB-D-051310	HB-E-051310	CB-F-051310	HB-H-051310	HB-I-051310	HB-J-051310	HB-K-051310	Source Control SLVs[2]	
Sample Date	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	5/13/2010	Toxicity	Bioaccumulation
Semivolatile Organic Compounds (Continued) (mg/kg)													
N-Nitrosodimethylamine	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
N-Nitrosodi-n-propylamine	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
N-Nitrosodiphenylamine	12.0 U	9.18 U	21.0 U	20.9 U	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	--	--
Pentachlorophenol	12.0 U	9.18 U	21.0 U	20.9 U	4.27	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	1.00	0.250
Phenol	12.0 U	9.18 U	21.0 U	35.3 J	1.57 U	25.1 U	12.6 U	94.8 U	29.0 U	7.64 U	5.93 U	0.0500	--
Pyridine	24.0 UJ	18.4 UJ	42.0 UJ	41.7 UJ	3.13 UJ	50.2 U	25.2 U	190 UJ	58.0 UJ	15.3 UJ	11.9 UJ	--	--
Solids (%)													
Solids, Total	55.2	28.7	38.7	32.8	33.6	51.7	52.3	42.2	38.8	62.1	42.1	--	--

Notes:
Highlighted results exceed one or more SLVs
* = Result shown is the average of the primary sample and the field duplicate
J = The associated numerical value is an estimated quantity.
LWG = Lower Willamette Group
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit
UJ = The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity
T = The associated numerical value is a sum of multiple results for a class of analytes or the combination of primary and field duplicate results.
TEQ = toxic equivalence quotient
[1] = This PAH is not included in the PAH summation.
[2] = DEQ. 2007. Screening Level Values (SLVs) for Portland Harbor Joint Source Control Strategy (JSCS) Document. Table 3-1. Oregon Department of Environmental Quality. Revised July 16.

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Table 7. Concrete Sample Analytical Results
Hawthorne Building - Data Repoort

Station	C-1	C-2	C-3	C-4	C-5	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	C-01-050410	C-02-a-050410	C-03-a-050410	C-04-a-050410	C-05-050410		
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010		
Depth Interval (feet bgs)	0.0-0.0625	0.0-0.042	0.0-0.042	0.0-0.042	0.0-0.0625	Toxicity	Bioaccumulation
PCB Aroclors (mg/kg)							
Aroclor 1016	0.0407 U	0.918 U	0.172 U	0.0198 U	0.386 U	0.530	--
Aroclor 1221	0.0407 U	0.918 U	0.172 U	0.0198 U	0.386 U	--	--
Aroclor 1232	0.0407 U	0.918 U	0.172 U	0.0198 U	0.386 U	--	--
Aroclor 1242	0.0407 U	0.918 U	0.172 U	0.0198 U	0.386 U	--	--
Aroclor 1248	0.0407 U	0.918 U	0.172 U	0.0198 U	0.386 U	1.50	--
Aroclor 1254	**1.79**	**37.5 J**	**4.26**	**0.735**	**1.66**	0.300	--
Aroclor 1260	**1.02**	**102 J**	**9.75**	**0.367**	**1.80**	0.200	--
Aroclor 1262	0.0407 U	0.918 U	0.172 U	0.0198 U	0.386 U	--	--
Aroclor 1268	0.0407 U	0.918 U	0.172 U	0.0198 U	0.386 U	--	--
Total PCBs as Aroclors	**2.81 T**	**140 JT**	**14.0 T**	**1.10 T**	**3.46 T**	0.676	0.000390
Metals (mg/kg)							
Aluminum	**16,300**	**8,260**	**15,400**	**16,200**	**15,100**	--	--
Antimony	**22.9**	**5.99**	**8.85**	**7.81**	**3.76**	64.0	--
Arsenic	**37.9**	**14.3**	**21.8**	**17.2**	**13.9**	33.0	7.00
Cadmium	**0.402 J**	**0.927 J**	**0.728 J**	**0.467 J**	**0.504 J**	4.98	1.00
Chromium	**19.0**	**38.1**	**17.3**	**15.8**	**16.0**	111	--
Copper	**107**	**62.8**	**65.1**	**44.1**	**30.6**	149	--
Lead	**15.9**	**33.6**	**60.6**	**9.47**	**9.29**	128	17.0
Mercury	**0.0741 J**	**0.144**	**0.0950**	**0.0424 J**	**0.0412 J**	1.06	0.0700
Nickel	**10.5**	**21.5**	**12.2**	**11.9**	**11.9**	48.6	--
Selenium	0.424 U	0.412 U	2.11 U	2.12 U	2.06 U	5.00	2.00
Silver	**4.03**	**1.07**	**1.37**	**1.69**	**0.607 J**	5.00	--
Zinc	**37.4**	**102**	**63.6**	**33.6**	**29.8**	459	--
Petroleum Hydrocarbons (mg/kg)							
Diesel Range Organics	**385**	**23,800**	**957**	**358 J**	**1,240**	--	--
Residual Range Organics	**1,050**	**28,000**	**2,370**	**3,020**	**5,670**	--	--
Polychlorinated Dibenzo-p-dioxins and Furans (ng/kg)							
1,2,3,4,6,7,8-HpCDD	-	**6,780**	**28,300**	-	**1,480**	--	690
1,2,3,4,6,7,8-HpCDF	-	**763**	**3,130**	-	**189**	--	690
1,2,3,4,7,8,9-HpCDF	-	**91.3**	**226**	-	**13.9**	--	690
1,2,3,4,7,8-HxCDD	-	**11.2 J**	**14.2 J**	-	**4.37 J**	--	--
1,2,3,4,7,8-HxCDF	-	**84.4**	**248**	-	**17.3**	--	2.70
1,2,3,6,7,8-HxCDD	-	**134**	**843**	-	**36.0**	--	--
1,2,3,6,7,8-HxCDF	-	**27.0**	**78.7**	-	**10.8**	--	2.70
1,2,3,7,8,9-HxCDD	-	**48.4**	**59.6**	-	**15.3**	--	--
1,2,3,7,8,9-HxCDF	-	**1.88 J**	**16.9 J**	-	**0.551 J**	--	2.70
1,2,3,7,8-PeCDD	-	**20.2**	**7.86 J**	-	**4.77 J**	--	2.60
1,2,3,7,8-PeCDF	-	**6.56 J**	**49.5**	-	**3.93 J**	--	2.60
2,3,4,6,7,8-HxCDF	-	**13.2 J**	**39.1**	-	**7.88**	--	2.70
2,3,4,7,8-PeCDF	-	**11.7 J**	**39.5**	-	**6.86**	--	0.0300
2,3,7,8-TCDD	-	**56.1**	**4.80**	-	**5.65**	9.00	0.00910
2,3,7,8-TCDF	-	**11.6 J**	**23.2 J**	-	**7.07 J**	--	0.770
OCDD	-	**72,300**	**309,000**	-	**14,000**	--	23,000
OCDF	-	**2,750**	**9,030**	-	**561**	--	23,000
Total PCDD/F	-	**83,100 JT**	**351,000 JT**	-	**16,400 JT**	--	--
Total TCDD TEQ	-	**212 JT**	**570 JT**	-	**43.7 JT**	9.00	0.00910
Polycyclic Aromatic Hydrocarbons (mg/kg)							
1-Methylnaphthalene[1]	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	--	--
2-Chloronaphthalene[1]	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	--	--
Benzo(e)pyrene[1]	**0.140 J**	**0.517 J**	**0.181 J**	**0.199 J**	**0.268 J**	--	--
Carbazole[1]	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	1.60	--
Dibenzofuran[1]	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	--	--
Perylene[1]	0.0793 UJ	0.195 UJ	0.159 UJ	0.161 UJ	0.161 UJ	--	--
HPAHs (LWG Convention)							
Benzo(a)anthracene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	1.05	--
Benzo(a)pyrene	0.0412 U	0.102 U	0.0797 U	0.0804 U	0.0806 U	1.45	--
Benzo(b)fluoranthene	**0.146**	**0.413**	**0.150 J**	**0.178**	**0.277**	--	--
Benzo(g,h,i)perylene	0.0396 U	**0.164 J**	0.0797 U	0.0804 U	0.0806 U	0.300	--
Benzo(k)fluoranthene	0.0396 U	**0.171 J**	0.0797 U	0.0804 U	**0.0871 J**	13.0	--
Chrysene	**0.266**	**1.50**	**0.343**	**0.335**	**0.808**	1.29	--
Dibenz(a,h)anthracene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	1.30	--

Table 7. Concrete Sample Analytical Results
Hawthorne Building - Data Repoort

Station	C-1	C-2	C-3	C-4	C-5	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	C-01-050410	C-02-a-050410	C-03-a-050410	C-04-a-050410	C-05-050410		
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010		
Depth Interval (feet bgs)	0.0-0.0625	0.0-0.042	0.0-0.042	0.0-0.042	0.0-0.0625	Toxicity	Bioaccumulation
HPAHs (Continued)							
Fluoranthene	**0.293**	**1.45**	**0.354**	**0.352**	**0.930**	2.23	37.0
Indeno(1,2,3-cd)pyrene	0.0396 U	**0.116 J**	0.0797 U	0.0804 U	0.0806 U	0.100	--
Pyrene	**0.153**	**1.09**	**0.186**	**0.250**	**0.515**	1.52	1.90
Total HPAHs (LWG Convention)	**0.858 T**	**4.90 JT**	**1.03 JT**	**1.12 T**	**2.62 JT**	--	--
LPAHs (LWG Convention)							
2-Methylnaphthalene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	0.200	--
Acenaphthene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	0.300	--
Acenaphthylene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	0.200	--
Anthracene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	0.845	--
Fluorene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	0.536	--
Naphthalene	0.0396 U	0.0977 U	0.0797 U	0.0804 U	0.0806 U	0.561	--
Phenanthrene	**0.0968**	**0.586**	**0.171**	**0.119 J**	**0.413**	1.17	--
Total LPAHs (LWG Convention)	**0.0968 T**	**0.586 T**	**0.171 T**	**0.119 JT**	**0.413 T**	--	--
Total PAHs (LWG Convention)	**0.955 T**	**5.49 JT**	**1.20 JT**	**1.23 JT**	**3.03 JT**	--	--
Semivolatile Organic Compounds (mg/kg)							
1,2,4-Trichlorobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	9.20	--
1,2-Dichlorobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	1.70	--
1,2-Dinitrobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
1,3-Dichlorobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	0.300	--
1,3-Dinitrobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
1,4-Dichlorobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	0.300	--
1,4-Dinitrobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
2,3,4,6-Tetrachlorophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2,3,5,6-Tetrachlorophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2,4,5-Trichlorophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2,4,6-Trichlorophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2,4-Dichlorophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2,4-Dimethylphenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2,4-Dinitrophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2,4-Dinitrotoluene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
2,6-Dinitrotoluene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
2-Chlorophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2-Methylphenol	R	R	1.99 U	2.01 U	2.01 U	--	--
2-Nitroaniline	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
2-Nitrophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
3-&4-Methylphenol	R	R	1.99 U	2.01 U	2.01 U	--	--
3-Nitroaniline	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
4,6-Dinitro-2-methylphenol	R	R	1.99 U	2.01 U	2.01 U	--	--
4-Bromophenyl Phenyl Ether	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
4-Chloro-3-methylphenol	R	R	1.99 U	2.01 U	2.01 U	--	--
4-Chloroaniline	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
4-Chlorophenyl Phenyl Ether	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
4-Nitroaniline	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
4-Nitrophenol	R	R	1.99 U	2.01 U	2.01 U	--	--
Aniline	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Azobenzene (1,2-DPH)	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Benzoic Acid	9.91 U	24.4 U	19.9 U	20.1 U	20.1 U	--	--
Benzyl Alcohol	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Bis(2-chloroethoxy)methane	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Bis(2-chloroethyl) Ether	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Bis(2-chloroisopropyl) Ether	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Bis(2-Ethylhexyl) adipate	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Bis(2-ethylhexyl) Phthalate	0.991 U	**6.03**	1.99 U	2.01 U	2.01 U	0.800	0.330
Butyl Benzyl Phthalate	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Diethyl Phthalate	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	0.600	--
Dimethyl Phthalate	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Di-n-butyl Phthalate	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	0.100	0.0600
Di-n-octyl Phthalate	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Hexachlorobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	0.100	0.0190
Hexachlorobutadiene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	0.600	--
Hexachlorocyclopentadiene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	0.400	--
Hexachloroethane	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--

Table 7. Concrete Sample Analytical Results
Hawthorne Building - Data Repoort

Station	C-1	C-2	C-3	C-4	C-5	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	C-01-050410	C-02-a-050410	C-03-a-050410	C-04-a-050410	C-05-050410		
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010		
Depth Interval (feet bgs)	0.0-0.0625	0.0-0.042	0.0-0.042	0.0-0.042	0.0-0.0625	Toxicity	Bioaccumulation
Semivolatile Organic Compounds (Continued) (mg/kg)							
Isophorone	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Nitrobenzene	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
N-Nitrosodimethylamine	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
N-Nitrosodi-n-propylamine	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
N-Nitrosodiphenylamine	0.991 U	2.44 U	1.99 U	2.01 U	2.01 U	--	--
Pentachlorophenol	R	R	1.99 U	2.01 U	2.01 U	1.00	0.250
Phenol	R	R	1.99 U	2.01 U	2.01 U	0.0500	--
Pyridine	1.98 U	4.89 U	3.98 U	4.02 U	4.03 U	--	--
Solids (%)							
Solids, Total	**95.2**	**97.5**	**96.3**	**95.4**	**95.1**	--	--

Notes:
Highlighted results exceed one or more SLVs
J = The associated numerical value is an estimated quantity.
LWG = Lower Willamette Group
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
UJ = The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
T = The associated numerical value is a sum of multiple results for a class of analytes or the combination of primary and field duplicate results.
TEQ = toxic equivalency quotient
[1] = This PAH is not included in the PAH summation.
[2] = DEQ, 2007. Screening Level Values (SLVs) for Portland Harbor Joint Source Control Strategy (JSCS) Document. Table 3-1. Oregon Department of Environmental Quality. Revised July 16.

Table 8. Basement Oil Sample Analytical Results
Hawthorne Building - Data Repoort

Station	Basement Oil	Portland Harbor Joint Source Control SLVs[2]	
Sample ID	HB-Oil-051310		
Sample Date	5/13/2010	Toxicity	Bioaccumulation
PCB Aroclors (mg/kg)			
Aroclor 1016	0.227 U	0.530	--
Aroclor 1221	0.227 U	--	--
Aroclor 1232	0.227 U	--	--
Aroclor 1242	**1.69**	--	--
Aroclor 1248	0.227 U	1.50	--
Aroclor 1254	0.227 U	0.300	--
Aroclor 1260	0.227 U	0.200	--
Total PCBs as Aroclors	**1.69 T**	0.676	0.000390
Petroleum Hydrocarbons (mg/kg)			
Diesel Range Organics	**348,000**	--	--
Residual Range Organics	**1,070,000**	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg)			
Benzo(e)pyrene[1]	4.00 UJ	--	--
Perylene[1]	4.00 UJ	--	--
HPAHs (LWG Convention)			
Benzo(a)anthracene	2.00 U	1.05	--
Benzo(a)pyrene	**2.78 J**	1.45	--
Benzo(b)fluoranthene	**2.72 J**	--	--
Benzo(g,h,i)perylene	2.00 U	0.300	--
Benzo(k)fluoranthene	2.00 U	13.0	--
Chrysene	**3.44 J**	1.29	--
Dibenz(a,h)anthracene	2.00 U	1.30	--
Fluoranthene	**2.00 J**	2.23	37.0
Indeno(1,2,3-cd)pyrene	2.00 U	0.100	--
Pyrene	**2.72 J**	1.52	1.90
Total HPAHs (LWG Convention)	**11.7 JT**	--	--
LPAHs (LWG Convention)			
2-Methylnaphthalene	2.00 U	0.200	--
Acenaphthene	2.00 U	0.300	--
Acenaphthylene	2.00 U	0.200	--
Anthracene	2.00 U	0.845	--
Fluorene	2.00 U	0.536	--
Naphthalene	4.00 U	0.561	--
Phenanthrene	**11.9**	1.17	--
Total LPAHs (LWG Convention)	**11.9 T**	--	--
Total PAHs (LWG Convention)	**23.6 JT**	--	--

Notes:
All results reported on a wet weight basis.
Highlighted results exceed one or more SLVs
J = The associated numerical value is an estimated quantity.
LWG = Lower Willamette Group
mg/kg = milligrams per kilogram
U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
UJ = The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
T = The associated numerical value is a sum of multiple results for a class of analytes or the combination of primary and field duplicate results.
TEQ = toxic equivalency quotient
[1] = This PAH is not included in the PAH summation.
[2] = DEQ. 2007. Screening Level Values (SLVs) for Portland Harbor Joint Source Control Strategy (JSCS) Document. Table 3-1. Oregon Department of Environmental Quality. Revised July 16.

Table 9. Field Duplicate Combination Results
Hawthorne Building - Data Repoort

Sample Type	Direct Push Borings - Soil Samples			Direct Push Borings - Grab Groundwater			Catch Basin Solids Samples		
Station	HB-2	HB-2 DUP	HB-2*	HB-4	HB-4 DUP	HB-4*	CB-2B	CB-2B DUP	CB-2B*
Sample ID	B-2-16.5-17.5	B-5-16.5-17.5	B-2-16.5-17.5	B-4-GW	B-5-GW	B-4-GW	CB-2B-051310	CB-4-051310	CB-2B-051310
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/13/2010	5/13/2010	5/13/2010
Depth Interval (feet bgs)	16.5-17.5	16.5-17.5	16.5-17.5	19-23	19-23	19-23	0.0-0.0	0.0-0.0	0.0-0.0
PCB Aroclors	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg
Aroclor 1016	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	0.0177 U	0.0170 U	0.0170 U
Aroclor 1221	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	0.0177 U	0.0170 U	0.0170 U
Aroclor 1232	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	0.0177 U	0.0170 U	0.0170 U
Aroclor 1242	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	0.0177 U	0.0170 U	0.0170 U
Aroclor 1248	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	0.0177 U	0.0170 U	0.0170 U
Aroclor 1254	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	**0.351 J**	**0.425 J**	**0.388 J**
Aroclor 1260	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	**0.683 J**	**0.856 J**	**0.770 J**
Aroclor 1262	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	0.0177 U	0.0170 U	0.0170 U
Aroclor 1268	0.00165 UJ	0.00285 UJ	0.00165 UJ	0.00980 UJ	0.00990 UJ	0.00980 UJ	0.0177 U	0.0170 U	0.0170 U
Total PCBs as Aroclors	0.00165 UT	0.00285 UT	0.00165 JT	0.00980 UT	0.00990 UT	0.00990 UT	**1.03 JT**	**1.28 JT**	**1.16 JT**
Total Metals	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg
Aluminum	**17,500**	**22,200**	**19,900**	**3,130**	**1,490**	**2,310**	**9,810**	**10,900**	**10,355**
Antimony	**0.384 J**	2.86 U	**0.384 J**	0.333 U	0.333 U	0.333 U	**9.62**	**9.03**	**9.33**
Arsenic	**2.77**	**3.54**	**3.16**	**1.13 J**	**0.778 J**	**0.954 J**	**6.27**	**6.35**	**6.31**
Cadmium	**0.225 J**	**0.243 J**	**0.234 J**	**0.100 J**	**0.122 J**	**0.111 J**	**2.06 J**	**3.94**	**3.00 J**
Chromium	**25.3**	**29.8**	**27.6**	4.73 U	2.42 U	2.42 U	**64.8**	**71.5**	**68.2**
Copper	**27.3**	**30.0**	**28.7**	**5.26**	**3.29 J**	**4.28 J**	**337**	**387**	**362**
Lead	**5.54**	**5.78**	**5.66**	**1.38**	**0.789 J**	**1.08 J**	**460**	**699**	**580**
Mercury	**0.0397 J**	**0.0571 J**	**0.0484 J**	0.0200 U	0.0200 U	0.0200 U	**0.969**	**0.937**	**0.953**
Nickel	**26.4**	**28.3**	**27.4**	**6.89**	**4.57**	**5.73**	**41.8**	**44.0**	**42.9**
Selenium	0.530 U	0.571 U	0.530 U	**0.889 J**	**0.678 J**	**0.784 J**	0.842 U	0.750 U	0.750 U
Silver	0.132 U	0.143 U	0.132 U	0.100 U	0.100 U	0.100 U	**1.89 J**	**1.84 J**	**1.87 J**
Zinc	**60.2**	**65.7**	**63.0**	13.4 U	7.01 U	7.01 U	**1,160**	**1,290**	**1,225**
Dissolved Metals				ug/L	ug/L	ug/L			
Aluminum	-	-	-	**13.8 J**	**6.51 J**	**10.2 J**	-	-	-
Antimony	-	-	-	0.333 U	0.333 U	0.333 U	-	-	-
Arsenic	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Cadmium	-	-	-	0.100 U	0.100 U	0.100 U	-	-	-
Chromium	-	-	-	**0.456 J**	**0.511 J**	**0.484 J**	-	-	-
Copper	-	-	-	**1.11 J**	**1.19 J**	**1.15 J**	-	-	-
Lead	-	-	-	0.200 U	0.200 U	0.200 U	-	-	-
Mercury	-	-	-	0.0200 U	0.0200 U	0.0200 U	-	-	-
Nickel	-	-	-	**2.66**	**2.92**	**2.79**	-	-	-
Selenium	-	-	-	**0.578 J**	**0.733 J**	**0.656 J**	-	-	-
Silver	-	-	-	0.100 U	0.100 U	0.100 U	-	-	-
Zinc	-	-	-	1.30 U	**2.42 J**	**2.42 J**	-	-	-
Petroleum Hydrocarbons	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg
Diesel Range Organics	7.24 U	12.0 U	7.24 U	0.0392 U	0.0392 U	0.0392 U	**921**	**557**	**739**
Residual Range Organics	14.5 U	23.9 U	14.5 U	0.0784 U	0.0784 U	0.0784 U	**4,680**	**2,970**	**3,825**
PCDD/F							ng/kg	ng/kg	ng/kg
1,2,3,4,6,7,8-HpCDD	-	-	-	-	-	-	**12,300**	**14,000**	**13,150**
1,2,3,4,6,7,8-HpCDF	-	-	-	-	-	-	**3,560**	**3,810**	**3,685**
1,2,3,4,7,8,9-HpCDF	-	-	-	-	-	-	**309**	**335**	**322**
1,2,3,4,7,8-HxCDD	-	-	-	-	-	-	**145**	**147**	**146**
1,2,3,4,7,8-HxCDF	-	-	-	-	-	-	**164**	**176** EMPC	**170** EMPC
1,2,3,6,7,8-HxCDD	-	-	-	-	-	-	**374**	**422**	**398**
1,2,3,6,7,8-HxCDF	-	-	-	-	-	-	**96.0**	**99.7**	**97.9**
1,2,3,7,8,9-HxCDD	-	-	-	-	-	-	**296**	**320**	**308**
1,2,3,7,8,9-HxCDF	-	-	-	-	-	-	**3.54 J**	**3.17 J**	**3.36 J**
1,2,3,7,8-PeCDD	-	-	-	-	-	-	**65.5**	**69.6**	**67.6**
1,2,3,7,8-PeCDF	-	-	-	-	-	-	**13.5 J**	**13.8 J**	**13.7 J**
2,3,4,6,7,8-HxCDF	-	-	-	-	-	-	**69.9**	**77.6**	**73.8**
2,3,4,7,8-PeCDF	-	-	-	-	-	-	**26.8 J**	**26.5 J**	**26.7 J**
2,3,7,8-TCDD	-	-	-	-	-	-	**10.9**	**13.1**	**12.0**
2,3,7,8-TCDF	-	-	-	-	-	-	**12.6**	**12.8**	**12.7**
OCDD	-	-	-	-	-	-	**131,000**	**148,000**	**139,500**
OCDF	-	-	-	-	-	-	**24,000**	**28,200**	**26,100**
Total PCDD/F	-	-	-	-	-	-	**172,000 JT**	**196,000 JT**	**184,000 JT**
Total TCDD TEQ	-	-	-	-	-	-	**409 JT**	**451 JT**	**430 JT**

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Table 9. Field Duplicate Combination Results
Hawthorne Building - Data Repoort

Sample Type	Direct Push Borings - Soil Samples			Direct Push Borings - Grab Groundwater			Catch Basin Solids Samples		
Station	HB-2	HB-2 DUP	HB-2*	HB-4	HB-4 DUP	HB-4*	CB-2B	CB-2B DUP	CB-2B*
Sample ID	B-2-16.5-17.5	B-5-16.5-17.5	B-2-16.5-17.5	B-4-GW	B-5-GW	B-4-GW	CB-2B-051310	CB-4-051310	CB-2B-051310
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/13/2010	5/13/2010	5/13/2010
Depth Interval (feet bgs)	16.5-17.5	16.5-17.5	16.5-17.5	19-23	19-23	19-23	0.0-0.0	0.0-0.0	0.0-0.0
VOCs				ug/L	ug/L	ug/L			
1,1,1,2-Tetrachloroethane	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
1,1,1-Trichloroethane (TCA)	-	-	-	**1.77**	**1.55**	**1.66**	-	-	-
1,1,2,2-Tetrachloroethane	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
1,1,2-Trichloroethane	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
1,1-Dichloroethane	-	-	-	**2.00**	**1.77**	**1.89**	-	-	-
1,1-Dichloroethene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
1,1-Dichloropropene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
1,2,3-Trichlorobenzene	-	-	-	**7.01**	**5.30**	**6.16**	-	-	-
1,2,3-Trichloropropane	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
1,2,4-Trichlorobenzene	-	-	-	**35.6**	**27.8**	**31.7**	-	-	-
1,2,4-Trimethylbenzene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
1,2-Dibromo-3-chloropropane	-	-	-	2.50 U	2.50 U	2.50 U	-	-	-
1,2-Dibromoethane (EDB)	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
1,2-Dichlorobenzene	-	-	-	**0.620**	**0.450 J**	**0.535 J**	-	-	-
1,2-Dichloroethane (EDC)	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
1,2-Dichloropropane	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
1,3,5-Trimethylbenzene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
1,3-Dichlorobenzene	-	-	-	**1.61**	**1.18**	**1.40**	-	-	-
1,3-Dichloropropane	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
1,4-Dichlorobenzene	-	-	-	**3.11**	1.39 U	**3.11**	-	-	-
2,2-Dichloropropane	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
2-Butanone (MEK)	-	-	-	5.00 U	5.00 U	5.00 U	-	-	-
2-Chlorotoluene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
2-Hexanone	-	-	-	5.00 U	5.00 U	5.00 U	-	-	-
4-Chlorotoluene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
4-Isopropyltoluene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
4-Methyl-2-pentanone (MIBK)	-	-	-	5.00 U	5.00 U	5.00 U	-	-	-
Acetone	-	-	-	10.0 U	10.0 U	10.0 U	-	-	-
Acrylonitrile	-	-	-	1.00 U	1.00 U	1.00 U	-	-	-
Benzene	-	-	-	0.125 U	0.125 U	0.125 U	-	-	-
Bromobenzene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Bromochloromethane	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Bromodichloromethane	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Bromoform	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Bromomethane	-	-	-	5.00 U	5.00 U	5.00 U	-	-	-
Carbon Disulfide	-	-	-	5.00 U	5.00 U	5.00 U	-	-	-
Carbon Tetrachloride	-	-	-	0.650 U	0.500 U	0.500 U	-	-	-
Chlorobenzene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Chloroethane	-	-	-	5.00 U	5.00 U	5.00 U	-	-	-
Chloroform	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Chloromethane	-	-	-	2.50 U	2.50 U	2.50 U	-	-	-
cis-1,2-Dichloroethene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
cis-1,3-Dichloropropene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Dibromochloromethane	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Dibromomethane	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Dichlorodifluoromethane	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Dichloromethane	-	-	-	2.50 U	2.50 U	2.50 U	-	-	-
Ethylbenzene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Hexachlorobutadiene	-	-	-	1.00 U	1.00 U	1.00 U	-	-	-
Iodomethane	-	-	-	10.0 U	10.0 U	10.0 U	-	-	-
Isopropylbenzene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
m,p-Xylenes	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Methyl tert-butyl ether	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Naphthalene	-	-	-	1.00 U	1.00 U	1.00 U	-	-	-
n-Butylbenzene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
n-Propylbenzene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
o-Xylene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
sec-Butylbenzene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Styrene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
tert-Butylbenzene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Tetrachloroethene (PCE)	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-

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Table 9. Field Duplicate Combination Results
Hawthorne Building - Data Repoort

Sample Type	Direct Push Borings - Soil Samples			Direct Push Borings - Grab Groundwater			Catch Basin Solids Samples		
Station	HB-2	HB-2 DUP	HB-2*	HB-4	HB-4 DUP	HB-4*	CB-2B	CB-2B DUP	CB-2B*
Sample ID	B-2-16.5-17.5	B-5-16.5-17.5	B-2-16.5-17.5	B-4-GW	B-5-GW	B-4-GW	CB-2B-051310	CB-4-051310	CB-2B-051310
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/13/2010	5/13/2010	5/13/2010
Depth Interval (feet bgs)	16.5-17.5	16.5-17.5	16.5-17.5	19-23	19-23	19-23	0.0-0.0	0.0-0.0	0.0-0.0
VOCs (Continued)				ug/L	ug/L	ug/L			
Toluene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
trans-1,2-Dichloroethene	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
trans-1,3-Dichloropropene	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Trichloroethene (TCE)	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
Trichlorofluoromethane	-	-	-	0.500 U	0.500 U	0.500 U	-	-	-
Vinyl Acetate	-	-	-	5.00 U	5.00 U	5.00 U	-	-	-
Vinyl Chloride	-	-	-	0.250 U	0.250 U	0.250 U	-	-	-
PAHs	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg
1-Methylnaphthalene[1]	0.0113 U	0.00904 U	0.00904 U	0.0392 U	0.0377 U	0.0377 U	0.204 U	0.513 U	0.204 U
2-Chloronaphthalene[1]	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	0.204 U	0.513 U	0.204 U
Benzo(e)pyrene[1]	0.0225 UJ	0.0181 UJ	0.0181 UJ	0.0392 UJ	0.0377 UJ	0.0377 UJ	**2.35 J**	**3.31 J**	**2.83 J**
Carbazole[1]	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	0.204 U	0.513 U	0.204 U
Dibenzofuran[1]	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	0.204 U	0.513 U	0.204 U
Perylene[1]	0.0225 UJ	0.0181 UJ	0.0181 UJ	0.0392 UJ	0.0377 UJ	0.0377 UJ	**0.704 J**	**1.20 J**	**0.952 J**
HPAHs (LWG Conv.)									
Benzo(a)anthracene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**1.13**	**1.74**	**1.44**
Benzo(a)pyrene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**1.69**	**2.82**	**2.26**
Benzo(b)fluoranthene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**3.10**	**4.33**	**3.72**
Benzo(g,h,i)perylene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**1.87**	**2.89**	**2.38**
Benzo(k)fluoranthene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**0.893**	**1.48**	**1.19**
Chrysene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**2.27**	**3.25**	**2.76**
Dibenz(a,h)anthracene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**0.426**	**0.641 J**	**0.534 J**
Fluoranthene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**2.42**	**3.63**	**3.03**
Indeno(1,2,3-cd)pyrene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**1.67**	**2.63**	**2.15**
Pyrene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**2.34**	**3.48**	**2.91**
Total HPAHs (LWG Conv.)	0.0113 UT	0.00904 UT	0.00904 JT	0.0196 UT	0.0189 UT	0.0189 UT	**17.8 T**	**26.9 JT**	**22.4 JT**
LPAHs (LWG Conv.)									
2-Methylnaphthalene	0.0113 U	0.00904 U	0.00904 U	0.0392 U	0.0377 U	0.0377 U	0.204 U	0.513 U	0.204 U
Acenaphthene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	0.204 U	0.513 U	0.204 U
Acenaphthylene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	0.204 U	0.513 U	0.204 U
Anthracene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**0.252 J**	0.513 U	**0.252 J**
Fluorene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	0.204 U	0.513 U	0.204 U
Naphthalene	0.0113 U	0.00904 U	0.00904 U	0.0392 U	0.0377 U	0.0377 U	0.204 U	0.513 U	0.204 U
Phenanthrene	0.0113 U	0.00904 U	0.00904 U	0.0196 U	0.0189 U	0.0189 U	**1.12**	**1.54**	**1.33**
Total LPAHs (LWG Conv.)	0.0113 UT	0.00904 UT	0.00904 JT	0.0392 UT	0.0377 UT	0.0377 UT	**1.37 JT**	**1.54 T**	**1.46 JT**
Total PAHs (LWG Conv.)	0.0113 UT	0.00904 UT	0.00904 JT	0.0392 UT	0.0377 UT	0.0377 UT	**19.2 JT**	**28.4 JT**	**23.8 JT**
SVOCs	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg
1,2,4-Trichlorobenzene	0.281 U	0.226 U	0.226 U	**6.95**	**6.97**	**6.96**	5.10 U	12.8 U	5.10 U
1,2-Dichlorobenzene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
1,2-Dinitrobenzene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
1,3-Dichlorobenzene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
1,3-Dinitrobenzene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
1,4-Dichlorobenzene	**0.553 J**	**0.279 J**	**0.416 J**	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
1,4-Dinitrobenzene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,3,4,6-Tetrachlorophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,3,5,6-Tetrachlorophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,4,5-Trichlorophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,4,6-Trichlorophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,4-Dichlorophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,4-Dimethylphenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,4-Dinitrophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,4-Dinitrotoluene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2,6-Dinitrotoluene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2-Chlorophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2-Methylphenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
2-Nitroaniline	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
2-Nitrophenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
3-&4-Methylphenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
3-Nitroaniline	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
4,6-Dinitro-2-methylphenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U

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Table 9. Field Duplicate Combination Results
Hawthorne Building - Data Repoort

Sample Type	Direct Push Borings - Soil Samples			Direct Push Borings - Grab Groundwater			Catch Basin Solids Samples		
Station	HB-2	HB-2 DUP	HB-2*	HB-4	HB-4 DUP	HB-4*	CB-2B	CB-2B DUP	CB-2B*
Sample ID	B-2-16.5-17.5	B-5-16.5-17.5	B-2-16.5-17.5	B-4-GW	B-5-GW	B-4-GW	CB-2B-051310	CB-4-051310	CB-2B-051310
Sample Date	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/4/2010	5/13/2010	5/13/2010	5/13/2010
Depth Interval (feet bgs)	16.5-17.5	16.5-17.5	16.5-17.5	19-23	19-23	19-23	0.0-0.0	0.0-0.0	0.0-0.0
SVOCs (Continued)	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg
4-Bromophenyl Phenyl Ether	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
4-Chloro-3-methylphenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
4-Chloroaniline	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
4-Chlorophenyl Phenyl Ether	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
4-Nitroaniline	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
4-Nitrophenol	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
Aniline	0.281 U	0.226 U	0.226 U	R	R	R	5.10 U	12.8 U	5.10 U
Azobenzene (1,2-DPH)	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Benzoic Acid	2.81 U	2.26 U	2.26 U	0.980 U	0.943 U	0.943 U	51.0 U	128 U	51.0 U
Benzyl Alcohol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Bis(2-chloroethoxy)methane	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Bis(2-chloroethyl) Ether	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Bis(2-chloroiscpropyl) Ether	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Bis(2-Ethylhexyl) adipate	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Bis(2-ethylhexyl) Phthalate	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	**31.1**	**33.6**	**32.4**
Butyl Benzyl Phthalate	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
Diethyl Phthalate	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
Dimethyl Phthalate	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
Di-n-butyl Phthalate	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
Di-n-octyl Phthalate	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
Hexachlorobenzene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Hexachlorobutadiene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Hexachlorocyclopentadiene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Hexachloroethane	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Isophorone	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Nitrobenzene	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
N-Nitrosodimethylamine	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
N-Nitrosodi-n-propylamine	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
N-Nitrosodiphenylamine	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Pentachlorophenol	0.281 U	0.226 U	0.226 U	0.980 U	0.943 U	0.943 U	5.10 U	12.8 U	5.10 U
Phenol	0.281 U	0.226 U	0.226 U	0.490 U	0.472 U	0.472 U	5.10 U	12.8 U	5.10 U
Pyridine	0.563 UJ	0.452 U	0.452 UJ	R	R	R	10.2 UJ	25.7 UJ	10.2 UJ
Solids	%	%	%				%	%	%
Solids, Total	**74.6**	**69.9**	**72.3**	-	-	-	**50.1**	**51.5**	**50.8**

Notes:
Highlighted results exceed one or more SLVs
* = Result shown is the average of the primary sample and the field duplicate
DUP = field duplicate sample
J = The associated numerical value is an estimated quantity.
LWG = Lower Willamette Group
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ng/kg = nanograms per kilogram
PAHs = polycyclic aromatic hydrocarbons
PCDD/F = polychlorinated dibenzo-p-dioxins and furans
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
T = The associated numerical value is a sum of multiple results for a class of analytes or the combination of primary and field duplicate results.
TEQ = toxic equivalency quotient
SVOCs = semivolatile organic compounds
ug/l = micrograms per liter
U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
UJ = The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
VOCs = volatile organic compounds
[1] = This PAH is not included in the PAH summation.

PGE0095199

CITY OF PORTLAND
ENVIRONMENTAL SERVICES
1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204 ▪ Dan Saltzman, Commissioner ▪ Dean Marriott, Director

TRANSMITTAL FORM

To: **Tom Gainer**
Oregon Dept. of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987

From: **Dawn Sanders** DS
City of Portland BES
1120 SW Fifth Ave., Rm 1000
Portland, OR 97204-1912

Date: August 10, 2011

Re: PGE Hawthorne Building

We Are Sending You:

x	Attached	Under separate cover via	
	Shop Drawings	Documents	Tracings
	Prints	Specifications	Catalogs
	Copy of letter	Other:	

Quantity	Description
1	Field and Data Report titled "May 12, 2011 Field Sampling Work at PGE Hawthorne Site"

Copy to: Jayne Allen/PGE
David Weatherby/URS

Tom, I'm sending you the report summarizing May 2011 samping and data collected by BES Pretreatment and Industrial Stormwater staff. Let me know if you have any questions.

Field Sampling and Data Report

TO:	Jerry Baumgartner Michael Pronold Miguel Santana
FROM:	Tim Dean
COPIES:	Mike Hauser Dawn Sanders
DATE:	June 3, 2011
SUBJECT:	May 12, 2011 Field Sampling Work at PGE Hawthorne Site

Introduction

In January 2011, Pollution Prevention staff inspected the PGE Hawthorne Building site (1510 SE Water Avenue). In March 2011, dye tests were conducted to determine the locations of site sanitary and stormwater connections to the City's systems. Results of the inspections were documented in a memorandum dated April 4, 2011. Based on the results of the dye tests and in light of previous PGE reports documenting PCBs in the sanitary sump and in stormwater catch basins, the City determined that sampling should be conducted to evaluate current discharges. This memorandum documents the field activities and summarizes the results of the onsite sanitary and stormwater samples.

Field Activities

The afternoon of May 12, 2011 was scheduled for taking samples from three points on the PGE-Hawthorne Site. Two of the samples were from stormwater catch basins (CB-1 & CB-3) and the third from the sanitary Sump-A. Solid sample composites were to be taken from all three points and one water grab sample was to be taken from Sump-A. All of the sampling equipment and sample containers were cleaned per SOP 7.01a. The liquid level in the catch basins was presumed to be low enough that sampling through the little bit of water just covering the entrained sediments would not cause issues. The field crew had dealt with the similar sampling issues on other sites and was confident that they could get a good, representative sample of the sediment through a shallow water layer without the water causing any sampling bias.

Attachments 1 and 2 provide the field sampling photographs and field sampling notes, respectively. The logistics of sampling in the back parking lot area and at the locations of CB-1 & CB-3 were reviewed with the field crew. All of the catch basins on-site had filter inserts installed that had collected a fair amount of sediment and debris. As seen in the attached pictures of CB-1, this included leaves, styrofoam bits, rocks and sediment. As seen in the attached pictures of CB-3, only sediment had built up around the surface of the catch basin grate as well as on the insert itself. The water level was not observed above the bottom of the inserts.

The first point sampled was CB-3 because the PGE service truck that was usually parked over the catch basin had to be moved out of the way for sampling. The catch basin grate had a fair amount of sediment built-up around its perimeter (see the attached pictures of CB-3 sampling) and had a catch basin filter insert installed beneath it. The catch basin was not a standard catch

All samples were placed on ice in a cooler as soon as they were in the containers. All field observations were written up and Chain of Custodies done by Peter Bryant. All Photos were taken by Tim Dean. Samples were submitted to the BES WPCL for analysis of PCB aroclors.

Summary of Results

Results of the catch basin and sump samples are provided in the table below. The analytical laboratory reports are provided in Attachment 3.

Location	CB-1	CB-3	Sump A	Sump A
Matrix	Solids	Solids	Solids	Water
Unit	µg/kg	µg/kg	µg/kg	µg/L
Aroclor 1016/1242	<10	<32.3	<13100	<0.025
Aroclor 1221	<20	<64.5	<26200	<0.05
Aroclor 1232	<10	<32.3	<13100	<0.025
Aroclor 1248	<10	<32.3	<13100	<0.025
Aroclor 1254	<10	<32.3	<13100	<0.025
Aroclor 1260	**26.5**	**107**	**38,600**	**0.228**
Aroclor 1262	<10	<32.3	<13100	<0.025
Aroclor 1268	<10	<32.3	<13100	<0.025

Only aroclor 1260 was above reporting limits for all 4 samples. Reporting limits for the Sump A solids were significantly elevated due to the high level of target analytes. The 1260 Aroclor level seen in the Sump-A solids required significant dilution (400:1) to be within the calibrated range of the instrumentation.

Attachment 1

Field Sampling Photographs

<u>List of Photographs</u>

CB-3: Before Sampling

CB-3: After Grate and Insert Removed

CB-3: Pumping out Standing Water

CB-3: Residual Water though which Sediment was Collected

CB-3: Sediment Composite

CB-1: Before Sampling

CB-1: After Grate and Insert Removed (facing SE Clay Street)

CB-1: View of Sediment in Pipe Presumed to be from CB-2

CB-1: View of Sediment in Outlet to SE Clay Street

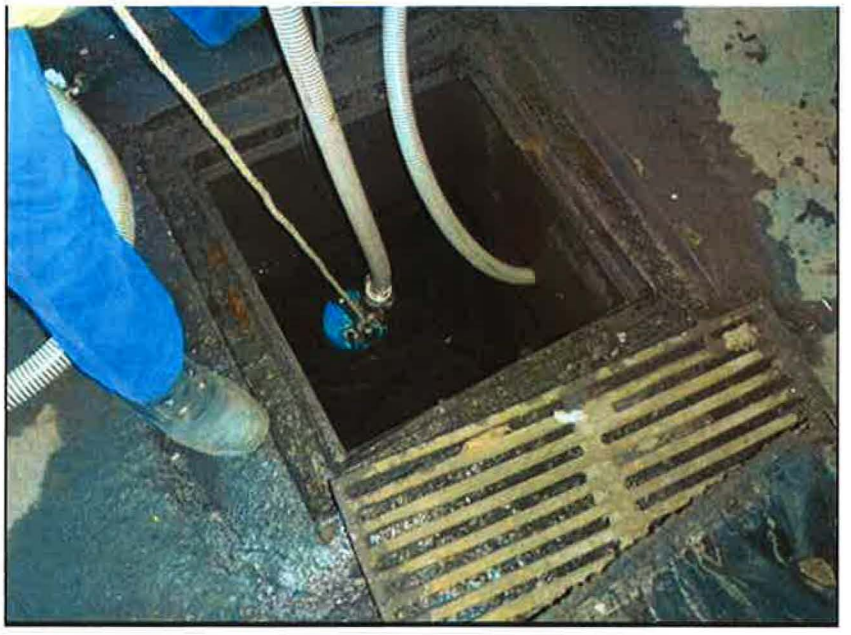
CB-1: Removal of Rocks, Leaves, and Debris

CB-1: Sediment Composite

Sump-A: Before Water or Sediment Sampling

Sump-A: Taking Water Sample

Sump-A: Sediment Composite



CB-3: Pumping out Standing Water

CB-3: Residual Waters through which Sediment was Collected

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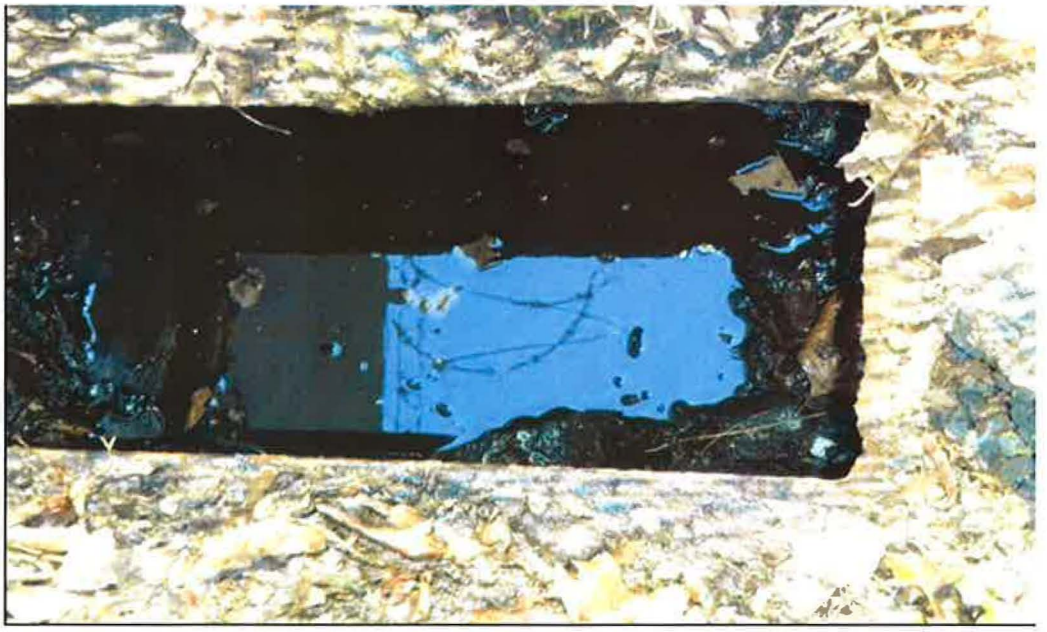
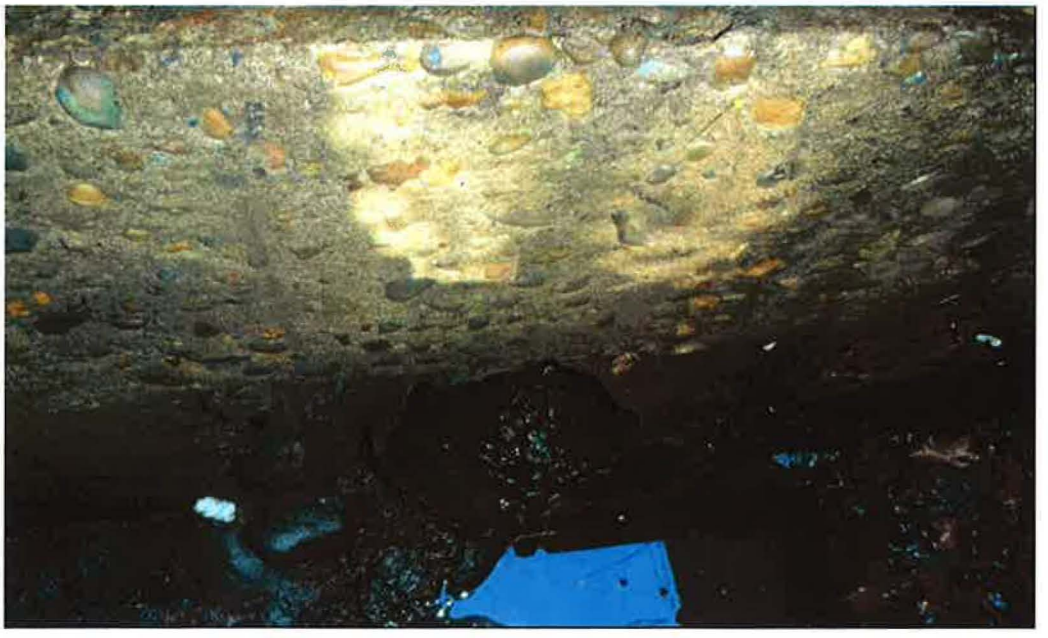


CB-1: After Grate and Insert Removed (facing SE Clay Street)



CB-1: View of Sediment in Pipe Presumed to be from CB-2

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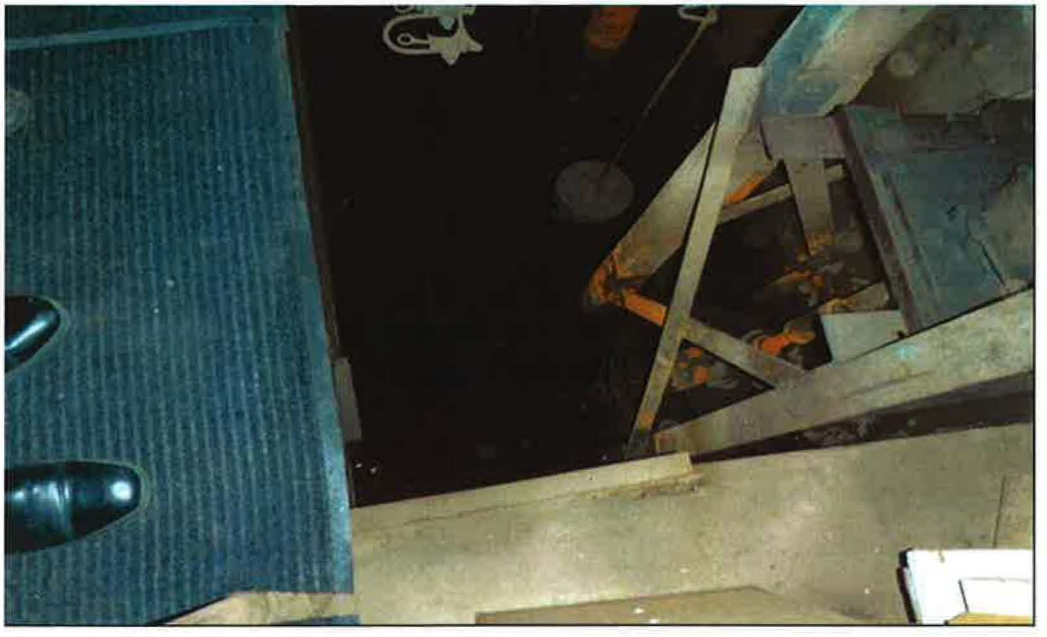
CB-1: Sediment Composite



Sump-A: Before Water or Sediments Sampling

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Attachment 2

Field Sampling Documentation

CITY OF PORTLAND

ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory
6543 N. Burlington Ave.,
Portland, OR 97203-5452

CATCH BASIN SOLIDS SAMPLING FIELD DATA SHEET

Project Name: PGE-Hawthorne Stormwater		Sample ID: W11E109_01	
Sampling Team:	Date: 5/12/11	Arrival Time: 1322	Point Code: CB-1
Basin: 33	Node: CB-1	Address: PGE Hawthorne building lot	
Current weather: Sunny			
Date and time of last known rainfall: Yesterday afternoon 0.33in. from 2pm-6pm 5/11/11			

SECTION 1 - PRE-SAMPLING VISUAL OBSERVATION REPORT

Indicate observed erodible solids or adjacent operations that could impact catch basin:
- ☐ Construction Activities
- ☒ Materials Storage
- ☐ On-site Processes _____
- ☒ Erosion
- ☒ Heavy Truck Traffic
- ☐ Other _____

Percent of catch basin grate clogged = 0 %

Type of debris clogging catch basin grate:
- ☐ Fine Seds
- ☐ Wood
- ☐ Plastic
- ☐ Gravel
- ☐ Leaf debris
- ☒ Other Filter Fabric w/ styrofoam

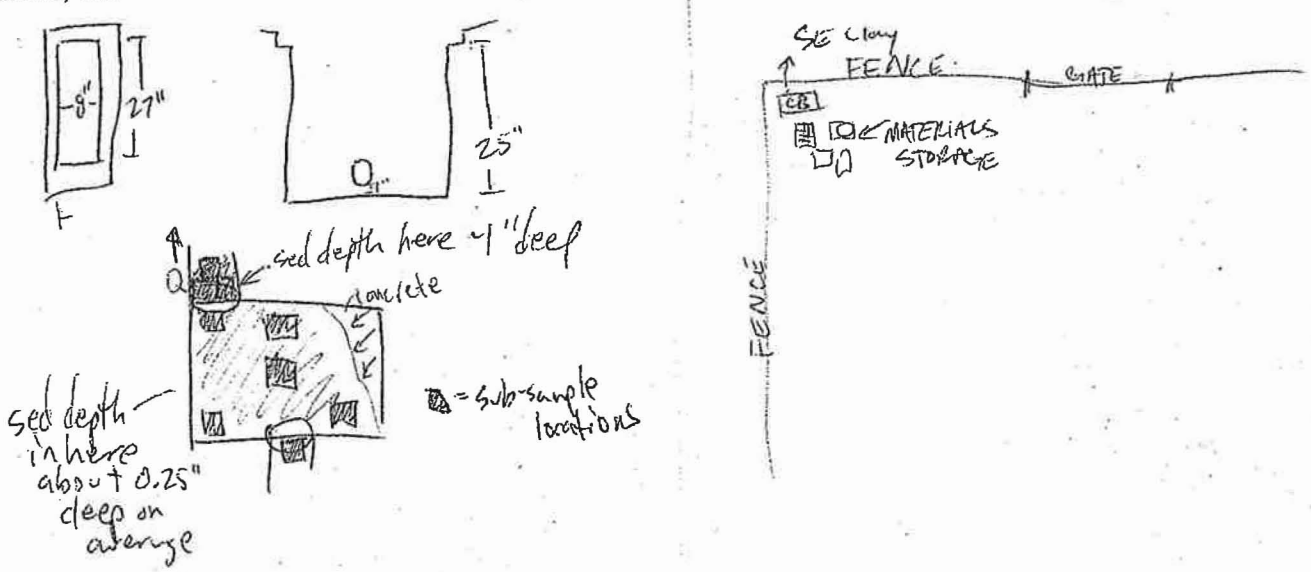
Is there standing water in catch basin? ☒ Yes ☐ No

Depth of standing water, if present = 2 in

Note visual or olfactory observations
- ☐ Plastics
- ☐ Oily Sheen/Discolored Sediment
- ☒ Organics
- ☐ Metals
- ☐ Paper
- ☐ Cigarette butts
- ☐ Hydrocarbon odor
- ☐ Solvent odor
- ☐ Other: _____

Total depth of catch basin = 25 in | Average sediment depth = 0.4 in | Sed depth range = 0.1 in to 1 in

SITE DIAGRAM: Include street intersections, inlets and outlets, catch basin dimensions, sediment depth detail, subsample locations, etc.



CITY OF PORTLAND

ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory
6543 N. Burlington Ave.,
Portland, OR 97203-5452

CATCH BASIN SOLIDS SAMPLING FIELD DATA SHEET

Project Name: PGE-Hawthorne Stormwater		Sample ID: WIIE109_02	
Sampling Team: PHA, PTB	Date: 5/12/11	Arrival Time: PM 1255	Point Code: CB-3
Basin: 33	Node: CB-3	Address: PGE Hawthorne building lot	
Current weather: Sunny			
Date and time of last known rainfall: Yesterday afternoon 0.33in. from 2pm-6pm 5/11/11			

SECTION 1 - PRE-SAMPLING VISUAL OBSERVATION REPORT

Indicate observed erodible solids or adjacent operations that could impact catch basin:
- ☐ Construction Activities
- ☐ Erosion
- ☒ Materials Storage
- ☒ Heavy Truck Traffic
- ☐ On-site Processes _____
- ☐ Other _____

Percent of catch basin grate clogged = NA %

Type of debris clogging catch basin grate:
- ☐ Fine Seds
- ☐ Plastic
- ☐ Leaf debris
- ☐ Wood
- ☐ Gravel
- ☒ Other CB fabric

Is there standing water in catch basin? ☒ Yes ☐ No

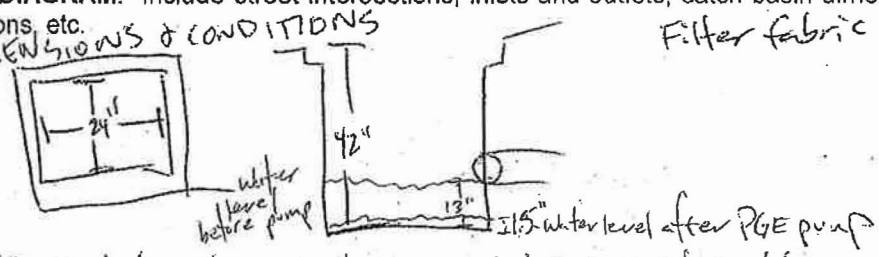
Depth of standing water, if present = 13 in

Note visual or olfactory observations
- ☐ Plastics
- ☐ Oily Sheen/Discolored Sediment
- ☐ Organics
- ☐ Metals
- ☐ Paper
- ☐ Cigarette butts
- ☐ Hydrocarbon odor
- ☐ Solvent odor
- ☐ Other: _____

Total depth of catch basin = 42 in | Average sediment depth = 0.5 in | Sed depth range = 0.25 in to 0.5 in

SITE DIAGRAM: Include street intersections, inlets and outlets, catch basin dimensions, sediment depth detail, subsample locations, etc.

DIMENSIONS & CONDITIONS

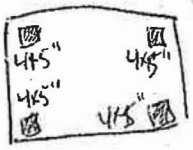


Filter fabric in place.

*CB located under shed in back lot behind building with storage and truck parking within shed.

SAMPLE LOCATIONS

All depths approx. 0.5"



Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
Sample Custodian: (503) 823-5696
General Lab: (503) 823-5681

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/12/11

Work Order #: W11E110

Collected By: PHA, PTB

Client Name: Industrial Wastewater Source Control

Project Number (if applicable):

Project Name: PGE-Hawthorne Wastewater

Project Contact: Mike Hauser

Requested Analyses

Special Instructions:

Turn-Around-Time Request:

- ☐ Standard (10 business days)
- ☐ Rush (5 business days)
- ☐ Other: _____

Lab Number	Location ID	Sample Date	Sample Time	Grab or Comp	Sample Matrix	PCB Aroclors (Low-level)	# of Containers	Remarks
01	PGE-Hawthorne Sump A	5/12/11	1342	G	W	●	2	Water sample from Sump A Southwest corner of basement
02	PGE-Hawthorne Sump A	5/12/11	1355	C	S	●	2	Solid sample from Sump A Southwest corner of basement

Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: [signature] Date: 5/12/11	Signature: Date:	Signature: Date:	Signature: Date:
Printed Name: Peter Bryant Time: 1740	Printed Name: Time:	Printed Name: Time:	Printed Name: Time:

Date: 5/12/11	SECTION 2 - SAMPLE COLLECTION REPORT	Node: Sump A	Point Code: Sump A

Sampling Equipment: ☒ Stainless steel utensil & stainless steel receptacle ☐ Other (describe)

Equipment decontamination procedure: ☒ Per SOP7.01a ☐ Deviations (describe)

Sample Date:	Sample Time:	Sample Identification Code (IL-XX-NNNNNN-mmyy)
5/12/11	1355	NA

Sample collection technique: ☐ Per 2003 CH2M Hill SOP – Guidance for Sampling of Catch Basin Solids

☒ Per SOP5.01e ☐ Deviations (describe below)

Visual or olfactory evidence of contamination in composite sample	☒ Odor Hydrocarbons ☐ Sheen _____ ☐ Discoloration _____	Color of sample	☒ Brown ☐ Grey ☐ Other (describe) _____

Sample composition/particle size distribution (estimated percentages): Silt/Clay 95 Sand 5 Fine Gravel ____ Coarse Gravel ____ Debris ____ Decomposed Organics _____ Other (describe)_____

If present, type of debris in sample	☐ Wood ☐ Large rocks ☐ Metal ☐ Plastic ☐ Organics ☐ Paper	Removed debris?	☐ Yes (Type & Amount) _____ ☐ No

Compositing notes ☒ Per SOP5.01e ☐ Deviations (describe)

Sample jars collected (number, size, full or partial)? 2 full 4 oz. jars

If not enough sample to fill all of the jars, list jars collected and related analytes sampled (as per analyte priority list in work order).

Jar Size	Amount Full	Target Analyses

W11E110-02
PGE-Hawthorne Wastewater
Sump A - solid
Sampled: 05/12/11 13:55
Field Data Sheet

Duplicate sample collected? Y/N

Duplicate sample identification # on COC:

SECTION 3 - PHOTOGRAPH LOG

Overview of CB showing drainage area	Filename(s):
Catch basin plan view prior to sampling showing solids	Filename: Y
Pipe connections to/from CB	Filename(s): Y
Homogenized sample (sediment in bowl)	Filename: Y

Attachment 3

Analytical Laboratory Reports

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

Project:	**PGE-Hawthorne Stormwater**	Client:	Industrial Stormwater Source Control
Work Order:	**W11E109**	Project Mgr:	Tim Dean

Polychlorinated Biphenyls (PCBs)

PCB Aroclors by GC-ECD

CB-3 : W11E109-02 — N

Analyte	Result	Units	MRL	Dilution	Batch	Prepared	Analyzed	Method	Qualifier
Aroclor 1232	ND	ug/kg dry	32.3	1	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1248	ND	ug/kg dry	32.3	1	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1254	ND	ug/kg dry	32.3	1	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1260	**107**	ug/kg dry	32.3	1	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1262	ND	ug/kg dry	32.3	1	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1268	ND	ug/kg dry	32.3	1	B11E288	05/17/11	05/19/11	EPA 8082	

Surrogate	*Result*	*Expected*	*%Rec*	*Limits(%)*				
Tetrachloro-m-xylene	*22.9*	*30.9*	*74%*	*62.5-132*	*B11E288*	*05/17/11*	*05/19/11*	*EPA 8082*
Decachlorobiphenyl	*28.2*	*30.9*	*91%*	*43.5-150*	*B11E288*	*05/17/11*	*05/19/11*	*EPA 8082*

Reported: 05/24/11 11:31

The results in this report apply only to the samples analyzed. Qualifiers and case narrative comments are essential to interpretation of the analytical results. Report reproductions and/or data summaries without qualifiers and comments are incomplete.

Renee Chauvin, Laboratory Coordinator QA/QC

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

Project:	**PGE-Hawthorne Stormwater**	Client:	Industrial Stormwater Source Control
Work Order:	**W11E109**	Project Mgr:	Tim Dean

Polychlorinated Biphenyls (PCBs) - QC

Analyte	Result	Units	MRL	Spike Level	Source Result	%Rec (Limits)	RPD (Limit)	Prepared: Analyzed	Qualifier
PCB Aroclors by GC-ECD - Batch B11E288									
Matrix Spike Dup (B11E288-MSD1)			**Source: W11E113-02**						
Surrogate									
Decachlorobiphenyl	*11.0*		ug/kg dry	*14.7*		*75 (43.5-150)*		05/17/11 :05/19/11	

Qualifiers

N	Refer to case narrative.
Z0	High surrogate recovery is due to sample matrix interference.

Definitions

DET	Analyte Detected	ND	Analyte Not Detected at or above the reporting limit
MRL	Method Reporting Limit	MDL	Method Detection Limit
NR	Not Reportable	dry	Sample results reported on a dry weight basis
% Rec.	Percent Recovery	RPD	Relative Percent Difference

Reported: 05/24/11 11:31

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Renee Chauvin, Laboratory Coordinator QA/QC

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Project:	**PGE-Hawthorne Wastewater**	Client:	Industrial Wastewater Source Control
Work Order:	**W11E110**	Project Mgr:	Michael Hauser
Received:	5/12/11 14:40	WQDB #:	Janus689
Submitted By:	Field Operations		

Sample	Laboratory ID	Matrix	Type	Sample Collection Date Start	End	Qualifier
Sump A - water	W11E110-01	Misc Liquid	Grab	05/12/11 13:42	05/12/11 13:42	
Sump A - solid	W11E110-02	Misc Solid	Composite	05/12/11 13:55	05/12/11 13:55	

Analyte	Result	Units	MRL	Dilution	Batch	Prepared	Analyzed	Method	Qualifier
General Chemistry									
Total Solids									
Sump A - solid : W11E110-02									
Total solids	**38.1**	% W/W	0.01		B11E300	05/17/11	05/18/11	SM 2540G	
Polychlorinated Biphenyls (PCBs)									
PCB Aroclors by GC-ECD									
Sump A - water : W11E110-01									
Aroclor 1016/1242	ND	ug/L	0.0250	1	B11E231	05/13/11	05/18/11	EPA 8082	
Aroclor 1221	ND	ug/L	0.0500	1	B11E231	05/13/11	05/18/11	EPA 8082	
Aroclor 1232	ND	ug/L	0.0250	1	B11E231	05/13/11	05/18/11	EPA 8082	
Aroclor 1248	ND	ug/L	0.0250	1	B11E231	05/13/11	05/18/11	EPA 8082	
Aroclor 1254	ND	ug/L	0.0250	1	B11E231	05/13/11	05/18/11	EPA 8082	
Aroclor 1260	**0.228**	ug/L	0.0250	1	B11E231	05/13/11	05/18/11	EPA 8082	
Aroclor 1262	ND	ug/L	0.0250	1	B11E231	05/13/11	05/18/11	EPA 8082	
Aroclor 1268	ND	ug/L	0.0250	1	B11E231	05/13/11	05/18/11	EPA 8082	
Surrogate	***Result***	***Expected***	***%Rec***	***Limits(%)***					
Tetrachloro-m-xylene	*0.0282*	*0.0513*	*55%*	*41-107.6*	*B11E231*	*05/13/11*	*05/18/11*	*EPA 8082*	
Decachlorobiphenyl	*0.0362*	*0.0513*	*71%*	*8.3-153*	*B11E231*	*05/13/11*	*05/18/11*	*EPA 8082*	
Sump A - solid : W11E110-02									D2
Aroclor 1016/1242	ND	ug/kg dry	13100	500	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1221	ND	ug/kg dry	26200	500	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1232	ND	ug/kg dry	13100	500	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1248	ND	ug/kg dry	13100	500	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1254	ND	ug/kg dry	13100	500	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1260	**38600**	ug/kg dry	13100	500	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1262	ND	ug/kg dry	13100	500	B11E288	05/17/11	05/19/11	EPA 8082	
Aroclor 1268	ND	ug/kg dry	13100	500	B11E288	05/17/11	05/19/11	EPA 8082	
Surrogate	***Result***	***Expected***	***%Rec***	***Limits(%)***					
Tetrachloro-m-xylene	*NR*	*25.9*	*%*	*62.5-132*	*B11E288*	*05/17/11*	*05/19/11*	*EPA 8082*	*SU5*
Decachlorobiphenyl	*NR*	*25.9*	*%*	*43.5-150*	*B11E288*	*05/17/11*	*05/19/11*	*EPA 8082*	*SU5*

Reported: 05/24/11 11:26

The results in this report apply only to the samples analyzed. Qualifiers and case narrative comments are essential to interpretation of the analytical results. Report reproductions and/or data summaries without qualifiers and comments are incomplete.

Renee Chauvin, Laboratory Coordinator QA/QC

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

Project:	**PGE-Hawthorne Wastewater**	Client:	Industrial Wastewater Source Control
Work Order:	**W11E110**	Project Mgr:	Michael Hauser

Polychlorinated Biphenyls (PCBs) - QC

Analyte	Result	Units	MRL	Spike Level	Source Result	%Rec (Limits)	RPD (Limit)	Prepared: Analyzed	Qualifier
PCB Aroclors by GC-ECD - Batch B11E231									
Duplicate (B11E231-DUP1)			**Source: W11E065-05**						
Aroclor 1248	ND	ug/L	0.125		ND		(20)	05/13/11 :05/18/11	
Aroclor 1254	ND	ug/L	0.125		ND		(20)	05/13/11 :05/18/11	
Aroclor 1260	**2.866**	ug/L	0.125		2.498		14 (20)	05/13/11 :05/18/11	
Aroclor 1262	ND	ug/L	0.125		ND		(20)	05/13/11 :05/18/11	
Aroclor 1268	ND	ug/L	0.125		ND		(20)	05/13/11 :05/18/11	
Surrogate									
Tetrachloro-m-xylene	*0.0554*		ug/L	*0.100*		55		05/13/11 :05/18/11	
Decachlorobiphenyl	*0.120*		ug/L	*0.100*		120		05/13/11 :05/18/11	
PCB Aroclors by GC-ECD - Batch B11E288									
Blank (B11E288-BLK1)									
Aroclor 1016/1242	ND	ug/kg wet	10.0					05/17/11 :05/19/11	
Aroclor 1221	ND	ug/kg wet	20.0					05/17/11 :05/19/11	
Aroclor 1232	ND	ug/kg wet	10.0					05/17/11 :05/19/11	
Aroclor 1248	ND	ug/kg wet	10.0					05/17/11 :05/19/11	
Aroclor 1254	ND	ug/kg wet	10.0					05/17/11 :05/19/11	
Aroclor 1260	ND	ug/kg wet	10.0					05/17/11 :05/19/11	
Aroclor 1262	ND	ug/kg wet	10.0					05/17/11 :05/19/11	
Aroclor 1268	ND	ug/kg wet	10.0					05/17/11 :05/19/11	
Surrogate									
Tetrachloro-m-xylene	*9.97*		ug/kg wet	*10.0*		100		05/17/11 :05/19/11	
Decachlorobiphenyl	*13.2*		ug/kg wet	*10.0*		132		05/17/11 :05/19/11	
LCS (B11E288-BS1)									
Aroclor 1016/1242	**95.49**	ug/kg wet	10.0	100		95 *(80-120)*		05/17/11 :05/19/11	
Aroclor 1260	**102.1**	ug/kg wet	10.0	100		102 *(65-133)*		05/17/11 :05/19/11	
Surrogate									
Tetrachloro-m-xylene	*9.16*		ug/kg wet	*10.0*		92 *(62.5-132)*		05/17/11 :05/19/11	
Decachlorobiphenyl	*14.1*		ug/kg wet	*10.0*		141 *(43.5-150)*		05/17/11 :05/19/11	
Matrix Spike (B11E288-MS1)			**Source: W11E113-02**						
Aroclor 1016/1242	**131.4**	ug/kg dry	10.0	147	ND	89 *(55.2-135.4)*		05/17/11 :05/19/11	
Aroclor 1260	**121.2**	ug/kg dry	10.0	147	ND	83 *(19.6-166.5)*		05/17/11 :05/19/11	
Surrogate									
Tetrachloro-m-xylene	*13.2*		ug/kg dry	*14.7*		90 *(62.5-132)*		05/17/11 :05/19/11	
Decachlorobiphenyl	*13.4*		ug/kg dry	*14.7*		91 *(43.5-150)*		05/17/11 :05/19/11	
Matrix Spike Dup (B11E288-MSD1)			**Source: W11E113-02**						
Aroclor 1016/1242	**122.9**	ug/kg dry	10.0	147	ND	84 *(55.2-135.4)*	7 *(20)*	05/17/11 :05/19/11	
Aroclor 1260	**100.0**	ug/kg dry	10.0	147	ND	68 *(19.6-166.5)*	19 *(20)*	05/17/11 :05/19/11	
Surrogate									
Tetrachloro-m-xylene	*11.7*		ug/kg dry	*14.7*		80 *(62.5-132)*		05/17/11 :05/19/11	
Decachlorobiphenyl	*11.0*		ug/kg dry	*14.7*		75 *(43.5-150)*		05/17/11 :05/19/11	

Reported: 05/24/11 11:26

The results in this report apply only to the samples analyzed. Qualifiers and case narrative comments are essential to interpretation of the analytical results. Report reproductions and/or data summaries without qualifiers and comments are incomplete.

Renee Chauvin, Laboratory Coordinator QA/QC

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
Sample Custodian: (503) 823-5696
General Lab: (503) 823-5681

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/12/11

Work Order #: W11E110

Collected By: PHA, PTB

Client Name: Industrial Wastewater Source Control

Project Number (if applicable):

Project Name: PGE-Hawthorne Wastewater

Project Contact: Mike Hauser

Requested Analyses

Special Instructions:

Turn-Around-Time Request:

- ☐ Standard (10 business days)
- ☐ Rush (5 business days)
- ☐ Other: _____

Lab Number	Location ID	Sample Date	Sample Time	Grab or Comp	Sample Matrix	PCB Aroclors (Low-level)	# of Containers	Remarks
01	PGE-Hawthorne Sump A	5/12/11	1342	G	W	●	2	Water sample from Sump A Southwest corner of basement
02	PGE-Hawthorne Sump A	5/12/11	1355	C	S	●	2	Solid sample from Sump A Southwest corner of basement

Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Date: 5/12/11	Date: 5/12/11	Date:	Date:
Printed Name: Peter Bryant	Printed Name: Rona Klinck	Printed Name:	Printed Name:
Time: 1740	Time: 1440	Time:	Time:

Phase II
Site Assessment Report

Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

Prepared for

Portland General Electric

March 2012

Prepared By:

BRIDGEWATER GROUP, INC.

In Association With:
Hahn and Associates, Inc.
Forensics Analytical Consulting Services

PHASE II SITE ASSESSMENT REPORT

Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

Prepared for:
Portland General Electric

March 2012

Prepared by:
Bridgewater Group, Inc.
Lake Oswego, Oregon

In Association with:
Hahn and Associates, Inc.
Portland, Oregon

Forensic Analytical Consulting Services
Portland, Oregon

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1.0 INTRODUCTION

In summer 2011, Phase II Site Assessment (SA) activities were performed at Portland General Electric's (PGE) office, equipment storage, and maintenance facility located at 1510 SE Water Avenue in Portland, Oregon. This facility is commonly referred to as the "Hawthorne Building."

The Phase II SA scope of work included a traditional Phase II Environmental Site Assessment (ESA) and additional tasks to quantify the presence of asbestos containing materials, lead-based paint and dust delineation, and presence of radon gas. The purpose of the Phase II SA activities was to:

- Assess select interior building surfaces and exterior asphalt surfaces for potential presence of polychlorinated biphenyls (PCBs),
- Evaluate soil and groundwater beneath the property for potential releases of hazardous substances,
- Update the facility's asbestos survey reports with quantitative material inventories,
- Complete a lead-based paint survey, and
- Collect and analyze representative air samples for the presence of radon gas.

This document is a compilation of investigative reports prepared during the Phase II SA. Narrative discussions, tables, figures, etc., are included in the each of the reports prepared by individual contractors. The role of each contractor included:

- *Bridgewater Group, Inc.* – Overall project manager and technical consultant for each phase of work.
- *Hahn and Associates, Inc.* – Completion of all Phase II ESA tasks not associated with asbestos, lead paint, and radon gas. The results of their work are included in Appendix A.
- *Forensic Analytical Consulting Services* – Updated prior asbestos surveys, completed quantitative inventory of asbestos containing

materials (ACM), completed lead-based paint survey, and completed sampling and analysis of air samples for the presence of radon gas. The results of their work are included in Appendix B.

2.0 SUMMARY OF FINDINGS

2.1 Environmental

Multiple investigation methods were used to collect samples from various media at the site. These investigatory methods included collection of concrete floor samples within the basement and main level of the building structure for PCB testing; collection of asphalt samples and a single dust sample from the eastern parking lot area for PCB testing; collection of wipe samples from various surfaces in the basement and main floor of the site structure for PCB testing; and collection of soil and groundwater samples beneath the basement of the building as well as beneath the eastern and western parking lot areas for testing of a broad suite of analytes.

A summary of the findings related to these Phase II ESA activities is presented below.

1. Concrete Floor Samples: Samples of the upper one-half inch surface of concrete flooring across a majority of the basement and a portion of the main floor had PCB detections at concentrations greater than applicable human health risk screening levels related to unrestricted use of the property. The highest PCB concentrations were detected in the basement area, where PCB detections greater than the risk screening level were present at a majority of the locations sampled. Transformer repair, salvage, and storage operations have historically occurred in these areas.

2. PCB Wipe Samples: Analytical results for wipe samples collected from the walls, ceilings, and stairwell of the basement, main floor, and second floor levels indicated that PCBs on these surfaces were not present at concentrations greater than human health risk screening levels for unrestricted use of the property. Three wipe samples collected from the basement floor (co-located with concrete samples) had PCB detections at concentrations exceeding risk screening levels, confirming the bulk concrete test findings.

3. Asphalt Samples: Samples of the upper surface of the asphalt paving from the eastern parking lot area did not detect PCBs at concentrations greater than human health risk screening levels for unrestricted use of the property. While no human health threshold exceedances were identified, the total PCB concentration in the asphalt matrix at several locations exceeds the 0.39 µg/kg Portland Harbor Source Control Screening Level Value (SLV) for total PCBs (in sediments) and the 50 µg/kg stormwater sediment level inferred by DEQ as being a possible PCB source to stormwater.

4. Surface Dust Sample: PCBs were detected in a sample of dust that had accumulated over time on the asphalt surface within a small depression in the eastern parking lot portion of the property. The detected total PCB concentration was below applicable DEQ human health risk screening levels and the dust is therefore not a potential health risk to site workers. However, the identified total PCB concentration exceeds the Portland Harbor Source Control SLV for total PCBs and the concentration inferred by DEQ as being indicative of a possible source of erodible soil/dust containing PCBs to stormwater.

5. Soil Samples: Oil-range petroleum hydrocarbons were detected in shallow fill soils beneath much of the eastern parking lot area, with the greatest concentrations detected in the upper few feet below ground surface. Oil-range petroleum hydrocarbons were also detected beneath the southern portion of the western parking lot that parallels SW Water Avenue and at a single location beneath the basement floor of the existing structure. Detected concentrations of oil-range petroleum hydrocarbons did not exceed site-specific risk screening levels.

   PCBs were not detected in soil samples collected beneath the eastern parking lot or basement. One low-level detection of PCB was identified beneath the western parking lot, which was below the applicable human health risk screening levels. Both benzo(a)pyrene (2 locations) and naphthalene (1 location) concentrations exceeded human health risk screening levels in the shallow soils (0.5 to 1.5 feet bgs) beneath the eastern parking lot area, with benzo(a)pyrene also exceeding risk screening levels in one shallow location (0.5 to 1.25 feet bgs) in the western parking lot.

   Shallow soils throughout the property, regardless of location, have lead detections that exceed typical naturally occurring background levels, with

the highest concentrations in the upper 5 to 6 feet below ground surface (bgs). The detected lead concentrations are all below the DEQ Risk Based (RBCs) screening and testing did not suggest the lead to be a leachability concern with regard to potential future waste profiling or with regard to leaching to groundwater.

6. Groundwater Samples: Several constituents have been detected at sporadic locations in groundwater beneath the property. Of these, concentrations of PCBs (one location), dissolved arsenic (five locations), benzene (one location), naphthalene (1 location), and 1,4-dichlorobenzene (2 locations) exceed Risk Based Concentrations for the Residential Tap Water exposure pathway. However, groundwater in the area of the property is not used for domestic purposes, and therefore the Residential Tap Water exposure pathway is not considered complete. Due to the low level and sporadic nature of the detections, no significant ongoing source for these groundwater impacts appears likely present at the property.

2.2 Asbestos

Between 1996, when PGE completed an initial asbestos survey, 2006, and 2011, over 100 bulk material samples were collected for confirmatory analysis. Areas that tested positive for asbestos were photographed and mapped on building drawings. Quantitative estimates were prepared for the total area or linear feet of asbestos containing materials.

2.3 Lead-Based Paint

Over 380 locations, including walls, doors, building columns, building fixtures such as door trim, hand rails, drywall, concrete, and painted metal surfaces were sampled for the presence of lead-based paint. Multiple building components were found to contain lead-based paint. Specific action or risk thresholds don't apply to painted surfaces unless it will be disturbed during construction projects such as remodeling, renovation, demolition, etc. The U.S. Occupational Health and Safety Administration (OHSA) Lead in Construction Standard (29 C.F.R. § 1926.62) applies to all construction work where an employee may be exposed to airborne lead. The OSHA standard designates appropriate worker respiratory protection, work practices, or engineering controls if air-monitoring results in the construction area exceed permissible exposure limits.

The results of the lead-based paint survey indicate that Lead Construction Standard may be applicable to future construction projects in the building.

2.4 Lead Dust

Lead was identified in all 12 dust wipe samples collected from the Main Floor lead soldering area and the Basement area where lead sheet is stored. Concentrations of lead in dust decreased as the distance from the area of known lead use, storage, or handling increased.

No regulatory standard has been established for lead in dust at an industrial site, therefore, a threshold level for where cleaning may be necessary or recommended cannot be assigned.

Though not applicable to the current use of the Hawthorne Building, the U.S. Housing and Urban Development (HUD) standards, which were designed for child-occupied facilities, requires cleanup at lead levels >40 $\mu g/ft^2$ for floors, >250 $\mu g/ft^2$ for window sills, and >400 $\mu g/ft^2$ for window troughs. All levels identified during the assessment were higher than the assigned HUD levels relevant to child-occupied facilities.

2.5 Radon Gas

Radon gas was not detected in any of seven bulk air samples collected in the basement of the building above the detection level of 0.4 picocuries/liter (pCi/L). The U.S. Environmental Protection Agency (EPA) recommends that radon mitigation be performed if levels are above 4.0 pCi/L.

Appendix A

Phase II Environmental Assessment Report

Hahn and Associates, Inc.

March 14, 2012

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

March 14, 2012

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ENVIRONMENTAL CONSULTANTS
ASSESSMENT
INVESTIGATION
REMEDIATION

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

March 14, 2012

Prepared for:
Portland General Electric

Prepared by:
Bridgewater Group, Inc.
Lake Oswego, Oregon

In Association with:
Hahn and Associates, Inc.
Portland, Oregon

HAI Project No. 8004

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J Laboratory Report and Chain-of-Custody Documentation: Groundwater Samples
K Data Validation Reports (Analytical Quality Associates Inc.)

1.0 SUMMARY OF FINDINGS

Phase II Environmental Site Assessment (ESA) activities were performed at the Portland General Electric (PGE) office, equipment storage, and maintenance facility located at 1510 SE Water Avenue in Portland, Oregon. This facility is commonly referred to as the "Hawthorne Building." The goal of these activities was to assess select interior building surfaces and exterior asphalt surfaces for potential impact from polychlorinated biphenyls (PCBs), and to evaluate soil and groundwater beneath the property for potential releases of hazardous substances as may be related to past practices at the property.[1]

In June and July of 2011, multiple investigation methods were employed to collect samples from various media at the site. These investigatory methods included collection of concrete floor samples within the basement and main level of the site structure for PCB testing; collection of asphalt samples and a single dust sample from the eastern parking lot area for PCB testing; collection of wipe samples from various surfaces in the basement and main floor of the site structure for PCB testing; and collection of soil and groundwater samples beneath the basement of the building as well as beneath the eastern and western parking lot areas for testing of a broad suite of analytes. A summary of the findings related to these Phase II ESA activities is presented below.

1. Concrete Floor Samples: Samples of the upper one-half inch surface of concrete flooring across a majority of the basement and a portion of the main floor had PCB detections at concentrations greater than applicable human health risk screening levels related to unrestricted use of the property. The highest PCB concentrations were detected in the basement area, where PCB detections greater than the risk screening level were present at a majority of the locations sampled. Transformer repair, salvage, and storage operations have historically occurred in these areas.

2. PCB Wipe Samples: Analytical results for wipe samples collected from the walls, ceilings, and stairwell of the basement, main floor, and second floor levels indicated that PCBs on these surfaces were

[1] Separate from the Phase II ESA work, PGE authorized Forensics Analytical Services, Inc. to update their previous 2006 asbestos survey work, complete an assessment of the relative presence of lead-containing paint throughout the building, and complete radon gas sampling in the basement of the building. The results of Forensics' work has been separately reported PGE.

not present at concentrations greater than human health risk screening levels for unrestricted use of the property. Three wipe samples collected from the basement floor (co-located with concrete samples) had PCB detections at concentrations exceeding risk screening levels, confirming the bulk concrete test findings.

3. Asphalt Samples: Samples of the upper surface of the asphalt paving from the eastern parking lot area did not detect PCBs at concentrations greater than human health risk screening levels for unrestricted use of the property. While no human health threshold exceedances were identified, the total PCB concentration in the asphalt matrix at several locations exceeds the 0.39 µg/kg Portland Harbor Source Control Screening Level Value (SLV) for total PCBs (in sediments) and the 50 µg/kg stormwater sediment level inferred by DEQ as being a possible PCB source to stormwater.

4. Surface Dust Sample: PCBs were detected in a sample of dust that had accumulated over time on the asphalt surface within a small depression in the eastern parking lot portion of the property. The detected total PCB concentration was below applicable DEQ human health risk screening levels and the dust is therefore not a potential health risk to site workers. However, the identified total PCB concentration exceeds the Portland Harbor Source Control SLV for total PCBs and the concentration inferred by DEQ as being indicative of a possible source of erodible soil/dust containing PCBs to stormwater.

5. Soil Samples: Oil-range petroleum hydrocarbons were detected in shallow fill soils beneath much of the eastern parking lot area, with the greatest concentrations detected in the upper few feet below ground surface. Oil-range petroleum hydrocarbons were also detected beneath the southern portion of the western parking lot that parallels SW Water Avenue and at a single location beneath the basement floor of the existing structure. Detected concentrations of oil-range petroleum hydrocarbons did not exceed site-specific risk screening levels.

   PCBs were not detected in soil samples collected beneath the eastern parking lot or basement. One low-level detection of PCBs was identified beneath the western parking lot, which was below the applicable human health risk screening levels. Both benzo(a)pyrene

(2 locations) and naphthalene (1 location) concentrations exceeded human health risk screening levels in the shallow soils (0.5 to 1.5 feet bgs) beneath the eastern parking lot area, with benzo(a)pyrene also exceeding risk screening levels in one shallow location (0.5 to 1.25 feet bgs) in the western parking lot.

Shallow soils throughout the property, regardless of location, have lead detections that exceed typical naturally occurring background levels, with the highest concentrations in the upper 5 to 6 feet below ground surface (bgs). The detected lead concentrations are all below the DEQ Risk Based (RBCs) screening and testing did not suggest the lead to be a leachability concern with regard to potential future waste profiling or with regard to leaching to groundwater.

6. Groundwater Samples: Several constituents have been detected at sporadic locations in groundwater beneath the property. Of these, concentrations of PCBs (one location), dissolved arsenic (five locations), benzene (one location), naphthalene (1 location), and 1,4-dichlorobenzene (2 locations) exceed Risk Based Concentrations for the Residential Tap Water exposure pathway. However, groundwater in the area of the property is not used for domestic purposes, and therefore the Residential Tap Water exposure pathway is not considered complete. Due to the low level and sporadic nature of the detections, no significant ongoing source for these groundwater impacts appears likely present at the property.

2.0 INTRODUCTION

On behalf of Portland General Electric (PGE), Bridgewater Group, Inc. (Bridgewater) retained Hahn and Associates, Inc. (HAI) to conduct Phase II Environmental Site Assessment (ESA) activities at the approximate 0.9-acre PGE Hawthorne Building property, located at 1510 SE Water Street, Portland, Multnomah County, Oregon (*see* Figures 1 and 2).

The Phase II ESA activities were conducted to assess concrete flooring, exterior asphalt, select interior building surfaces for the presence of polychlorinated biphenyls (PCBs); and near surface and subsurface soils and groundwater for potential releases of hazardous substances as a function of past uses and practices at the property.

The scope of work for the Phase II ESA activities was based on completion of reconnaissance site visits involving PGE, Bridgewater, and HAI, as well as review of the following documents:

- Hahn and Associates, Inc. (2006). *A Phase I Environmental Site Assessment, City Block with PGE Facility, 1510 SE Water Avenue, Portland, Oregon* (HAI Project No. 6978). April 28, 2006.
- Hahn and Associates, Inc. (2007). *A Phase II Environmental Site Assessment Report, 1510 SE Water Avenue, Portland, Oregon* (HAI Project No. 7358). December 6, 2007.
- URS Corporation (2010). *Portland General Electric Hawthorne Building Upland Assessment, 1510 SE Water Avenue, Portland, Oregon* (URS Job No. 25697063.00006). September 8, 2010.
- Portland General Electric (2009). *104(e) Response Documents, Hawthorne Building*. August 31, 2009

3.0 BACKGROUND

3.1 Site Location and Description

The approximately 0.9-acre property is located at 1510 SE Water Avenue, Portland, Multnomah County, Oregon. The property consists of the city block bounded by SE Hawthorne Boulevard, the SE 1st Avenue right-of-way (occupied by railroad tracks), SE Clay Street, and SE Water Avenue. It is comprised of Tax Lots 1100, 1200, and 1300, located in the SE 1/4 of the NE 1/4 of Section 3, Township 1 South, Range 1 East of the Willamette Meridian (W.M.).

The property is occupied at its western portion by a two-story warehouse/office building with a full basement and a loading dock, and at its eastern portion by a fenced, asphalt-paved outdoor storage area (*see* Figures 1 and 2). The footprint of the existing building is approximately 19,500 square feet, occupying approximately 48% of the 40,000 square foot site.

The property is located in a commercially and industrially developed area. The property was bounded to the north by SE Hawthorne Boulevard and by a pedestrian stairway to the Hawthorne Bridge, beyond which are the Multnomah County Transportation Division to the northwest, Pitman Restaurant Equipment warehouse to the north, and Dennis Uniform Store to the northeast. The property is bounded to the south by SE Clay Street, beyond which are a paved parking lot to the southwest, Portland Community College Training Center to the south, and Speeds Auto Service to the southeast. SE Water Avenue bounds the property to the west, beyond which is the RiverEast Center, a former warehouse renovated into a retail/commercial space. An active railroad line, which occupies the SE 1st Avenue right-of-way, bounds the property to the east, beyond which is Auto Adventure, a retailer of new and used automotive parts.

3.2 Site History

From approximately the 1930s until approximately 2000, the subject property was used for the storage, maintenance, and repair of fluid-filled electrical equipment such as transformers. Subsequent to 2000 and through 2010, new and surplus transformers were stored on the property, but no maintenance or repair of the transformers occurred. Other activities at the site are primarily related to training (second floor), and routine maintenance of on-site systems, welding, and equipment and lead cable storage. Equipment manufactured and filled prior to 1980 may have contained PCBs. The federal regulations did not require older equipment containing PCBs to be removed from service, therefore older equipment brought in for service after 1980 may have contained PCBs.

During the same timeframe, the subject property was also used for maintenance and repair activities associated with the provision of public electrical services, including automotive repair, and machine shop activities. These activities may have involved the use of chlorinated solvents, acid, and caustic baths. Further, the historical use of the adjacent and surrounding area has consisted of a combination of commercial, light industrial, and

industrial activity since the early 1900s, including automotive repair, machine shops, and rail yards. In addition, the property was located in a historically low-lying area that received imported fill materials of unknown origin during the early 1900s.

Review of historical plans (*see* Appendix A) indicate that the basement area has been used for:

- Electrical transformer repair, salvage, and storage
- Paint spray booth operations
- Equipment cleaning
- Sheet metal shop operations
- Chemical storage
- Lead cable and electrical equipment storage (current)

Approximately fifteen floor drains and sumps exist within the basement. These inlets currently drain to central sump in the basement and are then pumped to the city sanitary sewer system (formerly to the combined sanitary-storm sewer). Catch basins within the asphalt-covered area to the east of the building drain to the city storm sewer (also formerly to the combined sanitary-storm sewer). Of these catch basins, one (CB-3) drains to the west in a line extending beneath the Hawthorne Building to the storm sewer located along SE Water Avenue. Catch basins CB-1 and CB-2 drain to the south to the City storm sewer located beneath SE Clay Street. Drains, sumps, and catch basins have been investigated by URS (2010) and the City of Portland with regard to piping configurations, contents, and potential for historical discharges to the Willamette River prior to replumbing into the City's sanitary sewer system. Figures prepared by URS that depict the configuration of stormwater catch basins and outlets on the exterior portions of the property, as well as basement sumps and sub-slab piping configurations, are included in Appendix B.

Review of facility historical plans (*see* Appendix A) indicate that the first floor area has historically been used for:

- Machine tool shop operations (current)
- Electrical shop operations
- Paint shop operations (off the southeast corner of the building)
- Welding operations
- Carpentry shop operations
- Office and warehouse space (current)

Review of facility historical facility plans (*see* Appendix A) indicate that the second floor area has historically been used for:

- Office and recreational space (current)
- Locker rooms
- Communications Facilities
- Materials Testing / Laboratory

In addition, building plans (PGE drawing PGE0047739, *see* Appendix A) also indicate the presence of an abandoned (in-place) gasoline underground storage tank (UST) adjacent to the former paint shop near the ramp leading down to the basement. As also depicted on historical building plans, a streetcar line formerly extended north to south across the property east of the structure beneath the current paved parking area. Building plans that depict the layout of facility operations during various stages of PGE's ownership of the property are included in Appendix A.

Previous investigation activities completed at the property have identified the presence of the following constituents at select locations in soil or groundwater beneath the property:

- Diesel- and oil-range petroleum hydrocarbons,
- PCBs,
- Certain metals (predominantly lead, arsenic, and mercury),
- Low levels of certain volatile organic compounds (VOCs), and
- Polynuclear aromatic hydrocarbons (PAHs)

Data from these previous subsurface investigation activities have been summarized (*see* Section 7.3) and tabulated (*see* Table 2 through 10).

4.0 PHASE II ESA OBJECTIVIES

The primary objectives of the Phase II ESA activities were to:

- Evaluate the potential presence of PCBs on interior building surfaces (e.g., concrete floor, walls, ceiling) and exterior asphalt in areas deemed most likely to be impacted based on operational history.
- Establish a baseline for the presence of hazardous substances in groundwater beneath the property, including areas deemed most likely to be impacted based on operational history (e.g., former

gasoline UST, paint booth operations, exterior catch basins, and interior sumps).

- Evaluate near surface soil quality at locations across the property to assess the potential for the presence of hazardous substances to have been released through surface spills and subsequent migration through concrete (basement) or asphalt (exterior) surfaces.
- Collect additional soil quality data beneath the eastern exterior paved area, corresponding to areas where petroleum and metals impacts were previously identified such that additional delineation and site-specific risk-based screening could be completed.

5.0 FIELD ACTIVITIES

Field activities occurred the week of June 27 through July 1, 2011, with additional activities occurring on August 12 and 15, 2011. A variety of field sampling methods were used to collect samples from multiple media (i.e., concrete, asphalt, PCB wipe, soil, and groundwater).

Concrete. Eighteen concrete samples (C1 through C18) were initially collected for PCB testing from the concrete floor in the basement and main floor areas. Concrete floor sample locations were selected to focus on areas based on historical uses (e.g., former transformer salvaging or former electrical shop areas), as well as to provide an overall assessment of potential PCB presence in concrete at other areas in order to evaluate the overall distribution of PCB impacts across the basement and main floors. Following the receipt of the initial laboratory results, two additional concrete samples (C19 and C20) were collected on July 6 and August 15, 2011 respectively.

No concrete floor samples were collected on the second floor of the building since historical operations on that level would not suggest the presence of such impact.

All concrete sampling locations are depicted on Figures 3 (basement) and 4 (main floor), and the sampling methodology is described in Section 5.1.

Wipe Samples. Thirty PCB wipe samples were obtained from the walls, ceilings, floors, and stairwells of the basement, main floor, and second floor of the facility. Sample media consisted of concrete, vinyl tile, and carpeted surfaces. PCB wipe samples for the walls and ceilings of the basement and

main floor areas were geographically spread out to provide a site-wide characterization of these surfaces. Selected PCB wipe samples were targeted to specific site features such as a historical ventilation system on the main floor, stairwell steps and landings, areas immediately in front of elevator openings, and co-located concrete samples of the floor within the basement.

All wipe sampling locations are depicted on Figures 3 (basement), 4 (main floor), and 5 (second floor). The sampling methodology is described in Section 5.2.

Asphalt. Six asphalt samples (A-1 through A-6) and one surficial dust sample were collected from the exterior eastern paved parking lot portion of the property. Three of the six asphalt sampling locations were chosen to focus on areas proximate to exterior stormwater catch basins, with the remaining three sampling locations geographically spread out to characterize the overall area. A single dust sample was also collected, which targeted a small depression in the asphalt surface near stormwater catch basins located near the southeastern corner of the property.

The six asphalt and one dust sampling locations are depicted on Figure 3, and sampling methodology is described in Sections 5.1 (asphalt) and 5.3 (dust).

Soil and Groundwater. Twelve push probe borings were installed across the property to facilitate the collection of soil and groundwater samples. Four borings (P-1 through P-4) were located in the eastern parking lot, six borings (P-5 through P-10) were located within the basement area, and two borings (P-11 and P-12) were located in the western parking area. Specific soil and groundwater sampling locations (i.e., P-4, P-5, P-7, P-8, P-9, P-10) were selected to focus on specific site features of interest (i.e., catch basins, floor drains, sumps), with additional locations (P-1, P-2, P-3, P-6, P-11, P-12) selected to allow for a general site wide assessment of soil and groundwater quality. Table 1 describes the specific rationale for each of the push probe borings installed in 2011. Figure 6 depicts the locations for the push probe borings installed as part of this Phase II ESA, and includes the locations of borings completed prior to 2011 (HAI in 2007 and URS in 2010). Installation and sampling methodology for the push probe borings is described in Section 5.4.

5.1 Concrete and Asphalt Sampling Procedures

Concrete and asphalt samples consisted of a composite of multiple sub-sample areas (8 to 12) within the immediate vicinity (approximate 5 foot radius = 80 square foot area) of each sampling station location. Samples were collected using a roto-hammer drill fitted with a decontaminated ¾-inch concrete drill bit which pulverized and ground the sample material into a granular/fine-grained media to allow for sample collection. Each sub-sample location was drilled/ground to approximately 1 centimeter in depth, with the resulting granular/fine-grained media collected and subsequently homogenized to be representative of the upper centimeter of concrete surface at the sampling station. Sample homogenization was completed by combining the pulverized concrete grindings from each sub-sample location (approximately 2-ounces in total) into a single laboratory-provided 4-ounce glass sample jar for each of the sample areas. Upon the collection of 2-ounces of sample media, sample jars were capped with a teflon-lined lid and manually agitated for several minutes until thoroughly mixed.

All sample containers were immediately labeled following sampling and were transferred to a chilled thermally insulated container for shipment to the analytical laboratory under chain-of-custody documentation. Each sampling location was patched to match the surrounding surface using either vinyl concrete or asphalt. Photographs in Appendix E include that of a typical concrete floor sampling station.

5.2 PCB Wipe Sampling Procedures

PCB wipe samples were collected in locations where the physical destructive removal of the sample media was not feasible (e.g., walls and ceilings) or where such activity may pose a health and safety issue (e.g., stair steps and landings). Each PCB wipe sample consisted of a laboratory issued 4-oz. glass sample container, which included a prepared hexane-soaked gauze sampling pad. In accordance with the "Standard Wipe Test"[2], sampling procedures consisted of: removing the solvent soaked gauze sampling pad from the glass jar; opening the gauze to expose its full surface area; applying a pre-measured paper template (100 cm^2) to the selected sampling surface; wiping the solvent soaked gauze pad within the template in three directions (i.e., up-down, then side-to-side, then up-down), and immediately returning the gauze sampling pad to the glass jar. To eliminate the potential for cross-

[2] See 40 C.F.R. § 761.123.

contamination between PCB wipe samples, all sample containers were previously prepared at a laboratory under controlled conditions. In the field, two new pairs of nitrile gloves were used; one to initially handle each sample container individually and to transport it to the sampling location, and a second at the immediate point of time in which the sampling occurred to handle the sampling gauze and complete the surface wiping. All sampling

gloves were disposed of following the completion of each sample, with new gloves being used prior to the handling of the next PCB wipe sample.

All sample containers were immediately labeled following collection and were transferred to a chilled thermally-insulated container for shipment to the analytical laboratory under chain-of-custody documentation. Photographs in Appendix E include that of a typical PCB wipe sampling station.

5.3 Dust Sampling Procedures

A single dust sample was obtained from a small depression in the asphalt near the eastern property line of the facility near catch basin CB-2B (Figure 3). Sample collection consisted of scraping the residual dust from the parking lot surface inside the depressed area and collecting the media into a laboratory issued 4-oz. glass jar. Best management sampling procedures were followed (i.e., single use collection tools, new nitrile gloves) with the sample container labeled and transferred to a chilled thermally-insulated container for shipment to the analytical laboratory under chain-of-custody documentation immediately upon collection.

5.4 Subsurface Investigation Activities

Subsurface investigation activities were completed on June 30 and July 1, 2011. The investigation included the collection of soil samples from twelve push probe borings (P-1 through P-12), and the collection of groundwater samples from temporary well points installed at boring locations as described below. All sampling locations are shown on Figure 6.

5.4.1 Subsurface Drilling Procedures

HAI contracted with Cascade Drilling L.P., an Oregon-bonded and licensed Monitoring Well Constructor of Clackamas, Oregon, to perform the subsurface drilling activities at the property. Twelve direct push soil borings

were installed using a track-mounted Geoprobe 7720 DT push probe unit to total depths of between 9 and 25 feet below ground surface bgs.

On June 30 and July 1, 2011, an HAI field representative was present during investigation activities to observe and document drilling procedures, perform field screening activities, select and prepare field soil and groundwater samples for laboratory analysis, and prepare lithologic logs for each boring. The push probe boring logs, including a field estimate of the Unified Soil Classification System (USCS) of the soil types encountered, as well as the field screening results, are included in Appendix C. The twelve borings were installed focusing on specific features of interest and targeted depths generally associated with such features. Figure 6 shows the location of each push probe boring, and includes historical boring locations completed during previous investigations in 2007 and 2010. The rationale for each boring location is described in Table 1.

The boring installations were completed in accordance with the Oregon Groundwater Law (Oregon Revised Statute (ORS) Chapter 537) and the Rules for Construction and Maintenance of Monitoring Wells and Other Holes in Oregon (Oregon Administrative Rules (OAR) Chapter 690, Division 240).

Following completion of the soil boring activities, the borings were backfilled with 3/8-inch bentonite chips to the base of any existing surfaces, with concrete or asphalt patching placed to match the surrounding surface.

5.4.2 Soil Sampling and Screening Procedures

Continuous soil cores were collected by advancing a 3 or 5-foot long, 1.5-inch inside diameter (ID) Macro-Core® sampler fitted with an acetate sleeve. The full length of each soil core was observed for soil type and the potential presence of contamination (i.e., odor, discoloration, staining, sheen, etc.). Discrete soil samples were selected from the cores for field screening and possible laboratory analyses based on field observation of soil type or contaminant occurrence. The properties of each soil core were noted in the field by the HAI field representative and recorded on the field logs.

Upon collection of the soil cores, samples retained for potential chemical analysis were placed immediately in 8- or 4-ounce laboratory-provided glass sample jars and capped with Teflon-lined lids. The sample jars were then labeled and transferred to a chilled thermally-insulated container for

shipment to the analytical laboratory. Standard sampling protocols, including the use of chain-of-custody documentation, were followed for all sampling procedures.

The soil samples were field-screened for the presence of potential contamination by the visual, olfactory, sheen test, and headspace vapor methods. The presence of sheen was assessed by placing clean tap water in a black pan and introducing approximately 5 grams of disaggregated soil to the water. Screening for the presence of organic vapors was conducted by the headspace method using a photoionization detector (PID) equipped with a 10.6 eV lamp. The results of the headspace screening are recorded on the boring log in parts per million (ppm). The headspace measurement results are intended for use as a qualitative indicator of the possible presence of contamination and used for relative comparison purposes.

5.4.3 Groundwater Sampling Procedures

Upon the identification of groundwater within the soil borings (i.e., "wet-saturated" soils), a temporary well point (either stainless steel or disposable PVC) was placed to depths correlating with uppermost groundwater levels. Following the placement of each well point, water level measurements were obtained to ensure that each location was screened within a water producing zone. All temporary well points were installed on June 30, 2011 and allowed to sit overnight to recharge with groundwater.

Groundwater was encountered at all nine selected boring locations where temporary well points were installed (P-1, P-3, P-4, P-5, P-6, P-7, P-10, P-11, and P-12). Water levels were generally consistent across the site, occurring between 13 to 14 feet bgs in the exterior locations (eastern parking lot) and between 4 to 5 feet below the concrete floor at the interior locations (basement).

Groundwater samples were collected on July 1, 2011 from within each temporary well point by purging and sampling within the saturated zone using new disposable polyethylene tubing and a peristaltic pump. The water samples collected for dissolved metals analyses were filtered in the field using an in-line 0.45-micron filter.

As no water or fluids were introduced during the drilling process, all saturated conditions were directly a result of and representative of encountered formation water. All sample containers were completely filled

such that no headspace was present that would allow for the loss of volatiles. Upon collection, the sample containers were immediately labeled and transferred to a chilled thermally-insulated container for delivery to the analytical laboratory. Any samples being held for an overnight period prior to shipment to the laboratory were maintained in a secured area at a temperature of 4 – 6° Celsius. Standard sampling protocols, including the use of chain-of-custody documentation, were followed for all sampling procedures.

5.5 Decontamination Procedures

Due to the different methodologies used for sample collection at the site, different decontamination methods were used depending on the sampling media.

All concrete sampling equipment (i.e., drill bit) was decontaminated prior to use at each sample location. The drill bit and any other re-usable sampling equipment which came into contact with the sample media were decontaminated prior to use and following each sampling location using a 4-part wash/rinse consisting of: potable water wash to remove any dust or grindings adhered to the drill bit; a de-ionized water and phosphate-free soap (i.e., Alconox) scrub/wash; a potable water rinse; and a final de-ionized water rinse. New nitrile gloves were used during the collection of each sample and during the decontamination process. Equipment blanks were collected using PCB-wipe methodology (see Section 5.2) on the decontaminated drill bit after the first use to document the completeness of the decontamination method. Testing of the equipment blank wipe samples did not detect concentrations of PCBs adhering to the drill bit after decontamination.

Decontamination of the drill bit following the collection of each asphalt sample included the same procedure as the concrete decontamination method, but also included a hexane scrub immediately following the initial potable water wash to remove any non-aqueous “oily” materials produced while sampling the asphalt surfaces.

No reusable sampling equipment was used during the PCB wipe sample collection and therefore no decontamination procedures were necessary for this activity.

To minimize the potential for cross-contamination between soil and groundwater sampling locations any re-usable sampling equipment was thoroughly cleaned between each sampling/boring location. All reusable drilling and soil and groundwater sampling equipment were steam cleaned with potable water prior to use, and between boring locations. All soil sampling equipment was decontaminated after each sample using a detergent solution wash, followed by a double potable water rinse. New disposable tubing was used for the collection of each groundwater sample.

5.6 Investigation Derived Waste

Investigation derived waste (IDW) generated during the work activities included excess soil cuttings not retained for laboratory chemical analysis, rinsate water used during decontamination of reusable drilling equipment, and personnel protective equipment (e.g., gloves). Less than one full 55-gallon drum of soil cuttings were produced, which are currently being stored in a segregated room inside the basement area of the facility pending disposal. Since sheen was not observed on decontamination water from the push probe drilling activities (less than 10 gallons), this water was transported by the drilling subcontractor for disposal at their facility. Personnel protective equipment was disposed of as non-hazardous solid waste.

6.0 LABORATORY TESTING AND DATA QUALITY MANAGEMENT

6.1 Laboratory Testing Schedule

All samples were shipped under chain-of-custody documentation in chilled, thermally-insulated coolers to Apex Laboratories, located in Tigard, Oregon.

All selected concrete samples (24), asphalt samples (6), dust (1), and PCB wipe samples (30) were analyzed for PCBs by EPA Method 8082. Laboratory reporting for these matrices include a series of commonly encountered PCB Aroclors (1016, 1221, 1232, 1242, 1248, 1254, and 1260).

Twelve initial near surface soil samples were analyzed for diesel- and oil-range total petroleum hydrocarbons (TPH) by Northwest (NW) Method TPH-Dx, PCBs by EPA Method 8082A, and total metals (13 Priority Pollutant metals) by EPA Method 6010.

Based on the preliminary analytical results three of the initial soil samples (P2-006, P4-012, and P8-024) were further analyzed for volatile organic compounds (VOCs) by EPA Method 8260B, gasoline-range TPH by Northwest (NW) Method TPH-Gx, and polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270D SIM, with the two highest initial detections (P4-012, P8-024) of oil-range petroleum hydrocarbons analyzed for extractable petroleum hydrocarbons (EPH) by Washington Department of Ecology (DOE) Method EPH. Additionally, three deeper samples (P2-007, P4-013, P8-025) were analyzed for diesel- and oil-range petroleum hydrocarbons to allow for vertical delineation of the preliminary findings from the initial samples.

Based on the initial total Priority Pollutant metals soil analytical results, four initial samples (P2-006, P3-009, P4-012, P10-027) were prepared for leachable lead analysis by EPA Method 1311 [Toxicity Characteristic Leachate Procedure (TCLP)] and subsequently analyzed by EPA method 6010. The TCLP leachate preparation process is generally more aggressive than other leachate procedures (i.e. SPLP) and with results being considered more conservative. Further, seven deeper samples (P2-011, P3-010, P4-013, P5-031, P5-032, P10-028, P11-037) were analyzed for total lead to provide vertical delineation of the initial lead findings in the near surface samples.

All collected groundwater samples were analyzed for; diesel- and oil-range petroleum hydrocarbons by NW Method TPH-Dx, VOCs by EPA Method 8260B, PAHs by EPA Method 8270D SIM, and for dissolved (field filtered) arsenic, lead, and mercury by EPA Method 6020. In addition, six groundwater samples (P-3, P-5, P-6, P-7, P-10, and p-12) were analyzed for the presence of PCB Aroclors by EPA Method 8082A.

6.2 Data Validation Procedures

All laboratory analytical data were assessed by an independent third-party validation service to ensure that the data are of acceptable quality. Analytical Quality Associates, Inc. of Albuquerque, New Mexico was retained to conduct Level II data validation for the data collected through July 6, 2011. AQA's Level II validation includes an evaluation of the following quality control parameters in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (October 2004):

- Sample Shipping and Receiving (including a completeness review of chain of custody documentation, sample dates/numbers, scheduled analysis, and laboratory produced data)
- Holding Times and Preservation
- Method and Calibration Blanks
- Surrogate Recoveries
- Laboratory Control Samples (LCS) and Laboratory Control Sample Duplicates (LCSD)
- Matrix Spike (MS) and Matrix Spike Duplicates (MSD)
- Laboratory Duplicates
- Reporting Limits
- Completeness (statistical data regarding number and percentage of assigned qualifications)
- Additional comments regarding overall data quality

Whenever any laboratory issued data were not considered to be of adequate quality, an appropriate data qualifier was assigned to the individual data and an explanation of the qualification was provided. AQA's validation reports for the data generated during this Phase II ESA are provided in Appendix K. All data summary tables include the final data qualifier as assigned post validation.

7.0 RESULTS AND DISCUSSION

7.1 Site Conditions

The soil conditions encountered during the site investigation were variable across the property. Beneath the eastern parking lot area, the soils were generally found to consist of a heterogeneous mix of sands and gravels (apparent fill material) to a depth of approximately 13 feet bgs. Underlying the sand and gravels in this area were predominantly silts to sandy silts extending to at least 20 feet bgs, the maximum depth observed during the investigation. Soils encountered beneath the basement floor of the building were found to consist primarily of silts and sandy silts to 12 feet below the floor, the maximum depth observed during the investigation in this area. Uppermost soils encountered beneath the western parking lot were found to

vary from silts in the northern area (boring P-11) to sands in the central area (boring P-12), with soils transitioning to silts and sandy silts at both areas below 10 feet bgs and extending through at least 20 feet bgs, the maximum depth observed during the investigation.

Groundwater was encountered at depths ranging from 14 to 15 feet bgs beneath the exterior parking lot portions of the property and at a depth of approximately 4 to 5 feet bgs beneath the basement portion of the building. Accounting for the elevation change between the parking lot areas and the basement area (approximately 10 feet), the overall elevation of groundwater occurrence across the property appears relatively consistent.

Based on topography and local hydrogeologic features, it is inferred that uppermost groundwater flows to the west, towards the Willamette River. Groundwater flow direction was not confirmed by direct measurement from monitoring wells.

7.2 Risk Screening Levels

To provide a framework for evaluating the significance of findings, the laboratory data were compared to established risk-screening levels as related to potential human health risks. Differing screening levels were used depending upon the media being evaluated, as follows:

- For PCB testing results in asphalt and concrete samples, an EPA High Occupancy Threshold of 1,000 micrograms per kilogram (µg/kg) was used (see 40 C.F.R. § 761.61(a)(4)(iii)). Concentrations of PCBs present on surfaces at concentrations below this level are considered by EPA to be acceptable for unrestricted use in a high occupancy setting.
- For PCB wipe sample results, an EPA High Occupancy Unrestricted Use Threshold of 10 µg/cm^2 was used (see 40 C.F.R. § 761.79 (b)(4)). With regard to these threshold levels, EPA defines “high occupancy” as human presence for lengths of time equal or greater than 6.7 hours per week without dermal or respiratory protection. Uses at the subject property meet the EPA definition of “high occupancy”.

- For the sample of surface dust collected from the eastern parking lot surface, DEQ Risk Based Concentrations (RBCs)[3] and Portland Harbor Joint Source Control Strategy (JSCS) Screening Level Values (SLVs)[4] were used. DEQ RBCs support evaluation of the data with regard to potential human health risks while the JSCS SLVs support evaluation of potential human and ecological risks as may be related to potential source control needs with regard to erodible soil entrainment in stormwater and migration to the Willamette River.
- With regard to soil and groundwater, screening level sources include DEQ RBCs, EPA Regional Screening Levels (RSLs), and DEQ Soil Matrix Cleanup Standards (OAR 340-122-0335).
- For metals in soil, detected levels were also compared to DEQ Default Background Concentrations for Metals (October 2002).

When comparing soil and groundwater data to DEQ RBCs, factors such as the site setting, site usage (residential vs. commercial), and the area surrounding the site are considered in determining current or potential future applicable exposure pathways (i.e., direct contact, vapor intrusion, leaching to groundwater, groundwater ingestion) and potential receptors (i.e., residential, occupational, excavation workers). The Hawthorne Building in its existing setting is used exclusively by PGE office and field personnel, and as such all on-site soil data have been screened against the RBCs for Occupational, Construction, and Excavation Worker receptors.

Current exposure pathways to soil and groundwater are limited because the site is completely paved or covered with the existing structure, and groundwater is not used at the property for any reason. Similarly, use of uppermost groundwater in the area surrounding the property is not expected. However, because a formal well survey for the area of the property has not been completed, soil results (via leaching to groundwater) and groundwater results have been compared to more conservative residential drinking water-related RBCs as an initial screen to determine contaminants of potential concern. Depending on PGE's plans for the site, future exposure pathways may include direct contact with exposed soils

[3] Oregon Department of Environmental Quality (2003, 2009). *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*. September 22, 2003 (RBCs updated September 2009).

[4] Oregon Department of Environmental Quality and U.S. Environmental Protection Agency (2005). *Portland Harbor Join Source Control Strategy, Final*. December 2005 (SLVs updated July 2007).

during construction or trenching activities. These potential future exposure pathways have similarly been included within the risk screening conducted herein.

Since a generic oil-range TPH-RBC has not been issued by DEQ, a site-specific TPH-RBC was calculated by using the DEQ calculation spreadsheet "*Calculating RBCs for Total Petroleum Hydrocarbons"* (2003). Using this spreadsheet, site-specific screening levels for TPH were calculated by inputting site-specific fractionated TPH (extractable petroleum hydrocarbons) test results. Following the input of these data, and using the generic default conditions, the resulting output provides a site-specific oil-range TPH-RBC for each of the different exposure scenarios. This process was completed using sample data from two site-derived samples. The resulting site-specific TPH-RBC screening level values are listed in Table 5 and the calculation spreadsheets are provided in Appendix D.

7.3 Analytical Testing Results

Analytical testing results for the samples collected at the property are summarized below.

7.3.1 Concrete Floor and Asphalt Testing Results - PCBs

7.3.1.1 PCB Testing of Basement Concrete

Concrete samples were obtained for PCB testing from the upper 1 centimeter of the existing basement floor at 13 locations as part of the Phase II investigation. As summarized in Table 2 and depicted on Figure 7, concentrations of PCBs in 11 of the 13 basement area concrete samples exceeded the EPA High Occupancy Unrestricted Use Threshold of 1,000 µg/kg. Concentrations ranged from 567 µg/kg at station C5 inside the former elevator equipment room to 38,600 µg/kg at station C9 near the southern end of the basement. Similar magnitude concentrations were identified at most sample locations on the basement floor. The only basement floor samples with detected PCB concentrations below the 1,000 µg/kg threshold were C5 (inside the elevator room) and C19 (an area where the upper concrete surface appears to have been removed).

Previous sampling of the concrete in the basement area completed by URS in 2010 focused on staining around the sump in the southwestern corner of the basement (Sump A). This sampling also resulted in detected

concentrations that exceed the EPA High Occupancy Unrestricted Use Threshold. Sample results from the URS investigation ranged from 1,102 µg/kg to 139,500 µg/kg at a location immediately adjacent to edge of the sump pump pit (*see* Table 2, Figure 7).

7.3.1.2 PCB Testing of Main Floor Concrete

Concrete samples were obtained for PCB testing from the upper 1 centimeter of the existing concrete flooring on the main level of the building at seven locations. As summarized in Table 2 and depicted on Figure 8, PCB concentrations ranged from 207 µg/kg (station C15) to 9,872 µg/kg (station C18). Three of the seven concrete samples exceeded the EPA High Occupancy Unrestricted Use Threshold of 1,000 µg/kg. The three samples that exceeded the PCB screening level were generally located on the southern portion of the Main Floor, areas historically used as electrical repair or machine and welding shops.

7.3.1.3 PCB Testing of Eastern Parking Lot Asphalt

Asphalt samples were collected in the upper 1-centimeter of the eastern parking lot area at six locations for PCB testing. As summarized in Table 2 and depicted on Figure 7, none of the six samples had PCB detections at concentrations greater than the EPA High Occupancy Unrestricted Use Threshold of 1,000 µg/kg. The highest concentrations were generally closer to the building, with the greatest concentration (103.2 µg/kg at station A4) detected in asphalt near the top of the driveway ramp leading up from the basement. While the reported total PCB concentration does not exceed the 980 µg/kg DEQ RBC for the Occupational Direct contact exposure pathway, it does exceed the inferred 50 µg/kg typical industrial site stormwater sediment level referenced by DEQ in the 2010 document *Guidance for Evaluating the Stormwater Pathway at Upland Sites,* as being suggestive of a possible PCB source to stormwater.

7.3.2 Wipe Sample Testing Results - PCBs

Analytical results for the 30 PCB wipe samples collected from the walls, ceilings, stairwell, and floors indicated that in 27 of the 30 samples, PCBs were either not detected above laboratory method reporting limits (MRLs) or detected concentrations were below the EPA High Occupancy Unrestricted Use action level of 10 µg/cm^2 (*see* Table 3, Figures 9 through 11). The three locations where the detected PCB concentrations were above the

action level were co-located with three concrete floor samples from the basement (stations C3, C6, and C7) that also exceeded the EPA High Occupancy Unrestricted Use action level for porous surfaces (*see* Section 7.3.1.1).

7.3.3 Dust Testing Results - PCBs

A single dust sample was obtained from a small depression near the eastern boundary of the eastern parking lot near stormwater catch basin CB-2B (*see* Table 4, Figure 7). This sample contained a total PCB concentration of 142.5 µg/kg (Aroclor 1254 = 44.4 µg/kg, Aroclor 1260 = 98.1 µg/kg). While the reported total PCB concentration does not exceed the 980 µg/kg DEQ RBC for the Occupational Direct contact exposure pathway, it does exceed the inferred 50 µg/kg typical industrial site stormwater sediment level referenced by DEQ in the 2010 document *Guidance for Evaluating the Stormwater Pathway at Upland Sites,* as being suggestive of a possible erodible soils PCB source to stormwater.

7.3.4 Soil Testing Results

7.3.4.1 Basement Area

PCBs. No PCBs were detected at concentrations exceeding the laboratory MRL in soil samples collected from beneath the concrete floor in the basement (*see* Table 5).

Volatile Organic Compounds. No VOCs were detected at concentrations exceeding the laboratory MRL in soil samples collected from beneath the concrete floor in the basement (*see* Table 5).

Petroleum Hydrocarbons and PAHs. No gasoline-range petroleum hydrocarbons were detected at concentrations exceeding the laboratory MRL in soil samples collected from beneath the concrete floor in the basement (*see* Table 5).

Soil sample -024, collected immediately beneath the floor proximate to one of the basement area sumps (Sump G as depicted on Appendix B) at boring P-8 detected oil-range petroleum hydrocarbons at a concentration of 3,990 milligrams per kilogram (mg/kg), exceeding the conservative 500 mg/kg DEQ Soil Matrix Cleanup Level 2 at this location (*see* Table 5). Sample -024 was further analyzed for extractable petroleum

hydrocarbons (EPH) and PAHs to more fully characterize the sample and to allow for the calculation of a site-specific RBC for oil-range petroleum hydrocarbons (*see* Section 7.1). Following the derivation and comparison to the calculated site-specific RBC for oil-range petroleum hydrocarbons at this location, it was concluded that the detected concentration (3,990 mg/kg) did not exceed the site-specific TPH-RBC for either Occupational (51,000 mg/kg) or Construction Worker (16,000 mg/kg) exposure scenarios. The PAH analysis of this sample resulted in two low-level PAH constituent detections, but neither exceeded a potentially applicable RBC. PCBs and VOCs were not detected in this sample. A deeper sample (4 to 5 feet bgs) from the same boring did not contain diesel- or oil-range petroleum hydrocarbons at concentrations greater than laboratory MRLs. No other soil sample collected from borings installed through the basement floor had detectable concentrations of diesel- or oil-range petroleum hydrocarbons.

Metals. Shallow soil samples from all basement area soil borings were tested for EPA Priority Pollutant metals. Results of this testing indicate certain metals at one or more locations to be present at concentrations greater than those deemed typical of naturally-occurring concentrations for soils in Oregon (*see* Table 7). Specifically, copper (1 sample), lead (5 samples), mercury (1 sample), and zinc (1 sample) were detected at concentrations greater than DEQ default background concentrations. Of these instances, lead (detections up to 240 mg/kg) was the most widely detected metal in comparison to the DEQ default naturally-occurring background, which is 17 mg/kg.

None of the metals that were present at concentrations greater than typical naturally-occurring background were detected at concentrations greater than potentially applicable RBCs, and therefore do not suggest the presence of a potentially unacceptable human health risk. Testing of deeper soil samples for total lead does not suggest that lead concentrations above naturally occurring background levels extend to deeper soils. Leachability testing of the soil sample containing the greatest concentration of total lead (240 mg/kg at 0.5 to 1.5 feet bgs from boring P-10) indicates that leaching to groundwater or leachability with regard to waste profiling is not of concern. Typical background concentrations were encountered at a depth between approximately 5 to 8 feet beneath the concrete floor.

7.3.4.2 Eastern Parking Lot Area

Phase II ESA activities completed by HAI in 2011 included the installation of borings P-1 through P-4 in the eastern parking lot portion of the property, while previous investigations in the same area by HAI in 2007 included the installation of borings P-1 through P-11 (*see* Figures 6 and 12).

PCBs. With exception of a low-level detection at the P-4 location (0.5 to 1.5 feet bgs), PCBs were not detected in soil samples collected from any boring location in either 2007 or 2011. The total PCB concentration detected in shallow soil at the P-4 location (0.0191 mg/kg) is well below both the lowest Occupational Direct Contact RBC (0.98 mg/kg) and the leaching to groundwater RBC (0.64 mg/kg for Residential Tapwater).

Volatile Organic Compounds. Excluding a single detection of naphthalene at the P-4 location, VOCs were not detected at concentrations exceeding the laboratory MRL in soil samples collected from beneath the eastern parking lot area (*see* Table 5). The single naphthalene detection was also reported as a PAH and is discussed below.

Petroleum Hydrocarbons and PAHs. As summarized in Table 5 and depicted on Figure 12, analytical testing of soils from borings installed in 2007 and 2011 indicate detections of diesel- and oil-range petroleum hydrocarbons in shallow soils beneath much of the parking lot area. Of these, several of the detected concentrations in near surface soils as present beneath the asphalt were found to exceed the 500 mg/kg DEQ Level 2 Soil Matrix Cleanup (*see* Table 5). Of these, the highest concentrations were detected in soils immediately beneath the asphalt surface in the 2007 boring P-2 (4,437 mg/kg from 0.5 to 1.5 feet bgs) and the 2011 boring P-4 (8,230 mg/kg from 0.5 to 1.5 feet bgs). Expanded testing of the highest reported concentration samples from the 2011 borings P-2 and P-4 did not identify the presence of gasoline-range petroleum hydrocarbons. Diesel-and oil-range petroleum hydrocarbons were detected in deeper soils , although all concentrations were less than the 500 mg/kg Level 2 DEQ Soil Matrix Cleanup Level.

As summarized in Table 6, the PAH, benzo(a)pyrene was detected in two shallow soil samples (P-2 installed in 2007 and P-4 installed in 2011). Both exceeded the DEQ RBC established for the Occupational Direct Contact pathway. Naphthalene exceeded the RBC established for the Leaching to

Residential Tapwater pathway at three shallow soil sample locations (the two borings identified above and boring P-4 installed in 2007).

Although benzo(a)pyrene exceeded the Occupational Direct Contact RBC in shallow soil at two locations, it is noted that the eastern parking lot area is completely paved. Direct contact with soils does not occur under current use of the property. The naphthalene exceedance of the Residential Tapwater RBC exposure pathway is not anticipated to be complete for the property or the surrounding area.

The sample with the greatest diesel- and oil-range petroleum hydrocarbon detection (8,230 mg/kg in shallow soil at 2011 boring P-4) was further analyzed for EPH to allow for the calculation of a site-specific RBC for oil-range petroleum hydrocarbons (see Section 7.1). Following the derivation and comparison to the calculated site-specific RBC for oil-range petroleum hydrocarbons, it was concluded that no oil-range petroleum hydrocarbon concentrations were detected in site soils that exceed the calculated TPH-RBC for either Occupational (51,000 mg/kg) or Construction Worker (16,000 mg/kg) exposure scenarios.

Metals. Shallow soil samples from each boring completed as part of the 2011 Phase II ESA were tested for EPA Priority Pollutant metals. Results of this testing indicated certain metals at one or more locations to be present at concentrations greater than those deemed typical of naturally-occurring concentrations for soils in Oregon (*see* Table 7). Specifically, copper (2 samples), lead (3 samples), mercury (3 samples), and zinc (3 samples) were detected at concentrations greater than DEQ default background concentrations. Of these instances, lead (detections up to 138 mg/kg) exceeded the DEQ default naturally occurring background concentration of 17 mg/kg. Testing of deeper soil samples for total lead does not suggest that lead concentrations above naturally occurring background levels extend to deeper soils at this portion of the property. Typical background concentrations were encountered in samples collected from 6 to 7 feet bgs in all instances.

None of the metals that were detected at concentrations greater than typical naturally occurring background were present at concentrations greater than potentially applicable RBCs, and therefore do not suggest the presence of a potentially unacceptable human health risk. Leachability testing (TCLP) of the soil samples containing lead at concentrations greater than 100 mg/kg, in conjunction with groundwater data from the same locations (*see*

Section 7.3.5), indicates that leaching to groundwater or leachability with regard to waste profiling are of no concern.

7.3.4.3 Western Parking Lot Area

HAI installed 2 borings in the northern (P-11) and central (P-12) portions of the western parking lot area in 2011. URS previously installed 4 soil borings (HB-1 through HB-4) in the southern portion of the parking lot in 2010, all near the southwestern building corner (*see* Figure 6).

PCBs. No PCBs were detected at concentrations exceeding the laboratory MRL in soil samples collected from borings P-11 and P-12 (*see* Table 5).

Previous soil sampling in the southern portion of the western parking lot area (near the basement-area sump pump) completed by URS in 2010 identified low-level PCB concentrations up to 0.44 mg/kg at a depth of 0.5 to 1.25 feet bgs. The PCB detections do not exceed DEQ RBCs for occupational, construction worker, or the leachability to residential tapwater exposure scenarios.

Petroleum Hydrocarbons and PAHs. As summarized in Table 5 and depicted on Figure 12, analytical results for soil samples collected from borings P-11 and P-12 did not contain concentrations of diesel- and oil-range petroleum hydrocarbons greater than laboratory MRLs.

Previous soil sampling in the southern portion of the western parking lot area (near the basement-area sump pump) completed by URS in 2010 identified low level diesel- and oil-range petroleum hydrocarbon concentrations up to 228.5 mg/kg. Neither the diesel- nor the oil-range petroleum hydrocarbon detections exceed DEQ Level II Soil Matrix Cleanup Levels.

Benzo(a)pyrene was detected in one near-surface soil sample near the southwestern building corner (0.5 to 1.25 feet bgs at boring HB-1) at a concentration exceeding the DEQ RBC for direct contact via the occupational exposure scenario (*see* Table 5).

Metals. Copper and lead were detected in shallow soil at one location (P-11) at a concentration greater than that deemed typical of naturally occurring concentrations for soils in Oregon. Neither copper nor lead were detected at a concentration greater than a DEQ human health-based RBC (see Table 6).

Copper, lead, mercury, and zinc were detected in certain samples collected by URS in 2010 at concentrations greater than typical naturally-occurring background, but were not present at concentrations greater than potentially applicable RBCs, and therefore do not suggest the presence of a potentially unacceptable human health risk.

As with the eastern parking lot area, the western parking lot area is completely paved and therefore there is no human contact with areas of impacted soils. Additionally, use of uppermost groundwater as a domestic water source in the area surrounding the property is not anticipated. Based on the preceding, there is no complete pathway for human health exposure, and thus no current unacceptable risks to human health as related to soils are apparent.

7.3.5 Groundwater Testing Results

As summarized in Table 8 and as depicted on Figure 6, groundwater samples were collected from temporary well points installed by HAI in the eastern parking lot area in 2007 and 2011 (7 locations); in the basement area by HAI in 2011 (4 locations); and in the western parking lot area by HAI and URS in 2010 and 2011 (4 locations).

PCBs. PCBs were analyzed in a majority of groundwater samples collected by HAI in 2011 and in all (2) samples collected by URS in 2010 near the southwestern corner of the building in the western parking lot area.

No PCBs were detected above laboratory MRLs in any of the seven groundwater samples collected by HAI in 2011. PCBs were detected at sample location HB-2 (located near the southwestern building corner) in 2010. The estimated concentration was 0.0306 µg/L only slightly exceeded the 0.028 µg/L DEQ RBC established for ingestion and inhalation of residential tapwater.

Volatile Organic Compounds. As summarized in (*see* Table 10), with the exception of acetone at a single location[5], no VOCs were detected in groundwater samples collected by HAI in 2011 at concentrations greater than laboratory MRLs.

[5] DEQ and EPA have not issued groundwater RBCs or Drinking Water MCLs for this constituent. However, the EPA has issued a 22,000 µg/L Regional Screening Level for acetone in Residential Tapwater. The single detection of acetone at the site (36.2 µg/L) is well below this referenced EPA Regional Screening Level.

Previous groundwater sampling conducted in the western parking lot area by URS in 2010 detected the VOC, 1,4-dichlorobenze at concentrations greater than the DEQ RBC for Ingestion and Inhalation of Residential Tapwater.

Groundwater sampling previously conducted by HAI in the eastern parking lot area in 2007 detected benzene (0.6 µg/L) and naphthalene (16.2 µg/L) at concentrations greater than DEQ RBCs for the Residential Tapwater pathway.

Petroleum Hydrocarbons and PAHs. Where analyzed, diesel- and oil-range petroleum hydrocarbons were not detected in groundwater samples collected from any location at concentrations greater than laboratory MRLs (*see* Table 8 and Figure 16).

As shown in Table 8, groundwater samples from boring P-6 in the basement area, and borings P-11 and HB-2 in the western parking lot area, had detectable concentrations of the PAHs, acenaphthene, pyrene, and/or naphthalene. In all cases these PAH constituents were detected at concentrations below the most stringent DEQ RBCs as established for ingestion and inhalation of residential tapwater.

Metals. As summarized in Table 8 and depicted on Figure 17, dissolved arsenic was detected in groundwater samples collected from five temporary well points (P-3, P-4, P-5, P-6, and HB-2) located across the property at concentrations of up to 0.015 mg/L. The detected arsenic concentrations exceed the DEQ RBC established for the Residential Tapwater pathway at all locations where detected. However, arsenic is a naturally-occurring metal and was not identified in soils at any location at concentrations greater than those deemed typical of naturally-occurring background. It is suspected that the detected arsenic concentrations in groundwater may be attributable to natural background water quality within uppermost groundwater beneath the property.

In summary, several constituents have been detected at sporadic locations in groundwater beneath the property. Of these, only detections of PCBs (one location), arsenic (five locations), benzene (one location), naphthalene (1 location), and 1,4-dichlorobenzene (2 locations) exceed RBCs established only for the Residential Tap Water exposure pathway. The identified low level and limited detections do not suggest the presence of an ongoing source of impact to groundwater at the site.

Based on review of well log information available on the Oregon Water Resources Department (OWRD) database, groundwater in the area of the property is not used for domestic purposes, and therefore the Residential Tap Water exposure pathway would not be considered complete. As such, the Residential Tap Water pathway would not present an unacceptable risk to human health.

8.0 FINDINGS

Phase II ESA activities were conducted at the Hawthorne Building to assess concrete flooring (basement and main floor), exterior asphalt (eastern parking area), and select interior building surfaces for the presence and magnitude of PCBs; and near surface and subsurface soils and groundwater across the property for potential releases of hazardous substances as a function of past uses and practices at the property.

A summary of findings as related to the Phase II ESA testing as described herein is presented below:

1. Samples of the top centimeter of concrete flooring across a majority of the basement had PCB concentrations greater than the 1,000 µg/kg EPA High Occupancy Threshold for Unrestricted Use. PCBs were also detected in samples of concrete flooring collected from the main floor of the building at concentrations with exceedances of the 1,000 µg/kg EPA threshold value occurring in the southern portion of the main floor.

2. Analytical results for wipe samples collected from the walls, ceilings, stairwell, and floors of the basement and main levels indicated that in all but 3 samples PCBs were either not detected above laboratory MRLs, or were detected at concentrations below the EPA High Occupancy Unrestricted Use action level of 10 $\mu g/cm^2$ as established for wipe samples. The three locations where the detected PCB concentrations were greater than the PCB wipe action level were co-located with concrete floor samples from the basement.

3. PCB sample results from the top centimeter of asphalt paving in the eastern parking lot were below the 1,000 µg/kg EPA High Occupancy Threshold for Unrestricted Use. Although no threshold exceedances were identified, the highest PCB concentrations in asphalt samples were detected at locations nearest the site building,

with the overall highest concentration identified near the top of the driveway ramp leading up from the basement.

4. PCBs were detected in a sample of surface dust that had accumulated over time on the asphalt surface within a small depression in the eastern parking lot portion of the property. The detected total PCB concentration (142.5 µg/kg) is less than the 980 µg/kg DEQ RBC for the Occupational Direct contact exposure pathway and is therefore not a potential human health risk to site workers. However, the identified total PCB concentration exceeds the inferred 50 µg/kg typical industrial stormwater sediment level referenced by DEQ.

5. Oil-range petroleum hydrocarbons were detected in shallow fill soils beneath much of the eastern parking lot area, with the greatest concentrations detected in the upper few feet below ground surface. Oil-range petroleum hydrocarbons were also detected beneath the southern portion of the western parking lot and at a single location beneath the basement floor of the existing structure. PCBs were not detected in soil samples collected beneath the eastern parking lot or basement, while one low-level detection was identified beneath the western parking lot.

   Concentrations of oil-range hydrocarbons exceed the 500 mg/kg generic DEQ Level 2 Soil Matrix Cleanup Value in numerous instances, but do not exceed the site-specific calculated RBCs for Construction Worker Exposure (16,000 mg/kg) or Occupational Exposure (51,000 mg/kg) at any location.

   Benzo(a)pyrene concentrations exceed the direct contact RBC for Occupational Exposure at 2 shallow locations beneath the eastern parking lot area and one shallow location beneath the western parking lot area. Naphthalene exceeds the Leaching to Tapwater RBC at one location beneath the eastern parking lot area.

   Shallow soils throughout the property, regardless of location, have lead detections that exceed typical naturally occurring background levels, with the highest concentrations in the upper 5 to 6 feet bgs. The detected lead concentrations are all below the DEQ RBCs for Direct Contact to Occupational or Construction Workers. Testing did not suggest the lead to be a leachability concern with regard to

potential future waste profiling or with regard to leaching to groundwater.

Potentially impacted soils at the property are currently covered (i.e., capped) with asphalt (parking lot areas) and with the building's concrete foundation (basement area). The asphalt and concrete currently act to prevent human contact with the impacted soils. Further, preliminary research suggests that uppermost groundwater in the vicinity of the property is not used as a domestic or commercial water supply. Accordingly, under current conditions, a complete pathway for human exposure does not exist, and thus no current unacceptable risks to human health with regard to site soils.

6. Groundwater has been observed in borings at depths of approximately 14 to 15 feet bgs at the exterior portions of the property, and at depths of approximately 4 to 5 feet below the interior basement floor. Groundwater flow direction is inferred to be to the west, toward the Willamette River.

7. Several constituents have been detected at sporadic locations in groundwater beneath the property. Of these, only concentrations of PCBs (one location), dissolved arsenic (five locations), benzene (one location), naphthalene (1 location), and 1,4-dichlorobenzene (2 locations) exceed RBCs established for the Residential Tap Water exposure pathway. The detected concentrations do not exceed RBCs as established for other exposure pathways such as Vapor Intrusion into Building or Groundwater in Excavation for Construction and Excavation Workers.

   The detected arsenic concentrations may be attributable to naturally occurring background water quality, while the detected VOCs, naphthalene, and PCB concentrations may be attributable to site conditions. Due to the low level and sporadic nature of the detections, no significant ongoing source for these groundwater impacts appears likely present at the property. Based on review of well log information available on the OWRD database, groundwater in the area of the property is not used for domestic purposes, and therefore the Residential Tap Water exposure pathway is not complete. As such, the Residential Tap Water pathway would not present an unacceptable risk to human health.

9.0 LIMITATIONS AND SIGNATURES

The information presented in this report was collected, analyzed, and interpreted following the standards of care, skill, and diligence ordinarily provided by a professional in the performance of similar services as of the time the services were performed. This report and the conclusions and/or recommendations contained in it are based solely upon research and/or observations, and physical sampling and analytical activities that were conducted.

The information presented in this report is based only upon activities witnessed by HAI or its contractors, and/or upon information provided to HAI by the Client and/or its contractors. The analytical data presented in this report document only the concentrations of the target analytes in the particular sample, and not the property as a whole.

Unless otherwise specified in writing, this report has been prepared solely for the use by the Client and for use only in connection with the evaluation of the subject property. Any other use by the Client or any use by any other person shall be at the user's sole risk, and HAI shall have neither liability nor responsibility with respect to such use.

Hahn and Associates, Inc.

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10.0 GLOSSARY OF ABBREVIATIONS

bgs	below existing ground surface
DEQ	Oregon Department of Environmental Quality
DOE	Washington Department of Ecology
Dx	Diesel- and oil-range hydrocarbons
EPA	U.S. Environmental Protection Agency
EPH	extractable petroleum hydrocarbons
ESA	Environmental Site Assessment
Gx	gasoline-range petroleum hydrocarbons
HAI	Hahn and Associates, Inc.
HCID	hydrocarbon identification
ID	inside diameter
IDW	investigation-derived waste
JSCS	Joint Source Control Strategy
LCS	laboratory control standard
LCSD	laboratory control standard duplicate
MCL	Maximum Concentration Limit
mg/kg	milligrams per kilogram
MRLs	method reporting levels
MS	matrix spike
NW	northwest
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statute
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PGE	Portland Gas and Electric
PID	photoionization detector
ppm	parts per million
REC	Recognized Environmental Condition
RBC	Risk Based Concentration
SLV	screening level value

TCLP	toxicity characteristic leachate procedure
TPH	total petroleum hydrocarbons
UIC	Underground Injection Control
USCS	Unified Soil Classification System
UST	underground storage tank
VOCs	volatile organic compounds
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
W.M.	Willamette Meridian

TABLES

TABLE 1 – Push Probe Boring Identification and Rationale

Boring Number	Location	Objective
P-1	Eastern Parking Lot Area	Near surface soil quality and baseline (up-gradient) groundwater quality.
P-2	Eastern Parking Lot Area	Near surface soil quality (near top of vehicle ramp to basement in area of previous greatest oil-range concentration). Expanded testing for site-specific risk screening.
P-3	Eastern Parking Lot Area	Near surface soil and groundwater quality immediately west (down-gradient) of parking lot catch basins and slight depression area
P-4	Eastern Parking Lot Area	Near surface soil and groundwater quality immediately west (down-gradient) of parking lot catch basin at the southeast corner of property
P-5	Basement	Near surface soil and groundwater quality proximate to the base of the ramp near the catch basin receiving runoff from the ramp and down-gradient from an indicated former paint booth and abandoned in-place gasoline UST.
P-6	Basement	Near surface soil and groundwater quality to provide data coverage beneath the north-central portion of the building.
P-7	Basement	Near surface soil and groundwater quality in the area of a former paint booth and corresponding to the location of concrete staining and vertical piping within the floor observed to contain oil.
P-8	Basement	Near surface soil quality at a location proximate to Sumps F and G.
P-9	Basement	Near surface soil quality at the location of the loading dock door/freight elevator near the northwest corner of the basement.
P-10	Basement	Near surface soil and groundwater quality near the sumps at the southwestern portion of the property (primary drainage sump for all drain features in the basement). Area also correlates with an area of former equipment cleaning.
P-11	Western Parking Lot Area	Near surface soil and groundwater quality in the inferred down-gradient location relative to the northern portion of the property.
P-12	Western Parking Lot Area	Near surface soil and groundwater quality in the inferred down-gradient location relative to the central portion of the property.

TABLE 2 – Summary of Concrete, Asphalt, Dust Testing Results for Polychlorinated Biphenyls (By Area and Type)

Sample Media	Sample Location	Sample Number [1]	Sample Date	Sample Depth (centimeters)	EPA 8082 (Polychlorinated Biphenyls) (ug/kg) Total PCBs	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
				EPA High Occupancy Unrestricted Use Threshold [2] ==>	**1,000.**	NV	NV	NV	NV	NV	NV	NV
				DEQ Occupational Direct Contact RBC for Soil [3] ==>	**980.**	NV	NV	NV	NV	NV	NV	NV
Basement												
Concrete (HAI 2011)	C1	110627-C1-204	27-Jun-11	0.0 - 1.0	**15,900.**	455. U	455. U	455. U	455. U	455. U	5,000.	10,900.
	C2	110627-C2-205	27-Jun-11	0.0 - 1.0	**12,076.**	458. U	458. U	458. U	606.	458. U	5,510.	5,960.
	C3	110627-C3-210	27-Jun-11	0.0 - 1.0	**16,940.**	502. U	502. U	502. U	1,570.	502. U	4,970.	10,400.
	C4	110627-C4-201	27-Jun-11	0.0 - 1.0	**20,650.**	457. U	457. U	457. U	457. U	457. U	9,450.	11,200.
	C5	110628-C5-216	28-Jun-11	0.0 - 1.0	567. J	9.23 UJ	9.23 UJ	9.23 UJ	106. J	9.23 UJ	291. J	170. J
	C6	110627-C6-206	27-Jun-11	0.0 - 1.0	**14,350.**	501. U	501. U	501. U	501. U	501. U	4,250.	10,100.
	C7	110627-C7-202	27-Jun-11	0.0 - 1.0	**33,100.**	445. U	445. U	445. U	445. U	445. U	14,300.	18,800.
	C8	110627-C8-207	27-Jun-11	0.0 - 1.0	**5,367.**	175. U	175. U	175. U	227.	175. U	1,780.	3,360.
	C9	110627-C9-209	27-Jun-11	0.0 - 1.0	**38,600.**	999. U	999. U	999. U	999. U	999. U	999. U	38,600.
	C10	110627-C10-203	27-Jun-11	0.0 - 1.0	**14,060.**	491. U	491. U	491. U	491. U	491. U	4,290.	9,770.
	C11	110627-C11-208	27-Jun-11	0.0 - 1.0	**8,147.**	188. U	188. U	188. U	237.	188. U	2,250.	5,660.
	C19	110627-C19-219	6-Jul-11	0.0 - 1.0	615. J	10.1 UJ	10.1 UJ	10.1 UJ	117. J	10.1 UJ	252. J	246. J
	C20	110815-C20-221	15-Aug-11	0.0 - 1.0	**8,518.**	161. U	161. U	161. U	161. U	161. U	3,850.	4,040.
Concrete (URS 2010)	C1	C-01-050410	4-May-10	0.0 - 1.9	**2,810.**	40.7 U	40.7 U	40.7 U	40.7 U	40.7 U	1,790.	1,020.
	C2	C-02-a-050410	4-May-10	0.0 - 1.3	**139,500.**	918. U	918. U	918. U	918. U	918. U	37,500.	102,000.
	C3	C-03-a-050410	4-May-10	0.0 - 1.3	**14,010.**	172. U	172. U	172. U	172. U	172. U	4,260.	9,750.
	C4	C-04-a-050410	4-May-10	0.0 - 1.3	**1,102.**	19.8 U	19.8 U	19.8 U	19.8 U	19.8 U	735.	367.
	C5	C-05-050410	4-May-10	0.0 - 1.9	**3,460.**	386. U	386.	386. U	386. U	386. U	1,660.	1,800.
Main Floor												
Concrete	C12	110628-C12-218	28-Jun-11	0.0 - 1.0	592.4 J	8.71 U	8.71 U	8.71 U	30.4	8.71 U	330.	232. J
	C13	110627-C13-215	27-Jun-11	0.0 - 1.0	598.	89.8 U	89.8 U	89.8 U	89.8 U	89.8 U	266.	332.
	C14	110627-C14-214	27-Jun-11	0.0 - 1.0	**1,036.**	44.7 U	44.7 U	44.7 U	44.7 U	44.7 U	338.	698.
	C15	110627-C15-217	28-Jun-11	0.0 - 1.0	207. J	91. UJ	91. UJ	91. UJ	91. UJ	91. UJ	207. J	91. UJ
	C16	110627-C16-212	27-Jun-11	0.0 - 1.0	**3,870.**	176. U	176. U	176. U	176. U	176. U	1,650.	2,220.
	C17	110627-C17-213	27-Jun-11	0.0 - 1.0	647.	91.9 U	91.9 U	91.9 U	102.	91.9 U	91.9 U	545.
	C18	110627-C18-211	27-Jun-11	0.0 - 1.0	**9,872.**	468. U	468. U	468. U	862.	468. U	4,570.	4,440.
East Parking Lot												
Asphalt	A1	110628-A1-301	28-Jun-11	0.0 - 1.0	12.9	8.87 U	8.87 U	8.87 U	8.87 U	8.87 U	8.87 U	12.9
	A2	110628-A2-302	28-Jun-11	0.0 - 1.0	18.	8.78 U	8.78 U	8.78 U	8.78 U	8.78 U	8.78 U	18.
	A3	110628-A3-300	28-Jun-11	0.0 - 1.0	50.5	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	22.3	28.2
	A4	110628-A4-303	28-Jun-11	0.0 - 1.0	103.2 J	8.61 UJ	8.61 UJ	8.61 UJ	14.4 J	8.61 UJ	30.4 J	58.4 J
	A5	110628-A5-304	28-Jun-11	0.0 - 1.0	22.19	8.45 U	8.45 U	8.45 U	8.45 U	8.45 U	8.99	13.2
	A6	110628-A6-305	28-Jun-11	0.0 - 1.0	8.77 UJ	8.77 UJ	8.77 UJ	8.77 UJ	8.77 UJ	8.77 UJ	8.77 UJ	8.77 UJ

1 = Sample No. Prefix: 8004-
2 = 40 C.F.R. § 761.61(a)(4)(iii)
3 = DEQ Risk-Based Concentration (RBC), September 2009

DEQ = Oregon Department of Environmental Quality
EPA =U.S. Environmental Protection Agency
NV = No value established

RBC = risk-based concentration
ug/kg = Micrograms per kilogram
U = Concentration not detected above indicated laboratory method reporting limit.

Bold and Highlighted = Exceeds EPA High Occupancy Unrestricted Use Threshold or DEQ Occupational Direct Contact RBC

TABLE 3 – Summary of Wipe Sampling Testing Results for Polychlorinated Biphenyls (By Area)

Area	Surface Media	Sample Location	Sample Number [1]	Sample Date	Sample Area (sq. cm)	EPA 8082 (Polychlorinated Biphenyls) (ug/100 sq. cm) Total PCBs	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
			EPA High Occupancy Unrestricted Use Threshold [2] ==>			**10.**	NV	NV	NV	NV	NV	NV	NV
Basement													
Wall	Concrete	Basement Wall	400	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
		Basement Wall	402	28-Jun-11	100	0.383	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.137	0.246
		Basement Wall	403	28-Jun-11	100	0.116	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.116
		Basement Wall	404	28-Jun-11	100	0.856	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.308	0.548
		Basement Wall	406	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
		Basement Wall	407	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Ceiling	Concrete	Basement Ceiling	416	28-Jun-11	100	0.42	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.105	0.315
		Basement Ceiling	417	28-Jun-11	100	0.585	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.186	0.399
		Basement Ceiling	419	28-Jun-11	100	0.235	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.102	0.133
Floor	Concrete	Basement Floor (C3)	422	29-Jun-11	100	**16.19**	0.5 U	0.5 U	0.5 U	0.5 U	2. U	2.69	13.5
		Basement Floor (C6)	423	29-Jun-11	100	**15.98**	0.5 U	0.5 U	0.5 U	0.5 U	2. U	6.72	9.26
		Basement Floor (C2)	424	29-Jun-11	100	3.03	0.5 U	0.5 U	0.5 U	0.5 U	1.5 U	1.44	1.59
		Basement Floor (C7)	425	29-Jun-11	100	**32.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	14.8	17.3
	Vinyl Tile	Basement to Main Floor Stairwell Landing	426	13-Aug-11	100	0.527	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.189	0.338
		Basement to Main Floor Stairwell Top Stair	427	13-Aug-11	100	0.127	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.127
Main Floor													
Wall	Concrete	Main Floor Wall	408	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
		Main Floor Wall	409	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
		Main Floor Wall	411	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
		Main Floor Wall	412	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Ceiling	Concrete	Main Floor Ceiling	414	28-Jun-11	100	0.413	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.105	0.308
		Main Floor Ceiling	415	28-Jun-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	Metal	Main Floor - Vent	421	28-Jun-11	100	5.32	1. U	1. U	1. U	1. U	1. U	1.52	3.8
Floor	Concrete	Main Floor Landing	428	13-Aug-01	100	0.453	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.203	0.25
		Main Floor Elevator Landing	429	13-Aug-11	100	0.175	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.175	0.1 U
		Main to 2nd Floor Stairwell Base of Stairs	430	13-Aug-11	100	0.27	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.151	0.119
	Vinyl Tile	Main to 2nd Floor Stairwell Landing	431	13-Aug-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
		Main to 2nd Floor Stairwell Top Stair	432	13-Aug-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Second Floor													
Floor	Carpeting	2nd Floor Stairwell Landing	433	13-Aug-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	Concrete	2nd Floor Elevator Landing	434	13-Aug-11	100	0.373	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.193	0.18
	Metal	2nd to 3rd Floor Stairwell Bottom Stair	435	13-Aug-11	100	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

sq. cm = square centimeters
EPA = U.S. Environmental Protection Agency
NV = no value established
PCBs = polychlorinated biphenyls
ug = micrograms

1: Sample No. Prefix: 8004-110628- (June 28 samples), 8004-110629- (June 29 samples), & 8004-110813- (August 13 samples)
2: 40 C.F.R. § 761.79(b)(4) [Note: This requirement applies to releases of PCBs when the decontamination procedure is commenced within 72 hours of the initial spill of PCBs to the concrete or portion thereof being decontaminated.
as the 72 hour requirement is not applicable, the 10 ug/100cm2 surface area decontamination threshold was used to evaluate painted and unpainted surfaces such as walls and ceilings where liquid PCBs likely would not have been placed or deposited.
However, dust or other particulate matter containing PCBs may have been deposited onto these building surfaces and not absorbed into the porous structural media.

Bold and Highlighted = Exceeds EPA High Occupancy Unrestricted Use Threshold (see caveat, note 3).

TABLE 4 – Summary of Dust Testing Results for Polychlorinated Biphenyls

Area	Sample Type	Sample Location	Sample Number [1]	Sample Date	Sample Depth (centimeters)	EPA 8082 (Polychlorinated Biphenyls) (ug/Kg)							
						Total	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
Portland Harbor Joint Source Control Strategy SLV - Upland Soil/Stormwater Sediment (Toxicity)[2]						676.	530	NV	NV	NV	1,500	300	200
Portland Harbor Joint Source Control Strategy SLV - Upland Soil/Stormwater Sediment (Bioaccumulation)[2]						**0.39**	NV	NV	NV	NV	NV	NV	NV
Oregon DEQ Direct Contact RBC - Occupational Worker						980.	NV	NV	NV	NV	NV	NV	NV
Oregon DEQ Direct Contact RBC - Construction Worker						4,400.	NV	NV	NV	NV	NV	NV	NV
HAI Phase II Environmental Site Assessment (ESA) (2011)													
East Parking Lot	Dust	Depression Area	110628-306	28-Jun-11	0.0 - 1.0	**142.5** J	13.5 UJ	13.5 UJ	13.5 UJ	13.5 UJ	13.5 UJ	44.4 J	98.1 J

1 = HAI Sample No. Prefix: 8004-
2 = Portland Harbor Joint Source Control Strategy defines stormwater sediment as either catch basin sediment, conveyance line sediment, or stormwater particulates.

DEQ = Oregon Department of Environmental Quality
U = Concentration not detected above indicated laboratory method reporting limit.
ug/Kg = Micrograms per kilogram

Bold = Exceed either Oregen DEQ Direct Contact RBC or Portland Harbor Joint Source Control Strategy SLV
Bold & Highlighted = Exceeds both Oregen DEQ Direct Contact RBC and Portland Harbor Joint Source Control Strategy SLV

TABLE 5 – Summary of Soil Testing Results: Total Petroleum Hydrocarbons, Volatile Organic Compounds, and Polychlorinated Biphenyls

Investigation	Sample Location	Sample Number	Sample Date	Sample Depth (feet bgs)	Laboratory Testing Results (mg/kg)						
					NW TPH-Gx	NW TPH-Dx			NW EPH	EPA 8260B	EPA 8082
					Gasoline-Range	Diesel-Range	Oil-Range	Diesel + Oil	Extractable Hydrocarbons	VOCs	PCBs
Soil Matrix Level 2 Cleanup Standard [2] ==>					80.	NV	NV	500.	NV	NV	NV
Residential Leaching to Tapwater RBC [1] ==>					28.	3,200.	NV	NV	NV	Varies	0.64
Occupational Direct Contact RBC [1] ==>					22,000.	70,000.	NV	NV	NV	Varies	0.98
Construction Worker Direct Contact RBC [1] ==>					13,000.	23,000.	NV	NV	NV	Varies	4.4
Excavation Worker Direct Contact RBC [1] ==>					>Max	>Max	NV	NV	NV	Varies	120.
Occupational Direct Contact Site-Specific TPH-RBC [3] ==>					NV	NV	NV	51,000.	NV	NV	NV
Construction Worker Direct Contact Site-Specific TPH-RBC [3] ==>					NV	NV	NV	16,000.	NV	NV	NV
Excavation Worker Direct Contact Site-Specific TPH-RBC [3] ==>					NV	NV	NV	>Max	NV	NV	NV
Eastern Parking Lot											
HAI (2011)	P-1 (11)	P1-001	30-Jun-11	0.5 - 1.0	NT	30.8 U	244.	244.	NT	NT	0.00817 U
	P-2 (11)	P2-006	30-Jun-11	0.5 - 1.5	4.77 U	52.	845.	**897.**	NT	All U	0.00804 U
		P2-007	30-Jun-11	6.0 - 7.0	NT	25. U	50. U	U	NT	NT	NT
	P-3 (11)	P3-009	30-Jun-11	1.0 - 2.0	NT	28.5	203.	231.5	NT	NT	0.00899 U
	P-4 (11)	P4-012	30-Jun-11	0.5 - 1.5	5.18 U	638. U	8,230.	**8,230.**	Aliphatic C16-21 = 115. Aliphatic C21-24 = 1,240. J Aromatic C16-21 = 90.5 J Aromatic C21-34 = 849.	Naphthalene = 0.385 All others = U	0.0191
		P4-013	30-Jun-11	6.0 - 7.0	NT	25. U	50. U	U	NT	NT	NT
HAI (2007)	P-1 (07)	001	29-Oct-07	1.5 - 2.5	NT	29.3 U	58.6 U	U	NT	NT	0.096 U
		002	29-Oct-07	8.0 - 9.0	NT	28. U	397.	397.	NT	NT	NT
		004	29-Oct-07	18.0 - 19.0	NT	41.1 U	122.	122.	NT	NT	NT
	P-2 (07)	005	29-Oct-07	0.5 - 1.5	NT	437.	4,000.	**4,437.**	NT	NT	0.089 U
		008	29-Oct-07	10.0 - 11.0	NT	33. U	66. U	U	NT	NT	NT
		009	29-Oct-07	15.5 - 16.5	NT	43. U	95.7	95.7	NT	NT	NT
	P-3 (07)	010	29-Oct-07	1.0 - 2.0	NT	31.6 U	63.1 U	U	NT	NT	0.096 U
		012	29-Oct-07	11.0 - 12.0	NT	38.2 U	76.3 U	U	NT	NT	NT
		013	29-Oct-07	18.0 - 19.0	NT	39.9 U	79.8 U	U	NT	NT	NT
	P-4 (07)	014	29-Oct-07	0.5 - 1.5	NT	97.4	1,060.	**1,157.4**	NT	NT	0.089 U
		015	29-Oct-07	6.0 - 7.0	NT	28.4 U	56.8 U	U	NT	NT	NT
		016	29-Oct-07	10.0 - 11.0	NT	31.4 U	102.	102.	NT	NT	NT
	P-5 (07)	018	29-Oct-07	0.5 - 1.5	NT	337. U	2,570.	**2,570.**	NT	NT	0.099 U
	P-6 (07)	019	29-Oct-07	1.0 - 2.0	NT	30.9 U	84.	84.	NT	NT	0.1 U
	P-7 (07)	020	29-Oct-07	1.0 - 2.0	NT	40.7	769.	**809.7**	NT	NT	0.098 U
	P-8 (07)	021	29-Oct-07	1.0 - 2.0	NT	27.3 U	340.	340.	NT	NT	0.1 U
	P-9 (07)	022	29-Oct-07	1.0 - 2.0	NT	36.3 U	387.	387.	NT	NT	0.11 U
	P-10 (07)	023	29-Oct-07	1.0 - 2.0	NT	28.	470.	498.	NT	NT	0.092 U
	P-11 (07)	024	29-Oct-07	1.0 - 2.0	NT	29.7 U	103.	103.	NT	NT	0.095 U

TABLE 5 – Summary of Soil Testing Results: Total Petroleum Hydrocarbons, Volatile Organic Compounds, and Polychlorinated Biphenyls

Investigation	Sample Location	Sample Number	Sample Date	Sample Depth (feet bgs)	Laboratory Testing Results (mg/kg)						
					NW TPH-Gx	NW TPH-Dx			NW EPH	EPA 8260B	EPA 8082
					Gasoline-Range	Diesel-Range	Oil-Range	Diesel + Oil	Extractable Hydrocarbons	VOCs	PCBs
Soil Matrix Level 2 Cleanup Standard [2] ==>					80.	NV	NV	500.	NV	NV	NV
Residential Leaching to Tapwater RBC [1] ==>					28.	3,200.	NV	NV	NV	Varies	0.64
Occupational Direct Contact RBC [1] ==>					22,000.	70,000.	NV	NV	NV	Varies	0.98
Construction Worker Direct Contact RBC [1] ==>					13,000.	23,000.	NV	NV	NV	Varies	4.4
Excavation Worker Direct Contact RBC [1] ==>					>Max	>Max	NV	NV	NV	Varies	120.
Occupational Direct Contact Site-Specific TPH-RBC [3] ==>					NV	NV	NV	51,000.	NV	NV	NV
Construction Worker Direct Contact Site-Specific TPH-RBC [3] ==>					NV	NV	NV	16,000.	NV	NV	NV
Excavation Worker Direct Contact Site-Specific TPH-RBC [3] ==>					NV	NV	NV	>Max	NV	NV	NV
Basement Area											
HAI (2011)	P-5 (11)	P5-030	30-Jun-11	0.5 - 1.5	NT	25. U	50. U	U	NT	NT	0.00915 UJ
	P-6 (11)	P6-018	30-Jun-11	0.5 - 1.5	NT	25. U	50. U	U	NT	NT	0.00948 UJ
	P-7 (11)	P7-021	30-Jun-11	0.5 - 1.5	NT	25. U	50. U	U	NT	NT	0.00973 U
	P-8 (11)	P8-024	30-Jun-11	0.5 - 1.5	6.12 U	713. U	3,990.	**3,990.**	Aliphatic C16-21 = 154. Aliphatic C21-24 = 632. **J** Aromatic C16-21 = 86.5 J Aromatic C21-34 = 451.	All U	0.00909 U
		P8-025	30-Jun-11	4.0 - 5.0	NT	27. U	54.1 U	U	NT	NT	NT
	P-9 (11)	P9-015	30-Jun-11	0.5 - 1.5	NT	25. U	50. U	U	NT	NT	0.00903 U
	P-10 (11)	P10-027	30-Jun-11	0.5 - 1.5	6.54 U	25. U	50. U	U	NT	NT	0.00968 U
Western Parking Area											
HAI (2011)	P-11 (11)	P11-036	30-Jun-11	0.5 - 1.5	NT	25. U	50. U	U	NT	NT	0.00917 U
	P-12 (11)	P12-033	30-Jun-11	0.5 - 1.5	NT	25. U	50. U	U	NT	NT	0.00861 U
URS (2010)	HB-1	B-1-0.5-1.25	4-May-10	1.0 - 1.25	NT	31.5 J	197.	228.5 J	NT	NT	0.44
	HB-2	B-2-16.5-17-5	4-May-10	16.5 - 17.5	NT	7.24 U	14.5 U	U	NT	NT	0.00165 J
	HB-3	B-3-0.5-1.5	4-May-10	0.5 - 1.5	NT	14.5 U	109.	109.	NT	NT	0.00159 J
	HB-4	B-4-21-22	4-May-10	21.0 - 22.0	NT	8.9 U	50.8	50.8	NT	NT	0.00236 J

1 = DEQ Risk-Based Concentration (RBC), September 2009, for indicated pathway. The Tapwater Pathway is assumed until such a time that a well survey demonstrates no domestic groundwater use in area.
2 = DEQ Level 2 Soil Matrix Cleanup Standard (OAR 340-122-0335)
3 = Site-Specific TPH RBC derived using DEQ issued Workbook "Calculating RBCs for Total Petroleum Hydrocarbons" (December 2003)

>Max = The constituent RBC for this pathway is greater than 100,000 mg/kg.
bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPH = Extractable Petroleum Hydrocarbons
HAI = Hahn and Associates

J = Estimated concentration
mg/kg = milligrams/kilogram
NT = Not tested
NV = No value established
NW = Northwest Method

PCBs = polychlorinated biphenyls
RBC = risk-based concentration
TPH = total petroleum hydrocarbons
U = Analyte not detected above indicated laboratory method reporting limit
VOCs = volatile organic compounds

Bold = Exceeds Soil Matrix Level 2 Cleanup Standard
Bold and Highlighted = Exceeds site specific calculated TPH RBC or lowest potentially applicable RBC

TABLE 6– Summary of Soil Testing Results: Polynuclear Aromatic Hydrocarbons (PAHs)

Analytical Parameters	Reference Levels [2] – mg/kg (ppm)				Laboratory Testing Results mg/kg (ppm)											
Area ==>					Eastern Parking Lot							Basement	Western Parking Area			
Investigation ==>					HAI Site Investigation (2007)				HAI Site Investigation (2011)			HAI (2011)	URS Site Investigation (2010)			
Sample Location ==>					P-1 (07)	P-2 (07)	P-4 (07)		P2 (11)	P4 (11)		P8 (11)	HB-1	HB-2	HB-3	HB-4
Sample Number [1] ==>					7358-071029-002	7358-071029-005	7358-071029-014	7358-071029-016	P2-006	P4-012	P4-013	P8-024	B-1-0.5-1.25	B-2-16.5-17.5	B-3.0.5-1.5	B-4-21-22
Sample Date ==>					29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07	30-Jun-11	30-Jun-11	30-Jun-11	30-Jun-11	4-May-11	4-May-11	4-May-11	4-May-11
Depth (feet bgs) ==>					8.0 - 9.0	0.5 - 1.5	0.5 - 1.5	10.0 - 11.0	0.5 - 1.5	0.5 - 1.5	6.0 - 7.0	0.5 - 1.5	0.5 - 1.25	16.5 - 17.5	0.5 - 1.5	21 - 22
	Occupational Direct Contact	Construction Worker Direct Contact	Excavation Worker Direct Contact	Residential Leaching to Tapwater												
Acenaphthene	61,000.	19,000.	>Max	>Csat	0.115 U	0.265 U	0.0946 U	0.0177 U	0.0164 U	0.187	0.0104 U	0.385 U	0.0862 U	0.00904 U	0.0443 U	0.0251 U
Acenaphthylene	NV	NV	NV	NV	0.0999 U	0.23 U	0.0822 U	0.0153 U	0.0164 U	0.176 U	0.0104 U	0.385 U	0.0862 U	0.00904 U	0.0443 U	0.0251 U
Anthracene	>Max	23,000.	>Max	>Csat	0.0969 U	0.224 U	0.0797 U	0.0149 U	0.0164 U	0.176 U	0.0104 U	0.385 U	0.0862 U	0.00904 U	0.0443 U	0.0251 U
Benzo (a) anthracene	>Max	60,000.	>Max	3.5	0.0885 U	0.204 U	0.0728 U	0.0136 U	0.0189	0.294	0.0104 U	0.385 U	0.753	0.00904 U	0.0557 J	0.0251 U
Benzo (a) pyrene	**0.27**	2.1	59.	0.9	0.0704 U	**0.277** J	0.0756 J	0.0108 U	0.0164 U	**0.38**	0.0104 U	0.385 U	**0.494**	0.00904 U	0.13	0.0251 U
Benzo (b) fluoranthene	2.7	21.	590.	>Csat	0.142 U	0.407 J	0.117 U	0.0218 U	0.0327 U	0.614*	0.0104 U	0.77 U	0.997	0.00904 U	0.1	0.0251 U
Benzo (ghi) perylene	NV	NV	NV	NV	0.123 U	0.38 J	0.101 U	0.0188 U	0.0332 J	0.477 J	0.0104 U	0.385 U	0.347	0.00904 U	0.154	0.0251 U
Benzo (k) fluoranthene	27.	210.	5,900.	>Csat	0.0881 U	0.203 U	0.0724 U	0.0135 U	0.0327 U	0.614*	0.0104 U	0.77 U	0.323	0.00904 U	0.0443 U	0.0251 U
Chrysene	270.	2,100.	59,000.	>Csat	0.0881 U	0.408 J	0.0954 J	0.0135 U	0.0407	0.598	0.0104 U	0.385 U	0.875	0.00904 U	0.0735 J	0.0251 U
Dibenzo (a,h) anthracene	0.27	2.1	59.	3.4	0.138 U	0.319 U	0.114 U	0.0212 U	0.0164 U	0.176 U	0.0104 U	0.385 U	0.0874 J	0.00904 U	0.0443 U	0.0251 U
Fluoranthene	29,000.	8,900.	>Max	>Csat	0.108 U	0.249 U	0.103 J	0.0166 U	0.029	0.729	0.0104 U	0.385	1.18	0.00904 U	0.0762 J	0.0251 U
Fluorene	41,000.	12,000.	>Max	>Csat	0.114 U	0.264 U	0.0939 U	0.0176 U	0.0164 U	0.176 U	0.0104 U	0.385 U	0.0862 U	0.00904 U	0.0443 U	0.0251 U
Indeno (1,2,3-cd) pyrene	2.7	21.	590.	>Csat	0.121 U	0.478 J	0.112 J	0.0186 U	0.0182	0.376	0.0104 U	0.385 U	0.257	0.00904 U	0.105	0.0251 U
Naphthalene	23.	580.	16,000.	**0.087**	0.121 U	**0.35** J	**0.137 J**	0.0186 U	0.0358	**0.361**	0.0104 U	0.385 U	0.0862 U	0.00904 U	0.0443 U	0.0251 U
Phenanthrene	NV	NV	NV	NV	0.155 U	0.357 U	0.127 U	0.0237 U	0.033	0.687	0.0104 U	0.385 U	0.125 J	0.00904 U	0.0443 U	0.0251 U
Pyrene	21,000.	6,700.	>Max	>Csat	0.094 U	0.485 J	0.13 J	0.0144 U	0.0396	0.862	0.0104 U	0.465	1.03	0.00904 U	0.104	0.0251 U

1 = HAI Sample No. Prefix: 8004-110630-
2 = DEQ Risk-Based Concentration (RBC) for indicated pathway, September 2009. The Tapwater Pathway is assumed until such a time that a well survey demonstrates no domestic groundwater use in area.

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
J = Estimated Concentration
mg/kg = milligrams/kilogram
NV = no value established
ppm = parts per million
RBC = risk-based concentration
U = Analyte not detected above indicated laboratory method reporting limit

>Max = The constituent RBC for this pathway is greater than 100,000 mg/kg.
>Csat = The soil RBC exceeds the limit of three-phase equilibrium partitioning.
* = Results for Benzo (b) fluoranthene and Benzo (k) fluoranthene could not be distinguished. Reported values are a summation of the two analytes.

Bold and Highlighted = Detected value exceeds lowest potentially applicable RBC (September 2009)

TABLE 7 – Summary of Soil Testing Results: Total and Leachable Metals

Investigation	Sample Location	Sample Number [1]	Sample Date	Sample Depth (feet bgs)	Laboratory Testing Results													
					Total Metals by EPA 6020 (mg/kg)													Leachable Metals (mg/L)
					Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	Lead by TCLP
				Occupational Direct Contact RBC [2] ==>	NV	1.7	2,000.	500.	190.	41,000.	800.	310.	20,000.	NV	5,100.	NV	NV	NV
				Construction Worker Direct Contact RBC [2] ==>	NV	13.	610.	150.	920.	12,000.	800.	93.	6,100.	NV	1,500.	NV	NV	NV
				Excavation Worker Direct Contact RBC [2] ==>	NV	370.	17,000.	4,300.	26,000.	>Max	800.	2,600.	>Max	NV	43,000.	NV	NV	NV
				DEQ Default Background Level[3] ==>	4.	7.	2.	1.	42.	**36.**	**17.**	**0.1**	38.	2.	**1.**	NV	**86.**	NV
				TCLP Regulatory Level[4] ==>	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	5.
Eastern Parking Lot																		
HAI (2011)	P-1 (11)	P1-001	30-Jun-11	0.5 - 1.0	1.13 U	2.27 U	1.13 U	1.13 U	9.59	35. J	6.11 J	0.0906 U	23.3	2.27 U	1.13 U	1.13 U	33.1 J	NT
	P-2 (11)	P2--006	30-Jun-11	0.5 - 1.5	1.07	2.01 U	1. U	1. U	7.79	32.8 J	**127.** J	**0.144**	11.8	2.01 U	1. U	1. U	**86.5** J	0.162
		P2-007	30-Jun-11	6.0 - 7.0	NT	NT	NT	NT	NT	NT	4.16	NT	NT	NT	NT	NT	NT	NT
	P-3 (11)	P3-009	30-Jun-11	1.0 - 2.0	1.2 U	5.06	1.2 U	1.2 U	15.3	**60.9** J	**138.** J	**0.213**	28.9	2.41 U	1.2 U	1.2 U	**138.** J	0.05 U
		P3-010	30-Jun-11	6.0 - 7.0	NT	NT	NT	NT	NT	NT	3.6	NT	NT	NT	NT	NT	NT	NT
	P-4 (11)	P4-012	30-Jun-11	0.5 - 1.5	1.23	4.04	1.14 U	1.14 U	12.	**104.** J	**127.** J	**0.388**	20.	2.27 U	1.14 U	1.14 U	**196.** J	0.05 U
		P4-013	30-Jun-11	6.0 - 7.0	NT	NT	NT	NT	NT	NT	12.7	NT	NT	NT	NT	NT	NT	NT
Basement Area																		
HAI (2011)	P-5 (11)	P5-030	30-Jun-11	0.5 - 1.5	1.26 U	6.81	1.26 U	1.26 U	19.5	21.9	**34.4**	0.101 U	14.	2.53 U	1.26 U	1.26 U	**122.**	NT
		P5-031	30-Jun-11	3.0 - 4.0	NT	NT	NT	NT	NT	NT	**160.**	NT	NT	NT	NT	NT	NT	NT
		P5-032	30-Jun-11	7.0 - 8.0	NT	NT	NT	NT	NT	NT	5.05	NT	NT	NT	NT	NT	NT	NT
	P-6 (11)	P6-018	30-Jun-11	0.5 - 1.5	1.38 U	2.77 U	1.38 U	1.38 U	19.4	29.1 J	5.81 J	0.111 U	18.9	2.77 U	1.38 U	1.38 U	59.7 J	NT
	P-7 (11)	P7-021	30-Jun-11	0.5 - 1.5	1.39 U	3.69	1.39 U	1.39 U	13.5	24. J	**20.2** J	0.111 U	15.	2.78 U	**6.82**	1.39 U	57.2 J	NT
	P-8 (11)	P8-024	30-Jun-11	0.5 - 1.5	1.3 U	5.12	1.3 U	1.3 U	14.5	23.6 J	**25.** J	0.104 U	16.4	2.6 U	1.3 U	1.3 U	71.2 J	NT
	P-9 (11)	P9-015	30-Jun-11	0.5 - 1.5	1.25 U	2.61	1.25 U	1.25 U	21.4	**40.2** J	10.9 J	0.1 U	22.7	2.51 U	1.25 U	1.25 U	69.7 J	NT
	P-10 (11)	P10-027	30-Jun-11	0.5 - 1.5	1.34 U	2.78	1.34 U	1.34 U	21.6	28.1 J	**240.** J	**0.536**	17.9	2.68 U	1.34 U	1.34 U	79.3 J	0.05 U
		P10-028	30-Jun-11	4.0 - 5.0	NT	NT	NT	NT	NT	NT	4.26	NT	NT	NT	NT	NT	NT	NT
Western Parking Area																		
HAI (2011)	P-11 (11)	P11-036	30-Jun-11	0.5 - 1.5	1.28 U	5.02	1.28 U	1.28 U	13.4	**46.9** J	**30.** J	0.103 U	13.3	2.56 U	1.28 U	1.28 U	60.3 J	NT
		P11-037	30-Jun-11	6.0 - 7.0	NT	NT	NT	NT	NT	NT	13.2	NT	NT	NT	NT	NT	NT	NT
	P-12 (11)	P12-033	30-Jun-11	0.5 - 1.5	1.24 U	2.49 U	1.24 U	1.24 U	8.69	16.6 J	4.37 J	0.0994 U	12.1	2.49 U	1.24 U	1.24 U	35.3 J	NT
URS (2010)	HB-1	B-1-0.5-1.25	4-May-10	1.0 - 1.25	1.67 J	4.22	NT	0.525 J	12.8	**110.** J	**360.**	**0.385**	18.8	0.467 U	0.14 J	NT	**169.** J	NT
	HB-2	B-2-16.5-17-5	4-May-10	16.5 - 17.5	0.384 J	3.16	NT	0.234 J	27.6	28.7	5.66	0.0484 J	27.4	0.53 U	0.132 U	NT	63.	NT
	HB-3	B-3-0.5-1.5	4-May-10	0.5 - 1.5	0.486 J	1.86 J	NT	0.415 J	7.86	32.9	**38.5**	0.0711 J	9.88	0.474 U	0.118 U	NT	81.4	NT
	HB-4	B-4-21-22	4-May-10	21.0 - 22.0	2.71 U	2.96	NT	0.189 J	24.3	22.9	6.62	0.0406 J	25.3	0.541 U	0.135 U	NT	57.4	NT

1 = HAI Sample No. Prefix: 8004-110630-
2 = DEQ Risk-Based Concentration (RBC) for indicated pathway, September 2009
3 = DEQ Default Background Concentrations for Metals, October 2002
4 =TCLP Regulatory Level as per Toxicity Characteristic (TC) Hazardous Waste Criteria, 40 CFR 261.24

>Max = The constituent RBC for this pathway is greater than 100,000 mg/kg.

Bold = Detection exceeds DEQ default Background Concentration (October 2002)
Bold and Highlighted = Detection exceeds both the Default Background Concentrations and lowest potentially applicable RBC (September 2009)

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
J = Estimated Concentration
mg/kg = milligrams/kilogram
NT = not tested
NV = no value established

ppm = parts per million
RBC = risk-based concentration
TCLP = Toxicity Characteristic Leaching Procedure
U = Analyte not detected above indicated laboratory method reporting limit

TABLE 8 – Summary of Groundwater Testing Results: Diesel- and Oil-Range TPH, Polynuclear Aromatic Hydrocarbonss, Polychlorinated Biphenyls, and Dissolved Metals

Investigation	Sample Location	Sample Number	Sample Date	Screen Depth (feet bgs)	Laboratory Analytical Testing Results in mg/L (ppm)						
					NW TPH-Dx		EPA 8270 SIM	EPA 8082	Dissolved Metals EPA 6010/7000		
					Diesel-Range	Oil-Range	Total PAHs	PCBs	Arsenic	Lead	Mercury
DEQ RBC for Urban Residential Vapor Intrusion [1] ==>					38.	44. [3]	Varies	NV	NV	NV	NV
DEQ RBC for Construction/Excavation Worker Contact [1] ==>					9.7	2.3 [3]	Varies	0.00404	5.8	>S	>S
DEQ RBC for Ingestion and Inhalation from Tapwater - Residential [1] ==>					0.09	0.29	Varies	**0.000028**	**0.000038**	0.015	0.011
Eastern Parking Lot											
HAI (2011)	P-1 (11)	P1-102	1-Jul-11	14.0 - 19.0	0.25 U	0.5 U	All U	NT	0.002 U	0.001 U	0.00008 U
	P-3 (11)	P3-101	1-Jul-11	14.0 - 19.0	0.192 U	0.385 U	All U	All U	0.002 U	0.001 U	0.00008 U
	P-4 (11)	P4-100	1-Jul-11	14.0 - 19.0	0.198 U	0.396 U	All U	NT	**0.00319**	0.001 U	0.00008 U
Basement Area											
HAI (2011)	P-5 (11)	P5-105	1-Jul-11	7.0 - 12.0	0.192 U	0.385 U	All U	All U	**0.00558**	0.001 U	0.00008 U
	P-6 (11)	P6-103	1-Jul-11	7.0 - 12.0	0.194 U	0.388 U	0.0003	All U	**0.015**	0.001 U	0.00008 U
	P-7 (11)	P7-104	1-Jul-11	7.0 - 12.0	0.192 U	0.385 U	All U	All U	**0.0094**	0.001 U	0.00008 U
	P-10 (11)	P10-106	1-Jul-11	7.0 - 12.0	0.192 U	0.385 U	All U	All U	0.002 U	0.001 U	0.00008 U
Western Parking Area											
HAU (2011)	P-11 (11)	P11-109	1-Jul-11	14.0 - 18.0	0.213 U	0.426 U	0.0001	NT	0.002 U	0.001 U	0.00008 U
	P-12 (11)	P12-107	1-Jul-11	14.0 - 19.0	0.189 U	0.377 U	All U	All U	0.002 U	0.001 U	0.00008 U
		P12-108 (dup)	1-Jul-11	14.0 - 19.0	NT	NT	NT	All U	0.002 U	0.001 U	0.00008 U
URS (2010)	HB-2	B-2-GW	4-May-10	24.0 - 28.0	0.111 U	0.0777 U	0.0001	**0.0000306 J**	**0.00867**	0.0002 U	0.00002 U
	HB-4	B-4-GW	4-May-10	19.0 - 23.0	0.0392 U	0.0784 U	All U	0.0000099 U	0.0005 U	0.0002 U	0.00002 U

1 = DEQ Risk-Based Concentration (RBC), September 2009, for indicated pathway. The Tapwater Pathway is assumed until such a time that a well survey demonstrates no domestic groundwater use in area.

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
mg/L = milligrams/liter
NA = not applicable
NW = Northwest Method
NT = Not Tested
Bold and Highlighted = Detected value exceeds lowest potentially applicable RBC (September 2009)

NV = no value established
PAHs = polynuclear aromatic hydrocarbons
PCBs = polychlorinated biphenyls
ppm = parts per million
RBC =risk based concentration
TPH = total petroleum hydrocarbons
U = Analyte not detected above indicate

TABLE 9 – Summary of Groundwater Testing Results: Polynuclear Aromatic Hydrocarbons (PAHs)

		Area ==>	Eastern Parking Lot			Basement				Western Parking Area			
		Investigation ==>	HAI Site Investigation (2011)			HAI Site Investigation (2011)				HAI Site Investigation (2011)		URS Site Investigation (2010)	
		Sample Location ==>	P1 (11)	P3 (11)	P-4 (11)	P-5 (11)	P-6 (11)	P-7 (11)	P-10 (11)	P-11 (11)	P-12 (11)	HB-2	HB-4
		Sample Number [1] ==>	P1-102	P3-101	P4-100	P5-105	P6-103	P7-104	P10-106	P11-109	P12-107	B-2-GW	B-4-GW
		Sample Date ==>	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	4-May-10	4-May-10
		Depth (feet bgs) ==>	14-19	14-19	14-19	7-12	7-12	7-12	7-12	14-18	14-19	24-28	19-23
Analytical Parameters	**Screening Levels [2] – ug/l (ppb)**		**Laboratory Testing Results** ug/l (ppb)										
	Residential Tapwater	Groundwater in Excavation											
Acenaphthene	2,200.	>S	0.05 UJ	0.377 U	0.0396 UJ	0.0392 U	**3.04**	0.0392 U	0.0377 U	0.0426 UJ	0.0377 U	0.019 U	0.0189 U
Acenaphthylene	NV	NV	0.05 UJ	0.377 U	0.0396 UJ	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 UJ	0.0377 U	0.019 U	0.0189 U
Anthracene	>S	>S	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Benzo (a) anthracene	0.029	9.1	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Benzo (a) pyrene	0.0029	0.53	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Benzo (b) fluoranthene	0.029	>S	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Benzo (ghi) perylene	NV	NV	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Benzo (k) fluoranthene	0.29	>S	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Chrysene	>S	>S	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Dibenzo (a,h) anthracene	0.0029	0.21	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Fluoranthene	1,500.	>S	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Fluorene	7,300.	>S	0.05 UJ	0.377 U	0.0396 UJ	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 UJ	0.0377 U	0.019 U	0.0189 U
Indeno (1,2,3-cd) pyrene	>S	>S	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U
Naphthalene	0.14	500.	0.1 UJ	0.0755 U	0.0792 UJ	0.0784 U	0.0777 U	0.0784 U	0.0755 U	**0.0997** J	0.0755 U	**0.1**	0.0189 U
Phenanthrene	NV	NV	0.05 U	0.377 U	0.0396 U	0.0392 U	0.0388 U	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0377 U
Pyrene	>S	>S	0.05 U	0.377 U	0.0396 U	0.0392 U	**0.0438**	0.0392 U	0.0377 U	0.0426 U	0.0377 U	0.019 U	0.0189 U

1 = HAI Sample No. Prefix: 8004-110701-
2 = DEQ Risk-Based Concentration (RBC) for indicated pathway, September 2009. The Tapwater Pathway is assumed until such a time that a well survey demonstrates no domestic groundwater use in area.

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
J = Estimated Concentration

NV = no value established
ppb = parts per billion
ug/L = micrograms per liter

RBC = risk based concentration
U = Analyte not detected above indicated laboratory method reporting limit

>S = The groundwater RBC exceeds the solubility limit
* = Results for Benzo (b) fluoranthene and Benzo (k) fluoranthene could not be distinguished. Reported values are a summation of the two analytes.
Bold = Detected Concentration
Bold and Highlighted = Detected value exceeds lowest potentially applicable RBC (September 2009)

TABLE 10 – Summary of Groundwater Testing Results: Detected Volatile Organic Compounds (VOCs)

			Area ==>	Eastern Parking Lot							Basement				Western Parking Area			
			Investigation ==>	HAI Site Investigation (2011)			HAI Site Investigation (2007)				HAI Site Investigation (2011)				HAI Site Investigation (2011)		URS Site Investigation (2010)	
			Sample Location ==>	P1 (11)	P3 (11)	P-4 (11)	P-1 (07)	P-2 (07)	P-3 (07)	P-4 (07)	P-5 (11)	P-6 (11)	P-7 (11)	P-10 (11)	P-11 (11)	P-12 (11)	HB-2	HB-4
			Sample Number [1] ==>	P1-102	P3-101	P4-100	7358-071029-100	7358-071029-101	7358-071029-102	7358-071029-103	P5-105	P6-103	P7-104	P10-106	P11-109	P12-107	B-2-GW	B-4-GW
			Sample Date ==>	1-Jul-11	1-Jul-11	1-Jul-11	29-Oct-07	29-Oct-07	29-Oct-07	29-Oct-07	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	1-Jul-11	4-May-10	4-May-10
			Depth (feet bgs) ==>	14-19	14-19	14-19	15-20	15-20	15-20	15-20	7-12	7-12	7-12	7-12	14-18	14-19	24-28	19-23
Analytical Parameters	**Screening Levels [2] – ug/l (ppb)**			**Laboratory Testing Results** ug/l (ppb)														
	Residential Tapwater	Residential Vapor Intrusion	Groundwater in Excavation															
Acetone	NV	NV	NV	20. U	20. U	20. UJ	20 U	20 U	20 U	20 U	20. U	20. U	20. U	20. U	36.2 J	20. U	10. U	10. U
Benzene	**0.39**	1,700.	1,700.	0.25 U	0.25 U	0.25 U	**0.600**	0.5 U	0.5 U	0.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.125 U	0.125 U
Naphthalene	**0.14**	670.	500.	2. U	2. U	2. U	**16.2**	5 U	5 U	5 U	2. U	2. U	2. U	2. U	2. U	2. U	1. U	1. U
1,1,1-Trichloroethane	9,100.	1,200,000.	1,100,000.	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25 U	1.66
1,1-Dichloroethane	2.3	1,100.	10,000.	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25 U	1.89
1,2,3-Trichlorobenzene	NV	NV	NV	1. U	1. U	1. U	2 U	2 U	2 U	2 U	1. U	1. U	1. U	1. U	1. U	1. U	1. U	6.16
1,2,4-Trichlorobenzene	NV	NV	NV	2. U	2. U	2. U	2 U	2 U	2 U	2 U	2. U	2. U	2. U	2. U	2. U	2. U	145.	31.7
1,2-Dichlorobenzene	370.	Non-Volatile	37,000.	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	8.27	0.535 J
1,3-Dichlorobenzene	NV	NV	NV	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	48.8	1.4
1,4-Dichlorobenzene	**0.42**	380.	1,500.	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**182.**	**3.11**
Chlorobenzene	91.	55,000.	10,000.	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	6.64	0.25 U

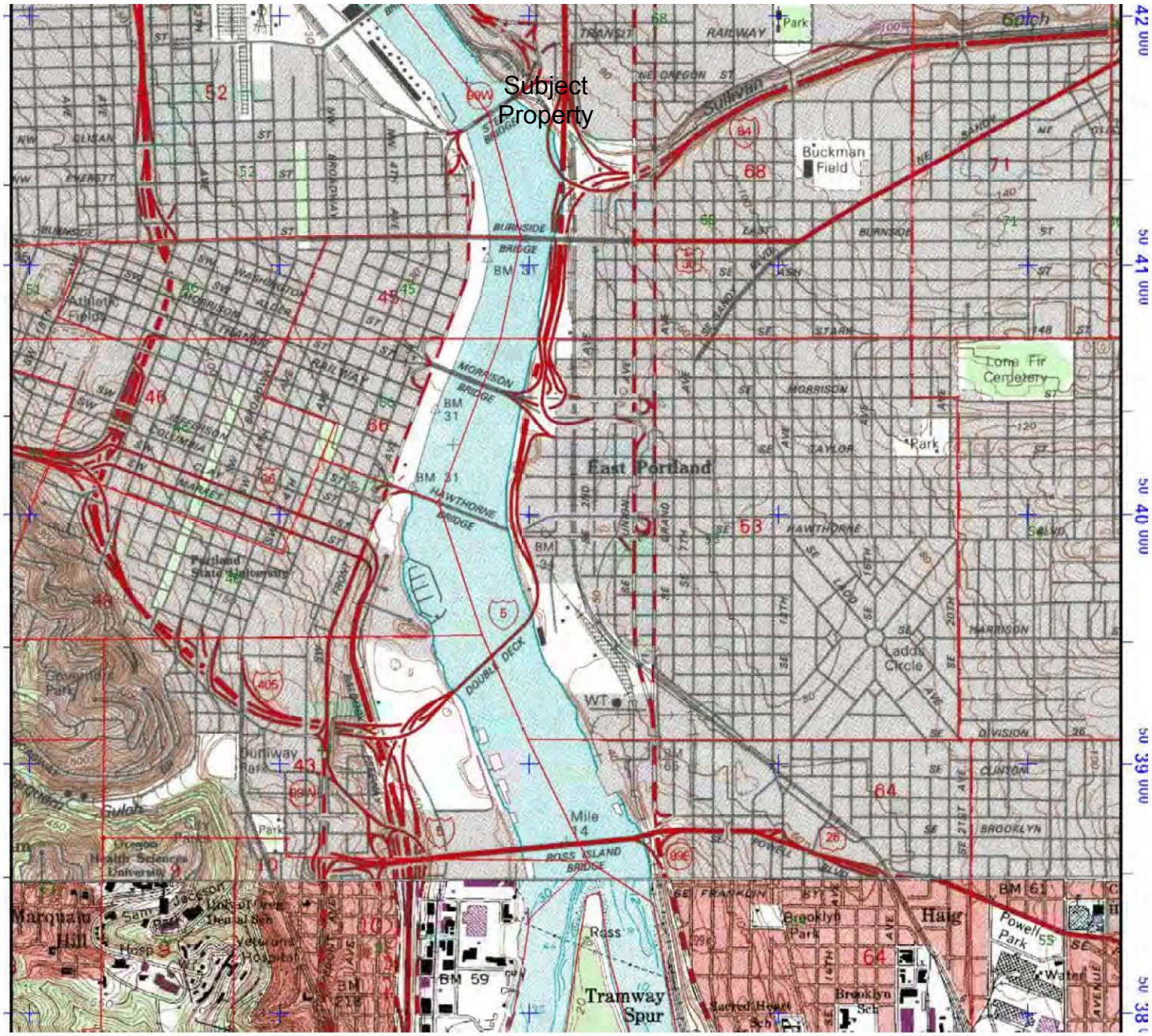
1 = HAI Sample No. Prefix: 8004-110701-
2 = DEQ Risk-Based Concentration (RBC) for indicated pathway, September 2009. The Tapwater Pathway is assumed until such a time that a well survey demonstrates no domestic groundwater use in area.

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
J = Estimated Concentration
NV=No Value
>S = The groundwater RBC exceeds the solubility limit

ppb = parts per billion
RBC = risk based concentration
ug/L = micrograms per liter
U = Analyte not detected above indicated laboratory method reporting limit

Bold and Highlighted = Detected value exceeds lowest potentially applicable RBC (September 2009)

FIGURES



Note: Base Map from the Portland (1995), Oregon
USGS 7.5-Minute Quadrangles
Contour Intervals: 10 feet

NORTH

0 1000 2000 4000

1"=2000'

Scale in Feet

FIGURE 1
Location Map

Phase II Environmental Site Assessment
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

July 2011

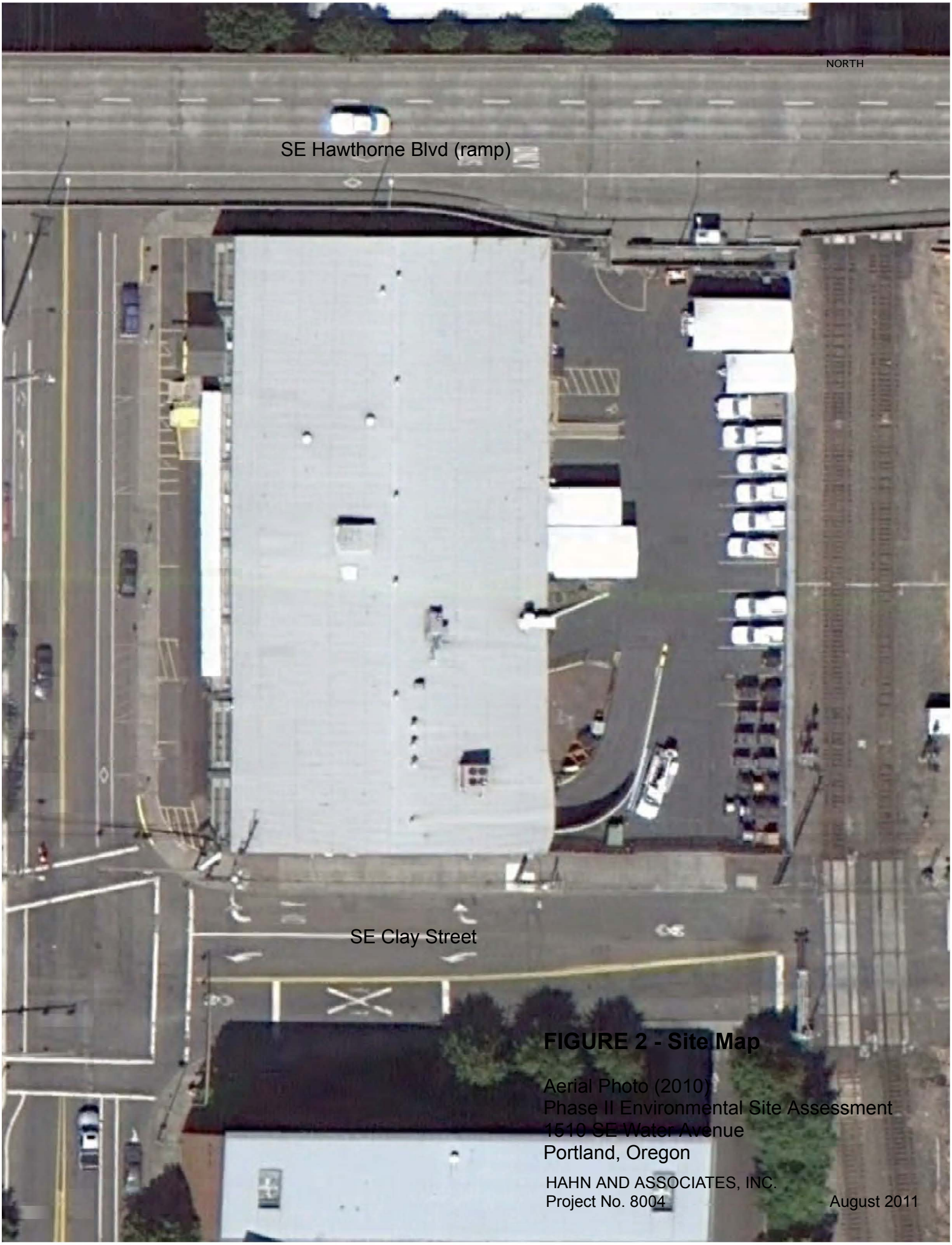
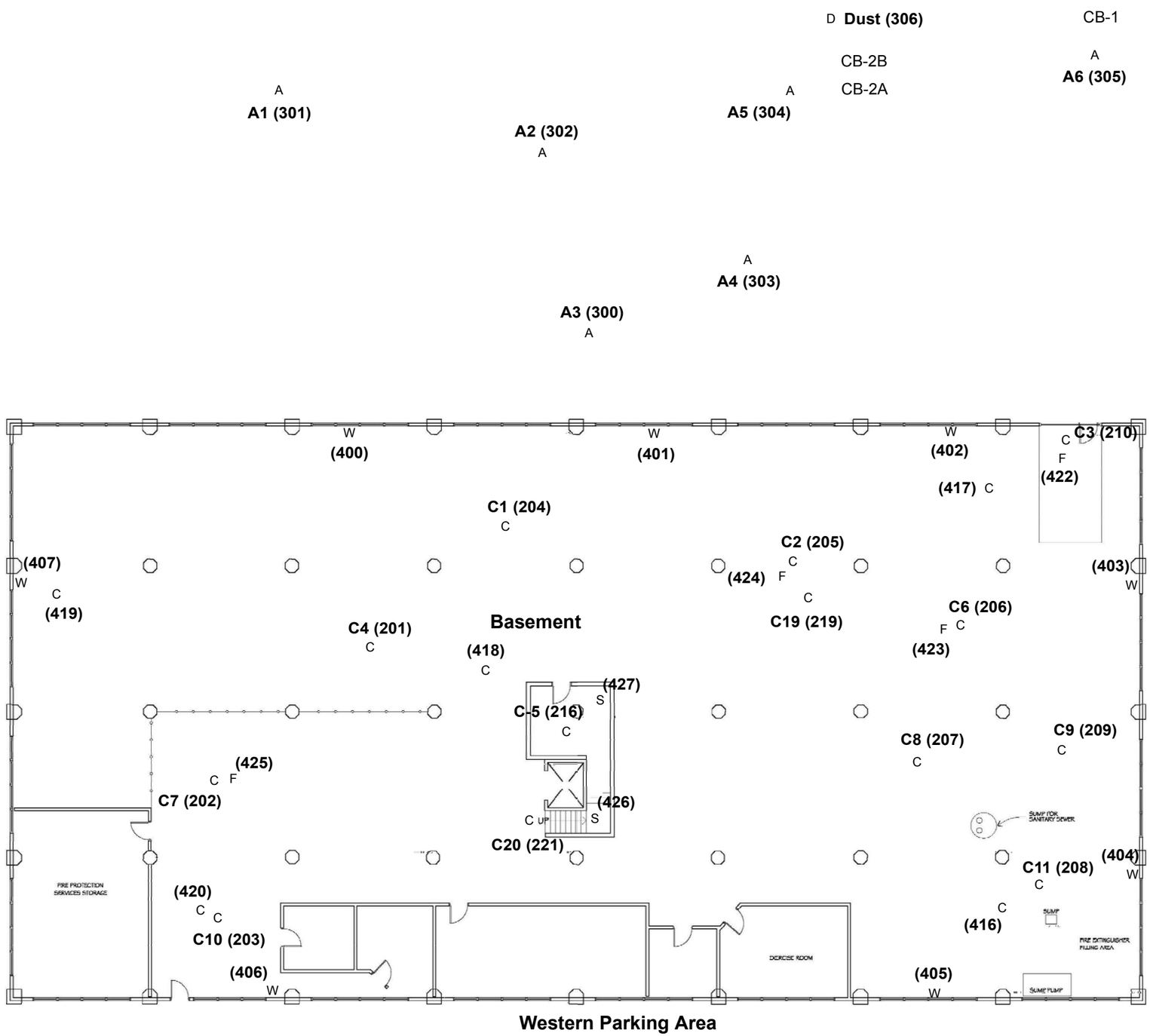


FIGURE 2 - Site Map

Aerial Photo (2010)
Phase II Environmental Site Assessment
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

Property Boundary

Catch Basin (exterior)

Floor Drain (interior)

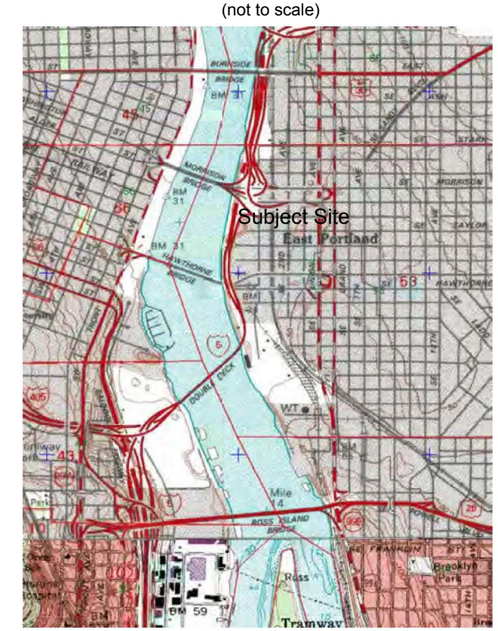
C17 (213) C — Concrete Sample Location (Sample No.)

A2 (302) A — Asphalt Sample Location (Sample No.)

Dust (306) D — Dust Sample Location (Sample No.)

(414) W — Wipe Sample Location (Sample No.) (C = ceiling, F = Floor, W = Wall, S = Stair or Stairwell)

Regional Map
(not to scale)



Scale 1 inch = 20 feet

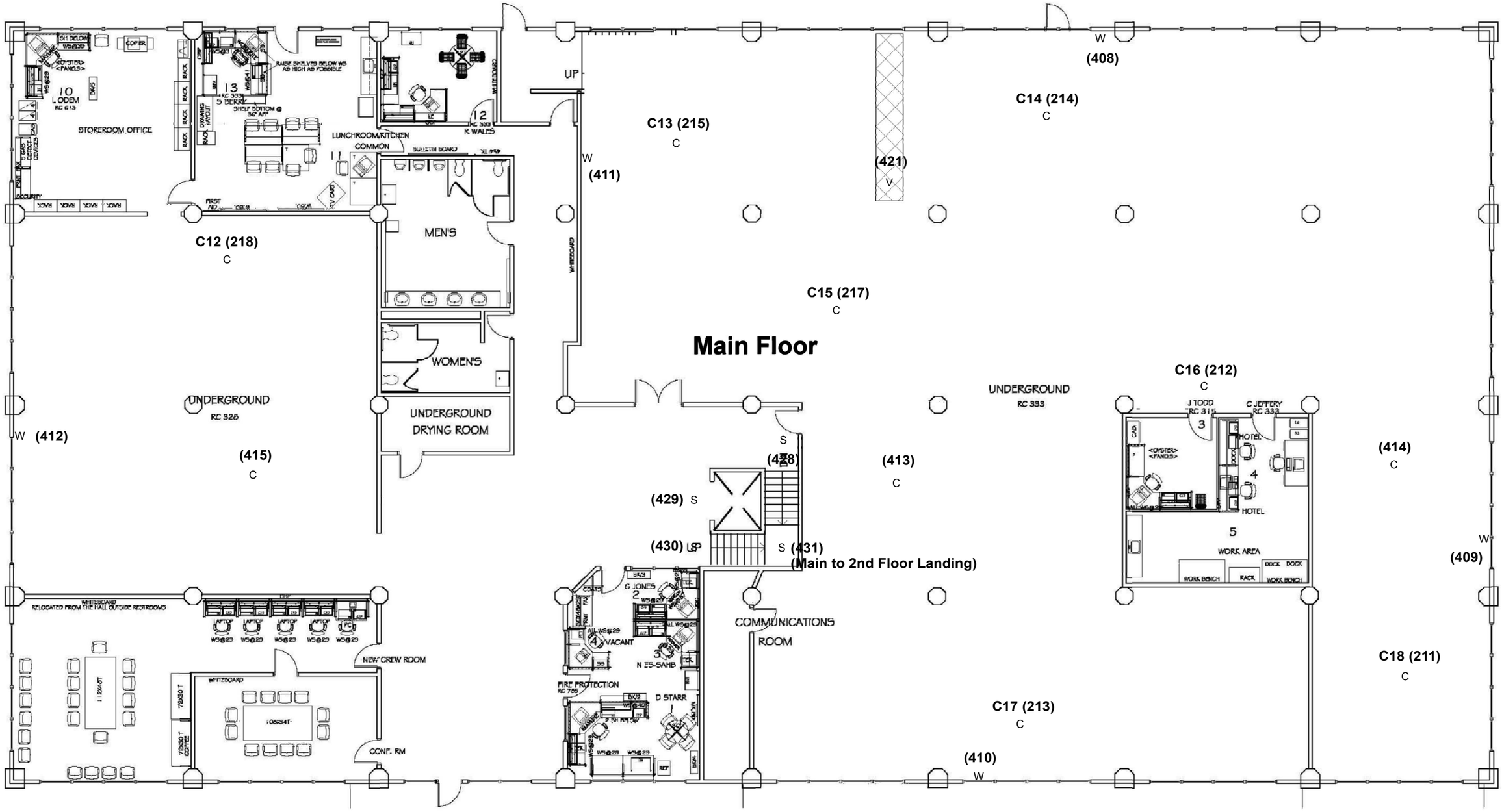
10 0 10 20 30 40 feet

FIGURE 3 – Concrete, Asphalt, Dust, & Wipe Sample Locations: Basement & Parking Lots

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

C17 (213) C — Concrete Sample Location (Sample No.)

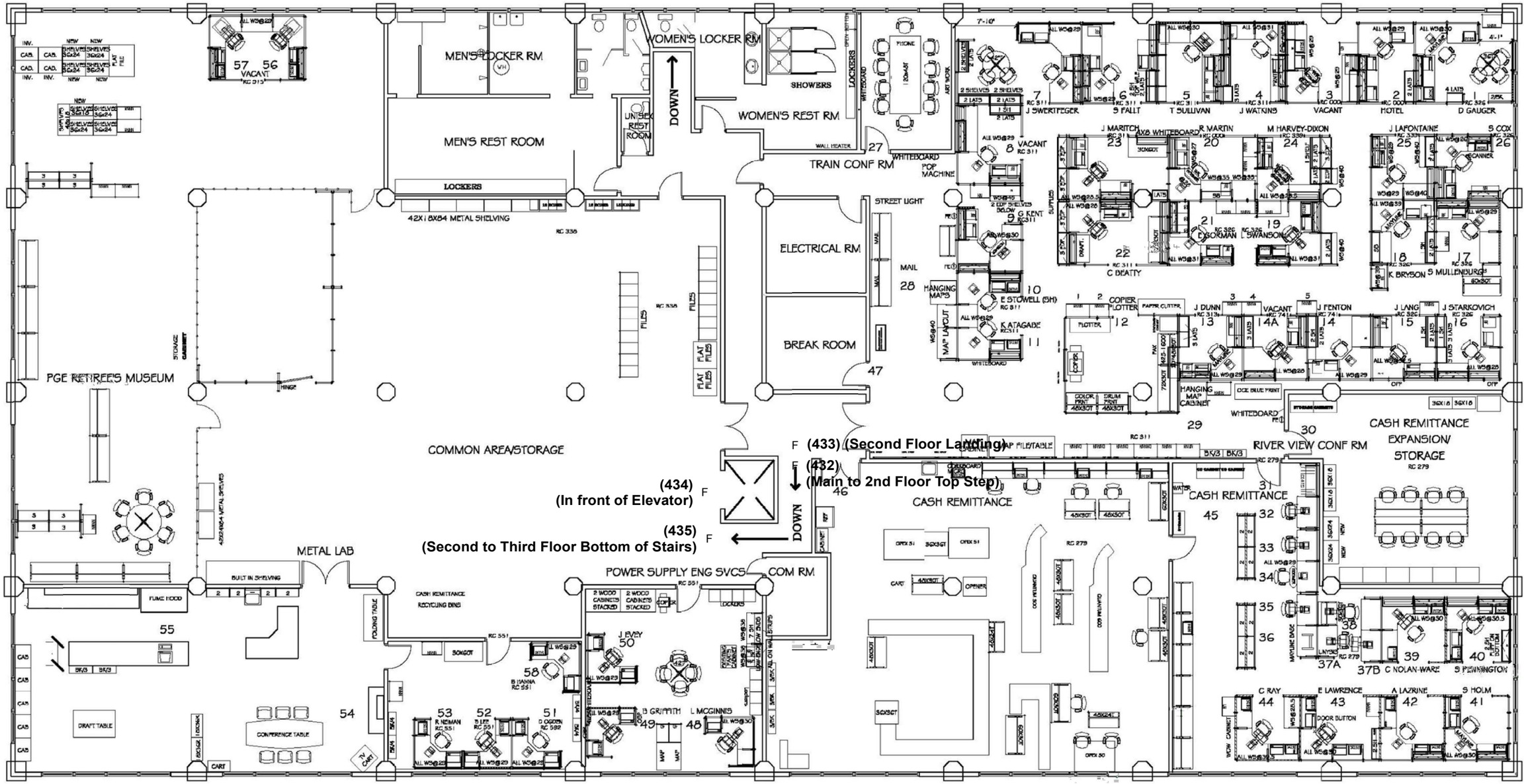
(414) W — Wipe Sample Location (Sample No.) (C = ceiling, F = Floor, W = Wall, S = Stair or Stairwell)

FIGURE 4 – Concrete & Wipe Sample Locations: Main Floor

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

C17 (213) Concrete Sample Location
C (Sample No.)

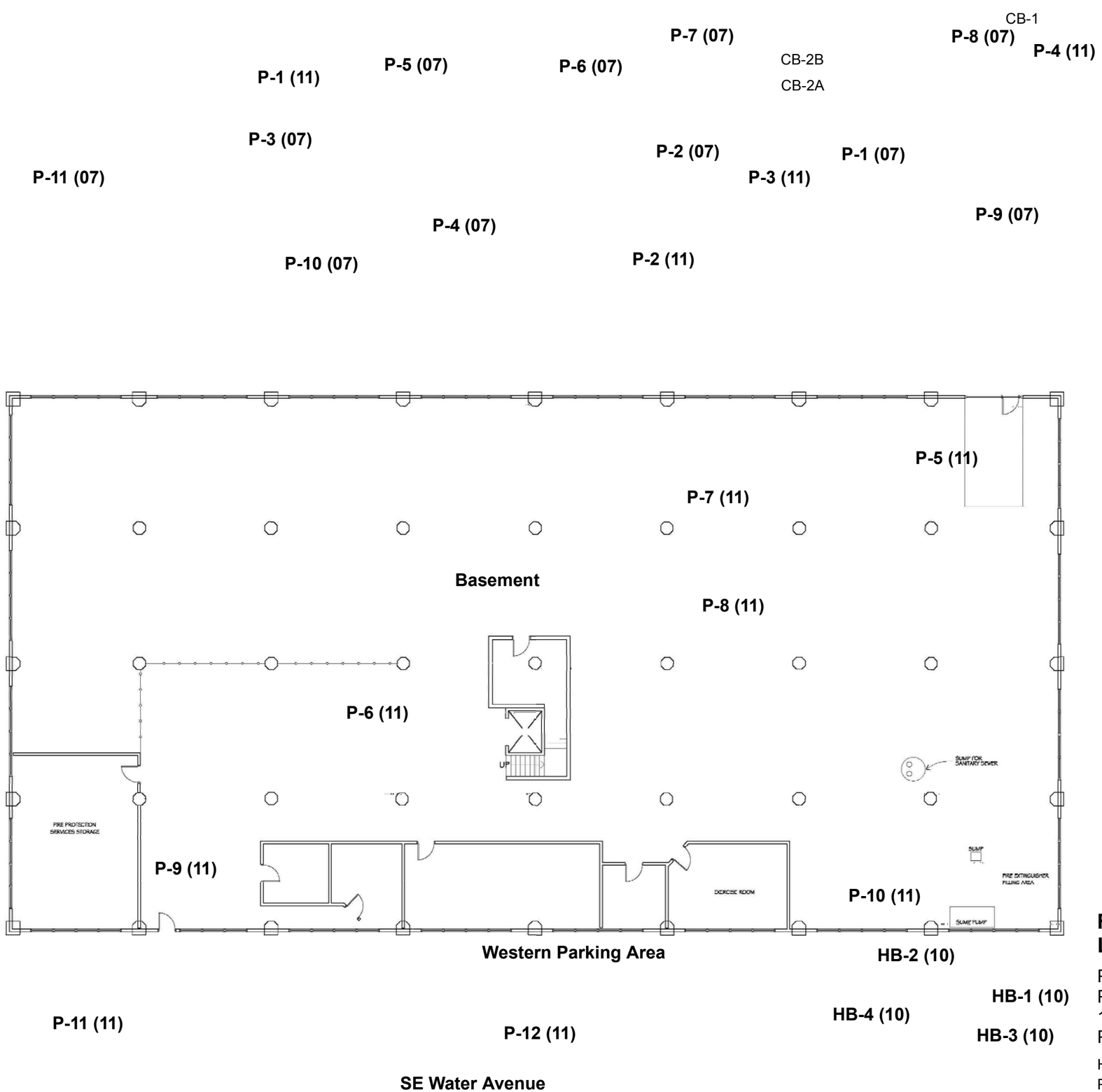
(414) Wipe Sample Location (Sample No.)
W (C = ceiling, F = Floor, W = Wall, S = Stair or Stairwell)

FIGURE 5 – Concrete & Wipe Sample Locations: Second Floor

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

Property Boundary

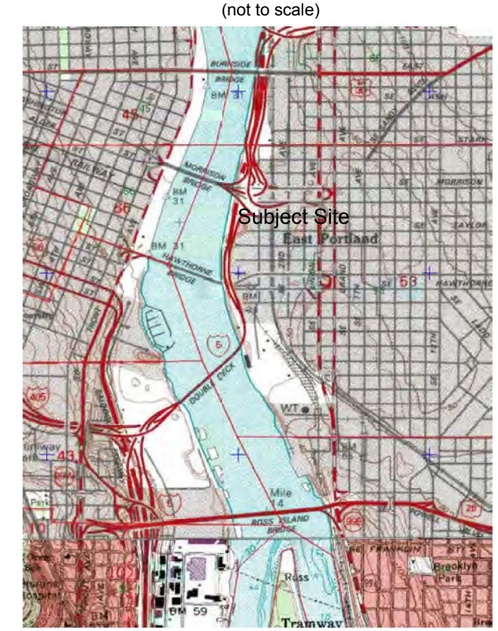
Catch Basin (exterior)

Floor Drain (interior)

P-1 (11) Boring Location with Soil and Water Sample (year of boring)

P-1 (11) Boring Location with Soil Sample (year of boring)

Regional Map
(not to scale)



Scale 1 inch = 20 feet

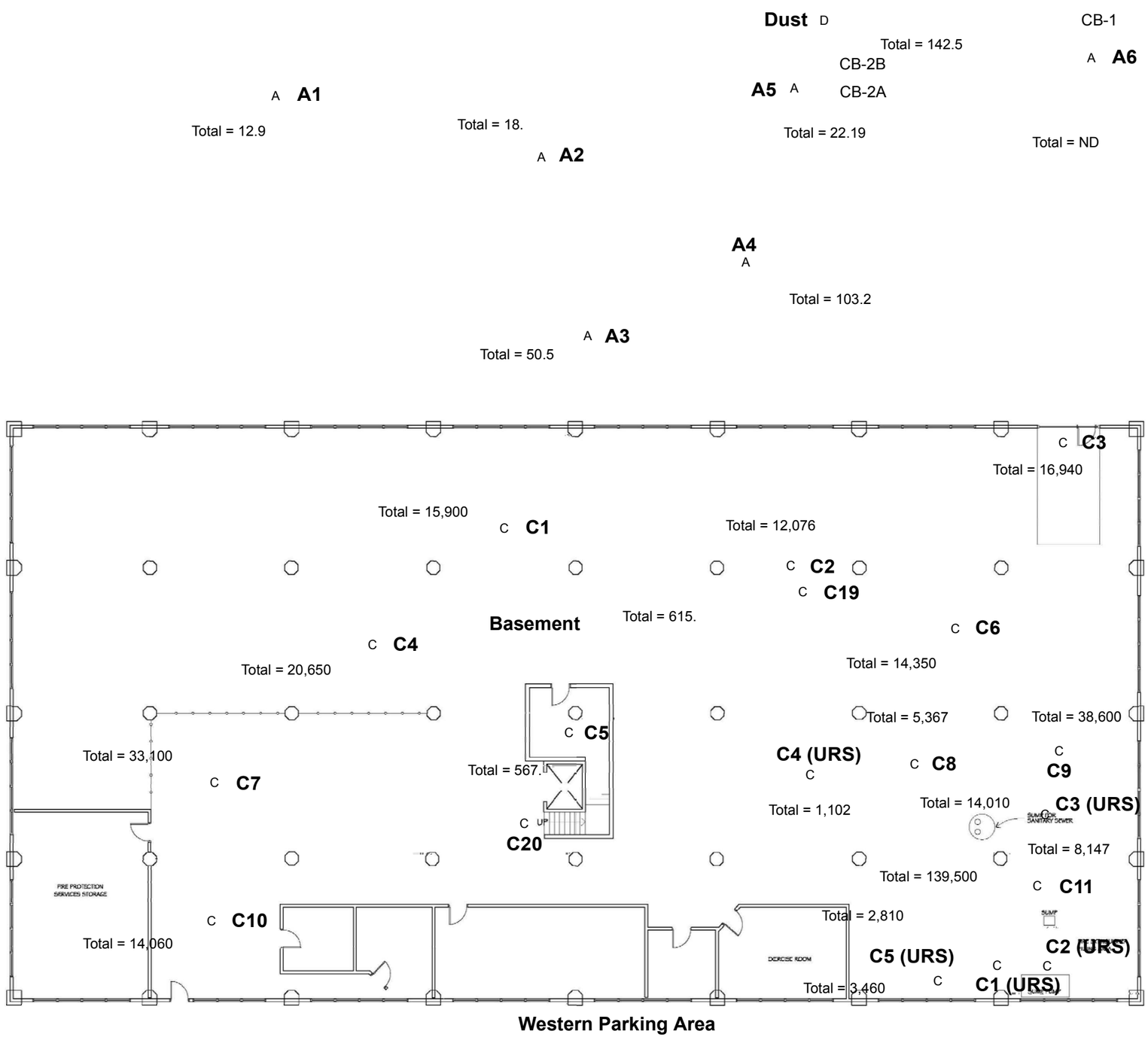
10 0 10 20 30 40 feet

FIGURE 6 – Soil and Groundwater Sampling Locations

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

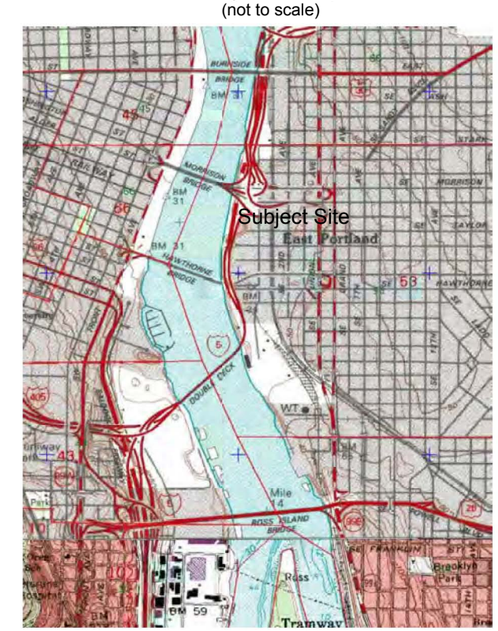
August 2011



LEGEND

	Property Boundary
	Catch Basin (exterior)
	Floor Drain (interior)
C17 C	Concrete Sample Locations (HAI 2011 & URS 2010)
A2 A	Asphalt Sample Locations
Dust D	Dust Sample Locations
Total = 142.5	PCB Aroclor Results in ug/kg
XXXX	Result exceeds EPA High Occupancy Unrestricted Use Threshold (1,000 ug/kg)

Regional Map
(not to scale)



Scale 1 inch = 20 feet

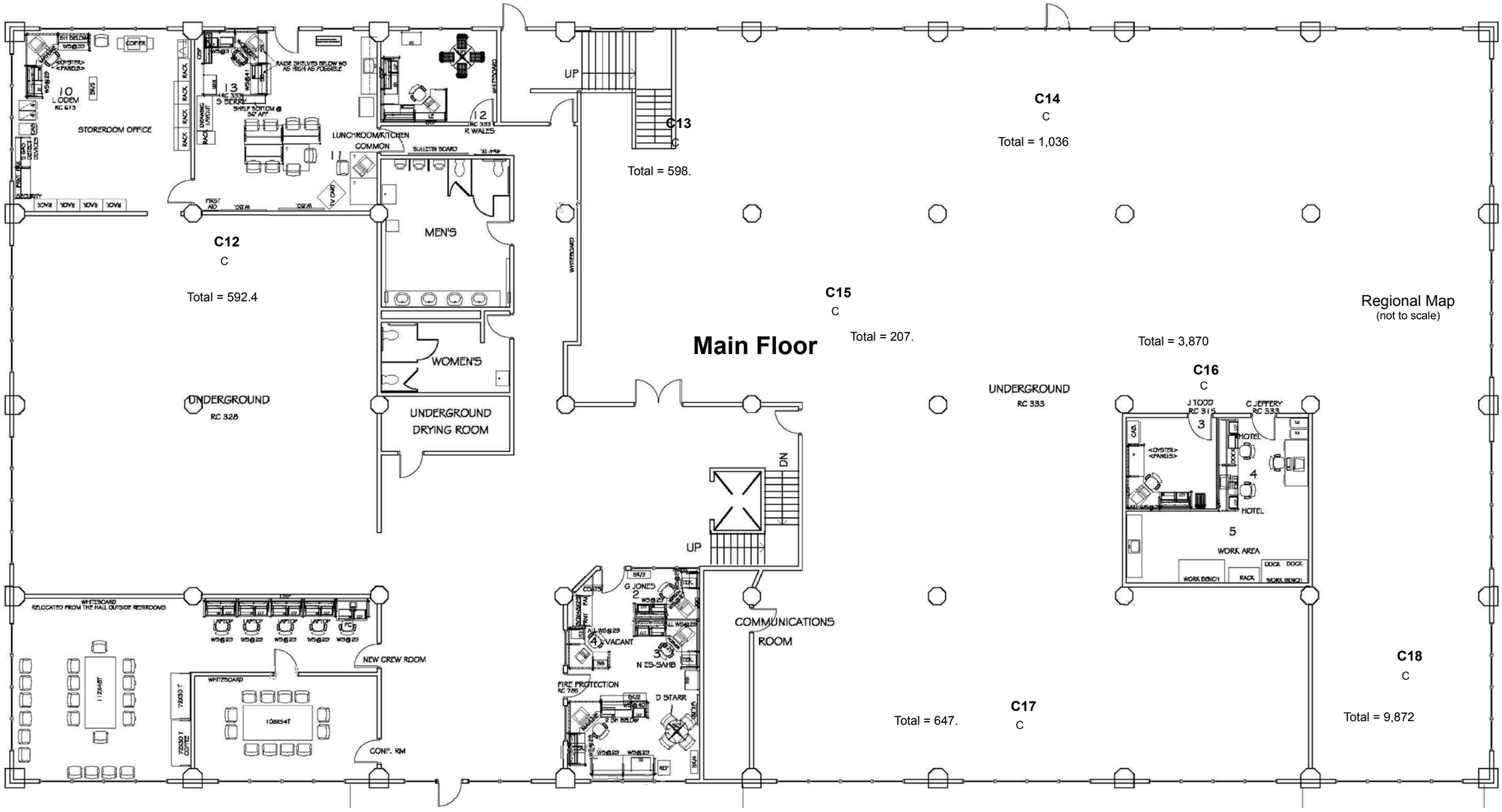
10 0 10 20 30 40 feet

FIGURE 7 – Basement/Parking Lot Concrete, Asphalt, and Dust Sample Results: PCBs

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

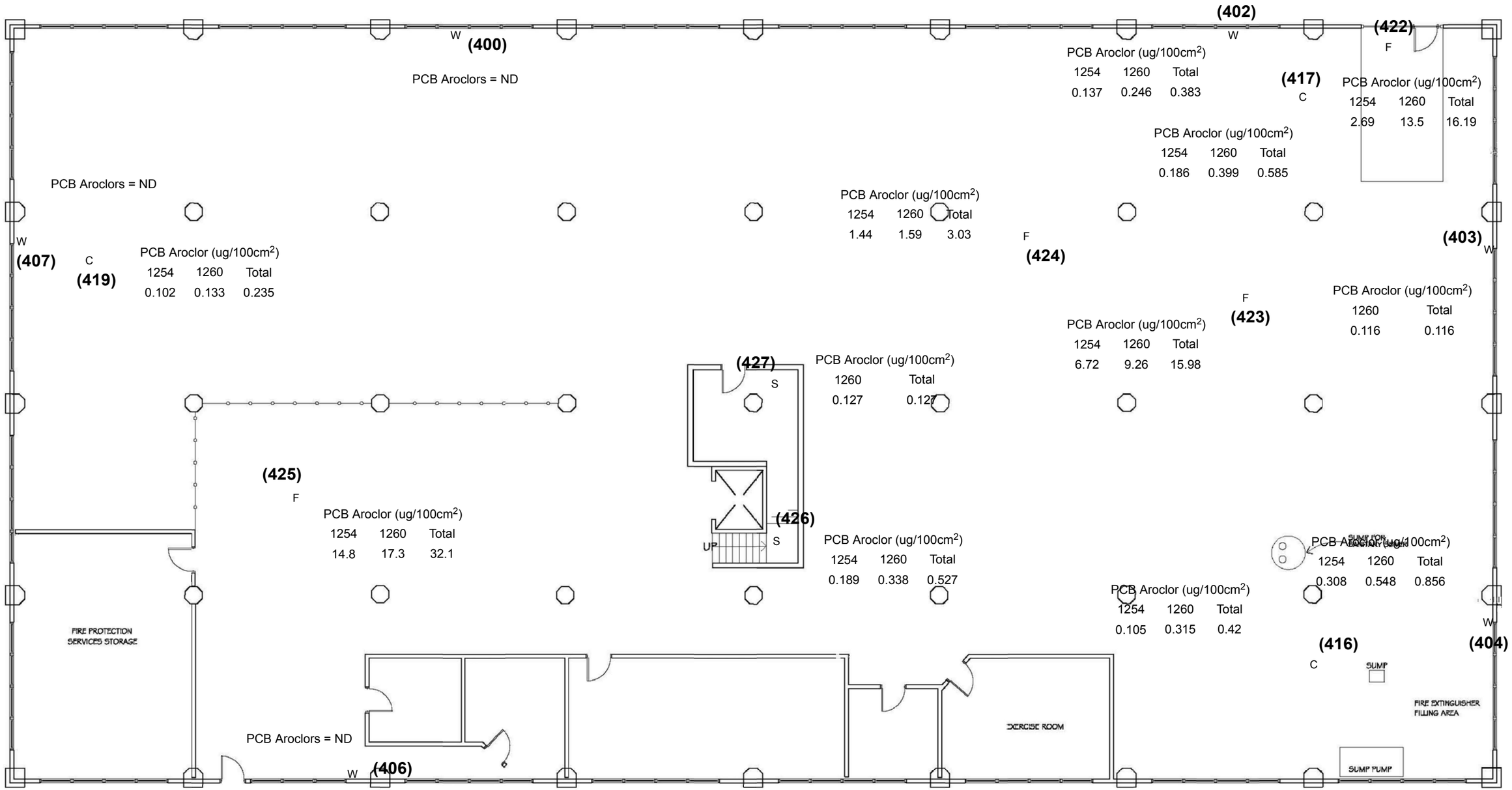
C-17 C	Concrete Sample Location
Total = 647.	PCB Aroclor Results in ug/kg
XXXX	Result exceeds EPA High Occupancy Unrestricted Use Threshold (1,000 ug/kg)

FIGURE 8 – Main Floor Concrete Results: PCBs

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

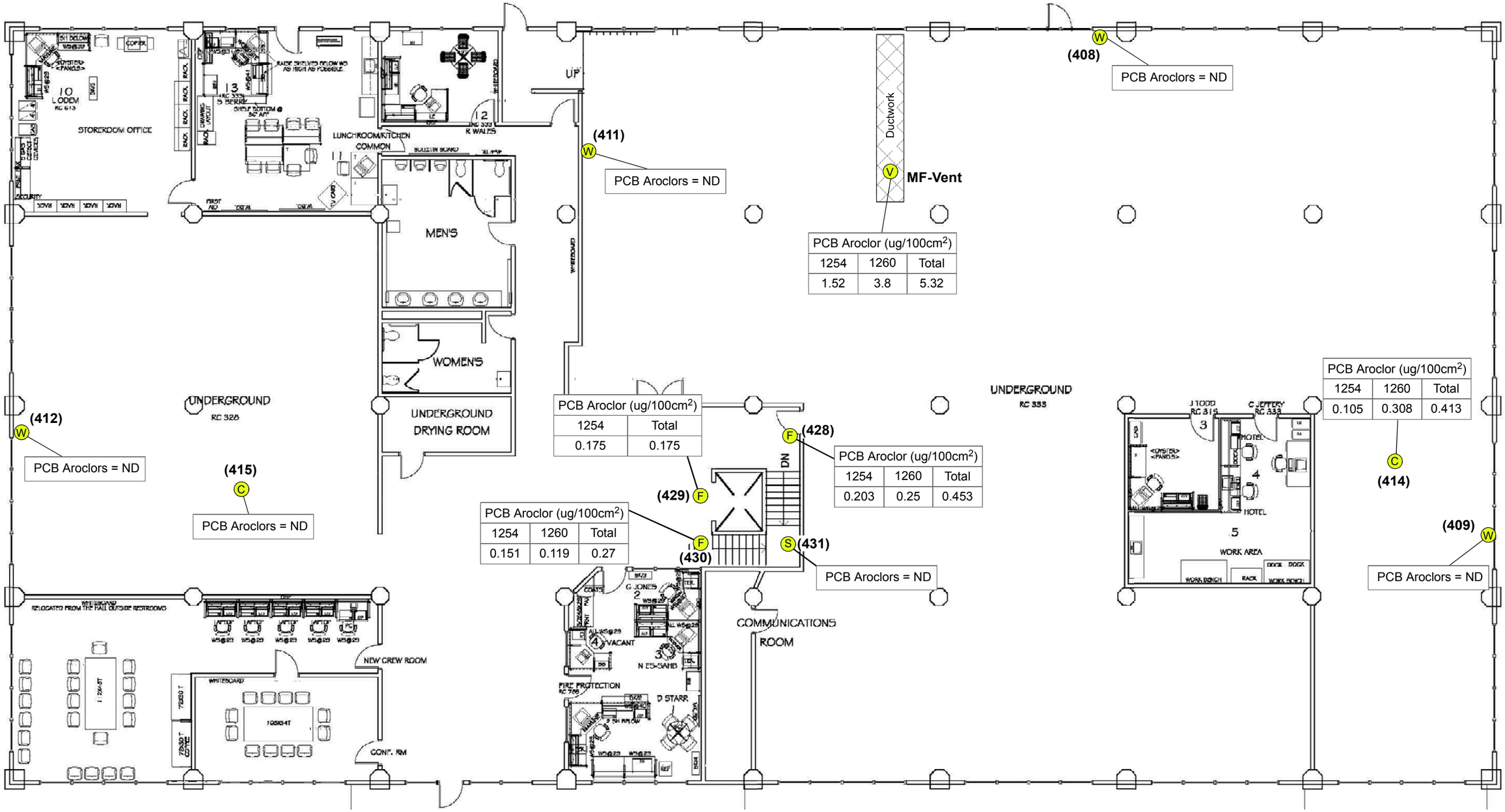
(419) W	Wipe Sample Number (C = Ceiling, F = Floor, S = Stair or Stairwell, W = Wall)
XXXX	Result exceeds EPA High Occupancy Unrestricted Use Threshold (10 ug/cm^2)

FIGURE 9 – Basement Wipe Sample Results: PCBs

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

(408) W — Wipe Sample Location (Sample No.)
C = Ceiling, W = Wall, S = Stair or Stairwell, V = Vent)

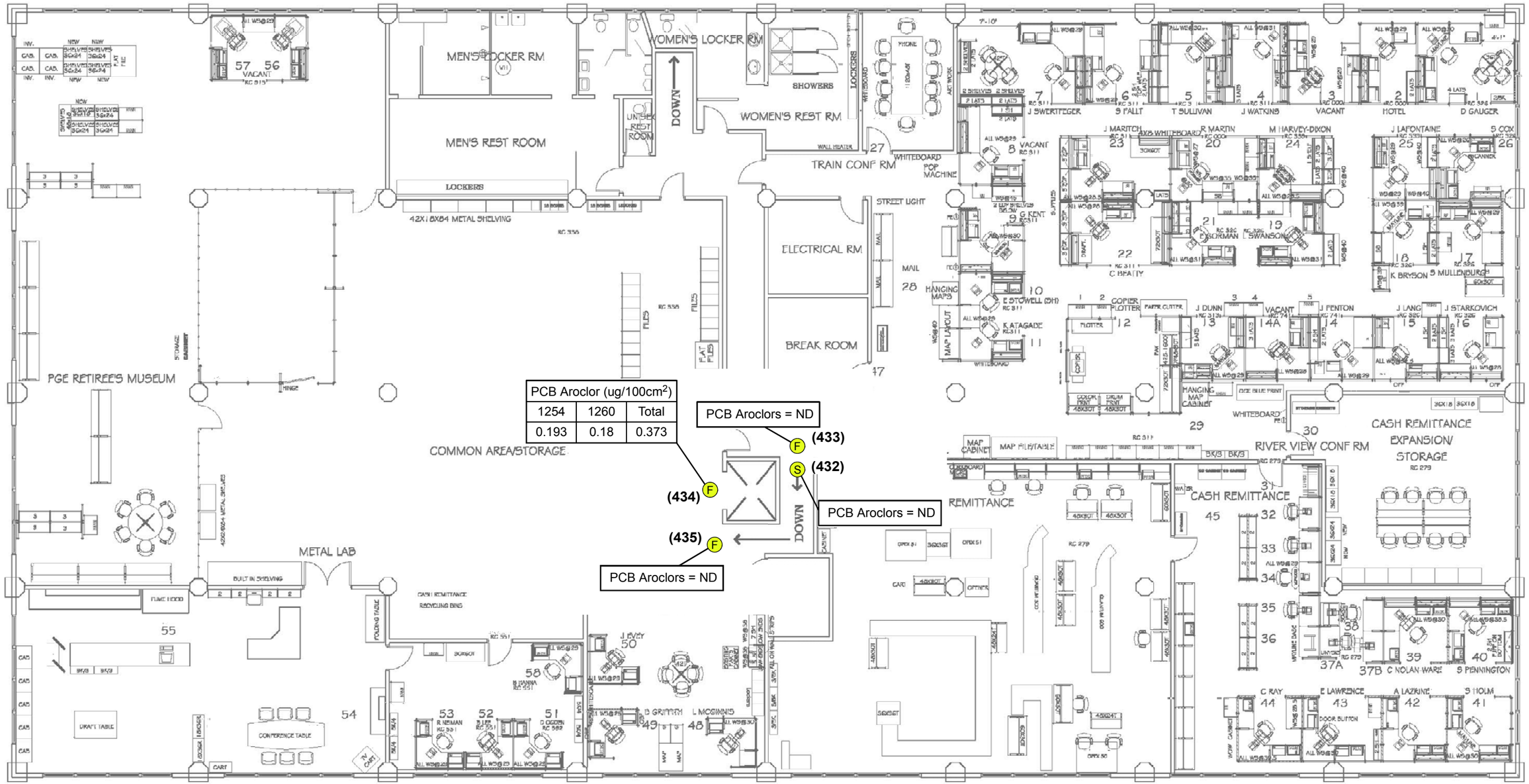
XXXX — Result exceeds EPA High Occupancy Unrestricted Use Threshold (10 ug/cm^2)

NORTH

FIGURE 10 – Main Floor Wipe Sample Results: PCBs

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004
August 2011



PCB Aroclor (ug/100cm^2)		
1254	1260	Total
0.193	0.18	0.373

LEGEND

(408) (F) Wipe Sample Location (Sample No.)
(F = Floor, S = Stair or Stairwell)

XXXX Result exceeds EPA High Occupancy Unrestricted Use Threshold (10 ug/cm^2)

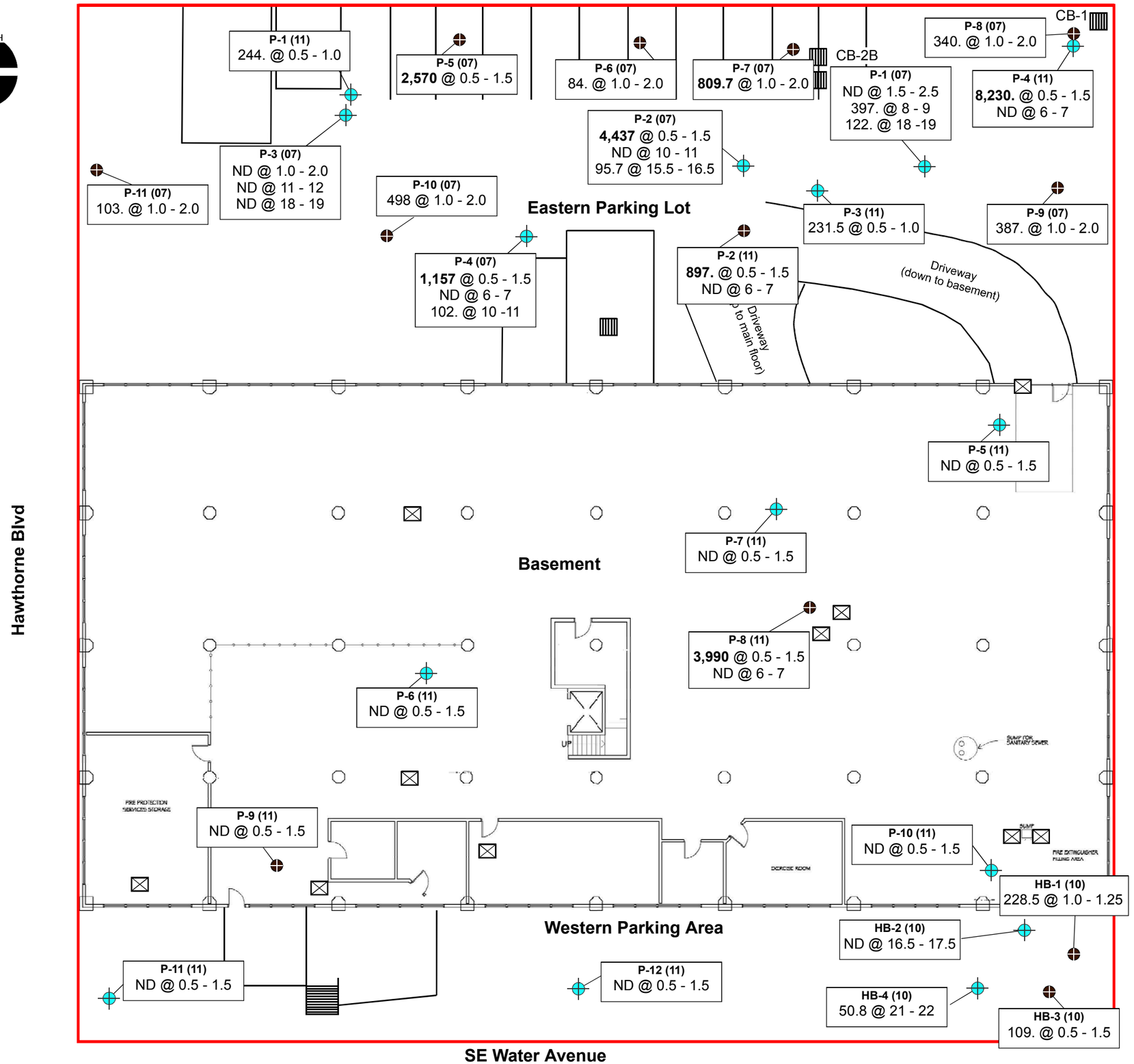
NORTH

FIGURE 11 – Second Floor Wipe Sample Results: PCBs

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



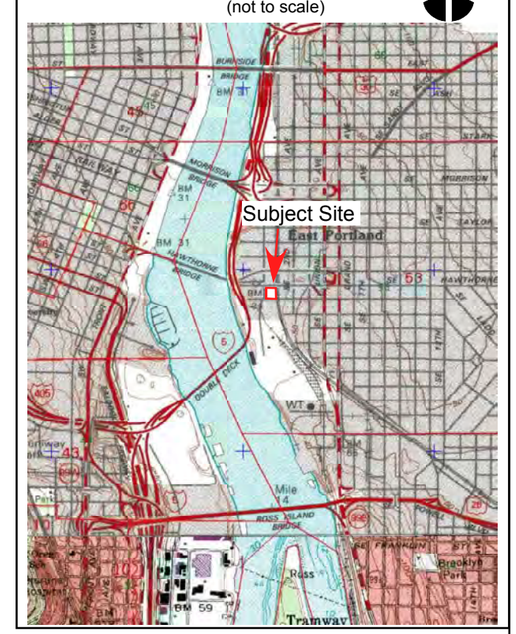
LEGEND

- Property Boundary
- Catch Basin (exterior)
- Floor Drain (interior)
- P-1 (11) — Boring Location with Soil and Water Sample (year of boring)
- P-1 (11) — Boring Location with Soil Sample (year of boring)
- P-1 (11) 244. @ 0.5 - 1.0 — Boring Location (year) Result (mg/Kg) @ Depth bgs

Note: Soil results reported as a total of diesel- and oil-range TPH.
Bold = Soil result exceed Level 2 Soil Matrix Cleanup Level

Regional Map

(not to scale)



Scale 1 inch = 20 feet

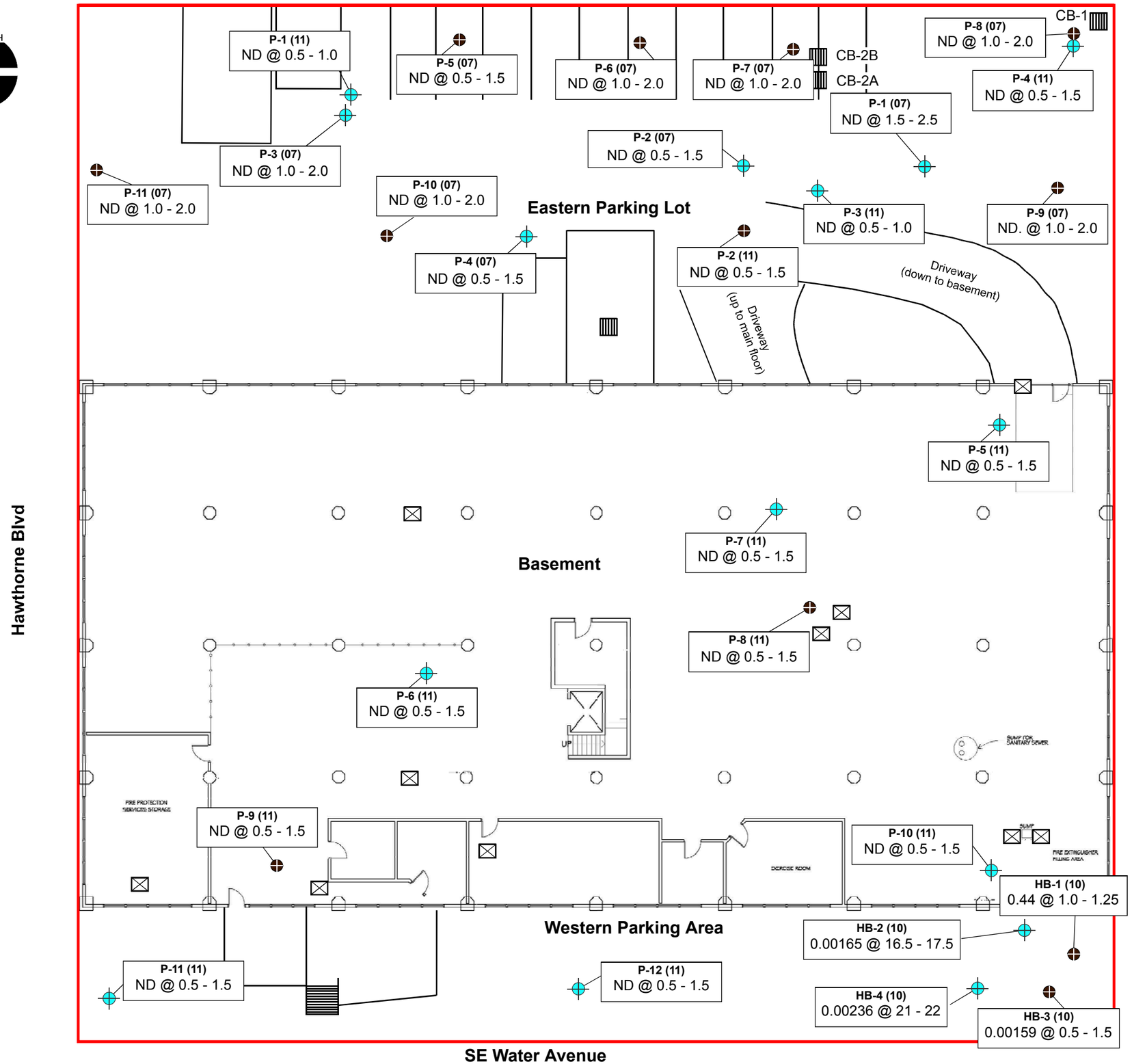
10 0 10 20 30 40 feet

FIGURE 12 – Soil Results: Total Diesel- and Oil-Range Petroleum Hydrocarbons

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

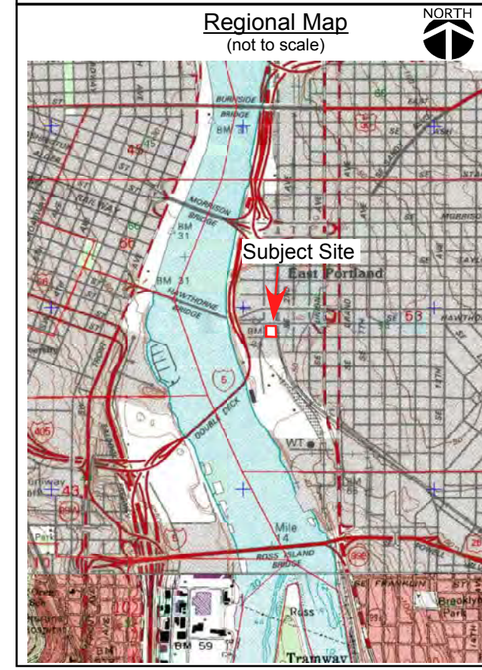
August 2011



LEGEND

- Property Boundary
- Catch Basin (exterior)
- Floor Drain (interior)
- P-1 (11) — Boring Location with Soil and Water Sample (year of boring)
- P-1 (11) — Boring Location with Soil Sample (year of boring)
- P-1 (11) ND @ 0.5 - 1.0 — Boring Location (year) Result (mg/Kg) @ Depth bgs

Regional Map
(not to scale)



Scale 1 inch = 20 feet

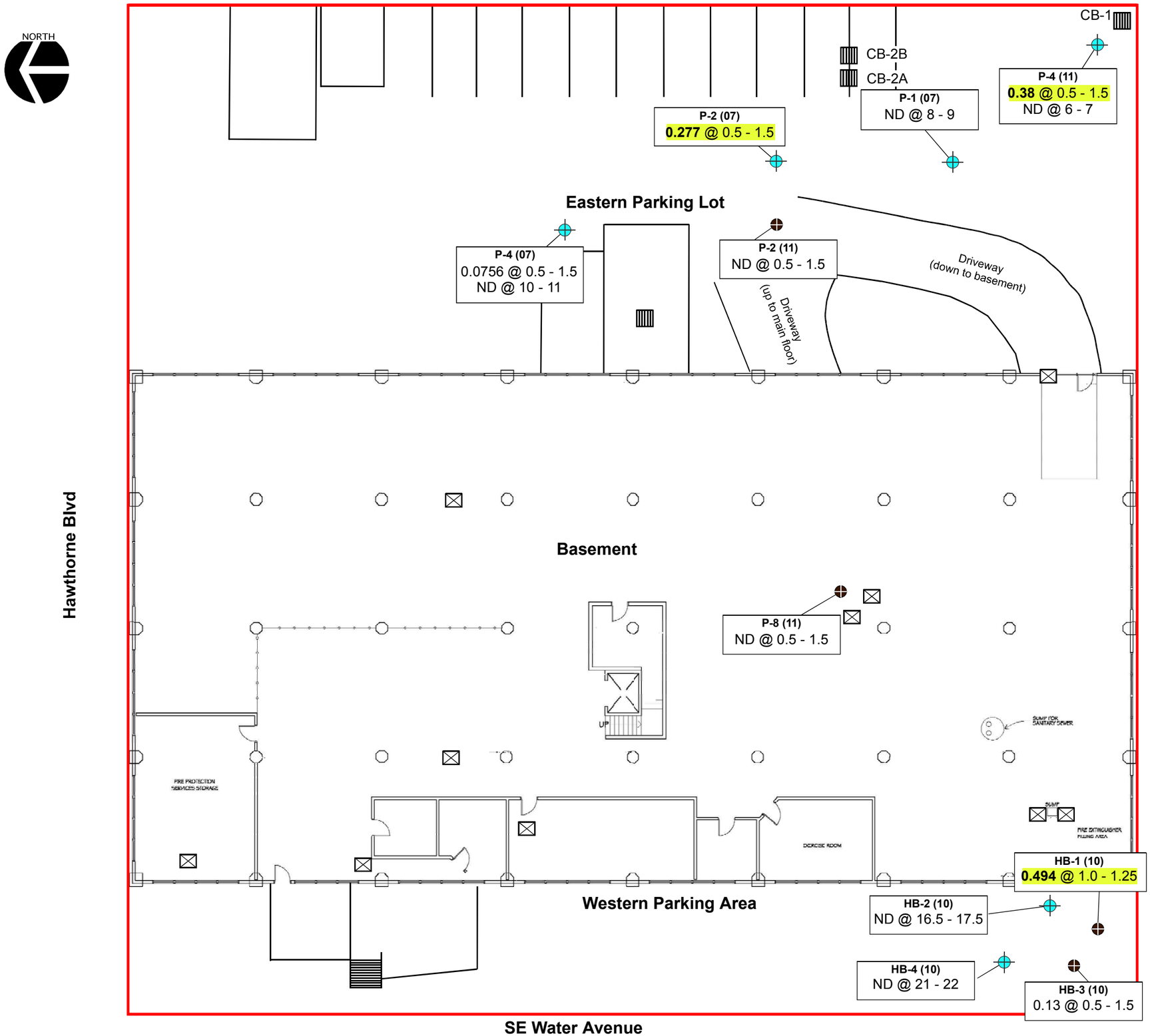
10 0 10 20 30 40 feet

FIGURE 13 – Soil Results: PCBs

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011

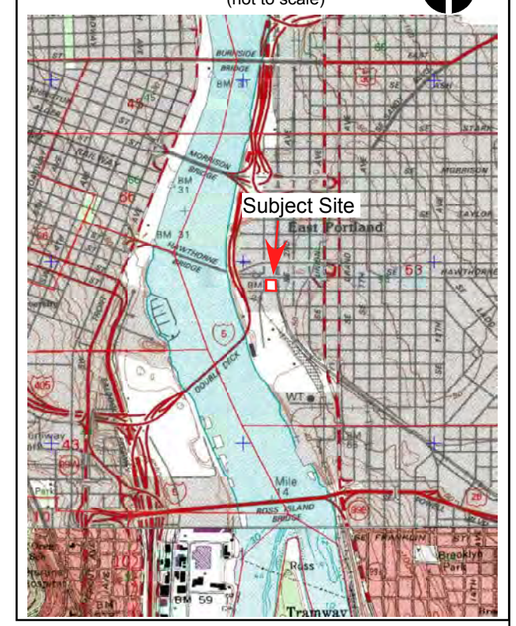


LEGEND

- Property Boundary
- Catch Basin (exterior)
- Floor Drain (interior)
- P-1 (11) — Boring Location with Soil and Water Sample (year of boring)
- P-1 (11) — Boring Location with Soil Sample (year of boring)
- P-1 (11) ND @ 0.5 - 1.0 — Boring Location (year) Result (mg/Kg) @ Depth bgs
- XX @ 0.5 - 1.5 — **Bold & Highlighted** = Results exceed Occupational Direct Contact Screening Level

Regional Map

(not to scale)



Scale 1 inch = 20 feet

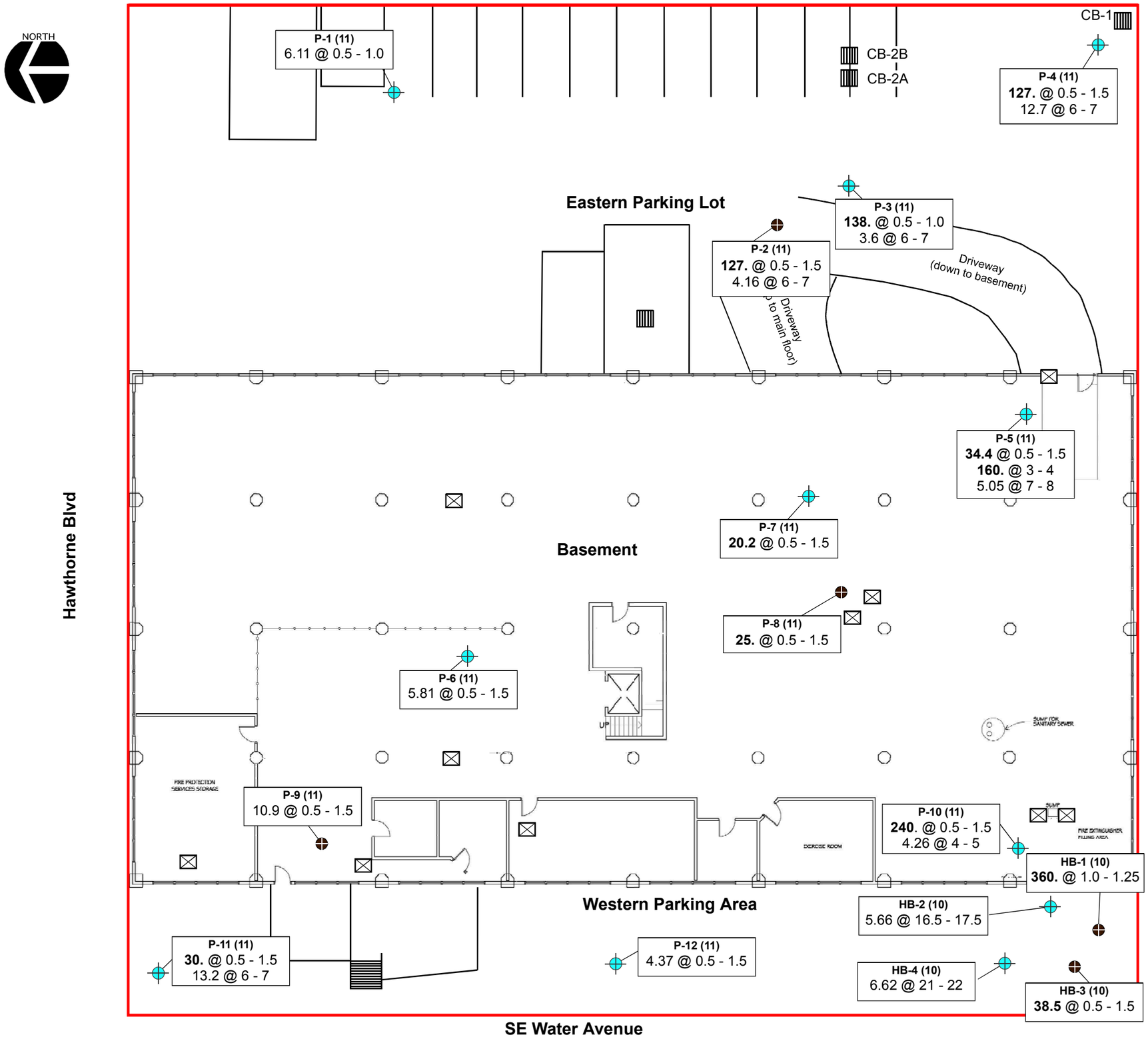
10 0 10 20 30 40 feet

FIGURE 14 – Soil Results: Benzo(a)Pyrene

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



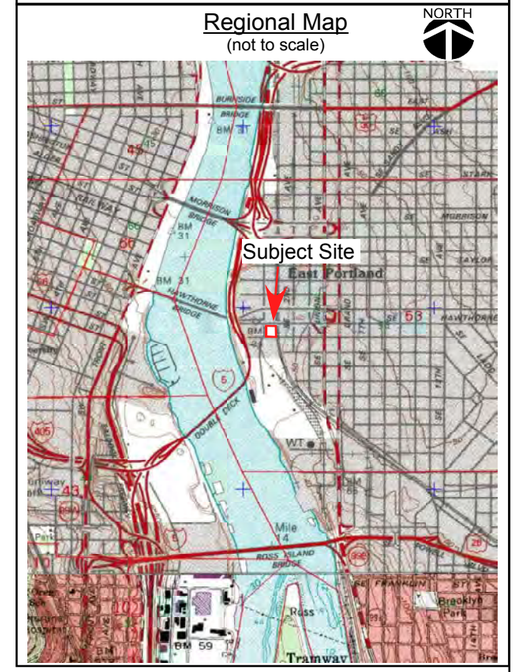
LEGEND

- Property Boundary
- Catch Basin (exterior)
- Floor Drain (interior)
- P-1 (11) — Boring Location with Soil and Water Sample (year of boring)
- P-1 (11) — Boring Location with Soil Sample (year of boring)
- P-1 (11) ND @ 0.5 - 1.0 — Boring Location (year) Result (mg/Kg) @ Depth bgs

Bold = Results exceeds 17 mg/Kg DEQ default Background Concentration for Lead

Regional Map

(not to scale)



Scale 1 inch = 20 feet

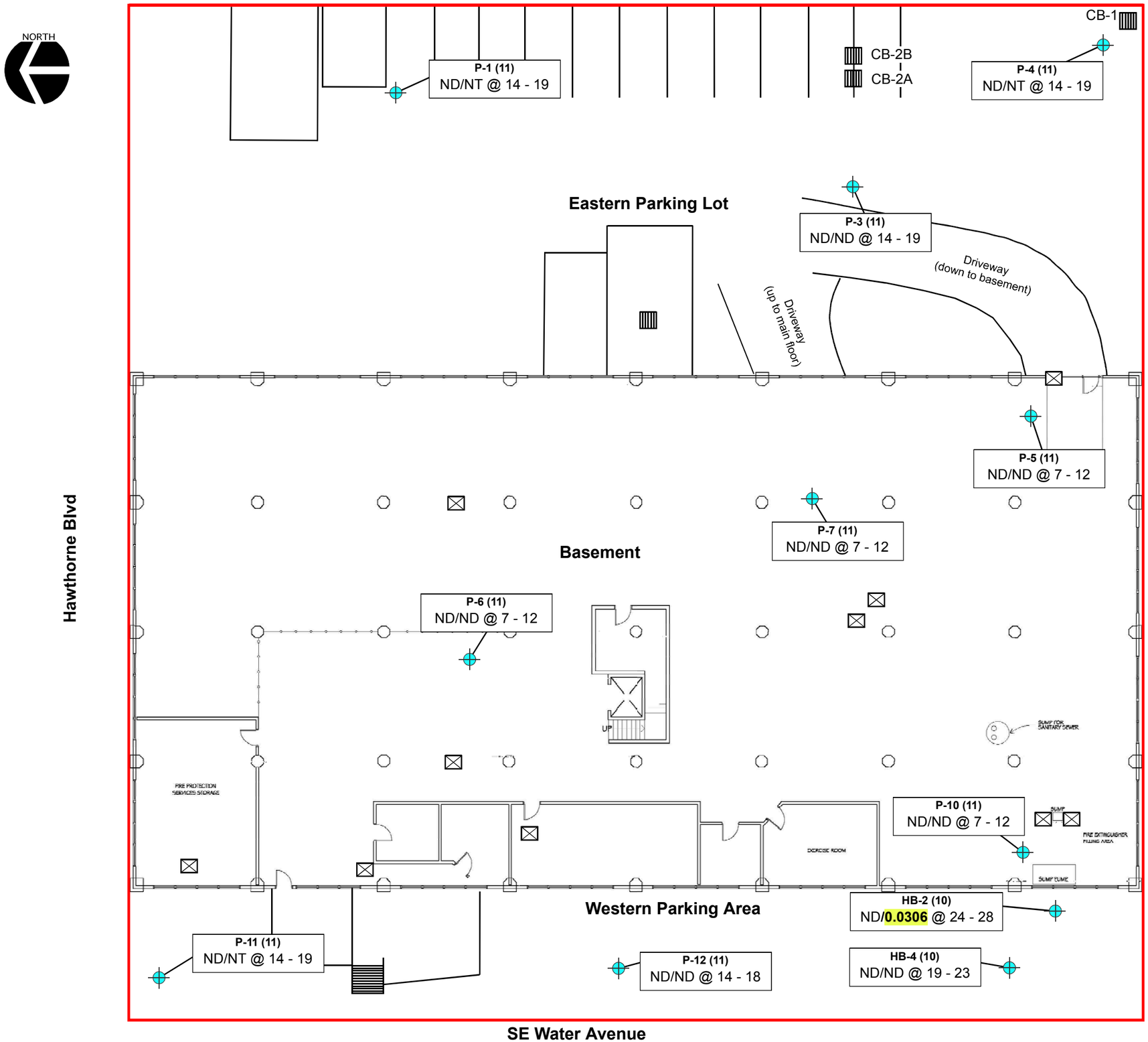
10 0 10 20 30 40 feet

FIGURE 15 – Soil Results: Total Lead

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



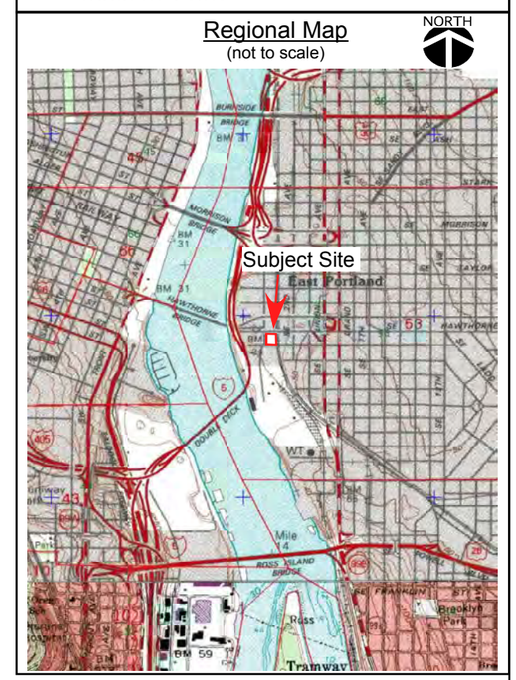
LEGEND

- Property Boundary
- Catch Basin (exterior)
- Floor Drain (interior)
- P-1 (11) — Boring Location with Soil and Water Sample (year of boring)
- P-1 (11) ND/ND @ 7 - 12 — Boring Location (year) TPH/PCB Result (ug/L) @ Depth bgs

Bold & Highlighted = Results exceeds DEQ Risk Based Concentration for Ingestion and Inhalation from Tapwater (0.028 ug/L for PCBs)

ND = Not Detected above laboratory method reporting limits.
NT = Not tested at this location.

Regional Map
(not to scale)



Scale 1 inch = 20 feet

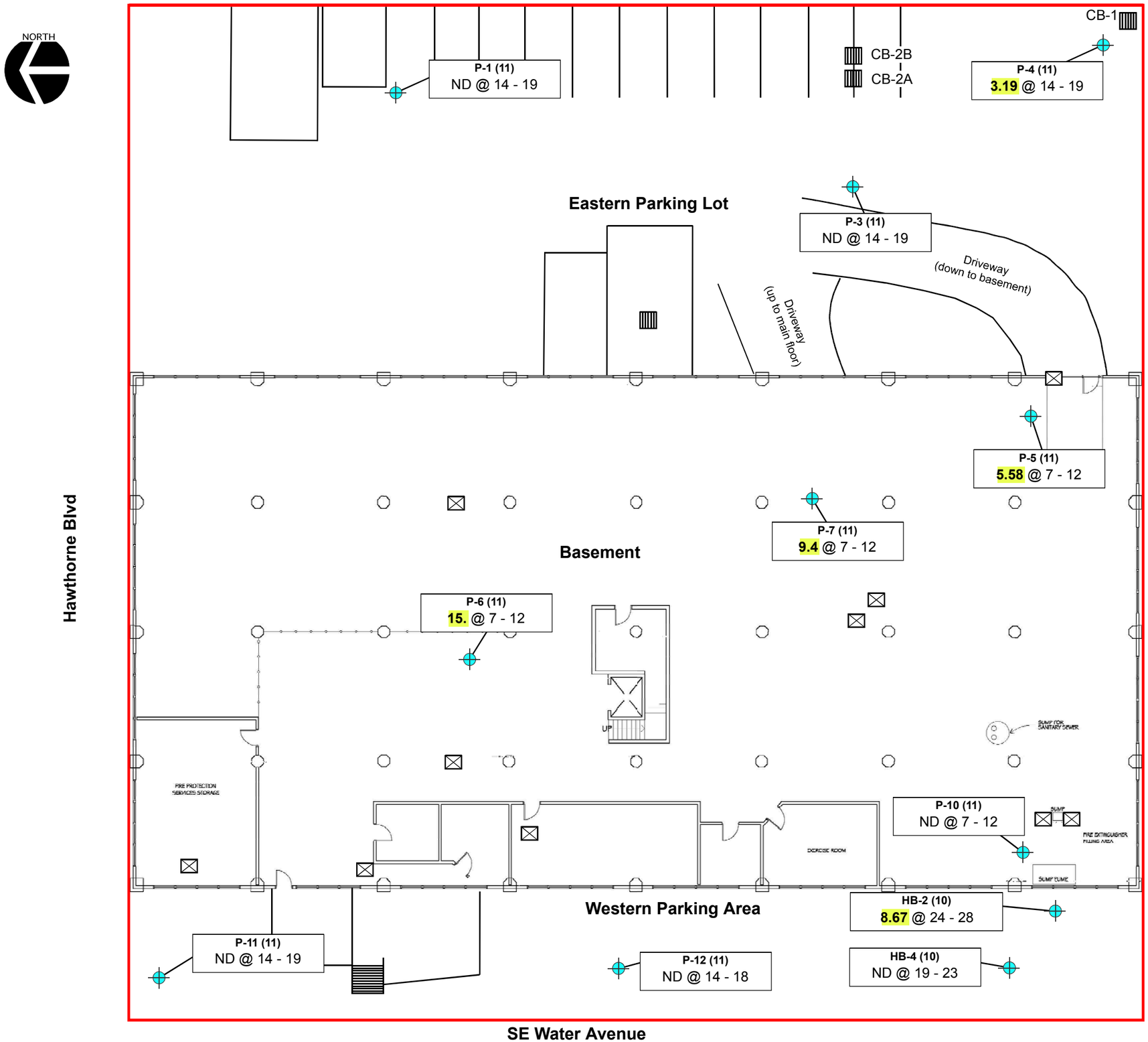
10 0 10 20 30 40 feet

FIGURE 16 – Groundwater Results: TPH (Diesel and Oil-Range) and Total PCBs

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011



LEGEND

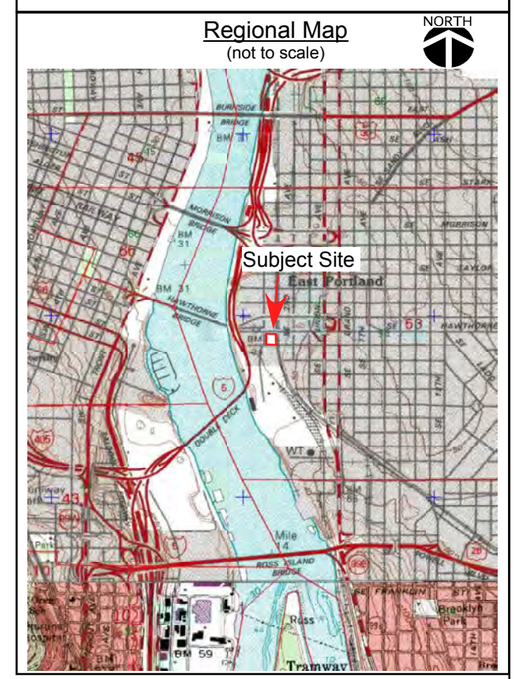
- Property Boundary
- Catch Basin (exterior)
- Floor Drain (interior)
- P-1 (11) — Boring Location with Soil and Water Sample (year of boring)
- P-1 (11) ND @ 7 - 12 — Boring Location (year) Dissolved Arsenic Result (ug/L) @ Depth bgs

Bold & Highlighted = Results exceed DEQ Risk Based Concentration for Ingestion and Inhalation from Tapwater (0.038 ug/L)

ND = Not Detected above laboratory method reporting limits.

Regional Map

(not to scale)



Scale 1 inch = 20 feet

10 0 10 20 30 40 feet

FIGURE 17 – Groundwater Results: Dissolved Arsenic

Phase II Environmental Site Assessment
PGE Hawthorne Building
1510 SE Water Avenue
Portland, Oregon

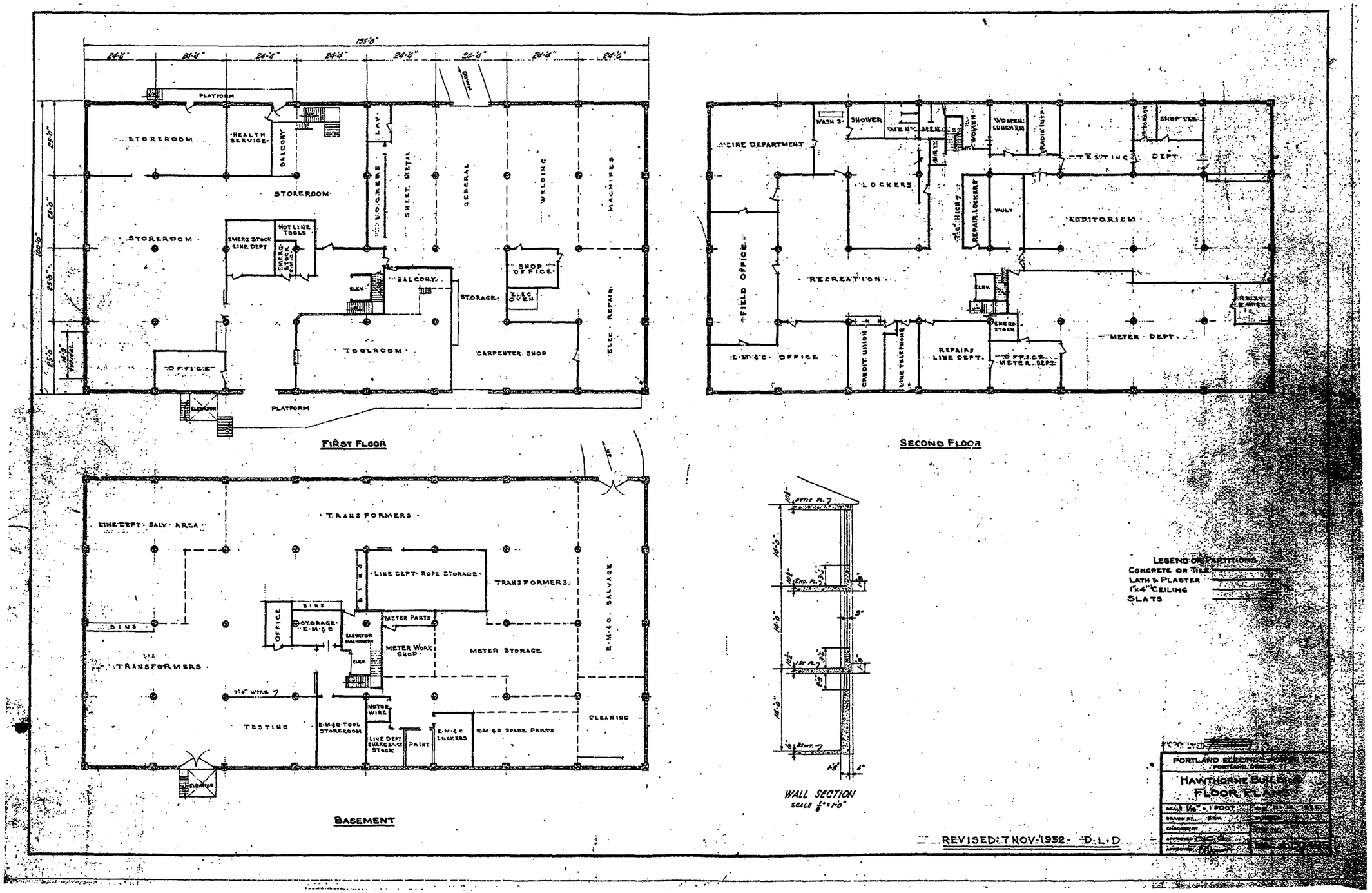
HAHN AND ASSOCIATES, INC.
Project No. 8004

August 2011

APPENDIX A

Historical Diagrams (PGE)

Basement, First, and Second Floor Plans (1952)

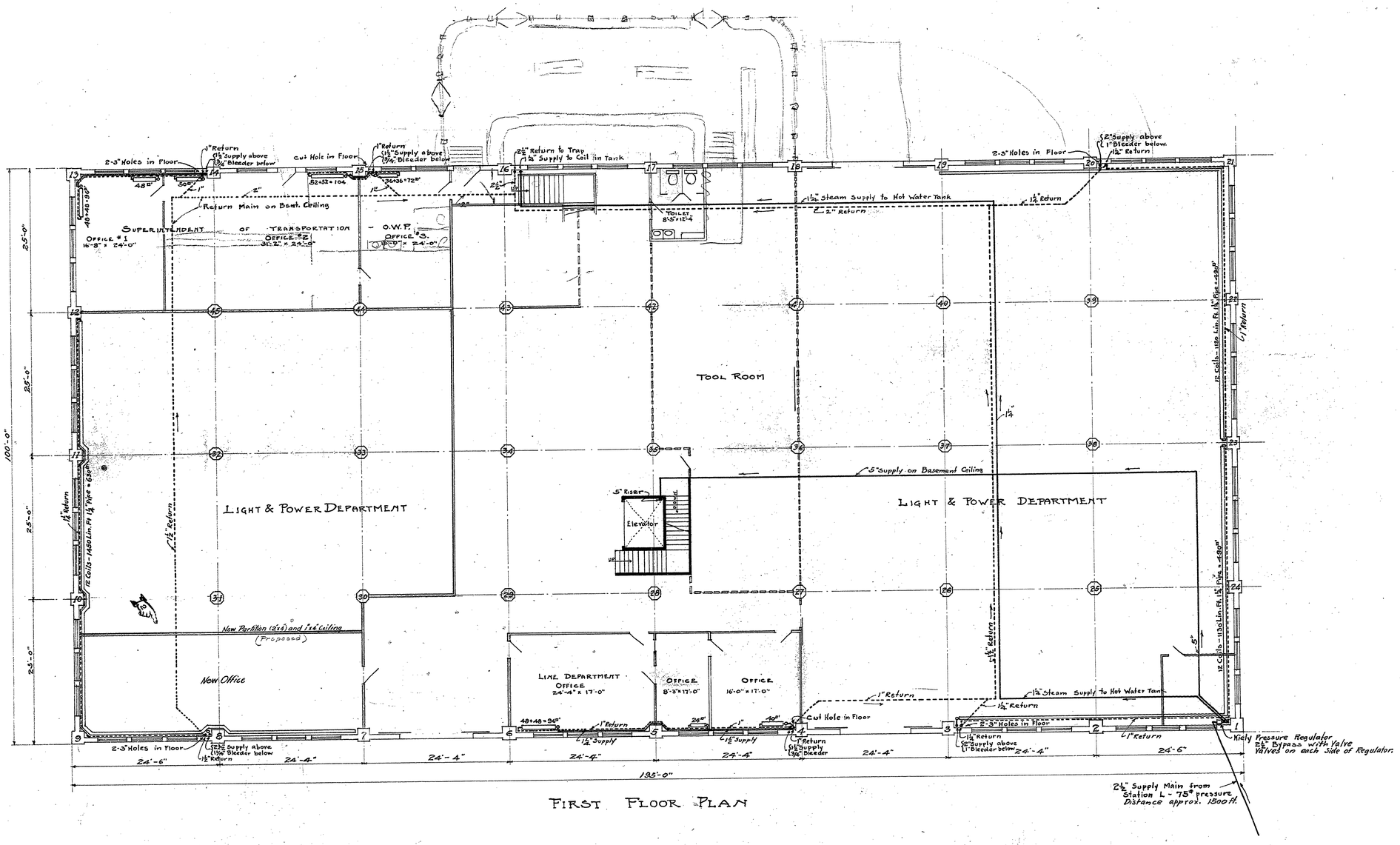


135'-0"
24'-6"
24'-4"
24'-4"
24'-4"
24'-4"
24'-4"
24'-4"
24'-6"
PLATFORM
STOREROOM
HEALTH SERVICE
BALCONY
STOREROOM
LOCKERS
LAV.
SHEET METAL
GENERAL
WELDING
MACHINES
STOREROOM
EMERG STOCK LINE DEPT
HOT LINE TOOLS
EMERG STOCK E.M.&C.
BALCONY
ELEV.
STORAGE
SHOP OFFICE
ELEC OVEN
ELEC. REPAIR
TOOLROOM
CARPENTER SHOP
OFFICE
ELEVATOR
PLATFORM
FIRST FLOOR
LINE DEPARTMENT
WASH S.
SHOWER
MEN
MEN
WOMEN
WOMEN LUNCH RM
RADIO INTP.
STORAGE
SHOP LAB
TESTING DEPT.
LOCKERS
REPAIR LOCKERS
VAULT
AUDITORIUM
FIELD OFFICE
RECREATION
ELEV.
EMERG STOCK
METER DEPT.
E.M.&C. OFFICE
CREDIT UNION
LINE TELEPHONE
REPAIRS LINE DEPT.
OFFICE METER DEPT.
SECOND FLOOR
LINE DEPT. SALV. AREA
TRANSFORMERS
LINE DEPT. ROPE STORAGE
TRANSFORMERS
BINS
OFFICE
BINS
STORAGE E.M.&C.
ELEVATOR MACHINERY
METER PARTS
METER WORK SHOP
METER STORAGE
E.M.&C. SALVAGE
TRANSFORMERS
7'-0" WIRE
MOTOR WIRE
TESTING
E.M.&C. TOOL STOREROOM
LINE DEPT EMERG ELECT STOCK
PAINT
E.M.&C. LOCKERS
E.M.&C. SPARE PARTS
CLEANING
ELEVATOR
BASEMENT
ATTIC FL.
2ND. FL.
1ST FL.
BSMT.
WALL SECTION
SCALE 1/8" = 1'-0"
LEGEND OF PARTITIONS
CONCRETE OR TILE
LATH & PLASTER
1"x4" CEILING
SLATS
PORTLAND ELECTRIC POWER CO.
PORTLAND, OREGON
HAWTHORNE BUILDING
FLOOR PLANS
SCALE 1/16" = 1 FOOT
REVISED: 7 NOV. 1952 - D.L.D.

Basement Plan (1955)

Basement Plan (2008)

First Floor Plan (1913)



FIRST FLOOR PLAN

MICROFILMED 1-29-51

REVISIONS		
2	2-13-13	Remodelled Partitions

FIRST FLOOR PLAN
NEW WAREHOUSE
Located E. Water & Haw. Av.

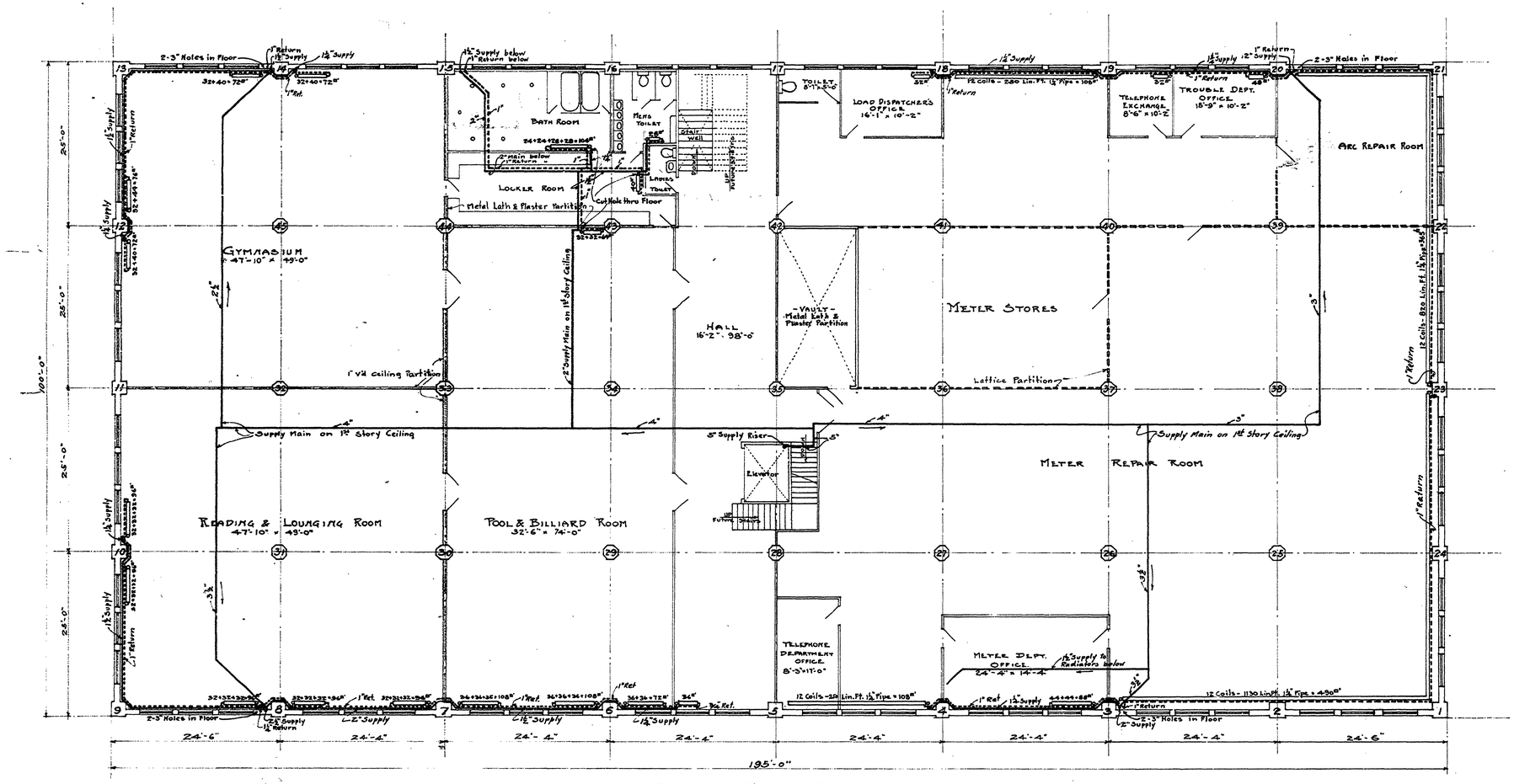
PORTLAND RAILWAY LIGHT & POWER CO.
Portland Oregon.
LIGHT & POWER DEPARTMENT

Drawn by ..... Scale 1/8" = 1'-0"
Traced by ..... File .....
Checked by ..... Date .....
Approved ..... Drawing No. T-134

I certify that the image contained on this frame was made in the normal and regular course of business, on the date stated below and that it is an accurate reproduction of

First Floor Plan (1955)

Second Floor Plan (1951)



SECOND FLOOR PLAN

MICROFILMED 1-18-57

SECOND FLOOR PLAN
NEW WAREHOUSE
Located E Water & Haw. Av.

PORTLAND RAILWAY LIGHT & POWER CO.
Portland, Oregon
LIGHT & POWER DEPARTMENT

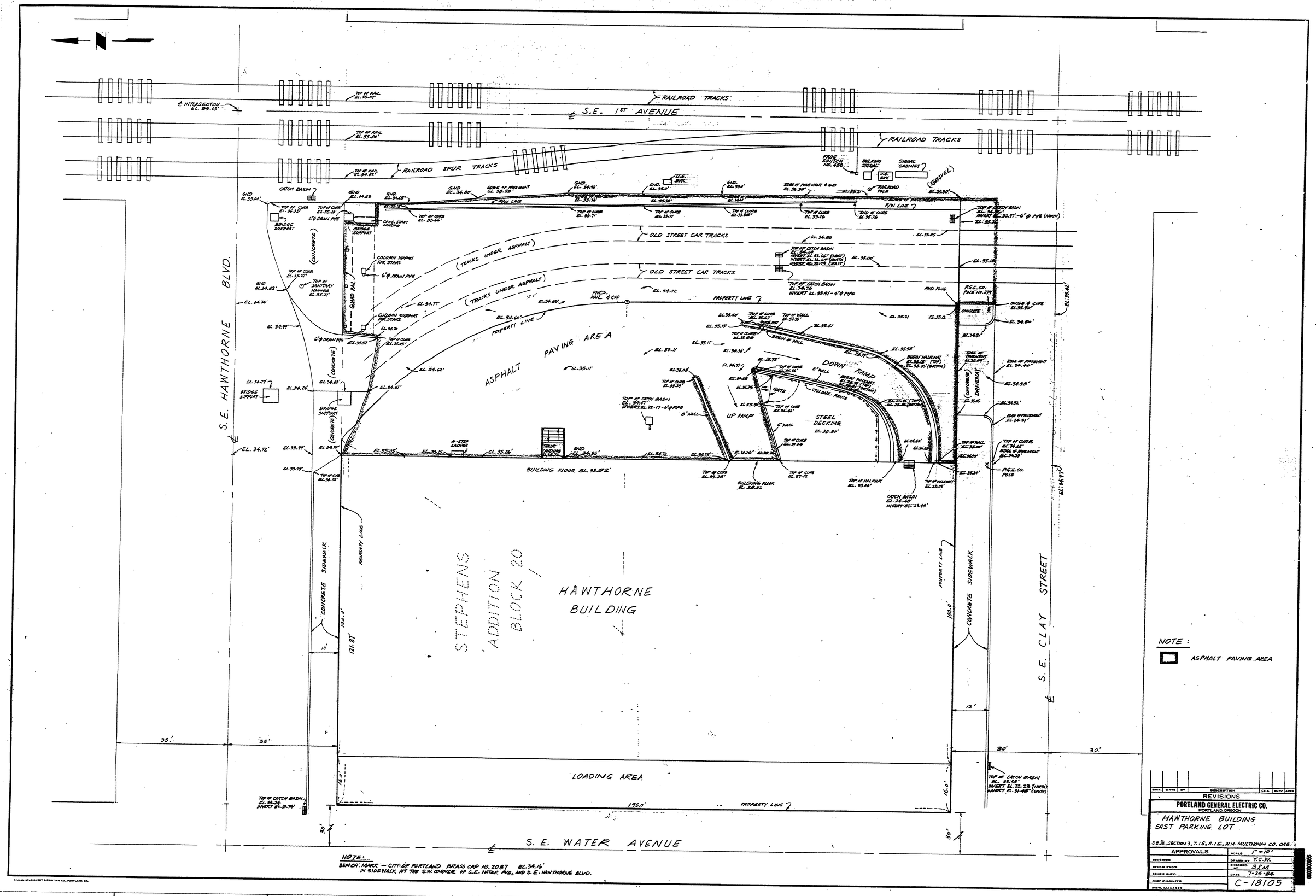
Drawn by ..... Scale 1/8" = 1'-0"
Traced by ..... File .....
Checked by ..... Date .....
Approved ..... Drawing No. T-135

I certify that the image contained on this frame was made in the normal and regular course of business, on the date stated below

PGE0047741

Second Floor Plan (1956)

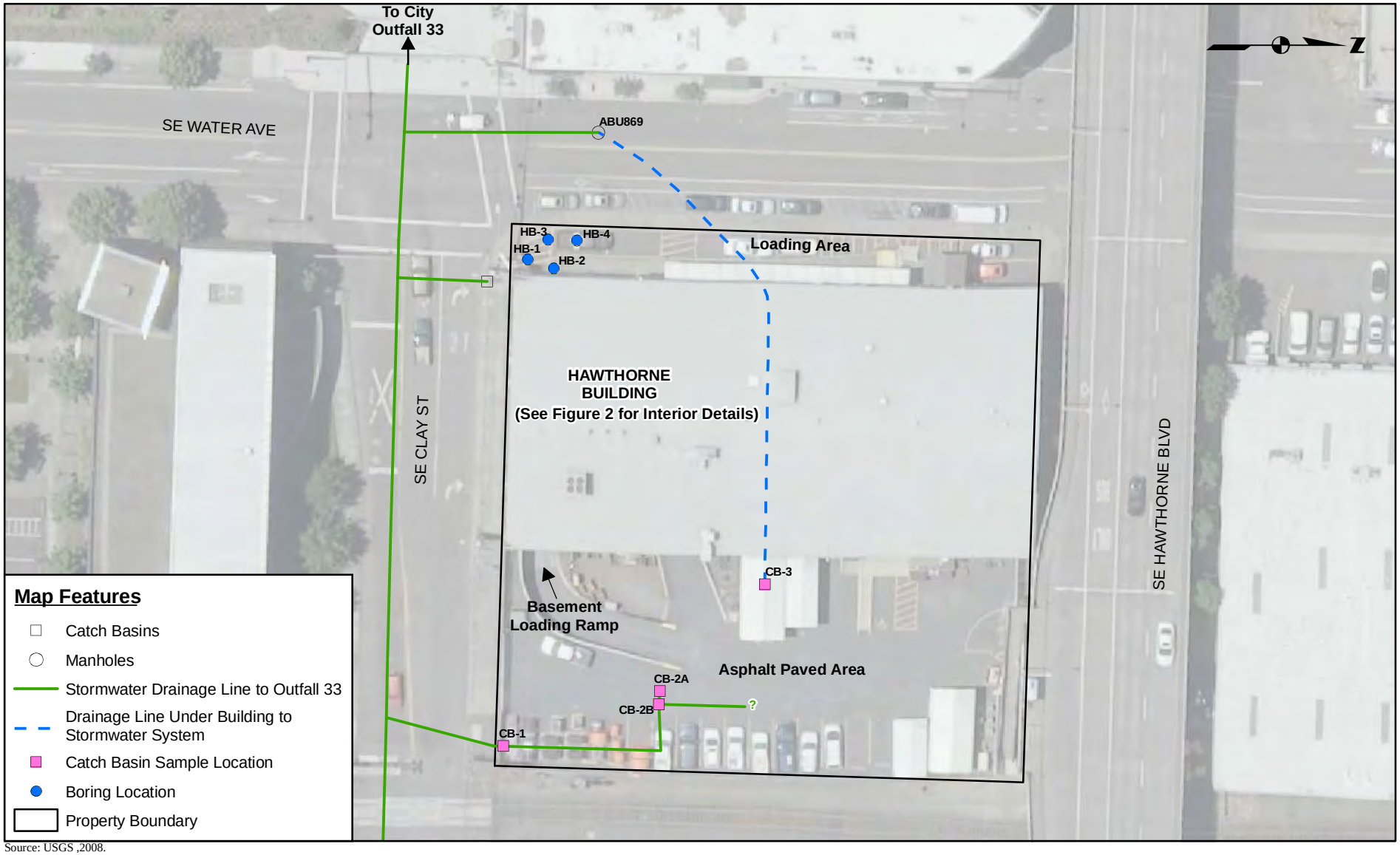
Eastern Parking Lot Area (1984)



I certify that the image contained on this frame was made in the normal and regular course of business, on the date stated below and that it is an accurate reproduction of the document submitted to Micrographics.

APPENDIX B

Site Diagrams from URS 2010 Investigation



Source: USGS ,2008.
City of Portland, 2008 (slight modification to sanitary connection from building based on site walk).

0 50 100 Feet

URS

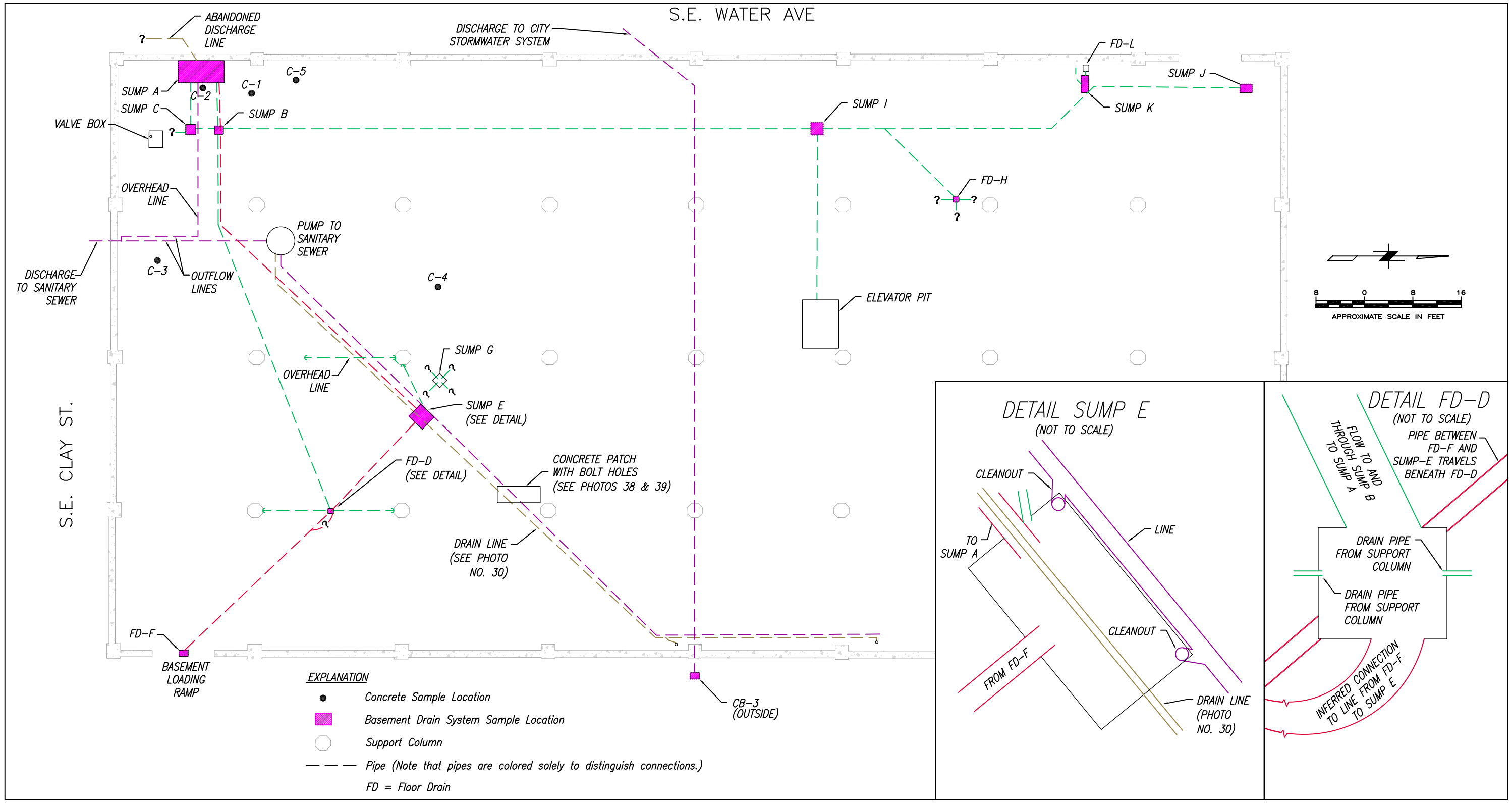
HAWTHORNE BUILDING DRAINAGE

MAY 2011
25697439

PORTLAND GENERAL ELECTRIC
1510 SE WATER AVE
PORTLAND, OR

FIGURE 1

K:\25697063_PGE_Env_Services_Phase_2\GIS Figures\MXD\Hawthorne\Disclosure_Questionnaire\Fig1.mxd



K:\25697063_PGE_Env_Services_Phase_2\GIS Figures\MXD\Vorethorne\Disclosure_Questionnaire\Fig2 Drainage Structures.dwg May 18, 2011 - 1:17pm

URS

MAY 2011
25697439

DRAINAGE STRUCTURES

PORTLAND GENERAL ELECTRIC
1510 SE WATER AVE
PORTLAND, OREGON

FIGURE 2

APPENDIX C

Boring and Sampling Logs (Soil and Groundwater)

HAI
Hahn and Associates, Inc.
Environmental Consultants

Site ID:	**P-1**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Asphalt 0.0 to 0.5 feet Bentonite Chips 0.5 to 20.0 feet	Borehole Dia.: 3 inches	Total Depth: 20.0 feet bgs
		Depth to Groundwater: 13.2 Feet bgs	

Notes: Eastern parking lot area (NE location)

Sample Prefix (Soil): **8004-110630-P1-**
Sample'Prefix (Water): **8004-110701-P1-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
									A	**(0.0 - 0.5 feet):** Asphalt		
	1		☒	001	0.0				SW	**(0.5 - 1.5 feet):** gravelly SAND, dark brown, damp, medium to coarse grained, well graded, loose. Slight sheen observed during sheen testing, but no odor or discoloration. Asphalt fragments from surface cover extending downward into this zone.		
	2		☒	002	0.0				SW	**(1.5 - 2.0 feet):** SAND with some gravel and silt, brown, moist, fine to medium grained sands, well graded, loose. No odor or discolorations present, no sheen produced during sheen testing.		
	3	2 (0-5')								**(2.0 - 5.0 feet):** No recovery.		
	4											
	5								SW	**(5.0 - 7.0 feet):** gravelly SAND, brown, moist, coarse grained, moderately graded, loose. No odor or discolorations present, no sheen produced during sheen testing.		
	6		☒	003	0.0							
	7	2 (5-10')								**(7.0 - 10.0 feet):** No recovery.		
	8											
	9											
	10		☒	004	0.0				SW	**(10.0 - 11.75 feet):**gravelly SAND, brown, moist, coarse grained, moderately graded, loose. Moisture increasing with depth. No odor or discolorations present, no sheen produced during sheen testing.		
	11											
	12	2 (10-15')							ML	**(11.75 - 12.0 feet):** SILT, gray, moist to wet, soft, non-plastic. No odor observed, no sheen produced during sheen testing, and grayish coloring appears to be from reduced conditions.		
	13									**(12.0 - 15.0 feet):** No recovery.	▼	
	14											
	15								ML	**(15.0 - 17.0 feet):** SILT, gray, wet, soft, non-plastic. No odor observed, no sheen produced during sheen testing, and grayish coloring appears to be from reduced conditions.	▽	
	16		☒	005	0.0		102					
	17	4 (15-19')							ML	**(17.0 - 19.0 feet):** SILT with sand, gray, wet, soft, non-plastic, no odor, no sheen, no discoloration.		
	18											
	19									End of boring at 20.0 feet below ground surface. Temporary well point installed from 14 to 19 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

HAI
Hahn and Associates, Inc.
Environmental Consultants

Site ID:	**P-2**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Asphalt 0.0 to 0.5 feet Bentonite Chips 0.5 to 15.0 feet	Borehole Dia.: 3 inches	Total Depth: 15.0 feet bgs
		Depth to Groundwater: Not Applicable	

Notes: Eastern parking lot area

Sample Prefix (Soil): **8004-110630-P2-**
Sample Prefix (Water): **NA**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Sample Information: Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
									A	**(0.0 - 0.5 feet):** Asphalt		
	1	2 (0-5')	X	006	0.0				GW	**(0.5 - 2.0 feet):** sandy GRAVEL, asphalt nodules present to 1.5 feet, dry, brown and gray, fine to coarse grained gravels, well graded, sub-angular to angular. No odor present, but slight to moderate sheen observed during sheen testing, with possible grayish discoloration.		
	2									**(2.0 - 5.0 feet):** No recovery.		
	3											
	4											
	5								SW	**(5.0 - 8.0 feet):** SAND with gravels, brown, damp, fine to medium grained sands, well graded, loose. No odor or discoloration present, no sheen produced during sheen testing.		
	6	3 (5-10')	X	007	0.0							
	7											
	8									**(8.0 - 10.0 feet):** No recovery.		
	9											
	10		X	008	0.0				SW	**(10.0 - 10.5 feet):** SAND with gravels, brown, damp, fine to medium grained sands, well graded, loose. No odor or discoloration present, no sheen produced during sheen testing.		
	11								ML	**(10.5 - 11.0 feet):** SILT with some gravel, brown, moist, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	12	1 (10-15')								**(11.0 - 15.0 feet):** No recovery.		
	13											
	14											
	15									End of boring at 15.0 feet below ground surface.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

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Site ID:	**P-3**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Asphalt 0.0 to 0.5 feet Bentonite Chips 0.5 to 20.0 feet	Borehole Dia.: 3 inches	Total Depth: 20.0 feet bgs
		Depth to Groundwater: 14 Feet bgs	

Notes: Eastern parking lot area

Sample Prefix (Soil): **8004-110630-P3-**
Sample'Prefix (Water): **8004-110701-P3-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
									A	**(0.0 - 0.5 feet):** Asphalt		
	1, 2	2.5 (0-5')	X	009	0.0				ML	**(0.5 - 2.5 feet):** SILT with sand and gravel, brown and gray, with black inclusions, damp, firm, non-plastic. No odor present, but slight sheen during sheen testing, and possible discolorations (gray and black inclusions).		
	3, 4									**(2.5 - 5.0 feet):** No recovery.		
	5, 6, 7	3 (5-10')	X	010	0.0				SP	**(5.0 - 8.0 feet):** SAND with some gravel, brown, damp to moist, fine grained, poorly graded sand, loose. No odor or discoloration present, no sheen produced during sheen testing.		
	8, 9									**(8.0 - 10.0 feet):** No recovery.		
	10, 11, 12	3 (10-15')	X	011	0.0				SP	**(10.0 - 13.0 feet):** SAND with some gravel, brown, moist, fine grained, poorly graded sand, loose. No odor or discoloration present, no sheen produced during sheen testing.		
	13									**(13.0 - 15.0 feet):** No recovery.		
	14										▼	
	15, 16, 17, 18	3.5 (15-20')					101		ML	**(15.0 - 18.5 feet):** sandy SILT, brown and gray, wet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.	▽	
	19									End of boring at 20.0 feet below ground surface. Temporary well point set from 14 to 19 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

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Site ID:	**P-4**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Asphalt 0.0 to 0.5 feet Bentonite Chips 0.5 to 20.0 feet	Borehole Dia.: 3 inches	Total Depth: 20.0 feet bgs
		Depth to Groundwater: 13.3 Feet bgs	

Notes: Eastern parking lot area (SE location)

Sample Prefix (Soil): **8004-110630-P4-**
Sample'Prefix (Water): **8004-110701-P4-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
									A	**(0.0 - 0.5 feet):** Asphalt		
	1		X	012	0.0				SM	**(0.5 - 1.5 feet):** silty SAND with some gravel, brown and black, dry, medium to coarse grained sands, well graded, loose. No odor present, but light to moderate sheen observed during sheen testing, with blackish staining observed. Evidence of possible railway tie (1" layer of shredded wood).		
	2	1.5 (0-5')								**(1.5 - 5.0 feet):** No recovery.		
	3											
	4											
	5								ML	**(5.0 - 8.0 feet):** SILT with sand and gravel, moist, brown, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	6		X	013	0.0							
	7	3 (5-10')										
	8									**(8.0 - 10.0 feet):** No recovery.		
	9											
	10								ML	**(10.0 - 14.5 feet):** SILT with some sand, gray, moist becoming wet at 13.3 feet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	11		X	014	0.0							
	12	4.5 (10-15')										
	13										▼	
	14										▽	
	15									**(14.5 - 15.0 feet):** No recovery.		
	16						100		ML	**(15.0 - 18.5 feet):** sandy SILT, gray, wet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	17	3.5 (15-20')										
	18											
	19									End of boring at 20.0 feet below ground surface. Temporary well point set from 14 to 19 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

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Site ID:	**P-5**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Concrete 0.0 to 0.5 feet Bentonite Chips 0.5 to 12.0 feet	Borehole Dia.: 3 inches	Total Depth: 12.0 feet bgs
		Depth to Groundwater: 4.1 Feet bgs	

Notes: Basement area (near SE entrance)

Sample Prefix (Soil): **8004-110630-P5-**
Sample Prefix (Water): **8004-110701-P5-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
										(0.0 - 0.5 feet): Concrete		
	1	2 (0-3')	X	030	0.0				ML	**(0.5 - 2.0 feet):** SILT, brown, damp, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	2									**(2.0 - 3.0 feet):** No recovery.		
	3		X	031	0.0				ML	**(3.0 - 4.0 feet):** SILT with some sand, gray, moist, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	4	3 (3-6')							ML	**(4.0 - 8.5 feet):** sandy SILT, gray, most becoming wet at 8.0 feet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.	▼	
	5											
	6											
	7	2.5 (6-9')	X	032	0.0							
	8										▽	
	9						105			**(8.5 - 12.0 feet):** No recovery.		
	10	0 (9-12')										
	11											
	12									End of boring at 12.0 feet below ground surface. Temporary well point set at 7 to 12 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

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Site ID:	**P-6**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Concrete 0.0 to 0.5 feet Bentonite Chips 0.5 to 12.0 feet	Borehole Dia.: 3 inches	Total Depth: 12.0 feet bgs
		Depth to Groundwater: 4.5 Feet bgs	

Notes: Basement area

Sample Prefix (Soil): **8004-110630-P6-**
Sample'Prefix (Water): **8004-110701-P6-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
										(0.0 - 0.5 feet): Concrete		
	1	2.5 (0-3')	X	018	0.0				ML	**(0.5 - 2.5 feet):** SILT, brown, damp, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	2											
	3									**(2.5 - 3.0 feet):** No recovery.		
	4	3 (3-6')	X	019	0.0				ML	**(3.0 - 5.25 feet):** SILT with some sand, brown, damp becoming moist with depth, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.	▼	
	5											
	6								ML	**(5.25 - 9.0 feet):** sandy SILT, gray, moist becoming wet at 8.0 feet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	7	3 (6-9')	X	020	0.0						▽	
	8											
	9						103		SM	**(9.0 - 12.0 feet):** silty SAND, brown, wet, loose, fine grained, poorly graded. No odor or discoloration present, no sheen produced during sheen testing.		
	10	3 (9-12')										
	11											
	12									End of boring at 12.0 feet below ground surface. Temporary well point set at 7 to 12 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

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Site ID:	**P-7**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Concrete 0.0 to 0.5 feet Bentonite Chips 0.5 to 12.0 feet	Borehole Dia.: 3 inches	Total Depth: 12.0 feet bgs
		Depth to Groundwater: 4.3Feet bgs	

Notes: Basement area

Sample Prefix (Soil): **8004-110630-P7-**
Sample'Prefix (Water): **8004-110701-P7-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
										(0.0 - 0.5 feet): Concrete		
	1	2 (0-3')	X	021	0.0				ML	**(0.5- 2.0 feet):** SILT with some sand, brown, damp, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	2									**(2.0 - 3.0 feet):** No recovery.		
	3								ML	**(3.0 - 9.0 feet):** SILT with some sand, brown to 3.2 feet, then gray to 9.0 feet, moist becoming wet at 6.5 feet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	4	3 (3-6')	X	022	0.0						▼	
	5											
	6										▽	
	7	3 (6-9')	X	023	0.0							
	8											
	9						104		ML	**(9.0 - 12.0 feet):** sandy SILT, gray, wet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	10	3 (9-12')										
	11											
	12									End of boring at 12.0 feet below ground surface. Temporary well point set from 7 to 12 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

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Site ID:	**P-8**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Concrete 0.0 to 0.5 feet Bentonite Chips 0.5 to 9.0 feet	Borehole Dia.: 3 inches	Total Depth: 9.0 feet bgs
		Depth to Groundwater: 7.0 Feet bgs	

Notes: Basement area (near Sump G)

Sample Prefix (Soil): **8004-110630-P8-**
Sample'Prefix (Water): **NA**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Sample Information: Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
										(0.0 - 0.5 feet): Concrete		
	1	2.5 (0-3')	X	024	0.0				ML	**(0.5 - 2.0 feet):** SILT, gray with some dark brown granular inclusions, damp, stiff, non-plastic. No odor observed, no sheen produced during sheen testing, but possible grayish discoloration.		
	2								ML	**(2.0 - 2.5 feet):** SILT, dark brown, damp, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	3								ML	**(2.0 - 3.0 feet):** No recovery.		
	4	2.5 (3-6')	X	025	0.0					**(3.0 - 6.0 feet):** SILT with some sand, dark gray, moist, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	5											
	6								SM	**(6.0 - 9.0 feet):** silty SAND, gray, most becoming wet at 7.0 feet, fine grained, poorly graded, loose. No odor or discoloration present, no sheen produced during sheen testing.	▽	
	7	3 (6-9')	X	026	0.0							
	8											
	9									End of boring at 9.0 feet below ground surface.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

HAI
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Site ID:	**P-9**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Concrete 0.0 to 0.5 feet Bentonite Chips 0.5 to 9.0 feet	Borehole Dia.: 3 inches	Total Depth: 9.0 feet bgs
		Depth to Groundwater: 6.0 Feet bgs	

Notes: Basement area (near Sump K)

Sample Prefix (Soil): **8004-110630-P9-**
Sample'Prefix (Water): **NA**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Sample Information: Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
										(0.0 - 0.5 feet): Concrete		
	1	2 (0-3')	X	015	0.0				ML	**(0.5 - 2.0 feet):** SILT, brown, damp, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	2									**(2.0 - 3.0 feet):** No recovery.		
	3								ML	**(3.0 - 5.5 feet):** SILT, brown, moist becoming wet at 5.5 feet, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	4	2.5 (3-6')	X	016	0.0							
	5											
										(5.5 - 6.0 feet): No recovery.	▽	
	6								ML	**(6.0 - 9.0 feet):** SILT, brown, wet, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	7	3 (6-9')	X	017	0.0							
	8											
	9									End of boring at 9.0 feet below ground surface		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

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Site ID:	**P-10**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Concrete 0.0 to 0.5 feet Bentonite Chips 0.5 to 12.0 feet	Borehole Dia.: 3 inches	Total Depth: 12.0 feet bgs
		Depth to Groundwater: 5.1 Feet bgs	

Notes: Basement location near SW corner (near Sump A)

Sample Prefix (Soil): **8004-110630-P10-**
Sample Prefix (Water): **8004-110701-P10-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Sample Information: Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
										(0.0 - 0.5 feet): Concrete		
	1	2.5 (0-3')	X	027	0.0				ML	**(0.5 - 2.5 feet):** SILT, brown, damp, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	2											
	3									**(2.5 - 3.0 feet):** No recovery.		
									ML	**(3.0 - 4.0 feet):** SILT, brown, damp, stiff, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	4	3 (3-6')	X	028	0.0				ML	**(4.0 - 8.0 feet):** SILT with some sand, brown, moist becoming wet at 6.0 feet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	5										▼	
	6											
	7	3 (6-9')	X	029	0.0						▽	
	8								SM	**(8.0 - 12.0 feet):** silty SAND, brown, wet, loose, fine grained, poorly graded. No odor or discoloration present, no sheen produced during sheen testing.		
	9						106					
	10	3 (9-12')										
	11											
	12									End of boring at 12.0 feet below ground surface. Temporary well point set from 7 to 12 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

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Site ID:	**P-11**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Asphalt 0.0 to 0.3 feet Bentonite Chips 0.5 to 20.0 feet	Borehole Dia.: 3 inches	Total Depth: 20.0 feet bgs
		Depth to Groundwater: 14.7 Feet bgs	

Notes: Western parking area (NW corner)

Sample Prefix (Soil): **8004-110630-P11-**
Sample Prefix (Water): **8004-110701-P11-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
									A	**(0.0 - 0.3' bgs):** Asphalt		
	1	3 (0-5')	X	036	0.0				ML	**(0.3 - 3.0 feet):** SILT, brown, damp, stiff, non-plastic, brick fragment at 2.5 feet. No odor or discoloration present, no sheen produced during sheen testing.		
	2											
	3									**(3.0 - 5.0 feet):** No recovery.		
	4											
	5								ML	**(5.0 - 9.0 feet):** SILT, brown, moist, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	6	4 (5-10')	X	037	0.0							
	7											
	8											
	9									**(9.0 - 10.0 feet):** No recovery.		
	10								ML	**(10.0 - 12.5 feet):**sandy SILT, brown, moist, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	11		X	038	0.0							
	12	2.5 (10-15')										
	13									**(12.5 - 15.0 feet):** No recovery.		
	14											
	15								SM	**(15.0 - 18.5 feet):** silty SAND, brown, wet, fine grained sand, poorly graded, loose. No odor or discoloration present, no sheen produced during sheen testing.	▼	
	16						109					
	17	3.5 (15-20')										
	18											
	19									**(18.5 - 20.0 feet):** No recovery.		
										End of boring at 20.0 feet below ground surface. Temporary well point set from 14 to 19 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

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Site ID:	**P-12**	Date(s):	**6/30/11**
Project No:	**8004**		
Project Name:	**PGE - Maintenance Facility (Hawthorne Blvd)**		
Driller:	**Cascade Drilling LLC**	Location:	**1510 SE Water Avenue**
Drilling Method:	**Direct Push**	Logged By: Corey Raspone	Checked By: Rob Ede
Sampling Method:	**Macrocore - Discrete Grab**	GS Elevation: Not Surveyed	TOC: Not Applicable
Annular Fill:	Asphalt 0.0 to 0.3 feet Bentonite Chips 0.5 to 20.0 feet	Borehole Dia.: 3 inches	Total Depth: 20.0 feet bgs
		Depth to Groundwater: 15.1 Feet bgs	

Notes: Western parking area (central location)

Sample Prefix (Soil): **8004-110630-P12-**
Sample Prefix (Water): **8004-110701-P12-**

Elevation (ft)	Depth (ft)	Recovery (ft) (core interval)	Soil Interval	Soil Number	Soil PID (ppm)	Water Interval	Water Number	Lithology	USCS Code	Lithologic Description	Groundwater	Boring Abandonment Details
									A	**(0.0 - 0.3' bgs):** Asphalt		
	1		X	033	0.0				SM	**(0.3 - 1.5 feet):** SAND with some silt, brown, damp, fine grained, poorly graded, loose. No odor or discoloration present, no sheen produced during sheen testing.		
	2	1.5 (0-5')								**(1.5 - 5.0 feet):** No recovery.		
	3											
	4											
	5								SM	**(5.0 - 8.0 feet):** silty SAND, brown, damp, fine grained, poorly graded, loose. No odor or discoloration present, no sheen produced during sheen testing.		
	6		X	034	0.0							
	7	3 (5-10')										
	8									**(8.0 - 10.0 feet):** No recovery.		
	9											
	10								ML	**(10.0 - 14.5 feet):** SILT, brown, moist becoming wet at 14.0 feet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	11											
	12	4.5 (10-15')	X	035	0.0							
	13											
	14											
	15									**(14.5 - 15.0 feet):** No recovery.	▼	
	16						107 108		ML	**(15.0 - 18.0 feet):** sandy SILT, gray, wet, soft, non-plastic. No odor or discoloration present, no sheen produced during sheen testing.		
	17	3 (15-20')										
	18									**(18.0 - 20.0 feet):** No recovery.		
	19									End of boring at 20.0 feet below ground surface. Temporary well point set from 14 to 18 feet.		

NOTES: bgs = below ground surface
GS = Ground Surface
PID = photoionization detector
TOC = Top of Casing

▽ First encountered groundwater

▼ Static groundwater level
Groundwater depth at time of sampling

Direct Push Well Point Sampling Field Log

Boring Number: P-1

Date: 7/1/11

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Project Information	
Project Name:	PGE HAWTHORNE
HAI Project Number:	8004

Well Point Information			
Placement:	Direct Push	Open Hole	(circle one)
Type of Well Point:	Stainless	PVC / Other (describe)	(circle one)
Screen Interval:	14 to 19		feet bgs

Sampling Information	
Field Team:	RCR
Purge Method:	PERISTALTIC
Sampling Method:	STANDARD
Decontamination Method:	ALL DISPOSABLE EQUIPMENT/SUPPLIES
Purge Water Disposition:	NA

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOA	HCl	VOCs	N
1	1L AMB	NON	DX & PAH	N
1	250ML POLY	HNO_3	METALS	Y
~~5~~				

Comments: Did well point purge dry? YES – TWP PURGED DRY QUICKLY & REQUIRED REPEATED VISITS TO SECURE VOLUME. INSUFFICIENT VOLUME FOR PARAMETERS. AT 16:00 THERE WAS NO CHANCE OF SECURING SUFFICIENT VOLUME FOR NEXT LEVEL OF ANALYSIS (+1L)

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
08:48			Initial 13.2'							
09:00	0.5		DRY							
11:50	0.3									
13:20	0.3									
14:30	WELL PURGED DRY EVERY 15 MINUTES									
16:00										
				Sample Number:		8004-110701-P1-102 @ 09:00				

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

1.5 L TOTAL OVER 2 HOURS, NEXT SET OF ANALYSIS REQUIRES ADDITIONAL 1.0 LITERS.

Direct Push Well Point Sampling Field Log

Boring Number: P3

Date: 7/1/11

Page 1 of 1

Project Information

Project Name: PGE HAWTHORNE

HAI Project Number:

Well Point Information

Placement: Direct Push (circle one) Open Hole Other (describe)

Type of Well Point: Stainless PVC (circle one)

Screen Interval: 14 to 19 feet bgs

Sampling Information

Field Team: RCR

Purge Method: PERISTALTIC

Sampling Method: STANDARD

Decontamination Method: ALL NEW DISPOSABLE SUPPLIES

Purge Water Disposition:

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOA	HCl	VOCs	N
1	1L AMB	HCl	DX	N
3	1L AMB	NON	PAH & PCBs	N
1	250 ML POLY	HNO_3	METAL	Y

Comments: Did well point purge dry? NO, SUFFICIENT RECHARGE TO FILL BOTTLE SUITE

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
08:50			Initial 14.0'							
09:15	2L									Cl
09:30	7L		14.1							
				Sample Number:		8004-110701-P3-101 @09:15				

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

Direct Push Well Point Sampling Field Log

Boring Number: P4

Date: 7/1/11

Project Information

Project Name: PGE HAWTHORNE

HAI Project Number: 8004

Well Point Information

Placement: (Direct Push) Open Hole Other (describe) (circle one)

Type of Well Point: Stainless (PVC) (circle one)

Screen Interval: 14 to 19 feet bgs

Sampling Information

Field Team: RCR

Purge Method: PERISTALTIC

Sampling Method: STANDARD

Decontamination Method: ALL NEW & DISPOSABLE SUPPLIES

Purge Water Disposition: NA

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOA	HCl	VOCs	N
1	1L AMB	NON	DX & PAH	N
1	250ML POLY	HNO_3	METALS	Y

Comments: Did well point purge dry? YES, MULTIPLE TIMES. INSUFFICIENT VOLUME FOR DEVELOPMENT/PARAMETERS. TWP PURGED DRY QUICKLY & REQUIRED MULTIPLE VISITS TO SECURE 1.5L VOLUME BY 16:00. @ 16:00 THERE WAS NO CHANCE OF SECURING ADDITIONAL SUFFICIENT VOLUME TO ALLOW FOR NEXT LEVEL OF ANALYSIS (PCBs)

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
08:29			Initial 13.3							
08:33	0.5		DRY							
12:05	0.5		DRY							
13:25	0.2		DRY							
14:30 – 16:00	WELL PURGED EVERY 15 MINUTES									
				Sample Number:	8004-110701-P4-100 @ 08:30					

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

Direct Push Well Point Sampling Field Log

Boring Number: P5

Date: 7/1/11

Project Information

Project Name: PGE HAWTHORNE

HAI Project Number: 8004

Well Point Information

Placement: (Direct Push) Open Hole Other (describe) (circle one)

Type of Well Point: Stainless (PVC) (circle one)

Screen Interval: 7 to 12 feet bgs

Sampling Information

Field Team: RCR

Purge Method: PERISTALTIC

Sampling Method: STANDARD

Decontamination Method: ALL NEW & DISPOSABLE SUPPLIES

Purge Water Disposition:

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOAs	HCl	VOCs	N
1	1L AMB	HCl	DX	N
3	1L AMB	NON	PAH & PCBs	N
1	250 ML POLY	HNO_3	METALS	Y

Comments: Did well point purge dry? YES, TWP REQUIRED MULTIPLE VISITS TO COLLECT FULL BOTTLE SUITE. INSUFFICIENT RECHARGE FOR DEVELOPMENT / PARAMETERS

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
10:13			Initial 4.05'							
10:18	1L		DRY							
10:50			4.3							
10:51	1.5L		DRY							
RETURN ~~ON~~ HOURLY F/ 11:30 -> 13:30 TO PURGE DRY										
14:00	4.5L		DRY							
				Sample Number:	8004-110701-P5-105@ 11:45					

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

Direct Push Well Point Sampling Field Log

Boring Number: P6

Date: 7/1/11

Project Information	
Project Name:	PGE HAWTHORNE
HAI Project Number:	8004

Well Point Information			
Placement:	Direct Push	Open Hole	(circle one)
Type of Well Point:	Stainless	PVC / Other (describe)	(circle one)
Screen Interval:	7 to 12		feet bgs

Sampling Information	
Field Team:	RCR
Purge Method:	PERISTALTIC
Sampling Method:	STANDARD
Decontamination Method:	ALL NEW/DISPOSABLE SUPPLIES
Purge Water Disposition:	NA

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOA	HCl	VOCs	N
1	1L AMB	HCl	DX	N
3	1L AMB	NON	PAH & PCB	N
1	250 ML POLY	HNO_3	METALS	Y

Comments: Did well point purge dry? YES, TWP PURGED DRY MULTIPLE TIMES. INSUFFICIENT VOLUME FOR ~~[illegible]~~ PARAMETERS. WELL PURGED DRY 2x UNTIL SAMPLE VOLUME MET.

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
09:45			Initial 4.5'							
09:50	2L		5.0	(DEVELOPMENT)						
10:00	5.5L		DRY							
10:50	6.5L		DRY	W/ SUFFICIENT VOLUME OBTAINED						
				Sample Number:	8004-110701-P6-103 @ 09:55					

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

Direct Push Well Point Sampling Field Log

Boring Number: P7

Date: 7/1/11

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Project Information

Project Name: PGE HAWTHORNE

HAI Project Number: 8004

Well Point Information

Placement: (Direct Push) Open Hole Other (describe) (circle one)

Type of Well Point: Stainless (PVC) (circle one)

Screen Interval: 7 to 12 feet bgs

Sampling Information

Field Team: RCR

Purge Method: PERISTALTIC

Sampling Method: STANDARD

Decontamination Method: ALL NEW/DISPOSABLE SUPPLIES

Purge Water Disposition: NA

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOAs	HCl	VOCs	N
1	1L AMB	HCl	DX	N
3	1L AMB	NON	PAH & PCB	N
1	250 ML POLY	HNO_3	METALS	Y

Comments: Did well point purge dry? YES, TWP PURGED DRY SEVERAL TIMES TO SECURE SUFFICIENT VOLUME OF H_2O FOR ANALYSIS.

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
09:40			Initial 4.3'							
10:10	0.7		DRY							
↓										
11:15	4.5L	→ WELL PURGED DRY 4X BETWEEN 10:10 & 11:15 UNTIL SUFFICIENT VOLUME OBTAINED.								
				Sample Number:		8004-110701-P7-104 @ 11:15				

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

Direct Push Well Point Sampling Field Log

Boring Number: P-10

Date: 7/1/11

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Project Information

Project Name: PGE HAWTHORNE

HAI Project Number: 8004

Well Point Information

Placement: (Direct Push) Open Hole Other (describe) (circle one)

Type of Well Point: Stainless (PVC) (circle one)

Screen Interval: 7 to 12 feet bgs

Sampling Information

Field Team: RCR

Purge Method: PERISTALTIC

Sampling Method: STANDARD

Decontamination Method: ALL NEW/DISPOSABLE SUPPLIES

Purge Water Disposition:

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOA	HCl	VOCs	N
1	1L AMB	HCl	DX	N
3	1L AMB	NON	PAH & PCBs	N
1	250 ML POLY	HNO_3	METAL	Y

Comments: Did well point purge dry? ~~NO~~ YES 1X, INSUFFICIENT VOLUME FOR PARAMETERS @ TIME OF SAMPLING (100% VOLUME TO DEVELOP & SUBSEQUENT SAMPLING).

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
10:10			Initial 5.1							
10:20	2L									
10:40	5L		DRY							
10:45	WELL	RECHARGING								
10:50	6.5L									
				Sample Number:	8004-110701-P10-106 @ 10:20					

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

Direct Push Well Point Sampling Field Log

Boring Number: P11

Date: 7/1/11

Project Information

Project Name: PGE HAWTHORNE

HAI Project Number: 8004

Well Point Information

Placement: (Direct Push) Open Hole Other (describe) (circle one)

Type of Well Point: Stainless (PVC) (circle one)

Screen Interval: 14 to 19 feet bgs

Sampling Information

Field Team: RCR

Purge Method: PERISTALTIC

Sampling Method: STANDARD

Decontamination Method: ALL NEW/ DISPOSABLE SUPPLIES

Purge Water Disposition: NA

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOA	HCl	VOCs	N
1	1L AMB	NON	DX & PAH	N
1	250 ML POLY	HNO_3	METALS	Y

Comments: Did well point purge dry? YES

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
12:20			Initial 14.7'							
12:50	0.7		DRY.							
↓ 17:00	1.2L		WELL PURGED DRY w/x F/ 12:50 → 17:00 W/ INSUFFICIENT VOLUME FOR ANALYSIS. RETURN IN A.M.							
09:00	(7/2/11)		SECURED ADDITIONAL 0.3L							
				Sample Number:		8004-110701-P11-109 @ 13:00				

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

Direct Push Well Point Sampling Field Log

Boring Number: P12

Date: 7/1/11

Project Information

Project Name: PGE HAWTHORNE

HAI Project Number: 8004

Well Point Information

Placement: (Direct Push) Open Hole Other (describe) (circle one)

Type of Well Point: (Stainless) PVC (circle one)

Screen Interval: 14 to 18 feet bgs

Sampling Information

Field Team: RER

Purge Method: PERISTALTIC

Sampling Method: STANDARD

Decontamination Method: ALL NEW/DISPOSABLE SUPPLIES

Purge Water Disposition:

Sample Containers

Number	Type	Preservative	Analytical Parameters	Filtered?
3	VOA	HCl	VOCs	N
1	1L AMB	HCl	DX	N
3	1L AMB	NON	PAH & PCBs	N
1	250ML POLY	HNO_3	METALS	Y
8	X2	FOR DUP		

Comments: Did well point purge dry? NO

Well Point Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Conductivity (uS/cm)	Temp. (°C)	pH	ORP (mV)	D.O. (mg/L)	Turbidity (NTUs)	Clarity/Color/ Remarks
12:15			Initial 15.1							
12:25	2L		15.1	(DEVELOPMENT)						
13:00	9L		15.1							
				Sample Number:		8004-110701-P12-107 @ 12:30 -108				

Note: bgs=below ground surface DTW=depth to water Lpm=liters per minute
Clarity: VCl=very cloudy Cl=cloudy SCl=slightly cloudy AC=almost clear C=clear CC=crystal clear

APPENDIX D

Site-Specific TPH RBC Calculation Spreadsheets

TPH Fraction Composition (Weight Fraction)

Fuel Fractions	Site-Specific Data			Generic Weight Fraction Data		
	Raw Data mg/kg (ppm)	Adjusted Data mg/kg (ppm)	Weight Fraction	Gasoline	Diesel	Mineral Oil
Aliphatic C5-C6			0.00E+00	2.06E-01	0.00E+00	0.00E+00
Aliphatic >C6-C8			0.00E+00	2.20E-01	0.00E+00	0.00E+00
Aliphatic >C8-C10	53	53	2.03E-02	9.00E-02	2.00E-02	1.00E-03
Aliphatic >C10-C12	53	53	2.03E-02	3.00E-02	7.00E-02	3.00E-03
Aliphatic >C12-C16	53	53	2.03E-02	0.00E+00	3.50E-01	1.60E-01
Aliphatic >C16-C21	115	115	4.40E-02	0.00E+00	3.40E-01	7.00E-01
Aliphatic >C21-C34	1240	1240	4.75E-01	0.00E+00	0.00E+00	0.00E+00
Aromatic >C8-C10	53	53	2.02E-02	9.02E-02	2.52E-03	1.00E-03
Aromatic >C10-C12	53	53	2.01E-02	2.25E-02	7.40E-03	1.00E-03
Aromatic >C12-C16	53	53	2.03E-02	0.00E+00	8.00E-02	7.00E-03
Aromatic >C16-C21	91	91	3.46E-02	0.00E+00	1.20E-01	8.00E-02
Aromatic >C21-C34	849	849	3.25E-01	0.00E+00	0.00E+00	4.60E-02
n-Hexane	0.0	0.0	0.00E+00	2.40E-02	0.00E+00	0.00E+00
Benzene	0.0	0.0	4.98E-06	2.50E-02	2.90E-04	0.00E+00
Toluene	0.1	0.1	1.98E-05	1.20E-01	1.80E-03	0.00E+00
Ethylbenzene	0.0	0.0	9.92E-06	2.00E-02	6.80E-04	0.00E+00
Total Xylenes	0.1	0.1	2.97E-05	1.10E-01	5.00E-03	0.00E+00
1,2,4-trimethylbenzene	0.1	0.1	1.98E-05	3.00E-02	0.00E+00	0.00E+00
1,3,5-trimethylbenzene	0.1	0.1	1.98E-05	9.80E-03	1.80E-03	0.00E+00
Naphthalene	0.4	0.4	1.47E-04	2.50E-03	2.60E-03	0.00E+00
Total	2613	2612	1.00	1.00	1.00	1.00

Use one of the following two options for site-specific TPH RBC calculations.

OPTION 1:
Estimate TPH Fractions

(1) Enter TPH data (mg/kg or ppm) into the cell on the right. →
(2) Enter BTEX, TMB, and naphthalene data in the "Raw Data" column above.
(3) Use one of the buttons at the right to identify the predominant product.

Gasoline Estimate
Diesel Estimate

OR

OPTION 2:
Use VPH and EPH Results

(1) Enter TPH fraction and constituent data in the "Raw Data" column above.
(2) Use one of the buttons at the right to identify the predominant product.

Gasoline Fractions
Non-Gas Fractions

For references, please refer to *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (DEQ, 2003).

	RBCss					RBCso			RBCsi			RBCsw			RBCtw			RBCwo			RBCwi			RBCwe	RBCair		
Fuel Fraction	Residential	Urban Residential	Occupational	Construction Worker	Excavation Worker	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Construction & Excavation Worker	Residential	Urban Residential	Occupational
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/m^3)	(ug/m^3)	(ug/m^3)
Aliphatic C5-C6	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.5E+04	3.5E+04	1.4E+05	1.9E+06	1.9E+06	7.4E+06	8.3E+04	8.3E+04	9.9E+05	3.1E+06	2.1E+04	2.1E+04	8.3E+04
Aliphatic >C6-C8	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.5E+04	3.5E+04	1.4E+05	1.2E+06	1.2E+06	4.9E+06	5.5E+04	5.5E+04	6.5E+05	2.2E+06	2.1E+04	2.1E+04	8.3E+04
Aliphatic >C8-C10	1.8E-02	1.9E-02	1.4E-02	1.2E-02	3.1E-03	1.5E-02	1.5E-02	3.7E-03	1.2E-02	1.2E-02	1.0E-03	2.2E-04	2.2E-04	5.5E-05	1.4E+03	1.4E+03	5.5E+03	4.0E+04	4.0E+04	1.6E+05	1.8E+03	1.8E+03	2.2E+04	2.0E+04	1.1E+03	1.1E+03	4.4E+03
Aliphatic >C10-C12	1.7E-02	1.5E-02	1.2E-02	1.2E-02	2.9E-03	1.4E-03	1.4E-03	3.6E-04	1.2E-03	1.2E-03	9.8E-05	1.4E-05	1.4E-05	3.5E-06	1.4E+03	1.4E+03	5.5E+03	2.7E+04	2.7E+04	1.1E+05	1.2E+03	1.2E+03	1.4E+04	6.7E+03	1.1E+03	1.1E+03	4.4E+03
Aliphatic >C12-C16	1.3E-02	1.3E-02	1.4E-02	1.5E-02	3.9E-03	1.1E-04	1.1E-04	2.8E-05	9.1E-05	9.1E-05	7.6E-06	9.5E-08	9.5E-08	2.4E-08	3.7E+03	3.7E+03	1.5E+04	6.2E+03	6.2E+03	2.5E+04	2.8E+02	2.8E+02	3.3E+03	1.2E+03	1.1E+03	1.1E+03	4.4E+03
Aliphatic >C16-C21	1.4E-03	1.5E-03	1.6E-03	1.6E-03	4.2E-04	8.4E-07	8.4E-07	2.1E-07	6.9E-07	6.9E-07	5.7E-08	2.5E-11	2.5E-11	6.3E-12	7.3E+04	7.3E+04	2.9E+05	4.4E+03	4.4E+03	1.8E+04	2.0E+02	2.0E+02	2.3E+03	1.6E+03	7.3E+03	7.3E+03	2.9E+04
Aliphatic >C21-C34	1.5E-02	1.6E-02	1.7E-02	1.7E-02	4.5E-03	7.4E-10	7.4E-10	1.9E-10	6.1E-10	6.1E-10	5.1E-11	1.1E-15	1.1E-15	2.7E-16	7.3E+04	7.3E+04	2.9E+05	2.2E+02	2.2E+02	8.6E+02	9.6E+00	9.6E+00	1.1E+02	6.0E+02	7.3E+03	7.3E+03	2.9E+04
Aromatic >C8-C10	6.7E-02	6.8E-02	4.4E-02	3.2E-02	8.5E-03	7.2E-02	7.2E-02	1.8E-02	5.9E-02	5.9E-02	4.9E-03	1.4E-01	1.4E-01	3.6E-02	3.4E+02	3.4E+02	1.3E+03	1.1E+06	1.1E+06	4.2E+06	5.7E+04	5.7E+04	6.9E+05	2.7E+04	2.2E+02	2.2E+02	8.8E+02
Aromatic >C10-C12	6.1E-02	5.2E-02	3.4E-02	3.2E-02	7.4E-03	7.5E-03	7.5E-03	1.9E-03	6.2E-03	6.2E-03	5.1E-04	5.1E-02	5.1E-02	1.3E-02	3.4E+02	3.4E+02	1.3E+03	2.4E+06	2.4E+06	9.7E+06	1.9E+05	1.9E+05	2.2E+06	2.4E+04	2.2E+02	2.2E+02	8.8E+02
Aromatic >C12-C16	3.5E-02	3.2E-02	2.8E-02	2.8E-02	7.1E-03	5.8E-04	5.8E-04	1.4E-04	4.7E-04	4.7E-04	3.9E-05	1.0E-02	1.0E-02	2.6E-03	3.4E+02	3.4E+02	1.3E+03	4.0E+06	4.0E+06	1.6E+07	4.8E+05	4.8E+05	5.7E+06	2.0E+04	2.2E+02	2.2E+02	8.8E+02
Aromatic >C16-C21	6.0E-02	6.0E-02	5.9E-02	6.1E-02	1.6E-02	4.3E-05	4.3E-05	1.1E-05	3.5E-05	3.5E-05	2.9E-06	2.9E-03	2.9E-03	7.3E-04	1.8E+02	1.8E+02	7.3E+02	4.0E+06	4.0E+06	1.6E+07	9.4E+05	9.4E+05	1.1E+07	9.5E+03	1.1E+02	1.1E+02	4.4E+02
Aromatic >C21-C34	7.0E-01	7.1E-01	7.7E-01	7.9E-01	2.1E-01	1.7E-07	1.7E-07	4.2E-08	1.4E-07	1.4E-07	1.2E-08	3.7E-05	3.7E-05	9.2E-06	1.1E+03	1.1E+03	4.4E+03	4.4E+07	4.4E+07	1.8E+08	1.8E+07	1.8E+07	2.1E+08	5.5E+03	1.1E+02	1.1E+02	4.4E+02
n-Hexane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E+03	1.5E+03	5.8E+03	2.1E+05	2.1E+05	8.5E+05	9.5E+03	9.5E+03	1.1E+05	1.6E+05	7.3E+02	7.3E+02	2.9E+03
Benzene	1.3E-04	1.4E-04	9.4E-05	7.5E-05	2.0E-05	5.9E-04	5.9E-04	1.5E-04	1.8E-03	1.8E-03	1.5E-04	1.1E-02	1.1E-02	2.8E-03	4.4E+01	4.4E+01	1.8E+02	2.8E+05	2.8E+05	1.1E+06	1.9E+04	1.9E+04	2.3E+05	5.5E+03	3.1E+01	3.1E+01	1.3E+02
Toluene	1.4E-05	1.4E-05	1.3E-05	1.3E-05	3.5E-06	1.4E-05	1.4E-05	3.6E-06	1.3E-05	1.3E-05	1.1E-06	2.2E-04	2.2E-04	5.6E-05	2.3E+03	2.3E+03	9.1E+03	4.3E+07	4.3E+07	1.7E+08	2.6E+06	2.6E+06	3.2E+07	2.0E+05	5.1E+03	5.1E+03	2.0E+04
Ethylbenzene	9.1E-06	9.3E-06	6.8E-06	5.8E-06	1.5E-06	1.1E-05	1.1E-05	2.8E-06	9.1E-06	9.1E-06	7.6E-07	5.3E-05	5.3E-05	1.3E-05	1.3E+03	1.3E+03	5.4E+03	9.0E+06	9.0E+06	3.6E+07	5.3E+05	5.3E+05	6.4E+06	1.1E+05	1.1E+03	1.1E+03	4.2E+03
Total Xylenes	1.4E-04	1.4E-04	6.4E-05	2.6E-05	6.7E-06	3.1E-04	3.1E-04	7.7E-05	2.5E-04	2.5E-04	2.1E-05	1.1E-03	1.1E-03	2.7E-04	2.1E+02	2.1E+02	8.2E+02	9.4E+05	9.4E+05	3.8E+06	6.0E+04	6.0E+04	7.1E+05	2.2E+04	1.1E+02	1.1E+02	4.2E+02
1,2,4-trimethylbenzene	1.5E-03	1.5E-03	5.9E-04	2.2E-04	3.7E-05	8.1E-04	8.1E-04	2.0E-04	6.6E-04	6.6E-04	5.5E-05	3.4E-03	3.4E-03	8.4E-04	1.2E+01	1.2E+01	4.9E+01	6.8E+04	6.8E+04	2.7E+05	4.3E+03	4.3E+03	5.1E+04	1.3E+03	6.2E+00	6.2E+00	2.5E+01
1,3,5-trimethylbenzene	1.5E-03	1.5E-03	6.5E-04	2.2E-04	4.0E-05	9.7E-04	9.7E-04	2.4E-04	8.0E-04	8.0E-04	6.6E-05	3.0E-03	3.0E-03	7.5E-04	1.2E+01	1.2E+01	4.9E+01	5.5E+04	5.5E+04	2.2E+05	3.2E+03	3.2E+03	3.9E+04	1.4E+03	6.2E+00	6.2E+00	2.5E+01
Naphthalene	6.6E-03	5.0E-03	1.9E-03	1.3E-03	1.9E-04	4.1E-04	4.1E-04	1.0E-04	3.4E-04	3.4E-04	2.8E-05	2.6E-02	2.6E-02	6.4E-03	6.2E+00	6.2E+00	2.5E+01	1.4E+05	1.4E+05	5.5E+05	3.0E+04	3.0E+04	3.5E+05	6.8E+02	3.1E+00	3.1E+00	1.3E+01
TPH RBC* →	3,700	7,600	51,000	16,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	280	280	1,100	>S	>S	>S	>S	>S	>S	>S	350	350	1,400
Generic Gasoline	740	1,500	22,000	13,000	>MAX	5,100	5,100	100,000	160	160	>MAX	28	28	110	100	100	420	>S	>S	>S	>S	>S	>S	13,000	710	710	2,800
Generic Diesel / Heating Oil	3,900	8,300	70,000	23,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	3,200	3,200	>MAX	90	90	360	>S	>S	>S	>S	>S	>S	>S	130	130	510
Generic Mineral Insulating Oil	9,800	20,000	>MAX	40,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	290	290	1,100	>S	>S	>S	>S	>S	>S	>S	490	490	2,000

TPH Fraction Composition (Weight Fraction)

Fuel Fractions	Site-Specific Data			Generic Weight Fraction Data		
	Raw Data mg/kg (ppm)	Adjusted Data mg/kg (ppm)	Weight Fraction	Gasoline	Diesel	Mineral Oil
Aliphatic C5-C6			0.00E+00	2.06E-01	0.00E+00	0.00E+00
Aliphatic >C6-C8			0.00E+00	2.20E-01	0.00E+00	0.00E+00
Aliphatic >C8-C10	64	64	3.74E-02	9.00E-02	2.00E-02	1.00E-03
Aliphatic >C10-C12	64	64	3.74E-02	3.00E-02	7.00E-02	3.00E-03
Aliphatic >C12-C16	64	64	3.74E-02	0.00E+00	3.50E-01	1.60E-01
Aliphatic >C16-C21	154	154	9.02E-02	0.00E+00	3.40E-01	7.00E-01
Aliphatic >C21-C34	632	632	3.70E-01	0.00E+00	0.00E+00	0.00E+00
Aromatic >C8-C10	64	64	3.72E-02	9.02E-02	2.52E-03	1.00E-03
Aromatic >C10-C12	64	64	3.73E-02	2.25E-02	7.40E-03	1.00E-03
Aromatic >C12-C16	64	64	3.74E-02	0.00E+00	8.00E-02	7.00E-03
Aromatic >C16-C21	87	87	5.07E-02	0.00E+00	1.20E-01	8.00E-02
Aromatic >C21-C34	451	451	2.64E-01	0.00E+00	0.00E+00	4.60E-02
n-Hexane	0.0	0.0	0.00E+00	2.40E-02	0.00E+00	0.00E+00
Benzene	0.0	0.0	8.97E-06	2.50E-02	2.90E-04	0.00E+00
Toluene	0.1	0.1	3.59E-05	1.20E-01	1.80E-03	0.00E+00
Ethylbenzene	0.0	0.0	1.79E-05	2.00E-02	6.80E-04	0.00E+00
Total Xylenes	0.1	0.1	5.38E-05	1.10E-01	5.00E-03	0.00E+00
1,2,4-trimethylbenzene	0.1	0.1	3.59E-05	3.00E-02	0.00E+00	0.00E+00
1,3,5-trimethylbenzene	0.1	0.1	3.59E-05	9.80E-03	1.80E-03	0.00E+00
Naphthalene	0.1	0.1	7.15E-05	2.50E-03	2.60E-03	0.00E+00
Total	1707	1706	1.00	1.00	1.00	1.00

Use one of the following two options for site-specific TPH RBC calculations.

OPTION 1:
Estimate TPH Fractions

(1) Enter TPH data (mg/kg or ppm) into the cell on the right. →
(2) Enter BTEX, TMB, and naphthalene data in the "Raw Data" column above.
(3) Use one of the buttons at the right to identify the predominant product.

Gasoline Estimate
Diesel Estimate

OR

OPTION 2:
Use VPH and EPH Results

(1) Enter TPH fraction and constituent data in the "Raw Data" column above.
(2) Use one of the buttons at the right to identify the predominant product.

Gasoline Fractions
Non-Gas Fractions

For references, please refer to *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (DEQ, 2003).

	RBCss					RBCso			RBCsi			RBCsw			RBCtw			RBCwo			RBCwi			RBCwe	RBCair		
Fuel Fraction	Residential	Urban Residential	Occupational	Construction Worker	Excavation Worker	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Construction & Excavation Worker	Residential	Urban Residential	Occupational
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/m^3)	(ug/m^3)	(ug/m^3)
Aliphatic C5-C6	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.5E+04	3.5E+04	1.4E+05	1.9E+06	1.9E+06	7.4E+06	8.3E+04	8.3E+04	9.9E+05	3.1E+06	2.1E+04	2.1E+04	8.3E+04
Aliphatic >C6-C8	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.5E+04	3.5E+04	1.4E+05	1.2E+06	1.2E+06	4.9E+06	5.5E+04	5.5E+04	6.5E+05	2.2E+06	2.1E+04	2.1E+04	8.3E+04
Aliphatic >C8-C10	3.1E-02	3.2E-02	2.5E-02	2.2E-02	6.7E-03	2.5E-02	2.5E-02	6.1E-03	2.0E-02	2.0E-02	1.7E-03	3.6E-04	3.6E-04	9.1E-05	1.4E+03	1.4E+03	5.5E+03	4.0E+04	4.0E+04	1.6E+05	1.8E+03	1.8E+03	2.2E+04	2.0E+04	1.1E+03	1.1E+03	4.4E+03
Aliphatic >C10-C12	3.0E-02	2.7E-02	2.2E-02	2.2E-02	6.3E-03	2.4E-03	2.4E-03	5.9E-04	1.9E-03	1.9E-03	1.6E-04	2.3E-05	2.3E-05	5.8E-06	1.4E+03	1.4E+03	5.5E+03	2.7E+04	2.7E+04	1.1E+05	1.2E+03	1.2E+03	1.4E+04	6.7E+03	1.1E+03	1.1E+03	4.4E+03
Aliphatic >C12-C16	2.3E-02	2.3E-02	2.7E-02	2.8E-02	8.5E-03	1.8E-04	1.8E-04	4.6E-05	1.5E-04	1.5E-04	1.3E-05	1.6E-07	1.6E-07	3.9E-08	3.7E+03	3.7E+03	1.5E+04	6.2E+03	6.2E+03	2.5E+04	2.8E+02	2.8E+02	3.3E+03	1.2E+03	1.1E+03	1.1E+03	4.4E+03
Aliphatic >C16-C21	2.7E-03	2.8E-03	3.2E-03	3.3E-03	1.0E-03	1.5E-06	1.5E-06	3.8E-07	1.3E-06	1.3E-06	1.0E-07	4.6E-11	4.6E-11	1.1E-11	7.3E+04	7.3E+04	2.9E+05	4.4E+03	4.4E+03	1.8E+04	2.0E+02	2.0E+02	2.3E+03	1.6E+03	7.3E+03	7.3E+03	2.9E+04
Aliphatic >C21-C34	1.1E-02	1.2E-02	1.3E-02	1.4E-02	4.2E-03	5.2E-10	5.2E-10	1.3E-10	4.2E-10	4.2E-10	3.5E-11	7.6E-16	7.6E-16	1.9E-16	7.3E+04	7.3E+04	2.9E+05	2.2E+02	2.2E+02	8.6E+02	9.6E+00	9.6E+00	1.1E+02	6.0E+02	7.3E+03	7.3E+03	2.9E+04
Aromatic >C8-C10	1.2E-01	1.2E-01	8.0E-02	6.0E-02	1.8E-02	1.2E-01	1.2E-01	3.0E-02	9.8E-02	9.8E-02	8.2E-03	2.4E-01	2.4E-01	6.0E-02	3.4E+02	3.4E+02	1.3E+03	1.1E+06	1.1E+06	4.2E+06	5.7E+04	5.7E+04	6.9E+05	2.7E+04	2.2E+02	2.2E+02	8.8E+02
Aromatic >C10-C12	1.0E-01	9.0E-02	6.3E-02	5.9E-02	1.6E-02	1.2E-02	1.2E-02	3.1E-03	1.0E-02	1.0E-02	8.5E-04	8.5E-02	8.5E-02	2.1E-02	3.4E+02	3.4E+02	1.3E+03	2.4E+06	2.4E+06	9.7E+06	1.9E+05	1.9E+05	2.2E+06	2.4E+04	2.2E+02	2.2E+02	8.8E+02
Aromatic >C12-C16	6.0E-02	5.6E-02	5.1E-02	5.2E-02	1.5E-02	9.5E-04	9.5E-04	2.4E-04	7.8E-04	7.8E-04	6.5E-05	1.7E-02	1.7E-02	4.3E-03	3.4E+02	3.4E+02	1.3E+03	4.0E+06	4.0E+06	1.6E+07	4.8E+05	4.8E+05	5.7E+06	2.0E+04	2.2E+02	2.2E+02	8.8E+02
Aromatic >C16-C21	8.2E-02	8.2E-02	8.6E-02	9.1E-02	2.8E-02	5.6E-05	5.6E-05	1.4E-05	4.6E-05	4.6E-05	3.8E-06	3.8E-03	3.8E-03	9.5E-04	1.8E+02	1.8E+02	7.3E+02	4.0E+06	4.0E+06	1.6E+07	9.4E+05	9.4E+05	1.1E+07	9.5E+03	1.1E+02	1.1E+02	4.4E+02
Aromatic >C21-C34	5.3E-01	5.5E-01	6.3E-01	6.5E-01	2.0E-01	1.2E-07	1.2E-07	3.1E-08	1.0E-07	1.0E-07	8.4E-09	2.7E-05	2.7E-05	6.7E-06	1.1E+03	1.1E+03	4.4E+03	4.4E+07	4.4E+07	1.8E+08	1.8E+07	1.8E+07	2.1E+08	5.5E+03	1.1E+02	1.1E+02	4.4E+02
n-Hexane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E+03	1.5E+03	5.8E+03	2.1E+05	2.1E+05	8.5E+05	9.5E+03	9.5E+03	1.1E+05	1.6E+05	7.3E+02	7.3E+02	2.9E+03
Benzene	2.2E-04	2.3E-04	1.7E-04	1.4E-04	4.2E-05	1.3E-03	1.3E-03	3.1E-04	2.9E-03	2.9E-03	2.4E-04	1.8E-02	1.8E-02	4.5E-03	4.4E+01	4.4E+01	1.8E+02	2.8E+05	2.8E+05	1.1E+06	1.9E+04	1.9E+04	2.3E+05	5.5E+03	3.1E+01	3.1E+01	1.3E+02
Toluene	2.3E-05	2.4E-05	2.4E-05	2.4E-05	7.4E-06	2.6E-05	2.6E-05	6.5E-06	2.1E-05	2.1E-05	1.8E-06	3.6E-04	3.6E-04	9.0E-05	2.3E+03	2.3E+03	9.1E+03	4.3E+07	4.3E+07	1.7E+08	2.6E+06	2.6E+06	3.2E+07	2.0E+05	5.1E+03	5.1E+03	2.0E+04
Ethylbenzene	1.5E-05	1.6E-05	1.2E-05	1.1E-05	3.2E-06	1.8E-05	1.8E-05	4.5E-06	1.5E-05	1.5E-05	1.2E-06	8.5E-05	8.5E-05	2.1E-05	1.3E+03	1.3E+03	5.4E+03	9.0E+06	9.0E+06	3.6E+07	5.3E+05	5.3E+05	6.4E+06	1.1E+05	1.1E+03	1.1E+03	4.2E+03
Total Xylenes	2.3E-04	2.4E-04	1.1E-04	4.7E-05	1.4E-05	5.0E-04	5.0E-04	1.2E-04	4.1E-04	4.1E-04	3.4E-05	1.7E-03	1.7E-03	4.3E-04	2.1E+02	2.1E+02	8.2E+02	9.4E+05	9.4E+05	3.8E+06	6.0E+04	6.0E+04	7.1E+05	2.2E+04	1.1E+02	1.1E+02	4.2E+02
1,2,4-trimethylbenzene	2.6E-03	2.6E-03	1.0E-03	4.1E-04	7.0E-05	1.3E-03	1.3E-03	3.3E-04	1.1E-03	1.1E-03	8.9E-05	5.5E-03	5.5E-03	1.4E-03	1.2E+01	1.2E+01	4.9E+01	6.8E+04	6.8E+04	2.7E+05	4.3E+03	4.3E+03	5.1E+04	1.3E+03	6.2E+00	6.2E+00	2.5E+01
1,3,5-trimethylbenzene	2.6E-03	2.6E-03	1.1E-03	4.1E-04	7.6E-05	1.6E-03	1.6E-03	3.9E-04	1.3E-03	1.3E-03	1.1E-04	4.9E-03	4.9E-03	1.2E-03	1.2E+01	1.2E+01	4.9E+01	5.5E+04	5.5E+04	2.2E+05	3.2E+03	3.2E+03	3.9E+04	1.4E+03	6.2E+00	6.2E+00	2.5E+01
Naphthalene	2.9E-03	2.2E-03	8.9E-04	5.9E-04	1.0E-04	1.8E-04	1.8E-04	4.4E-05	1.5E-04	1.5E-04	1.2E-05	1.1E-02	1.1E-02	2.8E-03	6.2E+00	6.2E+00	2.5E+01	1.4E+05	1.4E+05	5.5E+05	3.0E+04	3.0E+04	3.5E+05	6.8E+02	3.1E+00	3.1E+00	1.3E+01
TPH RBC* →	3,500	7,100	51,000	16,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	310	310	1,200	>S	>S	>S	>S	>S	>S	>S	350	350	1,400
Generic Gasoline	740	1,500	22,000	13,000	>MAX	5,100	5,100	100,000	160	160	>MAX	28	28	110	100	100	420	>S	>S	>S	>S	>S	>S	13,000	710	710	2,800
Generic Diesel / Heating Oil	3,900	8,300	70,000	23,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	3,200	3,200	>MAX	90	90	360	>S	>S	>S	>S	>S	>S	>S	130	130	510
Generic Mineral Insulating Oil	9,800	20,000	>MAX	40,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	290	290	1,100	>S	>S	>S	>S	>S	>S	>S	490	490	2,000

APPENDIX E

Photographic Log

Photograph No. 1

Comments: Concrete and Asphalt sampling equipment (Roto-hammer drill and 3/4" concrete drill bit).

Photograph No. 2

Comments: Concrete sample location C-9, post sampling.

HAHN AND ASSOCIATES, INC.

434 NW 6th Avenue, Suite 203
Portland, Oregon 97209
503-796-0717

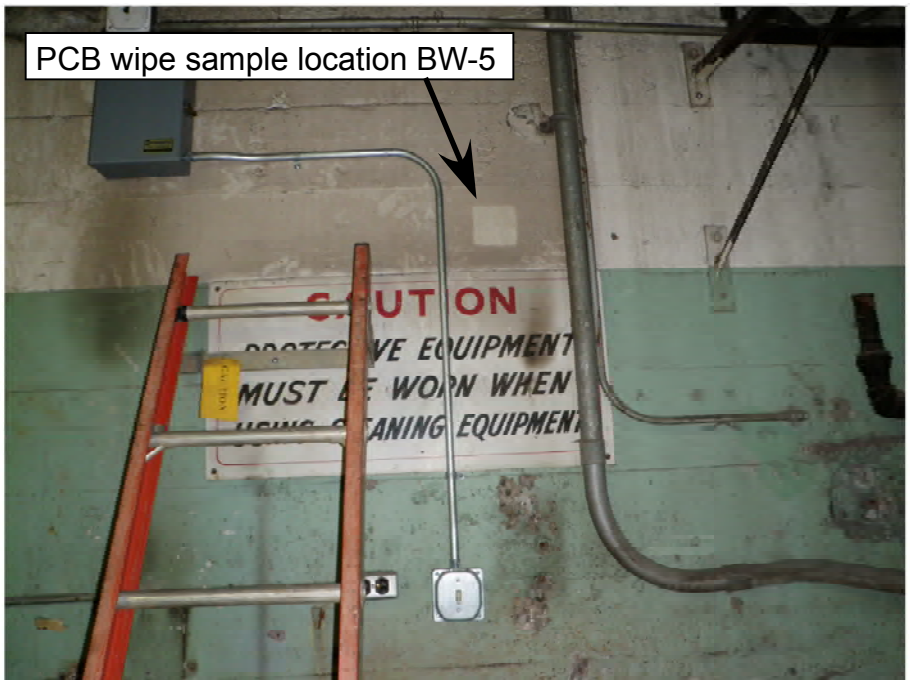
Site Photographs

PGE - Hawthorne
1510 SE Water Avenue
Portland, Oregon

Project No. 8004 August 2011

Photograph No. 3

Comments: PCB wipe sampling supplies - laboratory issued and sealed glass sample jar with sampling gauze pre-soaked with hexane, sampling template with 100cm^2 window.



Photograph No. 4

Comments: PCB wipe sample location BW-5 post sampling.

HAHN AND ASSOCIATES, INC.

434 NW 6th Avenue, Suite 203
Portland, Oregon 97209
503-796-0717

Site Photographs
PGE - Hawthorne
1510 SE Water Avenue
Portland, Oregon

Project No. 8004 August 2011

Photograph No. 5

Comments: Push probe drilling rig for soil and groundwater sampling at boring number P-1.

Photograph No. 6

Comments: Groundwater sampling equipment and supplies. Sampling in progress at location P-5.

HAHN AND ASSOCIATES, INC.

434 NW 6th Avenue, Suite 203
Portland, Oregon 97209
503-796-0717

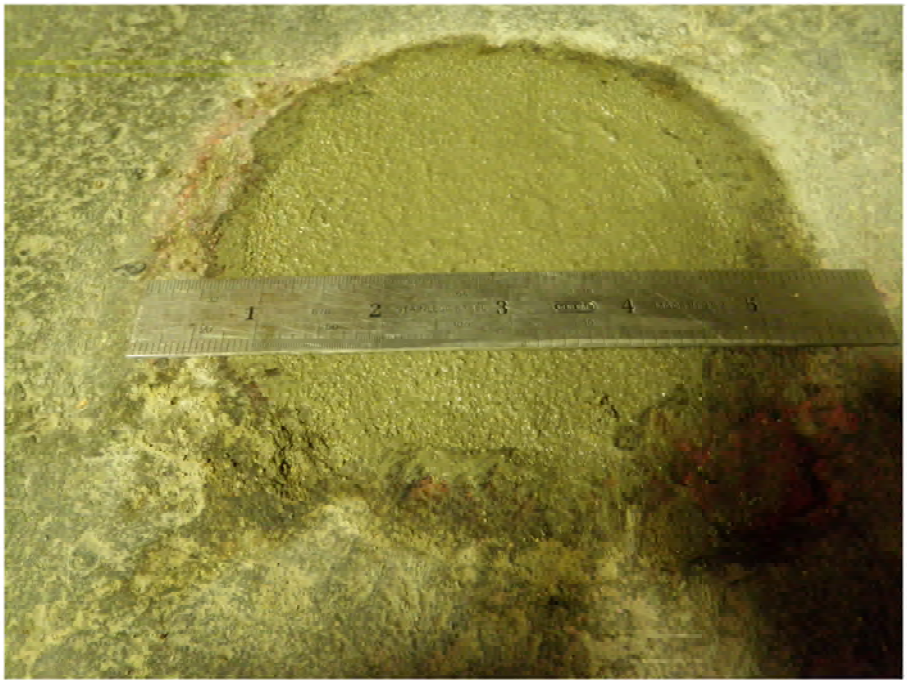
Site Photographs
PGE - Hawthorne
1510 SE Water Avenue
Portland, Oregon

Project No. 8004

August 2011

Photograph No. 7

Comments: Pre-cored sampling location.



Photograph No. 8

Comments: Sample location post sampling, backfilled and matching existing surface completed.

HAHN AND ASSOCIATES, INC.

434 NW 6th Avenue, Suite 203
Portland, Oregon 97209
503-796-0717

Site Photographs

PGE - Hawthorne
1510 SE Water Avenue
Portland, Oregon

Project No. 8004

August 2011

APPENDIX F

Laboratory Report and Chain-of-Custody Documentation: Concrete Samples

Apex Labs

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

Thursday, July 14, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11F338, which was received by the laboratory on 6/28/2011 at 10:15:00AM.

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

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

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110627-200-EB	A11F338-01	Wipe	06/27/11 12:45	06/28/11 10:15
8004-110627-C4-201	A11F338-02	Solid	06/27/11 13:00	06/28/11 10:15
8004-110627-C7-202	A11F338-03	Solid	06/27/11 13:20	06/28/11 10:15
8004-110627-C10-203	A11F338-04	Solid	06/27/11 13:25	06/28/11 10:15
8004-110627-C1-204	A11F338-05	Solid	06/27/11 13:35	06/28/11 10:15
8004-110627-C2-205	A11F338-06	Solid	06/27/11 13:45	06/28/11 10:15
8004-110627-C6-206	A11F338-07	Solid	06/27/11 14:00	06/28/11 10:15
8004-110627-C8-207	A11F338-08	Solid	06/27/11 14:45	06/28/11 10:15
8004-110627-C11-208	A11F338-09	Solid	06/27/11 14:15	06/28/11 10:15
8004-110627-C9-209	A11F338-10	Solid	06/27/11 14:30	06/28/11 10:15
8004-110627-C3-210	A11F338-11	Solid	06/27/11 14:55	06/28/11 10:15
8004-110627-C18-211	A11F338-12	Solid	06/27/11 15:20	06/28/11 10:15
8004-110627-C16-212	A11F338-13	Solid	06/27/11 15:25	06/28/11 10:15
8004-110627-C17-213	A11F338-14	Solid	06/27/11 15:30	06/28/11 10:15
8004-110627-C14-214	A11F338-15	Solid	06/27/11 15:36	06/28/11 10:15
8004-110627-C13-215	A11F338-16	Solid	06/27/11 15:42	06/28/11 10:15

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

12232 S.W. Garden Place
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503-718-2323 Phone
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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110627-200-EB (A11F338-01)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/05/11 13:48	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 83 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*92 %*	*Limits: 55-130 %*	"	"	"	
8004-110627-C4-201 (A11F338-02RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	457	ug/kg dry	50	06/30/11 13:11	EPA 8082A	
Aroclor 1221	ND	---	457	"	"	"	"	
Aroclor 1232	ND	---	457	"	"	"	"	
Aroclor 1242	ND	---	457	"	"	"	"	
Aroclor 1248	ND	---	457	"	"	"	"	
Aroclor 1254	**9450**	---	457	"	"	"	"	
Aroclor 1260	**11200**	---	457	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*117 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C7-202 (A11F338-03RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	445	ug/kg dry	50	06/29/11 11:13	EPA 8082A	
Aroclor 1221	ND	---	445	"	"	"	"	
Aroclor 1232	ND	---	445	"	"	"	"	
Aroclor 1242	ND	---	445	"	"	"	"	
Aroclor 1248	ND	---	445	"	"	"	"	
Aroclor 1254	**14300**	---	445	"	"	"	"	
Aroclor 1260	**18800**	---	445	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 98 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*119 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C10-203 (A11F338-04RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	491	ug/kg dry	50	06/30/11 13:29	EPA 8082A	
Aroclor 1221	ND	---	491	"	"	"	"	
Aroclor 1232	ND	---	491	"	"	"	"	
Aroclor 1242	ND	---	491	"	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110627-C10-203 (A11F338-04RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1248	ND	---	491	ug/kg dry	50	"	EPA 8082A	
Aroclor 1254	**4290**	---	491	"	"	"	"	
Aroclor 1260	**9770**	---	491	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 93 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*114 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C1-204 (A11F338-05RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	455	ug/kg dry	50	06/29/11 11:31	EPA 8082A	
Aroclor 1221	ND	---	455	"	"	"	"	
Aroclor 1232	ND	---	455	"	"	"	"	
Aroclor 1242	ND	---	455	"	"	"	"	
Aroclor 1248	ND	---	455	"	"	"	"	
Aroclor 1254	**5000**	---	455	"	"	"	"	
Aroclor 1260	**10900**	---	455	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 87 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*106 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C2-205 (A11F338-06RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	458	ug/kg dry	50	06/30/11 13:47	EPA 8082A	
Aroclor 1221	ND	---	458	"	"	"	"	
Aroclor 1232	ND	---	458	"	"	"	"	
Aroclor 1242	**606**	---	458	"	"	"	"	
Aroclor 1248	ND	---	458	"	"	"	"	
Aroclor 1254	**5510**	---	458	"	"	"	"	
Aroclor 1260	**5960**	---	458	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*104 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C6-206 (A11F338-07RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	501	ug/kg dry	50	06/29/11 11:49	EPA 8082A	
Aroclor 1221	ND	---	501	"	"	"	"	
Aroclor 1232	ND	---	501	"	"	"	"	
Aroclor 1242	ND	---	501	"	"	"	"	
Aroclor 1248	ND	---	501	"	"	"	"	
Aroclor 1254	**4250**	---	501	"	"	"	"	
Aroclor 1260	**10100**	---	501	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*	*Limits: 50-125 %*	"	"	"	*S-05*

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110627-C6-206 (A11F338-07RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 101 %*	*Limits: 55-130 %*	50	"	EPA 8082A	*S-05*
8004-110627-C8-207 (A11F338-08RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	175	ug/kg dry	20	06/30/11 14:05	EPA 8082A	
Aroclor 1221	ND	---	175	"	"	"	"	
Aroclor 1232	ND	---	175	"	"	"	"	
Aroclor 1242	**227**	---	175	"	"	"	"	
Aroclor 1248	ND	---	175	"	"	"	"	
Aroclor 1254	**1780**	---	175	"	"	"	"	
Aroclor 1260	**3360**	---	175	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*101 %*	*Limits: 55-130 %*	"	"	"	
8004-110627-C11-208 (A11F338-09RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	188	ug/kg dry	20	06/30/11 14:23	EPA 8082A	
Aroclor 1221	ND	---	188	"	"	"	"	
Aroclor 1232	ND	---	188	"	"	"	"	
Aroclor 1242	**237**	---	188	"	"	"	"	
Aroclor 1248	ND	---	188	"	"	"	"	
Aroclor 1254	**2250**	---	188	"	"	"	"	
Aroclor 1260	**5660**	---	188	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*105 %*	*Limits: 55-130 %*	"	"	"	
8004-110627-C9-209 (A11F338-10RE2)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	999	ug/kg dry	100	07/01/11 14:11	EPA 8082A	
Aroclor 1221	ND	---	999	"	"	"	"	
Aroclor 1232	ND	---	999	"	"	"	"	
Aroclor 1242	ND	---	999	"	"	"	"	
Aroclor 1248	ND	---	999	"	"	"	"	
Aroclor 1254	ND	---	999	"	"	"	"	
Aroclor 1260	**38600**	---	999	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 87 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*14 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C3-210 (A11F338-11RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	502	ug/kg dry	50	07/01/11 12:26	EPA 8082A	
Aroclor 1221	ND	---	502	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110627-C3-210 (A11F338-11RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1232	ND	---	502	ug/kg dry	50	"	EPA 8082A	
Aroclor 1242	**1570**	---	502	"	"	"	"	EST
Aroclor 1248	ND	---	502	"	"	"	"	
Aroclor 1254	**4970**	---	502	"	"	"	"	
Aroclor 1260	**10400**	---	502	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 107 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*108 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C18-211 (A11F338-12RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	468	ug/kg dry	50	06/29/11 12:07	EPA 8082A	
Aroclor 1221	ND	---	468	"	"	"	"	
Aroclor 1232	ND	---	468	"	"	"	"	
Aroclor 1242	**862**	---	468	"	"	"	"	EST
Aroclor 1248	ND	---	468	"	"	"	"	
Aroclor 1254	**4570**	---	468	"	"	"	"	
Aroclor 1260	**4440**	---	468	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 90 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*112 %*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110627-C16-212 (A11F338-13RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	176	ug/kg dry	20	07/01/11 13:01	EPA 8082A	
Aroclor 1221	ND	---	176	"	"	"	"	
Aroclor 1232	ND	---	176	"	"	"	"	
Aroclor 1242	ND	---	176	"	"	"	"	
Aroclor 1248	ND	---	176	"	"	"	"	
Aroclor 1254	**1650**	---	176	"	"	"	"	
Aroclor 1260	**2220**	---	176	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 90 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*92 %*	*Limits: 55-130 %*	"	"	"	
8004-110627-C17-213 (A11F338-14RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	91.9	ug/kg dry	10	07/01/11 13:19	EPA 8082A	
Aroclor 1221	ND	---	91.9	"	"	"	"	
Aroclor 1232	ND	---	91.9	"	"	"	"	
Aroclor 1242	**102**	---	91.9	"	"	"	"	EST
Aroclor 1248	ND	---	91.9	"	"	"	"	
Aroclor 1254	**644**	---	91.9	"	"	"	"	

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Philip Nerenberg, Lab Director

Apex Labs

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110627-C17-213 (A11F338-14RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1260	**775**	---	91.9	ug/kg dry	10	"	EPA 8082A	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 79 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*82 %*	*Limits: 55-130 %*	"	"	"	
8004-110627-C14-214 (A11F338-15RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	44.7	ug/kg dry	5	06/29/11 12:25	EPA 8082A	
Aroclor 1221	ND	---	44.7	"	"	"	"	
Aroclor 1232	ND	---	44.7	"	"	"	"	
Aroclor 1242	ND	---	44.7	"	"	"	"	
Aroclor 1248	ND	---	44.7	"	"	"	"	
Aroclor 1254	**338**	---	44.7	"	"	"	"	
Aroclor 1260	**698**	---	44.7	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*104 %*	*Limits: 55-130 %*	"	"	"	
8004-110627-C13-215 (A11F338-16RE1)			**Matrix: Solid**		**Batch: 1106379**			**C-07**
Aroclor 1016	ND	---	89.8	ug/kg dry	10	07/01/11 13:36	EPA 8082A	
Aroclor 1221	ND	---	89.8	"	"	"	"	
Aroclor 1232	ND	---	89.8	"	"	"	"	
Aroclor 1242	ND	---	89.8	"	"	"	"	
Aroclor 1248	ND	---	89.8	"	"	"	"	
Aroclor 1254	**266**	---	89.8	"	"	"	"	
Aroclor 1260	**332**	---	89.8	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 97 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*98 %*	*Limits: 55-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110627-C4-201 (A11F338-02)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**97.5**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C7-202 (A11F338-03)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**96.7**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C10-203 (A11F338-04)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**97.7**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C1-204 (A11F338-05)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**95.9**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C2-205 (A11F338-06)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**96.1**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C6-206 (A11F338-07)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**95.5**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C8-207 (A11F338-08)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**96.1**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C11-208 (A11F338-09)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**94.9**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C9-209 (A11F338-10)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**95.8**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C3-210 (A11F338-11)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**96.0**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C18-211 (A11F338-12)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**98.3**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C16-212 (A11F338-13)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**97.9**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C17-213 (A11F338-14)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**98.6**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C14-214 (A11F338-15)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**98.1**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	
8004-110627-C13-215 (A11F338-16)			**Matrix: Solid**		**Batch: 1106375**			
% Solids	**98.5**	---	1.00	% by Weight	1	06/29/11 10:00	Apex SOP	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106379 - EPA 3546							**Soil**					
Blank (1106379-BLK1)					Prepared: 06/28/11 12:16		Analyzed: 06/28/11 17:26					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	8.33	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*86 %*	*55-130 %*			*"*					
LCS (1106379-BS1)					Prepared: 06/28/11 12:16		Analyzed: 06/28/11 17:44					**C-07**
EPA 8082A												
Aroclor 1016	222	---	10.0	ug/kg wet	1	250	---	89	40-140%	---	---	
Aroclor 1260	244	---	10.0	"	"	"	---	98	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 90 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*95 %*	*55-130 %*			*"*					
Duplicate (1106379-DUP2)					Prepared: 06/28/11 12:16		Analyzed: 07/01/11 12:44					**C-07**
QC Source Sample: 8004-110627-C3-210 (A11F338-11RE1)												
EPA 8082A												
Aroclor 1016	ND	---	449	ug/kg dry	50	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	449	"	"	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	449	"	"	---	ND	---	---	---	30%	
Aroclor 1242	**1320**	---	449	"	"	---	1570	---	---	17	30%	EST
Aroclor 1248	ND	---	449	"	"	---	ND	---	---	---	30%	
Aroclor 1254	**4190**	---	449	"	"	---	4970	---	---	17	30%	
Aroclor 1260	**8760**	---	449	"	"	---	10400	---	---	17	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 95 %*	*Limits: 50-125 %*			*Dilution: 50x*					*S-05*
Decachlorobiphenyl (Surr)			*105 %*	*55-130 %*			*"*					*S-05*
Matrix Spike (1106379-MS2)					Prepared: 06/28/11 12:16		Analyzed: 07/01/11 13:54					**C-07**
QC Source Sample: 8004-110627-C13-215 (A11F338-16RE1)												
EPA 8082A												
Aroclor 1016	199	---	88.7	ug/kg dry	10	222	ND	90	40-140%	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106379 - EPA 3546							**Soil**					
Matrix Spike (1106379-MS2)					Prepared: 06/28/11 12:16	Analyzed: 07/01/11 13:54						**C-07**
QC Source Sample: 8004-110627-C13-215 (A11F338-16RE1)												
Aroclor 1260	524	---	88.7	ug/kg dry	"	"	332	87	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 100 %*	*Limits: 50-125 %*			*Dilution: 10x*					
Decachlorobiphenyl (Surr)			*99 %*	*55-130 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107001 - EPA 3546							**Wipe**					
Blank (1107001-BLK1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 12:54					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.100	ug/Wipe	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.100	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*98 %*	*55-130 %*			*"*					
LCS (1107001-BS1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 13:12					**C-07**
EPA 8082A												
Aroclor 1016	2.34	---	0.100	ug/Wipe	1	2.50	---	93	40-140%	---	---	
Aroclor 1260	2.28	---	0.100	"	"	"	---	91	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 95 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*99 %*	*55-130 %*			*"*					
LCS Dup (1107001-BSD1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 13:30					**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.36	---	0.100	ug/Wipe	1	2.50	---	94	40-140%	1	30%	
Aroclor 1260	2.30	---	0.100	"	"	"	---	92	60-130%	0.8	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 103 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*104 %*	*55-130 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106375 - Total Solids (Dry Weight)							**Soil**					
Duplicate (1106375-DUP3)					Prepared: 06/28/11 12:20		Analyzed: 06/29/11 10:00					
QC Source Sample: 8004-110627-C3-210 (A11F338-11)												
Apex SOP												
% Solids	**95.9**	---	1.00	% by Weight	1	---	96.0	---	---	0.1	20%	

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1106379							
A11F338-02RE1	Solid	EPA 8082A	06/27/11 13:00	06/28/11 12:16	11.23g/5mL	10g/5mL	0.89
A11F338-03RE1	Solid	EPA 8082A	06/27/11 13:20	06/28/11 12:16	11.62g/5mL	10g/5mL	0.86
A11F338-04RE1	Solid	EPA 8082A	06/27/11 13:25	06/28/11 12:16	10.43g/5mL	10g/5mL	0.96
A11F338-05RE1	Solid	EPA 8082A	06/27/11 13:35	06/28/11 12:16	11.47g/5mL	10g/5mL	0.87
A11F338-06RE1	Solid	EPA 8082A	06/27/11 13:45	06/28/11 12:16	11.35g/5mL	10g/5mL	0.88
A11F338-07RE1	Solid	EPA 8082A	06/27/11 14:00	06/28/11 12:16	10.44g/5mL	10g/5mL	0.96
A11F338-08RE1	Solid	EPA 8082A	06/27/11 14:45	06/28/11 12:16	11.91g/5mL	10g/5mL	0.84
A11F338-09RE1	Solid	EPA 8082A	06/27/11 14:15	06/28/11 12:16	11.19g/5mL	10g/5mL	0.89
A11F338-10RE2	Solid	EPA 8082A	06/27/11 14:30	06/28/11 12:16	10.45g/5mL	10g/5mL	0.96
A11F338-11RE1	Solid	EPA 8082A	06/27/11 14:55	06/28/11 12:16	10.37g/5mL	10g/5mL	0.96
A11F338-12RE1	Solid	EPA 8082A	06/27/11 15:20	06/28/11 12:16	10.86g/5mL	10g/5mL	0.92
A11F338-13RE1	Solid	EPA 8082A	06/27/11 15:25	06/28/11 12:16	11.6g/5mL	10g/5mL	0.86
A11F338-14RE1	Solid	EPA 8082A	06/27/11 15:30	06/28/11 12:16	11.04g/5mL	10g/5mL	0.91
A11F338-15RE1	Solid	EPA 8082A	06/27/11 15:36	06/28/11 12:16	11.4g/5mL	10g/5mL	0.88
A11F338-16RE1	Solid	EPA 8082A	06/27/11 15:42	06/28/11 12:16	11.3g/5mL	10g/5mL	0.89
Batch: 1107001							
A11F338-01	Wipe	EPA 8082A	06/27/11 12:45	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Multiple Aroclors Present
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

Notes and Conventions:

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

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:21

A11F338

HAHN AND ASSOCIATES, INC.
Environmental Management
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory: Apex
Lab Project No.:

CHAIN OF CUSTODY
Chain of Custody No. 8004-01

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE - Hawthorne
Collected by: Corey Raspone & Ben Uhl

Liquid with Sediment Sample: Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample: Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Sample Number Prefix: 8004-110627-

5 DAY TAT - UNLESS NOTED IN REMARKS

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Soil	Water	Other	Number of Containers	PCBs (EPA 8082)	RUSH	Remarks
1	200-EB	27-Jun-11	12:45	Equip Blank			X	1			
2	C4-201	27-Jun-11	13:00				X	1	X		
3	C7-202	27-Jun-11	13:20				X	1	X		1 DAY TAT
4	C10-203	27-Jun-11	13:25				X	1	X		
5	C1-204	27-Jun-11	13:35				X	1	X		1 DAY TAT
6	C2-205	27-Jun-11	13:45				X	1	X		
7	C6-206	27-Jun-11	14:00				X	1	X		1 DAY TAT
8	C8-207	27-Jun-11	14:45				X	1	X		
9	C11-208	27-Jun-11	14:15				X	1	X		
10	C9-209	27-Jun-11	14:30				X	1	X		
11	C3-210	27-Jun-11	14:55				X	1	X		
12	C18-211	27-Jun-11	15:20				X	1	X		1 DAY TAT
13	C16-212	27-Jun-11	15:25				X	1	X		
14	C17-213	27-Jun-11	15:30				X	1	X		
15	C14-214	27-Jun-11	15:36				X	1	X		1 DAY TAT
16	C13-215	27-Jun-11	15:42				X	1	X		

Relinquished by	Company	Date	Time	Received by	Company
Corey Raspone	HAHN & ASSOC	6/28/11	1015	[illegible]	Apex

Apex Labs

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

Thursday, July 14, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11F357, which was received by the laboratory on 6/29/2011 at 9:30:00AM.

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

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

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Philip Nerenberg, Lab Director

Apex Labs

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110628-C5-216	A11F357-01	Solid	06/28/11 08:50	06/29/11 09:30
8004-110628-C15-217	A11F357-02	Solid	06/28/11 12:09	06/29/11 09:30
8004-110628-C12-218	A11F357-03	Solid	06/28/11 12:12	06/29/11 09:30

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-C5-216 (A11F357-01RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	9.23	ug/kg dry	1	07/06/11 17:24	EPA 8082A	
Aroclor 1221	ND	---	9.23	"	"	"	"	
Aroclor 1232	ND	---	9.23	"	"	"	"	
Aroclor 1242	**106**	---	9.23	"	"	"	"	EST
Aroclor 1248	ND	---	9.23	"	"	"	"	
Aroclor 1254	**291**	---	9.23	"	"	"	"	EST
Aroclor 1260	**170**	---	9.23	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 57 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*49 %*	*Limits: 55-130 %*	"	"	"	*S-04*
8004-110628-C15-217 (A11F357-02RE2)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	91.0	ug/kg dry	10	07/06/11 17:59	EPA 8082A	
Aroclor 1221	ND	---	91.0	"	"	"	"	
Aroclor 1232	ND	---	91.0	"	"	"	"	
Aroclor 1242	ND	---	91.0	"	"	"	"	
Aroclor 1248	ND	---	91.0	"	"	"	"	
Aroclor 1254	**207**	---	91.0	"	"	"	"	M-02
Aroclor 1260	ND	---	364	"	"	"	"	R-01
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 70 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*53 %*	*Limits: 55-130 %*	"	"	"	*S-03*
8004-110628-C12-218 (A11F357-03RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	8.71	ug/kg dry	1	07/06/11 19:09	EPA 8082A	
Aroclor 1221	ND	---	8.71	"	"	"	"	
Aroclor 1232	ND	---	8.71	"	"	"	"	
Aroclor 1242	**30.4**	---	8.71	"	"	"	"	EST
Aroclor 1248	ND	---	8.71	"	"	"	"	
Aroclor 1254	**330**	---	8.71	"	"	"	"	
Aroclor 1260	**232**	---	8.71	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 59 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*56 %*	*Limits: 55-130 %*	"	"	"	

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-C5-216 (A11F357-01)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**96.7**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-C15-217 (A11F357-02)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**97.5**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-C12-218 (A11F357-03)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**97.8**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106405 - EPA 3546							**Soil**					
Blank (1106405-BLK1)					Prepared: 06/29/11 14:10		Analyzed: 06/30/11 16:44					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	8.33	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 85 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*87 %*	*55-130 %*			*"*					
LCS (1106405-BS1)					Prepared: 06/29/11 14:10		Analyzed: 06/30/11 17:01					**C-07**
EPA 8082A												
Aroclor 1016	237	---	10.0	ug/kg wet	1	250	---	95	40-140%	---	---	
Aroclor 1260	231	---	10.0	"	"	"	---	93	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 95 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*95 %*	*55-130 %*			*"*					
Duplicate (1106405-DUP3)					Prepared: 06/29/11 14:10		Analyzed: 07/06/11 18:34					**A-01, C-07**
QC Source Sample: 8004-110628-C15-217 (A11F357-02RE2)												
EPA 8082A												
Aroclor 1016	ND	---	89.0	ug/kg dry	10	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	89.0	"	"	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	89.0	"	"	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	89.0	"	"	---	ND	---	---	---	30%	
Aroclor 1248	ND	---	89.0	"	"	---	ND	---	---	---	30%	
Aroclor 1254	**232**	---	89.0	"	"	---	207	---	---	12	30%	M-02
Aroclor 1260	ND	---	356	"	"	---	ND	---	---	---	30%	R-01
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 70 %*	*Limits: 50-125 %*			*Dilution: 10x*					
Decachlorobiphenyl (Surr)			*54 %*	*55-130 %*			*"*					*S-03*
Matrix Spike (1106405-MS2)					Prepared: 06/29/11 14:10		Analyzed: 07/06/11 19:44					**A-01, C-07**
QC Source Sample: 8004-110628-C12-218 (A11F357-03RE1)												
EPA 8082A												
Aroclor 1016	99.2	---	8.94	ug/kg dry	1	223	ND	44	40-140%	---	---	

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Philip Nerenberg, Lab Director

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106405 - EPA 3546							**Soil**					
Matrix Spike (1106405-MS2)					Prepared: 06/29/11 14:10		Analyzed: 07/06/11 19:44					**A-01, C-07**
QC Source Sample: 8004-110628-C12-218 (A11F357-03RE1)												
Aroclor 1260	303	---	8.94	ug/kg dry	"	"	232	32	60-130%	---	---	Q-02
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 42 %*	*Limits: 50-125 %*			*Dilution: 1x*					*S-03*
Decachlorobiphenyl (Surr)			*42 %*	*55-130 %*			*"*					*S-03*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106395 - Total Solids (Dry Weight)							**Soil**					
Duplicate (1106395-DUP2)					Prepared: 06/29/11 02:05		Analyzed: 06/30/11 10:29					
QC Source Sample: 8004-110628-C12-218 (A11F357-03)												
Apex SOP												
% Solids	**97.8**	---	1.00	% by Weight	1	---	97.8	---	---	0	20%	

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

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1106405							
A11F357-01RE1	Solid	EPA 8082A	06/28/11 08:50	06/29/11 14:10	11.2g/5mL	10g/5mL	0.89
A11F357-02RE2	Solid	EPA 8082A	06/28/11 12:09	06/29/11 14:10	11.27g/5mL	10g/5mL	0.89
A11F357-03RE1	Solid	EPA 8082A	06/28/11 12:12	06/29/11 14:10	11.74g/5mL	10g/5mL	0.85

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

Notes and Definitions

Qualifiers:

A-01	Samples consistantly have failing recoveries for surrogates and closing CCVs have failed twice after running and re-running samples. Due to sample matrix interference, data is likely biased low, but all reported hits are at least 2x the MRL.
C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Estimated due to multiple aroclors present in sample
M-02	Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
Q-02	Spike recovery is outside of established control limits due to sample matrix interference.
R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
S-03	Duplicate extraction and analysis confirms surrogate failure due to a sample matrix effect.
S-04	Surrogate recovery is outside of established control limits due to a sample matrix effect.

Notes and Conventions:

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

*** Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:13

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory APEX Laboratories, Tigard, Oregon

CHAIN OF CUSTODY

Lab Project No. ____ Chain of Custody No. 8004*02

Project Manager: Corey Raspone
Project No.: 8004
Project Name: WTRINV
Collected by: Corey Raspone/Ben Uhl

Liquid with Sediment Sample — Test Filtrate ____ Test Sediment ____ Test Both ____
Multi-Phase Sample — Test One (which) ____ Test Separately ____ Shake ____

Samples Received at 4C (Y or N) ____
Appropriate Containers Used (Y or N) ____
Provide Verbal Results (Y or N) ____
Provide Preliminary Fax Results ____

Comments
Sample Number Prefix:8004-110628-
5 DAY TAT - UNLESS NOTED IN REMARKS
Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	Analyses to be Performed: PCBs (EPA 8082)	RUSH	Remarks
	C5-216	28-Jun-11	8:50	1/2-in bgs				x	1	x		
	C15-217	28-Jun-11	12:09	1/2-in bgs				x	1	x		
	C12-218	28-Jun-11	12:12	1/2-in bgs				x	1	x		

Relinquished by	Company	Date	Time	Received by	Company
[signature]	Hahn and Associates, Inc.	6/29/11		[signature]	
Relinquished by	Company	Date	Time	Received by	Company
			09:30	[signature]	Apex

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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

Monday, August 1, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11G066, which was received by the laboratory on 7/7/2011 at 9:30:00AM.

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

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

Apex Laboratories

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:34

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110706-C19-219	A11G066-01	Solid	07/06/11 12:00	07/07/11 09:30

Apex Laboratories

Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:34

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110706-C19-219 (A11G066-01)			**Matrix: Solid**		**Batch: 1107100**			**C-07**
Aroclor 1016	ND	---	10.1	ug/kg dry	1	07/11/11 19:29	EPA 8082A	
Aroclor 1221	ND	---	10.1	"	"	"	"	
Aroclor 1232	ND	---	10.1	"	"	"	"	
Aroclor 1242	**117**	---	10.1	"	"	"	"	
Aroclor 1248	ND	---	10.1	"	"	"	"	
Aroclor 1254	**252**	---	10.1	"	"	"	"	
Aroclor 1260	**246**	---	10.1	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 54 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*42 %*	*Limits: 55-130 %*	"	"	"	*S-06*

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:34

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110706-C19-219 (A11G066-01)			**Matrix: Solid**		**Batch: 1107080**			
% Solids	**95.7**	---	1.00	% by Weight	1	07/08/11 09:26	Apex SOP	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:34

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107100 - EPA 3546							**Soil**					
Blank (1107100-BLK1)					Prepared: 07/08/11 12:54	Analyzed: 07/11/11 18:54						**C-07**
EPA 8082A												
Aroclor 1016	ND	---	6.67	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	6.67	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 87 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*111 %*	*55-130 %*			*"*					
LCS (1107100-BS1)					Prepared: 07/08/11 12:54	Analyzed: 07/11/11 19:12						**C-07**
EPA 8082A												
Aroclor 1016	223	---	10.0	ug/kg wet	1	250	---	89	40-140%	---	---	
Aroclor 1260	266	---	10.0	"	"	"	---	106	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*113 %*	*55-130 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:34

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107080 - Total Solids (Dry Weight)							**Soil**					
Duplicate (1107080-DUP1)					Prepared: 07/07/11 13:03		Analyzed: 08/08/11 09:26					
QC Source Sample: 8004-110706-C19-219 (A11G066-01)												
Apex SOP												
% Solids	**96.0**	---	1.00	% by Weight	1	---	95.7	---	---	0.3	20%	

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:34

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107100							
A11G066-01	Solid	EPA 8082A	07/06/11 12:00	07/08/11 12:54	10.32g/5mL	10g/5mL	0.97

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:34

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
S-06	Surrogate recovery is outside of established control limits.

Notes and Conventions:

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

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Bridgewater Group 4500 SW Kruse Way; Suite 110 Lake Oswego, OR 97035	Project: **PGE Hawthorne** Project Number: 8004 Project Manager: Jeff Dresser	**Reported:** 08/01/11 12:34

A11G0606

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory APEX Laboratories, Tigard, Oregon
Lab Project No.

CHAIN OF CUSTODY
Chain of Custody No. 8004-08

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE Hawthorne
Collected by: Corey Raspone

Liquid with Sediment Sample — Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample — Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Comments
Sample Number Prefix:8004-110706-
5 DAY TAT - UNLESS NOTED IN REMARKS
Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	Analyses to be Performed: PCBs (EPA 8082)	RUSH	Remarks
	C19-219	06-Jul-11	12:00	C19 Concrete Sample - 1cm				X	1	1		
	307	06-Jul-11	12:15	Underlying asphalt surface (buried)				X	1			Hold

Relinquished by	Company	Date	Time	Received by	Company
[signature]	Hahn and Associates, Inc.	7/7/11	930	Jennifer Sutton	Apex
Relinquished by	Company	Date	Time	Received by	Company

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Tuesday, August 23, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11H200, which was received by the laboratory on 8/16/2011 at 9:20:00AM.

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

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110815-C4-220	A11H200-01	Solid	08/15/11 13:55	08/16/11 09:20
8004-110815-C20-221	A11H200-02	Solid	08/15/11 14:25	08/16/11 09:20
8004-110815-C7-222	A11H200-03	Solid	08/15/11 14:55	08/16/11 09:20
8004-110815-SumpA-223	A11H200-04	Solid	08/15/11 14:55	08/16/11 09:20
8004-110815-C9-224	A11H200-05	Solid	08/15/11 15:45	08/16/11 09:20
8004-110815-EB2	A11H200-06	Wipe	08/15/11 14:00	08/16/11 09:20

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110815-C4-220 (A11H200-01RE1)			**Matrix: Solid**		**Batch: 1108314**			**C-07**
Aroclor 1016	ND	---	402	ug/kg dry	50	08/17/11 16:32	EPA 8082A	
Aroclor 1221	ND	---	402	"	"	"	"	
Aroclor 1232	ND	---	402	"	"	"	"	
Aroclor 1242	ND	---	402	"	"	"	"	
Aroclor 1248	ND	---	402	"	"	"	"	
Aroclor 1254	**9510**	---	402	"	"	"	"	
Aroclor 1260	**9050**	---	402	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*%*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110815-C20-221 (A11H200-02RE1)			**Matrix: Solid**		**Batch: 1108314**			**C-07**
Aroclor 1016	ND	---	161	ug/kg dry	20	08/17/11 17:07	EPA 8082A	
Aroclor 1221	ND	---	161	"	"	"	"	
Aroclor 1232	ND	---	161	"	"	"	"	
Aroclor 1242	**628**	---	161	"	"	"	"	EST
Aroclor 1248	ND	---	161	"	"	"	"	
Aroclor 1254	**3850**	---	161	"	"	"	"	
Aroclor 1260	**4040**	---	161	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 58 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*64 %*	*Limits: 55-130 %*	"	"	"	
8004-110815-C7-222 (A11H200-03RE1)			**Matrix: Solid**		**Batch: 1108314**			**C-07**
Aroclor 1016	ND	---	784	ug/kg dry	100	08/18/11 12:19	EPA 8082A	
Aroclor 1221	ND	---	784	"	"	"	"	
Aroclor 1232	ND	---	784	"	"	"	"	
Aroclor 1242	ND	---	784	"	"	"	"	
Aroclor 1248	ND	---	784	"	"	"	"	
Aroclor 1254	**11300**	---	784	"	"	"	"	
Aroclor 1260	**13200**	---	784	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 89 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*%*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110815-SumpA-223 (A11H200-04RE1)			**Matrix: Solid**		**Batch: 1108314**			**C-07**
Aroclor 1016	ND	---	849	ug/kg dry	100	08/18/11 13:29	EPA 8082A	
Aroclor 1221	ND	---	849	"	"	"	"	
Aroclor 1232	ND	---	849	"	"	"	"	
Aroclor 1242	**1290**	---	849	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110815-SumpA-223 (A11H200-04RE1)			**Matrix: Solid**		**Batch: 1108314**			**C-07**
Aroclor 1248	ND	---	849	ug/kg dry	100	"	EPA 8082A	
Aroclor 1254	**9560**	---	849	"	"	"	"	
Aroclor 1260	**33100**	---	849	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 92 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*%*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110815-C9-224 (A11H200-05RE1)			**Matrix: Solid**		**Batch: 1108314**			**C-07**
Aroclor 1016	ND	---	1660	ug/kg dry	200	08/18/11 14:04	EPA 8082A	
Aroclor 1221	ND	---	1660	"	"	"	"	
Aroclor 1232	ND	---	1660	"	"	"	"	
Aroclor 1242	ND	---	1660	"	"	"	"	
Aroclor 1248	ND	---	1660	"	"	"	"	
Aroclor 1254	ND	---	1660	"	"	"	"	
Aroclor 1260	**5290**	---	1660	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 5 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*%*	*Limits: 55-130 %*	"	"	"	*S-05*
8004-110815-EB2 (A11H200-06)			**Matrix: Wipe**		**Batch: 1108378**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/22/11 14:25	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 89 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*89 %*	*Limits: 55-130 %*	"	"	"	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110815-C4-220 (A11H200-01)			**Matrix: Solid**		**Batch: 1108291**			
% Solids	**97.0**	---	1.00	% by Weight	1	08/17/11 10:24	Apex SOP	
8004-110815-C20-221 (A11H200-02)			**Matrix: Solid**		**Batch: 1108291**			
% Solids	**95.7**	---	1.00	% by Weight	1	08/17/11 10:24	Apex SOP	
8004-110815-C7-222 (A11H200-03)			**Matrix: Solid**		**Batch: 1108291**			
% Solids	**95.8**	---	1.00	% by Weight	1	08/17/11 10:24	Apex SOP	
8004-110815-SumpA-223 (A11H200-04)			**Matrix: Solid**		**Batch: 1108291**			
% Solids	**95.8**	---	1.00	% by Weight	1	08/17/11 10:24	Apex SOP	
8004-110815-C9-224 (A11H200-05)			**Matrix: Solid**		**Batch: 1108291**			
% Solids	**95.5**	---	1.00	% by Weight	1	08/17/11 10:24	Apex SOP	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108314 - EPA 3546							**Soil**					
Blank (1108314-BLK1)					Prepared: 08/17/11 09:35	Analyzed: 08/17/11 14:48						**C-07**
EPA 8082A												
Aroclor 1016	ND	---	6.67	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	6.67	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 97 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*115 %*	*55-130 %*			*"*					
LCS (1108314-BS1)					Prepared: 08/17/11 09:35	Analyzed: 08/17/11 15:05						**C-07, Q-18**
EPA 8082A												
Aroclor 1016	229	---	10.0	ug/kg wet	1	250	---	91	40-140%	---	---	
Aroclor 1260	231	---	10.0	"	"	"	---	92	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 89 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*105 %*	*55-130 %*			*"*					
Duplicate (1108314-DUP2)					Prepared: 08/17/11 09:35	Analyzed: 08/18/11 12:54						**C-07**
QC Source Sample: 8004-110815-C7-222 (A11H200-03RE1)												
EPA 8082A												
Aroclor 1016	ND	---	810	ug/kg dry	100	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	810	"	"	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	810	"	"	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	810	"	"	---	444	---	---	***	30%	
Aroclor 1248	ND	---	810	"	"	---	ND	---	---	---	30%	
Aroclor 1254	**12000**	---	810	"	"	---	11300	---	---	6	30%	
Aroclor 1260	**13900**	---	810	"	"	---	13200	---	---	5	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*			*Dilution: 100x*					*S-05*
Decachlorobiphenyl (Surr)			*%*	*55-130 %*			*"*					*S-05*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108378 - EPA 3546							**Wipe**					
Blank (1108378-BLK1)					Prepared: 08/19/11 12:34	Analyzed: 08/22/11 11:29						**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.100	ug/Wipe	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.100	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 85 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*85 %*	*55-130 %*			*"*					
LCS (1108378-BS1)					Prepared: 08/19/11 12:34	Analyzed: 08/22/11 13:49						**C-07**
EPA 8082A												
Aroclor 1016	2.11	---	0.100	ug/Wipe	1	2.50	---	85	40-140%	---	---	
Aroclor 1260	1.96	---	0.100	"	"	"	---	78	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 87 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*86 %*	*55-130 %*			*"*					
LCS Dup (1108378-BSD1)					Prepared: 08/19/11 12:34	Analyzed: 08/22/11 14:07						**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.02	---	0.100	ug/Wipe	1	2.50	---	81	40-140%	4	30%	
Aroclor 1260	1.85	---	0.100	"	"	"	---	74	60-130%	6	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 81 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*82 %*	*55-130 %*			*"*					

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108291 - Total Solids (Dry Weight)							**Soil**					
Duplicate (1108291-DUP4)					Prepared: 08/16/11 14:22		Analyzed: 08/17/11 10:24					
QC Source Sample: 8004-110815-C4-220 (A11H200-01)												
Apex SOP												
% Solids	**96.9**	---	1.00	% by Weight	1	---	97.0	---	---	0.1	20%	

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1108314							
A11H200-01RE1	Solid	EPA 8082A	08/15/11 13:55	08/17/11 09:35	12.81g/5mL	10g/5mL	0.78
A11H200-02RE1	Solid	EPA 8082A	08/15/11 14:25	08/17/11 09:35	13.01g/5mL	10g/5mL	0.77
A11H200-03RE1	Solid	EPA 8082A	08/15/11 14:55	08/17/11 09:35	13.31g/5mL	10g/5mL	0.75
A11H200-04RE1	Solid	EPA 8082A	08/15/11 14:55	08/17/11 09:35	12.3g/5mL	10g/5mL	0.81
A11H200-05RE1	Solid	EPA 8082A	08/15/11 15:45	08/17/11 09:35	12.61g/5mL	10g/5mL	0.79
Batch: 1108378							
A11H200-06	Wipe	EPA 8082A	08/15/11 14:00	08/19/11 12:34	1Wipe/5mL	1Wipe/5mL	1.00

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/23/11 16:39

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Multiple Aroclors Present
Q-18	Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

Notes and Conventions:

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

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Philip Nerenberg, Lab Director

Apex Labs

Bridgewater Group
4500 SW Kruse Way, Suite 110
Lake Oswego, OR 97035

Project: **PGE Hawthorne**
Project Number: 8004
Project Manager: Jeff Dresser

Reported:
08/23/11 16:39

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A11 H200

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory APEX Laboratories
Tigard,
Lab Project No. Oregon

CHAIN OF CUSTODY
Chain of Custody No. 8004-10

Project Manager: Corey Raspone
Project No.: 8004
Project Name: WTRINV
Collected by: Corey Raspone/Ben Uhl

Liquid with Sediment Sample
Test Filtrate ____ Test Sediment ____ Test Both ____
Multi-Phase Sample
Test One (which) ____ Test Separately ____ Shake ____

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Comments

Sample Number Prefix: 8004-110815-

2 DAY TAT
Results to Jeff Dresser at Bridgewater
(jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Soil	Water	Air	Other	Number of Containers	PCBs (EPA 8082)									RUSH	Remarks
	C4-220	15-Aug-11	13:55	C4 - resample				X	1	X										2 Day TAT
	C20-221	15-Aug-11	14:25	C20 (basement elev. & stair landing)				X	1	X										2 Day TAT
	C7-222	15-Aug-11	14:55	C7 - resample				X	1	X										2 Day TAT
	SumpA-223	15-Aug-11	15:20	Sump A				X	1	X										2 Day TAT
	C9-224	15-Aug-11	15:45	C9 - resample				X	1	X										2 Day TAT
	EB2	15-Aug-11	14:00	Equipment Blank				X	1											Hold

Relinquished by	Company	Date	Time	Received by	Company
R Corey Raspone	Hahn and Associates, Inc.	8/16/11	1120	Jennifer Sutton	APEX
Relinquished by	Company	Date	Time	Received by	Company

Apex Laboratories

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Philip Nerenberg, Lab Director

APPENDIX G

Laboratory Report and Chain-of-Custody Documentation: Asphalt and Dust Samples

Apex Labs

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503-718-0333 Fax

Thursday, July 14, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11F356, which was received by the laboratory on 6/29/2011 at 9:30:00AM.

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

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

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110628-A3-300	A11F356-01	Solid	06/28/11 09:25	06/29/11 09:30
8004-110628-A1-301	A11F356-02	Solid	06/28/11 09:30	06/29/11 09:30
8004-110628-A2-302	A11F356-03	Solid	06/28/11 09:45	06/29/11 09:30
8004-110628-A4-303	A11F356-04	Solid	06/28/11 09:55	06/29/11 09:30
8004-110628-A5-304	A11F356-05	Solid	06/28/11 10:00	06/29/11 09:30
8004-110628-A6-305	A11F356-06	Solid	06/28/11 10:05	06/29/11 09:30
8004-110628-306	A11F356-07	Solid	06/28/11 10:10	06/29/11 09:30

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-A3-300 (A11F356-01RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	8.50	ug/kg dry	1	07/06/11 13:37	EPA 8082A	
Aroclor 1221	ND	---	8.50	"	"	"	"	
Aroclor 1232	ND	---	8.50	"	"	"	"	
Aroclor 1242	ND	---	8.50	"	"	"	"	
Aroclor 1248	ND	---	8.50	"	"	"	"	
Aroclor 1254	**22.3**	---	8.50	"	"	"	"	
Aroclor 1260	**28.2**	---	8.50	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 63 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*59 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-A1-301 (A11F356-02RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	8.87	ug/kg dry	1	07/06/11 13:55	EPA 8082A	
Aroclor 1221	ND	---	8.87	"	"	"	"	
Aroclor 1232	ND	---	8.87	"	"	"	"	
Aroclor 1242	ND	---	8.87	"	"	"	"	
Aroclor 1248	ND	---	8.87	"	"	"	"	
Aroclor 1254	ND	---	8.87	"	"	"	"	
Aroclor 1260	**12.9**	---	8.87	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 75 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*62 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-A2-302 (A11F356-03RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	8.78	ug/kg dry	1	07/06/11 14:12	EPA 8082A	
Aroclor 1221	ND	---	8.78	"	"	"	"	
Aroclor 1232	ND	---	8.78	"	"	"	"	
Aroclor 1242	ND	---	8.78	"	"	"	"	
Aroclor 1248	ND	---	8.78	"	"	"	"	
Aroclor 1254	ND	---	8.78	"	"	"	"	
Aroclor 1260	**18.0**	---	8.78	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 77 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*67 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-A4-303 (A11F356-04RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	8.61	ug/kg dry	1	07/06/11 14:30	EPA 8082A	
Aroclor 1221	ND	---	8.61	"	"	"	"	
Aroclor 1232	ND	---	8.61	"	"	"	"	
Aroclor 1242	**14.4**	---	8.61	"	"	"	"	EST

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Philip Nerenberg, Lab Director

Apex Labs

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503-718-0333 Fax

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-A4-303 (A11F356-04RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1248	ND	---	8.61	ug/kg dry	1	"	EPA 8082A	
Aroclor 1254	**30.4**	---	8.61	"	"	"	"	EST
Aroclor 1260	**58.4**	---	8.61	"	"	"	"	EST
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 60 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*48 %*	*Limits: 55-130 %*	"	"	"	*S-04*
8004-110628-A5-304 (A11F356-05RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	8.45	ug/kg dry	1	07/06/11 14:47	EPA 8082A	
Aroclor 1221	ND	---	8.45	"	"	"	"	
Aroclor 1232	ND	---	8.45	"	"	"	"	
Aroclor 1242	ND	---	8.45	"	"	"	"	
Aroclor 1248	ND	---	8.45	"	"	"	"	
Aroclor 1254	**8.99**	---	8.45	"	"	"	"	
Aroclor 1260	**13.2**	---	8.45	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 76 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*66 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-A6-305 (A11F356-06RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	8.77	ug/kg dry	1	07/06/11 15:05	EPA 8082A	
Aroclor 1221	ND	---	8.77	"	"	"	"	
Aroclor 1232	ND	---	8.77	"	"	"	"	
Aroclor 1242	ND	---	8.77	"	"	"	"	
Aroclor 1248	ND	---	8.77	"	"	"	"	
Aroclor 1254	ND	---	8.77	"	"	"	"	
Aroclor 1260	ND	---	8.77	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 44 %*	*Limits: 50-125 %*	"	"	"	*S-04*
Decachlorobiphenyl (Surr)			*33 %*	*Limits: 55-130 %*	"	"	"	*S-04*
8004-110628-306 (A11F356-07RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Aroclor 1016	ND	---	13.5	ug/kg dry	1	07/06/11 15:22	EPA 8082A	
Aroclor 1221	ND	---	13.5	"	"	"	"	
Aroclor 1232	ND	---	13.5	"	"	"	"	
Aroclor 1242	ND	---	13.5	"	"	"	"	
Aroclor 1248	ND	---	20.3	"	"	"	"	P-03
Aroclor 1254	**44.4**	---	13.5	"	"	"	"	EST
Aroclor 1260	**98.1**	---	13.5	"	"	"	"	EST
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 67 %*	*Limits: 50-125 %*	"	"	"	

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503-718-0333 Fax

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-306 (A11F356-07RE1)			**Matrix: Solid**		**Batch: 1106405**			**A-01, C-07**
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 52 %*	*Limits: 55-130 %*	1	"	EPA 8082A	*S-04*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-A3-300 (A11F356-01)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**98.8**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-A1-301 (A11F356-02)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**98.8**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-A2-302 (A11F356-03)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**98.5**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-A4-303 (A11F356-04)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**99.2**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-A5-304 (A11F356-05)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**99.1**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-A6-305 (A11F356-06)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**98.6**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	
8004-110628-306 (A11F356-07)			**Matrix: Solid**		**Batch: 1106395**			
% Solids	**66.7**	---	1.00	% by Weight	1	06/30/11 10:29	Apex SOP	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106405 - EPA 3546							**Soil**					
Blank (1106405-BLK1)					Prepared: 06/29/11 14:10	Analyzed: 06/30/11 16:44						**C-07**
EPA 8082A												
Aroclor 1016	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	8.33	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	8.33	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 85 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*87 %*	*55-130 %*			*"*					
LCS (1106405-BS1)					Prepared: 06/29/11 14:10	Analyzed: 06/30/11 17:01						**C-07**
EPA 8082A												
Aroclor 1016	237	---	10.0	ug/kg wet	1	250	---	95	40-140%	---	---	
Aroclor 1260	231	---	10.0	"	"	"	---	93	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 95 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*95 %*	*55-130 %*			*"*					

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1106395 - Total Solids (Dry Weight)							**Soil**					

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1106405							
A11F356-01RE1	Solid	EPA 8082A	06/28/11 09:25	06/29/11 14:10	11.91g/5mL	10g/5mL	0.84
A11F356-02RE1	Solid	EPA 8082A	06/28/11 09:30	06/29/11 14:10	11.41g/5mL	10g/5mL	0.88
A11F356-03RE1	Solid	EPA 8082A	06/28/11 09:45	06/29/11 14:10	11.56g/5mL	10g/5mL	0.87
A11F356-04RE1	Solid	EPA 8082A	06/28/11 09:55	06/29/11 14:10	11.71g/5mL	10g/5mL	0.85
A11F356-05RE1	Solid	EPA 8082A	06/28/11 10:00	06/29/11 14:10	11.94g/5mL	10g/5mL	0.84
A11F356-06RE1	Solid	EPA 8082A	06/28/11 10:05	06/29/11 14:10	11.56g/5mL	10g/5mL	0.87
A11F356-07RE1	Solid	EPA 8082A	06/28/11 10:10	06/29/11 14:10	11.1g/5mL	10g/5mL	0.90

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 15:47

Notes and Definitions

Qualifiers:

A-01	Samples consistantly have failing recoveries for surrogates and closing CCVs have failed twice after running and re-running samples. Due to sample matrix interference, data is likely biased low, but all reported hits are at least 2x the MRL.
C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Estimated due to multiple aroclors present in sample
P-03	Due to high level of a multicomponent analyte present, reporting levels are raised based on interference from the multicomponent analyte.
S-04	Surrogate recovery is outside of established control limits due to a sample matrix effect.

Notes and Conventions:

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

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Bridgewater Group 4500 SW Kruse Way; Suite 110 Lake Oswego, OR 97035	Project: **PGE Hawthorne** Project Number: 8004 Project Manager: Jeff Dresser	**Reported:** 07/14/11 15:47

A11F350

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory APEX Laboratories, Tigard, Oregon
Lab Project No.

CHAIN OF CUSTODY
Chain of Custody No. 8004-03

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE Hawthorne
Collected by: Corey Raspone/Ben Uhl

Liquid with Sediment Sample — Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample — Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Comments

Sample Number Prefix:8004-110628-

5 DAY TAT - UNLESS NOTED IN REMARKS

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	Analyses to be Performed: PCBs (EPA 8082)	RUSH	Remarks
	A3-300	28-Jun-11	9:25	1-cm bgs				x	1	x		
	A1-301	28-Jun-11	9:30	1-cm bgs				x	1	x		
	A2-302	28-Jun-11	9:45	1-cm bgs				x	1	x		
	A4-303	28-Jun-11	9:55	1-cm bgs				x	1	x		
	A5-304	28-Jun-11	10:00	¼-cm bgs				x	1	x		
	A6-305	28-Jun-11	10:05	1-cm bgs				x	1	x		
	-306	28-Jun-11	10:10	DUST SAMPLE				x	1	x		

Relinquished by	Company	Date	Time	Received by	Company
[illegible]	Hahn and Associates, Inc.	6/29/11	03:30	[illegible]	APEX
Relinquished by	Company	Date	Time	Received by	Company

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Philip Nerenberg

Philip Nerenberg, Lab Director

APPENDIX H

Laboratory Report and Chain-of-Custody Documentation: PCB Wipe Samples

Apex Labs

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Thursday, July 14, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11F355, which was received by the laboratory on 6/29/2011 at 9:30:00AM.

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

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

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110628-400	A11F355-01	Wipe	06/28/11 10:28	06/29/11 09:30
8004-110628-402	A11F355-03	Wipe	06/28/11 10:40	06/29/11 09:30
8004-110628-403	A11F355-04	Wipe	06/28/11 10:45	06/29/11 09:30
8004-110628-404	A11F355-05	Wipe	06/28/11 10:53	06/29/11 09:30
8004-110628-406	A11F355-07	Wipe	06/28/11 11:10	06/29/11 09:30
8004-110628-407	A11F355-08	Wipe	06/28/11 11:12	06/29/11 09:30
8004-110628-408	A11F355-09	Wipe	06/28/11 11:37	06/29/11 09:30
8004-110628-409	A11F355-10	Wipe	06/28/11 11:41	06/29/11 09:30
8004-110628-411	A11F355-12	Wipe	06/28/11 11:52	06/29/11 09:30
8004-110628-412	A11F355-13	Wipe	06/28/11 12:00	06/29/11 09:30
8004-110628-414	A11F355-15	Wipe	06/28/11 14:00	06/29/11 09:30
8004-110628-415	A11F355-16	Wipe	06/28/11 14:05	06/29/11 09:30
8004-110628-416	A11F355-17	Wipe	06/28/11 14:10	06/29/11 09:30
8004-110628-417	A11F355-18	Wipe	06/28/11 14:18	06/29/11 09:30
8004-110628-419	A11F355-20	Wipe	06/28/11 14:30	06/29/11 09:30
8004-110628-421	A11F355-22	Wipe	06/28/11 14:50	06/29/11 09:30

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-400 (A11F355-01)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/05/11 14:05	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 80 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*88 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-402 (A11F355-03)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/05/11 14:23	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.137**	---	0.100	"	"	"	"	
Aroclor 1260	**0.246**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 104 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*110 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-403 (A11F355-04)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/05/11 14:41	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	**0.116**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 101 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*114 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-404 (A11F355-05)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/05/11 14:59	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-404 (A11F355-05)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1248	ND	---	0.100	ug/Wipe	1	"	EPA 8082A	
Aroclor 1254	**0.308**	---	0.100	"	"	"	"	
Aroclor 1260	**0.548**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 100 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*111 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-406 (A11F355-07)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/05/11 15:17	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 70 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*98 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-407 (A11F355-08)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/05/11 15:34	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 63 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*77 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-408 (A11F355-09RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 12:02	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 80 %*	*Limits: 50-125 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-408 (A11F355-09RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 87 %*	*Limits: 55-130 %*	1	"	EPA 8082A	
8004-110628-409 (A11F355-10RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 12:19	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 71 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*85 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-411 (A11F355-12RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 12:37	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*95 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-412 (A11F355-13RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 12:55	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*91 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-414 (A11F355-15RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 13:13	EPA 8082A	

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-414 (A11F355-15RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1221	ND	---	0.100	ug/Wipe	1	"	EPA 8082A	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.105**	---	0.100	"	"	"	"	
Aroclor 1260	**0.308**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 90 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*89 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-415 (A11F355-16RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 13:31	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 92 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*89 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-416 (A11F355-17RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 13:49	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.105**	---	0.100	"	"	"	"	
Aroclor 1260	**0.315**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*91 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-417 (A11F355-18RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 14:42	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110628-417 (A11F355-18RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1254	**0.186**	---	0.100	ug/Wipe	1	"	EPA 8082A	
Aroclor 1260	**0.399**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 91 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*91 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-419 (A11F355-20RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/06/11 15:18	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.102**	---	0.100	"	"	"	"	
Aroclor 1260	**0.133**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 100 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*99 %*	*Limits: 55-130 %*	"	"	"	
8004-110628-421 (A11F355-22RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	1.00	ug/Wipe	10	07/06/11 15:53	EPA 8082A	
Aroclor 1221	ND	---	1.00	"	"	"	"	
Aroclor 1232	ND	---	1.00	"	"	"	"	
Aroclor 1242	ND	---	1.00	"	"	"	"	
Aroclor 1248	ND	---	1.00	"	"	"	"	
Aroclor 1254	**1.52**	---	1.00	"	"	"	"	
Aroclor 1260	**3.80**	---	1.00	"	"	"	"	EST
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*	*Limits: 50-125 %*	"	"	"	*S-05*
Decachlorobiphenyl (Surr)			*85 %*	*Limits: 55-130 %*	"	"	"	*S-05*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107001 - EPA 3546							**Wipe**					
Blank (1107001-BLK1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 12:54					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.100	ug/Wipe	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.100	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*98 %*	*55-130 %*			*"*					
LCS (1107001-BS1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 13:12					**C-07**
EPA 8082A												
Aroclor 1016	2.34	---	0.100	ug/Wipe	1	2.50	---	93	40-140%	---	---	
Aroclor 1260	2.28	---	0.100	"	"	"	---	91	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 95 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*99 %*	*55-130 %*			*"*					
LCS Dup (1107001-BSD1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 13:30					**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.36	---	0.100	ug/Wipe	1	2.50	---	94	40-140%	1	30%	
Aroclor 1260	2.30	---	0.100	"	"	"	---	92	60-130%	0.8	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 103 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*104 %*	*55-130 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107001							
A11F355-01	Wipe	EPA 8082A	06/28/11 10:28	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-03	Wipe	EPA 8082A	06/28/11 10:40	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-04	Wipe	EPA 8082A	06/28/11 10:45	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-05	Wipe	EPA 8082A	06/28/11 10:53	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-07	Wipe	EPA 8082A	06/28/11 11:10	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-08	Wipe	EPA 8082A	06/28/11 11:12	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-09RE1	Wipe	EPA 8082A	06/28/11 11:37	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-10RE1	Wipe	EPA 8082A	06/28/11 11:41	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-12RE1	Wipe	EPA 8082A	06/28/11 11:52	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-13RE1	Wipe	EPA 8082A	06/28/11 12:00	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-15RE1	Wipe	EPA 8082A	06/28/11 14:00	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-16RE1	Wipe	EPA 8082A	06/28/11 14:05	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-17RE1	Wipe	EPA 8082A	06/28/11 14:10	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-18RE1	Wipe	EPA 8082A	06/28/11 14:18	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-20RE1	Wipe	EPA 8082A	06/28/11 14:30	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F355-22RE1	Wipe	EPA 8082A	06/28/11 14:50	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Estimated due to sample matrix
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

Notes and Conventions:

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:17

A11F355

HAHN AND ASSOCIATES, INC.
Environmental Management
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory: Apex
Lab Project No.:

CHAIN OF CUSTODY
Chain of Custody No. 8004-04

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE Hawthorne
Collected by: Corey Raspone/Ben Uhl

Liquid with Sediment Sample: Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample: Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Sample Number Prefix: 8004-110628-

ALL SAMPLES = 100 cm² surface area (Results reported with area)

5 DAY TAT - UNLESS NOTED IN REMARKS

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Soil	Water	Other	Number of Containers	PCBs (EPA 8082)	RUSH	Remarks
	400	28-Jun-11	10:28	Basement Wall			X	1	X		
	401	28-Jun-11	10:32	Basement Wall			X	1			
	402	28-Jun-11	10:40	Basement Wall			X	1	X		
	403	28-Jun-11	10:45	Basement Wall			X	1	X		
	404	28-Jun-11	10:53	Basement Wall			X	1	X		
	405	28-Jun-11	11:00	Basement Wall			X	1			
	406	28-Jun-11	11:10	Basement Wall			X	1	X		
	407	28-Jun-11	11:12	Basement Wall			X	1	X		
	408	28-Jun-11	11:37	1st Floor Wall			X	1	X		
	409	28-Jun-11	11:41	1st Floor Wall			X	1	X		
	410	28-Jun-11	11:47	1st Floor Wall			X	1			
	411	28-Jun-11	11:52	1st Floor Wall			X	1	X		
	412	28-Jun-11	12:00	Storeroom wall			X	1	X		
	413	28-Jun-11	13:55	1st Floor Ceiling			X	1			
	414	28-Jun-11	14:00	1st Floor Ceiling			X	1	X		
	415	28-Jun-11	14:05	Storeroom Ceiling			X	1	X		
	416	28-Jun-11	14:10	Basement Ceiling			X	1	X		
	417	28-Jun-11	14:18	Basement Ceiling			X	1	X		
	418	28-Jun-11	14:22	Basement Ceiling			X	1			
	419	28-Jun-11	14:30	Basement Ceiling			X	1	X		
	420	28-Jun-11	14:36	Basement Ceiling			X	1			
	421	28-Jun-11	14:50	Vent Opening			X	1	X		

Relinquished by	Company	Date	Time	Received by	Company
Corey Raspone	HAHN & ASSOC	6/29/11	09:30	[illegible]	APEX

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Philip Nerenberg

Philip Nerenberg, Lab Director

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Thursday, July 14, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11F370, which was received by the laboratory on 6/30/2011 at 9:30:00AM.

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

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110629-422	A11F370-01	Wipe	06/29/11 13:30	06/30/11 09:30
8004-110629-423	A11F370-02	Wipe	06/29/11 13:40	06/30/11 09:30
8004-110629-424	A11F370-03	Wipe	06/29/11 13:50	06/30/11 09:30
8004-110629-425	A11F370-04	Wipe	06/29/11 14:00	06/30/11 09:30
TRIP BLANK	A11F370-05	Wipe	06/29/11 00:00	06/30/11 09:30

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110629-422 (A11F370-01RE1)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.500	ug/Wipe	5	07/06/11 17:40	EPA 8082A	
Aroclor 1221	ND	---	0.500	"	"	"	"	
Aroclor 1232	ND	---	0.500	"	"	"	"	
Aroclor 1242	ND	---	0.500	"	"	"	"	
Aroclor 1248	ND	---	2.00	"	"	"	"	P-03
Aroclor 1254	**2.69**	---	0.500	"	"	"	"	
Aroclor 1260	**13.5**	---	0.500	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 98 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*98 %*	*Limits: 55-130 %*	"	"	"	
8004-110629-423 (A11F370-02)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.500	ug/Wipe	5	07/06/11 17:04	EPA 8082A	
Aroclor 1221	ND	---	0.500	"	"	"	"	
Aroclor 1232	ND	---	0.500	"	"	"	"	
Aroclor 1242	ND	---	0.500	"	"	"	"	
Aroclor 1248	ND	---	2.00	"	"	"	"	P-03
Aroclor 1254	**6.72**	---	0.500	"	"	"	"	
Aroclor 1260	**9.26**	---	0.500	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 100 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*93 %*	*Limits: 55-130 %*	"	"	"	
8004-110629-424 (A11F370-03)			**Matrix: Wipe**		**Batch: 1107001**			**C-07**
Aroclor 1016	ND	---	0.500	ug/Wipe	5	07/06/11 17:22	EPA 8082A	
Aroclor 1221	ND	---	0.500	"	"	"	"	
Aroclor 1232	ND	---	0.500	"	"	"	"	
Aroclor 1242	ND	---	0.500	"	"	"	"	
Aroclor 1248	ND	---	1.50	"	"	"	"	P-03
Aroclor 1254	**1.44**	---	0.500	"	"	"	"	
Aroclor 1260	**1.59**	---	0.500	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 106 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*97 %*	*Limits: 55-130 %*	"	"	"	
8004-110629-425 (A11F370-04)			**Matrix: Wipe**		**Batch: 1107055**			**C-07**
Aroclor 1016	ND	---	0.500	ug/Wipe	5	07/07/11 12:01	EPA 8082A	
Aroclor 1221	ND	---	0.500	"	"	"	"	
Aroclor 1232	ND	---	0.500	"	"	"	"	
Aroclor 1242	ND	---	0.500	"	"	"	"	

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110629-425 (A11F370-04)			**Matrix: Wipe**		**Batch: 1107055**			**C-07**
Aroclor 1248	ND	---	0.500	ug/Wipe	5	"	EPA 8082A	
Aroclor 1254	**14.8**	---	0.500	"	"	"	"	
Aroclor 1260	**17.3**	---	0.500	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*90 %*	*Limits: 55-130 %*	"	"	"	
TRIP BLANK (A11F370-05)			**Matrix: Wipe**		**Batch: 1107055**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	07/07/11 12:18	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 87 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*91 %*	*Limits: 55-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107001 - EPA 3546							**Wipe**					
Blank (1107001-BLK1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 12:54					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.100	ug/Wipe	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.100	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*98 %*	*55-130 %*			*"*					
LCS (1107001-BS1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 13:12					**C-07**
EPA 8082A												
Aroclor 1016	2.34	---	0.100	ug/Wipe	1	2.50	---	93	40-140%	---	---	
Aroclor 1260	2.28	---	0.100	"	"	"	---	91	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 95 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*99 %*	*55-130 %*			*"*					
LCS Dup (1107001-BSD1)					Prepared: 07/01/11 08:05		Analyzed: 07/05/11 13:30					**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.36	---	0.100	ug/Wipe	1	2.50	---	94	40-140%	1	30%	
Aroclor 1260	2.30	---	0.100	"	"	"	---	92	60-130%	0.8	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 103 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*104 %*	*55-130 %*			*"*					
Batch 1107055 - EPA 3546							**Wipe**					
Blank (1107055-BLK1)					Prepared: 07/06/11 11:31		Analyzed: 07/07/11 11:08					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.100	ug/Wipe	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.100	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

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503-718-0333 Fax

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107055 - EPA 3546							**Wipe**					
Blank (1107055-BLK1)					Prepared: 07/06/11 11:31		Analyzed: 07/07/11 11:08					**C-07**
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*		*Limits: 50-125 %*		*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*88 %*		*55-130 %*		*"*					
LCS (1107055-BS1)					Prepared: 07/06/11 11:31		Analyzed: 07/07/11 11:26					**C-07**
EPA 8082A												
Aroclor 1016	2.38	---	0.100	ug/Wipe	1	2.50	---	95	40-140%	---	---	
Aroclor 1260	2.37	---	0.100	"	"	"	---	95	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 91 %*		*Limits: 50-125 %*		*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*93 %*		*55-130 %*		*"*					
LCS Dup (1107055-BSD1)					Prepared: 07/06/11 11:32		Analyzed: 07/07/11 11:43					**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.34	---	0.100	ug/Wipe	1	2.50	---	93	40-140%	2	30%	
Aroclor 1260	2.19	---	0.100	"	"	"	---	87	60-130%	8	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*		*Limits: 50-125 %*		*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*84 %*		*55-130 %*		*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107001							
A11F370-01RE1	Wipe	EPA 8082A	06/29/11 13:30	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F370-02	Wipe	EPA 8082A	06/29/11 13:40	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
A11F370-03	Wipe	EPA 8082A	06/29/11 13:50	07/01/11 08:05	1Wipe/5mL	1Wipe/5mL	1.00
Batch: 1107055							
A11F370-04	Wipe	EPA 8082A	06/29/11 14:00	07/06/11 11:31	1Wipe/5mL	1Wipe/5mL	1.00
A11F370-05	Wipe	EPA 8082A	06/29/11 00:00	07/06/11 11:31	1Wipe/5mL	1Wipe/5mL	1.00

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
P-03	Due to high level of a multicomponent analyte present, reporting levels are raised based on interference from the multicomponent analyte.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Notes and Conventions:

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 16:15

A11F370

HAHN AND ASSOCIATES, INC.
Environmental Management
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory: Apex
Lab Project No.:

CHAIN OF CUSTODY
Chain of Custody No. 6004-05

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE Hawthorne
Collected by: Corey Raspone

Liquid with Sediment Sample: Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample: Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Sample Number Prefix: 8004-110628-

ALL SAMPLES = 100 cm² surface area (Results reported with area)

5 DAY TAT - UNLESS NOTED IN REMARKS

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Soil	Water	Other	Number of Containers	PCBs (EPA 8082)	RUSH	Remarks
	422	29-Jun-11	13:30	Floor @ C3			X	1	X		
	423	29-Jun-11	13:40	Floor @ C6			X	1	X		
	424	29-Jun-11	13:50	Floor @ C2			X	1	X		
	425	29-Jun-11	14:00	Floor @ C7			X	1	X		

Relinquished by	Company	Date	Time	Received by	Company
Corey Raspone	HAHN & ASSOC	6/30/11	730	Jennifer Suth	Apex

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Philip Nerenberg, Lab Director

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Monday, August 22, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11H188, which was received by the laboratory on 8/15/2011 at 11:38:00AM.

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

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110813-426	A11H188-01	Wipe	08/13/11 19:30	08/15/11 11:38
8004-110813-427	A11H188-02	Wipe	08/13/11 19:35	08/15/11 11:38
8004-110813-428	A11H188-03	Wipe	08/13/11 19:40	08/15/11 11:38
8004-110813-429	A11H188-04	Wipe	08/13/11 19:50	08/15/11 11:38
8004-110813-430	A11H188-05	Wipe	08/13/11 19:55	08/15/11 11:38
8004-110813-431	A11H188-06	Wipe	08/13/11 20:00	08/15/11 11:38
8004-110813-432	A11H188-07	Wipe	08/13/11 20:05	08/15/11 11:38
8004-110813-433	A11H188-08	Wipe	08/13/11 20:10	08/15/11 11:38
8004-110813-434	A11H188-09	Wipe	08/13/11 20:15	08/15/11 11:38
8004-110813-435	A11H188-10	Wipe	08/13/11 20:20	08/15/11 11:38
8004-110813-TRIP BLANK	A11H188-11	Wipe	08/13/11 00:00	08/15/11 11:38

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110813-426 (A11H188-01)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 18:25	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.189**	---	0.100	"	"	"	"	
Aroclor 1260	**0.338**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 111 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*118 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-427 (A11H188-02)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 18:43	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	**0.127**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 102 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*107 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-428 (A11H188-03)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 19:18	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.203**	---	0.100	"	"	"	"	
Aroclor 1260	**0.250**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*102 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-429 (A11H188-04)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 19:35	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110813-429 (A11H188-04)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1248	ND	---	0.100	ug/Wipe	1	"	EPA 8082A	
Aroclor 1254	**0.175**	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*112 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-430 (A11H188-05)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 20:10	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.151**	---	0.100	"	"	"	"	
Aroclor 1260	**0.119**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 73 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*89 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-431 (A11H188-06)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 20:28	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 98 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*116 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-432 (A11H188-07)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 21:03	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*	*Limits: 50-125 %*	"	"	"	

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110813-432 (A11H188-07)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 100 %*	*Limits: 55-130 %*	1	"	EPA 8082A	
8004-110813-433 (A11H188-08)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 21:20	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 91 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*100 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-434 (A11H188-09)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 21:55	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	**0.193**	---	0.100	"	"	"	"	
Aroclor 1260	**0.180**	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 87 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*103 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-435 (A11H188-10)			**Matrix: Wipe**		**Batch: 1108283**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/16/11 22:13	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 110 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*115 %*	*Limits: 55-130 %*	"	"	"	
8004-110813-TRIP BLANK (A11H188-11)			**Matrix: Wipe**		**Batch: 1108325**			**C-07**
Aroclor 1016	ND	---	0.100	ug/Wipe	1	08/17/11 20:32	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	

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Philip Nerenberg, Lab Director

Apex Labs

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503-718-0333 Fax

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110813-TRIP BLANK (A11H188-11)			**Matrix: Wipe**		**Batch: 1108325**			**C-07**
Aroclor 1232	ND	---	0.100	ug/Wipe	1	"	EPA 8082A	
Aroclor 1242	ND	---	0.100	"	"	"	"	
Aroclor 1248	ND	---	0.100	"	"	"	"	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 93 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*97 %*	*Limits: 55-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108283 - EPA 3546							**Wipe**					
Blank (1108283-BLK1)					Prepared: 08/16/11 09:00		Analyzed: 08/16/11 17:33					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.100	ug/Wipe	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.100	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 86 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*90 %*	*55-130 %*			*"*					
LCS (1108283-BS1)					Prepared: 08/16/11 09:00		Analyzed: 08/16/11 17:50					**C-07**
EPA 8082A												
Aroclor 1016	2.26	---	0.100	ug/Wipe	1	2.50	---	91	40-140%	---	---	
Aroclor 1260	2.29	---	0.100	"	"	"	---	92	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 90 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*99 %*	*55-130 %*			*"*					
LCS Dup (1108283-BSD1)					Prepared: 08/16/11 09:00		Analyzed: 08/16/11 18:08					**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.24	---	0.100	ug/Wipe	1	2.50	---	90	40-140%	0.9	30%	
Aroclor 1260	2.18	---	0.100	"	"	"	---	87	60-130%	5	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 87 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*89 %*	*55-130 %*			*"*					
Batch 1108325 - EPA 3546							**Wipe**					
Blank (1108325-BLK1)					Prepared: 08/17/11 12:54		Analyzed: 08/17/11 19:39					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.100	ug/Wipe	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.100	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.100	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108325 - EPA 3546							**Wipe**					
Blank (1108325-BLK1)					Prepared: 08/17/11 12:54		Analyzed: 08/17/11 19:39					**C-07**
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 100 %*		*Limits: 50-125 %*		*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*93 %*		*55-130 %*		*"*					
LCS (1108325-BS1)					Prepared: 08/17/11 12:54		Analyzed: 08/17/11 19:56					**C-07**
EPA 8082A												
Aroclor 1016	2.46	---	0.100	ug/Wipe	1	2.50	---	99	40-140%	---	---	
Aroclor 1260	2.09	---	0.100	"	"	"	---	84	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 100 %*		*Limits: 50-125 %*		*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*95 %*		*55-130 %*		*"*					
LCS Dup (1108325-BSD1)					Prepared: 08/17/11 12:54		Analyzed: 08/17/11 20:14					**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.33	---	0.100	ug/Wipe	1	2.50	---	93	40-140%	5	30%	
Aroclor 1260	2.00	---	0.100	"	"	"	---	80	60-130%	4	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 97 %*		*Limits: 50-125 %*		*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*93 %*		*55-130 %*		*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1108283							
A11H188-01	Wipe	EPA 8082A	08/13/11 19:30	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-02	Wipe	EPA 8082A	08/13/11 19:35	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-03	Wipe	EPA 8082A	08/13/11 19:40	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-04	Wipe	EPA 8082A	08/13/11 19:50	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-05	Wipe	EPA 8082A	08/13/11 19:55	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-06	Wipe	EPA 8082A	08/13/11 20:00	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-07	Wipe	EPA 8082A	08/13/11 20:05	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-08	Wipe	EPA 8082A	08/13/11 20:10	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-09	Wipe	EPA 8082A	08/13/11 20:15	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
A11H188-10	Wipe	EPA 8082A	08/13/11 20:20	08/16/11 09:00	1Wipe/5mL	1Wipe/5mL	1.00
Batch: 1108325							
A11H188-11	Wipe	EPA 8082A	08/13/11 00:00	08/17/11 12:54	1Wipe/5mL	1Wipe/5mL	1.00

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/22/11 16:06

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Notes and Conventions:

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

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Philip Nerenberg, Lab Director

Apex Labs

Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

Project: **PGE Hawthorne**
Project Number: 8004
Project Manager: Jeff Dresser

Reported:
08/22/11 16:06

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A11H1886

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory: Apex
Lab Project No.:

CHAIN OF CUSTODY
Chain of Custody No.:

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE - Hawthorne
Collected by: Corey Raspone

Liquid with Sediment Sample
Test Filtrate / Test Sediment
Multi-Phase Sample
Test One (which) / Test Separately

Samples Received at 4C (Y or N):
Appropriate Containers Used (Y or N):
Provide Verbal Results (Y or N): No
Provide Preliminary Fax Results: Yes

Comments

Sample Number Prefix: 8004-110813-

2 Day TAT on all samples

Results and invoice to Jeff Dresser at Bridgewater Group (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	Analyses to be Performed: PCBs (Aroclors)	RUSH	Remarks
	426	13-Aug-11	19:30	Basement to 1st Floor Landing			X	1	X	X	2 Day TAT
	427	13-Aug-11	19:35	Basement to 1st - Top Step			X	1	X	X	2 Day TAT
	428	13-Aug-11	19:40	1st Floor Landing			X	1	X	X	2 Day TAT
	429	13-Aug-11	19:50	1st Floor Elevator			X	1	X	X	2 Day TAT
	430	13-Aug-11	19:55	1st Floor Base of Stairs			X	1	X	X	2 Day TAT
	431	13-Aug-11	20:00	1st to 2nd Floor Landing			X	1	X	X	2 Day TAT
	432	13-Aug-11	20:05	1st to 2nd Floor Top Stair			X	1	X	X	2 Day TAT
	433	13-Aug-11	20:10	2nd Floor Landing			X	1	X	X	2 Day TAT
	434	13-Aug-11	20:15	2nd Floor Elevator			X	1	X	X	2 Day TAT
	435	13-Aug-11	20:20	2nd to 3rd Floor Bottom Stair			X	1	X	X	2 Day TAT

Relinquished by	Company	Date	Time	Received by	Company
Corey Raspone	HAI	8/15/11	1138	[illegible]	Apex

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Philip Nerenberg, Lab Director

APPENDIX I

Laboratory Report and Chain-of-Custody Documentation: Soil Samples

Apex Labs

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Monday, August 1, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11G005, which was received by the laboratory on 7/1/2011 at 9:35:00AM.

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

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

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110630-P1-001	A11G005-01	Soil	06/30/11 09:50	07/01/11 09:35
8004-110630-P2-006	A11G005-06	Soil	06/30/11 10:20	07/01/11 09:35
8004-110630-P2-007	A11G005-07	Soil	06/30/11 10:25	07/01/11 09:35
8004-110630-P3-009	A11G005-09	Soil	06/30/11 10:40	07/01/11 09:35
8004-110630-P3-010	A11G005-10	Soil	06/30/11 10:45	07/01/11 09:35
8004-110630-P4-012	A11G005-12	Soil	06/30/11 11:10	07/01/11 09:35
8004-110630-P4-013	A11G005-13	Soil	06/30/11 11:20	07/01/11 09:35
8004-110630-P9-015	A11G005-15	Soil	06/30/11 11:50	07/01/11 09:35
8004-110630-P6-018	A11G005-18	Soil	06/30/11 12:10	07/01/11 09:35
8004-110630-P7-021	A11G005-21	Soil	06/30/11 13:30	07/01/11 09:35
8004-110630-P8-024	A11G005-24	Soil	06/30/11 13:50	07/01/11 09:35
8004-110630-P8-025	A11G005-25	Soil	06/30/11 13:55	07/01/11 09:35
8004-110630-P10-027	A11G005-27	Soil	06/30/11 14:10	07/01/11 09:35
8004-110630-P10-028	A11G005-28	Soil	06/30/11 14:15	07/01/11 09:35
8004-110630-P5-030	A11G005-30	Soil	06/30/11 14:30	07/01/11 09:35
8004-110630-P5-031	A11G005-31	Soil	06/30/11 14:35	07/01/11 09:35
8004-110630-P5-032	A11G005-32	Soil	06/30/11 14:45	07/01/11 09:35
8004-110630-P12-033	A11G005-33	Soil	06/30/11 16:45	07/01/11 09:35
8004-110630-P11-036	A11G005-36	Soil	06/30/11 17:20	07/01/11 09:35
8004-110630-P11-037	A11G005-37	Soil	06/30/11 17:25	07/01/11 09:35

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P1-001 (A11G005-01)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	30.8	mg/kg dry	2	07/01/11 20:16	NWTPH-Dx	
Oil Range Organics	**244**	---	61.6	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P2-006 (A11G005-06)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	**52.0**	---	25.0	mg/kg dry	1	07/01/11 20:41	NWTPH-Dx	F-07
Oil Range Organics	**845**	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P2-007 (A11G005-07)			**Matrix: Soil**		**Batch: 1107035**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/06/11 06:21	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 80 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P3-009 (A11G005-09)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	**28.5**	---	25.0	mg/kg dry	1	07/01/11 21:30	NWTPH-Dx	F-07
Oil Range Organics	**203**	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	638	mg/kg dry	20	07/01/11 22:20	NWTPH-Dx	
Oil Range Organics	**8230**	---	1280	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: %*	*Limits: 50-150 %*	"	"	"	*S-01*
8004-110630-P4-013 (A11G005-13)			**Matrix: Soil**		**Batch: 1107035**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/06/11 06:43	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 81 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P9-015 (A11G005-15)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/01/11 21:30	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 79 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P6-018 (A11G005-18)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/01/11 21:55	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 88 %*	*Limits: 50-150 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P7-021 (A11G005-21)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/02/11 00:02	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	713	mg/kg dry	40	07/01/11 23:11	NWTPH-Dx	
Oil Range Organics	**3990**	---	1430	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: %*	*Limits: 50-150 %*	"	"	"	*S-01*
8004-110630-P8-025 (A11G005-25)			**Matrix: Soil**		**Batch: 1107035**			
Diesel Range Organics	ND	---	27.0	mg/kg dry	1	07/06/11 10:10	NWTPH-Dx	
Oil Range Organics	ND	---	54.1	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 87 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P10-027 (A11G005-27)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/02/11 00:52	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P5-030 (A11G005-30)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/01/11 22:45	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 87 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P12-033 (A11G005-33)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/01/11 22:20	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P11-036 (A11G005-36)			**Matrix: Soil**		**Batch: 1107014**			
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	07/02/11 01:43	NWTPH-Dx	
Oil Range Organics	ND	---	50.0	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 108 %*	*Limits: 50-150 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P2-006 (A11G005-06RE1)			**Matrix: Soil**		**Batch: 1107072**			**V-07**
Gasoline Range Organics	ND	---	4.77	mg/kg dry	50	07/07/11 12:46	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 128 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*114 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107052**			**V-07**
Gasoline Range Organics	ND	---	5.18	mg/kg dry	50	07/06/11 21:22	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 133 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*114 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107052**			**V-08**
Gasoline Range Organics	ND	---	6.12	mg/kg dry	50	07/06/11 21:46	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 132 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*115 %*	*Limits: 50-150 %*	"	"	"	
8004-110630-P10-027 (A11G005-27RE1)			**Matrix: Soil**		**Batch: 1107072**			**V-07**
Gasoline Range Organics	ND	---	6.54	mg/kg dry	50	07/07/11 13:36	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 129 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*114 %*	*Limits: 50-150 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P2-006 (A11G005-06RE1)			**Matrix: Soil**		**Batch: 1107072**			**V-07**
Acetone	ND	---	953	ug/kg dry	50	07/07/11 12:46	5035/8260B	
Benzene	ND	---	11.9	"	"	"	"	
Bromobenzene	ND	---	23.8	"	"	"	"	
Bromochloromethane	ND	---	23.8	"	"	"	"	
Bromodichloromethane	ND	---	23.8	"	"	"	"	
Bromoform	ND	---	47.7	"	"	"	"	
Bromomethane	ND	---	477	"	"	"	"	
2-Butanone (MEK)	ND	---	477	"	"	"	"	
n-Butylbenzene	ND	---	47.7	"	"	"	"	
sec-Butylbenzene	ND	---	47.7	"	"	"	"	
tert-Butylbenzene	ND	---	47.7	"	"	"	"	
Carbon tetrachloride	ND	---	23.8	"	"	"	"	
Chlorobenzene	ND	---	23.8	"	"	"	"	
Chloroethane	ND	---	477	"	"	"	"	
Chloroform	ND	---	47.7	"	"	"	"	
Chloromethane	ND	---	238	"	"	"	"	
2-Chlorotoluene	ND	---	47.7	"	"	"	"	
4-Chlorotoluene	ND	---	47.7	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	238	"	"	"	"	
Dibromochloromethane	ND	---	95.3	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	23.8	"	"	"	"	
Dibromomethane	ND	---	47.7	"	"	"	"	
1,2-Dichlorobenzene	ND	---	23.8	"	"	"	"	
1,3-Dichlorobenzene	ND	---	23.8	"	"	"	"	
1,4-Dichlorobenzene	ND	---	23.8	"	"	"	"	
Dichlorodifluoromethane	ND	---	95.3	"	"	"	"	
1,1-Dichloroethane	ND	---	23.8	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	23.8	"	"	"	"	
1,1-Dichloroethene	ND	---	23.8	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	23.8	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	23.8	"	"	"	"	
1,2-Dichloropropane	ND	---	23.8	"	"	"	"	
1,3-Dichloropropane	ND	---	23.8	"	"	"	"	
2,2-Dichloropropane	ND	---	47.7	"	"	"	"	
1,1-Dichloropropene	ND	---	47.7	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P2-006 (A11G005-06RE1)			**Matrix: Soil**		**Batch: 1107072**			**V-07**
cis-1,3-Dichloropropene	ND	---	23.8	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	47.7	"	"	"	"	
Ethylbenzene	ND	---	23.8	"	"	"	"	
2-Hexanone	ND	---	477	"	"	"	"	
Isopropylbenzene	ND	---	47.7	"	"	"	"	
4-Isopropyltoluene	ND	---	47.7	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	477	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	47.7	"	"	"	"	
Methylene chloride	ND	---	238	"	"	"	"	
Naphthalene	ND	---	95.3	"	"	"	"	
n-Propylbenzene	ND	---	23.8	"	"	"	"	
Styrene	ND	---	47.7	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	23.8	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	23.8	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	23.8	"	"	"	"	
Toluene	ND	---	47.7	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	238	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	238	"	"	"	"	
1,1,1-Trichloroethane	ND	---	23.8	"	"	"	"	
1,1,2-Trichloroethane	ND	---	23.8	"	"	"	"	
Trichloroethene (TCE)	ND	---	23.8	"	"	"	"	
Trichlorofluoromethane	ND	---	95.3	"	"	"	"	
1,2,3-Trichloropropane	ND	---	47.7	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	47.7	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	47.7	"	"	"	"	
Vinyl chloride	ND	---	23.8	"	"	"	"	
m,p-Xylene	ND	---	47.7	"	"	"	"	
o-Xylene	ND	---	23.8	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*114 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*104 %*	*Limits: 70-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107052**			**V-07**
Acetone	ND	---	1040	ug/kg dry	50	07/06/11 21:22	5035/8260B	
Benzene	ND	---	13.0	"	"	"	"	
Bromobenzene	ND	---	25.9	"	"	"	"	
Bromochloromethane	ND	---	25.9	"	"	"	"	
Bromodichloromethane	ND	---	25.9	"	"	"	"	
Bromoform	ND	---	51.8	"	"	"	"	
Bromomethane	ND	---	518	"	"	"	"	
2-Butanone (MEK)	ND	---	518	"	"	"	"	
n-Butylbenzene	ND	---	51.8	"	"	"	"	
sec-Butylbenzene	ND	---	51.8	"	"	"	"	
tert-Butylbenzene	ND	---	51.8	"	"	"	"	
Carbon tetrachloride	ND	---	25.9	"	"	"	"	
Chlorobenzene	ND	---	25.9	"	"	"	"	
Chloroethane	ND	---	518	"	"	"	"	
Chloroform	ND	---	51.8	"	"	"	"	
Chloromethane	ND	---	259	"	"	"	"	
2-Chlorotoluene	ND	---	51.8	"	"	"	"	
4-Chlorotoluene	ND	---	51.8	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	259	"	"	"	"	
Dibromochloromethane	ND	---	104	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	25.9	"	"	"	"	
Dibromomethane	ND	---	51.8	"	"	"	"	
1,2-Dichlorobenzene	ND	---	25.9	"	"	"	"	
1,3-Dichlorobenzene	ND	---	25.9	"	"	"	"	
1,4-Dichlorobenzene	ND	---	25.9	"	"	"	"	
Dichlorodifluoromethane	ND	---	104	"	"	"	"	
1,1-Dichloroethane	ND	---	25.9	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	25.9	"	"	"	"	
1,1-Dichloroethene	ND	---	25.9	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	25.9	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	25.9	"	"	"	"	
1,2-Dichloropropane	ND	---	25.9	"	"	"	"	
1,3-Dichloropropane	ND	---	25.9	"	"	"	"	
2,2-Dichloropropane	ND	---	51.8	"	"	"	"	
1,1-Dichloropropene	ND	---	51.8	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107052**			**V-07**
cis-1,3-Dichloropropene	ND	---	25.9	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	51.8	"	"	"	"	
Ethylbenzene	ND	---	25.9	"	"	"	"	
2-Hexanone	ND	---	518	"	"	"	"	
Isopropylbenzene	ND	---	51.8	"	"	"	"	
4-Isopropyltoluene	ND	---	51.8	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	518	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	51.8	"	"	"	"	
Methylene chloride	ND	---	259	"	"	"	"	
Naphthalene	**385**	---	104	"	"	"	"	
n-Propylbenzene	ND	---	25.9	"	"	"	"	
Styrene	ND	---	51.8	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	25.9	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	25.9	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	25.9	"	"	"	"	
Toluene	ND	---	51.8	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	259	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	259	"	"	"	"	
1,1,1-Trichloroethane	ND	---	25.9	"	"	"	"	
1,1,2-Trichloroethane	ND	---	25.9	"	"	"	"	
Trichloroethene (TCE)	ND	---	25.9	"	"	"	"	
Trichlorofluoromethane	ND	---	104	"	"	"	"	
1,2,3-Trichloropropane	ND	---	51.8	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	51.8	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	51.8	"	"	"	"	
Vinyl chloride	ND	---	25.9	"	"	"	"	
m,p-Xylene	ND	---	51.8	"	"	"	"	
o-Xylene	ND	---	25.9	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 119 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*114 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*103 %*	*Limits: 70-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107052**			**V-08**
Acetone	ND	---	1220	ug/kg dry	50	07/06/11 21:46	5035/8260B	
Benzene	ND	---	15.3	"	"	"	"	
Bromobenzene	ND	---	30.6	"	"	"	"	
Bromochloromethane	ND	---	30.6	"	"	"	"	
Bromodichloromethane	ND	---	30.6	"	"	"	"	
Bromoform	ND	---	61.2	"	"	"	"	
Bromomethane	ND	---	612	"	"	"	"	
2-Butanone (MEK)	ND	---	612	"	"	"	"	
n-Butylbenzene	ND	---	61.2	"	"	"	"	
sec-Butylbenzene	ND	---	61.2	"	"	"	"	
tert-Butylbenzene	ND	---	61.2	"	"	"	"	
Carbon tetrachloride	ND	---	30.6	"	"	"	"	
Chlorobenzene	ND	---	30.6	"	"	"	"	
Chloroethane	ND	---	612	"	"	"	"	
Chloroform	ND	---	61.2	"	"	"	"	
Chloromethane	ND	---	306	"	"	"	"	
2-Chlorotoluene	ND	---	61.2	"	"	"	"	
4-Chlorotoluene	ND	---	61.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	306	"	"	"	"	
Dibromochloromethane	ND	---	122	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	30.6	"	"	"	"	
Dibromomethane	ND	---	61.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	30.6	"	"	"	"	
1,3-Dichlorobenzene	ND	---	30.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	30.6	"	"	"	"	
Dichlorodifluoromethane	ND	---	122	"	"	"	"	
1,1-Dichloroethane	ND	---	30.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	30.6	"	"	"	"	
1,1-Dichloroethene	ND	---	30.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	30.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	30.6	"	"	"	"	
1,2-Dichloropropane	ND	---	30.6	"	"	"	"	
1,3-Dichloropropane	ND	---	30.6	"	"	"	"	
2,2-Dichloropropane	ND	---	61.2	"	"	"	"	
1,1-Dichloropropene	ND	---	61.2	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107052**			**V-08**
cis-1,3-Dichloropropene	ND	---	30.6	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	61.2	"	"	"	"	
Ethylbenzene	ND	---	30.6	"	"	"	"	
2-Hexanone	ND	---	612	"	"	"	"	
Isopropylbenzene	ND	---	61.2	"	"	"	"	
4-Isopropyltoluene	ND	---	61.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	612	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	61.2	"	"	"	"	
Methylene chloride	ND	---	306	"	"	"	"	
Naphthalene	ND	---	122	"	"	"	"	
n-Propylbenzene	ND	---	30.6	"	"	"	"	
Styrene	ND	---	61.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	30.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	30.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	30.6	"	"	"	"	
Toluene	ND	---	61.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	306	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	306	"	"	"	"	
1,1,1-Trichloroethane	ND	---	30.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	30.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	30.6	"	"	"	"	
Trichlorofluoromethane	ND	---	122	"	"	"	"	
1,2,3-Trichloropropane	ND	---	61.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	61.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	61.2	"	"	"	"	
Vinyl chloride	ND	---	30.6	"	"	"	"	
m,p-Xylene	ND	---	61.2	"	"	"	"	
o-Xylene	ND	---	30.6	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 117 %*	*Limits: 70-130 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*113 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*104 %*	*Limits: 70-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P1-001 (A11G005-01)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	8.17	ug/kg dry	1	07/08/11 11:49	EPA 8082A	
Aroclor 1221	ND	---	8.17	"	"	"	"	
Aroclor 1232	ND	---	8.17	"	"	"	"	
Aroclor 1242	ND	---	8.17	"	"	"	"	
Aroclor 1248	ND	---	8.17	"	"	"	"	
Aroclor 1254	ND	---	8.17	"	"	"	"	
Aroclor 1260	ND	---	8.17	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 97 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*88 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P2-006 (A11G005-06)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	8.04	ug/kg dry	1	07/08/11 12:06	EPA 8082A	
Aroclor 1221	ND	---	8.04	"	"	"	"	
Aroclor 1232	ND	---	8.04	"	"	"	"	
Aroclor 1242	ND	---	8.04	"	"	"	"	
Aroclor 1248	ND	---	8.04	"	"	"	"	
Aroclor 1254	ND	---	8.04	"	"	"	"	
Aroclor 1260	ND	---	8.04	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 93 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*90 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P3-009 (A11G005-09)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	8.99	ug/kg dry	1	07/08/11 12:42	EPA 8082A	
Aroclor 1221	ND	---	8.99	"	"	"	"	
Aroclor 1232	ND	---	8.99	"	"	"	"	
Aroclor 1242	ND	---	8.99	"	"	"	"	
Aroclor 1248	ND	---	8.99	"	"	"	"	
Aroclor 1254	ND	---	8.99	"	"	"	"	
Aroclor 1260	ND	---	8.99	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 84 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*80 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	8.54	ug/kg dry	1	07/08/11 13:00	EPA 8082A	
Aroclor 1221	ND	---	8.54	"	"	"	"	
Aroclor 1232	ND	---	8.54	"	"	"	"	
Aroclor 1242	ND	---	8.54	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1248	ND	---	8.54	ug/kg dry	1	"	EPA 8082A	
Aroclor 1254	ND	---	8.54	"	"	"	"	
Aroclor 1260	**19.1**	---	8.54	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 88 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*86 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P9-015 (A11G005-15)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	9.03	ug/kg dry	1	07/08/11 13:18	EPA 8082A	
Aroclor 1221	ND	---	9.03	"	"	"	"	
Aroclor 1232	ND	---	9.03	"	"	"	"	
Aroclor 1242	ND	---	9.03	"	"	"	"	
Aroclor 1248	ND	---	9.03	"	"	"	"	
Aroclor 1254	ND	---	9.03	"	"	"	"	
Aroclor 1260	ND	---	9.03	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 90 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*78 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P6-018 (A11G005-18)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	9.48	ug/kg dry	1	07/08/11 13:36	EPA 8082A	
Aroclor 1221	ND	---	9.48	"	"	"	"	
Aroclor 1232	ND	---	9.48	"	"	"	"	
Aroclor 1242	ND	---	9.48	"	"	"	"	
Aroclor 1248	ND	---	9.48	"	"	"	"	
Aroclor 1254	ND	---	9.48	"	"	"	"	
Aroclor 1260	ND	---	9.48	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 61 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*51 %*	*Limits: 55-130 %*	"	"	"	*S-06*
8004-110630-P7-021 (A11G005-21)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	9.73	ug/kg dry	1	07/08/11 14:30	EPA 8082A	
Aroclor 1221	ND	---	9.73	"	"	"	"	
Aroclor 1232	ND	---	9.73	"	"	"	"	
Aroclor 1242	ND	---	9.73	"	"	"	"	
Aroclor 1248	ND	---	9.73	"	"	"	"	
Aroclor 1254	ND	---	9.73	"	"	"	"	
Aroclor 1260	ND	---	9.73	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 72 %*	*Limits: 50-125 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P7-021 (A11G005-21)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 80 %*	*Limits: 55-130 %*	1	"	EPA 8082A	
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107023**			**A-01a, C-07**
Aroclor 1016	ND	---	9.09	ug/kg dry	1	07/08/11 14:48	EPA 8082A	
Aroclor 1221	ND	---	9.09	"	"	"	"	
Aroclor 1232	ND	---	9.09	"	"	"	"	
Aroclor 1242	ND	---	9.09	"	"	"	"	
Aroclor 1248	ND	---	9.09	"	"	"	"	
Aroclor 1254	ND	---	9.09	"	"	"	"	
Aroclor 1260	ND	---	9.09	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 33 %*	*Limits: 50-125 %*	"	"	"	*S-06*
Decachlorobiphenyl (Surr)			*43 %*	*Limits: 55-130 %*	"	"	"	*S-06*
8004-110630-P10-027 (A11G005-27)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	9.68	ug/kg dry	1	07/08/11 15:05	EPA 8082A	
Aroclor 1221	ND	---	9.68	"	"	"	"	
Aroclor 1232	ND	---	9.68	"	"	"	"	
Aroclor 1242	ND	---	9.68	"	"	"	"	
Aroclor 1248	ND	---	9.68	"	"	"	"	
Aroclor 1254	ND	---	9.68	"	"	"	"	
Aroclor 1260	ND	---	9.68	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 58 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*68 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P5-030 (A11G005-30)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	9.15	ug/kg dry	1	07/08/11 15:23	EPA 8082A	
Aroclor 1221	ND	---	9.15	"	"	"	"	
Aroclor 1232	ND	---	9.15	"	"	"	"	
Aroclor 1242	ND	---	9.15	"	"	"	"	
Aroclor 1248	ND	---	9.15	"	"	"	"	
Aroclor 1254	ND	---	9.15	"	"	"	"	
Aroclor 1260	ND	---	9.15	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 49 %*	*Limits: 50-125 %*	"	"	"	*S-06*
Decachlorobiphenyl (Surr)			*58 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P12-033 (A11G005-33)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	8.61	ug/kg dry	1	07/08/11 15:40	EPA 8082A	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P12-033 (A11G005-33)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1221	ND	---	8.61	ug/kg dry	1	"	EPA 8082A	
Aroclor 1232	ND	---	8.61	"	"	"	"	
Aroclor 1242	ND	---	8.61	"	"	"	"	
Aroclor 1248	ND	---	8.61	"	"	"	"	
Aroclor 1254	ND	---	8.61	"	"	"	"	
Aroclor 1260	ND	---	8.61	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 77 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*90 %*	*Limits: 55-130 %*	"	"	"	
8004-110630-P11-036 (A11G005-36)			**Matrix: Soil**		**Batch: 1107023**			**C-07**
Aroclor 1016	ND	---	9.17	ug/kg dry	1	07/08/11 15:58	EPA 8082A	
Aroclor 1221	ND	---	9.17	"	"	"	"	
Aroclor 1232	ND	---	9.17	"	"	"	"	
Aroclor 1242	ND	---	9.17	"	"	"	"	
Aroclor 1248	ND	---	9.17	"	"	"	"	
Aroclor 1254	ND	---	9.17	"	"	"	"	
Aroclor 1260	ND	---	9.17	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 63 %*	*Limits: 50-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*76 %*	*Limits: 55-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P2-006 (A11G005-06)			**Matrix: Soil**		**Batch: 1107067**			
Acenaphthene	ND	---	16.4	ug/kg dry	2	07/07/11 13:42	EPA 8270D (SIM)	
Acenaphthylene	ND	---	16.4	"	"	"	"	
Anthracene	ND	---	16.4	"	"	"	"	
Benz(a)anthracene	**18.9**	---	16.4	"	"	"	"	
Benzo(a)pyrene	ND	---	16.4	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	32.7	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**33.2**	---	16.4	"	"	"	"	Q-29
Chrysene	**40.7**	---	16.4	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	16.4	"	"	"	"	
Fluoranthene	**29.0**	---	16.4	"	"	"	"	
Fluorene	ND	---	16.4	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**18.2**	---	16.4	"	"	"	"	
Naphthalene	**35.8**	---	16.4	"	"	"	"	
Phenanthrene	**33.0**	---	16.4	"	"	"	"	
Pyrene	**39.6**	---	16.4	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 54 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*74 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*88 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P4-012 (A11G005-12RE1)			**Matrix: Soil**		**Batch: 1107067**			
Acenaphthene	**187**	---	176	ug/kg dry	20	07/08/11 13:54	EPA 8270D (SIM)	
Acenaphthylene	ND	---	176	"	"	"	"	
Anthracene	ND	---	176	"	"	"	"	
Benz(a)anthracene	**294**	---	176	"	"	"	"	
Benzo(a)pyrene	**380**	---	176	"	"	"	"	
Benzo(b+k)fluoranthene(s)	**614**	---	353	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**477**	---	176	"	"	"	"	
Chrysene	**598**	---	176	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	176	"	"	"	"	
Fluoranthene	**729**	---	176	"	"	"	"	
Fluorene	ND	---	176	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**376**	---	176	"	"	"	"	
Naphthalene	**361**	---	176	"	"	"	"	
Phenanthrene	**687**	---	176	"	"	"	"	
Pyrene	**862**	---	176	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 79 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*91 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*93 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P4-013 (A11G005-13)			**Matrix: Soil**		**Batch: 1107175**			
Acenaphthene	ND	---	10.4	ug/kg dry	1	07/16/11 20:19	EPA 8270D (SIM)	
Acenaphthylene	ND	---	10.4	"	"	"	"	
Anthracene	ND	---	10.4	"	"	"	"	
Benz(a)anthracene	ND	---	10.4	"	"	"	"	
Benzo(a)pyrene	ND	---	10.4	"	"	"	"	
Benzo(b)fluoranthene	ND	---	10.4	"	"	"	"	
Benzo(k)fluoranthene	ND	---	10.4	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	10.4	"	"	"	"	
Chrysene	ND	---	10.4	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	10.4	"	"	"	"	
Fluoranthene	ND	---	10.4	"	"	"	"	
Fluorene	ND	---	10.4	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	10.4	"	"	"	"	
Naphthalene	ND	---	10.4	"	"	"	"	
Phenanthrene	ND	---	10.4	"	"	"	"	
Pyrene	ND	---	10.4	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 64 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*68 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*87 %*	*Limits: 30-120 %*	"	"	"	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107067**			
Acenaphthene	ND	---	385	ug/kg dry	20	07/07/11 15:05	EPA 8270D (SIM)	
Acenaphthylene	ND	---	385	"	"	"	"	
Anthracene	ND	---	385	"	"	"	"	
Benz(a)anthracene	ND	---	385	"	"	"	"	
Benzo(a)pyrene	ND	---	385	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	770	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	385	"	"	"	"	
Chrysene	ND	---	385	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	385	"	"	"	"	
Fluoranthene	**385**	---	385	"	"	"	"	
Fluorene	ND	---	385	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	385	"	"	"	"	
Naphthalene	ND	---	385	"	"	"	"	
Phenanthrene	ND	---	385	"	"	"	"	
Pyrene	**465**	---	385	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 62 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*78 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*87 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P1-001 (A11G005-01)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.13	mg/kg dry	10	07/07/11 12:20	EPA 6020	
Arsenic	ND	---	2.27	"	"	"	"	
Beryllium	ND	---	1.13	"	"	"	"	
Cadmium	ND	---	1.13	"	"	"	"	
Chromium	**9.59**	---	2.27	"	"	"	"	
Copper	**35.0**	---	4.53	"	"	"	"	
Lead	**6.11**	---	1.13	"	"	"	"	
Mercury	ND	---	0.0906	"	"	"	"	
Nickel	**23.3**	---	2.27	"	"	"	"	
Selenium	ND	---	2.27	"	"	"	"	
Silver	ND	---	1.13	"	"	"	"	
Thallium	ND	---	1.13	"	"	"	"	
Zinc	**33.1**	---	4.53	"	"	"	"	
8004-110630-P2-006 (A11G005-06)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	**1.07**	---	1.00	mg/kg dry	10	07/07/11 12:23	EPA 6020	
Arsenic	ND	---	2.01	"	"	"	"	
Beryllium	ND	---	1.00	"	"	"	"	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	**7.79**	---	2.01	"	"	"	"	
Copper	**32.8**	---	4.02	"	"	"	"	
Lead	**127**	---	1.00	"	"	"	"	
Mercury	**0.144**	---	0.0804	"	"	"	"	
Nickel	**11.8**	---	2.01	"	"	"	"	
Selenium	ND	---	2.01	"	"	"	"	
Silver	ND	---	1.00	"	"	"	"	
Thallium	ND	---	1.00	"	"	"	"	
Zinc	**86.5**	---	4.02	"	"	"	"	
8004-110630-P2-007 (A11G005-07)			**Matrix: Soil**		**Batch: 1107181**			
Lead	**4.16**	---	1.10	mg/kg dry	10	07/14/11 12:08	EPA 6020	
8004-110630-P3-009 (A11G005-09)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.20	mg/kg dry	10	07/07/11 12:26	EPA 6020	
Arsenic	**5.06**	---	2.41	"	"	"	"	
Beryllium	ND	---	1.20	"	"	"	"	
Cadmium	ND	---	1.20	"	"	"	"	
Chromium	**15.3**	---	2.41	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P3-009 (A11G005-09)			**Matrix: Soil**		**Batch: 1107066**			
Copper	**60.9**	---	4.82	mg/kg dry	10	"	EPA 6020	
Lead	**138**	---	1.20	"	"	"	"	
Mercury	**0.213**	---	0.0963	"	"	"	"	
Nickel	**28.9**	---	2.41	"	"	"	"	
Selenium	ND	---	2.41	"	"	"	"	
Silver	ND	---	1.20	"	"	"	"	
Thallium	ND	---	1.20	"	"	"	"	
Zinc	**138**	---	4.82	"	"	"	"	
8004-110630-P3-010 (A11G005-10)			**Matrix: Soil**		**Batch: 1107181**			
Lead	**3.60**	---	1.11	mg/kg dry	10	07/14/11 12:11	EPA 6020	
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	**1.23**	---	1.14	mg/kg dry	10	07/07/11 12:28	EPA 6020	
Arsenic	**4.04**	---	2.27	"	"	"	"	
Beryllium	ND	---	1.14	"	"	"	"	
Cadmium	ND	---	1.14	"	"	"	"	
Chromium	**12.0**	---	2.27	"	"	"	"	
Copper	**104**	---	4.54	"	"	"	"	
Lead	**127**	---	1.14	"	"	"	"	
Mercury	**0.388**	---	0.0908	"	"	"	"	
Nickel	**20.0**	---	2.27	"	"	"	"	
Selenium	ND	---	2.27	"	"	"	"	
Silver	ND	---	1.14	"	"	"	"	
Thallium	ND	---	1.14	"	"	"	"	
Zinc	**196**	---	4.54	"	"	"	"	
8004-110630-P4-013 (A11G005-13)			**Matrix: Soil**		**Batch: 1107181**			
Lead	**12.7**	---	1.32	mg/kg dry	10	07/14/11 12:15	EPA 6020	
8004-110630-P9-015 (A11G005-15)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.25	mg/kg dry	10	07/07/11 12:55	EPA 6020	
Arsenic	**2.61**	---	2.51	"	"	"	"	
Beryllium	ND	---	1.25	"	"	"	"	
Cadmium	ND	---	1.25	"	"	"	"	
Chromium	**21.4**	---	2.51	"	"	"	"	
Copper	**40.2**	---	5.01	"	"	"	"	
Lead	**10.9**	---	1.25	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P9-015 (A11G005-15)			**Matrix: Soil**		**Batch: 1107066**			
Mercury	ND	---	0.100	mg/kg dry	10	"	EPA 6020	
Nickel	**22.7**	---	2.51	"	"	"	"	
Selenium	ND	---	2.51	"	"	"	"	
Silver	ND	---	1.25	"	"	"	"	
Thallium	ND	---	1.25	"	"	"	"	
Zinc	**69.7**	---	5.01	"	"	"	"	
8004-110630-P6-018 (A11G005-18)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.38	mg/kg dry	10	07/07/11 12:58	EPA 6020	
Arsenic	ND	---	2.77	"	"	"	"	
Beryllium	ND	---	1.38	"	"	"	"	
Cadmium	ND	---	1.38	"	"	"	"	
Chromium	**19.4**	---	2.77	"	"	"	"	
Copper	**29.1**	---	5.54	"	"	"	"	
Lead	**5.81**	---	1.38	"	"	"	"	
Mercury	ND	---	0.111	"	"	"	"	
Nickel	**18.9**	---	2.77	"	"	"	"	
Selenium	ND	---	2.77	"	"	"	"	
Silver	ND	---	1.38	"	"	"	"	
Thallium	ND	---	1.38	"	"	"	"	
Zinc	**59.7**	---	5.54	"	"	"	"	
8004-110630-P7-021 (A11G005-21)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.39	mg/kg dry	10	07/07/11 13:01	EPA 6020	
Arsenic	**3.69**	---	2.78	"	"	"	"	
Beryllium	ND	---	1.39	"	"	"	"	
Cadmium	ND	---	1.39	"	"	"	"	
Chromium	**13.5**	---	2.78	"	"	"	"	
Copper	**24.0**	---	5.57	"	"	"	"	
Lead	**20.2**	---	1.39	"	"	"	"	
Mercury	ND	---	0.111	"	"	"	"	
Nickel	**15.0**	---	2.78	"	"	"	"	
Selenium	ND	---	2.78	"	"	"	"	
Silver	**6.82**	---	1.39	"	"	"	"	
Thallium	ND	---	1.39	"	"	"	"	
Zinc	**57.2**	---	5.57	"	"	"	"	
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107066**			

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.30	mg/kg dry	10	07/07/11 13:04	EPA 6020	
Arsenic	**5.12**	---	2.60	"	"	"	"	
Beryllium	ND	---	1.30	"	"	"	"	
Cadmium	ND	---	1.30	"	"	"	"	
Chromium	**14.5**	---	2.60	"	"	"	"	
Copper	**23.6**	---	5.21	"	"	"	"	
Lead	**25.0**	---	1.30	"	"	"	"	
Mercury	ND	---	0.104	"	"	"	"	
Nickel	**16.4**	---	2.60	"	"	"	"	
Selenium	ND	---	2.60	"	"	"	"	
Silver	ND	---	1.30	"	"	"	"	
Thallium	ND	---	1.30	"	"	"	"	
Zinc	**71.2**	---	5.21	"	"	"	"	
8004-110630-P10-027 (A11G005-27)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.34	mg/kg dry	10	07/07/11 13:07	EPA 6020	
Arsenic	**2.78**	---	2.68	"	"	"	"	
Beryllium	ND	---	1.34	"	"	"	"	
Cadmium	ND	---	1.34	"	"	"	"	
Chromium	**21.6**	---	2.68	"	"	"	"	
Copper	**28.1**	---	5.36	"	"	"	"	
Lead	**240**	---	1.34	"	"	"	"	
Mercury	**0.536**	---	0.107	"	"	"	"	
Nickel	**17.9**	---	2.68	"	"	"	"	
Selenium	ND	---	2.68	"	"	"	"	
Silver	ND	---	1.34	"	"	"	"	
Thallium	ND	---	1.34	"	"	"	"	
Zinc	**79.3**	---	5.36	"	"	"	"	
8004-110630-P10-028 (A11G005-28)			**Matrix: Soil**		**Batch: 1107181**			
Lead	**4.26**	---	1.35	mg/kg dry	10	07/14/11 12:18	EPA 6020	
8004-110630-P5-030 (A11G005-30)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.26	mg/kg dry	10	07/07/11 13:10	EPA 6020	
Arsenic	**6.81**	---	2.53	"	"	"	"	
Beryllium	ND	---	1.26	"	"	"	"	
Cadmium	ND	---	1.26	"	"	"	"	
Chromium	**19.5**	---	2.53	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P5-030 (A11G005-30)			**Matrix: Soil**		**Batch: 1107066**			
Copper	**21.9**	---	5.05	mg/kg dry	10	"	EPA 6020	
Lead	**34.4**	---	1.26	"	"	"	"	
Mercury	ND	---	0.101	"	"	"	"	
Nickel	**14.0**	---	2.53	"	"	"	"	
Selenium	ND	---	2.53	"	"	"	"	
Silver	ND	---	1.26	"	"	"	"	
Thallium	ND	---	1.26	"	"	"	"	
Zinc	**122**	---	5.05	"	"	"	"	
8004-110630-P5-031 (A11G005-31)			**Matrix: Soil**		**Batch: 1107181**			
Lead	**160**	---	1.34	mg/kg dry	10	07/14/11 12:26	EPA 6020	
8004-110630-P5-032 (A11G005-32)			**Matrix: Soil**		**Batch: 1107316**			
Lead	**5.05**	---	1.46	mg/kg dry	10	07/22/11 16:46	EPA 6020	
8004-110630-P12-033 (A11G005-33)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.24	mg/kg dry	10	07/07/11 13:27	EPA 6020	
Arsenic	ND	---	2.49	"	"	"	"	
Beryllium	ND	---	1.24	"	"	"	"	
Cadmium	ND	---	1.24	"	"	"	"	
Chromium	**8.69**	---	2.49	"	"	"	"	
Copper	**16.6**	---	4.97	"	"	"	"	
Lead	**4.37**	---	1.24	"	"	"	"	
Mercury	ND	---	0.0994	"	"	07/11/11 14:53	"	
Nickel	**12.1**	---	2.49	"	"	07/07/11 13:27	"	
Selenium	ND	---	2.49	"	"	"	"	
Silver	ND	---	1.24	"	"	"	"	
Thallium	ND	---	1.24	"	"	"	"	
Zinc	**35.3**	---	4.97	"	"	"	"	
8004-110630-P11-036 (A11G005-36)			**Matrix: Soil**		**Batch: 1107066**			
Antimony	ND	---	1.28	mg/kg dry	10	07/07/11 13:30	EPA 6020	
Arsenic	**5.02**	---	2.56	"	"	"	"	
Beryllium	ND	---	1.28	"	"	"	"	
Cadmium	ND	---	1.28	"	"	"	"	
Chromium	**13.4**	---	2.56	"	"	"	"	
Copper	**46.9**	---	5.13	"	"	"	"	
Lead	**30.0**	---	1.28	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P11-036 (A11G005-36)			**Matrix: Soil**		**Batch: 1107066**			
Mercury	ND	---	0.103	mg/kg dry	10	07/11/11 14:56	EPA 6020	
Nickel	**13.3**	---	2.56	"	"	07/07/11 13:30	"	
Selenium	ND	---	2.56	"	"	"	"	
Silver	ND	---	1.28	"	"	"	"	
Thallium	ND	---	1.28	"	"	"	"	
Zinc	**60.3**	---	5.13	"	"	"	"	
8004-110630-P11-037 (A11G005-37)			**Matrix: Soil**		**Batch: 1107181**			
Lead	**13.2**	---	1.46	mg/kg dry	10	07/14/11 12:29	EPA 6020	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P2-006 (A11G005-06)			**Matrix: Soil**		**Batch: 1107254**			
Lead	**0.162**	---	0.0500	mg/L	5	07/19/11 16:45	EPA 1311/6020	
8004-110630-P3-009 (A11G005-09)			**Matrix: Soil**		**Batch: 1107254**			
Lead	ND	---	0.0500	mg/L	5	07/19/11 16:51	EPA 1311/6020	
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107254**			
Lead	ND	---	0.0500	mg/L	5	07/19/11 16:54	EPA 1311/6020	
8004-110630-P10-027 (A11G005-27)			**Matrix: Soil**		**Batch: 1107254**			
Lead	ND	---	0.0500	mg/L	5	07/19/11 16:57	EPA 1311/6020	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P1-001 (A11G005-01)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**90.8**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P2-006 (A11G005-06)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**92.7**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P2-007 (A11G005-07)			**Matrix: Soil**		**Batch: 1107029**			
% Solids	**88.5**	---	1.00	% by Weight	1	07/06/11 10:13	Apex SOP	
8004-110630-P3-009 (A11G005-09)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**82.9**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P3-010 (A11G005-10)			**Matrix: Soil**		**Batch: 1107161**			
% Solids	**88.9**	---	1.00	% by Weight	1	07/14/11 10:21	Apex SOP	
8004-110630-P4-012 (A11G005-12)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**86.7**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P4-013 (A11G005-13)			**Matrix: Soil**		**Batch: 1107029**			
% Solids	**76.8**	---	1.00	% by Weight	1	07/06/11 10:13	Apex SOP	
8004-110630-P9-015 (A11G005-15)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**80.3**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P6-018 (A11G005-18)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**75.9**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P7-021 (A11G005-21)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**78.6**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P8-024 (A11G005-24)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**79.7**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P8-025 (A11G005-25)			**Matrix: Soil**		**Batch: 1107029**			
% Solids	**73.5**	---	1.00	% by Weight	1	07/06/11 10:13	Apex SOP	
8004-110630-P10-027 (A11G005-27)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**77.7**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P10-028 (A11G005-28)			**Matrix: Soil**		**Batch: 1107161**			
% Solids	**73.0**	---	1.00	% by Weight	1	07/14/11 10:21	Apex SOP	
8004-110630-P5-030 (A11G005-30)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**75.7**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P5-031 (A11G005-31)			**Matrix: Soil**		**Batch: 1107161**			
% Solids	**72.1**	---	1.00	% by Weight	1	07/14/11 10:21	Apex SOP	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110630-P5-032 (A11G005-32)			**Matrix: Soil**		**Batch: 1107319**			
% Solids	**77.1**	---	1.00	% by Weight	1	07/23/11 12:10	Apex SOP	
8004-110630-P12-033 (A11G005-33)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**86.9**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P11-036 (A11G005-36)			**Matrix: Soil**		**Batch: 1107015**			
% Solids	**81.1**	---	1.00	% by Weight	1	07/05/11 10:04	Apex SOP	
8004-110630-P11-037 (A11G005-37)			**Matrix: Soil**		**Batch: 1107161**			
% Solids	**75.6**	---	1.00	% by Weight	1	07/14/11 10:21	Apex SOP	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107014 - EPA 3546 (Fuels)							**Soil**					
Blank (1107014-BLK1)					Prepared: 07/01/11 12:54		Analyzed: 07/01/11 18:37					
NWTPH-Dx												
Diesel Range Organics	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (1107014-BS1)					Prepared: 07/01/11 12:54		Analyzed: 07/01/11 19:02					
NWTPH-Dx												
Diesel Range Organics	118	---	25.0	mg/kg wet	1	125	---	94	70-130%	---	---	
Oil Range Organics	115	---	50.0	"	"	"	---	92	"	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (1107014-DUP1)					Prepared: 07/01/11 12:54		Analyzed: 07/01/11 20:41					
QC Source Sample: 8004-110630-P1-001 (A11G005-01)												
NWTPH-Dx												
Diesel Range Organics	ND	---	30.7	mg/kg dry	2	---	ND	---	---	---	30%	
Oil Range Organics	**248**	---	61.4	"	"	---	244	---	---	2	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*			*Dilution: 2x*					
Duplicate (1107014-DUP2)					Prepared: 07/01/11 12:54		Analyzed: 07/02/11 02:08					
QC Source Sample: 8004-110630-P11-036 (A11G005-36)												
NWTPH-Dx												
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	50.0	"	"	---	22.8	---	---	***	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Batch 1107035 - EPA 3546 (Fuels)							**Soil**					
Blank (1107035-BLK1)					Prepared: 07/05/11 15:59		Analyzed: 07/06/11 03:24					
NWTPH-Dx												
Diesel Range Organics	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 84 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (1107035-BS1)					Prepared: 07/05/11 15:59		Analyzed: 07/06/11 03:46					
NWTPH-Dx												
Diesel Range Organics	133	---	25.0	mg/kg wet	1	125	---	106	70-130%	---	---	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107035 - EPA 3546 (Fuels)							**Soil**					
LCS (1107035-BS1)					Prepared: 07/05/11 15:59		Analyzed: 07/06/11 03:46					
Oil Range Organics	129	---	50.0	mg/kg wet	"	"	---	104	"	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 88 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (1107035-DUP2)					Prepared: 07/05/11 17:56		Analyzed: 07/06/11 10:36					
QC Source Sample: 8004-110630-P8-025 (A11G005-25)												
NWTPH-Dx												
Diesel Range Organics	ND	---	26.9	mg/kg dry	1	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	53.7	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
Blank (1107052-BLK1)					Prepared: 07/06/11 13:25		Analyzed: 07/06/11 17:57					
NWTPH-Gx												
Gasoline Range Organics	ND	---	5.00	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 123 %*	*Limits: 50-150 %*			*Dilution: 50x*					
1,4-Difluorobenzene (Sur)			*108 %*	*50-150 %*			*"*					
LCS (1107052-BS2)					Prepared: 07/06/11 13:25		Analyzed: 07/06/11 17:32					
NWTPH-Gx												
Gasoline Range Organics	27.2	---	5.00	mg/kg wet	50	25.0	---	109	70-130%	---	---	Q-23
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 113 %*	*Limits: 50-150 %*			*Dilution: 50x*					
1,4-Difluorobenzene (Sur)			*118 %*	*50-150 %*			*"*					

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
Blank (1107072-BLK1)					Prepared: 07/07/11 09:00		Analyzed: 07/07/11 12:21					
NWTPH-Gx												
Gasoline Range Organics	ND	---	5.00	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 126 %*	*Limits: 50-150 %*			*Dilution: 50x*					
1,4-Difluorobenzene (Sur)			*113 %*	*50-150 %*			*"*					
LCS (1107072-BS2)					Prepared: 07/07/11 09:00		Analyzed: 07/07/11 11:56					
NWTPH-Gx												
Gasoline Range Organics	27.6	---	5.00	mg/kg wet	50	25.0	---	110	70-130%	---	---	Q-23
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 117 %*	*Limits: 50-150 %*			*Dilution: 50x*					
1,4-Difluorobenzene (Sur)			*121 %*	*50-150 %*			*"*					

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
Blank (1107052-BLK1)					Prepared: 07/06/11 13:25 Analyzed: 07/06/11 17:57							
5035/8260B												
Acetone	ND	---	1000	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	12.5	"	"	---	---	---	---	---	---	B-02
Bromobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromoform	ND	---	50.0	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	500	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	500	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	25.0	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	500	"	"	---	---	---	---	---	---	
Chloroform	ND	---	50.0	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	250	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	50.0	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	250	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	100	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	25.0	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	100	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	25.0	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	50.0	"	"	---	---	---	---	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
Blank (1107052-BLK1)					Prepared: 07/06/11 13:25 Analyzed: 07/06/11 17:57							
1,1-Dichloropropene	ND	---	50.0	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	25.0	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	50.0	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	500	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	50.0	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	500	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	50.0	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	250	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	100	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Styrene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toluene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	250	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	250	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	25.0	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	100	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	25.0	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	50.0	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	25.0	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 113 %*	*Limits: 70-130 %*	*Dilution: 50x*
1,4-Difluorobenzene (Surr)	*110 %*	*70-130 %*	*"*
Toluene-d8 (Surr)	*98 %*	*70-130 %*	*"*
4-Bromofluorobenzene (Surr)	*104 %*	*70-130 %*	*"*

LCS (1107052-BS1) Prepared: 07/06/11 13:25 Analyzed: 07/06/11 17:07

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
LCS (1107052-BS1)					Prepared: 07/06/11 13:25 Analyzed: 07/06/11 17:07							
5035/8260B												
Acetone	1300	---	1000	ug/kg wet	50	2000	---	65	65-135%	---	---	
Benzene	1290	---	12.5	"	"	1000	---	129	"	---	---	
Bromobenzene	1260	---	25.0	"	"	"	---	126	"	---	---	
Bromochloromethane	1220	---	25.0	"	"	"	---	122	"	---	---	
Bromodichloromethane	1360	---	25.0	"	"	"	---	136	"	---	---	Q-29
Bromoform	1360	---	50.0	"	"	"	---	136	"	---	---	Q-29
Bromomethane	1350	---	500	"	"	"	---	135	"	---	---	
2-Butanone (MEK)	1700	---	500	"	"	2000	---	85	"	---	---	
n-Butylbenzene	1210	---	50.0	"	"	1000	---	121	"	---	---	
sec-Butylbenzene	1210	---	50.0	"	"	"	---	121	"	---	---	
tert-Butylbenzene	1180	---	50.0	"	"	"	---	118	"	---	---	
Carbon tetrachloride	1370	---	25.0	"	"	"	---	137	"	---	---	Q-29
Chlorobenzene	1180	---	25.0	"	"	"	---	118	"	---	---	
Chloroethane	1020	---	500	"	"	"	---	102	"	---	---	
Chloroform	1270	---	50.0	"	"	"	---	127	"	---	---	
Chloromethane	1180	---	250	"	"	"	---	118	"	---	---	
2-Chlorotoluene	1240	---	50.0	"	"	"	---	124	"	---	---	
4-Chlorotoluene	1230	---	50.0	"	"	"	---	123	"	---	---	
1,2-Dibromo-3-chloropropane	1310	---	250	"	"	"	---	131	"	---	---	
Dibromochloromethane	1260	---	100	"	"	"	---	126	"	---	---	
1,2-Dibromoethane (EDB)	1260	---	25.0	"	"	"	---	126	"	---	---	
Dibromomethane	1380	---	50.0	"	"	"	---	138	"	---	---	Q-29
1,2-Dichlorobenzene	1250	---	25.0	"	"	"	---	125	"	---	---	
1,3-Dichlorobenzene	1230	---	25.0	"	"	"	---	123	"	---	---	
1,4-Dichlorobenzene	1170	---	25.0	"	"	"	---	117	"	---	---	
Dichlorodifluoromethane	978	---	100	"	"	"	---	98	"	---	---	
1,1-Dichloroethane	1180	---	25.0	"	"	"	---	118	"	---	---	
1,2-Dichloroethane (EDC)	1200	---	25.0	"	"	"	---	120	"	---	---	
1,1-Dichloroethene	938	---	25.0	"	"	"	---	94	"	---	---	
cis-1,2-Dichloroethene	1210	---	25.0	"	"	"	---	121	"	---	---	
trans-1,2-Dichloroethene	1150	---	25.0	"	"	"	---	115	"	---	---	
1,2-Dichloropropane	1280	---	25.0	"	"	"	---	128	"	---	---	
1,3-Dichloropropane	1160	---	25.0	"	"	"	---	116	"	---	---	
2,2-Dichloropropane	1300	---	50.0	"	"	"	---	130	"	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
LCS (1107052-BS1)					Prepared: 07/06/11 13:25 Analyzed: 07/06/11 17:07							
1,1-Dichloropropene	1250	---	50.0	ug/kg wet	"	"	---	125	"	---	---	
cis-1,3-Dichloropropene	1160	---	25.0	"	"	"	---	116	"	---	---	
trans-1,3-Dichloropropene	1200	---	50.0	"	"	"	---	120	"	---	---	
Ethylbenzene	1200	---	25.0	"	"	"	---	120	"	---	---	
2-Hexanone	1840	---	500	"	"	2000	---	92	"	---	---	
Isopropylbenzene	1180	---	50.0	"	"	1000	---	118	"	---	---	
4-Isopropyltoluene	1190	---	50.0	"	"	"	---	119	"	---	---	
4-Methyl-2-pentanone (MiBK)	2230	---	500	"	"	2000	---	112	"	---	---	
Methyl tert-butyl ether (MTBE)	1050	---	50.0	"	"	1000	---	105	"	---	---	
Methylene chloride	1220	---	250	"	"	"	---	122	"	---	---	
Naphthalene	1280	---	100	"	"	"	---	128	"	---	---	
n-Propylbenzene	1170	---	25.0	"	"	"	---	117	"	---	---	
Styrene	1230	---	50.0	"	"	"	---	123	"	---	---	
1,1,1,2-Tetrachloroethane	1330	---	25.0	"	"	"	---	133	"	---	---	
1,1,2,2-Tetrachloroethane	1280	---	25.0	"	"	"	---	128	"	---	---	
Tetrachloroethene (PCE)	1290	---	25.0	"	"	"	---	129	"	---	---	
Toluene	1130	---	50.0	"	"	"	---	113	"	---	---	
1,2,3-Trichlorobenzene	1420	---	250	"	"	"	---	142	"	---	---	EST
1,2,4-Trichlorobenzene	1380	---	250	"	"	"	---	138	"	---	---	Q-29
1,1,1-Trichloroethane	1260	---	25.0	"	"	"	---	126	"	---	---	
1,1,2-Trichloroethane	1220	---	25.0	"	"	"	---	122	"	---	---	
Trichloroethene (TCE)	1340	---	25.0	"	"	"	---	134	"	---	---	
Trichlorofluoromethane	1120	---	100	"	"	"	---	112	"	---	---	
1,2,3-Trichloropropane	1220	---	50.0	"	"	"	---	122	"	---	---	
1,2,4-Trimethylbenzene	1240	---	50.0	"	"	"	---	124	"	---	---	
1,3,5-Trimethylbenzene	1210	---	50.0	"	"	"	---	121	"	---	---	
Vinyl chloride	1190	---	25.0	"	"	"	---	119	"	---	---	
m,p-Xylene	2440	---	50.0	"	"	2000	---	122	"	---	---	
o-Xylene	1180	---	25.0	"	"	1000	---	118	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 110 %*	*Limits: 70-130 %*	*Dilution: 50x*
1,4-Difluorobenzene (Surr)	*108 %*	*70-130 %*	*"*
Toluene-d8 (Surr)	*96 %*	*70-130 %*	*"*
4-Bromofluorobenzene (Surr)	*102 %*	*70-130 %*	*"*

Matrix Spike (1107052-MS1) Prepared: 07/06/11 13:25 Analyzed: 07/06/11 23:00 **T-02**

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
Matrix Spike (1107052-MS1)					Prepared: 07/06/11 13:25	Analyzed: 07/06/11 23:00						**T-02**
QC Source Sample: 8004-110630-P2-006 (A11G005-06)												
5035/8260B												
Acetone	2160	---	1120	ug/kg dry	50	2230	ND	97	65-135%	---	---	
Benzene	1320	---	13.9	"	"	1120	ND	119	"	---	---	
Bromobenzene	1270	---	27.9	"	"	"	ND	114	"	---	---	
Bromochloromethane	1290	---	27.9	"	"	"	ND	116	"	---	---	
Bromodichloromethane	1430	---	27.9	"	"	"	ND	128	"	---	---	Q-29
Bromoform	1370	---	55.8	"	"	"	ND	123	"	---	---	Q-29
Bromomethane	1520	---	558	"	"	"	ND	136	"	---	---	Q-01
2-Butanone (MEK)	2170	---	558	"	"	2230	ND	97	"	---	---	
n-Butylbenzene	1300	---	55.8	"	"	1120	ND	116	"	---	---	
sec-Butylbenzene	1290	---	55.8	"	"	"	ND	116	"	---	---	
tert-Butylbenzene	1270	---	55.8	"	"	"	ND	113	"	---	---	
Carbon tetrachloride	1480	---	27.9	"	"	"	ND	133	"	---	---	Q-29
Chlorobenzene	1210	---	27.9	"	"	"	ND	108	"	---	---	
Chloroethane	1250	---	558	"	"	"	ND	112	"	---	---	
Chloroform	1350	---	55.8	"	"	"	ND	121	"	---	---	
Chloromethane	1200	---	279	"	"	"	ND	107	"	---	---	
2-Chlorotoluene	1280	---	55.8	"	"	"	ND	115	"	---	---	
4-Chlorotoluene	1290	---	55.8	"	"	"	ND	115	"	---	---	
1,2-Dibromo-3-chloropropane	1320	---	279	"	"	"	ND	118	"	---	---	
Dibromochloromethane	1260	---	112	"	"	"	ND	113	"	---	---	
1,2-Dibromoethane (EDB)	1280	---	27.9	"	"	"	ND	115	"	---	---	
Dibromomethane	1420	---	55.8	"	"	"	ND	127	"	---	---	Q-29
1,2-Dichlorobenzene	1290	---	27.9	"	"	"	ND	116	"	---	---	
1,3-Dichlorobenzene	1280	---	27.9	"	"	"	ND	115	"	---	---	
1,4-Dichlorobenzene	1210	---	27.9	"	"	"	ND	108	"	---	---	
Dichlorodifluoromethane	1080	---	112	"	"	"	ND	97	"	---	---	
1,1-Dichloroethane	1250	---	27.9	"	"	"	ND	112	"	---	---	
1,2-Dichloroethane (EDC)	1280	---	27.9	"	"	"	ND	115	"	---	---	
1,1-Dichloroethene	1070	---	27.9	"	"	"	ND	96	"	---	---	
cis-1,2-Dichloroethene	1260	---	27.9	"	"	"	ND	113	"	---	---	
trans-1,2-Dichloroethene	1220	---	27.9	"	"	"	ND	110	"	---	---	
1,2-Dichloropropane	1330	---	27.9	"	"	"	ND	119	"	---	---	
1,3-Dichloropropane	1190	---	27.9	"	"	"	ND	107	"	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
Matrix Spike (1107052-MS1)					Prepared: 07/06/11 13:25	Analyzed: 07/06/11 23:00						**T-02**
QC Source Sample: 8004-110630-P2-006 (A11G005-06)												
2,2-Dichloropropane	1210	---	55.8	ug/kg dry	"	"	ND	108	"	---	---	
1,1-Dichloropropene	1330	---	55.8	"	"	"	ND	119	"	---	---	
cis-1,3-Dichloropropene	1160	---	27.9	"	"	"	ND	104	"	---	---	
trans-1,3-Dichloropropene	1230	---	55.8	"	"	"	ND	111	"	---	---	
Ethylbenzene	1230	---	27.9	"	"	"	ND	111	"	---	---	
2-Hexanone	2140	---	558	"	"	2230	ND	96	"	---	---	
Isopropylbenzene	1240	---	55.8	"	"	1120	ND	111	"	---	---	
4-Isopropyltoluene	1250	---	55.8	"	"	"	ND	112	"	---	---	
4-Methyl-2-pentanone (MiBK)	2200	---	558	"	"	2230	ND	98	"	---	---	
Methyl tert-butyl ether (MTBE)	1140	---	55.8	"	"	1120	ND	103	"	---	---	
Methylene chloride	1230	---	279	"	"	"	ND	111	"	---	---	
Naphthalene	1340	---	112	"	"	"	ND	120	"	---	---	
n-Propylbenzene	1230	---	27.9	"	"	"	ND	110	"	---	---	
Styrene	1250	---	55.8	"	"	"	ND	112	"	---	---	
1,1,1,2-Tetrachloroethane	1370	---	27.9	"	"	"	ND	123	"	---	---	
1,1,2,2-Tetrachloroethane	1260	---	27.9	"	"	"	ND	113	"	---	---	
Tetrachloroethene (PCE)	1340	---	27.9	"	"	"	ND	120	"	---	---	
Toluene	1160	---	55.8	"	"	"	ND	104	"	---	---	
1,2,3-Trichlorobenzene	1450	---	279	"	"	"	ND	130	"	---	---	EST
1,2,4-Trichlorobenzene	1480	---	279	"	"	"	ND	133	"	---	---	Q-29
1,1,1-Trichloroethane	1350	---	27.9	"	"	"	ND	121	"	---	---	
1,1,2-Trichloroethane	1230	---	27.9	"	"	"	ND	110	"	---	---	
Trichloroethene (TCE)	1410	---	27.9	"	"	"	ND	126	"	---	---	
Trichlorofluoromethane	1330	---	112	"	"	"	ND	119	"	---	---	
1,2,3-Trichloropropane	1250	---	55.8	"	"	"	ND	113	"	---	---	
1,2,4-Trimethylbenzene	1300	---	55.8	"	"	"	ND	117	"	---	---	
1,3,5-Trimethylbenzene	1270	---	55.8	"	"	"	ND	114	"	---	---	
Vinyl chloride	1300	---	27.9	"	"	"	ND	116	"	---	---	
m,p-Xylene	2520	---	55.8	"	"	2230	ND	113	"	---	---	
o-Xylene	1220	---	27.9	"	"	1120	ND	110	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 114 %*	*Limits: 70-130 %*	*Dilution: 50x*	
1,4-Difluorobenzene (Surr)	*109 %*	*70-130 %*	*"*	
Toluene-d8 (Surr)	*97 %*	*70-130 %*	*"*	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107052 - EPA 5035A							**Soil**					
Matrix Spike (1107052-MS1)					Prepared: 07/06/11 13:25		Analyzed: 07/06/11 23:00					**T-02**
QC Source Sample: 8004-110630-P2-006 (A11G005-06)												
Surr: 4-Bromofluorobenzene (Surr)			*Recovery: 104 %*	*Limits: 70-130 %*			*Dilution: 50x*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
Blank (1107072-BLK1)					Prepared: 07/07/11 09:00 Analyzed: 07/07/11 12:21							
5035/8260B												
Acetone	ND	---	1000	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	12.5	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Bromoform	ND	---	50.0	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	500	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	500	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	25.0	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	500	"	"	---	---	---	---	---	---	
Chloroform	ND	---	50.0	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	250	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	50.0	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	250	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	100	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	25.0	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	100	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	25.0	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	25.0	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	50.0	"	"	---	---	---	---	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
Blank (1107072-BLK1)					Prepared: 07/07/11 09:00 Analyzed: 07/07/11 12:21							
1,1-Dichloropropene	ND	---	50.0	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	25.0	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	50.0	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	500	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	50.0	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	500	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	50.0	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	250	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	100	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	25.0	"	"	---	---	---	---	---	---	
Styrene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	25.0	"	"	---	---	---	---	---	---	
Toluene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	250	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	250	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	25.0	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	25.0	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	100	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	50.0	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	50.0	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	25.0	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	50.0	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	25.0	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 118 %*	*Limits: 70-130 %*	*Dilution: 50x*
1,4-Difluorobenzene (Surr)	*114 %*	*70-130 %*	*"*
Toluene-d8 (Surr)	*99 %*	*70-130 %*	*"*
4-Bromofluorobenzene (Surr)	*106 %*	*70-130 %*	*"*

LCS (1107072-BS1) Prepared: 07/07/11 09:00 Analyzed: 07/07/11 11:07

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
LCS (1107072-BS1)					Prepared: 07/07/11 09:00		Analyzed: 07/07/11 11:07					
5035/8260B												
Acetone	1320	---	1000	ug/kg wet	50	2000	---	66	65-135%	---	---	
Benzene	1250	---	12.5	"	"	1000	---	125	"	---	---	
Bromobenzene	1210	---	25.0	"	"	"	---	121	"	---	---	
Bromochloromethane	1190	---	25.0	"	"	"	---	119	"	---	---	
Bromodichloromethane	1350	---	25.0	"	"	"	---	135	"	---	---	
Bromoform	759	---	50.0	"	"	"	---	76	"	---	---	
Bromomethane	1390	---	500	"	"	"	---	139	"	---	---	Q-29
2-Butanone (MEK)	1540	---	500	"	"	2000	---	77	"	---	---	
n-Butylbenzene	1190	---	50.0	"	"	1000	---	119	"	---	---	
sec-Butylbenzene	1190	---	50.0	"	"	"	---	119	"	---	---	
tert-Butylbenzene	1160	---	50.0	"	"	"	---	116	"	---	---	
Carbon tetrachloride	1390	---	25.0	"	"	"	---	139	"	---	---	Q-29
Chlorobenzene	1130	---	25.0	"	"	"	---	113	"	---	---	
Chloroethane	1240	---	500	"	"	"	---	124	"	---	---	
Chloroform	1260	---	50.0	"	"	"	---	126	"	---	---	
Chloromethane	1060	---	250	"	"	"	---	106	"	---	---	
2-Chlorotoluene	1210	---	50.0	"	"	"	---	121	"	---	---	
4-Chlorotoluene	1180	---	50.0	"	"	"	---	118	"	---	---	
1,2-Dibromo-3-chloropropane	1150	---	250	"	"	"	---	115	"	---	---	
Dibromochloromethane	1190	---	100	"	"	"	---	119	"	---	---	
1,2-Dibromoethane (EDB)	1180	---	25.0	"	"	"	---	118	"	---	---	
Dibromomethane	1350	---	50.0	"	"	"	---	135	"	---	---	
1,2-Dichlorobenzene	1190	---	25.0	"	"	"	---	119	"	---	---	
1,3-Dichlorobenzene	1200	---	25.0	"	"	"	---	120	"	---	---	
1,4-Dichlorobenzene	1130	---	25.0	"	"	"	---	113	"	---	---	
Dichlorodifluoromethane	970	---	100	"	"	"	---	97	"	---	---	
1,1-Dichloroethane	1160	---	25.0	"	"	"	---	116	"	---	---	
1,2-Dichloroethane (EDC)	1170	---	25.0	"	"	"	---	117	"	---	---	
1,1-Dichloroethene	1010	---	25.0	"	"	"	---	101	"	---	---	
cis-1,2-Dichloroethene	1150	---	25.0	"	"	"	---	115	"	---	---	
trans-1,2-Dichloroethene	1150	---	25.0	"	"	"	---	115	"	---	---	
1,2-Dichloropropane	1260	---	25.0	"	"	"	---	126	"	---	---	
1,3-Dichloropropane	1090	---	25.0	"	"	"	---	109	"	---	---	
2,2-Dichloropropane	1240	---	50.0	"	"	"	---	124	"	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
LCS (1107072-BS1)					Prepared: 07/07/11 09:00		Analyzed: 07/07/11 11:07					
1,1-Dichloropropene	1230	---	50.0	ug/kg wet	"	"	---	123	"	---	---	
cis-1,3-Dichloropropene	1090	---	25.0	"	"	"	---	109	"	---	---	
trans-1,3-Dichloropropene	1140	---	50.0	"	"	"	---	114	"	---	---	
Ethylbenzene	1150	---	25.0	"	"	"	---	115	"	---	---	
2-Hexanone	1530	---	500	"	"	2000	---	77	"	---	---	
Isopropylbenzene	1140	---	50.0	"	"	1000	---	114	"	---	---	
4-Isopropyltoluene	1150	---	50.0	"	"	"	---	115	"	---	---	
4-Methyl-2-pentanone (MiBK)	1870	---	500	"	"	2000	---	94	"	---	---	
Methyl tert-butyl ether (MTBE)	1050	---	50.0	"	"	1000	---	105	"	---	---	
Methylene chloride	1210	---	250	"	"	"	---	121	"	---	---	
Naphthalene	1150	---	100	"	"	"	---	115	"	---	---	
n-Propylbenzene	1150	---	25.0	"	"	"	---	115	"	---	---	
Styrene	1170	---	50.0	"	"	"	---	117	"	---	---	
1,1,1,2-Tetrachloroethane	1270	---	25.0	"	"	"	---	127	"	---	---	
1,1,2,2-Tetrachloroethane	1200	---	25.0	"	"	"	---	120	"	---	---	
Tetrachloroethene (PCE)	1210	---	25.0	"	"	"	---	121	"	---	---	
Toluene	1080	---	50.0	"	"	"	---	108	"	---	---	
1,2,3-Trichlorobenzene	1320	---	250	"	"	"	---	132	"	---	---	
1,2,4-Trichlorobenzene	1320	---	250	"	"	"	---	132	"	---	---	
1,1,1-Trichloroethane	1240	---	25.0	"	"	"	---	124	"	---	---	
1,1,2-Trichloroethane	1150	---	25.0	"	"	"	---	115	"	---	---	
Trichloroethene (TCE)	1300	---	25.0	"	"	"	---	130	"	---	---	
Trichlorofluoromethane	1240	---	100	"	"	"	---	124	"	---	---	
1,2,3-Trichloropropane	1130	---	50.0	"	"	"	---	113	"	---	---	
1,2,4-Trimethylbenzene	1220	---	50.0	"	"	"	---	122	"	---	---	
1,3,5-Trimethylbenzene	1180	---	50.0	"	"	"	---	118	"	---	---	
Vinyl chloride	1240	---	25.0	"	"	"	---	124	"	---	---	
m,p-Xylene	2360	---	50.0	"	"	2000	---	118	"	---	---	
o-Xylene	1140	---	25.0	"	"	1000	---	114	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 116 %*	*Limits: 70-130 %*	*Dilution: 50x*
1,4-Difluorobenzene (Surr)	*111 %*	*70-130 %*	*"*
Toluene-d8 (Surr)	*96 %*	*70-130 %*	*"*
4-Bromofluorobenzene (Surr)	*104 %*	*70-130 %*	*"*

Matrix Spike (1107072-MS1) Prepared: 07/07/11 09:00 Analyzed: 07/07/11 13:10

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
Matrix Spike (1107072-MS1)					Prepared: 07/07/11 09:00	Analyzed: 07/07/11 13:10						
QC Source Sample: 8004-110630-P2-006 (A11G005-06RE1)												
5035/8260B												
Acetone	2160	---	1120	ug/kg dry	50	2230	ND	97	65-135%	---	---	
Benzene	1350	---	13.9	"	"	1120	ND	121	"	---	---	
Bromobenzene	1210	---	27.9	"	"	"	ND	108	"	---	---	
Bromochloromethane	1300	---	27.9	"	"	"	ND	117	"	---	---	
Bromodichloromethane	1470	---	27.9	"	"	"	ND	132	"	---	---	
Bromoform	950	---	55.8	"	"	"	ND	85	"	---	---	
Bromomethane	1540	---	558	"	"	"	ND	138	"	---	---	Q-29
2-Butanone (MEK)	2130	---	558	"	"	2230	ND	96	"	---	---	
n-Butylbenzene	1230	---	55.8	"	"	1120	ND	110	"	---	---	
sec-Butylbenzene	1220	---	55.8	"	"	"	ND	110	"	---	---	
tert-Butylbenzene	1180	---	55.8	"	"	"	ND	106	"	---	---	
Carbon tetrachloride	1500	---	27.9	"	"	"	ND	135	"	---	---	Q-29
Chlorobenzene	1180	---	27.9	"	"	"	ND	106	"	---	---	
Chloroethane	1360	---	558	"	"	"	ND	122	"	---	---	
Chloroform	1370	---	55.8	"	"	"	ND	123	"	---	---	
Chloromethane	1180	---	279	"	"	"	ND	106	"	---	---	
2-Chlorotoluene	1190	---	55.8	"	"	"	ND	107	"	---	---	
4-Chlorotoluene	1200	---	55.8	"	"	"	ND	107	"	---	---	
1,2-Dibromo-3-chloropropane	1210	---	279	"	"	"	ND	109	"	---	---	
Dibromochloromethane	1240	---	112	"	"	"	ND	111	"	---	---	
1,2-Dibromoethane (EDB)	1220	---	27.9	"	"	"	ND	110	"	---	---	
Dibromomethane	1480	---	55.8	"	"	"	ND	133	"	---	---	
1,2-Dichlorobenzene	1210	---	27.9	"	"	"	ND	108	"	---	---	
1,3-Dichlorobenzene	1200	---	27.9	"	"	"	ND	108	"	---	---	
1,4-Dichlorobenzene	1150	---	27.9	"	"	"	ND	103	"	---	---	
Dichlorodifluoromethane	1060	---	112	"	"	"	ND	95	"	---	---	
1,1-Dichloroethane	1270	---	27.9	"	"	"	ND	114	"	---	---	
1,2-Dichloroethane (EDC)	1300	---	27.9	"	"	"	ND	117	"	---	---	
1,1-Dichloroethene	1100	---	27.9	"	"	"	ND	99	"	---	---	
cis-1,2-Dichloroethene	1260	---	27.9	"	"	"	ND	113	"	---	---	
trans-1,2-Dichloroethene	1260	---	27.9	"	"	"	ND	113	"	---	---	
1,2-Dichloropropane	1370	---	27.9	"	"	"	ND	122	"	---	---	
1,3-Dichloropropane	1140	---	27.9	"	"	"	ND	102	"	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
Matrix Spike (1107072-MS1)						Prepared: 07/07/11 09:00	Analyzed: 07/07/11 13:10					
QC Source Sample: 8004-110630-P2-006 (A11G005-06RE1)												
2,2-Dichloropropane	1360	---	55.8	ug/kg dry	"	"	ND	122	"	---	---	
1,1-Dichloropropene	1350	---	55.8	"	"	"	ND	121	"	---	---	
cis-1,3-Dichloropropene	1130	---	27.9	"	"	"	ND	101	"	---	---	
trans-1,3-Dichloropropene	1200	---	55.8	"	"	"	ND	108	"	---	---	
Ethylbenzene	1200	---	27.9	"	"	"	ND	108	"	---	---	
2-Hexanone	2010	---	558	"	"	2230	ND	90	"	---	---	
Isopropylbenzene	1200	---	55.8	"	"	1120	ND	108	"	---	---	
4-Isopropyltoluene	1190	---	55.8	"	"	"	ND	107	"	---	---	
4-Methyl-2-pentanone (MiBK)	2020	---	558	"	"	2230	ND	91	"	---	---	
Methyl tert-butyl ether (MTBE)	1070	---	55.8	"	"	1120	ND	96	"	---	---	
Methylene chloride	1320	---	279	"	"	"	ND	119	"	---	---	
Naphthalene	1220	---	112	"	"	"	ND	109	"	---	---	
n-Propylbenzene	1170	---	27.9	"	"	"	ND	105	"	---	---	
Styrene	1220	---	55.8	"	"	"	ND	110	"	---	---	
1,1,1,2-Tetrachloroethane	1320	---	27.9	"	"	"	ND	119	"	---	---	
1,1,2,2-Tetrachloroethane	1210	---	27.9	"	"	"	ND	108	"	---	---	
Tetrachloroethene (PCE)	1310	---	27.9	"	"	"	ND	117	"	---	---	
Toluene	1130	---	55.8	"	"	"	ND	101	"	---	---	
1,2,3-Trichlorobenzene	1350	---	279	"	"	"	ND	121	"	---	---	
1,2,4-Trichlorobenzene	1380	---	279	"	"	"	ND	123	"	---	---	
1,1,1-Trichloroethane	1380	---	27.9	"	"	"	ND	123	"	---	---	
1,1,2-Trichloroethane	1180	---	27.9	"	"	"	ND	106	"	---	---	
Trichloroethene (TCE)	1410	---	27.9	"	"	"	ND	127	"	---	---	
Trichlorofluoromethane	1390	---	112	"	"	"	ND	124	"	---	---	
1,2,3-Trichloropropane	1160	---	55.8	"	"	"	ND	104	"	---	---	
1,2,4-Trimethylbenzene	1220	---	55.8	"	"	"	ND	110	"	---	---	
1,3,5-Trimethylbenzene	1200	---	55.8	"	"	"	ND	108	"	---	---	
Vinyl chloride	1280	---	27.9	"	"	"	ND	115	"	---	---	
m,p-Xylene	2460	---	55.8	"	"	2230	ND	110	"	---	---	
o-Xylene	1200	---	27.9	"	"	1120	ND	107	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 119 %*	*Limits: 70-130 %*	*Dilution: 50x*	
1,4-Difluorobenzene (Surr)	*112 %*	*70-130 %*	*"*	
Toluene-d8 (Surr)	*96 %*	*70-130 %*	*"*	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107072 - EPA 5035A							**Soil**					
Matrix Spike (1107072-MS1)						Prepared: 07/07/11 09:00	Analyzed: 07/07/11 13:10					
QC Source Sample: 8004-110630-P2-006 (A11G005-06RE1)												
Surr: 4-Bromofluorobenzene (Surr)			*Recovery: 101 %*	*Limits: 70-130 %*			*Dilution: 50x*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107023 - EPA 3546							**Soil**					
Blank (1107023-BLK1)					Prepared: 07/05/11 10:50		Analyzed: 07/08/11 11:13					**C-07**
EPA 8082A												
Aroclor 1016	ND	---	6.67	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	6.67	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	6.67	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 94 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*84 %*	*55-130 %*			*"*					
LCS (1107023-BS1)					Prepared: 07/05/11 10:50		Analyzed: 07/08/11 11:31					**C-07**
EPA 8082A												
Aroclor 1016	248	---	10.0	ug/kg wet	1	250	---	99	40-140%	---	---	
Aroclor 1260	219	---	10.0	"	"	"	---	88	60-130%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 101 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*88 %*	*55-130 %*			*"*					
Duplicate (1107023-DUP1)					Prepared: 07/05/11 10:50		Analyzed: 07/08/11 12:24					**C-07**
QC Source Sample: 8004-110630-P2-006 (A11G005-06)												
EPA 8082A												
Aroclor 1016	ND	---	7.75	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	7.75	"	"	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	7.75	"	"	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	7.75	"	"	---	ND	---	---	---	30%	
Aroclor 1248	ND	---	7.75	"	"	---	ND	---	---	---	30%	
Aroclor 1254	ND	---	7.75	"	"	---	ND	---	---	---	30%	
Aroclor 1260	ND	---	7.75	"	"	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 95 %*	*Limits: 50-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*92 %*	*55-130 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107067 - EPA 3546							**Soil**					
Blank (1107067-BLK1)					Prepared: 07/07/11 08:14 Analyzed: 07/07/11 12:18							
EPA 8270D (SIM)												
Acenaphthene	ND	---	6.67	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	6.67	"	"	---	---	---	---	---	---	
Anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	13.3	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	6.67	"	"	---	---	---	---	---	---	
Chrysene	ND	---	6.67	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Fluorene	ND	---	6.67	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	6.67	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 79 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*81 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*108 %*	*30-120 %*			*"*					
LCS (1107067-BS1)					Prepared: 07/07/11 08:14 Analyzed: 07/07/11 12:46							
EPA 8270D (SIM)												
Acenaphthene	1230	---	10.0	ug/kg wet	1	1000	---	123	45-125%	---	---	
Acenaphthylene	1160	---	10.0	"	"	"	---	116	"	---	---	
Anthracene	1190	---	10.0	"	"	"	---	119	55-125%	---	---	
Benz(a)anthracene	1100	---	10.0	"	"	"	---	110	50-125%	---	---	
Benzo(a)pyrene	1210	---	10.0	"	"	"	---	121	"	---	---	
Benzo(b)fluoranthene	1170	---	10.0	"	"	"	---	117	45-125%	---	---	
Benzo(k)fluoranthene	1180	---	10.0	"	"	"	---	118	"	---	---	
Benzo(b+k)fluoranthene(s)	2350	---	20.0	"	"	2000	---	117	"	---	---	
Benzo(g,h,i)perylene	1270	---	10.0	"	"	1000	---	127	40-125%	---	---	Q-29
Chrysene	1160	---	10.0	"	"	"	---	116	55-125%	---	---	
Dibenz(a,h)anthracene	1170	---	10.0	"	"	"	---	117	40-125%	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107067 - EPA 3546							**Soil**					
LCS (1107067-BS1)					Prepared: 07/07/11 08:14		Analyzed: 07/07/11 12:46					
Fluoranthene	1200	---	10.0	ug/kg wet	"	"	---	120	55-125%	---	---	
Fluorene	1140	---	10.0	"	"	"	---	114	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	1190	---	10.0	"	"	"	---	119	40-125%	---	---	
Naphthalene	1050	---	10.0	"	"	"	---	105	"	---	---	
Phenanthrene	1130	---	10.0	"	"	"	---	113	50-125%	---	---	
Pyrene	1170	---	10.0	"	"	"	---	117	45-125%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 83 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*90 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*96 %*	*30-120 %*			*"*					
Duplicate (1107067-DUP1)					Prepared: 07/07/11 08:14		Analyzed: 07/07/11 14:09					
QC Source Sample: 8004-110630-P2-006 (A11G005-06)												
EPA 8270D (SIM)												
Acenaphthene	ND	---	15.7	ug/kg dry	2	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	15.7	"	"	---	11.1	---	---	***	30%	
Anthracene	ND	---	15.7	"	"	---	ND	---	---	---	30%	
Benz(a)anthracene	**18.9**	---	15.7	"	"	---	18.9	---	---	0.1	30%	
Benzo(a)pyrene	ND	---	15.7	"	"	---	11.7	---	---	***	30%	
Benzo(b+k)fluoranthene(s)	ND	---	31.4	"	"	---	25.0	---	---	***	30%	Q-26
Benzo(g,h,i)perylene	**35.2**	---	15.7	"	"	---	33.2	---	---	6	30%	Q-29
Chrysene	**43.4**	---	15.7	"	"	---	40.7	---	---	6	30%	
Dibenz(a,h)anthracene	ND	---	15.7	"	"	---	ND	---	---	---	30%	
Fluoranthene	**33.0**	---	15.7	"	"	---	29.0	---	---	13	30%	
Fluorene	ND	---	15.7	"	"	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	**16.8**	---	15.7	"	"	---	18.2	---	---	8	30%	
Naphthalene	**38.6**	---	15.7	"	"	---	35.8	---	---	8	30%	
Phenanthrene	**36.7**	---	15.7	"	"	---	33.0	---	---	11	30%	
Pyrene	**40.8**	---	15.7	"	"	---	39.6	---	---	3	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 56 %*	*Limits: 35-120 %*			*Dilution: 2x*					
2-Fluorobiphenyl (Surr)			*74 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*87 %*	*30-120 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107175 - EPA 3546							**Soil**					
Blank (1107175-BLK2)					Prepared: 07/14/11 07:39		Analyzed: 07/16/11 19:25					
EPA 8270D (SIM)												
Acenaphthene	ND	---	6.67	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	6.67	"	"	---	---	---	---	---	---	
Anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	13.3	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	6.67	"	"	---	---	---	---	---	---	
Chrysene	ND	---	6.67	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Fluorene	ND	---	6.67	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	6.67	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 74 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*77 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*96 %*	*30-120 %*			*"*					
LCS (1107175-BS2)					Prepared: 07/14/11 07:39		Analyzed: 07/16/11 19:52					
EPA 8270D (SIM)												
Acenaphthene	796	---	10.0	ug/kg wet	1	1000	---	80	45-125%	---	---	
Acenaphthylene	802	---	10.0	"	"	"	---	80	"	---	---	
Anthracene	917	---	10.0	"	"	"	---	92	55-125%	---	---	
Benz(a)anthracene	905	---	10.0	"	"	"	---	90	50-125%	---	---	
Benzo(a)pyrene	1000	---	10.0	"	"	"	---	100	"	---	---	
Benzo(b)fluoranthene	971	---	10.0	"	"	"	---	97	45-125%	---	---	
Benzo(k)fluoranthene	959	---	10.0	"	"	"	---	96	"	---	---	
Benzo(b+k)fluoranthene(s)	1930	---	20.0	"	"	2000	---	96	"	---	---	
Benzo(g,h,i)perylene	948	---	10.0	"	"	1000	---	95	40-125%	---	---	
Chrysene	976	---	10.0	"	"	"	---	98	55-125%	---	---	
Dibenz(a,h)anthracene	979	---	10.0	"	"	"	---	98	40-125%	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107175 - EPA 3546							**Soil**					
LCS (1107175-BS2)					Prepared: 07/14/11 07:39		Analyzed: 07/16/11 19:52					
Fluoranthene	987	---	10.0	ug/kg wet	"	"	---	99	55-125%	---	---	
Fluorene	847	---	10.0	"	"	"	---	85	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	941	---	10.0	"	"	"	---	94	40-125%	---	---	
Naphthalene	776	---	10.0	"	"	"	---	78	"	---	---	
Phenanthrene	855	---	10.0	"	"	"	---	86	50-125%	---	---	
Pyrene	945	---	10.0	"	"	"	---	95	45-125%	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 69 %*	*Limits: 35-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*71 %*	*45-120 %*	*"*
p-Terphenyl-d14 (Surr)	*91 %*	*30-120 %*	*"*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107066 - EPA 3051A							**Soil**					
Blank (1107066-BLK1)					Prepared: 07/07/11 07:56		Analyzed: 07/07/11 11:53					
EPA 6020												
Antimony	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Arsenic	ND	---	2.00	"	"	---	---	---	---	---	---	
Beryllium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	
Chromium	ND	---	2.00	"	"	---	---	---	---	---	---	
Copper	ND	---	4.00	"	"	---	---	---	---	---	---	
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	
Nickel	ND	---	2.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	2.00	"	"	---	---	---	---	---	---	
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	
Thallium	ND	---	1.00	"	"	---	---	---	---	---	---	
Zinc	ND	---	4.00	"	"	---	---	---	---	---	---	
LCS (1107066-BS1)					Prepared: 07/07/11 07:56		Analyzed: 07/07/11 11:56					
EPA 6020												
Antimony	27.6	---	1.00	mg/kg wet	10	25.0	---	111	80-120%	---	---	
Arsenic	49.6	---	2.00	"	"	50.0	---	99	"	---	---	
Beryllium	25.2	---	1.00	"	"	25.0	---	101	"	---	---	
Cadmium	49.6	---	1.00	"	"	50.0	---	99	"	---	---	
Chromium	49.7	---	2.00	"	"	"	---	99	"	---	---	
Copper	49.9	---	4.00	"	"	"	---	100	"	---	---	
Lead	47.5	---	1.00	"	"	"	---	95	"	---	---	
Mercury	0.952	---	0.0800	"	"	1.00	---	95	"	---	---	
Nickel	51.4	---	2.00	"	"	50.0	---	103	"	---	---	
Selenium	25.7	---	2.00	"	"	25.0	---	103	"	---	---	
Silver	25.2	---	1.00	"	"	"	---	101	"	---	---	
Thallium	24.4	---	1.00	"	"	"	---	98	"	---	---	
Zinc	50.4	---	4.00	"	"	50.0	---	101	"	---	---	
Duplicate (1107066-DUP1)					Prepared: 07/07/11 07:56		Analyzed: 07/07/11 12:31					
QC Source Sample: 8004-110630-P4-012 (A11G005-12)												
EPA 6020												
Antimony	ND	---	1.25	mg/kg dry	10	---	1.23	---	---	***	40%	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107066 - EPA 3051A							**Soil**					
Duplicate (1107066-DUP1)					Prepared: 07/07/11 07:56		Analyzed: 07/07/11 12:31					
QC Source Sample: 8004-110630-P4-012 (A11G005-12)												
Arsenic	**3.07**	---	2.51	mg/kg dry	"	---	4.04	---	---	27	40%	
Beryllium	ND	---	1.25	"	"	---	0.295	---	---	***	40%	
Cadmium	ND	---	1.25	"	"	---	0.590	---	---	***	40%	Q-05
Chromium	**10.1**	---	2.51	"	"	---	12.0	---	---	16	40%	
Copper	**69.6**	---	5.01	"	"	---	104	---	---	39	40%	
Lead	**87.5**	---	1.25	"	"	---	127	---	---	37	40%	
Mercury	**0.292**	---	0.100	"	"	---	0.388	---	---	28	40%	
Nickel	**17.8**	---	2.51	"	"	---	20.0	---	---	11	40%	
Selenium	ND	---	2.51	"	"	---	ND	---	---	---	40%	
Silver	ND	---	1.25	"	"	---	0.148	---	---	***	40%	
Thallium	ND	---	1.25	"	"	---	ND	---	---	---	40%	
Zinc	**148**	---	5.01	"	"	---	196	---	---	28	40%	
Matrix Spike (1107066-MS1)					Prepared: 07/07/11 07:56		Analyzed: 07/07/11 12:34					
QC Source Sample: 8004-110630-P4-012 (A11G005-12)												
EPA 6020												
Antimony	29.9	---	1.21	mg/kg dry	10	30.3	1.23	95	75-125%	---	---	
Arsenic	61.8	---	2.42	"	"	60.5	4.04	95	"	---	---	
Beryllium	30.3	---	1.21	"	"	30.3	0.295	99	"	---	---	
Cadmium	60.1	---	1.21	"	"	60.5	0.590	98	"	---	---	
Chromium	69.2	---	2.42	"	"	"	12.0	95	"	---	---	
Copper	145	---	4.85	"	"	"	104	68	"	---	---	Q-01
Lead	162	---	1.21	"	"	"	127	58	"	---	---	Q-01
Mercury	1.45	---	0.0969	"	"	1.21	0.388	88	"	---	---	
Nickel	78.1	---	2.42	"	"	60.5	20.0	96	"	---	---	
Selenium	29.3	---	2.42	"	"	30.3	ND	97	"	---	---	
Silver	30.6	---	1.21	"	"	"	0.148	101	"	---	---	
Thallium	28.0	---	1.21	"	"	"	ND	93	"	---	---	
Zinc	231	---	4.85	"	"	60.5	196	57	"	---	---	Q-01
Post Spike (1107066-PS2)					Prepared: 07/07/11 07:56		Analyzed: 07/07/11 15:12					
QC Source Sample: 8004-110630-P4-012 (A11G005-12)												
EPA 6020												
Copper	2600	---		ug/L	10	1670	762	111	80-120%		---	

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107066 - EPA 3051A							**Soil**					
Post Spike (1107066-PS2)						Prepared: 07/07/11 07:56	Analyzed: 07/07/11 15:12					
QC Source Sample: 8004-110630-P4-012 (A11G005-12)												
Lead	2660	---		ug/L	"	"	930	104	"		---	
Zinc	3240	---		"	"	"	1440	108	"		---	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107181 - EPA 3051A							**Soil**					
Blank (1107181-BLK1)					Prepared: 07/14/11 09:32		Analyzed: 07/14/11 12:02					
EPA 6020												
Lead	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
LCS (1107181-BS1)					Prepared: 07/14/11 09:32		Analyzed: 07/14/11 12:05					
EPA 6020												
Lead	47.3	---	1.00	mg/kg wet	10	50.0	---	95	80-120%	---	---	
Duplicate (1107181-DUP1)					Prepared: 07/14/11 09:32		Analyzed: 07/14/11 12:20					
QC Source Sample: 8004-110630-P10-028 (A11G005-28)												
EPA 6020												
Lead	**4.20**	---	1.36	mg/kg dry	10	---	4.26	---	---	1	40%	
Matrix Spike (1107181-MS1)					Prepared: 07/14/11 09:32		Analyzed: 07/14/11 12:23					
QC Source Sample: 8004-110630-P10-028 (A11G005-28)												
EPA 6020												
Lead	72.9	---	1.49	mg/kg dry	10	74.2	4.26	92	75-125%	---	---	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107316 - EPA 3051A							**Soil**					
Blank (1107316-BLK1)					Prepared: 07/22/11 10:25		Analyzed: 07/22/11 16:41					
EPA 6020												
Lead	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
LCS (1107316-BS1)					Prepared: 07/22/11 10:25		Analyzed: 07/22/11 16:43					
EPA 6020												
Lead	49.0	---	1.00	mg/kg wet	10	50.0	---	98	80-120%	---	---	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107254 - EPA 1311/3015							**Soil**					
Blank (1107254-BLK1)					Prepared: 07/19/11 13:09		Analyzed: 07/19/11 16:18					
EPA 1311/6020												
Lead	ND	---	0.0500	mg/L	5	---	---	---	---	---	---	
LCS (1107254-BS1)					Prepared: 07/19/11 13:09		Analyzed: 07/19/11 16:21					
EPA 1311/6020												
Lead	2.49	---	0.0500	mg/L	5	2.50	---	99	80-120%	---	---	
Matrix Spike (1107254-MS1)					Prepared: 07/19/11 13:09		Analyzed: 07/19/11 16:48					
QC Source Sample: 8004-110630-P2-006 (A11G005-06)												
EPA 1311/6020												
Lead	2.62	---	0.0500	mg/L	5	2.50	0.162	98	50-150%	---	---	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107015 - Total Solids (Dry Weight)							**Soil**					
Duplicate (1107015-DUP2)					Prepared: 07/01/11 12:58		Analyzed: 07/05/11 10:04					
QC Source Sample: 8004-110630-P5-030 (A11G005-30)												
Apex SOP												
% Solids	**76.0**	---	1.00	% by Weight	1	---	75.7	---	---	0.4	20%	

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

Batch 1107029 - Total Solids (Dry Weight) **Soil**

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

Batch 1107161 - Total Solids (Dry Weight) **Soil**

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

Batch 1107319 - Total Solids (Dry Weight) **Soil**

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

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

SAMPLE PREPARATION INFORMATION

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107014							
A11G005-01	Soil	NWTPH-Dx	06/30/11 09:50	07/01/11 12:54	14.31g/5mL	10g/5mL	0.70
A11G005-06	Soil	NWTPH-Dx	06/30/11 10:20	07/01/11 12:54	14.74g/5mL	10g/5mL	0.68
A11G005-09	Soil	NWTPH-Dx	06/30/11 10:40	07/01/11 12:54	13.89g/5mL	10g/5mL	0.72
A11G005-12	Soil	NWTPH-Dx	06/30/11 11:10	07/01/11 12:54	14.46g/10mL	10g/5mL	1.38
A11G005-15	Soil	NWTPH-Dx	06/30/11 11:50	07/01/11 12:54	13.36g/5mL	10g/5mL	0.75
A11G005-18	Soil	NWTPH-Dx	06/30/11 12:10	07/01/11 12:54	14.32g/5mL	10g/5mL	0.70
A11G005-21	Soil	NWTPH-Dx	06/30/11 13:30	07/01/11 12:54	14.28g/5mL	10g/5mL	0.70
A11G005-24	Soil	NWTPH-Dx	06/30/11 13:50	07/01/11 12:54	14.07g/5mL	10g/5mL	0.71
A11G005-27	Soil	NWTPH-Dx	06/30/11 14:10	07/01/11 12:54	14.15g/5mL	10g/5mL	0.71
A11G005-30	Soil	NWTPH-Dx	06/30/11 14:30	07/01/11 12:54	14.53g/5mL	10g/5mL	0.69
A11G005-33	Soil	NWTPH-Dx	06/30/11 16:45	07/01/11 12:54	13.87g/5mL	10g/5mL	0.72
A11G005-36	Soil	NWTPH-Dx	06/30/11 17:20	07/01/11 12:54	14.53g/5mL	10g/5mL	0.69
Batch: 1107035							
A11G005-07	Soil	NWTPH-Dx	06/30/11 10:25	07/05/11 17:56	10.79g/5mL	10g/5mL	0.93
A11G005-13	Soil	NWTPH-Dx	06/30/11 11:20	07/05/11 17:56	10.74g/5mL	10g/5mL	0.93
A11G005-25	Soil	NWTPH-Dx	06/30/11 13:55	07/05/11 17:56	10.06g/5mL	10g/5mL	0.99

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

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107052							
A11G005-12	Soil	NWTPH-Gx	06/30/11 11:10	07/06/11 13:20	13.063g/10mL	10g/10mL	0.77
A11G005-24	Soil	NWTPH-Gx	06/30/11 13:50	07/06/11 13:20	12.951g/10mL	10g/10mL	0.77
Batch: 1107072							
A11G005-06RE1	Soil	NWTPH-Gx	06/30/11 10:20	07/06/11 13:20	12.337g/10mL	10g/10mL	0.81
A11G005-27RE1	Soil	NWTPH-Gx	06/30/11 14:10	07/06/11 13:20	12.603g/10mL	10g/10mL	0.79

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107052							
A11G005-12	Soil	5035/8260B	06/30/11 11:10	07/06/11 13:20	13.063g/10mL	10g/10mL	0.77

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A11G005-24	Soil	5035/8260B	06/30/11 13:50	07/06/11 13:20	12.951g/10mL	10g/10mL	0.77
Batch: 1107072							
A11G005-06RE1	Soil	5035/8260B	06/30/11 10:20	07/06/11 13:20	12.337g/10mL	10g/10mL	0.81

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107023							
A11G005-01	Soil	EPA 8082A	06/30/11 09:50	07/05/11 10:50	13.48g/5mL	10g/5mL	0.74
A11G005-06	Soil	EPA 8082A	06/30/11 10:20	07/05/11 10:50	13.41g/5mL	10g/5mL	0.75
A11G005-09	Soil	EPA 8082A	06/30/11 10:40	07/05/11 10:50	13.42g/5mL	10g/5mL	0.75
A11G005-12	Soil	EPA 8082A	06/30/11 11:10	07/05/11 10:50	13.51g/5mL	10g/5mL	0.74
A11G005-15	Soil	EPA 8082A	06/30/11 11:50	07/05/11 10:50	13.79g/5mL	10g/5mL	0.73
A11G005-18	Soil	EPA 8082A	06/30/11 12:10	07/05/11 10:50	13.9g/5mL	10g/5mL	0.72
A11G005-21	Soil	EPA 8082A	06/30/11 13:30	07/05/11 10:50	13.08g/5mL	10g/5mL	0.77
A11G005-24	Soil	EPA 8082A	06/30/11 13:50	07/05/11 10:50	13.8g/5mL	10g/5mL	0.73
A11G005-27	Soil	EPA 8082A	06/30/11 14:10	07/05/11 10:50	13.3g/5mL	10g/5mL	0.75
A11G005-30	Soil	EPA 8082A	06/30/11 14:30	07/05/11 10:50	14.44g/5mL	10g/5mL	0.69
A11G005-33	Soil	EPA 8082A	06/30/11 16:45	07/05/11 10:50	13.37g/5mL	10g/5mL	0.75
A11G005-36	Soil	EPA 8082A	06/30/11 17:20	07/05/11 10:50	13.44g/5mL	10g/5mL	0.74

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107067							
A11G005-06	Soil	EPA 8270D (SIM)	06/30/11 10:20	07/07/11 08:14	13.19g/5mL	10g/5mL	0.76
A11G005-12RE1	Soil	EPA 8270D (SIM)	06/30/11 11:10	07/07/11 08:14	13.08g/5mL	10g/5mL	0.77
A11G005-24	Soil	EPA 8270D (SIM)	06/30/11 13:50	07/07/11 08:14	13.04g/10mL	10g/5mL	1.53
Batch: 1107175							
A11G005-13	Soil	EPA 8270D (SIM)	06/30/11 11:20	07/14/11 07:39	12.48g/5mL	10g/5mL	0.80

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Sample	Default	RL Prep

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020 (ICPMS)

Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 1107066							
A11G005-01	Soil	EPA 6020	06/30/11 09:50	07/07/11 07:56	0.486g/50mL	0.5g/50mL	1.03
A11G005-06	Soil	EPA 6020	06/30/11 10:20	07/07/11 07:56	0.537g/50mL	0.5g/50mL	0.93
A11G005-09	Soil	EPA 6020	06/30/11 10:40	07/07/11 07:56	0.501g/50mL	0.5g/50mL	1.00
A11G005-12	Soil	EPA 6020	06/30/11 11:10	07/07/11 07:56	0.508g/50mL	0.5g/50mL	0.98
A11G005-15	Soil	EPA 6020	06/30/11 11:50	07/07/11 07:56	0.497g/50mL	0.5g/50mL	1.01
A11G005-18	Soil	EPA 6020	06/30/11 12:10	07/07/11 07:56	0.476g/50mL	0.5g/50mL	1.05
A11G005-21	Soil	EPA 6020	06/30/11 13:30	07/07/11 07:56	0.457g/50mL	0.5g/50mL	1.09
A11G005-24	Soil	EPA 6020	06/30/11 13:50	07/07/11 07:56	0.482g/50mL	0.5g/50mL	1.04
A11G005-27	Soil	EPA 6020	06/30/11 14:10	07/07/11 07:56	0.48g/50mL	0.5g/50mL	1.04
A11G005-30	Soil	EPA 6020	06/30/11 14:30	07/07/11 07:56	0.523g/50mL	0.5g/50mL	0.96
A11G005-33	Soil	EPA 6020	06/30/11 16:45	07/07/11 07:56	0.463g/50mL	0.5g/50mL	1.08
A11G005-36	Soil	EPA 6020	06/30/11 17:20	07/07/11 07:56	0.481g/50mL	0.5g/50mL	1.04
Batch: 1107181							
A11G005-07	Soil	EPA 6020	06/30/11 10:25	07/14/11 09:32	0.513g/50mL	0.5g/50mL	0.98
A11G005-10	Soil	EPA 6020	06/30/11 10:45	07/14/11 09:32	0.505g/50mL	0.5g/50mL	0.99
A11G005-13	Soil	EPA 6020	06/30/11 11:20	07/14/11 09:32	0.494g/50mL	0.5g/50mL	1.01
A11G005-28	Soil	EPA 6020	06/30/11 14:15	07/14/11 09:32	0.506g/50mL	0.5g/50mL	0.99
A11G005-31	Soil	EPA 6020	06/30/11 14:35	07/14/11 09:32	0.517g/50mL	0.5g/50mL	0.97
A11G005-37	Soil	EPA 6020	06/30/11 17:25	07/14/11 09:32	0.452g/50mL	0.5g/50mL	1.11
Batch: 1107316							
A11G005-32	Soil	EPA 6020	06/30/11 14:45	07/22/11 10:25	0.443g/50mL	0.5g/50mL	1.13

TCLP Metals by EPA 6020 (ICPMS)

Prep: EPA 1311/3015

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107254							
A11G005-06	Soil	EPA 1311/6020	06/30/11 10:20	07/19/11 13:09	5mL/50mL	5mL/50mL	1.00
A11G005-09	Soil	EPA 1311/6020	06/30/11 10:40	07/19/11 13:09	5mL/50mL	5mL/50mL	1.00
A11G005-12	Soil	EPA 1311/6020	06/30/11 11:10	07/19/11 13:09	5mL/50mL	5mL/50mL	1.00
A11G005-27	Soil	EPA 1311/6020	06/30/11 14:10	07/19/11 13:09	5mL/50mL	5mL/50mL	1.00

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

Notes and Definitions

Qualifiers:

A-01a	Sample is biased low due to surrogate failure. Sample cannot be re-extract for confirmation due to limited sample volume.
B-02	Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
F-07	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
Q-01	Percent recovery and/or RPD is outside acceptance limits.
Q-05	Analyses are not controlled on RPD values from sample or duplicate concentrations near or below the reporting level.
Q-23	Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Data is likely biased high.
Q-26	Peak separation for Benzo(b) and Benzo(k)fluoranthenes does not meet method specified criteria. Reported result includes the combined area of the two isomers and should be considered the total of Benzo(b+k)Fluoranthenes.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
S-01	Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
S-06	Surrogate recovery is outside of established control limits.
T-02	This Batch QC sample was analyzed outside of the method specified 12 hour tune window. Results are estimated.
V-07	Sample aliquot was subsampled from a soil jar with minimal headspace. The subsampled aliquot was not preserved in methanol within 48 hours of sampling.
V-08	Sample aliquot was subsampled from a soil jar with significant headspace. The subsampled aliquot was not preserved in methanol within 48 hours of sampling. Results are likely biased low.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

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

Philip Nerenberg, Lab Director

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

Blank Policy

Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Labs

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503-718-2323 Phone
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Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

Project: **PGE Hawthorne**
Project Number: 8004
Project Manager: Jeff Dresser

Reported:
08/01/11 12:47

A116005

HAHN AND ASSOCIATES, INC.
Environmental Management
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory: APEX
Lab Project No.:

CHAIN OF CUSTODY
Chain of Cust 8004-06

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE - Hawthorne
Collected by: Corey Raspone

Liquid with Sediment Sample: Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample: Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Sample Number Prefix: 8004-110630-

1 DAY TAT ON SCHEDULED DX SAMPLES, 5 dayt TAT on PCBs & Metals

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com) & CC to Corey Raspone/ Robe Ede @ HAI (coreyr@hahnenv.com, robe@hahnenv.com)

Metal: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Th, Zn

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH - HCID	NWTPH-Dx	EPH (WDOE EPH)	VOCs (8260)	PCB (8082)	PAHs (8270 SIM)	Metals (EPA 6010/7000)		RUSH	Remarks
	P1-001	6/30/11	9:50	0.5 - 1'	X			1		X			X		X			1 Day TAT - Dx
	P1-002	6/30/11	9:55	1.5 - 2'	X			2										HOLD
	P1-003	6/30/11	10:05	6 - 7'	X			2										HOLD
	P1-004	6/30/11	10:10	10 - 11'	X			2										HOLD
	P1-005	6/30/11	10:15	16 - 17'	X			2										HOLD
	P2-006	6/30/11	10:20	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P2-007	6/30/11	10:25	6 - 7'	X			2										HOLD
	P2-008	6/30/11	10:35	10 - 11'	X			1										HOLD
	P3-009	6/30/11	10:40	1 - 2'	X			2		X			X		X			1 Day TAT - Dx
	P3-010	6/30/11	10:45	6 - 7'	X			2										HOLD
	P3-011	6/30/11	10:50	11 - 12'	X			1										HOLD
	P4-012	6/30/11	11:10	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P4-013	6/30/11	11:20	6 - 7'	X			2										HOLD
	P4-014	6/30/11	11:25	11 - 12'	X			2										HOLD
	P9-015	6/30/11	11:50	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P9-016	6/30/11	11:55	4 - 5'	X			2										HOLD
	P9-017	6/30/11	12:00	7 - 8'	X			1										HOLD
	P6-018	6/30/11	12:10	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P6-019	6/30/11	12:15	4 - 5'	X			2										HOLD
	P6-020	6/30/11	12:20	7 - 8'	X			2										HOLD
	P7-021	6/30/11	13:30	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P7-022	6/30/11	13:35	4 - 5'	X			2										HOLD
	P7-023	6/30/11	13:40	7 - 8'	X			2										HOLD
	P8-024	6/30/11	13:50	0.5 - 1.5'	X			1		X			X		X			1 Day TAT - Dx
	P8-025	6/30/11	13:55	4 - 5'	X			2										HOLD
	P8-026	6/30/11	14:00	7 - 8'	X			2										HOLD
	P10-027	6/30/11	14:10	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P10-028	6/30/11	14:15	4 - 5'	X			2										HOLD
	P10-029	6/30/11	14:20	7 - 8'	X			2										HOLD
	P5-030	6/30/11	14:30	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P5-031	6/30/11	14:35	3 - 4'	X			2										HOLD
	P5-032	6/30/11	14:45	7 - 8'	X			2										HOLD

Relinquished by	Company	Date	Time	Received by	
Robert Riggs	HAHN & ASSOC	7/1/11	935	Jennifer Sutton	Apex
Relinquished by	Company	Date	Time	Received by	
Relinquished by	Company	Date	Time	Received by	

Apex Laboratories

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Philip Nerenberg

Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	08/01/11 12:47

A 11 6005

HAHN AND ASSOCIATES, INC.
Environmental Management
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory: Apex
Lab Project No.:

CHAIN OF CUSTODY
Chain of Custody 8004-06

Project Manager: Corey Raspone
Project No.: 8004
Project Name: PGE - Hawthorne
Collected by: Corey Raspone

Liquid with Sediment Sample: Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample: Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Sample Number Prefix: 8004-110630-

1 DAY TAT ON SCHEDULED DX SAMPLES

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com) & CC to Corey Raspone/ Robe Ede @ HAI (coreyr@hahnenv.com, robe@hahnenv.com)

Metal: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Th, Zn

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Matrix: Water	Matrix: Other	Number of Containers	NWTPH - HCID	NWTPH-Dx	EPH (WDOE EPH)	VOCs (8260)	PCB (8082)	PAHs (8270 SIM)	Metals (EPA 6010/7000)		RUSH	Remarks
	P12-033	6/30/11	16:45	0.5 - 1.5'	X			1		X			X		X			1 Day TAT - Dx
	P12-034	6/30/11	16:50	6 - 7'	X			2										HOLD
	P12-035	6/30/11	17:00	12 - 13'	X			2										HOLD
	P11-036	6/30/11	17:20	0.5 - 1.5'	X			2		X			X		X			1 Day TAT - Dx
	P11-037	6/30/11	17:25	6 - 7'	X			2										HOLD
	P11-038	6/30/11	17:35	11-12'	X			2										HOLD

Relinquished by	Company	Date	Time	Received by	
Corey Raspone	HAHN & ASSOC	7/1/11	935	Jennifer Sutton	Apex

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Apex Laboratories
Philip Nerenberg
12232 S.W. Garden Place
Tigard, Oregon 97223

RE: A11G005
Lab ID: 1107021

July 14, 2011

Attention Philip Nerenberg:

Fremont Analytical, Inc. received 2 sample(s) on 7/8/2011 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

CC:
Allison Greiner

Michael Dee
Sr. Chemist / Principal

Date: *07/14/2011*

CLIENT: Apex Laboratories
Project: A11G005
Lab Order: 1107021

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1107021-001	8004-110630-P4-012	06/30/2011 11:10 AM	07/08/2011 12:30 PM
1107021-002	8004-110630-P8-024	06/30/2011 1:50 PM	07/08/2011 12:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1107021**

Date: **7/14/2011**

CLIENT: Apex Laboratories
Project: A11G005

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Comments for METHOD O-EPH-S, SAMPLE 1107021-001A, Batch ID 840: Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.

Analytical Comments for METHOD O-EPH-S, SAMPLE 1107021-002A, Batch ID 840: Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.
Analytical Comments for METHOD O-EPH-S, SAMPLE 1107021-001ADUP, Batch ID 840: Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.
Analytical Comments for METHOD O-EPH-S, SAMPLE 1107021-001ADUP, Batch ID 840: Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.
Analytical Comments for METHOD O-EPH-S, SAMPLE 1107021-001ADUP, Batch ID 840: Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.
Analytical Comments for METHOD O-EPH-S, SAMPLE 1107021-001ADUP, Batch ID 840: Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.

Analytical Report

WO#: **1107021**

Date Reported: **7/14/2011**

Client: Apex Laboratories

Collection Date: 6/30/2011 11:10:00 AM

Project: A11G005

Lab ID: 1107021-001

Matrix: Soil

Client Sample ID: 8004-110630-P4-012

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH						Analyst: **PH**
Aliphatic Hydrocarbon (C8-C10)	ND	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aliphatic Hydrocarbon (C10-C12)	ND	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aliphatic Hydrocarbon (C12-C16)	ND	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aliphatic Hydrocarbon (C16-C21)	115	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aliphatic Hydrocarbon (C21-C34)	1,240	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aromatic Hydrocarbon (C10-C12)	ND	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aromatic Hydrocarbon (C12-C16)	ND	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aromatic Hydrocarbon (C16-C21)	90.5	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Aromatic Hydrocarbon (C21-C34)	849	52.9		mg/Kg-dry	10	7/12/2011 1:25:00 PM
Surr: 1-Chlorooctadecane	110	65-140		%REC	10	7/12/2011 1:25:00 PM
Surr: o-Terphenyl	102	65-140		%REC	10	7/12/2011 1:25:00 PM

NOTES:

Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.

Qualifiers:				
	B	Analyte detected in the associated Method Blank	D	Dilution was required
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1107021**
Date Reported: **7/14/2011**

Client: Apex Laboratories
Collection Date: 6/30/2011 1:50:00 PM
Project: A11G005
Lab ID: 1107021-002
Matrix: Soil
Client Sample ID: 8004-110630-P8-024

Extractable Petroleum Hydrocarbons by NWEPH

Analyst: **PH**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Aliphatic Hydrocarbon (C8-C10)	ND	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aliphatic Hydrocarbon (C10-C12)	ND	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aliphatic Hydrocarbon (C12-C16)	ND	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aliphatic Hydrocarbon (C16-C21)	154	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aliphatic Hydrocarbon (C21-C34)	632	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aromatic Hydrocarbon (C10-C12)	ND	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aromatic Hydrocarbon (C12-C16)	ND	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aromatic Hydrocarbon (C16-C21)	86.5	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Aromatic Hydrocarbon (C21-C34)	451	63.8		mg/Kg-dry	10	7/12/2011 1:59:00 PM
Surr: 1-Chlorooctadecane	112	65-140		%REC	10	7/12/2011 1:59:00 PM
Surr: o-Terphenyl	106	65-140		%REC	10	7/12/2011 1:59:00 PM

NOTES:
Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *7/14/2011*

Work Order: 1107021
CLIENT: Apex Laboratories
Project: A11G005

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **CCV-840** SampType: **CCV** Units: **mg/Kg** Prep Date: **7/8/2011** RunNo: **1336**
Client ID: **BATCH** Batch ID: **840** Analysis Date: **7/12/2011** SeqNo: **24777**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	43.0	5.00	40.00	0	107	65	140				
Aliphatic Hydrocarbon (C10-C12)	21.8	5.00	20.00	0	109	65	140				
Aliphatic Hydrocarbon (C12-C16)	23.5	5.00	20.00	0	118	65	140				
Aliphatic Hydrocarbon (C16-C21)	21.8	5.00	20.00	0	109	65	140				
Aliphatic Hydrocarbon (C21-C34)	22.4	5.00	20.00	0	112	65	140				
Aromatic Hydrocarbon (C8-C10)	43.0	5.00	40.00	0	107	65	140				
Aromatic Hydrocarbon (C10-C12)	21.8	5.00	20.00	0	109	65	140				
Aromatic Hydrocarbon (C12-C16)	24.5	5.00	20.00	0	123	65	140				
Aromatic Hydrocarbon (C16-C21)	21.8	5.00	20.00	0	109	65	140				
Aromatic Hydrocarbon (C21-C34)	22.4	5.00	20.00	0	112	65	140				
Surr: 1-Chlorooctadecane	41.3		40.00		103	65	140				
Surr: o-Terphenyl	41.3		40.00		103	65	140				

Sample ID: **MB-840** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/8/2011** RunNo: **1336**
Client ID: **MBLKS** Batch ID: **840** Analysis Date: **7/12/2011** SeqNo: **24778**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	5.00									
Aliphatic Hydrocarbon (C10-C12)	ND	5.00									
Aliphatic Hydrocarbon (C12-C16)	ND	5.00									
Aliphatic Hydrocarbon (C16-C21)	ND	5.00									
Aliphatic Hydrocarbon (C21-C34)	ND	5.00									
Aromatic Hydrocarbon (C8-C10)	ND	5.00									
Aromatic Hydrocarbon (C10-C12)	ND	5.00									
Aromatic Hydrocarbon (C12-C16)	ND	5.00									
Aromatic Hydrocarbon (C16-C21)	ND	5.00									

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits				

Date: *7/14/2011*

Work Order: 1107021
CLIENT: Apex Laboratories
Project: A11G005

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-840** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/8/2011** RunNo: **1336**
Client ID: **MBLKS** Batch ID: **840** Analysis Date: **7/12/2011** SeqNo: **24778**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C21-C34)	ND	5.00									
Surr: 1-Chlorooctadecane	38.3		40.00		95.9	65	140				
Surr: o-Terphenyl	37.0		40.00		92.6	65	140				

Sample ID: **LCS-840** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/8/2011** RunNo: **1336**
Client ID: **LCSS** Batch ID: **840** Analysis Date: **7/12/2011** SeqNo: **24779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	35.5	5.00	40.00	0	88.7	65	140				
Aliphatic Hydrocarbon (C10-C12)	17.3	5.00	20.00	0	86.5	65	140				
Aliphatic Hydrocarbon (C12-C16)	22.7	5.00	20.00	0	113	65	140				
Aliphatic Hydrocarbon (C16-C21)	21.2	5.00	20.00	0	106	65	140				
Aliphatic Hydrocarbon (C21-C34)	21.7	5.00	20.00	0	108	65	140				
Aromatic Hydrocarbon (C8-C10)	47.3	5.00	40.00	0	118	65	140				
Aromatic Hydrocarbon (C10-C12)	17.6	5.00	20.00	0	87.8	65	140				
Aromatic Hydrocarbon (C12-C16)	18.4	5.00	20.00	0	92.1	65	140				
Aromatic Hydrocarbon (C16-C21)	20.7	5.00	20.00	0	104	65	140				
Aromatic Hydrocarbon (C21-C34)	21.3	5.00	20.00	0	106	65	140				
Surr: 1-Chlorooctadecane	39.1		40.00		97.9	65	140				
Surr: o-Terphenyl	37.9		40.00		94.7	65	140				

Sample ID: **1107021-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/8/2011** RunNo: **1336**
Client ID: **8004-110630-P4-012** Batch ID: **840** Analysis Date: **7/12/2011** SeqNo: **24832**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	52.9						0	0	30	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits				

Date: *7/14/2011*

Work Order: 1107021
CLIENT: Apex Laboratories
Project: A11G005

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **1107021-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/8/2011** RunNo: **1336**
Client ID: **8004-110630-P4-012** Batch ID: **840** Analysis Date: **7/12/2011** SeqNo: **24832**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	52.9						0	0	30	
Aliphatic Hydrocarbon (C12-C16)	ND	52.9						0	0	30	
Aliphatic Hydrocarbon (C16-C21)	136	52.9						115.3	16.4	30	
Aliphatic Hydrocarbon (C21-C34)	1,650	52.9						1,245	28.1	30	
Aromatic Hydrocarbon (C8-C10)	ND	52.9						0	0	30	
Aromatic Hydrocarbon (C10-C12)	ND	52.9						0	0	30	
Aromatic Hydrocarbon (C12-C16)	ND	52.9						0	0	30	
Aromatic Hydrocarbon (C16-C21)	122	52.9						90.52	29.8	30	
Aromatic Hydrocarbon (C21-C34)	904	52.9						849.0	6.22	30	
Surr: 1-Chlorooctadecane	47.5		42.31		112	65	140		0		
Surr: o-Terphenyl	43.1		42.31		102	65	140		0		

NOTES:
Due to the high concentration of the target analyte, the parameter was run with a 1:10 dilution.

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits				

Sample Log-In Check List

Client Name: **APEX**	Work Order Number: **1107021**
Logged by: **Troy Zehr**	Date Received: **7/8/2011 12:30:00 PM**

Chain of Custody

1.	Were seals intact?	Yes ☐	No ☐	Not Present ☑
2.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3.	How was the sample delivered?	Client		

Log In

4.	Coolers are present?	Yes ☑	No ☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes ☐	No ☐	No VOA Vials ☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes ☑	No ☐	
13.	Does paperwork match bottle labels?	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Item #	Temp °C	Condition
Cooler 1	3.6	Good

SUBCONTRACT ORDER

Apex Laboratories

A11G005

1107021

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Fremont Analytical
1311 N 35th St
Seattle, WA 98103
Phone :(206) 352-3790
Fax: (206) 352-7178

Sample Name: 8004-110630-P4-012 **Soil** **Sampled: 06/30/11 11:10** (A11G005-12)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub) *Containers Supplied:* (B)4 oz Glass Jar	07/12/11 17:00	07/07/11 11:10	

Sample Name: 8004-110630-P8-024 **Soil** **Sampled: 06/30/11 13:50** (A11G005-24)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub) *Containers Supplied:* (A)8 oz Glass Jar	07/12/11 17:00	07/07/11 13:50	

Wednesday 7-13
Due ~~Tuesday 7-12~~ 7-7-11 KH

Released By	Date	Received By	Date
Jessy Lee	07/07/11 @ 15:30	Troy Zehr	7/8/11 12:30

APPENDIX J

Laboratory Report and Chain-of-Custody Documentation: Groundwater Samples

Apex Labs

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

Thursday, July 14, 2011

Jeff Dresser
Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

RE: PGE Hawthorne / 8004

Enclosed are the results of analyses for work order A11G024, which was received by the laboratory on 7/2/2011 at 9:35:00AM.

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

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

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
8004-110701-P4-100	A11G024-01	Water	07/01/11 08:30	07/02/11 09:35
8004-110701-P3-101	A11G024-02	Water	07/01/11 09:15	07/02/11 09:35
8004-110701-P1-102	A11G024-03	Water	07/01/11 09:00	07/02/11 09:35
8004-110701-P6-103	A11G024-04	Water	07/01/11 09:55	07/02/11 09:35
8004-110701-P7-104	A11G024-05	Water	07/01/11 11:15	07/02/11 09:35
8004-110701-P5-105	A11G024-06	Water	07/01/11 11:45	07/02/11 09:35
8004-110701-P10-106	A11G024-07	Water	07/01/11 10:20	07/02/11 09:35
8004-110701-P12-107	A11G024-08	Water	07/01/11 12:30	07/02/11 09:35
8004-110701-P12-108	A11G024-09	Water	07/01/11 12:30	07/02/11 09:35
8004-110701-P11-109	A11G024-10	Water	07/01/11 13:00	07/02/11 09:35

Apex Laboratories

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P4-100 (A11G024-01)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.198	mg/L	2.5	07/07/11 21:59	NWTPH-Dx	
Oil Range Organics	ND	---	0.396	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 58 %*	*Limits: 50-150 %*	"	"	"	
8004-110701-P3-101 (A11G024-02)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.192	mg/L	2.5	07/07/11 22:25	NWTPH-Dx	
Oil Range Organics	ND	---	0.385	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 82 %*	*Limits: 50-150 %*	"	"	"	
8004-110701-P1-102 (A11G024-03)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.250	mg/L	2.5	07/07/11 22:50	NWTPH-Dx	
Oil Range Organics	ND	---	0.500	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 77 %*	*Limits: 50-150 %*	"	"	"	
8004-110701-P6-103 (A11G024-04)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.194	mg/L	2.5	07/07/11 23:15	NWTPH-Dx	
Oil Range Organics	ND	---	0.388	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 87 %*	*Limits: 50-150 %*	"	"	"	
8004-110701-P7-104 (A11G024-05)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.192	mg/L	2.5	07/07/11 23:41	NWTPH-Dx	
Oil Range Organics	ND	---	0.385	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 76 %*	*Limits: 50-150 %*	"	"	"	
8004-110701-P5-105 (A11G024-06)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.192	mg/L	2.5	07/08/11 00:06	NWTPH-Dx	
Oil Range Organics	ND	---	0.385	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 83 %*	*Limits: 50-150 %*	"	"	"	
8004-110701-P10-106 (A11G024-07)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.192	mg/L	2.5	07/08/11 00:31	NWTPH-Dx	
Oil Range Organics	ND	---	0.385	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*	"	"	"	
8004-110701-P12-107 (A11G024-08)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.189	mg/L	2.5	07/08/11 00:56	NWTPH-Dx	
Oil Range Organics	ND	---	0.377	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P11-109 (A11G024-10)			**Matrix: Water**		**Batch: 1107065**			
Diesel Range Organics	ND	---	0.213	mg/L	2.5	07/08/11 01:21	NWTPH-Dx	
Oil Range Organics	ND	---	0.426	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P4-100 (A11G024-01)			**Matrix: Water**		**Batch: 1107024**			
Benzene	ND	---	0.250	ug/L	1	07/05/11 13:48	EPA 8260B	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	

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503-718-0333 Fax

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P4-100 (A11G024-01)			**Matrix: Water**		**Batch: 1107024**			
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 95 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*93 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P4-100 (A11G024-01RE1)			**Matrix: Water**		**Batch: 1107047**			
Acetone	ND	---	20.0	ug/L	1	07/06/11 13:21	EPA 8260B	Q-30
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 108 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
8004-110701-P3-101 (A11G024-02)			**Matrix: Water**		**Batch: 1107024**			
Acetone	ND	---	20.0	ug/L	1	07/05/11 14:14	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P3-101 (A11G024-02)			**Matrix: Water**		**Batch: 1107024**			
cis-1,2-Dichloroethene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P3-101 (A11G024-02)			**Matrix: Water**		**Batch: 1107024**			
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 94 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
1,4-Difluorobenzene (Surr)			*93 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
8004-110701-P1-102 (A11G024-03)			**Matrix: Water**		**Batch: 1107024**			
Acetone	ND	---	20.0	ug/L	1	07/05/11 14:44	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P1-102 (A11G024-03)			**Matrix: Water**		**Batch: 1107024**			
trans-1,2-Dichloroethene	ND	---	0.500	ug/L	1	"	EPA 8260B	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P1-102 (A11G024-03)			**Matrix: Water**		**Batch: 1107024**			
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 95 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*110 %*	*Limits: 80-120 %*	"	"	"	
8004-110701-P6-103 (A11G024-04)			**Matrix: Water**		**Batch: 1107024**			
Acetone	ND	---	20.0	ug/L	1	07/05/11 15:10	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P6-103 (A11G024-04)			**Matrix: Water**		**Batch: 1107024**			
1,2-Dichloropropane	ND	---	0.500	ug/L	1	"	EPA 8260B	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P6-103 (A11G024-04)			**Matrix: Water**		**Batch: 1107024**			
Surrogate: Toluene-d8 (Surr)			*Recovery: 99 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
4-Bromofluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	
8004-110701-P7-104 (A11G024-05)			**Matrix: Water**		**Batch: 1107024**			
Acetone	ND	---	20.0	ug/L	1	07/05/11 16:29	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P7-104 (A11G024-05)			**Matrix: Water**		**Batch: 1107024**			
1,3-Dichloropropane	ND	---	1.00	ug/L	1	"	EPA 8260B	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	1.00	"	"	"	"	R-06
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P7-104 (A11G024-05)			**Matrix: Water**		**Batch: 1107024**			
Surrogate: 4-Bromofluorobenzene (Surr)			*Recovery: 109 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
8004-110701-P5-105 (A11G024-06)			**Matrix: Water**		**Batch: 1107024**			
Acetone	ND	---	20.0	ug/L	1	07/05/11 16:55	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P5-105 (A11G024-06)			**Matrix: Water**		**Batch: 1107024**			
2,2-Dichloropropane	ND	---	1.00	ug/L	1	"	EPA 8260B	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P10-106 (A11G024-07)			**Matrix: Water**		**Batch: 1107024**			
Acetone	ND	---	20.0	ug/L	1	07/05/11 17:21	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P10-106 (A11G024-07)			**Matrix: Water**		**Batch: 1107024**			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 103 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P12-107 (A11G024-08)			**Matrix: Water**		**Batch: 1107024**			
Acetone	ND	---	20.0	ug/L	1	07/05/11 17:48	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P12-107 (A11G024-08)			**Matrix: Water**		**Batch: 1107024**			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 101 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*110 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P11-109 (A11G024-10)			**Matrix: Water**		**Batch: 1107024**			
Benzene	ND	---	0.250	ug/L	1	07/05/11 18:40	EPA 8260B	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	0.500	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P11-109 (A11G024-10)			**Matrix: Water**		**Batch: 1107024**			
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 106 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P11-109 (A11G024-10RE1)			**Matrix: Water**		**Batch: 1107047**			
Acetone	**36.2**	---	20.0	ug/L	1	07/06/11 13:46	EPA 8260B	Q-30
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 112 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*108 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*110 %*	*Limits: 80-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P3-101 (A11G024-02)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1016	ND	---	0.0935	ug/L	1	07/11/11 12:06	EPA 8082A	
Aroclor 1221	ND	---	0.0935	"	"	"	"	
Aroclor 1232	ND	---	0.0935	"	"	"	"	
Aroclor 1242	ND	---	0.0935	"	"	"	"	
Aroclor 1248	ND	---	0.0935	"	"	"	"	
Aroclor 1254	ND	---	0.0935	"	"	"	"	
Aroclor 1260	ND	---	0.0935	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 66 %*	*Limits: 30-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*86 %*	*Limits: 55-130 %*	"	"	"	
8004-110701-P6-103 (A11G024-04)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1016	ND	---	0.0943	ug/L	1	07/11/11 12:24	EPA 8082A	
Aroclor 1221	ND	---	0.0943	"	"	"	"	
Aroclor 1232	ND	---	0.0943	"	"	"	"	
Aroclor 1242	ND	---	0.0943	"	"	"	"	
Aroclor 1248	ND	---	0.0943	"	"	"	"	
Aroclor 1254	ND	---	0.0943	"	"	"	"	
Aroclor 1260	ND	---	0.0943	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 59 %*	*Limits: 30-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*75 %*	*Limits: 55-130 %*	"	"	"	
8004-110701-P7-104 (A11G024-05)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1016	ND	---	0.116	ug/L	1	07/11/11 12:41	EPA 8082A	
Aroclor 1221	ND	---	0.116	"	"	"	"	
Aroclor 1232	ND	---	0.116	"	"	"	"	
Aroclor 1242	ND	---	0.116	"	"	"	"	
Aroclor 1248	ND	---	0.116	"	"	"	"	
Aroclor 1254	ND	---	0.116	"	"	"	"	
Aroclor 1260	ND	---	0.116	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 67 %*	*Limits: 30-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*90 %*	*Limits: 55-130 %*	"	"	"	
8004-110701-P5-105 (A11G024-06)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1016	ND	---	0.100	ug/L	1	07/11/11 12:59	EPA 8082A	
Aroclor 1221	ND	---	0.100	"	"	"	"	
Aroclor 1232	ND	---	0.100	"	"	"	"	
Aroclor 1242	ND	---	0.100	"	"	"	"	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P5-105 (A11G024-06)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1248	ND	---	0.100	ug/L	1	"	EPA 8082A	
Aroclor 1254	ND	---	0.100	"	"	"	"	
Aroclor 1260	ND	---	0.100	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 70 %*	*Limits: 30-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*95 %*	*Limits: 55-130 %*	"	"	"	
8004-110701-P10-106 (A11G024-07)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1016	ND	---	0.0943	ug/L	1	07/11/11 13:16	EPA 8082A	
Aroclor 1221	ND	---	0.0943	"	"	"	"	
Aroclor 1232	ND	---	0.0943	"	"	"	"	
Aroclor 1242	ND	---	0.0943	"	"	"	"	
Aroclor 1248	ND	---	0.0943	"	"	"	"	
Aroclor 1254	ND	---	0.0943	"	"	"	"	
Aroclor 1260	ND	---	0.0943	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 64 %*	*Limits: 30-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*89 %*	*Limits: 55-130 %*	"	"	"	
8004-110701-P12-107 (A11G024-08)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1016	ND	---	0.0943	ug/L	1	07/11/11 13:34	EPA 8082A	
Aroclor 1221	ND	---	0.0943	"	"	"	"	
Aroclor 1232	ND	---	0.0943	"	"	"	"	
Aroclor 1242	ND	---	0.0943	"	"	"	"	
Aroclor 1248	ND	---	0.0943	"	"	"	"	
Aroclor 1254	ND	---	0.0943	"	"	"	"	
Aroclor 1260	ND	---	0.0943	"	"	"	"	
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 50 %*	*Limits: 30-125 %*	"	"	"	
Decachlorobiphenyl (Surr)			*97 %*	*Limits: 55-130 %*	"	"	"	
8004-110701-P12-108 (A11G024-09)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Aroclor 1016	ND	---	0.0943	ug/L	1	07/11/11 13:51	EPA 8082A	
Aroclor 1221	ND	---	0.0943	"	"	"	"	
Aroclor 1232	ND	---	0.0943	"	"	"	"	
Aroclor 1242	ND	---	0.0943	"	"	"	"	
Aroclor 1248	ND	---	0.0943	"	"	"	"	
Aroclor 1254	ND	---	0.0943	"	"	"	"	
Aroclor 1260	ND	---	0.0943	"	"	"	"	

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P12-108 (A11G024-09)			**Matrix: Water**		**Batch: 1107084**			**C-07**
Surrogate: 2,4,5,6-TCMX (Surr)			*Recovery: 46 %*	*Limits: 30-125 %*	1	"	EPA 8082A	
Decachlorobiphenyl (Surr)			*95 %*	*Limits: 55-130 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P4-100 (A11G024-01)			**Matrix: Water**		**Batch: 1107065**			
Acenaphthene	ND	---	0.0396	ug/L	1	07/07/11 20:43	EPA 8270D (SIM)	Q-30
Acenaphthylene	ND	---	0.0396	"	"	"	"	Q-30
Anthracene	ND	---	0.0396	"	"	"	"	
Benz(a)anthracene	ND	---	0.0396	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0396	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0396	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0396	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0396	"	"	"	"	
Chrysene	ND	---	0.0396	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0396	"	"	"	"	
Fluoranthene	ND	---	0.0396	"	"	"	"	
Fluorene	ND	---	0.0396	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0396	"	"	"	"	
Naphthalene	ND	---	0.0792	"	"	"	"	Q-30
Phenanthrene	ND	---	0.0396	"	"	"	"	
Pyrene	ND	---	0.0396	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 36 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*34 %*	*Limits: 45-120 %*	"	"	"	*S-06*
p-Terphenyl-d14 (Surr)			*68 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P3-101 (A11G024-02RE1)			**Matrix: Water**		**Batch: 1107099**			
Acenaphthene	ND	---	0.0377	ug/L	1	07/08/11 19:26	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0377	"	"	"	"	
Anthracene	ND	---	0.0377	"	"	"	"	
Benz(a)anthracene	ND	---	0.0377	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0377	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0377	"	"	"	"	
Chrysene	ND	---	0.0377	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0377	"	"	"	"	
Fluoranthene	ND	---	0.0377	"	"	"	"	
Fluorene	ND	---	0.0377	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0377	"	"	"	"	
Naphthalene	ND	---	0.0755	"	"	"	"	
Phenanthrene	ND	---	0.0377	"	"	"	"	
Pyrene	ND	---	0.0377	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 54 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*51 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*85 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P1-102 (A11G024-03)			**Matrix: Water**		**Batch: 1107065**			
Acenaphthene	ND	---	0.0500	ug/L	1	07/07/11 21:38	EPA 8270D (SIM)	Q-30
Acenaphthylene	ND	---	0.0500	"	"	"	"	Q-30
Anthracene	ND	---	0.0500	"	"	"	"	
Benz(a)anthracene	ND	---	0.0500	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0500	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0500	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0500	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0500	"	"	"	"	
Chrysene	ND	---	0.0500	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0500	"	"	"	"	
Fluoranthene	ND	---	0.0500	"	"	"	"	
Fluorene	ND	---	0.0500	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0500	"	"	"	"	
Naphthalene	ND	---	0.100	"	"	"	"	Q-30
Phenanthrene	ND	---	0.0500	"	"	"	"	
Pyrene	ND	---	0.0500	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 37 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*36 %*	*Limits: 45-120 %*	"	"	"	*S-06*
p-Terphenyl-d14 (Surr)			*73 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P6-103 (A11G024-04RE1)			**Matrix: Water**		**Batch: 1107099**			
Acenaphthene	**3.04**	---	0.0388	ug/L	1	07/08/11 19:54	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0388	"	"	"	"	
Anthracene	ND	---	0.0388	"	"	"	"	
Benz(a)anthracene	ND	---	0.0388	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0388	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0388	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0388	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0388	"	"	"	"	
Chrysene	ND	---	0.0388	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0388	"	"	"	"	
Fluoranthene	ND	---	0.0388	"	"	"	"	
Fluorene	ND	---	0.0388	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0388	"	"	"	"	
Naphthalene	ND	---	0.0777	"	"	"	"	
Phenanthrene	ND	---	0.0388	"	"	"	"	
Pyrene	**0.0438**	---	0.0388	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 74 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*74 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*91 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P7-104 (A11G024-05RE2)			**Matrix: Water**		**Batch: 1107099**			
Acenaphthene	ND	---	0.0392	ug/L	1	07/08/11 20:22	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0392	"	"	"	"	
Anthracene	ND	---	0.0392	"	"	"	"	
Benz(a)anthracene	ND	---	0.0392	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0392	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0392	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0392	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0392	"	"	"	"	
Chrysene	ND	---	0.0392	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0392	"	"	"	"	
Fluoranthene	ND	---	0.0392	"	"	"	"	
Fluorene	ND	---	0.0392	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0392	"	"	"	"	
Naphthalene	ND	---	0.0784	"	"	"	"	
Phenanthrene	ND	---	0.0392	"	"	"	"	
Pyrene	ND	---	0.0392	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 60 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*58 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*84 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P5-105 (A11G024-06RE1)			**Matrix: Water**		**Batch: 1107099**			
Acenaphthene	ND	---	0.0392	ug/L	1	07/08/11 20:50	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0392	"	"	"	"	
Anthracene	ND	---	0.0392	"	"	"	"	
Benz(a)anthracene	ND	---	0.0392	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0392	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0392	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0392	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0392	"	"	"	"	
Chrysene	ND	---	0.0392	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0392	"	"	"	"	
Fluoranthene	ND	---	0.0392	"	"	"	"	
Fluorene	ND	---	0.0392	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0392	"	"	"	"	
Naphthalene	ND	---	0.0784	"	"	"	"	
Phenanthrene	ND	---	0.0392	"	"	"	"	
Pyrene	ND	---	0.0392	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 56 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*54 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*81 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P10-106 (A11G024-07RE1)			**Matrix: Water**		**Batch: 1107099**			
Acenaphthene	ND	---	0.0377	ug/L	1	07/08/11 21:19	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0377	"	"	"	"	
Anthracene	ND	---	0.0377	"	"	"	"	
Benz(a)anthracene	ND	---	0.0377	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0377	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0377	"	"	"	"	
Chrysene	ND	---	0.0377	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0377	"	"	"	"	
Fluoranthene	ND	---	0.0377	"	"	"	"	
Fluorene	ND	---	0.0377	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0377	"	"	"	"	
Naphthalene	ND	---	0.0755	"	"	"	"	
Phenanthrene	ND	---	0.0377	"	"	"	"	
Pyrene	ND	---	0.0377	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 67 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*63 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*97 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P12-107 (A11G024-08RE1)			**Matrix: Water**		**Batch: 1107099**			
Acenaphthene	ND	---	0.0377	ug/L	1	07/08/11 21:47	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0377	"	"	"	"	
Anthracene	ND	---	0.0377	"	"	"	"	
Benz(a)anthracene	ND	---	0.0377	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0377	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0377	"	"	"	"	
Chrysene	ND	---	0.0377	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0377	"	"	"	"	
Fluoranthene	ND	---	0.0377	"	"	"	"	
Fluorene	ND	---	0.0377	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0377	"	"	"	"	
Naphthalene	ND	---	0.0755	"	"	"	"	
Phenanthrene	ND	---	0.0377	"	"	"	"	
Pyrene	ND	---	0.0377	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 65 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*59 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*87 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P11-109 (A11G024-10)			**Matrix: Water**		**Batch: 1107065**			
Acenaphthene	ND	---	0.0426	ug/L	1	07/08/11 17:08	EPA 8270D (SIM)	Q-30
Acenaphthylene	ND	---	0.0426	"	"	"	"	Q-30
Anthracene	ND	---	0.0426	"	"	"	"	
Benz(a)anthracene	ND	---	0.0426	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0426	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0426	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0426	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0426	"	"	"	"	
Chrysene	ND	---	0.0426	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0426	"	"	"	"	
Fluoranthene	ND	---	0.0426	"	"	"	"	
Fluorene	ND	---	0.0426	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0426	"	"	"	"	
Naphthalene	**0.0997**	---	0.0851	"	"	"	"	Q-30
Phenanthrene	ND	---	0.0426	"	"	"	"	
Pyrene	ND	---	0.0426	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 55 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*58 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*91 %*	*Limits: 30-120 %*	"	"	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P4-100 (A11G024-01)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	**3.19**	---	2.00	ug/L	1	07/07/11 15:15	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 11:57	"	
8004-110701-P3-101 (A11G024-02)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	ND	---	2.00	ug/L	1	07/07/11 15:39	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:00	"	
8004-110701-P1-102 (A11G024-03)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	ND	---	2.00	ug/L	1	07/07/11 15:42	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:03	"	
8004-110701-P6-103 (A11G024-04)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	**15.0**	---	2.00	ug/L	1	07/07/11 15:48	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:14	"	
8004-110701-P7-104 (A11G024-05)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	**9.40**	---	2.00	ug/L	1	07/07/11 15:56	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:24	"	
8004-110701-P5-105 (A11G024-06)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	**5.58**	---	2.00	ug/L	1	07/07/11 16:00	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:27	"	
8004-110701-P10-106 (A11G024-07)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	ND	---	2.00	ug/L	1	07/07/11 16:11	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:30	"	
8004-110701-P12-107 (A11G024-08)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	ND	---	2.00	ug/L	1	07/07/11 16:20	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:33	"	
8004-110701-P12-108 (A11G024-09)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	ND	---	2.00	ug/L	1	07/07/11 16:31	EPA 6020 (Diss)	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
8004-110701-P12-108 (A11G024-09)			**Matrix: Water**		**Batch: 1107077**			
Lead	ND	---	1.00	ug/L	1	"	EPA 6020 (Diss)	
Mercury	ND	---	0.0800	"	"	07/08/11 12:36	"	
8004-110701-P11-109 (A11G024-10)			**Matrix: Water**		**Batch: 1107077**			
Arsenic	ND	---	2.00	ug/L	1	07/07/11 16:34	EPA 6020 (Diss)	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	07/08/11 12:39	"	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107065 - EPA 3510C (Acid Extraction)							**Water**					
Blank (1107065-BLK2)					Prepared: 07/07/11 07:47		Analyzed: 07/07/11 20:42					
NWTPH-Dx												
Diesel Range Organics	ND	---	0.182	mg/L	2.5	---	---	---	---	---	---	
Oil Range Organics	ND	---	0.364	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 84 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS (1107065-BS2)					Prepared: 07/07/11 07:47		Analyzed: 07/07/11 21:08					
NWTPH-Dx												
Diesel Range Organics	0.915	---	0.200	mg/L	2.5	1.25	---	73	70-130%	---	---	
Oil Range Organics	1.32	---	0.400	"	"	"	---	105	"	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 82 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS Dup (1107065-BSD2)					Prepared: 07/07/11 07:47		Analyzed: 07/07/11 21:34					**Q-19**
NWTPH-Dx												
Diesel Range Organics	0.984	---	0.200	mg/L	2.5	1.25	---	79	70-130%	7	20%	
Oil Range Organics	1.34	---	0.400	"	"	"	---	107	"	1	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 86 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					

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4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107024 - EPA 5030B							**Water**					
Blank (1107024-BLK1)					Prepared: 07/05/11 11:57 Analyzed: 07/05/11 12:03							
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.250	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107024 - EPA 5030B							**Water**					
Blank (1107024-BLK1)					Prepared: 07/05/11 11:57 Analyzed: 07/05/11 12:03							
1,1-Dichloropropene	ND	---	1.00	ug/L	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	B-02
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery:*	*100 %*	*Limits:*	*80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)		*97 %*		*80-120 %*	*"*
Toluene-d8 (Surr)		*102 %*		*80-120 %*	*"*
4-Bromofluorobenzene (Surr)		*111 %*		*80-120 %*	*"*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107024 - EPA 5030B							**Water**					
LCS (1107024-BS1)						Prepared: 07/05/11 09:57	Analyzed: 07/05/11 11:04					
EPA 8260B												
Acetone	88.6	---	20.0	ug/L	1	40.0	---	222	70-130%	---	---	EST
Benzene	19.3	---	0.250	"	"	20.0	---	97	"	---	---	
Bromobenzene	24.2	---	0.500	"	"	"	---	121	"	---	---	
Bromochloromethane	20.3	---	1.00	"	"	"	---	102	"	---	---	
Bromodichloromethane	21.5	---	0.500	"	"	"	---	107	"	---	---	
Bromoform	28.2	---	1.00	"	"	"	---	141	"	---	---	EST
Bromomethane	22.1	---	5.00	"	"	"	---	111	"	---	---	
2-Butanone (MEK)	84.3	---	10.0	"	"	40.0	---	211	"	---	---	EST
n-Butylbenzene	24.8	---	1.00	"	"	20.0	---	124	"	---	---	
sec-Butylbenzene	23.8	---	1.00	"	"	"	---	119	"	---	---	
tert-Butylbenzene	25.7	---	1.00	"	"	"	---	128	"	---	---	
Carbon tetrachloride	22.0	---	0.500	"	"	"	---	110	"	---	---	
Chlorobenzene	21.7	---	0.500	"	"	"	---	109	"	---	---	
Chloroethane	14.6	---	5.00	"	"	"	---	73	"	---	---	
Chloroform	21.8	---	1.00	"	"	"	---	109	"	---	---	
Chloromethane	17.2	---	5.00	"	"	"	---	86	"	---	---	
2-Chlorotoluene	23.1	---	1.00	"	"	"	---	116	"	---	---	
4-Chlorotoluene	25.2	---	1.00	"	"	"	---	126	"	---	---	
1,2-Dibromo-3-chloropropane	37.7	---	5.00	"	"	"	---	189	"	---	---	EST
Dibromochloromethane	24.3	---	1.00	"	"	"	---	122	"	---	---	
1,2-Dibromoethane (EDB)	25.6	---	0.500	"	"	"	---	128	"	---	---	
Dibromomethane	23.1	---	1.00	"	"	"	---	116	"	---	---	
1,2-Dichlorobenzene	22.8	---	0.500	"	"	"	---	114	"	---	---	
1,3-Dichlorobenzene	22.9	---	0.500	"	"	"	---	115	"	---	---	
1,4-Dichlorobenzene	20.7	---	0.500	"	"	"	---	103	"	---	---	
Dichlorodifluoromethane	18.0	---	1.00	"	"	"	---	90	"	---	---	
1,1-Dichloroethane	19.6	---	0.500	"	"	"	---	98	"	---	---	
1,2-Dichloroethane (EDC)	21.7	---	0.500	"	"	"	---	109	"	---	---	
1,1-Dichloroethene	17.6	---	0.500	"	"	"	---	88	"	---	---	
cis-1,2-Dichloroethene	18.7	---	1.00	"	"	"	---	94	"	---	---	
trans-1,2-Dichloroethene	19.4	---	0.500	"	"	"	---	97	"	---	---	
1,2-Dichloropropane	20.6	---	0.500	"	"	"	---	103	"	---	---	
1,3-Dichloropropane	23.8	---	1.00	"	"	"	---	119	"	---	---	
2,2-Dichloropropane	20.2	---	1.00	"	"	"	---	101	"	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107024 - EPA 5030B							**Water**					
LCS (1107024-BS1)					Prepared: 07/05/11 09:57 Analyzed: 07/05/11 11:04							
1,1-Dichloropropene	20.2	---	1.00	ug/L	"	"	---	101	"	---	---	
cis-1,3-Dichloropropene	22.5	---	1.00	"	"	"	---	112	"	---	---	
trans-1,3-Dichloropropene	24.4	---	1.00	"	"	"	---	122	"	---	---	
Ethylbenzene	22.8	---	0.500	"	"	"	---	114	"	---	---	
Hexachlorobutadiene	25.2	---	5.00	"	"	"	---	126	"	---	---	
2-Hexanone	91.5	---	10.0	"	"	40.0	---	229	"	---	---	EST
Isopropylbenzene	24.5	---	1.00	"	"	20.0	---	122	"	---	---	
4-Isopropyltoluene	24.8	---	1.00	"	"	"	---	124	"	---	---	
4-Methyl-2-pentanone (MiBK)	75.1	---	10.0	"	"	40.0	---	188	"	---	---	EST
Methyl tert-butyl ether (MTBE)	20.9	---	1.00	"	"	20.0	---	104	"	---	---	
Methylene chloride	18.0	---	5.00	"	"	"	---	90	"	---	---	
Naphthalene	33.5	---	2.00	"	"	"	---	167	"	---	---	EST
n-Propylbenzene	24.5	---	0.500	"	"	"	---	122	"	---	---	
Styrene	24.0	---	1.00	"	"	"	---	120	"	---	---	
1,1,1,2-Tetrachloroethane	22.7	---	0.500	"	"	"	---	113	"	---	---	
1,1,2,2-Tetrachloroethane	31.6	---	0.500	"	"	"	---	158	"	---	---	EST
Tetrachloroethene (PCE)	21.9	---	0.500	"	"	"	---	110	"	---	---	
Toluene	20.1	---	1.00	"	"	"	---	100	"	---	---	
1,2,3-Trichlorobenzene	25.9	---	1.00	"	"	"	---	129	"	---	---	
1,2,4-Trichlorobenzene	24.3	---	2.00	"	"	"	---	121	"	---	---	
1,1,1-Trichloroethane	21.8	---	0.500	"	"	"	---	109	"	---	---	
1,1,2-Trichloroethane	23.4	---	0.500	"	"	"	---	117	"	---	---	
Trichloroethene (TCE)	20.5	---	0.500	"	"	"	---	103	"	---	---	
Trichlorofluoromethane	24.7	---	2.00	"	"	"	---	124	"	---	---	
1,2,3-Trichloropropane	34.5	---	1.00	"	"	"	---	172	"	---	---	EST
1,2,4-Trimethylbenzene	26.2	---	1.00	"	"	"	---	131	"	---	---	Q-29
1,3,5-Trimethylbenzene	24.8	---	1.00	"	"	"	---	124	"	---	---	
Vinyl chloride	19.4	---	0.500	"	"	"	---	97	"	---	---	
m,p-Xylene	47.2	---	1.00	"	"	40.0	---	118	"	---	---	
o-Xylene	22.8	---	0.500	"	"	20.0	---	114	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 96 %*	*Limits: 80-120 %*	*Dilution: 1x*	
1,4-Difluorobenzene (Surr)	*98 %*	*80-120 %*	*"*	
Toluene-d8 (Surr)	*97 %*	*80-120 %*	*"*	
4-Bromofluorobenzene (Surr)	*111 %*	*80-120 %*	*"*	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107024 - EPA 5030B							**Water**					
Matrix Spike (1107024-MS1)						Prepared: 07/05/11 11:57	Analyzed: 07/05/11 19:10					
QC Source Sample: 8004-110701-P11-109 (A11G024-10)												
EPA 8260B												
Acetone	194	---	20.0	ug/L	1	40.0	120	185	70-130%	---	---	EST
Benzene	21.3	---	0.250	"	"	20.0	0.170	106	"	---	---	
Bromobenzene	21.8	---	0.500	"	"	"	ND	109	"	---	---	
Bromochloromethane	22.1	---	1.00	"	"	"	ND	111	"	---	---	
Bromodichloromethane	23.8	---	0.500	"	"	"	ND	119	"	---	---	
Bromoform	26.6	---	1.00	"	"	"	ND	133	"	---	---	EST
Bromomethane	19.7	---	5.00	"	"	"	ND	98	"	---	---	
2-Butanone (MEK)	80.3	---	10.0	"	"	40.0	ND	201	"	---	---	EST
n-Butylbenzene	22.6	---	1.00	"	"	20.0	ND	113	"	---	---	
sec-Butylbenzene	22.8	---	1.00	"	"	"	ND	114	"	---	---	
tert-Butylbenzene	24.8	---	1.00	"	"	"	ND	124	"	---	---	
Carbon tetrachloride	24.2	---	0.500	"	"	"	ND	121	"	---	---	
Chlorobenzene	21.1	---	0.500	"	"	"	ND	106	"	---	---	
Chloroethane	16.3	---	5.00	"	"	"	ND	81	"	---	---	
Chloroform	23.8	---	1.00	"	"	"	ND	119	"	---	---	
Chloromethane	18.6	---	5.00	"	"	"	ND	93	"	---	---	
2-Chlorotoluene	21.0	---	1.00	"	"	"	ND	105	"	---	---	
4-Chlorotoluene	24.4	---	1.00	"	"	"	ND	122	"	---	---	
1,2-Dibromo-3-chloropropane	36.9	---	5.00	"	"	"	ND	184	"	---	---	EST
Dibromochloromethane	23.5	---	1.00	"	"	"	ND	117	"	---	---	
1,2-Dibromoethane (EDB)	24.7	---	0.500	"	"	"	ND	124	"	---	---	
Dibromomethane	24.0	---	1.00	"	"	"	ND	120	"	---	---	
1,2-Dichlorobenzene	21.4	---	0.500	"	"	"	ND	107	"	---	---	
1,3-Dichlorobenzene	20.5	---	0.500	"	"	"	ND	102	"	---	---	
1,4-Dichlorobenzene	20.4	---	0.500	"	"	"	ND	102	"	---	---	
Dichlorodifluoromethane	19.7	---	1.00	"	"	"	ND	98	"	---	---	
1,1-Dichloroethane	22.5	---	0.500	"	"	"	ND	112	"	---	---	
1,2-Dichloroethane (EDC)	24.6	---	0.500	"	"	"	0.270	122	"	---	---	
1,1-Dichloroethene	20.2	---	0.500	"	"	"	ND	101	"	---	---	
cis-1,2-Dichloroethene	20.0	---	1.00	"	"	"	ND	100	"	---	---	
trans-1,2-Dichloroethene	21.8	---	0.500	"	"	"	ND	109	"	---	---	
1,2-Dichloropropane	22.5	---	0.500	"	"	"	ND	113	"	---	---	
1,3-Dichloropropane	23.8	---	1.00	"	"	"	ND	119	"	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107024 - EPA 5030B							**Water**					
Matrix Spike (1107024-MS1)						Prepared: 07/05/11 11:57	Analyzed: 07/05/11 19:10					
QC Source Sample: 8004-110701-P11-109 (A11G024-10)												
2,2-Dichloropropane	20.8	---	1.00	ug/L	"	"	ND	104	"	---	---	
1,1-Dichloropropene	22.9	---	1.00	"	"	"	ND	115	"	---	---	
cis-1,3-Dichloropropene	21.7	---	1.00	"	"	"	ND	109	"	---	---	
trans-1,3-Dichloropropene	23.9	---	1.00	"	"	"	ND	120	"	---	---	
Ethylbenzene	22.8	---	0.500	"	"	"	ND	114	"	---	---	
Hexachlorobutadiene	21.0	---	5.00	"	"	"	ND	105	"	---	---	
2-Hexanone	92.5	---	10.0	"	"	40.0	ND	231	"	---	---	EST
Isopropylbenzene	24.3	---	1.00	"	"	20.0	ND	121	"	---	---	
4-Isopropyltoluene	22.5	---	1.00	"	"	"	ND	113	"	---	---	
4-Methyl-2-pentanone (MiBK)	82.5	---	10.0	"	"	40.0	ND	206	"	---	---	EST
Methyl tert-butyl ether (MTBE)	21.2	---	1.00	"	"	20.0	ND	106	"	---	---	
Methylene chloride	18.9	---	5.00	"	"	"	ND	94	"	---	---	
Naphthalene	28.3	---	2.00	"	"	"	ND	141	"	---	---	EST
n-Propylbenzene	23.4	---	0.500	"	"	"	ND	117	"	---	---	
Styrene	20.8	---	1.00	"	"	"	ND	104	"	---	---	
1,1,1,2-Tetrachloroethane	21.9	---	0.500	"	"	"	ND	110	"	---	---	
1,1,2,2-Tetrachloroethane	31.0	---	0.500	"	"	"	ND	155	"	---	---	EST
Tetrachloroethene (PCE)	20.7	---	0.500	"	"	"	ND	104	"	---	---	
Toluene	20.6	---	1.00	"	"	"	ND	103	"	---	---	
1,2,3-Trichlorobenzene	21.1	---	1.00	"	"	"	ND	106	"	---	---	
1,2,4-Trichlorobenzene	19.9	---	2.00	"	"	"	ND	99	"	---	---	
1,1,1-Trichloroethane	24.2	---	0.500	"	"	"	ND	121	"	---	---	
1,1,2-Trichloroethane	23.4	---	0.500	"	"	"	ND	117	"	---	---	
Trichloroethene (TCE)	21.1	---	0.500	"	"	"	ND	106	"	---	---	
Trichlorofluoromethane	29.3	---	2.00	"	"	"	ND	147	"	---	---	Q-01
1,2,3-Trichloropropane	34.6	---	1.00	"	"	"	ND	173	"	---	---	EST
1,2,4-Trimethylbenzene	23.2	---	1.00	"	"	"	ND	116	"	---	---	Q-29
1,3,5-Trimethylbenzene	23.2	---	1.00	"	"	"	ND	116	"	---	---	
Vinyl chloride	22.8	---	0.500	"	"	"	ND	114	"	---	---	
m,p-Xylene	47.4	---	1.00	"	"	40.0	ND	118	"	---	---	
o-Xylene	22.8	---	0.500	"	"	20.0	ND	114	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 102 %*	*Limits: 80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*99 %*	*80-120 %*	*"*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 1107024 - EPA 5030B — **Water**

Matrix Spike (1107024-MS1) — Prepared: 07/05/11 11:57 Analyzed: 07/05/11 19:10

QC Source Sample: 8004-110701-P11-109 (A11G024-10)

Surr:	*Toluene-d8 (Surr)*	*Recovery:*	*99 %*	*Limits:*	*80-120 %*	*Dilution:* *1x*
	4-Bromofluorobenzene (Surr)		*101 %*		*80-120 %*	*"*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107047 - EPA 5030B							**Water**					
Blank (1107047-BLK1)					Prepared: 07/06/11 11:00 Analyzed: 07/06/11 12:56							
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	Q-30
Benzene	ND	---	0.250	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107047 - EPA 5030B							**Water**					
Blank (1107047-BLK1)					Prepared: 07/06/11 11:00 Analyzed: 07/06/11 12:56							
1,1-Dichloropropene	ND	---	1.00	ug/L	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	A-01a
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*109 %*	*Limits:*	*80-120 %*	*Dilution: 1x*
	1,4-Difluorobenzene (Surr)		*107 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*99 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*106 %*		*80-120 %*	*"*

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Philip Nerenberg, Lab Director

Apex Labs

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107047 - EPA 5030B							**Water**					
LCS (1107047-BS1)						Prepared: 07/06/11 11:00	Analyzed: 07/06/11 11:42					
EPA 8260B												
Acetone	26.9	---	20.0	ug/L	1	40.0	---	67	70-130%	---	---	Q-30
Benzene	22.3	---	0.250	"	"	20.0	---	111	"	---	---	
Bromobenzene	23.9	---	0.500	"	"	"	---	120	"	---	---	
Bromochloromethane	21.1	---	1.00	"	"	"	---	105	"	---	---	
Bromodichloromethane	24.0	---	0.500	"	"	"	---	120	"	---	---	
Bromoform	24.4	---	1.00	"	"	"	---	122	"	---	---	
Bromomethane	23.2	---	5.00	"	"	"	---	116	"	---	---	
2-Butanone (MEK)	30.3	---	10.0	"	"	40.0	---	76	"	---	---	
n-Butylbenzene	21.7	---	1.00	"	"	20.0	---	109	"	---	---	
sec-Butylbenzene	21.9	---	1.00	"	"	"	---	109	"	---	---	
tert-Butylbenzene	21.1	---	1.00	"	"	"	---	105	"	---	---	
Carbon tetrachloride	23.6	---	0.500	"	"	"	---	118	"	---	---	
Chlorobenzene	21.4	---	0.500	"	"	"	---	107	"	---	---	
Chloroethane	49.8	---	5.00	"	"	"	---	249	"	---	---	EST
Chloroform	22.1	---	1.00	"	"	"	---	110	"	---	---	
Chloromethane	16.2	---	5.00	"	"	"	---	81	"	---	---	
2-Chlorotoluene	23.3	---	1.00	"	"	"	---	116	"	---	---	
4-Chlorotoluene	22.2	---	1.00	"	"	"	---	111	"	---	---	
1,2-Dibromo-3-chloropropane	25.1	---	5.00	"	"	"	---	125	"	---	---	
Dibromochloromethane	23.2	---	1.00	"	"	"	---	116	"	---	---	
1,2-Dibromoethane (EDB)	23.3	---	0.500	"	"	"	---	117	"	---	---	
Dibromomethane	24.2	---	1.00	"	"	"	---	121	"	---	---	
1,2-Dichlorobenzene	22.9	---	0.500	"	"	"	---	114	"	---	---	
1,3-Dichlorobenzene	22.9	---	0.500	"	"	"	---	114	"	---	---	
1,4-Dichlorobenzene	21.6	---	0.500	"	"	"	---	108	"	---	---	
Dichlorodifluoromethane	16.0	---	1.00	"	"	"	---	80	"	---	---	
1,1-Dichloroethane	20.4	---	0.500	"	"	"	---	102	"	---	---	
1,2-Dichloroethane (EDC)	20.1	---	0.500	"	"	"	---	100	"	---	---	
1,1-Dichloroethene	16.4	---	0.500	"	"	"	---	82	"	---	---	
cis-1,2-Dichloroethene	20.4	---	1.00	"	"	"	---	102	"	---	---	
trans-1,2-Dichloroethene	19.6	---	0.500	"	"	"	---	98	"	---	---	
1,2-Dichloropropane	22.0	---	0.500	"	"	"	---	110	"	---	---	
1,3-Dichloropropane	21.1	---	1.00	"	"	"	---	106	"	---	---	
2,2-Dichloropropane	21.6	---	1.00	"	"	"	---	108	"	---	---	

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Philip Nerenberg, Lab Director

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107047 - EPA 5030B							**Water**					
LCS (1107047-BS1)					Prepared: 07/06/11 11:00		Analyzed: 07/06/11 11:42					
1,1-Dichloropropene	21.3	---	1.00	ug/L	"	"	---	106	"	---	---	
cis-1,3-Dichloropropene	21.8	---	1.00	"	"	"	---	109	"	---	---	
trans-1,3-Dichloropropene	21.8	---	1.00	"	"	"	---	109	"	---	---	
Ethylbenzene	21.3	---	0.500	"	"	"	---	106	"	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	"	---		"	---	---	A-01a
2-Hexanone	32.6	---	10.0	"	"	40.0	---	82	"	---	---	
Isopropylbenzene	21.1	---	1.00	"	"	20.0	---	106	"	---	---	
4-Isopropyltoluene	21.6	---	1.00	"	"	"	---	108	"	---	---	
4-Methyl-2-pentanone (MiBK)	38.1	---	10.0	"	"	40.0	---	95	"	---	---	
Methyl tert-butyl ether (MTBE)	18.3	---	1.00	"	"	20.0	---	92	"	---	---	
Methylene chloride	20.9	---	5.00	"	"	"	---	105	"	---	---	
Naphthalene	23.6	---	2.00	"	"	"	---	118	"	---	---	
n-Propylbenzene	21.6	---	0.500	"	"	"	---	108	"	---	---	
Styrene	21.8	---	1.00	"	"	"	---	109	"	---	---	
1,1,1,2-Tetrachloroethane	24.2	---	0.500	"	"	"	---	121	"	---	---	
1,1,2,2-Tetrachloroethane	23.7	---	0.500	"	"	"	---	119	"	---	---	
Tetrachloroethene (PCE)	24.0	---	0.500	"	"	"	---	120	"	---	---	
Toluene	20.9	---	1.00	"	"	"	---	105	"	---	---	
1,2,3-Trichlorobenzene	26.0	---	2.00	"	"	"	---	130	"	---	---	
1,2,4-Trichlorobenzene	25.6	---	2.00	"	"	"	---	128	"	---	---	
1,1,1-Trichloroethane	21.4	---	0.500	"	"	"	---	107	"	---	---	
1,1,2-Trichloroethane	22.0	---	0.500	"	"	"	---	110	"	---	---	
Trichloroethene (TCE)	23.9	---	0.500	"	"	"	---	119	"	---	---	
Trichlorofluoromethane	173	---	2.00	"	"	"	---	863	"	---	---	EST
1,2,3-Trichloropropane	22.7	---	1.00	"	"	"	---	114	"	---	---	
1,2,4-Trimethylbenzene	23.2	---	1.00	"	"	"	---	116	"	---	---	
1,3,5-Trimethylbenzene	22.6	---	1.00	"	"	"	---	113	"	---	---	
Vinyl chloride	18.8	---	0.500	"	"	"	---	94	"	---	---	
m,p-Xylene	43.5	---	1.00	"	"	40.0	---	109	"	---	---	
o-Xylene	21.2	---	0.500	"	"	20.0	---	106	"	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*106 %*	*Limits:*	*80-120 %*	*Dilution:* *1x*
	1,4-Difluorobenzene (Surr)		*104 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*97 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*107 %*		*80-120 %*	*"*

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107084 - EPA 3510C (Neutral pH)							**Water**					
Blank (1107084-BLK1)					Prepared: 07/08/11 08:05	Analyzed: 07/11/11 11:14						**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.0909	ug/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.0909	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.0909	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.0909	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.0909	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.0909	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.0909	"	"	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 65 %*	*Limits: 30-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*100 %*	*55-130 %*			*"*					
LCS (1107084-BS1)					Prepared: 07/08/11 08:05	Analyzed: 07/11/11 11:31						**C-07**
EPA 8082A												
Aroclor 1016	2.30	---	0.100	ug/L	1	2.50	---	92	40-140%	---	---	
Aroclor 1260	2.60	---	0.100	"	"	"	---	104	"	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 69 %*	*Limits: 30-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*90 %*	*55-130 %*			*"*					
LCS Dup (1107084-BSD1)					Prepared: 07/08/11 08:05	Analyzed: 07/11/11 11:49						**C-07, Q-19**
EPA 8082A												
Aroclor 1016	2.45	---	0.100	ug/L	1	2.50	---	98	40-140%	6	30%	
Aroclor 1260	2.79	---	0.100	"	"	"	---	112	"	7	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 73 %*	*Limits: 30-125 %*			*Dilution: 1x*					
Decachlorobiphenyl (Surr)			*95 %*	*55-130 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107065 - EPA 3510C (Acid Extraction)							**Water**					
Blank (1107065-BLK1)					Prepared: 07/07/11 07:47		Analyzed: 07/07/11 18:22					
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	0.0727	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 58 %*		*Limits: 35-120 %*		*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*59 %*		*45-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*95 %*		*30-120 %*		*"*					
LCS (1107065-BS1)					Prepared: 07/07/11 07:47		Analyzed: 07/07/11 18:51					
EPA 8270D (SIM)												
Acenaphthene	3.46	---	0.0400	ug/L	1	8.00	---	43	45-125%	---	---	Q-30
Acenaphthylene	3.18	---	0.0400	"	"	"	---	40	50-125%	---	---	Q-30
Anthracene	6.12	---	0.0400	"	"	"	---	76	55-125%	---	---	
Benz(a)anthracene	7.40	---	0.0400	"	"	"	---	92	"	---	---	
Benzo(a)pyrene	8.09	---	0.0400	"	"	"	---	101	"	---	---	
Benzo(b)fluoranthene	7.78	---	0.0400	"	"	"	---	97	45-125%	---	---	
Benzo(k)fluoranthene	8.00	---	0.0400	"	"	"	---	100	"	---	---	
Benzo(b+k)fluoranthene(s)	15.7	---	0.0800	"	"	16.0	---	98	"	---	---	
Benzo(g,h,i)perylene	7.81	---	0.0400	"	"	8.00	---	98	40-125%	---	---	
Chrysene	7.79	---	0.0400	"	"	"	---	97	55-125%	---	---	
Dibenz(a,h)anthracene	8.01	---	0.0400	"	"	"	---	100	40-125%	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107065 - EPA 3510C (Acid Extraction)							**Water**					
LCS (1107065-BS1)					Prepared: 07/07/11 07:47	Analyzed: 07/07/11 18:51						
Fluoranthene	7.29	---	0.0400	ug/L	"	"	---	91	55-125%	---	---	
Fluorene	4.19	---	0.0400	"	"	"	---	52	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	7.62	---	0.0400	"	"	"	---	95	45-125%	---	---	
Naphthalene	2.34	---	0.0800	"	"	"	---	29	40-125%	---	---	Q-30
Phenanthrene	5.67	---	0.0400	"	"	"	---	71	50-125%	---	---	
Pyrene	7.12	---	0.0400	"	"	"	---	89	"	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 27 %*	*Limits: 35-120 %*			*Dilution: 1x*					*S-06*
2-Fluorobiphenyl (Surr)			*29 %*	*45-120 %*			*"*					*S-06*
p-Terphenyl-d14 (Surr)			*88 %*	*30-120 %*			*"*					
LCS Dup (1107065-BSD1)					Prepared: 07/07/11 07:47	Analyzed: 07/07/11 19:19						**Q-19**
EPA 8270D (SIM)												
Acenaphthene	5.75	---	0.0400	ug/L	1	8.00	---	72	45-125%	50	30%	
Acenaphthylene	5.44	---	0.0400	"	"	"	---	68	50-125%	53	30%	Q-17
Anthracene	6.85	---	0.0400	"	"	"	---	86	55-125%	11	30%	
Benz(a)anthracene	7.29	---	0.0400	"	"	"	---	91	"	1	30%	
Benzo(a)pyrene	8.06	---	0.0400	"	"	"	---	101	"	0.3	30%	
Benzo(b)fluoranthene	7.64	---	0.0400	"	"	"	---	96	45-125%	2	30%	
Benzo(k)fluoranthene	8.05	---	0.0400	"	"	"	---	101	"	0.6	30%	
Benzo(b+k)fluoranthene(s)	15.7	---	0.0800	"	"	16.0	---	98	"	0.6	30%	
Benzo(g,h,i)perylene	7.70	---	0.0400	"	"	8.00	---	96	40-125%	2	30%	
Chrysene	7.79	---	0.0400	"	"	"	---	97	55-125%	0.02	30%	
Dibenz(a,h)anthracene	8.00	---	0.0400	"	"	"	---	100	40-125%	0.01	30%	
Fluoranthene	7.48	---	0.0400	"	"	"	---	93	55-125%	3	30%	
Fluorene	5.91	---	0.0400	"	"	"	---	74	50-125%	34	30%	Q-17
Indeno(1,2,3-cd)pyrene	7.57	---	0.0400	"	"	"	---	95	45-125%	0.6	30%	
Naphthalene	4.67	---	0.0800	"	"	"	---	58	40-125%	66	30%	Q-17
Phenanthrene	6.56	---	0.0400	"	"	"	---	82	50-125%	15	30%	
Pyrene	7.26	---	0.0400	"	"	"	---	91	"	2	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 56 %*	*Limits: 35-120 %*			*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*54 %*	*45-120 %*			*"*					
p-Terphenyl-d14 (Surr)			*84 %*	*30-120 %*			*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107099 - EPA 3510C (Acid Extraction)							**Water**					
Blank (1107099-BLK1)					Prepared: 07/08/11 12:40		Analyzed: 07/08/11 18:03					
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	0.0727	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 67 %*		*Limits: 35-120 %*			*Dilution: 1x*				
2-Fluorobiphenyl (Surr)			*70 %*		*45-120 %*			*"*				
p-Terphenyl-d14 (Surr)			*95 %*		*30-120 %*			*"*				
LCS (1107099-BS1)					Prepared: 07/08/11 12:40		Analyzed: 07/08/11 18:31					
EPA 8270D (SIM)												
Acenaphthene	7.06	---	0.0400	ug/L	1	8.00	---	88	45-125%	---	---	
Acenaphthylene	6.85	---	0.0400	"	"	"	---	86	50-125%	---	---	
Anthracene	7.53	---	0.0400	"	"	"	---	94	55-125%	---	---	
Benz(a)anthracene	7.59	---	0.0400	"	"	"	---	95	"	---	---	
Benzo(a)pyrene	8.27	---	0.0400	"	"	"	---	103	"	---	---	
Benzo(b)fluoranthene	7.66	---	0.0400	"	"	"	---	96	45-125%	---	---	
Benzo(k)fluoranthene	8.15	---	0.0400	"	"	"	---	102	"	---	---	
Benzo(b+k)fluoranthene(s)	15.8	---	0.0800	"	"	16.0	---	99	"	---	---	
Benzo(g,h,i)perylene	8.22	---	0.0400	"	"	8.00	---	103	40-125%	---	---	
Chrysene	7.88	---	0.0400	"	"	"	---	99	55-125%	---	---	
Dibenz(a,h)anthracene	8.52	---	0.0400	"	"	"	---	107	40-125%	---	---	

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107099 - EPA 3510C (Acid Extraction)							**Water**					
LCS (1107099-BS1)					Prepared: 07/08/11 12:40		Analyzed: 07/08/11 18:31					
Fluoranthene	7.79	---	0.0400	ug/L	"	"	---	97	55-125%	---	---	
Fluorene	7.05	---	0.0400	"	"	"	---	88	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	7.98	---	0.0400	"	"	"	---	100	45-125%	---	---	
Naphthalene	5.86	---	0.0800	"	"	"	---	73	40-125%	---	---	
Phenanthrene	7.29	---	0.0400	"	"	"	---	91	50-125%	---	---	
Pyrene	7.54	---	0.0400	"	"	"	---	94	"	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 72 %*		*Limits: 35-120 %*		*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*73 %*		*45-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*95 %*		*30-120 %*		*"*					
LCS Dup (1107099-BSD1)					Prepared: 07/08/11 12:40		Analyzed: 07/08/11 18:59					**Q-19**
EPA 8270D (SIM)												
Acenaphthene	5.89	---	0.0400	ug/L	1	8.00	---	74	45-125%	18	30%	
Acenaphthylene	5.59	---	0.0400	"	"	"	---	70	50-125%	20	30%	
Anthracene	7.08	---	0.0400	"	"	"	---	88	55-125%	6	30%	
Benz(a)anthracene	7.60	---	0.0400	"	"	"	---	95	"	0.09	30%	
Benzo(a)pyrene	8.52	---	0.0400	"	"	"	---	107	"	3	30%	
Benzo(b)fluoranthene	7.96	---	0.0400	"	"	"	---	100	45-125%	4	30%	
Benzo(k)fluoranthene	8.22	---	0.0400	"	"	"	---	103	"	0.9	30%	
Benzo(b+k)fluoranthene(s)	16.1	---	0.0800	"	"	16.0	---	101	"	2	30%	
Benzo(g,h,i)perylene	8.54	---	0.0400	"	"	8.00	---	107	40-125%	4	30%	
Chrysene	8.03	---	0.0400	"	"	"	---	100	55-125%	2	30%	
Dibenz(a,h)anthracene	8.68	---	0.0400	"	"	"	---	109	40-125%	2	30%	
Fluoranthene	7.93	---	0.0400	"	"	"	---	99	55-125%	2	30%	
Fluorene	5.74	---	0.0400	"	"	"	---	72	50-125%	20	30%	
Indeno(1,2,3-cd)pyrene	8.14	---	0.0400	"	"	"	---	102	45-125%	2	30%	
Naphthalene	4.76	---	0.0800	"	"	"	---	59	40-125%	21	30%	
Phenanthrene	6.85	---	0.0400	"	"	"	---	86	50-125%	6	30%	
Pyrene	7.79	---	0.0400	"	"	"	---	97	"	3	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 58 %*		*Limits: 35-120 %*		*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*58 %*		*45-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*92 %*		*30-120 %*		*"*					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107077 - EPA 3015A - Dissolved							**Water**					
Blank (1107077-BLK1)					Prepared: 07/07/11 10:30		Analyzed: 07/07/11 14:46					
EPA 6020 (Diss)												
Arsenic	ND	---	2.00	ug/L	1	---	---	---	---	---	---	A-02a
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	A-02a
Blank (1107077-BLK2)					Prepared: 07/07/11 10:30		Analyzed: 07/07/11 15:45					
EPA 6020 (Diss)												
Arsenic	ND	---	90.0	ug/L	1	---	---	---	---	---	---	A-01
Lead	ND	---	45.0	"	"	---	---	---	---	---	---	A-01
Blank (1107077-BLK3)					Prepared: 07/07/11 10:30		Analyzed: 07/07/11 15:01					
EPA 6020 (Diss)												
Arsenic	ND	---	2.00	ug/L	1	---	---	---	---	---	---	A-03
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	A-03
Blank (1107077-BLK4)					Prepared: 07/07/11 10:30		Analyzed: 07/08/11 11:45					
EPA 6020 (Diss)												
Mercury	ND	---	0.0800	ug/L	1	---	---	---	---	---	---	Q-16
Blank (1107077-BLK5)					Prepared: 07/07/11 10:30		Analyzed: 07/08/11 11:48					
EPA 6020 (Diss)												
Mercury	ND	---	3.60	ug/L	1	---	---	---	---	---	---	A-01, FILT1, Q-16
Blank (1107077-BLK6)					Prepared: 07/07/11 10:30		Analyzed: 07/08/11 11:51					
EPA 6020 (Diss)												
Mercury	ND	---	0.0800	ug/L	1	---	---	---	---	---	---	A-02, FILT1, Q-16
LCS (1107077-BS1)					Prepared: 07/07/11 10:30		Analyzed: 07/07/11 14:58					
EPA 6020 (Diss)												
Arsenic	54.0	---	2.00	ug/L	1	55.5	---	97	80-120%	---	---	
Lead	50.0	---	1.00	"	"	"	---	90	"	---	---	
LCS (1107077-BS2)					Prepared: 07/07/11 10:30		Analyzed: 07/08/11 11:54					
EPA 6020 (Diss)												
Mercury	1.14	---	0.0800	ug/L	1	1.11	---	102	80-120%	---	---	Q-16
Duplicate (1107077-DUP1)					Prepared: 07/07/11 10:30		Analyzed: 07/07/11 15:51					

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1107077 - EPA 3015A - Dissolved							**Water**					
Duplicate (1107077-DUP1)					Prepared: 07/07/11 10:30		Analyzed: 07/07/11 15:51					
QC Source Sample: 8004-110701-P6-103 (A11G024-04)												
EPA 6020 (Diss)												
Arsenic	**15.0**	---	2.00	ug/L	1	---	15.0	---	---	0.1	20%	
Lead	ND	---	1.00	"	"	---	ND	---	---	---	20%	
Duplicate (1107077-DUP2)					Prepared: 07/07/11 10:30		Analyzed: 07/08/11 12:17					
QC Source Sample: 8004-110701-P6-103 (A11G024-04)												
EPA 6020 (Diss)												
Mercury	ND	---	0.0800	ug/L	1	---	ND	---	---	---	20%	Q-16
Matrix Spike (1107077-MS1)					Prepared: 07/07/11 10:30		Analyzed: 07/07/11 15:54					
QC Source Sample: 8004-110701-P6-103 (A11G024-04)												
EPA 6020 (Diss)												
Arsenic	69.9	---	2.00	ug/L	1	55.5	15.0	99	75-125%	---	---	
Lead	50.7	---	1.00	"	"	"	ND	91	"	---	---	
Matrix Spike (1107077-MS3)					Prepared: 07/07/11 10:30		Analyzed: 07/08/11 12:21					
QC Source Sample: 8004-110701-P6-103 (A11G024-04)												
EPA 6020 (Diss)												
Mercury	1.13	---	0.0800	ug/L	1	1.11	ND	102	75-125%	---	---	Q-16

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

SAMPLE PREPARATION INFORMATION

Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107065							
A11G024-01	Water	NWTPH-Dx	07/01/11 08:30	07/07/11 07:47	1010mL/2mL	1000mL/5mL	0.40
A11G024-02	Water	NWTPH-Dx	07/01/11 09:15	07/07/11 07:47	1040mL/2mL	1000mL/5mL	0.39
A11G024-03	Water	NWTPH-Dx	07/01/11 09:00	07/07/11 07:47	800mL/2mL	1000mL/5mL	0.50
A11G024-04	Water	NWTPH-Dx	07/01/11 09:55	07/07/11 07:47	1030mL/2mL	1000mL/5mL	0.39
A11G024-05	Water	NWTPH-Dx	07/01/11 11:15	07/07/11 07:47	1040mL/2mL	1000mL/5mL	0.39
A11G024-06	Water	NWTPH-Dx	07/01/11 11:45	07/07/11 07:47	1040mL/2mL	1000mL/5mL	0.39
A11G024-07	Water	NWTPH-Dx	07/01/11 10:20	07/07/11 07:47	1040mL/2mL	1000mL/5mL	0.39
A11G024-08	Water	NWTPH-Dx	07/01/11 12:30	07/07/11 07:47	1060mL/2mL	1000mL/5mL	0.38
A11G024-10	Water	NWTPH-Dx	07/01/11 13:00	07/07/11 07:47	940mL/2mL	1000mL/5mL	0.43

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107024							
A11G024-01	Water	EPA 8260B	07/01/11 08:30	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-02	Water	EPA 8260B	07/01/11 09:15	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-03	Water	EPA 8260B	07/01/11 09:00	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-04	Water	EPA 8260B	07/01/11 09:55	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-05	Water	EPA 8260B	07/01/11 11:15	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-06	Water	EPA 8260B	07/01/11 11:45	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-07	Water	EPA 8260B	07/01/11 10:20	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-08	Water	EPA 8260B	07/01/11 12:30	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
A11G024-10	Water	EPA 8260B	07/01/11 13:00	07/05/11 11:57	5mL/5mL	5mL/5mL	1.00
Batch: 1107047							
A11G024-01RE1	Water	EPA 8260B	07/01/11 08:30	07/01/11 08:30	5mL/5mL	5mL/5mL	1.00
A11G024-10RE1	Water	EPA 8260B	07/01/11 13:00	07/01/11 13:00	5mL/5mL	5mL/5mL	1.00

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107084							
A11G024-02	Water	EPA 8082A	07/01/11 09:15	07/08/11 08:05	1070mL/5mL	1000mL/5mL	0.94
A11G024-04	Water	EPA 8082A	07/01/11 09:55	07/08/11 08:05	1060mL/5mL	1000mL/5mL	0.94

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A11G024-05	Water	EPA 8082A	07/01/11 11:15	07/08/11 08:05	860mL/5mL	1000mL/5mL	1.16
A11G024-06	Water	EPA 8082A	07/01/11 11:45	07/08/11 08:05	1000mL/5mL	1000mL/5mL	1.00
A11G024-07	Water	EPA 8082A	07/01/11 10:20	07/08/11 08:05	1060mL/5mL	1000mL/5mL	0.94
A11G024-08	Water	EPA 8082A	07/01/11 12:30	07/08/11 08:05	1060mL/5mL	1000mL/5mL	0.94
A11G024-09	Water	EPA 8082A	07/01/11 12:30	07/08/11 08:05	1060mL/5mL	1000mL/5mL	0.94

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107065							
A11G024-01	Water	EPA 8270D (SIM)	07/01/11 08:30	07/07/11 07:47	1010mL/2mL	1000mL/2mL	0.99
A11G024-03	Water	EPA 8270D (SIM)	07/01/11 09:00	07/07/11 07:47	800mL/2mL	1000mL/2mL	1.25
A11G024-10	Water	EPA 8270D (SIM)	07/01/11 13:00	07/07/11 07:47	940mL/2mL	1000mL/2mL	1.06
Batch: 1107099							
A11G024-02RE1	Water	EPA 8270D (SIM)	07/01/11 09:15	07/08/11 12:40	1060mL/2mL	1000mL/2mL	0.94
A11G024-04RE1	Water	EPA 8270D (SIM)	07/01/11 09:55	07/08/11 12:40	1030mL/2mL	1000mL/2mL	0.97
A11G024-05RE2	Water	EPA 8270D (SIM)	07/01/11 11:15	07/08/11 12:40	1020mL/2mL	1000mL/2mL	0.98
A11G024-06RE1	Water	EPA 8270D (SIM)	07/01/11 11:45	07/08/11 12:40	1020mL/2mL	1000mL/2mL	0.98
A11G024-07RE1	Water	EPA 8270D (SIM)	07/01/11 10:20	07/08/11 12:40	1060mL/2mL	1000mL/2mL	0.94
A11G024-08RE1	Water	EPA 8270D (SIM)	07/01/11 12:30	07/08/11 12:40	1060mL/2mL	1000mL/2mL	0.94

Dissolved Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A - Dissolved

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1107077							
A11G024-01	Water	EPA 6020 (Diss)	07/01/11 08:30	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-02	Water	EPA 6020 (Diss)	07/01/11 09:15	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-03	Water	EPA 6020 (Diss)	07/01/11 09:00	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-04	Water	EPA 6020 (Diss)	07/01/11 09:55	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-05	Water	EPA 6020 (Diss)	07/01/11 11:15	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-06	Water	EPA 6020 (Diss)	07/01/11 11:45	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-07	Water	EPA 6020 (Diss)	07/01/11 10:20	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-08	Water	EPA 6020 (Diss)	07/01/11 12:30	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00
A11G024-09	Water	EPA 6020 (Diss)	07/01/11 12:30	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00

Apex Laboratories

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

Philip Nerenberg, Lab Director

Apex Labs

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

SAMPLE PREPARATION INFORMATION

Dissolved Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A - Dissolved

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A11G024-10	Water	EPA 6020 (Diss)	07/01/11 13:00	07/07/11 10:30	45mL/50mL	45mL/50mL	1.00

Apex Laboratories

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Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

Notes and Definitions

Qualifiers:

A-01	Lab Filtration Batch 1107034
A-01a	Not analyzed. Method validation has not been performed for this analyte. Do not report.
A-02	Lab filtration batch 1107059
A-02a	Non-filtered method blank
A-03	Lab Filtered in Batch 1107059
B-02	Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
FILT1	Sample was lab filtered and acid preserved prior to analysis. See sample preparation section of report for date and time of filtration.
Q-01	Percent recovery and/or RPD is outside acceptance limits.
Q-16	Reanalysis of an original Batch QC sample.
Q-17	RPD between original and duplicate sample is outside of established control limits.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-30	Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.
R-06	Reporting level raised due to possible carryover from a previous sample.
S-06	Surrogate recovery is outside of established control limits.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

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Philip Nerenberg, Lab Director

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

Bridgewater Group	Project: **PGE Hawthorne**	
4500 SW Kruse Way; Suite 110	Project Number: 8004	**Reported:**
Lake Oswego, OR 97035	Project Manager: Jeff Dresser	07/14/11 14:41

Blank Policy

Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Labs

Bridgewater Group
4500 SW Kruse Way; Suite 110
Lake Oswego, OR 97035

Project: **PGE Hawthorne**
Project Number: 8004
Project Manager: Jeff Dresser

Reported:
07/14/11 14:41

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

UPDATED COC

A11G024

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory APEX Laboratories
Tigard,
Lab Project No Oregon

CHAIN OF CUSTODY
Chain of Custody I8004-07

Project Manager: Corey Raspone
Project No.: 8004
Project Name: WTRINV
Collected by: Corey Raspone/Ben Uhl

Liquid with Sediment Sample
____ Test Filtrate ____ Test Sediment ____ Test Both
Multi-Phase Sample
____ Test One (which) ____ Test Separately ____ Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Comments

Sample Number Prefix:8004-110701-

5 DAY TAT - UNLESS NOTED IN REMARKS

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

For samples with 5 bottles: Please use one liter amber for Dx and PAHs if there is sufficient volume.

All Metals samples were field filtered.

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	VOCS (EPA 8260)	PAH (EPA 8270 SIM)	Metals - As, Pb, Hg (EPA 6010/7000)	PCBs (EPA 8082)	NWTPH-Dx					RUSH	Remarks
1	P4-100	01-Jul-11	8:30	14-19' @ P4		X			5	X	X	X		X						
2	P3-101	01-Jul-11	9:15	14-19' @ P3		X			8	X	X	X	X	X						
3	P1-102	01-Jul-11	9:00	14-19' @ P1		X			5	X	X	X		X						
4	P6-103	01-Jul-11	9:55	7-12' @ P-6		X			8	X	X	X	X	X						
5	P7-104	01-Jul-11	11:15	7-12' @ P-7		X			8	X	X	X	X	X						
6	P5-105	01-Jul-11	11:45	7-12' @ P-5		X			8	X	X	X	X	X						
7	P10-106	01-Jul-11	10:20	7-12' @ P-10		X			8	X	X	X	X	X						
8	P12-107	01-Jul-11	12:30	14-19' @ P12		X			8	X	X	X	X	X						
9	P12-108	01-Jul-11	12:30			X			8	X	X	X	X	X						
10	P11-109	01-Jul-11	13:00	14-19' @ P-11		X			5	X	X	X		X						

Relinquished by	Hahn and Associates, Inc.	Date	Time	Received by	Company
Relinquished by	Company	Date	Time	Received by	Company

Apex Laboratories

Philip Nerenberg

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Philip Nerenberg, Lab Director

Apex Labs

Bridgewater Group
4500 SW Kruse Way, Suite 110
Lake Oswego, OR 97035

Project: **PGE Hawthorne**
Project Number: 8004
Project Manager: Jeff Dresser

Reported:
07/14/11 14:41

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

A11G024

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory APEX Laboratories, Tigard, Oregon
Lab Project No.

CHAIN OF CUSTODY
Chain of Custody No. 8004-07

Project Manager: Corey Raspone
Project No.: 8004
Project Name: WTRINV
Collected by: Corey Raspone/Ben Uhl

Liquid with Sediment Sample: Test Filtrate ____ Test Sediment ____ Test Both ____
Multi-Phase Sample: Test One (which) ____ Test Separately ____ Shake ____

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Comments

Sample Number Prefix:8004-110701-

5 DAY TAT - UNLESS NOTED IN REMARKS

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	VOCS (EPA 8260)	PAH (EPA 8270 SIM)	Metals - As, Pb, Hg (EPA 6010/7000)	PCBs (EPA 8082)	NWTPH-Dx					RUSH	Remarks
	P4-100	01-Jul-11	8:30	14-19' @ P4		X			5	X	X	X		X						
	P3-101	01-Jul-11	9:15	14-19' @ P3		X			8	X	X	X	X	X						
	P1-102	01-Jul-11	9:00	14-19' @ P1		X			5	X	X	X		X						
	P6-103	01-Jul-11	9:55	7-12' @ P-6		X			8	X	X	X	X	X						
	P7-104	01-Jul-11	11:15	7-12' @ P-7		X			8	X	X	X	X	X						
	P5-105	01-Jul-11	11:45	7-12' @ P-5		X			8	X	X	X	X	X						
	P10-106	01-Jul-11	10:20	7-12' @ P-10		X			8	X	X	X	X	X						
	P12-107	01-Jul-11	12:30	14-19' @ P12		X			8	X	X	X	X	X						
	P12-108	01-Jul-11	12:30			X			8	X	X	X	X	X						
	P11-109	01-Jul-11				X														

Relinquished by	Company	Date	Time	Received by	Company
Corey Raspone	Hahn and Associates, Inc.	7/2/11	09:35	Darin Thorn	APEX
Relinquished by	Company	Date	Time	Received by	Company

Apex Laboratories

Philip Nerenberg

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

Philip Nerenberg, Lab Director

APPENDIX K

Data Validation Reports (Analytical Quality Associates, Inc.)

PO Box 21987
Albuquerque, NM 87154
1-888-678-5447
www.aqainc.net

Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analysis: PCBs
Work Order: A11F338

SUMMARY

Level II data validation was performed on the data for 15 solid samples and one wipe sample prepared and analyzed with approved procedures using SW846 method 8082 (polychlorinated biphenyls [PCBs]). The samples were collected at the PGE Hawthorne site in Portland, Oregon, on June 27, 2011, and were submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex processed the samples and reported the results under Work Order A11F338. Data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits and SW846 method 8082.

In general, most of the data are valid as reported. No sample data were rejected. No other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The samples included in this validation are listed below.

Sample ID	Laboratory ID	Matrix
8004-110627-200-EB	A11F338-01	Wipe
8004-110627-C4-201	A11F338-02	Solid

Sample ID	Laboratory ID	Matrix
8004-110627-C7-202	A11F338-03	Solid
8004-110627-C10-203	A11F338-04	Solid
8004-110627-C1-204	A11F338-05	Solid
8004-110627-C2-205	A11F338-06	Solid
8004-110627-C6-206	A11F338-07	Solid
8004-110627-C8-207	A11F338-08	Solid
8004-110627-C11-208	A11F338-09	Solid
8004-110627-C9-209	A11F338-10	Solid
8004-110627-C3-210	A11F338-11	Solid
8004-110627-C18-211	A11F338-12	Solid
8004-110627-C16-212	A11F338-13	Solid
8004-110627-C17-213	A11F338-14	Solid
8004-110627-C14-214	A11F338-15	Solid
8004-110627-C13-215	A11F338-16	Solid

DATA QUALIFIERS (see following sections for detailed explanations)

No data qualifiers were applied to the PCB sample results in this work order.

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time with the following exception.

The sample receipt section of the COC was not completed; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blanks or equipment blank.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria with the following exceptions.

The decachlorobiphenyl recovery was < the lower acceptance limit but >10% for sample 8004-110627-C9-209; however, the recovery was determined from a 100X dilution of the sample and, therefore, no sample data were qualified.

Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

The LCS/LCSD (or blank spike/blank spike duplicate) analyses met laboratory QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The MS/MSD analyses met all laboratory acceptance criteria. It should be noted that MS/MSD samples were not analyzed with sample 8004-110627-200-EB.

Laboratory Duplicate

The laboratory duplicate analysis met all laboratory acceptance criteria.

Field Duplicate

A field duplicate was not collected with the samples in this work order.

Reporting Limits

All reporting limits were properly reported. All samples *except* sample 8004-110627-200-EB were diluted in order to bring target compound concentrations within the calibration range. The reporting limits were adjusted accordingly. Method detection limits were not reported.

Other QC

No other specific issues that affect data quality were identified.

Completeness

There were 112 field sample data points associated with the data package for Work Order A11F338. Of these field sample data points, all 112 were assessed and left unqualified. Based on the number of unqualified data points, the percent completeness is 100.0%.

Hahn Data Validation Summary Worksheet

SDG#: A11F338	Laboratory: APEX	Validator: Jeanne Peterson	Validation Date: 08/02/2011
Site: PGE Hawthorne	COC#: 80004-01		Validation Level: ☒ II ☐ III
Matrix: Solid/Wipe	# of Samples: 16	Tracking docs present: NA	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK[1]

Analyses:
☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☒ PCBs ☐ Metals ☐ Gen Chem ☐ Cyanide
☐ Other:

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
None								

Comments: Samples collected 6/27/11.
[1]No problems noted by lab.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11F338	Method: 8082	Matrix: Solid/Wipe	Lab Sample IDs: A11F338-01 thru -16
Batch #s: 1106379 (solids), 1107001 (wipe)			

Cleanup: ☐ GPC ☐ Sulfur ☒ Florisil ☒ H_2SO_4 ☐ $KMnO_4$ *(lab limits)* (<30%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS/D %R**	**MS %R**	**MSD %R**	**MS/D RPD** (-16)	**LAB DUP RPD** (-11)	**LCS/D RPD**	**EB (-01)**					
None														

(TCMX 50-125%) **Surrogate Recovery Outliers** *(DCB 55-130%)*

Sample ID	TCMX	DCB	**Sample ID**	TCMX	DCB	**Sample ID**	TCMX	DCB	
-10RE2 (100X)	✓	14%							

Comments: HTs OK.
1107001 - LCS/LCSD only due to limited sample amount.

Revised 08/2011

PO Box 21987
Albuquerque, NM 87154
1-888-678-5447
www.aqainc.net

Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analysis: PCBs
Work Order: A11F355

SUMMARY

Level II data validation was performed on the data for 16 wipe samples prepared and analyzed with approved procedures using SW846 method 8082 (polychlorinated biphenyls [PCBs]). The samples were collected at the PGE Hawthorne site in Portland, Oregon, on June 28, 2011, and were submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex processed the samples and reported the results under Work Order A11F355. Data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits and SW846 method 8082.

In general, most of the data are valid as reported. No sample data were rejected. No other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The samples included in this validation are listed below.

Sample ID	Laboratory ID	Matrix
8004-110628-400	A11F355-01	Wipe
8004-110628-402	A11F355-03	Wipe

Sample ID	Laboratory ID	Matrix
8004-110628-403	A11F355-04	Wipe
8004-110628-404	A11F355-05	Wipe
8004-110628-406	A11F355-07	Wipe
8004-110628-407	A11F355-08	Wipe
8004-110628-408	A11F355-09	Wipe
8004-110628-409	A11F355-10	Wipe
8004-110628-411	A11F355-12	Wipe
8004-110628-412	A11F355-13	Wipe
8004-110628-414	A11F355-15	Wipe
8004-110628-415	A11F355-16	Wipe
8004-110628-416	A11F355-17	Wipe
8004-110628-417	A11F355-18	Wipe
8004-110628-419	A11F355-20	Wipe
8004-110628-421	A11F355-22	Wipe

DATA QUALIFIERS (see following sections for detailed explanations)

No data qualifiers were applied to the PCB sample results in this work order.

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time with the following exception.

The sample receipt section of the COC was not completed; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blank. Field blanks were not collected with the samples in this work order.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria.

Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

The LCS/LCSD (or blank spike/blank spike duplicate) analyses met laboratory QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were not performed with the samples in this work order due to limited sample amount.

Laboratory Duplicate

The laboratory duplicate analysis (LCS/LCSD) met all laboratory acceptance criteria.

Field Duplicate

A field duplicate was not collected with the samples in this work order.

Reporting Limits

All reporting limits were properly reported. Sample 8004-110628-421 was diluted 10X; however, the reporting limits were not adjusted. Method detection limits were not reported.

Other QC

No other specific issues that affect data quality were identified.

Completeness

There were 112 field sample data points associated with the data package for Work Order A11F355. Of these field sample data points, all 112 were assessed and left unqualified. Based on the number of unqualified data points, the percent completeness is 100.0%.

Hahn Data Validation Summary Worksheet

SDG#: A11F355	Laboratory: APEX	Validator: Jeanne Peterson	Validation Date: 08/02/2011
Site: PGE Hawthorne	COC#: 80004-04		Validation Level: ☒ II ☐ III
Matrix: Wipe	# of Samples: 15	Tracking docs present: NA	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK[1]

Analyses:
☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☒ PCBs ☐ Metals ☐ Gen Chem ☐ Cyanide
☐ Other:

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
None								

Comments: Samples collected 6/28/11.
[1]No problems noted by lab.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11F355	Method: 8082	Matrix: Wipes	Lab Sample IDs: A11F355-01, -03 thru -05, -07 thru -10, -12, -13, -15 thru -18, -20, -22
Batch #s: 1107001			

Cleanup: ☐ GPC ☐ Sulfur ☒ Florisil ☒ H_2SO_4 ☐ $KMnO_4$ *(lab limits)* (<30%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS/D %R**	**MS %R**	**MSD %R**	**MS/D RPD**	**LAB DUP RPD**	**LCS/D RPD**						
None														

Surrogate Recovery Outliers

Sample ID	TCMX *(TCMX 50-125%)*	DCB	**Sample ID**	TCMX	DCB *(DCB 55-130%)*	**Sample ID**	TCMX	DCB	
None									

Comments: HTs OK.
LCS/LCSD only due to limited sample amount.

Revised 08/2011

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Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analysis: PCBs
Work Order: A11F356

SUMMARY

Level II data validation was performed on the data for seven solid samples prepared and analyzed with approved procedures using SW846 method 8082 (polychlorinated biphenyls [PCBs]). The samples were collected at the PGE Hawthorne site in Portland, Oregon, on June 28, 2011, and were submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex processed the samples and reported the results under Work Order A11F356. Data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits and SW846 method 8082.

In general, most of the data are valid as reported. No sample data were rejected. Other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The samples included in this validation are listed below.

Sample ID	Laboratory ID	Matrix
8004-110628-A3-300	A11F356-01	Solid
8004-110628-A1-301	A11F356-02	Solid

Sample ID	Laboratory ID	Matrix
8004-110628-A2-302	A11F356-03	Solid
8004-110628-A4-303	A11F356-04	Solid
8004-110628-A5-304	A11F356-05	Solid
8004-110628-A6-305	A11F356-06	Solid
8004-110628-306	A11F356-07	Solid

DATA QUALIFIERS (see following sections for detailed explanations)

Client Sample ID	Laboratory ID	Analyte	Qualifier	Reason
8004-110628-A4-303	A11F356-04	Aroclor 1242 Aroclor 1254 Aroclor 1260	J	Low surrogate recovery
		Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1248	UJ	Low surrogate recovery
8004-110628-A6-305	A11F356-06	All target analytes	UJ	Low surrogate recovery
8004-110628-306	A11F356-07	Aroclor 1254 Aroclor 1260	J	Low surrogate recovery
		Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248	UJ	Low surrogate recovery

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time with the following exception.

The sample receipt section of the COC was not completed; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blank. Field blanks were not collected with the samples in this work order.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria with the following exceptions.

The decachlorobiphenyl recoveries were < the lower acceptance limit but ≥30% for samples 8004-110628-A4-303 and 8004-110628-306. The associated sample results that were detects were **qualified J**, and the associated sample results that were non-detects were **qualified UJ**.

The 2,4,5,6-TCMX and decachlorobiphenyl recoveries were < the lower acceptance limits but ≥30% for sample 8004-110628-A6-305. The associated sample results were non-detects and, therefore, were **qualified UJ**.

Laboratory Control Sample (LCS)

The LCS (or blank spike) analysis met laboratory QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were not performed with the samples in this work order.

Laboratory Duplicate

A laboratory duplicate analysis was not performed with the samples in this work order.

Field Duplicate

A field duplicate was not collected with the samples in this work order.

Reporting Limits

All reporting limits were properly reported. The samples were not diluted; however, the aroclor-1248 reporting limit was raised for sample 8004-110628-306 due to the presence of a high level of a multicomponent analyte. Method detection limits were not reported.

Other QC

No other specific issues that affect data quality were identified.

Completeness

There were 49 field sample data points associated with the data package for Work Order A11F356. Of these field sample data points, 28 were assessed and left unqualified, 5 were assessed and qualified J, and 16 were assessed and qualified UJ. Based on the number of unqualified data points, the percent completeness is 57.14%.

Hahn Data Validation Summary Worksheet

SDG#: A11F356	Laboratory: APEX	Validator: Jeanne Peterson	Validation Date: 08/03/2011
Site: PGE Hawthorne	COC#: 8004-03		Validation Level: ☒ II ☐ III
Matrix: Solid	# of Samples: 7	Tracking docs present: NA	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK[1]

Analyses:
☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☒ PCBs ☐ Metals ☐ Gen Chem ☐ Cyanide
☐ Other:

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
None								

Comments: Samples collected 6/28/11.
[1]No problems noted by lab.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11F356	Method: 8082	Matrix: Solid	Lab Sample IDs: A11F356-01 thru -07
Batch #s: 1106405			

Cleanup: ☐ GPC ☐ Sulfur ☒ Florisil ☒ H_2SO_4 ☐ $KMnO_4$ *(lab limits)* (<30%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R**	**MS %R**	**MSD %R**	**MS/D RPD**	**LAB DUP RPD**							
None														

(TCMX 50-125%) **Surrogate Recovery Outliers** *(DCB 55-130%)*

Sample ID	TCMX	DCB	**Sample ID**	TCMX	DCB	**Sample ID**	TCMX	DCB	
-04RE1	✓	48							
-06RE1	44	33							
-07RE1	✓	52							

Comments: HTs OK.
LCS only.

Revised 08/2011

ANALYTICAL QUALITY ASSOCIATES, INC.

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Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analysis: PCBs
Work Order: A11F357

SUMMARY

Level II data validation was performed on the data for three solid samples prepared and analyzed with approved procedures using SW846 method 8082 (polychlorinated biphenyls [PCBs]). The samples were collected at the PGE Hawthorne site in Portland, Oregon, on June 28, 2011, and were submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex processed the samples and reported the results under Work Order A11F357. Data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits and SW846 method 8082.

In general, most of the data are valid as reported. No sample data were rejected. Other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The samples included in this validation are listed below.

Sample ID	Laboratory ID	Matrix
8004-110628-C5-216	A11F357-01	Solid
8004-110628-C15-217	A11F357-02	Solid
8004-110628-C12-218	A11F357-03	Solid

DATA QUALIFIERS (see following sections for detailed explanations)

Client Sample ID	Laboratory ID	Analyte	Qualifier	Reason
8004-110628-C5-216	A11F357-01	Aroclor 1242 Aroclor 1254	J	Low surrogate recovery
		Aroclor 1260	J	Low surrogate recovery and low matrix spike recovery
		Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1248	UJ	Low surrogate recovery
8004-110628-C15-217	A11F357-02	Aroclor 1254	J	Low surrogate recovery
		All target analytes *except*: Aroclor-1254 Aroclor-1260	UJ	Low surrogate recovery
		Aroclor-1260	UJ	Low surrogate recovery and low matrix spike recovery
8004-110628-C12-218	A11F357-03	Aroclor 1260	J	Low matrix spike recovery

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time with the following exception.

The sample receipt section of the COC was not completed; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blank. Field blanks were not collected with the samples in this work order.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria with the following exceptions.

The decachlorobiphenyl recoveries were < the lower acceptance limit but ≥30% for samples 8004-110628-C5-216 and 8004-110628-C15-217. The associated sample results that were detects were **qualified J**, and the associated sample results that were non-detects were **qualified UJ**.

The decachlorobiphenyl recovery was < the lower acceptance limit but ≥30% for the laboratory duplicate and the decachlorobiphenyl and 2,4,5,6-TCMX recoveries were < the lower acceptance limit but ≥30% for the matrix spike. The laboratory duplicate and matrix spike samples were QC samples and, therefore, no sample data were qualified.

Laboratory Control Sample (LCS)

The LCS (or blank spike) analysis met laboratory QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The MS analysis met laboratory QC acceptance criteria with the following exception.

The MS recovery was < the lower acceptance limit but ≥30% for aroclor-1260. The associated sample results that were detects were **qualified J**, and the associated sample result that was a non-detect was **qualified UJ**.

Laboratory Duplicate

The laboratory duplicate analysis met all laboratory acceptance criteria.

Field Duplicate

A field duplicate was not collected with the samples in this work order.

Reporting Limits

All reporting limits were properly reported. Sample 8004-110628-C15-217 was diluted 10X. The reporting limits were adjusted accordingly. In addition, the aroclor-1260 reporting limit was further raised for sample 8004-110628-C15-217 due to matrix interference. Method detection limits were not reported.

Other QC

No other specific issues that affect data quality were identified.

Completeness

There were 21 field sample data points associated with the data package for Work Order A11F357. Of these field sample data points, 6 were assessed and left unqualified, 5 were assessed and qualified J, and 19 were assessed and qualified UJ. Based on the number of unqualified data points, the percent completeness is 28.57%.

Hahn Data Validation Summary Worksheet

SDG#: A11F357	Laboratory: APEX	Validator: Jeanne Peterson	Validation Date: 08/03/2011
Site: PGE Hawthorne	COC#: 80004-02		Validation Level: ☒ II ☐ III
Matrix: Solid	# of Samples: 3	Tracking docs present: NA	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK[1]

Analyses:
☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☒ PCBs ☐ Metals ☐ Gen Chem ☐ Cyanide
☐ Other:

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
None								

Comments: Samples collected 6/28/11.
[1]No problems noted by lab.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11F357	Method: 8082	Matrix: Solid	Lab Sample IDs: A11F357-01 thru -03
Batch #s: 1106405			

Cleanup: ☐ GPC ☐ Sulfur ☒ Florisil ☒ H_2SO_4 ☐ $KMnO_4$ *(lab limits)* (<30%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS/D %R**	**MS %R (-03)**	**MSD %R**	**MS/D RPD**	**LAB DUP RPD (-02)**	**LCS/D RPD**						
Aroclor 1260	✓	NA	✓	32	NA	NA	✓	NA						

(TCMX 50-125%) **Surrogate Recovery Outliers** *(DCB 55-130%)*

Sample ID	TCMX	DCB	**Sample ID**	TCMX	DCB	**Sample ID**	TCMX	DCB	
-01RE1	✓	49							
-02RE2 10X	✓	53							
-02RE2 10X DUP	✓	54							
-03 RE1 MS	42	42							

Comments: HTs OK.

Revised 08/2011

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Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analysis: PCBs
Work Order: A11F370

SUMMARY

Level II data validation was performed on the data for five wipe samples prepared and analyzed with approved procedures using SW846 method 8082 (polychlorinated biphenyls [PCBs]). The samples were collected at the PGE Hawthorne site in Portland, Oregon, on June 29, 2011, and were submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex processed the samples and reported the results under Work Order A11F370. Data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits and SW846 method 8082.

In general, most of the data are valid as reported. No sample data were rejected. No other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The samples included in this validation are listed below.

Sample ID	Laboratory ID	Matrix
8004-110628-422	A11F370-01	Wipe
8004-110628-423	A11F370-02	Wipe

Sample ID	Laboratory ID	Matrix
8004-110628-424	A11F370-03	Wipe
8004-110628-425	A11F370-04	Wipe
TRIP BLANK	A11F370-05	Wipe

DATA QUALIFIERS (see following sections for detailed explanations)

No data qualifiers were applied to the PCB sample results in this work order.

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

A trip blank was not included on the COC but was analyzed with the samples in this work order.

The samples identified with prefix 8004-11062**8** on the COC were logged in by the laboratory with the prefix 8004-11062**9**. The prefix from the COC was used for this validation report.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time with the following exception.

The sample receipt section of the COC was not completed; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blanks or trip blank.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria.

Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD)

The LCS/LCSD (or blank spike/blank spike duplicate) analyses met laboratory QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were not performed with the samples in this work order due to limited sample amount.

Laboratory Duplicate

The laboratory duplicate analyses (LCS/LCSDs) met all laboratory acceptance criteria.

Field Duplicate

A field duplicate was not collected with the samples in this work order.

Reporting Limits

All reporting limits were properly reported. All samples *except* sample TRIP BLANK were diluted 5X. The reporting limits were adjusted accordingly. In addition, the aroclor-1248 reporting limits were further raised for all samples *except* sample TRIP BLANK due to the presence of a high level of a multicomponent analyte. Method detection limits were not reported.

Other QC

No other specific issues that affect data quality were identified.

Completeness

There were 35 field sample data points associated with the data package for Work Order A11F370. Of these field sample data points, all 35 were assessed and left unqualified. Based on the number of unqualified data points, the percent completeness is 100.0%.

Hahn Data Validation Summary Worksheet

SDG#: A11F370	Laboratory: APEX	Validator: Jeanne Peterson	Validation Date: 08/03/2011
Site: PGE Hawthorne	COC#: 80004-05		Validation Level: ☒ II ☐ III
Matrix: Wipe	# of Samples: 5	Tracking docs present: NA	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK[1]

Analyses:
☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☒ PCBs ☐ Metals ☐ Gen Chem ☐ Cyanide
☐ Other:

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
None								

Comments: Samples collected 6/29/11.
[1]No problems noted by lab.
Samples identified with prefix 8004-110628 on COC but logged in by lab with prefix 8004-110629.
TRIP BLANK not on COC.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11F370	Method: 8082	Matrix: Wipe	Lab Sample IDs: A11F370-01 thru -05
Batch #s: 1107001 (samples -01, -02, -03), 1107055 (samples -04, -05)			

Cleanup: ☐ GPC ☐ Sulfur ☒ Florisil ☒ H_2SO_4 ☐ $KMnO_4$ *(lab limits)* (<30%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS/D %R**	**MS %R**	**MSD %R**	**MS/D RPD**	**LAB DUP RPD**	**LCS/D RPD**	**TB (-05)**					
None														

Surrogate Recovery Outliers

Sample ID	TCMX *(TCMX 50-125%)*	DCB	**Sample ID**	TCMX	DCB *(DCB 55-130%)*	**Sample ID**	TCMX	DCB	
None									

Comments: HTs OK.
LCS/D only due to limited sample amount.

Revised 08/2011

ANALYTICAL QUALITY ASSOCIATES, INC.

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Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analyses: DRO, GRO, VOCs, PCBs, PAHs, total metals, total lead, TCLP lead, and EPH
Work Order: A11G005

SUMMARY

Level II data validation was performed on the data for 20 soil samples prepared and analyzed with approved procedures using method NWTPH-Dx (diesel range organics [DRO] and oil range organics [ORO]), NWTPH-Gx (gasoline range organics [GRO]), SW846 method 8260B (volatile organic compounds [VOCs]), SW846 method 8082 (polychlorinated biphenyls [PCBs]), SW846 method 8270D SIM (polyaromatic hydrocarbons [PAHs]), SW846 method 6020 (total metals, total lead, and TCLP lead), and/or the Washington State Department of Ecology Method for the Determination of Extractable Petroleum Hydrocarbons (EPH) Fractions (WDOE-EPH). The samples were collected at the PGE Hawthorne site in Portland, Oregon, on June 30, 2011, and were submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex subcontracted the two samples for EPH analysis to Fremont Analytical in Seattle, Washington, who processed the samples under work order 1107021. Apex processed the samples for the remaining analyses and reported the results under Work Order A11G005. A complete analyte list was not provided; therefore, it could not be determined if data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits, the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (October 2004), and the applicable methods.

In general, most of the data are valid as reported. No sample data were rejected. Other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The samples included in this validation are listed below.

Sample ID	APEX Laboratory ID	Fremont Laboratory ID	Matrix
8004-110630-P1-001	A11G005-01	--	Soil
8004-110630-P2-006	A11G005-06	--	Soil
8004-110630-P2-007	A11G005-07	--	Soil
8004-110630-P3-009	A11G005-09	--	Soil
8004-110630-P3-010	A11G005-10	--	Soil
8004-110630-P4-012	A11G005-12	1107021-001	Soil
8004-110630-P4-013	A11G005-13	--	Soil
8004-110630-P9-015	A11G005-15	--	Soil
8004-110630-P6-018	A11G005-18	--	Soil
8004-110630-P7-021	A11G005-21	--	Soil
8004-110630-P8-024	A11G005-24	1107021-002	Soil
8004-110630-P8-025	A11G005-25		Soil
8004-110630-P10-027	A11G005-27	--	Soil
8004-110630-P10-028	A11G005-28	--	Soil
8004-110630-P5-030	A11G005-30	--	Soil
8004-110630-P5-031	A11G005-31	--	Soil
8004-110630-P5-032	A11G005-32	--	Soil
8004-110630-P12-033	A11G005-33	--	Soil
8004-110630-P11-036	A11G005-36	--	Soil
8004-110630-P11-037	A11G005-37	--	Soil

DATA QUALIFIERS (see following sections for detailed explanations)

Client Sample ID	Laboratory ID	Method	Analyte	Qualifier	Reason
8004-110630-P1-001	A11G005-01	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
		8270D SIM	Benzo(g,h,i)perylene	J	High LCS recovery
8004-110630-P2-006	A11G005-06	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
8004-110630-P3-009	A11G005-09	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
8004-110630-P4-012	A11G005-12	8270D SIM	Benzo(g,h,i)perylene	J	High LCS recovery
		6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
	1107021-001	WDOE-EPH	Aliphatic Hydrocarbon (C21-C34) Aromatic Hydrocarbon (C16-C21)	J	Poor replicate precision
8004-110630-P9-015	A11G005-15	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
8004-110630-P6-018	A11G005-18	8082	All target analytes	UJ	Low surrogate recovery
		6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
8004-110630-P7-021	A11G005-21	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery

Client Sample ID	Laboratory ID	Method	Analyte	Qualifier	Reason
8004-110630-P8-024	A11G005-24	8082	All target analytes	UJ	Low surrogate recovery
		6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
	1107021-002	WDOE-EPH	Aliphatic Hydrocarbon (C21-C34) Aromatic Hydrocarbon (C16-C21)	J	Poor replicate precision
8004-110630-P10-027	A11G005-27	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
8004-110630-P5-030	A11G005-30	8082	All target analytes	UJ	Low surrogate recovery
		6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
8004-110630-P12-033	A11G005-33	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery
8004-110630-P11-036	A11G005-36	6020 (total)	Copper Lead	J	High MS recovery and poor replicate precision
			Zinc	J	High MS recovery

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

A COC updated with the additional requested analyses was not included in the data package. The COC provided by Hahn and Associates, Inc., was used for validation and is included at the end of this report.

Although EPH analysis was indicated on the COC for sample 8004-110630-P8-02**5**, the sample was not analyzed for EPH. Sample 8004-110630-P8-02**4** was analyzed instead.

The sample receipt/login information was not included in the Apex data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time with the following exceptions.

The sample receipt section of the COC was not completed by Apex; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Method NWTPH-Gx

The samples were extracted as mid-level soil samples but were not extracted/preserved in methanol within 48 hours of collection; however, there was minimal headspace in the sample containers and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blanks or calibration blanks. Field blanks were not collected with the samples in this work order.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria with the following exceptions.

Method NWTPH-Dx

The o-terphenyl recoveries were diluted out for samples 8004-110630-P4-012 and 8004-110630-P8-024. The surrogate recoveries for all other samples, including QC samples, were within limits demonstrating the quality of the analytical process; therefore, no sample data were qualified based on professional judgment.

Method 8082

The decachlorobiphenyl recovery was < the lower acceptance limit but ≥30% for sample 8004-110630-P6-018, the 2,4,5,6-TCMX recovery was < the lower acceptance limit but ≥30% for sample 8004-110630-P5-030, and the decachlorobiphenyl and 2,4,5,6-TCMX recoveries were <

the lower acceptance limit but ≥30% for sample 8004-110630-P8-024. The associated sample results were non-detects and, therefore, were **qualified UJ**.

Laboratory Control Sample (LCS)

The LCS (or blank spike) analysis met laboratory QC acceptance criteria with the following exceptions.

Method 8260B

The LCS recoveries associated with batch 1107052 were > the upper acceptance limit for bromodichloromethane; bromoform; carbon tetrachloride; dibromomethane; 1,2,3-trichlorobenzene; and 1,2,4-trichlorobenzene. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.

The LCS recoveries associated with batch 1107072 were > the upper acceptance limit for carbon tetrachloride and bromomethane. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.

Method 8270D SIM

The LCS recovery associated with batch 1107067 was > the upper acceptance limit for benzo(g,h,i)perylene. The benzo(g,h,i)perylene results for samples 8004-110630-P2-006 and 8004-110630-P4-012 were detects and, therefore, were **qualified J**. The remaining associated sample result was a non-detect and not affected by the high bias and, therefore, was not qualified based on professional judgment.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The MS analysis met laboratory QC acceptance criteria with the following exceptions.

Method 8260B

The MS recovery associated with batch 1107052 was > the upper acceptance limit for bromomethane. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.

The MS recovery associated with batch 1107072 was > the upper acceptance limit for carbon tetrachloride. The associated sample result was a non-detect and not affected by the high bias and, therefore, was not qualified based on professional judgment.

Method 6020

The MS recoveries associated with batch 1107066 were <75% but ≥30% for copper, lead, and zinc, and the associated post spike recoveries were >75%. The associated sample results were detects and, therefore, were **qualified J**.

Methods NWTPH-Dx, NWTPH-Gx, 8082, 8270D SIM, 6020 Batch 1107316, and WDOE-EPH

MS/MSD analyses were not performed with the samples in this work order.

Laboratory Duplicate

The laboratory duplicate analyses met all laboratory acceptance criteria with the following exceptions.

Method 6020

The duplicate relative percent differences (RPDs) associated with batch 1107066 were >35% for copper and lead. The associated sample results were detects and, therefore, were **qualified J**.

Method WDOE-EPH

The duplicate RPDs were >25% for aliphatic hydrocarbon (C21-C34) and aromatic hydrocarbon (C16-C21). The associated sample results were detects and, therefore, were **qualified J**.

Methods NWTPH-Gx, 8260B, 8270D SIM Batch 1107175, and 6020 Batches 1107316 and 1107254

A duplicate analysis was not performed with the samples in this work order.

Field Duplicate

A field duplicate was not collected with the samples in this work order.

Reporting Limits

All reporting limits were properly reported.

Method NWTPH-Dx

Samples 8004-110630-P1-001, 8004-110630-P4-012, and 8004-110630-P8-024 were diluted 2X, 20X, and 40X, respectively. The reporting limits were adjusted accordingly.

Methods NWTPH-Gx and 8260B

The samples were diluted 50X. The reporting limits were adjusted accordingly.

Method 8270D SIM

Samples 8004-110630-P1-001, 8004-110630-P4-012, and 8004-110630-P8-024 were diluted 2X, 20X, and 20X, respectively. In addition, sample -24 was taken to a final volume of 10 mL instead of the standard 5 mL. The reporting limits were adjusted accordingly.

Method 6020

The samples were diluted 10X. The reporting limits were adjusted accordingly.

Method 6020 TCLP

The samples were diluted 5X. The reporting limits were adjusted accordingly.

Method WDOE-EPH

The samples were diluted 10X. The reporting limits were adjusted accordingly.

Other QC

Method 8270D SIM

There was no peak separation between benzo(b)fluoranthene and benzo(k)fluoranthene for samples 8004-110630-P2-006, 8004-110630-P4-012, and 8004-110630-P8-024. The results for both target analytes were reported as benzo(b+k)fluoranthene.

No other specific issues that affect data quality were identified.

Completeness

There were 555 field sample data points associated with the data package for Work Order A11G005. Of these field sample data points, 492 were assessed and left unqualified, 42 were assessed and qualified J, and 21 were assessed and qualified UJ. Based on the number of unqualified data points, the percent completeness is 88.65%.

Hahn Data Validation Summary Worksheet

SDG#: A11G005	Laboratory: APEX/Fremont*	Validator: Jeanne Peterson	Validation Date: 08/03/2011
Site: PGE Hawthorne	COC#: 8004-06		Validation Level: ☒ II ☐ III
Matrix: Soil	# of Samples: 20	Tracking docs present: NA	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK[1]

Analyses:
☒ VOCs ☐ SVOCs ☒ PAHs ☒ GRO ☒ DRO ☐ Pests ☒ PCBs ☒ Metals ☐ Gen Chem ☐ Cyanide
☒ Other: EPH

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
8004-110630-P8-025	A11G005-25	EPH	Analysis subcontracted to Fremont. Fremont analyzed sample
			8004-110630-P8-024 instead of -025.

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
None								

Comments: Samples collected 6/30.

*EPH analysis subcontracted to Fremont Analytical.
[1]No problems noted by lab.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11G005	Method: NWTPH-Dx	Matrix: Soil	Lab Sample IDs: A11G005-01, -06, -07, -09, -12, -13, -15, -18, -21, -24, -25, -27, -30, -33, -36
Batch #s: 1107014 (all except -07, -13, -25), 1107035 (-07, -13, -25)			

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R** *(lab limits)*	**MS %R**	**MSD %R** *(lab limits)*	**MS/D RPD** (<30%)	**Lab Dup RPD (-01)**	**Lab Dup RPD (-36)**	**Lab Dup RPD (-25)**					
None														

Surrogate Recovery Outliers *(lab limits: 50-150%)*

Sample ID	o-Terphenyl				**Sample ID**				
-12 20X	Diluted out								
-24 40X	Diluted out								

Comments: HTs OK.
No MS/D for either batch.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11G005	Method: NWTPH-Gx	Matrix: Soil	Lab Sample IDs: A11G005-06, -12, -24, -27
Batch #s: 1107052 (-12, -24), 1107072 (-06, -27)			

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R** *(lab limits)*	**MS %R** *(lab limits)*	**MSD %R**	**MS/D RPD** (<30%)	**Lab Dup RPD**							
None														

Surrogate Recovery Outliers *(lab limits: 50-150%)*

Sample ID	**All**				**Sample ID**				
None									

Comments: HTs OK.
Samples not preserved in MeOH within 48 hours, but minimal headspace.
No MS/D or dup for either batch.

Revised 9/2010

Hahn Level II GCMS Worksheet

SDG: A11G005	Method: 8260B	Matrix: Soil	Lab Sample IDs: A11G005-06, -12, -24
Batch #s: 1107052 (-12, -24), 1107072 (-06)			

(lab limits 65-135%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R (052)**	**MS %R (-06)**	**MSD %R**	**MS/D RPD** (<30%)	**Lab Dup RPD**	**LCS %R (072)**	**MS %R (-06RE1)**					
Bromodichloromethane	✓	NA	136	✓	NA	NA	NA	✓	✓					
Bromoform	✓	NA	136	✓	NA	NA	NA	✓	✓					
CCl4	✓	NA	137	✓	NA	NA	NA	139	138					
Dibromomethane	✓	NA	138	✓	NA	NA	NA	✓	✓					
1,2,3-TCB	✓	NA	142	✓	NA	NA	NA	✓	✓					
1,2,4-TCB	✓	NA	138	✓	NA	NA	NA	✓	✓					
Bromomethane	✓	NA	✓	136	NA	NA	NA	139	✓					

Surrogate Recovery Outliers *(lab limits: 70-130%)*

Sample ID	**All**				**Sample ID**				
None									

Comments: HTs OK.
No dup.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11G005	Method: 8082	Matrix: Soil	Lab Sample IDs: A11G005-01, -06, -09, -12, -15, -18, -21, -24, -27, -30-, -33, -036
Batch #s: 1107023			

Cleanup: ☐ GPC ☒ Sulfur ☒ Florisil ☒ H_2SO_4 ☐ $KMnO_4$ *(lab limits)* (<30%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R**	**MS %R**	**MSD %R**	**MS/D RPD** (<30%)	**Lab Dup RPD (-06)**							
None														

Surrogate Recovery Outliers *(lab limits)*

Sample ID	TCMX	DCB			**Sample ID**				
-18	✓	51							
-24	33	43							
-30	49	✓							

Comments: HTs OK.
No MS/D.

Revised 9/2010

Hahn Level II GCMS Worksheet

SDG: A11G005	Method: 8270D SIM	Matrix: Soil	Lab Sample IDs: A11G005-06, -12, -13, -24
Batch #s: 1107067 (-06, -12, -24), 1107175 (-13)			

(lab limits)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R (067)**	**MS %R**	**MSD %R**	**MS/D RPD** (<30%)	**Lab Dup RPD (-06)**	**LCS %R (175)**						
Benzo(g,h,i)perylene	✓	NA	127	NA	NA	NA	✓	✓						

Surrogate Recovery Outliers *(lab limits)*

Sample ID	**All**				**Sample ID**				
None									

Comments: HTs OK.
No peak separation for benzo(b), (k): -06, -12, -24
No MS/D.

Revised 9/2010

Hahn Level II Metals Worksheet

SDG: A11G005	Matrix: Soil	Lab Sample IDs: A11G005-01, -06, -09, -12, -15, -18, -21, -24, -27, -30, -33, -36
Method: 6020 (total metals)	Batch #s: 1107066	

Analyte (outliers)	**MB** ug/L	**10X MB** ug/L	**LCS %R** *(80-120%)*	**MS %R** (-12)	**MSD %R** *(75-125%)*	**MS/ MSD RPD** *≤20%*	**DUP RPD** *≤35%* **(-12)**	**PS %R (-12)**								
Cu	✓	NA	✓	68	NA	NA	39	✓								
Pb	✓	NA	✓	58	NA	NA	37	✓								
Zn	✓	NA	✓	57	NA	NA	✓	✓								

Comments: HTs OK; Lab uses 40%D for dup limits; NFG provides35% as an example of a less restrictive criterion for soil.

Revised 9/2010

Hahn Level II Metals Worksheet

SDG: A11G005	Matrix: Soil	Lab Sample IDs: A11G005-07, -10, -13, -28, -31, -32, -37
Method: 6020 (Total Pb)	Batch #s: 1107181 (all except -32); 1107316 (-32)	

Analyte (outliers)	**MB** ug/L	**10X MB** ug/L	**LCS/D %R** *(80-120%)*	**MS %R** (-28)	**MSD %R** *(75-125%)*	**MS/ MSD RPD** *≤20%*	**DUP RPD** (-28)									
None																

Comments: HTs OK; no MSD for 1107181; no MS/D or Dup for 1107316.

Revised 9/2010

Hahn Level II Metals Worksheet

SDG: A11G005	Matrix: Leachate	Lab Sample IDs: A11G005-06, -09, -12, -27
Method: 6020 (TCLP Pb)	Batch #s: 1107254	

			(80-120%)	*(75-125%)*													
Analyte (outliers)	**MB** ug/L	**10X MB** ug/L	**LCS/D %R**	**MS %R** (-06)	**MSD %R**	**MS/ MSD RPD** *≤20%*	**DUP RPD**										
None																	

Comments: HTs OK; no MSD/DUP.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: 1107021 (A11G005)	Method: EPH	Matrix: Soil	Lab Sample IDs: 1107021-001, -002 (A11G005-12, -024)
Batch #s: 840			

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R** *(70-130%)*	**MS %R** *(70-130%)*	**MSD %R**	**MS/D RPD** (<25%)	**Lab Dup RPD (-01)**							
Aliphatic Hydrocarbon (C21-C34)	✓	NA	✓	NA	NA	NA	28.1							
Aromatic Hydrocarbon (C16-C21)	✓	NA	✓	NA	NA	NA	29.8							

Surrogate Recovery Outliers *(lab limits: 65-140%)*

Sample ID	o-Terphenyl	1-Cl-octadecane			**Sample ID**				
None									

Comments: HTs OK. Lab uses 30% as dup RPD limit, but method has 25% as limit.
No MS/D.
Samples diluted 10X due to high concentration of target analyte.

Revised 9/2010

ANALYTICAL QUALITY ASSOCIATES, INC.

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Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analyses: DRO, VOCs, PCBs, PAHs, and dissolved metals
Work Order: A11G024

SUMMARY

Level II data validation was performed on the data for 10 water samples prepared and analyzed with approved procedures using method NWTPH-Dx (diesel range organics [DRO] and oil range organics [ORO]), SW846 method 8260B (volatile organic compounds [VOCs]), SW846 method 8082 (polychlorinated biphenyls [PCBs]), SW846 method 8270D SIM (polyaromatic hydrocarbons [PAHs]), and/or SW846 method 6020 (dissolved metals). The samples were collected at the PGE Hawthorne site in Portland, Oregon, on July 1, 2011, and were submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex processed the samples and reported the results under Work Order A11G024. A complete analyte list was not provided; therefore, it could not be determined if data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits, the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (October 2004), and the applicable methods.

In general, most of the data are valid as reported. No sample data were rejected. Other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The samples included in this validation are listed below.

Sample ID	Laboratory ID	Matrix
8004-110701-P4-100	A11G024-01	Water
8004-110701-P3-101	A11G024-02	Water
8004-110701-P1-102	A11G024-03	Water
8004-110701-P6-103	A11G024-04	Water
8004-110701-P7-104	A11G024-05	Water
8004-110701-P5-105	A11G024-06	Water
8004-110701-P10-106	A11G024-07	Water
8004-110701-P12-107	A11G024-08	Water
8004-110701-P12-108	A11G024-09	Water
8004-110701-P11-109	A11G024-10	Water

DATA QUALIFIERS (see following sections for detailed explanations)

Client Sample ID	Laboratory ID	Method	Analyte	Qualifier	Reason
		8260B	Acetone	UJ	Low LCS recovery
8004-110701-P4-100	A11G024-01	8270D SIM	Acenaphthene Acenaphthylene Naphthalene	UJ	Low LCS recovery and poor replicate precision
			Fluorene	UJ	Poor replicate precision
8004-110701-P1-102	A11G024-03	8270D SIM	Acenaphthene Acenaphthylene Naphthalene	UJ	Low LCS recovery and poor replicate precision
			Fluorene	UJ	Poor replicate precision

Client Sample ID	Laboratory ID	Method	Analyte	Qualifier	Reason
8004-110701-P11-109	A11G024-10	8260B	Acetone	J	Low LCS recovery
		8270D SIM	Naphthalene	J	Low LCS recovery and poor replicate precision
			Acenaphthene Acenaphthylene	UJ	Low LCS recovery and poor replicate precision
			Fluorene	UJ	Poor replicate precision

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

A COC updated with additional requested analyses was included in the data package; however, it did not match the COC provided by Hahn and Associates, Inc. (Hahn). The analyses performed by the laboratory matched the COC provided by Hahn, which is provided at the end of this validation report.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time with the following exceptions.

The sample receipt section of the COC was not completed by Apex; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blanks or calibration blanks. Field blanks were not collected with the samples in this work order.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria with the following exceptions.

Method 8270D SIM

The 2-fluorobiphenyl recoveries were < the lower acceptance limit but ≥10% for samples 8004-110701-P4-100 and 8004-110701-P1-102. Because only one of the three surrogates for the base/neutral fraction was out of criteria, no sample data were qualified.

The nitrobenzene-d5 and 2-fluorobiphenyl recoveries were < the lower acceptance limit but ≥10% for the laboratory control sample (LCS) associated with batch 1107065. The LCS is a QC sample and, therefore, no sample data were qualified.

Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD)

The LCS/LCSD (or blank spike/blank spike duplicate) analyses met laboratory QC acceptance criteria with the following exceptions.

Method 8260B

The LCS recoveries associated with batch 1107024 were > the upper acceptance limit for acetone; bromoform; 2-butanone; 1,2-dibromo-3-chloropropane; 2-hexanone; 4-methyl-2-pentanone; naphthalene; 1,1,2,2-tetrachloroethane; 1,2,3-trichlorobenzene; and 1,2,4-trichlorobenzene. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.

The LCS recovery associated with batch 1107047 was < the lower acceptance limit but ≥10% for acetone. The acetone result for sample 8004-110701-P11-109 was a detect and, therefore, was **qualified J**. The acetone result for sample 8004-110701-P4-100 was a non-detect and, therefore, was **qualified UJ**. No other samples were reported from this batch.

Method 8270D SIM

The LCS recoveries associated with batch 1107065 were < the lower acceptance limit but ≥10% for acenaphthene, acenaphthylene, and naphthalene. The naphthalene result for sample 8004-110701-P11-109 was a detect and, therefore, was **qualified J**. The remaining associated sample results were non-detects and, therefore, were **qualified UJ**.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The MS/MSD analyses met laboratory QC acceptance criteria with the following exceptions.

Method 8260B

The MS recoveries associated with batch 1107024 were > the upper acceptance limit for acetone; bromoform; 2-butanone; 1,2-dibromo-3-chloropropane; 2-hexanone; 4-methyl-2-pentanone; naphthalene; 1,1,2,2-tetrachloroethane; 1,2,3-trichlorobenzene; and trichlorofluoromethane. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.

Methods NWTPH-Dx, 8082, and 8270D SIM

MS/MSD analyses were not performed with the samples in this work order. LCS/LCSD analyses were performed in order to provide accuracy and precision data.

Laboratory Duplicate

The laboratory duplicate analyses met all laboratory acceptance criteria with the following exceptions.

Method 8270D SIM

The LCS/LCSD relative percent differences (RPDs) associated with batch 1107065 were >30% for acenaphthene, acenaphthylene, naphthalene, and fluorene. The naphthalene result for sample 8004-110701-P11-109 was a detect and, therefore, was **qualified J**. The remaining associated sample results were non-detects and, therefore, were **qualified UJ**.

Method 8260B

A duplicate analysis was not performed with the samples in this work order.

Field Duplicate

A field duplicate was not collected with the samples in this work order.

Reporting Limits

All reporting limits were properly reported.

Method NWTPH-Dx

The samples were diluted 2.5X. The reporting limits were adjusted accordingly.

Method 8260B

The o-xylene reporting limit was raised for sample -05 due to possible carryover.

Other QC

Method 8260B

The date prepared on the Sample Preparation Information form was incorrect for samples 8004-110701-P4-100 (A11G024-01RE1) and 8004-110701-P11-109 (A11G024-11RE1). The form lists the date collected as the date prepared.

No other specific issues that affect data quality were identified.

Completeness

There were 817 field sample data points associated with the data package for Work Order A11G024. Of these field sample data points, 803 were assessed and left unqualified, 2 were assessed and qualified J, and 12 were assessed and qualified UJ. Based on the number of unqualified data points, the percent completeness is 98.29%.

Hahn Data Validation Summary Worksheet

SDG#: A11G024	Laboratory: APEX	Validator: Jeanne Peterson	Validation Date: 08/03/2011
Site: PGE Hawthorne	COC#: 8004-07		Validation Level: ☒ II ☐ III
Matrix: Water	# of Samples: 10	Tracking docs present: NA	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK[1]

Analyses:
☒ VOCs ☐ SVOCs ☒ PAHs ☐ GRO ☒ DRO ☐ Pests ☒ PCBs ☒ Metals ☐ Gen Chem ☐ Cyanide
☐ Other:

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
None								

Comments: Samples collected 7/1.

[1]No problems noted by lab.

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Hahn Level II GC Worksheet

SDG: A11G024	Method: NWTPH-Dx	Matrix: Water	Lab Sample IDs: A11G024-01 thru -08, -10
Batch #s: 1107065			

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R** *(lab limits)*	**MS %R** *(lab limits)*	**MSD %R**	**MS/D RPD** (<30%)	**Lab Dup RPD**							
None														

Surrogate Recovery Outliers *(lab limits: 50-150%)*

Sample ID	o-Terphenyl				**Sample ID**				
None									

Comments: HTs OK.
No MS/D; LCS/LCSD instead.

Revised 9/2010

Hahn Level II GCMS Worksheet

SDG: A11G024	Method: 8260B	Matrix: Water	Lab Sample IDs: A11G024-01 thru -08, -10
Batch #s: 1107024 (-01 thru -10), 1107047 (-01RE1, -10RE1 for acetone only)			

(lab limits 70-130%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R (024)**	**MS %R (-10)**	**MSD %R**	**MS/D RPD** (<30%)	**Lab Dup RPD**	**LCS %R (047)**						
Acetone	✓	NA	222	185	NA	NA	NA	67						
Bromoform	✓	NA	141	133	NA	NA	NA	✓						
2-Butanone	✓	NA	211	201	NA	NA	NA	✓						
1,2-Dibromo-3-chloropropane	✓	NA	189	184	NA	NA	NA	✓						
2-Hexanone	✓	NA	229	231	NA	NA	NA	✓						
4-Methyl-2-pentanone	✓	NA	188	206	NA	NA	NA	✓						
Naphthalene	✓	NA	167	141	NA	NA	NA	✓						
1,1,2,2-PCA	✓	NA	158	155	NA	NA	NA	✓						
1,2,3-TCB	✓	NA	172	173	NA	NA	NA	✓						
1,2,4-TCB	✓	NA	131	✓	NA	NA	NA	✓						
Trichlorofluoromethane	✓	NA	✓	147	NA	NA	NA	✓						

Surrogate Recovery Outliers *(lab limits: 80-120%)*

Sample ID	**All**				**Sample ID**				
None									

Comments: HTs OK. Prep date incorrect on Sample Preparation Information form for REs.
No MSD or dup.
o-Xylene RL raised for sample -05 due to possible carryover.

Revised 9/2010

Hahn Level II GC Worksheet

SDG: A11G024	Method: 8082	Matrix: Water	Lab Sample IDs: A11G024-02, -04 thru -09
Batch #s: 1107084			

Cleanup: ☐ GPC ☒ Sulfur ☒ Florisil ☒ H_2SO_4 ☐ $KMnO_4$ *(lab limits)* (<30%)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS/D %R**	**MS %R**	**MSD %R**	**MS/D RPD** (<30%)	**Lab Dup RPD**							
None														

Surrogate Recovery Outliers *(lab limits)*

Sample ID	TCMX	DCB			**Sample ID**				
None									

Comments: HTs OK.
No MS/D; LCS/LCSD instead.

Revised 9/2010

Hahn Level II GCMS Worksheet

SDG: A11G024	Method: 8270D SIM	Matrix: Soil	Lab Sample IDs: A11G024-01 thru -08, -10
Batch #s: 1107065 (-01, -03, -10), 1107099 (-02, -04, -05, -06, -07, -08)			

(lab limits)

Analyte (outliers)	**Method Blank**	**5X (10X) Method Blank**	**LCS %R (065)**	**LCSD %R (065)**	**LCS/D RPD (065)** (<30%)	**MS %R**	**MSD %R**	**MS/D RPD** (<30%)	**LCS/D %R (099)**	**LCS/D RPD (099)** (<30%)				
Acenaphthene	✓	NA	43	✓	50	NA	NA	NA	✓	✓				
Acenaphthylene	✓	NA	40	✓	53	NA	NA	NA	✓	✓				
Naphthalene	✓	NA	29	✓	66	NA	NA	NA	✓	✓				
Fluorene	✓	NA	✓	✓	34	NA	NA	NA	✓	✓				

Surrogate Recovery Outliers *(lab limits)*

Sample ID	**NB-d5**	**2-FBP**	**p-Terp-d14**		**Sample ID**				
-01	✓	34	✓						
-03	✓	36	✓						
1107065 LCS	27	29	✓						

Comments: HTs OK.
No MS/D.

Revised 9/2010

Hahn Level II Metals Worksheet

SDG: A11G024	Matrix: Water	Lab Sample IDs: A11G0245-01 thru -10
Method: 6020 (diss. metals*)	Batch #s: 1107077	

Analyte (outliers)	**MB** ug/L	**10X MB** ug/L	**LCS %R** *(80-120%)*	**MS %R (-04)** *(75-125%)*	**MSD %R**	**MS/ MSD RPD** *≤20%*	**DUP RPD** *≤20%* **(-04)**									
None																

Comments: HTs OK.
*As, Pb, and Hg only

Revised 9/2010

HAHN AND ASSOCIATES, INC.

Environmental Consultants

434 NW Sixth Avenue, Suite 203 • Portland OR 97209

(503) 796-0717 • Fax (503) 227-2209

Laboratory APEX Laboratories
Tigard,
Lab Project No Oregon

CHAIN OF CUSTODY

Chain of Custody 8004-07

Project Manager Corey Raspone
Project No. 8004
Project Name WTRINV
Collected by Corey Raspone/Ben Uhl

Liquid with Sediment Sample
Test Filtrate Test Sediment Test Bot

Multi-Phase Sample
Test One (which) Test Separately Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N)
Provide Preliminary Fax Results

Comments

Sample Number Prefix:8004-110701-

5 DAY TAT - UNLESS NOTED IN REMARKS

Results to Jeff Dresser at Bridgewater (jdresser@bridgeh2o.com)

For samples with 5 bottles: Please use one liter amber for Dx and PAHs if there is sufficient volume.

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	Analyses to be Performed: VOCS (EPA 8260)	PAH (EPA 8270 SIM)	Metals - As, Pb, Hg (EPA 6010/700	PCBs (EPA 8082)	NWTPH-Dx					RUSH	Remarks
	P4-100	01-Jul-11	8:30	14-19' @ P4		X			5	X	X	X		X						
	P3-101	01-Jul-11	9:15	14-19' @ P3		X			8	X	X	X	X	X						
	P1-102	01-Jul-11	9:00	14-19' @ P1		X			5	X	X	X		X						
	P6-103	01-Jul-11	9:55	7-12' @ P-6		X			8	X	X	X	X	X						
	P7-104	01-Jul-11	11:15	7-12' @ P-7		X			8	X	X	X	X	X						
	P5-105	01-Jul-11	11:45	7-12' @ P-5		X			8	X	X	X	X	X						
	P10-106	01-Jul-11	10:20	7-12' @ P-10		X			8	X	X	X	X	X						
	P12-107	01-Jul-11	12:30	14-19' @ P12		X			8	X	X	X	X	X						
	P12-108	01-Jul-11	12:30			X			8			X	X							
	P11-109	01-Jul-11	13:00	14-19' @ P-11		X			5	X	X	X		X						

Relinquished by	Hahn and Associates, Inc.	Date	Time	Received by	Company
Relinquished by	Company	Date	Time	Received by	Company

PO Box 21987
Albuquerque, NM 87154
1-888-678-5447
www.aqainc.net

Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
Laboratory: Apex Laboratories, LLC
Analysis: PCBs
Work Order: A11G066

SUMMARY

Level II data validation was performed on the data for one solid sample prepared and analyzed with approved procedures using SW846 method 8082 (polychlorinated biphenyls [PCBs]). The sample was collected at the PGE Hawthorne site in Portland, Oregon, on June 28, 2011, and was submitted to Apex Labs (Apex) in Tigard, Oregon, for analysis. Apex processed the sample and reported the results under Work Order A11G066. Data were reported for all required analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) using laboratory QC acceptance limits and SW846 method 8082.

In general, most of the data are valid as reported. No sample data were rejected. Other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLES

The sample included in this validation is listed below.

Sample ID	Laboratory ID	Matrix
8004-110706-C19-219	A11G066-01	Solid

DATA QUALIFIERS (see following sections for detailed explanations)

Client Sample ID	Laboratory ID	Analyte	Qualifier	Reason
8004-110706-C19-219	A11G066-01	Aroclor 1242 Aroclor 1254 Aroclor 1260	J	Low surrogate recovery
		Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1248	UJ	Low surrogate recovery

DISCUSSION

Sample Shipping/Receiving

All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

Holding Times and Preservation

The sample was properly preserved and analyzed within the prescribed holding time with the following exception.

The sample receipt section of the COC was not completed; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blank. Field blanks were not collected with the samples in this work order.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria with the following exception.

The decachlorobiphenyl recovery was < the lower acceptance limit but≥30% for sample 8004-110706-C19-219. The associated sample results that were detects were **qualified J**, and the associated sample results that were non-detects were **qualified UJ**.

Laboratory Control Sample (LCS)

The LCS (or blank spike) analysis met laboratory QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were not performed with the sample in this work order.

Laboratory Duplicate

A laboratory duplicate analysis was not performed with the sample in this work order.

Field Duplicate

A field duplicate was not collected with the sample in this work order.

Reporting Limits

All reporting limits were properly reported. The sample was not diluted. Method detection limits were not reported.

Other QC

No other specific issues that affect data quality were identified.

Completeness

There were seven field sample data points associated with the data package for Work Order A11G066. Of these field sample data points, three were assessed and qualified J and four were assessed and qualified UJ. Based on the number of unqualified data points, the percent completeness is 0.0%.

PO Box 21987
Albuquerque, NM 87154
1-888-678-5447
www.aqainc.net

Date: August 8, 2011

To: Jeff Dresser
Bridgewater Group, Inc.

From: Jeanne Peterson
Project Manager, AQA

Subject: Level II Data Validation – PGE Hawthorne
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DISCUSSION

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All Chain of Custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sample receipt/login information was not included in the data package, and the sample receipt section of the COC was not completed; however, there were no sample receipt problems noted by the laboratory.

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The sample was properly preserved and analyzed within the prescribed holding time with the following exception.

The sample receipt section of the COC was not completed; therefore, it was not possible to determine the temperature of the samples upon receipt. No sample preservation problems were noted by the laboratory and, therefore, no sample data were qualified based on professional judgment.

Blanks

No target analytes were detected in the method blank. Field blanks were not collected with the samples in this work order.

Surrogates

All surrogate recoveries were within laboratory QC acceptance criteria with the following exception.

The decachlorobiphenyl recovery was < the lower acceptance limit but≥30% for sample 8004-110706-C19-219. The associated sample results that were detects were **qualified J**, and the associated sample results that were non-detects were **qualified UJ**.

Laboratory Control Sample (LCS)

The LCS (or blank spike) analysis met laboratory QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were not performed with the sample in this work order.

Laboratory Duplicate

A laboratory duplicate analysis was not performed with the sample in this work order.

Field Duplicate

A field duplicate was not collected with the sample in this work order.

Reporting Limits

All reporting limits were properly reported. The sample was not diluted. Method detection limits were not reported.

Other QC

No other specific issues that affect data quality were identified.

Completeness

There were seven field sample data points associated with the data package for Work Order A11G066. Of these field sample data points, three were assessed and qualified J and four were assessed and qualified UJ. Based on the number of unqualified data points, the percent completeness is 0.0%.

Appendix B

Building Survey Report

Forensic Analytical Consulting Services,
December 30, 2011

Forensic Analytical

ENVIRONMENTAL HEALTH CONSULTANTS

Building Survey Report

PGE Hawthorne Building
1510 SE Water Ave.
Portland, OR 97214

July 25, 2011
Revised: December 30, 2011

Prepared for:

Jeff Dresser
Bridgewater Group Inc.
4500 SW Kruse Way, Suite 110
Lake Oswego, OR 97035
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Prepared by:

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FACS Project #PJ14733

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Introduction

Forensic Analytical Consulting Services, Inc ("FACS") was retained by Bridgewater Group, Inc. ("Bridgewater") on behalf of Portland General Electric ("PGE") to perform an asbestos survey update, lead-based paint survey, lead dust assessment, lead bulk sampling, and radon assessment at PGE's Hawthorne Building located at 1510 SE Water Ave., Portland, Oregon. In addition, a sample of brick and mortar was analyzed to assess if special requirements would apply to the future demolition/disposal of those materials

The survey, sampling, and assessments were conducted by Jeffrey U. Hietanen and Robin Sharpe-Yablonka of FACS between June 10, 2011 and July 12, 2011. This report provides the results of the survey, sampling and assessments.

A revision to the report dated July 25, 2011 has been completed at the request of Doug Jenkin of PGE. The revision dated December 30, 2011 includes a series of additional samples used to clarify the quantity of asbestos in dust and debris within the building's attic and to eliminate the linkage between the bag of vermiculite and a debris pile also in the attic. Any revisions to the original report are in *italicized text*.

Methodology

Asbestos Survey

Prior to conducting the onsite survey, a previous asbestos survey report conducted by FACS (PE1648) dated May 30, 2006 was referenced. Suspect materials indentified during the onsite survey were grouped and classified as homogeneous materials based on their appearance, usage, and age of the building. Representative samples of each homogeneous material that was not sampled in the original report were sampled in accordance with the federal Asbestos Hazard Emergency Response Act ("AHERA") protocols. Materials determined by the inspector to be non-suspect, such as wood, metal, glass, and fiberglass insulation, were not sampled. Additional suspect building materials may be present in areas that were inaccessible, unsafe to inspect, or obscured from view during the inspection process.

Samples were collected in such a manner as to minimize release of the material into the surroundings. Material type, sample number, sample location and other pertinent information were recorded at the time of sampling. Each sample was placed in a sample container labeled with a unique sample number and submitted to the Forensic Analytical Laboratory, Inc. ("FALI"), a National Voluntary Laboratory Accredation Program ("NVLAP") accredited laboratory for analysis under Chain-of-Custody documentation. Samples were analyzed in accordance with EPA Method 600/R-93-116, using Polarized Light Microscopy ("PLM") with dispersion staining and using visual area estimation to determine percent asbestos content. This method allows for the identification of the primary types of asbestos used in building materials. The lower limit of detection for this method is one (1) percent. Samples containing less than one percent asbestos by PLM with visual area estimation are reported as Trace.

Additional samples were taken of settled dust and debris in the attic on August 4, 2011. These samples were collected to identify the extent, if any, of asbestos contamination throughout the attic and assess exposure to asbestos prior to abatement. These samples were first analyzed by PLM and then four samples were qualitatively analyzed by Transmission Electron Microscopy ("TEM"), to determine the type of asbestos present and identify whether or not anthophyllite and tremolite, which are asbestos fibers frequently associated with vermiculite, were present in the attic dust.

Lead-Based Paint Survey

FACS conducted testing of accessible painted surfaces using a Niton X-Ray Fluorescence ("XRF") analyzer. The components tested were in accordance with those listed in the "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing", June 1995 (Chapter 7 Revised 1997) by The National Center for Lead-Safe Housing for the U.S. Department of Housing and Urban Development ("HUD"). The limit of detection in general for a Niton XRF like the one used is 0.2 $\mu g/cm^2$ - 0.4 $\mu g/cm^2$.

Lead Dust Sampling

Samples were collected at varying distances from areas where lead-based products are know to be used or historically may have been used (e.g.,lead storage room and soldering areas). Each sample was collected on a pre-moistened wipe (GhostWipe brand). To collect the sample, a template with an inside area of 1 sq. ft was used to define the sampling area. Samples were collected using the National Institute for Occupational Safety and Health ("NIOSH") method of wiping the surfaces using S-shaped strokes in an edge-to-edge direction, covering the entire surface. This S-stroke pattern is performed in a horizontal direction; the wipe is folded over and then wiped in a vertical direction using the same pattern. Each sample wipe is then sealed in a plastic centrifuge tube, labeled with a unique sample number, and sent under Chain-of-Custody to Forensic Analytical Laboratories, Inc., an Environmental Lead Laboratory Accredation Program ("ELLAP") accredited laboratory, for analysis.

Lead Bulk Sampling

Materials specified by PGE during a pre-project walk were sampled. Samples were collected in such a manner as to minimize release of the material into the surroundings. Material type, sample number, sample location and other pertinent information were recorded at the time of sampling. Each sample was placed in a sample container labeled with a unique sample number and submitted to the Forensic Analytical Laboratory, Inc. (FALI) for analysis under Chain-of-Custody documentation. Samples were analyzed in accordance with EPA Method 3050B/7420. Sample results are given in mg/kg.

Radon Assessment

Samples were collected in four locations in the basement using short-term radon canisters supplied by AccuStar Labs. One blank sample was collected, a control sample was collected on the top floor of the building, and a side-by-side sample within 4 inches of another sample was collected to ensure the accuracy of the sampling. Samples were placed a minimum of 4 feet from the floor and 2 feet from surroundings wall or objects. Samples were left over a weekend to limit disturbance to the sampling media. Samples were mailed under Chain-of-Custody to AccuStar lab for analysis using EPA Method 402-R-92-004.

Site Characterization

The subject building is a three story commercial structure totaling approximately 56,700 square feet. The building is constructed with a concrete and stucco exterior and wood and metal framed windows. Flooring consists mostly of carpet, carpet tile, floor tile, sheet vinyl, and exposed concrete. Walls are painted gypsum board and painted concrete. The ceiling is concrete and is finished with drop in ceiling tiles or drywall in some areas.

Findings

Asbestos Survey

Multiple materials tested positive for asbestos. A table of Asbestos Containing Materials ("ACM") and presumed ACM identified at the site is shown in Table 1. A table of asbestos sample collection locations is contained in Appendix A. A diagram showing asbestos sample collection locations is contained in Appendix D.

Table 1: Asbestos Containing and Presumed Asbestos Containing Materials

Material Description	Sample #	Sample Location	Material Location	Condition	ASB. % & Type	Quantity
Floor Tile, 12" x 12" White with Tan Specks, and Black Mastic	HTHRN-16	2nd Floor Break Room	2nd Floor Break Room	Good	Tile - 2% Chrysotile Mastic- 10 % Chrysotile	155 sq. ft
Brown Floor Tile and Black Mastic under Carpet	HTHRN-5	2nd Floor Shrives Museum	2nd Floor Shrives Museum	Good	Tile - 10% Chrysotile Mastic- 10% Chrysotile	1,739 sq. ft.
2nd Layer Green Floor Tile & Black Mastic	PJ14733-1 & HTHRN-17 & 19	2nd Floor Northwest Office & 2nd Floor Generation & Survey Office	2nd Floor Northwest Offices, 2nd Floor Generation & Survey Office, & 2nd Floor Women's Restroom, 1st Floor Fire Protection Services	Good	Tile - 5% Chrysotile Mastic – 2-10%	2,120 sq. ft
2nd Layer Brown Tile and Black Mastic	HTHRN-24	2nd Floor Cash Remittance	2nd Floor Cash Remittance	Good	Tile - 10% Chrysotile Mastic- 2 % Chrysotile	1,900 sq. ft
Tan Floor Tile and Black Mastic under Carpet	HTHRN-29	1st Floor Office North of East Stairwell	Main Floor Office North of East Stairwell	Good	Tile - 5% Chrysotile Mastic- 10 % Chrysotile	470 sq. ft
Wiring	H-06	Attic	Throughout	-**	80% Chrysotile	Material un-quantifiable
Roofing	Assumed	Assumed	Roof	Good	Assumed***	22,000 Sq. ft.
Composite Board Box	H-07	Attic	Attic	Good	40% Chrysotile	64 sq. ft.*
Pipe Wrap Coiled Black	PJ14733-8	Basement South Wall	Basement	Good	Chrysotile 10%	200 ln. ft.**
†Debris Pile	*DP02*	*Attic*	*Attic*	*Poor*	*2% Chrysotile*	*2,000 sq. ft.*
†Zonolite Vermiculite	*Assumed*	*Attic*	*Attic*	*Poor*	*Assumed*	*Spilled 20lb bag**
†Dust/Debris on Floor and Contents	*D4, D5, D7*	*Attic*	*Attic*	*Poor*	*Chrysotile detected by TEM*	*22,000 sq. ft.*

*Material is not a building component but is stored/present in the building
** Material quantities in wall cavities unknown
*** Material assumed to contain asbestos at the request of PGE to not sample
†Abatement of the vermiculite was completed on August 3, 2011. Abatement of all dust and debris was completed on December 9, 2011.

Lead-Based Paint Survey

Lead was identified in paint throughout the building. A table of lead paint sample locations and XRF results is contained in Appendix B. A diagram showing lead based paint sampling locations is shown in Appendix *F*.

Lead Dust Assessment

Lead dust wipe sampling indicated lead in all samples taken. A table of lead dust wipes sample locations and analytical results is contained in Appendix C. A diagram showing lead dust wipe sample locations is shown in Appendix *G*.

Lead Bulk Sampling

Bulk sampling of piping on the ceiling of the basement and brick and mortar in the basement chemical storage room was completed. Analytical results indicate that both materials contain lead.

A table of materials sample locations and percent total lead is provided in Table 2.

To support possible future maintenance, demolition, or disposal activities, a sample of the brick and mortar in the chemical storage room was analyzed for lead using the Toxicity Characteristic Leaching Procedure ("TCLP") EPA Method 1311. The result indicates leachable lead levels are below the reporting limit of 0.3 mg/l and well below the hazardous waste disposal regulatory threshold of 5 mg/l.

Table 2: Lead Bulk Sampling

Sample #	Material Description	Sample Location	Material Location	Condition	Lead (mg/kg)**	Quantity
PJ14733-PB1	Red Brick & Mortar with white paint	Chemical Storage Room in Basement	Chemical Storage Room in Basement and Attic *	Good	1,500	380 sq. ft.*
PJ14733-PB2	Pipe Painted White	Basement North of Elevator in Basement	Basement North of Elevator in Basement	Good	130,000	4 ln. ft.

* Material was observed in only these locations however additional material may be hidden behind walls throughout the building.
**Results are reported on an 'as received' basis

Radon Assessment

Results of the Radon sampling indicates that Radon levels are below the detection level of 0.4 pCi/L throughout the basement. A table indicating areas sampled is provided in Table 3. A diagram identifying radon sample locations is contained in Appendix *H*.

Table 3: Radon Sample Results

Device Number	Exposure Period (Start)	Exposure Period (End)	Location	Results (pCi/L)
2245998	6/22/2011 10:12am	6/24/2011 11:31am	Basement R01	<0.4
2245997	6/22/2011 10:12am	6/24/2011 11:31am	Basement R02	<0.4

2245994	6/22/2011 10:12am	6/24/2011 11:33am	Basement R03	<0.4
2245999	6/22/2011 10:12am	6/24/2011 11:34am	Basement R04	<0.4
2245993	6/22/2011 10:12am	6/2442011 11:34am	Basement R05	<0.4
2245995	6/22/2011 10:10am	6/24/2011 11:37am	Basement R06	<0.4
2245996	6/22/2011 10:10am	6/24/2011 11:37am	Basement R07	<0.4

Conclusions

Asbestos Survey

ACM was detected in materials sampled during this inspection. *See Appendix E and Appendices L through M for details of subsequent sampling for dust and debris piles, directions for dealing with the vermiculite, and abatement work.*

Materials for which sample analysis by PLM results in greater than one percent asbestos (for any one sample collected from a homogeneous material) are classified as ACM under regulations promulgated by, but not limited to, the following agencies: federal EPA (40 C.F.R. Part 61), federal OSHA (29 C.F.R. §§ 1926.1101 and 29 C.F.R. 1910.1001, Oregon DEQ (O.A.R. 340-248), and local organizations that enforce the regulations of these agencies.

ACM that will be removed during demolition or renovation is required to be removed in accordance with all Federal, State, and Local regulations by a licensed asbestos abatement contractor prior to demolition or renovation activities that will impact them. If any suspect materials are encountered during the course of demolition or renovation, that are not reflected in this survey, the material shall not be disturbed until further sampling can determine whether or not it is asbestos containing.

Before performing or permitting any activities that may contact or disturb ACM, all employees who work in or adjacent to the areas containing ACM must be notified of the presence of ACM. This notification must include: The presence, location, and quantity of ACM and reporting instructions in the event of any noted dust or debris that might come from the ACM.

If small quantities of ACM are planned to be disturbed or repaired during the course of general maintenance these materials may be removed by trained workers in accordance with a written Operations and Maintenance plan specific to the building.

Lead-Based Paint Survey

In this survey, multiple building components were found to contain lead-based paint (greater than 1 mg/cm²). A complete listing of all XRF results is provided in Appendix B. A diagram indicating locations is provided in Appendix F.

It is important to note that XRF readings which have a negative value (less than zero, i.e., -0.3) or 0.0 mg/cm^2 do not necessarily indicate no lead is present. The XRF instrument does not have sufficient precision to determine a zero result. The OSHA Lead in Construction Standard (29 C.F.R. § 1926.62) should be followed whenever disturbing any paints at the site, since the standard applies to paints containing any amount of lead, even those below 1.0 ug/cm².

Lead Dust Sampling

Lead was identified in dust wipe samples in the Main Floor lead soldering area and the Basement lead storage area. As expected, concentrations of lead in dust decreased as the distance from the area of known lead use, storage, or handling increased. No regulatory standard has been established for lead in dust at an industrial site, therefore, it is difficult to assign a threshold level for where cleaning may be necessary or recommended. The US Housing and Urban Development ("HUD") standards, which were designed for child occupied facilities, requires cleanup at lead levels $\geq$40 ug/ft^2 for floors, $\geq$250 ug/ft^2 for window sills, and $\geq$ 400 ug/ft^2 for window troughs. All levels identified during the assessment were higher than the assigned HUD levels.

Lead Bulk Sampling

Lead was identified in both materials sampled. TCLP analysis of the brick and mortar indicated the material is below the EPA regulatory threshold of 5.0 mg/l of leachable lead (40 C.F.R. § 261.24) and can be disposed of as non-hazardous construction debris. The lead piping in the basement should be disposed of in accordance with PGE disposal guidelines for lead piping.

Radon Assessment

Radon was not detected above the detection limit of 0.4 pCi/L in any of the samples gathered at the building. The EPA recommends that radon mitigation be performed if levels are above 4 pCi/L and that radon mitigation be considered if levels are between 2-4 pCi/L.

Limitations

This investigation is limited to the conditions and practices observed and information made available to FACS. The methods, conclusions, and recommendations provided are based on FACS' judgment, experience and the standard of practice for professional service. They are subject to the limitations and variability inherent in the methodology employed. As with all environmental investigations, this investigation is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.

Please do not hesitate to contact our office at 503-595-1001 if you have any additional questions or concerns.

Respectfully,
FORENSIC ANALYTICAL

Cherice Godard
Project Manager

Reviewed by:
FORENSIC ANALYTICAL

Rick Carlin
Director

Appendix A:
Asbestos Sample Results

Asbestos Sample Results (PGE Hawthorne Building)						
Sample #	Material Description	Sample Location	Material Location	Condition	ASB. % & Type	Quantity
PJ14733-1	**12" x 12" Salmon Floor Tile Marbled over 2nd layer Green Floor Tile and Black Mastic**	**2nd Floor NW Room**	**2nd Floor Northwest Offices, 2nd Floor Generation & Survey Office, 2nd Floor Women's Restroom, and 1st Floor Fire Protection Services**	**Good**	**Green FT Chrysotile 5%**	**2,120 sq. ft.**
PJ14733-2	2 layers Sheet Vinyl under Blue Marbled Floor Material	2nd Floor Women's Restroom	-	-	ND	-
PJ14733-3	White Leveling Compound	2nd Floor Hall Outside Women's Restroom	-	-	ND	-
PJ14733-4	6" Cove Base Yellow Mastic	2nd Floor Unisex Restroom	-	-	ND	-
PJ14733-5	Grey Leveling Compound over Black Mastic under Carpet Tile	2nd Floor Conference Room	-	-	ND	-
PJ14733-6	Sink Undercoating	2nd Floor Break Room	-	-	ND	-
PJ14733-7	2' x 2' Ceiling Tile Holed	1st Floor Conference Room	-	-	ND	-
PJ14733-8	**Pipe Wrap Coiled Black**	**Basement South Wall**	**Basement**	**Good**	**Chrysotile 10%**	**100 ln. ft.***
PJ14733-9	**Pipe Wrap Coiled Black**	**Basement South Wall**	**-**	**-**	**Chrysotile 10%**	**-**
PJ14733-10	**Pipe Wrap Coiled Black**	**Basement South Wall**	**-**	**-**	**Chrysotile 10%**	**-**
PJ14733-11	Silver Paint on Pipe	Basement East Wall	-	-	ND	-
PJ14733-12	Red Brick and Mortar	Basement Chemical Storage	-	-	ND	-

Asbestos Sample Results (PGE Hawthorne Building)							
Sample #	Material Description	Sample Location	Material Location	Condition	ASB. % & Type		Quantity
PJ14733-13	2' x 4' Ceiling Tile	2nd Floor Cash Remittance	-	-	ND		-
PJ14733-14	Grey Duct Seam Compound	Attic	-	-	ND		-
Assumed	*Zonolite Vermiculite*	*N/A*	*Attic and Stairwell to Attic*	*Poor*	*Assumed*		*Spilled 20 lb. bag*
***D1*	*Dust on Contents*	*Attic*	-	-	*ND*		-
***D2*	*Dust/Debris on Floor*	*Attic*	-	-	*ND*		-
***D3*	*Dust/Debris on Floor*	*Attic*	-	-	*ND*		-
*****D4***	***Dust/Debris on Floor***	***Attic***	**-**	**-**	*ND (PLM)*	***Chrysotile (TEM)***	***22,000 sq. ft.***
*****D5***	***Dust/Debris on Floor***	***Attic***	**-**	**-**	*ND (PLM)*	***Chrysotile (TEM)***	***22,000 sq. ft.***
***D6*	*Dust/Debris on Contents*	*Attic*	-	-	*ND (PLM)*	*ND (TEM)*	-
*****D7***	***Dust/Debris on Floor***	***Attic***	**-**	**-**	*ND (PLM)*	***Chrysotile (TEM)***	***22,000 sq. ft.***
***D8*	*Dust/Debris on Shelf Contents*	*Attic*	-	-	*ND*		-
***D9*	*Dust/Debris on Floor*	*Attic*	-	-	*ND*		-
***D10*	*Dust/Debris on Shelf*	*Attic*	-	-	*ND*		-
***DP01*	*Debris Pile*	*Attic*	-	-	*ND*		-
*****DP02***	***Debris Pile***	***Attic***	***Attic - Southwest Corner***	***Poor***	***2 - Chrysotile***		***2,000 sq. ft.***
****15223-A*	*Roofing and Roofing Adhesive*	*Attic - South Caged Area, Debris Pile*	-	-	*ND*		-
****15223-B*	*White Cementitious Material*	*Attic - South Caged Area, Outer Edge of Debris Pile*	-	-	*ND*		-

Asbestos Sample Results (PGE Hawthorne Building)						
Sample #	Material Description	Sample Location	Material Location	Condition	ASB. % & Type	Quantity
****15223-C*	*Mixed Granular Debris*	*Attic - South Caged Area, Outer Edge of Debris Pile*	-	-	*ND*	-
****15223-D*	*Mixed Granular Debris*	*Attic - South Caged Area, Center of Debris Pile*	-	-	*Trace - Chrysotile*	-
****15223-E*	*Mixed Granular Debris*	*Attic - Mixed General Debris on Floor North Center*	-	-	*ND*	-
****15223-F*	*Mixed Granular Debris*	*Attic - Floor of North Caged Area*	-	-	*ND*	-

*Quantity recorded is only amount observed. Additional may be present in wall cavities

***Report revision 12/30/11: Additional samples taken prior to abatement activities on August 4, 2011. Settled dust = D; debris pile = DP*

**** Report revision 12/30/11: Additional samples taken on October 28, 2011.*

The following photos are PGE photos that are representative of the debris piles sampled on October 28, 2011 (samples 15223-A through 15223-F).

Photo #01 - Debris Pile

Photo #02 - Debris Pile

Photo #03 - Debris Pile

Photo #04 - Debris Pile

Photo #05 - Debris Pile

Photo #06 - Debris Pile

Photo #07 - Debris Pile

Photo #08 - Debris Pile

Photo #09 - Debris Pile

Photo #10 - Debris Pile

Photo #11 - Debris Pile

Photo #12 - Debris Pile

Appendix B:
Lead Based Paint Sample Results

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
Basement					
1	NW Storage	Green	Lower Wall	Concrete	0.3
2	NW Storage	White	Upper Wall	Concrete	0.13
3	NW Storage	Green	Lower Column	Concrete	2.8
4	NW Storage	Off White	Upper Column	Concrete	4.1
5	NW Storage	Green	Lower Wall	Wood	0.0
6	NW Storage	Off White	Upper Wall	Drywall	0.0
7	NW Storage	Green	Lower Wall	Wood	0.0
8	NW Storage	Off White	Upper Wall	Wood	0.0
9	NW Storage	Green	Lower Column	Concrete	6.9
10	NW Storage	Off White	Upper Column	Concrete	6.2
11	NW Storage	Green	Lower Column	Concrete	0.18
12	NW Storage	Off White	Upper Column	Concrete	0.24
13	Basement	Green	Lower Wall	Concrete	5.3
14	Basement	Off White	Upper Wall	Concrete	0.13
15	Basement	Green	Lower Column	Concrete	5.5
16	Basement	Off White	Upper Column	Concrete	0.09
17	Basement	Silver	Pipe	Metal	0.05
18	Basement	Green	Lower Column	Concrete	0.5
19	Basement	Off White	Upper Column	Concrete	0.06
20	Basement	Green	Lower Column	Concrete	0.16
21	Basement	Off White	Upper Column	Concrete	0.08
22	Basement	Red	Middle Column	Concrete	0.22
23	Basement	Off White	Ceiling	Concrete	0.12
24	Basement	Green	Lower Column	Concrete	0.16
25	Basement	Off White	Upper Column	Concrete	0.05
26	Basement	Off White	Ceiling	Concrete	0.4
27	Basement	Green	Lower Wall	Concrete	0.22
28	Basement	Off White	Upper Wall	Concrete	0.08

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
29	Basement	Silver	Pipe	Metal	0.04
30	Basement	Grey	Cabinet	Wood	6.7
31	Basement	Yellow	Floor	Concrete	0.04
32	Basement	Green	Lower Column	Concrete	0.9
33	Basement	Off White	Upper Column	Concrete	0.13
34	Basement	Green	Lower Wall	Wood	5.5
35	Basement	Off White	Upper Wall	Wood	5.1
36	Basement	Purple	Door	Wood	0.10
37	Basement	Black	Door Trim	Metal	0.07
38	Basement	Green	Door	Metal	3.5
39	Basement	Green	Wall	Wood	0.20
40	Basement	Off White	Door Trim	Wood	0.02
41	Basement	Green	Door	Wood	0.07
42	Basement	Off White	Ceiling	Concrete	0.08
43	Basement	Green	Door Trim	Wood	0.09
44	Basement	Green	Door	Wood	0.07
45	Basement	Green	Wall	Concrete	4.8
46	Basement	Green	Tank	Metal	5.1
47	Basement	Off White	Wall	Concrete	0.13
48	Basement	Grey	Garage Door	Metal	0.01
49	Basement	Green	Door	Metal	0.13
50	Basement	Green	Door Trim	Metal	0.4
51	Basement	Off White	Ceiling	Concrete	0.09
52	Basement	White	Garage Door	Metal	0.0
53	Basement	Off White	Door Trim	Wood	0.0
54	Fire Storage	Off White	Wall	Wood	0.08
55	Fire Storage	Green	Wall	Wood	0.07
56	Shop Equipment Room	Off White	Wall	Wood	0.04
57	Shop Equipment Room	Off White	Wall	Wood	0.04
58	Shop Equipment Room	Off White	Wall	Wood	0.04
59	Shop Equipment Room	Off White	Wall	Concrete	3.5
60	Shop Equipment Room	Off White	Wall	Wood	0.08
61	Lead Storage Room	Off White	Upper Wall	Wood	0.11
62	Lead Storage Room	Green	Lower Wall	Wood	0.027

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
63	Lead Storage Room	Green	Wall	Wood	0.17
64	Lead Storage Room	Off White	Wall	Wood	0.05
65	Lead Storage Room	Off White	Wall	Concrete	0.04
66	Lead Storage Room	Green	Wall	Concrete	0.24
67	Lead Storage Room	Grey	Cabinet	Metal	5.2
68	Lead Storage Room	Off White	Upper Wall	Brick	0.07
69	Lead Storage Room	Green	Lower Wall	Brick	0.25
70	Chemical Storage	Yellow	Wall	Brick	0.20
71	Chemical Storage	Yellow	Wall	Brick	0.20
72	Chemical Storage	Yellow	Wall	Brick	0.20
73	Chemical Storage	Yellow	Wall	Concrete	0.12
74	Exercise Room	Silver	Door	Metal	0.0
75	Exercise Room	White	Wall	Brick	0.28
76	Exercise Room	Off White	Wall	Wood	5.9
77	Exercise Room	White	Wall	Wood	0.10
78	Exercise Room	White	Wall	Concrete	12.6
Main Floor					
79	Conference Room	White	Column	Concrete	31.0
80	Conference Room	Brown	Window Trim	Metal	0.0
81	Conference Room	White	Wall	Metal	18.9
82	Conference Room	White	Wall	Drywall	0.0
83	Conference Room	White	Door Trim	Wood	0.3
84	Conference Room	Green	Door	Metal	0.19
85	Conference Room	White	Wall	Drywall	0.16
86	Conference Room	Flesh	Window Trim	Metal	0.0

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
87	Conference Room	Flesh	Door	Wood	0.0
88	Conference Room	Flesh	Door Trim	Wood	0.0
89	Underground Crew Room	White	Column	Concrete	0.23
90	Underground Crew Room	White	Wall	Concrete	5.1
91	Underground Crew Room	Black	Window Trim	Metal	0.0
92	Underground Crew Room	White	Wall	Concrete	13.4
93	Underground Crew Room	White	Wall	Drywall	0.0
94	Underground Crew Room	White	Wall	Plaster	0.06
95	Underground Crew Room	White	Ceiling	Concrete	0.002
96	Underground Crew Room	White	Wall	Plaster	0.05
97	Underground Crew Room	White	Wall	Drywall	0.0
98	Underground Crew Room	Purple	Door	Wood	23.9
99	Equipment Storage	Yellow	Ceiling	Concrete	0.0
100	Equipment Storage	White	Wall	Drywall	0.0
101	Equipment Storage	Brown	Window Trim	Metal	0.0
102	Equipment Storage	Yellow	Wall	Concrete	6.8
103	Equipment Storage	Tan	Floor	Concrete	1.0
104	Equipment Storage	Yellow	Door Trim	Wood	0.1
105	Equipment Storage	Yellow	Wall	Wood	7.3
106	Equipment Storage	Yellow	Column	Concrete	8.9
107	Equipment Storage	Yellow	Wall	Wood	1.8
108	Equipment Office	Yellow	Wall	Drywall	0.06

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
109	Equipment Office	Yellow	Wall	Concrete	9.5
110	Equipment Office	Brown	Window Trim	Metal	0.0
111	Equipment Office	Yellow	Ceiling	Concrete	3.2
112	Equipment Office	Yellow	Wall	Concrete	9.2
113	Equipment Office	Yellow	Column	Concrete	15.4
114	Equipment Office	Tan	Floor	Concrete	0.02
115	Equipment Office	Yellow	Wall	Drywall	0.0
116	Equipment Office	Purple	Door	Metal	0.0
117	Equipment Office	Black	Door Trim	Metal	0.0
118	NE Conference Room	White	Wall	Drywall	0.0
119	NE Conference Room	White	Ceiling	Concrete	0.04
120	NE Conference Room	Brown	Window Trim	Metal	0.0
121	NE Conference Room	White	Wall	Concrete	2.34
122	NE Conference Room	White	Column	Concrete	13.6
123	NE Conference Room	Purple	Door	Metal	0.0
124	NE Conference Room	Black	Door Trim	Metal	0.1
125	NE Conference Room	White	Wall	Drywall	0.0
126	NE Conference Room	White	Wall	Drywall	0.0
127	East Office	White	Column	Concrete	21.5
128	East Office	Brown	Window Trim	Metal	0.0
129	East Office	White	Wall	Concrete	18.5
130	East Office	White	Wall	Drywall	0.0
131	East Office	White	Wall	Drywall	0.0
132	East Office	Purple	Door	Metal	0.0
133	East Office	Black	Door Trim	Metal	0.0
134	East Office	White	Wall	Drywall	0.1
135	East Stairwell	White	Wall	Concrete	9.4

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
136	East Stairwell	White	Column	Concrete	21.2
137	East Stairwell	Brown	Wood	Stair	12.6
138	East Stairwell	Brown	Window Trim	Metal	0.0
139	East Stairwell	White	Ceiling	Concrete	0.12
140	East Stairwell	White	Wall	Drywall	0.0
141	East Stairwell	White	Wall	Drywall	0.0
142	East Stairwell	Black	Stair Rail	Metal	13.7
143	East Stairwell	Purple	Door	Metal	0.1
144	East Stairwell	Black	Door Trim	Metal	6.1
145	Garage	Off White	Ceiling	Concrete	6.4
146	Garage	Off White	Wall	Wood	12.7
147	Garage	White	Metal	Heater	8.2
148	Garage	White	Wall	Concrete	0.15
149	Garage	Brown	Wall	Laminate	0.01
150	Garage	Black	Door	Wood	0.0
151	Garage	Green	Upper Column	Concrete	3.7
152	Garage	Dark Green	Lower Column	Concrete	3.8
153	Garage	Dark Green	Lower Wall	Concrete	1.6
154	Garage	Green	Upper Wall	Concrete	0.03
155	Garage	Red	Door Trim	Wood	17.2
156	Garage	White	Door	Wood	30.0
157	Garage	Off White	Ceiling	Concrete	0.23
158	Garage	Brown	Wall	Wood	9.3
159	Garage	Mustard	Wall	Wood	3.3
160	Garage	Yellow	Floor Plan	Concrete	3.4
161	Garage	Off White	Garage Door	Metal	0.12
162	Garage	Brown	Window Trim	Metal	0.0
163	Garage	Off White	Wall	Concrete	9.7
164	Garage	Orange	Door	Wood	0.0
165	Garage	Orange	Door Trim	Metal	0.0
166	Garage	Off White	Wall	Concrete	0.08
167	Garage	Off White	Wall	Wood	25.3
168	Garage	Off White	Wall	Drywall	0.0
169	Garage	Green	Door	Metal	0.04
170	Garage	Black	Door Trim	Metal	0.01
171	IT Room	Off White	Column	Concrete	24.2
172	IT Room	Off White	Wall	Wood	5.5
173	IT Room	White	Lower Wall	Wood	0.0
174	IT Room	Off White	Upper Wall	Wood	0.25
175	IT Room	White	Lower Wall	Wood	0.0
176	IT Room	Grey	Floor	Concrete	0.02

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
177	IT Room	White	Lower Wall	Wood	0.0
178	Fire Protection Services	Black	Window Trim	Metal	0.0
179	Fire Protection Services	White	Column	Concrete	0.5
180	Fire Protection Services	White	Wall	Concrete	21
181	Fire Protection Services	White	Wall	Drywall	0.1
182	Fire Protection Services	White	Wall	Drywall	0.0
183	Fire Protection Services	Off White	Window Trim	Wood	0.08
184	Fire Protection Services	Off White	Door	Metal	0.0
185	Fire Protection Services	Off White	Door Trim	Metal	0.0
186	Fire Protection Services	White	Wall	Drywall	0.0
187	Hallway	White	Wall	Concrete	0.01
188	Hallway	White	Column	Concrete	18.8
189	Hallway	Purple	Door	Wood	0.01
190	Hallway	Black	Door Trim	Wood	0.04
191	Hallway	Black	Window Trim	Wood	15.3
192	Hallway	White	Wall	Wood	8.6
193	Hallway	White	Garage Door	Metal	0.05
194	Hallway	White	Wall	Concrete	12.8
195	Hallway	White	Upper Wall	Drywall	0.0
196	Hallway	White	Lower Wall	Drywall	0.0
197	Hallway	Black	Shelf	Wood	7.8
198	Hallway	Black	Window Trim	Wood	0.01
199	Hallway	White	Wall	Drywall	1.8
200	Hallway	White	Wall	Concrete	0.14
201	Hallway	White	Wall	Concrete	7.1
202	Hallway	White	Wall	Drywall	0.01
203	Hallway	Red	Elevator Door	Metal	0.0
204	Hallway	Black	Elevator Trim	Metal	0.0
205	Hallway	White	Wall	Drywall	0.0
206	Hallway	Black	Door Trim	Metal	0.04
207	Hallway	Purple	Door	Metal	0.04
208	Hallway	White	Wall	Wood	0.21
209	Hallway	White	Column	Concrete	0.10
210	Hallway	White	Wall	Drywall	0.0
211	Hallway	White	Wall	Drywall	0.06

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
212	Central Storage	Grey	Wall	Wood	7.6
213	Central Storage	Grey	Door	Wood	0.0
214	Central Storage	Grey	Door Trim	Wood	0.0
215	Central Storage	Grey	Wall	Wood	12.9
216	Central Storage	White	Wall	Wood	0.0
217	Central Storage	Grey	Wall	Wood	14.4
218	Women's Restroom	Blue	Wall	Drywall	0.0
219	Women's Restroom	Blue	Wall	Drywall	0.0
220	Women's Restroom	Blue	Wall	Drywall	0.0
221	Women's Restroom	Blue	Wall	Drywall	0.0
222	Women's Restroom	White	Stall	Metal	0.01
223	Men's Restroom	Blue	Drywall	Wall	0.5
224	Men's Restroom	Blue	Drywall	Wall	0.19
225	Men's Restroom	Blue	Drywall	Wall	0.02
226	Men's Restroom	Blue	Drywall	Wall	0.21
227	Men's Restroom	White	Stall	Metal	0.14
Top Floor					
228	Cash Remittance Office	Yellow	Column	Concrete	0.14
229	Cash Remittance Office	Yellow	Wall	Concrete	0.2
230	Cash Remittance Office	Brown	Window Trim	Metal	0.0
231	Cash Remittance Office	Yellow	Cove Base	Metal	0.0
232	Cash Remittance Office	Yellow	Wall	Drywall	0.0
233	Cash Remittance Office	Yellow	Wall	Drywall	0.0
234	Cash Remittance Office	Blue	Door	Metal	0.0

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
235	Cash Remittance Office	Black	Door Trim	Metal	0.0
236	Cash Remittance Office	White	Wall	Concrete	0.21
237	Cash Remittance Office	White	Column	Concrete	0.2
238	Cash Remittance Office	Brown	Window Trim	Metal	0.0
239	Cash Remittance Office	White	Wall	Concrete	3.9
240	Cash Remittance Office	Black	Window Trim	Metal	0.1
241	Cash Remittance Office	White	Wall	Drywall	0.0
242	Cash Remittance	Tan	Floor	Concrete	0.02
243	Cash Remittance	Brown	Door	Metal	0.0
244	Cash Remittance	White	Column	Concrete	0.03
245	Cash Remittance	White	Wall	Drywall	0.0
246	Cash Remittance	White	Column	Concrete	0.19
247	Cash Remittance	White	Wall	Concrete	14.1
248	Cash Remittance	Brown	Window Trim	Metal	0.0
249	Cash Remittance	Grey	Wall	Drywall	0.0
250	Cash Remittance	White	Wall	Concrete	0.12
251	Cash Remittance	Brown	Door	Metal	0.0
252	Cash Remittance	Black	Door Trim	Metal	0.0
253	Cash Remittance	White	Wall	Drywall	0.0

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
254	West Storage Closet	Green	Wall	Concrete	14.0
255	West Storage Closet	Green	Wall	Wood	3.1
256	West Storage Closet	White	Ceiling	Concrete	0.01
257	West Storage Closet	Green	Wall	Wood	11.5
258	West Storage Closet	Green	Wall	Wood	0.09
259	Generation Survey	Green	Column	Concrete	7.0
260	Generation Survey	Brown	Window Trim	Metal	0.0
261	Generation Survey	Tan	Wall	Concrete	0.0
262	Generation Survey	Tan	Heater	Metal	0.0
263	Generation Survey	Yellow	Cabinet	Wood	0.0
264	Generation Survey	Tan	Wall	Drywall	0.0
265	Generation Survey	Tan	Wall	Drywall	0.0
266	Generation Survey	Tan	Wall	Drywall	0.0
267	Northwest Office	Tan	Wall	Drywall	0.0
268	Northwest Office	Tan	Wall	Concrete	30.0
269	Northwest Office	Brown	Window Sill	Metal	0.0
270	Northwest Office	Tan	Wall	Drywall	0.0
271	Northwest Office	Tan	Wall	Drywall	0.0
272	Northwest Office	Purple	Door	Metal	0.0
273	Northwest Office	Black	Door Trim	Metal	0.0
274	North Office	Tan	Wall	Concrete	19.5
275	North Office	Brown	Window Sill	Metal	0.0
276	North Office	Tan	Wall	Concrete	0.22
277	North Office	Tan	Wall	Drywall	0.0
278	North Office	Purple	Door	Metal	0.0
279	North Office	Black	Door Trim	Metal	0.0
280	Open Area	Tan	Wall	Drywall	0.0
281	Open Area	Tan	Column	Concrete	19.0
282	Open Area	Green	Door	Wood	0.0
283	Open Area	Black	Door Trim	Metal	0.0
284	Open Area	Tan	Wall	Drywall	0.0

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
285	Open Area	White	Ceiling	Concrete	0.3
286	Open Area	Red	Elevator Door	Metal	0.0
287	Open Area	Black	Elevator Door Trim	Metal	0.0
288	Open Area	Black	Chair Rail	Metal	0.0
289	Open Area	Tan	Wall	Drywall	0.0
290	Men's Restroom	White	Wall	Wood	0.0
291	Men's Restroom	White	Metal	HVAC Duct	0.0
292	Men's Restroom	White	Ceiling	Cement	0.4
293	Men's Restroom	Blue	Wall	Concrete	0.0
294	Men's Restroom	Blue	Wall	Concrete	0.0
295	Men's Restroom	Blue	Wall	Concrete	0.0
296	Men's Restroom	Blue	Wall	Concrete	0.0
297	Men's Restroom	Purple	Door	Wood	0.0
298	Men's Restroom	Black	Door Trim	Wood	1.2
299	Men's Restroom	Blue	Wall	Drywall	0.0
300	Men's Restroom	Blue	Ceiling	Concrete	0.9
301	Men's Restroom	Blue	Column	Concrete	4.6
302	Men's Restroom	Blue	Wall	Drywall	0.0
303	Men's Restroom	White	Wall	FRP	0.0
304	Men's Restroom	Blue	Wall	Concrete	0.8
305	Men's Restroom	White	Wall	Wood	5.6
306	Men's Restroom	White	Wall	Concrete	0.3
307	Men's Restroom	White	Wall	Concrete	1.3
308	Men's Restroom	White	Wall	Concrete	0.26
309	Men's Restroom	Brown	Window Trim	Metal	0.0
310	Men's Restroom	Blue	Wall	Concrete	23.8
311	Men's Restroom	White	Bath Stall	Metal	23.3
312	Men's Restroom	Blue	Wall	Concrete	28.8
313	Men's Restroom	Blue	Wall	Concrete	18.5
314	Men's Restroom	Blue	Wall	Wood	22.9
315	Unisex Restroom	White	Wall	Concrete	22.6
316	Unisex Restroom	Purple	Door	Metal	0.0
317	Unisex Restroom	Black	Door Trim	Metal	0.0
318	Hallway	White	Wall	Concrete	12.3
319	Hallway	White	Wall	Drywall	0.0
320	Hallway	White	Wall	Drywall	0.0
321	Hallway	Purple	Door	Metal	0.0
322	Hallway	White	Wall	Drywall	0.0
323	Hallway	White	Wall	Concrete	15.9
324	Hallway	White	Wall	Drywall	0.19

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
325	Women's Restroom	White	Stall	Wood	8.9
326	Women's Restroom	Blue	Wall	Concrete	15.2
327	Women's Restroom	Blue	Column	Concrete	21.6
328	Women's Restroom	Blue	Wall	Drywall	0.0
329	Women's Restroom	White	Stall Door	Metal	0.0
330	Women's Restroom	Blue	Wall	Drywall	0.0
331	Hallway	Black	Door Trim	Metal	0.0
332	East Conference Room	White	Wall	Drywall	0.0
333	East Conference Room	White	Wall	Drywall	0.0
334	East Conference Room	White	Wall	Drywall	0.0
335	East Conference Room	White	Wall	Drywall	0.0
336	East Conference Room	Brown	Window Sill	Metal	0.0
337	East Conference Room	White	Heater Register	Metal	0.0
338	Cubicle Space	White	Wall	Concrete	14.7
339	Cubicle Space	Purple	Column	Concrete	12.8
340	Cubicle Space	Brown	Window Trim	Metal	0.0
341	Cubicle Space	White	Wall	Concrete	8.9
342	Cubicle Space	Yellow	Wall	Drywall	0.0
343	Cubicle Space	Blue	Flooring	Concrete	0.14
344	Cubicle Space	White	Wall	Drywall	0.0
345	Cubicle Space	Brown	Door	Metal	0.0
346	Cubicle Space	Black	Door Trim	Metal	0.0
347	Cubicle Space	Purple	Door	Wood	0.0
348	Cubicle Space	Black	Door Trim	Metal	0.0
349	Cubicle Space	White	Wall	Concrete	0.07
350	Cubicle Space	Purple	Door	Wood	0.0
351	Cubicle Space	Black	Door Trim	Metal	0.0
352	Cubicle Space	Black	Door Trim	Wood	11.1
353	Cubicle Space	Purple	Door	Wood	0.0
354	Storage Room	Yellow	Wall	Concrete	0.0
355	Storage Room	Yellow	Wall	Concrete	0.0
356	Storage Room	Yellow	Wall	Wood	0.02

Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
357	Storage Room	Yellow	Wall	Wood	0.02
358	Kitchen	White	Wall	Drywall	0.0
359	Kitchen	White	Wall	Drywall	0.0
360	Kitchen	White	Wall	Drywall	0.0
361	Kitchen	White	Wall	Drywall	0.0
Exterior					
362	Exterior West Elevation	Yellow	Metal	Railing	0.01
363	Exterior West Elevation	Brown	Metal	Door	0.01
364	Exterior West Elevation	Brown	Metal	Door Trim	0.03
365	Exterior West Elevation	Brown	Concrete	Column	0.02
366	Exterior West Elevation	Light Brown	Concrete	Wall	0.02
367	Exterior West Elevation	Brown	Wood	Window Trim	28.0
368	Exterior West Elevation	Brown	Metal	Elevator I-Beam	0.29
369	Exterior West Elevation	Dark Brown	Concrete	Wall	0.08
370	Exterior West Elevation	Brown	Metal	Door	0.24
371	Exterior West Elevation	Brown	Metal	Door Trim	1.2
372	Exterior North Elevation	Light Brown	Concrete	Wall	1.0
373	Exterior North Elevation	Dark Brown	Concrete	Wall	0.06
374	Exterior North Elevation	Brown	Concrete	Column	0.04
375	Exterior North Elevation	Brown	Wood	Window Trim	9.7
376	Exterior South Elevation	Light Brown	Concrete	Wall	1.1
377	Exterior South Elevation	Brown	Concrete	Column	0.0
378	Exterior South Elevation	Dark Brown	Concrete	Column	0.01
379	Exterior South Elevation	Brown	Wood	Window Trim	5.1
380	Exterior East Elevation	Light Brown	Concrete	Wall	1.0

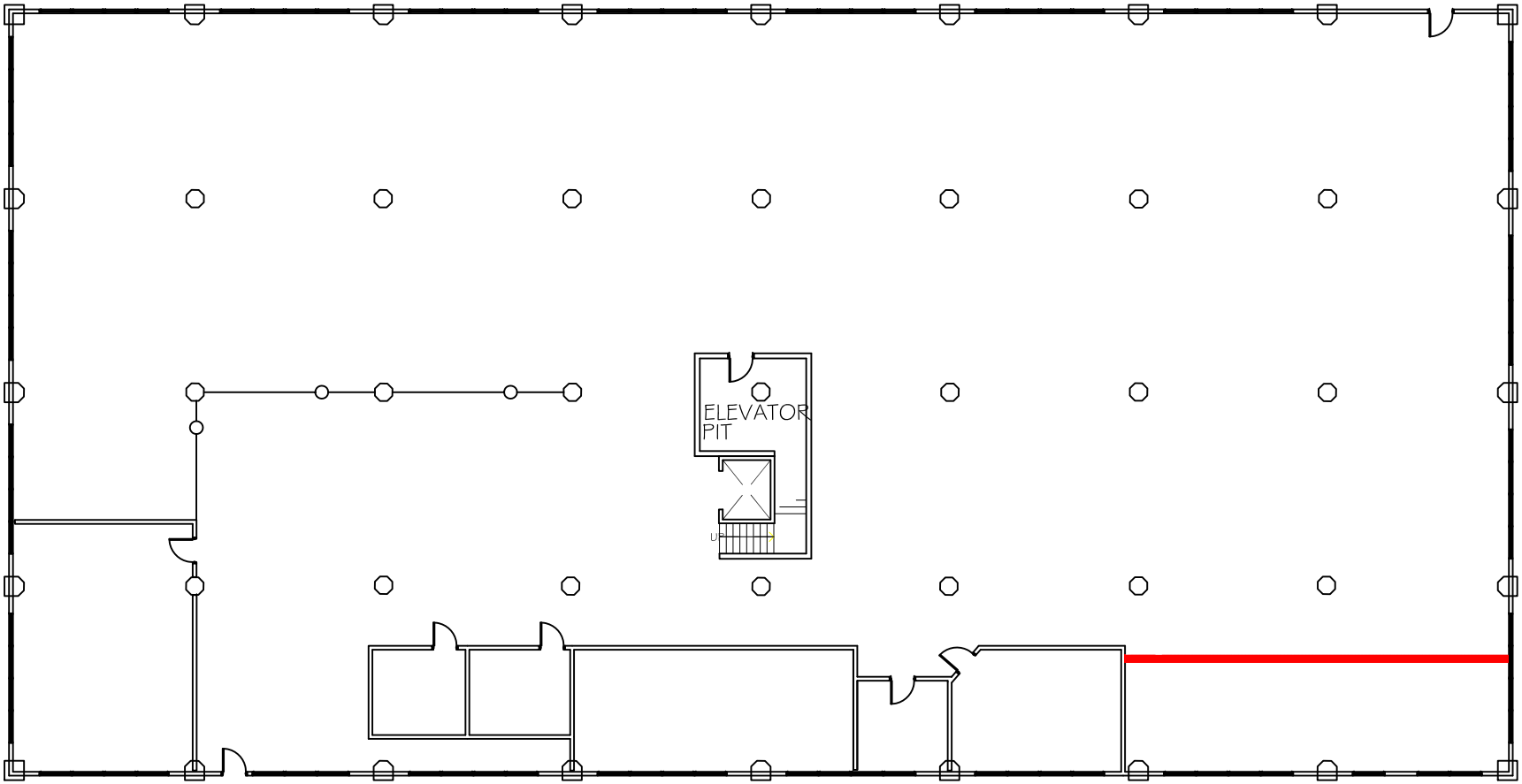
Lead Paint Sample Results (PGE Hawthorne Building)					
Sample ID #	Room	Color	Component	Substrate	Reading (mg / cm^2)
381	Exterior East Elevation	Brown	Concrete	Column	1.1
382	Exterior East Elevation	Dark Brown	Concrete	Wall	0.04
383	Exterior East Elevation	Brown	Metal	Door	0.6
384	Exterior East Elevation	Brown	Metal	Door Trim	0.18
385	Exterior East Elevation	Yellow	Metal	Railing	0.01
386	Exterior Ramp East Elevation	White	Concrete	Wall	0.02
387	Exterior Ramp East Elevation	Yellow	Concrete	Wall	0.07

Appendix C:
Lead Dust Sample Results

Lead Dust Wipe Results (PGE Hawthorne Building)					
Sample ID	Sample Location	Lab Number	Surface	Results (Pb ug/ft2)	Blank Corrected Results (Pb ug/ft2)
PBW-01	Basement Ceiling at Bottom of Stairs	30406936	Ceiling	720	710
PBW-02	Basement Lead Storage	30406937	Shelf	12,000	11,990
PBW-03	Basement Lead Storage	30406938	Flooring	6,500	6,490
PBW-04	Basement Front of Lead Storage	30406939	Flooring	2,100	2,090
PBW-05	Basement Front of Work Out Room	30406940	Flooring	520	530
PBW-06	Basement Front of Fire Storage Room	30406941	Flooring	1,400	1,390
PBW-07	Basement Center of Basement	30406942	Flooring	430	420
PBW-08	Middle Floor Center of Soldering Area	30406943	Flooring	16,000	15,990
PBW-09	Middle Floor West of Soldering Area	30406944	Flooring	1,200	1,900
PBW-10	Middle Floor Front of Garage Offices	30406945	Flooring	210	200
PBW-11	Middle Floor North of Soldering Area	30406946	Flooring	5,500	5,490
PBW-12	Middle Floor at Entry to Garage	30406947	Flooring	300	290
PBW-13	Blank	30406948	Flooring	10	-
PBW-14	Blank	30406949	Flooring	9	-

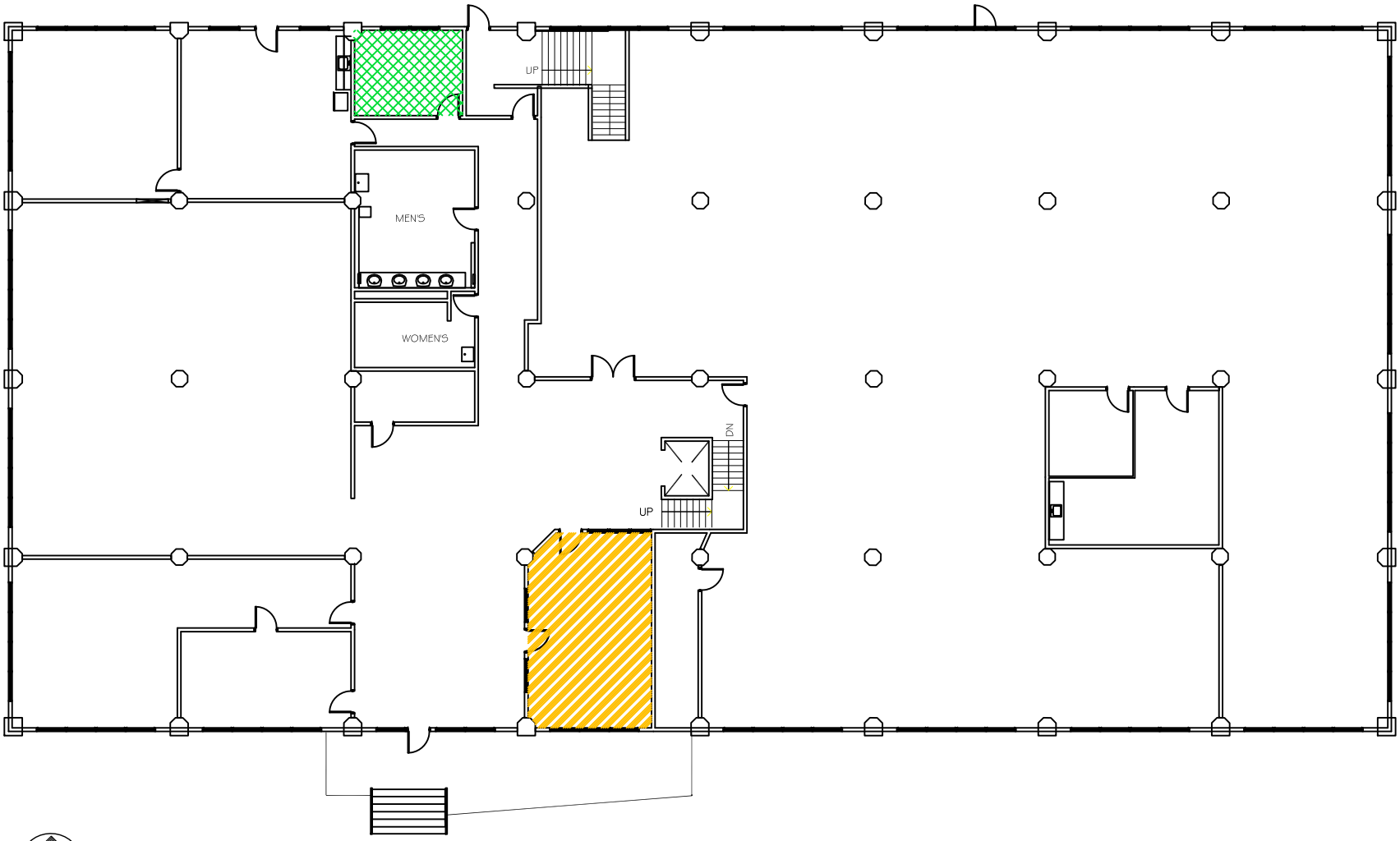
Lead Dust Wipe Results (PGE Hawthorne Building)					
Sample ID	Sample Location	Lab Number	Surface	Results (Pb ug/ft2)	Blank Corrected Results (Pb ug/ft2)
PBW-01	Basement Ceiling at Bottom of Stairs	30406936	Ceiling	720	710
PBW-02	Basement Lead Storage	30406937	Shelf	12,000	11,990
PBW-03	Basement Lead Storage	30406938	Flooring	6,500	6,490
PBW-04	Basement Front of Lead Storage	30406939	Flooring	2,100	2,090
PBW-05	Basement Front of Work Out Room	30406940	Flooring	520	530
PBW-06	Basement Front of Fire Storage Room	30406941	Flooring	1,400	1,390
PBW-07	Basement Center of Basement	30406942	Flooring	430	420
PBW-08	Middle Floor Center of Soldering Area	30406943	Flooring	16,000	15,990
PBW-09	Middle Floor West of Soldering Area	30406944	Flooring	1,200	1,900
PBW-10	Middle Floor Front of Garage Offices	30406945	Flooring	210	200
PBW-11	Middle Floor North of Soldering Area	30406946	Flooring	5,500	5,490
PBW-12	Middle Floor at Entry to Garage	30406947	Flooring	300	290
PBW-13	Blank	30406948	Flooring	10	-
PBW-14	Blank	30406949	Flooring	9	-

Appendix D:
Asbestos Location Drawings



Black Coiled Pipe Wrap

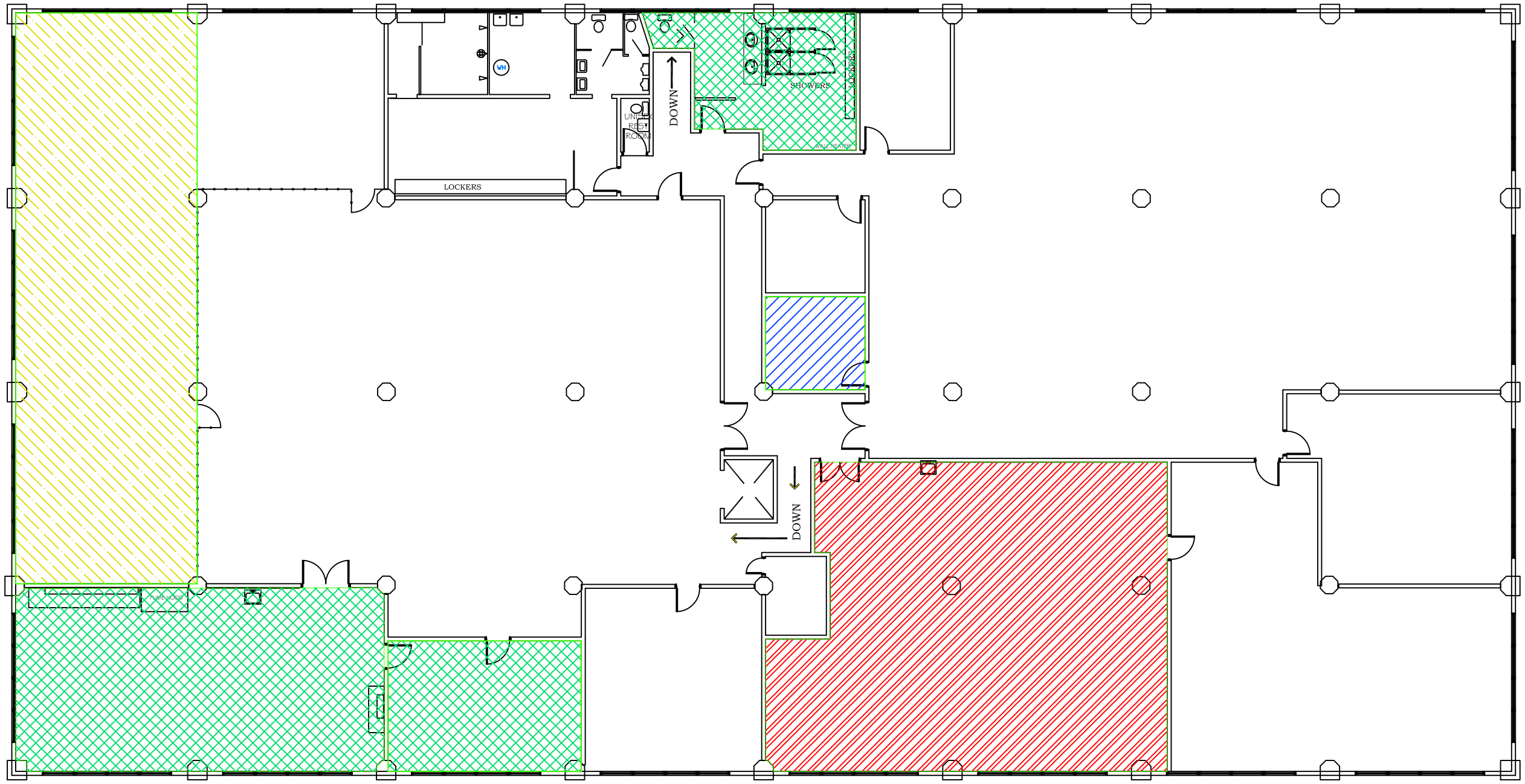
HAWTHORNE BASEMENT



HAWTHORNE MAIN FLOOR

2nd Layer Green Floor Tile & Black Mastic

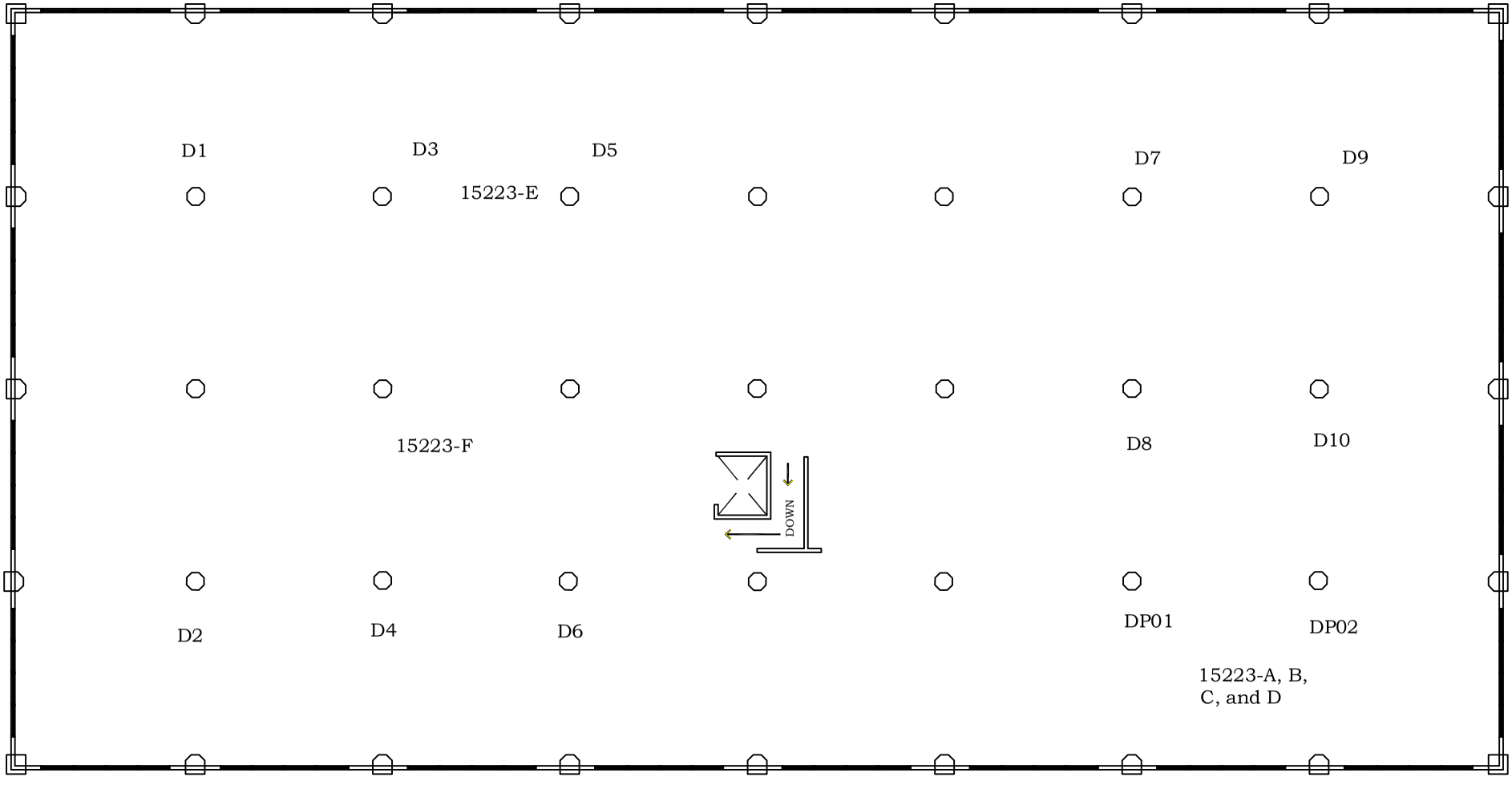
Tan Floor Tile and Black Mastic under Carpet



HAWTHORNE, 2ND FLOOR

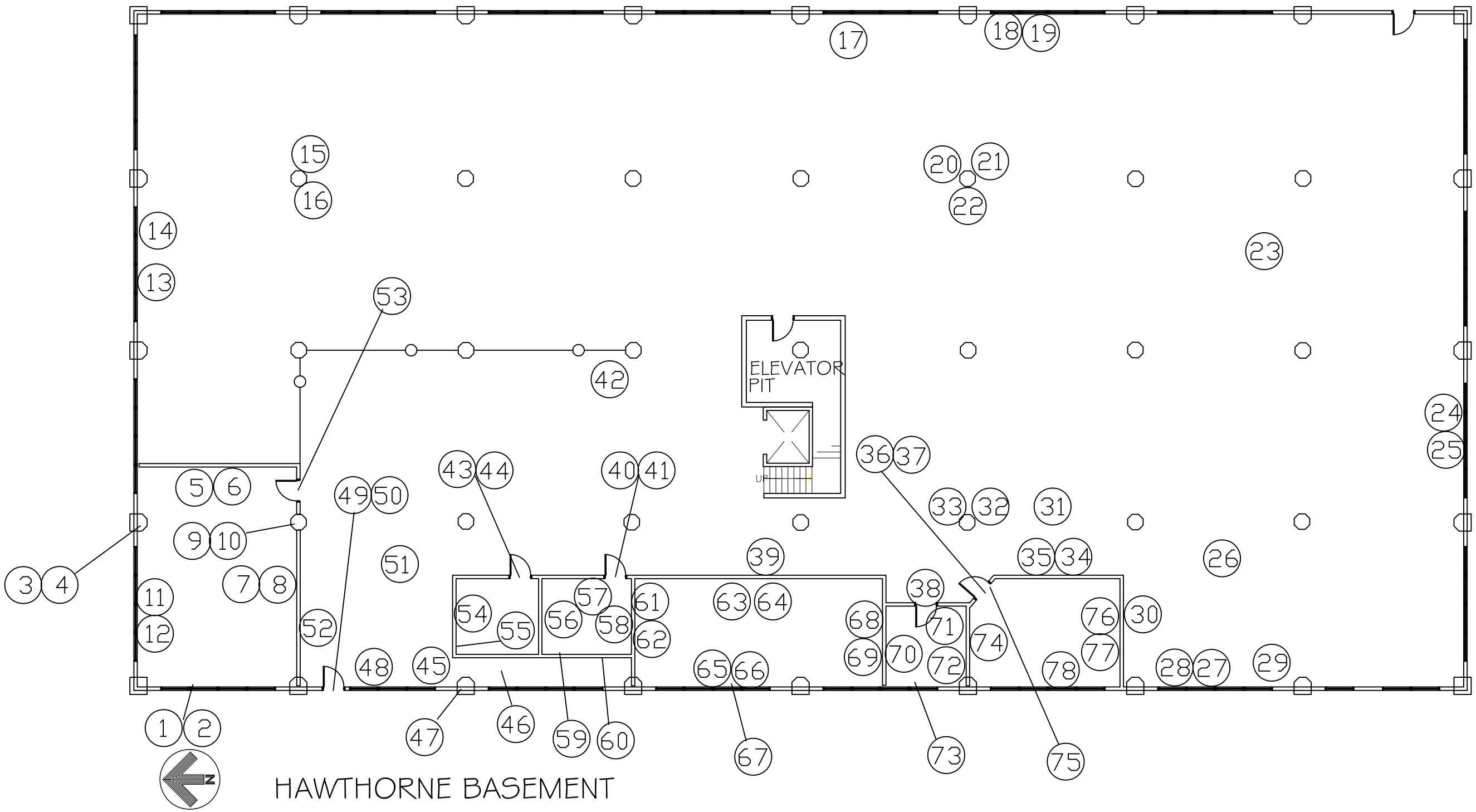
- 12" x 12" White Tile with Tan Specs and Black Mastic
- 2nd Layer Green Floor Tile & Black Mastic
- 2nd Layer Brown Floor Tile and Black Mastic
- 2nd Layer Brown Floor Tile and Black Mastic

Appendix E:
Asbestos Sample Locations in Attic

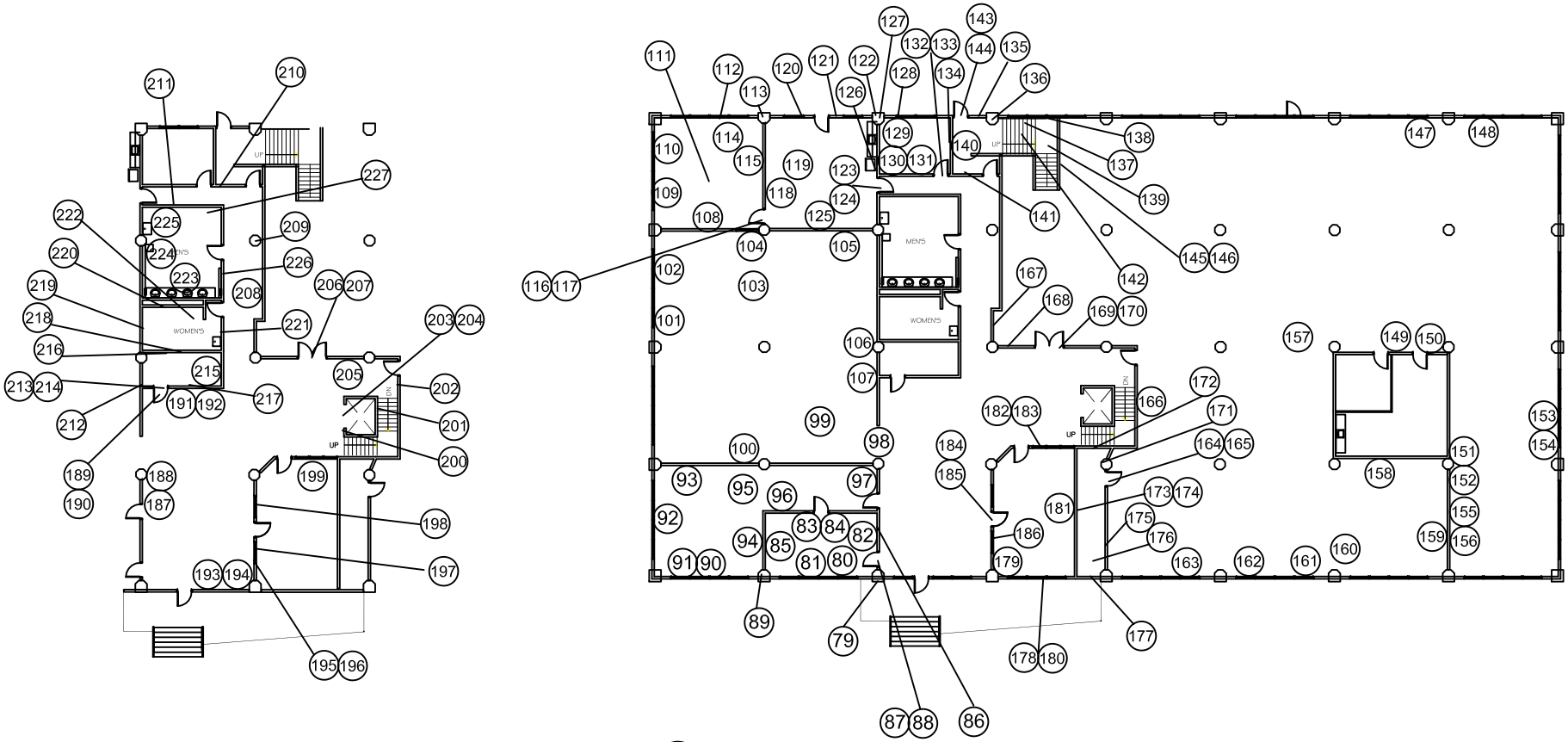


HAWTHORNE, ATTIC

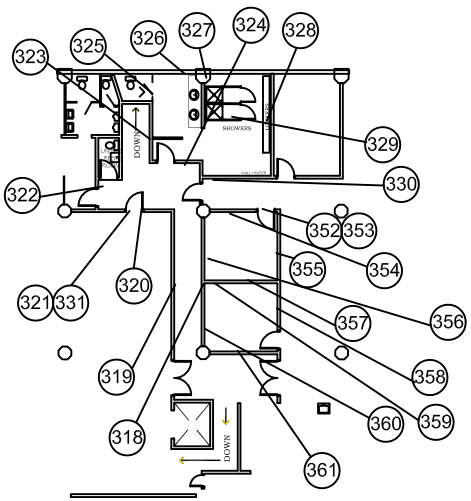
Appendix F:
Lead Based Paint Sample Location Diagrams

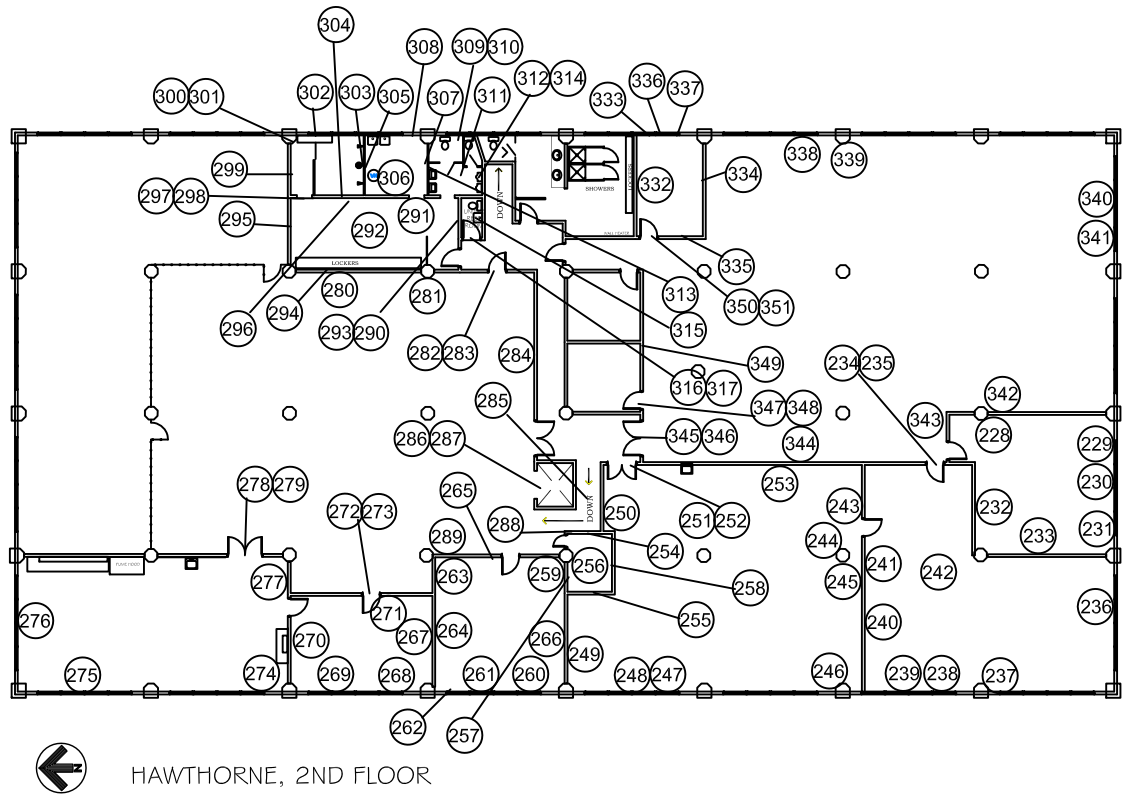


HAWTHORNE BASEMENT



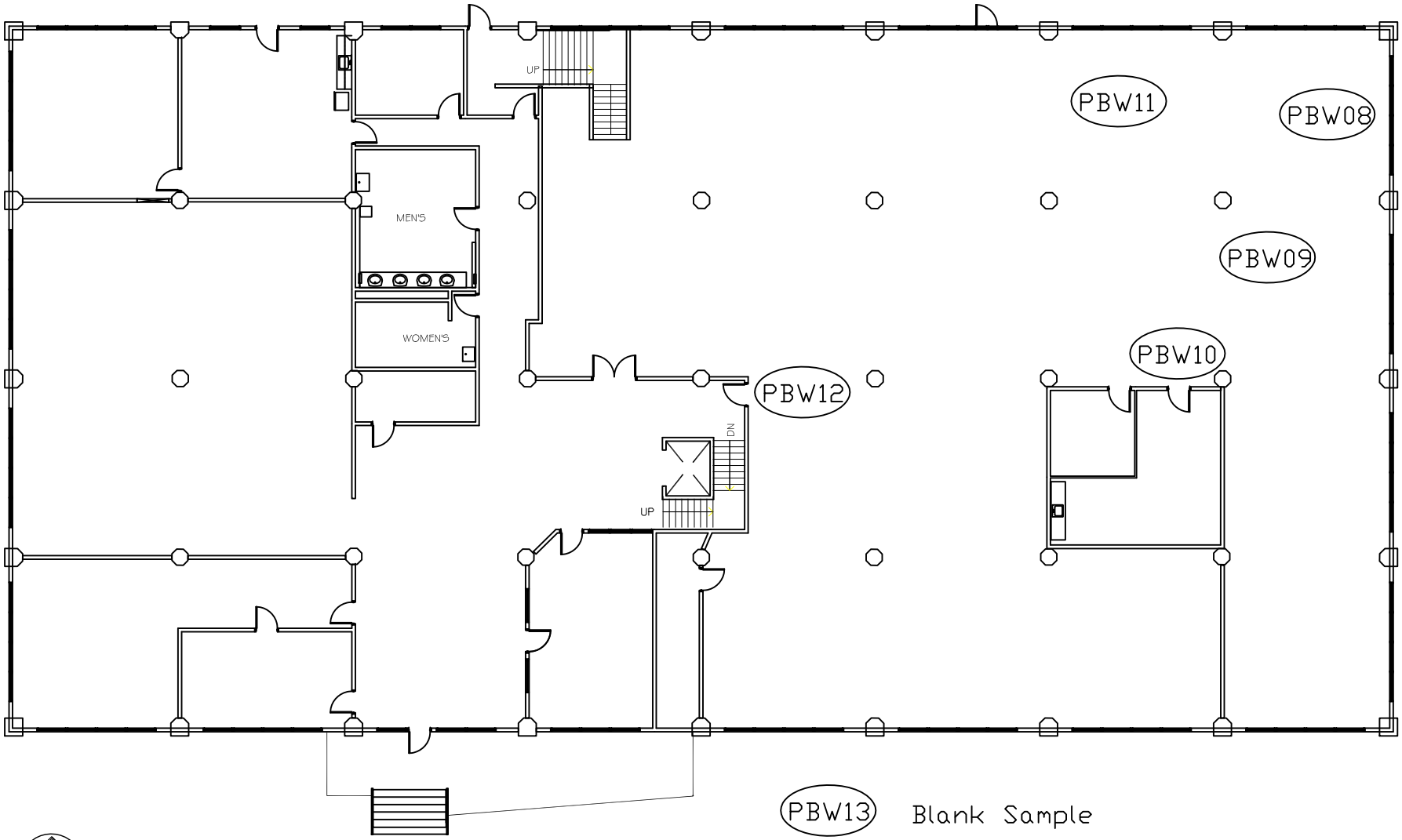
HAWTHORNE MAIN FLOOR





HAWTHORNE, 2ND FLOOR

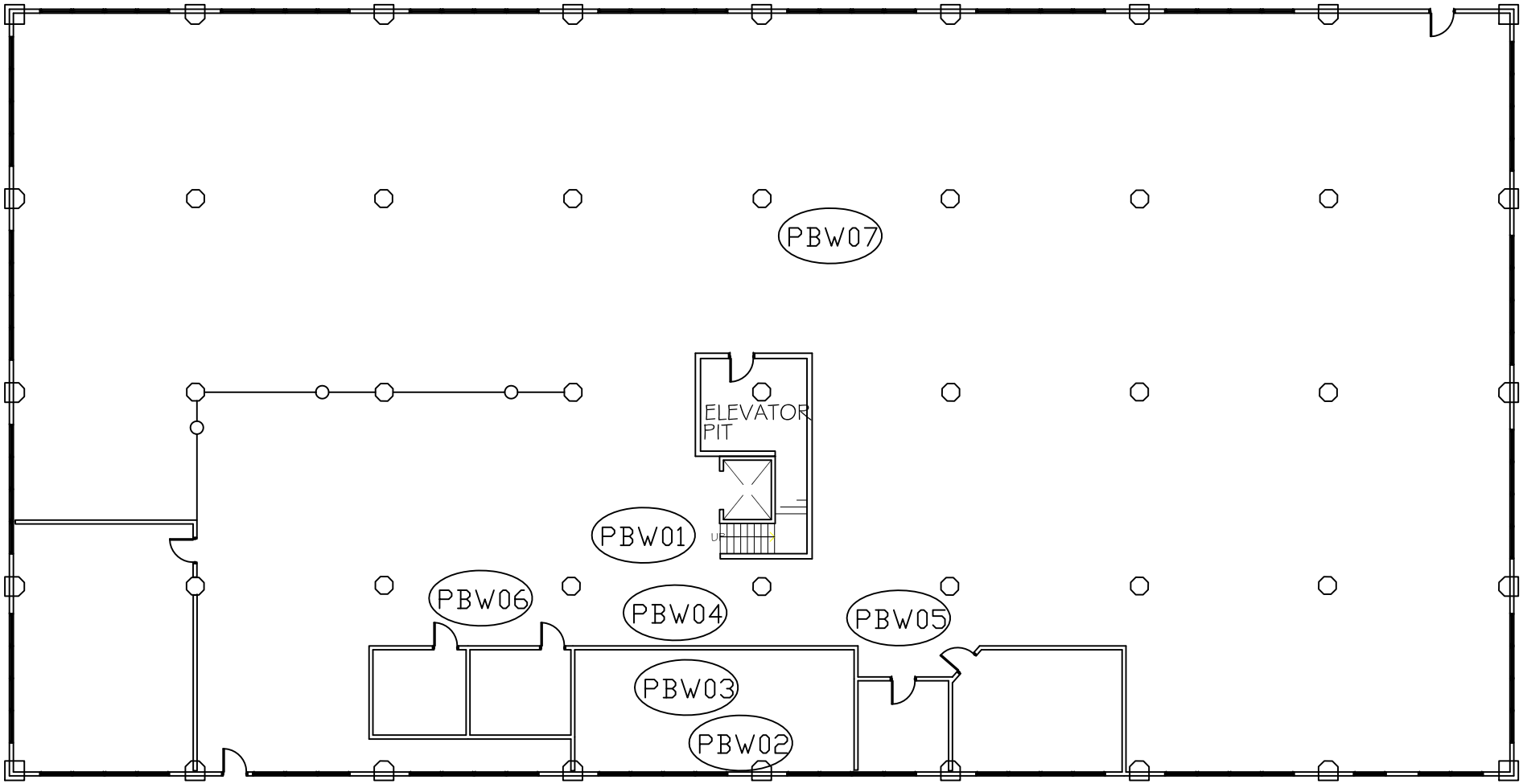
Appendix G:
Lead Dust Wipe Sample Location Drawings



PBW13 Blank Sample

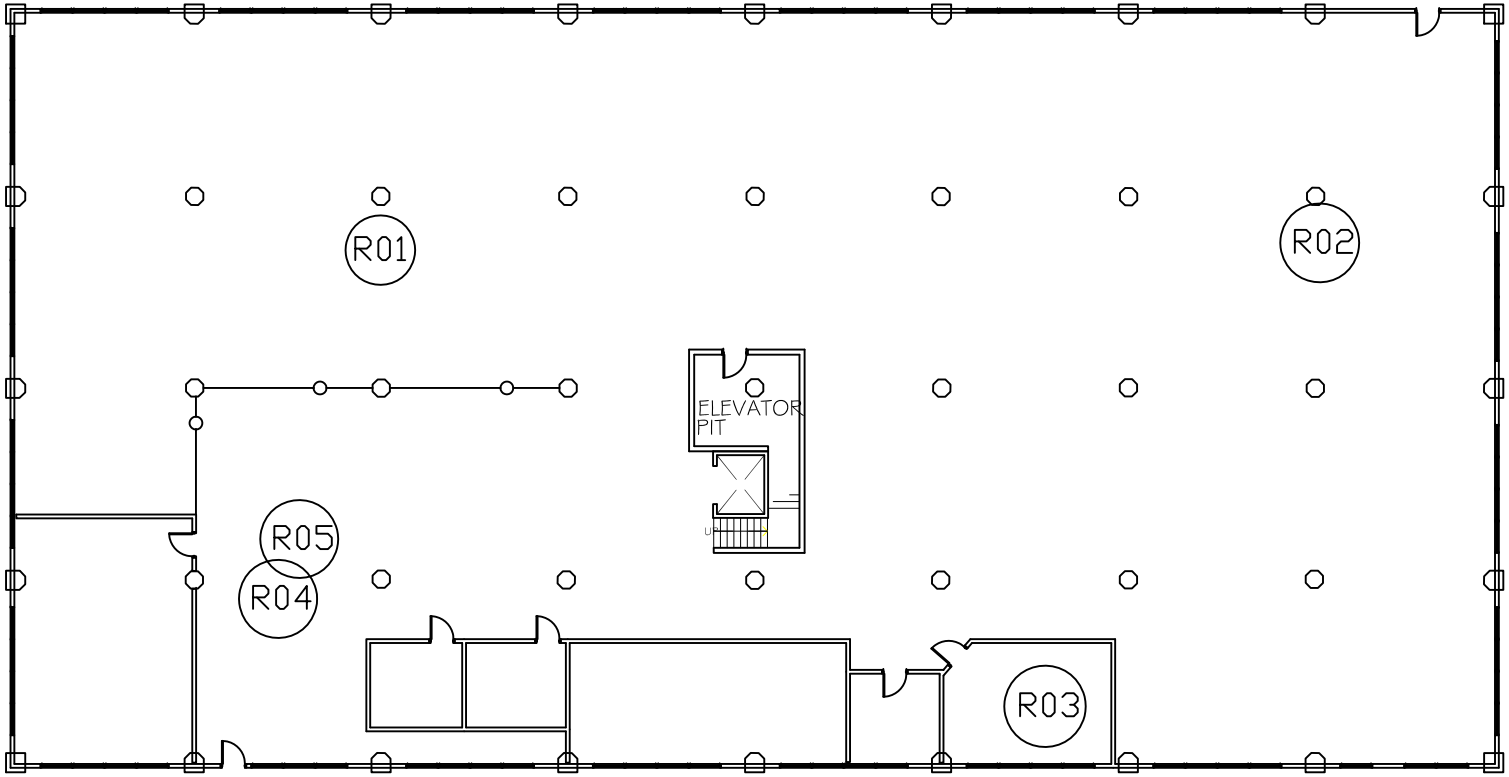
PBW14 Blank Sample

HAWTHORNE MAIN FLOOR



HAWTHORNE BASEMENT

Appendix H:
Radon Sample Location Drawings



S.E. CLAY ST.

HAWTHORNE BASEMENT

R06 3rd Floor at Entrance to Electrical Museum

R07 Control Sample

Appendix I:
Laboratory Reports & Chain of Custodies

Forensic Analytical Laboratories

Final Report

Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Forensic Analytical Consulting Svcs
Jeff Hietanen
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: B150689
Date Received: 06/15/11
Date Analyzed: 06/21/11
Date Printed: 06/21/11
First Reported: 06/21/11

Job ID/Site: PJ14733; 1510 SE Water Ave Portland OR 97214 United States

FALI Job ID: PE21

Total Samples Submitted: 14
Total Samples Analyzed: 14

Date(s) Collected: 06/10/2011

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
PJ14733-1	11130575						
Layer: Pink Tile			**ND**				
Layer: Yellow Mastic			**ND**				
Layer: Green Tile		Chrysotile	**5 %**				
Layer: Black Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (2%)**					
Cellulose (Trace)							
Comment: Bulk complex sample.							
PJ14733-2	11130576						
Layer: Beige Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: Yellow Mastic			**ND**				
Layer: Tan Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (5 %) Synthetic (10 %)							
Comment: Bulk complex sample.							
PJ14733-3	11130577						
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
PJ14733-4	11130578						
Layer: Blue Non-Fibrous Material			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
PJ14733-5	11130579						
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Black Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-4218

Report Number: B150689
Client Name: Forensic Analytical Consulting Svcs **Date Printed:** 06/21/11

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
PJ14733-6	11130580						
Layer: Black Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ14733-7	11130581						
Layer: White Drywall			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %) Fibrous Glass (10 %)		**Asbestos (ND)**					
PJ14733-8	11130582						
Layer: Black Semi-Fibrous Material		Chrysotile	**10 %**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (10%)**					
PJ14733-9	11130583						
Layer: Black Semi-Fibrous Material		Chrysotile	**10 %**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (10%)**					
PJ14733-10	11130584						
Layer: Black Semi-Fibrous Material		Chrysotile	**10 %**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (10%)**					
PJ14733-11	11130585						
Layer: Silver Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ14733-12	11130586						
Layer: Red-Brown Cementitious Material			**ND**				
Layer: Paint			**ND**				
Layer: Grey Mortar			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ14733-13	11130587						
Layer: White Fibrous Tile			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (2 %) Fibrous Glass (90 %)		**Asbestos (ND)**					
PJ14733-14	11130588						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

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Report Number: B150689

Client Name: Forensic Analytical Consulting Svcs

Date Printed: 06/21/11

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer

James Flores, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

Analytical results and reports are generated by Forensic Analytical Laboratories Inc. (FALI) at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by FALI to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by FALI. The client is solely responsible for the use and interpretation of test results and reports requested from FALI. Forensic Analytical Laboratories Inc. is not able to assess the degree of hazard resulting from materials analyzed. FALI reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. All samples were received in acceptable condition unless otherwise noted.

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

BULK SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Bridgewater Group, Inc.**	Sampled by: JHH/RASY PM: **Jeff Hietanen**	Date: 6-10-11
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions: E-mail results to jhietanen@forensica.com and MRivas@forensica.com	
Site:	**1510 SE Water Ave** **Portland OR 97214**	Turnaround Time: 1-Day ☐ 2-Day ☐ 3-Day ☐ ~~5-Day~~ ☐ Other ☐	Due Date and Time:
Client No.:	**C5507** **FACS Job #:** **PJ14733**	Analysis: ☒ PLM Standard / ☐ Point Count / ☐ Flame AA (Pb) / ☐ Other:	

Sample Number	Material Description	Sample Location	Friable	Cond.	Quantity
PJ14733-1	FT, 12x12 salmon marbled (top) 2nd layer green FT (black)	2nd fl - NW rm			
2	2nd + 3rd layer SV under FM blue marbled	2nd fl - women's RR			
3	leveling compound, white	2nd fl. - hall outside women's RR			
4	CB, 6" blue (yellow)	2nd fl - unisex RR			
5	Leveling compound, gray + black mastic under carpet tile	2nd fl - conf. rm			
6	SU, ~~gray~~ black	2nd - break rm			
7	CT, 2x2 holed	1st fl. conf. rm			
8	Pipe wrap, coiled black	basement - S wall			100 lf
9					
10					

WB – Wallboard JC - Joint Compound FT - Floor Tile FTM - Floor Tile Mastic BBM - Baseboard Mastic
RSF - Resilient Sheet Flooring CT - Ceiling Tile SAAM - Spray-Applied Acoustical Material WT - Wall Texture
Friable Yes / No Good / Fair / Poor

Shipped via: ☐ Fed Ex ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by: [signature]
Date & Time: 6/14/2011 9:00am

Received by: [signature]
Date & Time: 6-15-11 @ 10am 610
Condition Acceptable ☒ Yes ☐ No

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

BULK SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Bridgewater Group, Inc.	Sampled by:	PM: Jeff Hietanen Date:
Contact:	Jeff Hietanen Phone: (503) 595-1001	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	1510 SE Water Ave Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C5507 FACS Job #: PJ14733	Analysis:	☐ PLM Standard / ☐ Point Count / ☐ Flame AA (Pb) / ☐ Other:

Sample Number	Material Description	Sample Location	Friable	Cond.	Quantity
PJ14733-11	Silver paint on pipe	basement - E wall			20lf-(1.5x5)2 (4lf)
12	brick + mortar, painted white ↳ red	- chemical storage			
13	CT, 2x4 text.	2nd - cash remittance			
14	DSC, grey	Attic -			

WB – Wallboard JC - Joint Compound FT - Floor Tile FTM - Floor Tile Mastic BBM - Baseboard Mastic
RSF - Resilient Sheet Flooring CT - Ceiling Tile SAAM - Spray-Applied Acoustical Material WT - Wall Texture

Friable Yes / No Good / Fair / Poor

Shipped via: ☐ Fed Ex ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by:

Date & Time:

Received by: [signature]

Date & Time: 6-15-11 @ 10am

Condition Acceptable ☒ Yes ☐ No

Final Report

Forensic Analytical Laboratories

Metals Analysis of Bulks

Forensic Analytical Consulting Svcs
Jeff Hietanen
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: M120766
Date Received: 06/15/11
Date Analyzed: 06/22/11
Date Printed: 06/22/11
First Reported: 06/22/11

Job ID / Site: PJ14733; 1510 SE Water Ave Portland OR 97214 United States
Date(s) Collected: 06/10/2011

FALI Job ID: PE21
Total Samples Submitted: 2
Total Samples Analyzed: 2

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
PJ14733-PB1	30406010	Pb	1500	mg/kg	90	EPA 3050B/7420
PJ14733-PB2	30406011	Pb	130000	mg/kg	7000	EPA 3050B/7420

* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.

Dave Sandusky, CIH, Laboratory Supervisor, Hayward Laboratory

Analytical results and reports are generated by Forensic Analytical at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by Forensic Analytical to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by Forensic Analytical. The client is solely responsible for the use and interpretation of test results and reports requested from Forensic Analytical. Forensic Analytical is not able to assess the degree of hazard resulting from materials analyzed. Forensic Analytical reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. Any modifications that have been made to referenced test methods are documented in Forensic Analytical's Standard Operating Procedures Manual. Sample results have not been blank corrected. Quality control and sample receipt condition were acceptable unless otherwise noted.

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

BULK SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Bridgewater Group, Inc.**	Sampled by: JUA/RASY	PM: **Jeff Hietanen** Date: 6/10/11
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	**1510 SE Water Ave** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☒ Other ☐ Due Date and Time:
Client No.:	**C5507** **FACS Job #: PJ14733**	Analysis:	☐ PLM Standard / ☐ Point Count / ☒ Flame AA (Pb) / ☐ Other:

Sample Number	Material Description	Sample Location	Friable	Cond.	Quantity
PJ14733-Pb1	Red brick + mortar, painted white	basement - chemical storage			
↓ Pb2	Pipe, metal, painted white	↓ - N of elev. on ceiling			

WB – Wallboard JC - Joint Compound FT - Floor Tile FTM - Floor Tile Mastic BBM - Baseboard Mastic
RSF - Resilient Sheet Flooring CT - Ceiling Tile SAAM - Spray-Applied Acoustical Material WT - Wall Texture

Friable Yes / No Good / Fair / Poor

Shipped via: ☐ Fed Ex ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by: [signature]	*Received by:* [signature]
Date & Time: 6/14/2011 9:00a	*Date & Time:* 6-15-11 @ 10am Condition Acceptable ☒ Yes ☐ No

Forensic Analytical Laboratories

Metals Analysis of HUD Wipes

Forensic Analytical Consulting Svcs
Jeff Hietanen
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: M121131
Date Received: 06/23/11
Date Analyzed: 06/30/11
Date Printed: 06/30/11
First Reported: 06/30/11

Job ID / Site: PJ14733; 1510 SE Water Ave Portland OR 97214 United States
Date(s) Collected: 06/22/2011

FALI Job ID: PE21
Total Samples Submitted: 14
Total Samples Analyzed: 14

Sample Number	Lab Number	Area ft2	Analyte	Result	Result Units	Reporting Limit*	Method Reference
PBW-01	30406936	1.00	Pb	720	ug/ft2	30	NIOSH 9100/7082
PBW-02	30406937	1.00	Pb	12000	ug/ft2	800	NIOSH 9100/7082
PBW-03	30406938	1.00	Pb	6500	ug/ft2	400	NIOSH 9100/7082
PBW-04	30406939	1.00	Pb	2100	ug/ft2	80	NIOSH 9100/7082
PBW-05	30406940	1.00	Pb	520	ug/ft2	20	NIOSH 9100/7082
PBW-06	30406941	1.00	Pb	1400	ug/ft2	80	NIOSH 9100/7082
PBW-07	30406942	1.00	Pb	430	ug/ft2	20	NIOSH 9100/7082
PBW-08	30406943	1.00	Pb	16000	ug/ft2	800	NIOSH 9100/7082
PBW-09	30406944	1.00	Pb	1200	ug/ft2	40	NIOSH 9100/7082
PBW-10	30406945	1.00	Pb	210	ug/ft2	8	NIOSH 9100/7082
PBW-11	30406946	1.00	Pb	5500	ug/ft2	400	NIOSH 9100/7082
PBW-12	30406947	1.00	Pb	300	ug/ft2	8	NIOSH 9100/7082
PBW-13	30406948		Pb	10	ug	8	NIOSH 9100/7082
PBW-14	30406949		Pb	9	ug	8	NIOSH 9100/7082

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Forensic Analytical Laboratories

Metals Analysis of HUD Wipes

Forensic Analytical Consulting Svcs
Jeff Hietanen
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: M121131
Date Received: 06/23/11
Date Analyzed: 06/30/11
Date Printed: 06/30/11
First Reported: 06/30/11

Job ID / Site: PJ14733; 1510 SE Water Ave Portland OR 97214 United States
Date(s) Collected: 06/22/2011

FALI Job ID: PE21
Total Samples Submitted: 14
Total Samples Analyzed: 14

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference

Note to clients performing work related to the Lead Based Paint Hazard Reduction Act: Sample results for wipes not meeting ASTM E 1792 are not recognized within the National Lead Laboratory Accreditation Program.
Forensic Analytical can not determine whether or not wipes submitted to us for analysis meet the ASTM standard. We recommend to our clients that they document the brand of wipe that they use for each submission on their sample request form.

* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.

Dave Sandusky, CIH, Laboratory Supervisor, Hayward Laboratory

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

WIPE SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Bridgewater Group, Inc.**	Sampled by: JJH	PM: **Jeff Hietanen** Date: 6/22/11
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	**1510 SE Water Ave** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☒ Other ☐ Due Date and Time:
Client No.:	**C5507** **FACS Job #: PJ14733**	Analysis:	☒ Flame AA (Pb) / ☐ Other:

Sample Number	Sample Location	Component	Area	Media/Lot#/Exp. Date	Result
PBW-01	Basement Ceiling at Bottom of Stairs	Ceiling	1 sq. ft.		
PBW-02	Basement Lead Storage	Shelf	1 sq. ft.		
PBW-03	Basement Lead Storage	Floor	1 sq. ft.		
PBW-04	Basement Front of Lead Storage	Floor	1 sq. ft		
PBW-05	Basement Front of Work Out Room	Floor	1 sq. ft		
PBW-06	Basement Front of Fire Storage	Floor	1 sq. ft		
PBW-07	Basement Center of Basement	Floor	1 sq. ft.		
PBW-08	Middle Floor Center of Soldering Area	Floor	1 sq. ft		
PBW-09	Middle Floor - West of Soldering Area	Floor	1 sq. ft		
PBW-10	Middle Floor Front of entrance to office	Floor	1 sq. ft.		

Substrate: wood metal concrete plaster drywall brick

Shipped via: ☐ Fed Ex ☐ Airborne ☐ UPS ☒ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by: [signature]

Date & Time: 6/22/11 12:30

Received by: Ct FX 6-23-11 10:30

Date & Time:

Condition Acceptable ☒ Yes ☐ No

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

WIPE SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Bridgewater Group, Inc.**	Sampled by:	PM: **Jeff Hietanen** Date:
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	**1510 SE Water Ave** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C5507** **FACS Job #:** **PJ14733**	Analysis:	☐ Flame AA (Pb) / ☐ Other:

Sample Number	Sample Location	Component	Area	Media/Lot#/Exp. Date	Result
PBW-11	Middle Floor North of Soldering Area	Floor	1 sq. ft.		
PBW-12	Middle Floor at Entry to Garage	Floor	1 sq. ft.		
PBW-13	Control				
PPW-14	Control				

Substrate: wood metal concrete plaster drywall brick

Shipped via: ☐ Fed Ex ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by:	*Received by:* 2+ FX 6-23-11 10:30
Date & Time:	*Date & Time:* Condition Acceptable ☑ Yes ☐ No

Forensic Analytical Laboratories

Final Report

Metals Analysis of TCLP Extract

Forensic Analytical Consulting Svcs
Jeff Hietanen
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: M121847
Date Received: 07/13/11
Date Analyzed: 07/19/11
Date Printed: 07/19/11
First Reported: 07/19/11

Job ID / Site: PJ14733; 1510 SE Water Ave Portland OR 97214 United States
Date(s) Collected: 07/12/2011

FALI Job ID: PE21
Total Samples Submitted: 1
Total Samples Analyzed: 1

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
TCLP-01	30408977	Pb	< 0.3	mg/l	0.3	TCLP EPA 1311/7420

Comment : Sample particle size not fully reduced as stated in published method due to unusual sample contents.

* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.

Daniele Siu

Daniele Siu, Laboratory Supervisor, Hayward Laboratory

Analytical results and reports are generated by Forensic Analytical at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by Forensic Analytical to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by Forensic Analytical. The client is solely responsible for the use and interpretation of test results and reports requested from Forensic Analytical. Forensic Analytical is not able to assess the degree of hazard resulting from materials analyzed. Forensic Analytical reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. Any modifications that have been made to referenced test methods are documented in Forensic Analytical's Standard Operating Procedures Manual. Quality control and sample receipt condition were acceptable unless otherwise noted.

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

BULK SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Bridgewater Group, Inc.**	Sampled by: JUH	PM: **Jeff Hietanen** Date: 7/12/11
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	**1510 SE Water Ave** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☒ Other ☐ Due Date and Time:
Client No.:	**C5507** **FACS Job #:** **PJ14733**	Analysis:	☐ PLM Standard / ☐ Point Count / ☐ Flame AA (Pb) / ☒ Other: TCLP Lead

Sample Number	Material Description	Sample Location	Friable	Cond.	Quantity
TCLP-01	Brick + Mortar	Basement Chemical Storage			

WB – Wallboard JC - Joint Compound FT - Floor Tile FTM - Floor Tile Mastic BBM - Baseboard Mastic
RSF - Resilient Sheet Flooring CT - Ceiling Tile SAAM - Spray-Applied Acoustical Material WT - Wall Texture

Friable Yes / No Good / Fair / Poor

Shipped via: ☐ Fed Ex ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by: [signature]	*Received by:* [signature]
Date & Time: 7/12/2011 3:00 pm	*Date & Time:* 7-13-11 @ 10:30 am Condition Acceptable ☒ Yes ☐ No

Forensic Analytical Laboratories

Final Report

Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Forensic Analytical Consulting Svcs
Jeff Hietanen
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: B152684
Date Received: 08/08/11
Date Analyzed: 08/09/11
Date Printed: 08/09/11
First Reported: 08/09/11

Job ID/Site: PJ15223; Hawthorne Building Asb Cleanup Oversight 1510 SE Water Avenue Portland OR 97214 United States
Date(s) Collected: 08/04/2011

FALI Job ID: PE21
Total Samples Submitted: 10
Total Samples Analyzed: 10

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
D1	11151803						
Layer: Debris			**ND**				

Total Composite Values of Fibrous Components: **Asbestos (ND)**
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.

D2	11151804						
Layer: Debris			**ND**				

Total Composite Values of Fibrous Components: **Asbestos (ND)**
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.

D3	11151805						
Layer: Debris			**ND**				

Total Composite Values of Fibrous Components: **Asbestos (ND)**
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.

D4	11151806						
Layer: Debris			**ND**				

Total Composite Values of Fibrous Components: **Asbestos (ND)**
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.

D5	11151807						
Layer: Debris			**ND**				

Total Composite Values of Fibrous Components: **Asbestos (ND)**
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.

D6	11151808						
Layer: Debris			**ND**				

Total Composite Values of Fibrous Components: **Asbestos (ND)**
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.

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Report Number: B152684
Client Name: Forensic Analytical Consulting Svcs **Date Printed:** 08/09/11

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
D7	11151809						
Layer: Debris			**ND**				
Total Composite Values of Fibrous Components: **Asbestos (ND)**							
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)							
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.							
D8	11151810						
Layer: Debris			**ND**				
Total Composite Values of Fibrous Components: **Asbestos (ND)**							
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)							
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.							
D9	11151811						
Layer: Debris			**ND**				
Total Composite Values of Fibrous Components: **Asbestos (ND)**							
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)							
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.							
D10	11151812						
Layer: Debris			**ND**				
Total Composite Values of Fibrous Components: **Asbestos (ND)**							
Cellulose (5 %) Fibrous Glass (2 %) Synthetic (2 %)							
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.							

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

Analytical results and reports are generated by Forensic Analytical Laboratories Inc. (FALI) at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by FALI to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by FALI. The client is solely responsible for the use and interpretation of test results and reports requested from FALI. Forensic Analytical Laboratories Inc. is not able to assess the degree of hazard resulting from materials analyzed. FALI reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. All samples were received in acceptable condition unless otherwise noted.

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

BULK SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: Jull	PM: Jeff Hietanen Date: 8/4/11
Contact:	Jeff Hietanen Phone: (503) 595-1001	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	Hawthorne Building Asb Cleanup Oversight 1510 SE Water Avenue	Turnaround Time:	1-Day ☒ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15223	Analysis:	☒ PLM Standard / ☐ Point Count / ☐ Flame AA (Pb) / ☐ Other: After Analysis Please Contact Jeff H for potential TEM analysis

Sample Number	Material Description	Sample Location	Friable	Cond.	Quantity
D1	Dust on Contents	See diagram Attic	Y	Poor	
D2	Dust/debris on Floor	"			
D3	Dust/debris on Floor	"			
D4	Dust/debris on Floor	" Ritcree's Storage			
D5	Dust/debris on Floor	"			
D6	Dust/debris on Contents	"			
D7	Dust/debris on Floor	"			
D8	Dust/debris on Shelf Contents	"			
D9	Dust/debris on Floor	"			
D10	Dust/debris on Shelf	" Electrical Room Space			

WB – Wallboard JC - Joint Compound FT - Floor Tile FTM - Floor Tile Mastic BBM - Baseboard Mastic
RSF - Resilient Sheet Flooring CT - Ceiling Tile SAAM - Spray-Applied Acoustical Material WT - Wall Texture

Friable Yes / No Good / Fair / Poor

Shipped via: ☒ Fed Ex ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by: [signature]	*Date & Time:* 8/4/11 2:15pm	*Received by:* [signature]	*Date & Time:* 8-8-11 @ 9am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

Forensic Analytical Laboratories

Final Report

Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Forensic Analytical Consulting Svcs
Jeff Hietanen
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: B152686
Date Received: 08/08/11
Date Analyzed: 08/09/11
Date Printed: 08/09/11
First Reported: 08/09/11

Job ID/Site: PJ15223; Hawthorne Building Asb Cleanup Oversight 1510 SE Water Avenue Portland OR 97214 United States
Date(s) Collected:

FALI Job ID: PE21
Total Samples Submitted: 2
Total Samples Analyzed: 2

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
DP01	11151819						
Layer: Debris			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (25 %) Synthetic (5 %)							
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.							
DP02	11151820						
Layer: Debris		Chrysotile	**2 %**				
Total Composite Values of Fibrous Components:		**Asbestos (2%)**					
Cellulose (25 %) Synthetic (5 %)							
Comment: Wipe/Microvac/Debris sample: Quantitative data may not be repeatable or represent the entire sample.							

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

BULK SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: JHH	PM: **Jeff Hietanen** Date:
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	**Hawthorne Building Asb Cleanup Oversight** **1510 SE Water Avenue**	Turnaround Time:	☒ 1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C3880** **FACS Job #: PJ15223**	Analysis:	☒ PLM Standard / ☐ Point Count / ☐ Flame AA (Pb) / ☐ Other:

Sample Number	Material Description	Sample Location	Friable	Cond.	Quantity
DP01	Debris Pile	See Diagram	Y	Poor	
DP02	Debris Pile		Y		

WB Wallboard JC - Joint Compound FT - Floor Tile FTM - Floor Tile Mastic BBM - Baseboard Mastic
RSF - Resilient Sheet Flooring CT - Ceiling Tile SAAM - Spray-Applied Acoustical Material WT - Wall Texture

Friable Yes / No Good / Fair / Poor

Shipped via: ☒ Fed Ex ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off ☐ Other:

Relinquished by:	*Date & Time:* 8/4/2011 2:15pm	*Received by:*	*Date & Time:* 8-8-11 @ 9am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

BULK SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: JGH	PM: **Jeff Hietanen** Date: 8/4/11
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	**Hawthorne Building Asb Cleanup Oversight** **1510 SE Water Avenue**	Turnaround Time:	1-Day ☒ / 2-Day ☐ / 3-Day ☐ / 5-Day ☐ / Other ☐ / Due Date and Time:
Client No.:	**C3880** FACS Job #: **PJ15223**	Analysis:	☒ PLM Standard / ☐ Point Count / ☐ Flame AA (Pb) / ☐ Other: After Analysis Please Contact Jeff H for potential TEM analysis

Sample Number	Material Description	Sample Location	Friable	Cond.	Quantity
D1	Dust on Contents	See diagram Attic	Y	Poor	
D2	Dust/debris on Floor	"			
D3	Dust/debris on Floor	"			
D4	Dust/debris on Floor	" Rafters Stray			
D5	Dust/debris on Floor	"			
D6	Dust/debris on Contents	"			
D7	Dust/debris on Floor	"			
D8	Dust/debris on Shelf Contents	"			
D9	Dust/debris on Floor	"			
D10	Dust/debris on Shelf	" Electrical Main Space			

WB - Wallboard JC - Joint Compound FT - Floor Tile FTM - Floor Tile Mastic BBM - Baseboard Mastic
RSF - Resilient Sheet Flooring CT - Ceiling Tile SAAM - Spray-Applied Acoustical Material WT - Wall Texture

Friable Yes / No Good / Fair / Poor

Shipped via: ☐ FedEx ☐ Airborne ☐ UPS ☐ US Mail ☐ Courier ☒ Drop Off / ☐ Other:

Relinquished by:	*Date & Time:* 8/4/11 2:15pm	*Received by:*	*Date & Time:* 8-8-11 @ 9am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

Forensic Analytical Laboratories

QUALITATIVE ANALYSIS REPORT
ASBESTOS IN BULK MATERIAL
Transmission Electron Microscopy*

Client:	Forensic Analytical Consulting Svcs	Page:	1 of 1
Contact:	Jeff Hietanen	Client Number:	PE21
Street:	17400 SW Upper Boones Ferry Rd, Suite 245	Report Number:	T020383
City/state/zip:	Durham OR 97224	Date Received:	8/11/11

Site:	Portland General Electric Hawthorne Bldg, 1515 SE Water Ave	Analyst(s):	ER
		Date Analyzed:	8/15/11
Job#:	PJ15223	Date Reported:	8/15/11
Date collected:	8/4/11		

ANALYTICAL RESULTS

Client Sample Number	Lab Sample Number	Asbestos Type(s) Detected**
D5	20083547	CH
D6	20083548	CH
D7	20083549	ND
D8	20083550	CH

Mark S. Floyd, Analytical Microscopy Supervisor

* In-house procedure.

** Asbestos types: CH=chrysotile; AM=amosite; CR=crocidolite; AC=actinolite; TR=tremolite; AN=anthophyllite; ND=none detected.

Samples were received in acceptable condition unless otherwise noted. Analytical results relate only to the sample(s) tested.

3777 Depot Road, Suite 409, Hayward, California 94545 Telephone: 510-887-8828 Fax: 510-887-4218 www.forensica.com

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: JNH PM: **Jeff Hietanen**	Date: 8/4/11
Contact:	**Jeff Hietanen** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to jhietanen@forensica.com and MRivas@forensica.com
Site:	**Hawthorne Building Asb Cleanup Oversight** **1510 SE Water Avenue**	Turnaround Time:	1-Day ☒ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C3880** **FACS Job #: PJ15223**	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☐ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
A1	Blank										
A2	Blank										
A3	Attic South of Contam	☐ B ☐ R ☐ C		10	10	10	11:11	1:11	1,200 L		
A4	Attic North of Contam	☐ B ☐ R ☐ C		10	10	10	11:19	1:19	1,200 L		
P1	Jeff Hietanen	☐ B ☐ R ☐ C		1.7	1.7	1.7	11:09	12:05	95.2 L		
P2	Jeff Hietanen	☐ B ☐ R ☐ C		2.5	2.5	2.5	11:09	12:05	140 L		
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									

Relinquished by: 8/4/2011	*Date & Time:* 2:15	*Received by:*	*Date & Time:* 8-8-11 @ 9am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Appendix J:
Previous FACS Asbestos Survey Report

ASBESTOS SURVEY

PREPARED FOR:

PORTLAND GENERAL ELECTRIC
121 SW SALMON STREET
PORTLAND, OREGON 97204

DOUG JENKIN
INDUSTRIAL HYGIENIST
SAFETY & HEALTH RESOURCES

LOCATION:

HAWTHORNE BUILDING
1510 SE WATER AVENUE
PORTLAND, OREGON 97214

MAY 30, 2006

FORENSIC ANALYTICAL PROJECT #: PE1648

ASBESTOS SURVEY

PREPARED FOR:

PORTLAND GENERAL ELECTRIC
121 SW SALMON STREET
PORTLAND, OREGON 97204

DOUG JENKIN
INDUSTRIAL HYGIENIST
SAFETY & HEALTH RESOURCES

Location:

HAWTHORNE BUILDING
1510 SE WATER AVENUE
PORTLAND, OREGON 97214

MAY 30, 2006

FORENSIC ANALYTICAL PROJECT NO. PE1648

PREPARED BY:

Forensic Analytical
17400 SW Upper Boones Ferry Road, Suite 245
Durham, Oregon 97223
503/595.1001
Fax 503/595.1006

Dan Rouse
AHERA Asbestos Inspector# 1017207

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INTRODUCTION

INTRODUCTION

Forensic Analytical, Inc. performed a survey to identify asbestos-containing building materials at the Hawthorne Building located at 1510 SE Water Avenue, Portland, Oregon 97214. The survey was conducted on May 15, 2006 by Todd Kreuter at the direction of Doug Jenkin of PGE. The facility was occupied at the time of inspection.

The purpose of the survey was to identify suspect asbestos-containing materials and collect samples for laboratory analysis to meet CFR 29 1910.1001(j)(2)(i), OSHA General Industry Standard - Asbestos. This section of the standard states that "Building and facility owners shall determine the presence, location, and quantity of asbestos-containing materials and/or presumed asbestos-containing materials at the work site. Employers and building and facility owners shall exercise due diligence in complying with these requirements to inform employers and employees about the presence and location of asbestos-containing materials and presumed asbestos-containing materials."

The inspection consisted of visual and tactile examination of all accessible areas of the site. Destructive sampling techniques were not used to find potential hidden layers of suspect asbestos-containing materials and additional asbestos-containing materials may be present in interstitial spaces, inaccessible areas of the property, or below grade. If additional potential asbestos-containing materials are identified that are not listed in this report, the materials should be assumed to contain asbestos until sampling and analysis proves otherwise. Samples of observed suspected asbestos-containing materials were collected in accordance with the Asbestos Hazard Emergency Response Act (AHERA) protocol and submitted for laboratory analysis to Forensic Analytical in Hayward, California, a NVLAP accredited laboratory.

Any materials that contain more than 1% Asbestos are considered asbestos-containing materials by regulation (40 CFR 763). The results indicate asbestos-containing materials were detected at the site above the 1% threshold. Individual results can be found in Section 2 of this report. Laboratory analytical data and chain of custody documentation are included in Section 4 of this report.

Materials assumed to contain asbestos in this report were done so due to inaccessibility or potential damage to the material due to the sampling techniques required.

Previous sample data is included in the sample inventory section. Specific material locations and quantities were not provided in the previous survey data. Materials assumed to contain asbestos in this report were done so due to inaccessibility or potential damage to the material due to the sampling techniques required.

This document is not to be used for asbestos abatement specifications. Prior to any demolition or renovation of the buildings, an asbestos abatement project design should be completed specifying the type, location, and quantity of asbestos containing materials to be removed. All identified ACM must be removed by a licensed asbestos abatement contractor or in-house certified asbestos workers prior to demolition or renovation activities. Any ACM removed from the site must be disposed of in accordance with all Federal, State and local regulations.

LIMITATIONS

The findings, conclusions, and recommendations provided by Forensic Analytical are indicative of conditions that existed at the time of the investigation and are subject to the limitations and variability associated with the investigation methodology. Forensic Analytical's reports are not intended to guarantee that the subject sites are or are not free from conditions that could pose a threat to human health, safety, or the environment. Forensic Analytical does not warrant that adherence to its recommendations will prevent inspection, citation, or penalty from regulatory agencies or will relieve PGE from any liability related to hazardous materials.

Please feel free to contact our office with any questions at 503/595-1001.

Respectfully submitted,

Dan Rouse
Director - Environmental Services Division
Forensic Analytical Specialties, Inc.
Portland, Oregon

ASBESTOS SAMPLE INVENTORY

SAMPLE #	MATERIAL DESCRIPTION	SAMPLE LOCATION	MATERIAL LOCATION	ASB. % & TYPE	QUANTITY	CONDITION
HTHRN-1	Floor Tile, 12” x 12” Mauve Marbled & Black Mastic	2nd Floor - Open Area Northeast	-	ND	-	-
HTHRN-2	Ceiling Tile, 2’ x 4’ Fissured w/ Pinholes	2nd Floor - Open Area Northeast	-	ND	-	-
HTHRN-3	Drywall & Joint Compound	2nd Floor - Men’s Restroom Northeast	-	ND	-	-
HTHRN-4	Drywall & Joint Compound	2nd Floor - Outside of the Generation/ Survey Office	-	ND	-	-
HTHRN-5	Floor Tile under Carpet, Brown & Black Mastic	2nd Floor - Shrives Electrical Museum	2nd Floor - Shrives Electrical Museum	10 - Chrysotile Tile 10 - Chrysotile Mastic	1,875 sq. ft.	Fair
HTHRN-6	Sink Undercoating, White	2nd Floor - Coffee Area by Generation/ Survey	-	ND	-	-
HTHRN-7	Sheet Flooring, Blue Marbled	2nd Floor - Unisex Restroom	-	ND	-	-
HTHRN-8	Floor Material Under Sample # HTHRN-1, Orange	2nd Floor - Open Area Northeast	-	ND	-	-
HTHRN-9	Painted on Wall Texture	2nd Floor - Men’s Restroom Northeast	-	ND	-	-
HTHRN-10	Painted on Wall Texture	2nd Floor - Men’s Restroom Northeast	-	ND	-	-
HTHRN-11	Painted on Wall Texture	2nd Floor - Men’s Restroom Northeast	-	ND	-	-
HTHRN-12	Stair Tread, Brown & Brown Adhesive	2nd Floor - Northeast Stairwell	-	ND	-	-
HTHRN-13	Plaster	2nd Floor - Stairs to Attic	-	ND	-	-
HTHRN-14	Cove Base, 4” Black and Tan & Brown Adhesive	2nd Floor - Between Northeast Stairwell and Women’s Restroom	-	ND	-	-
HTHRN-15	Carpet Adhesive, Tan	2nd Floor - Office Area	-	ND	-	-

ND - No asbestos detected
* This material was previously sampled by PGE from a report dated 8/6/96.
All quantities are approximate and are not to be used for bidding purposes.

SAMPLE #	MATERIAL DESCRIPTION	SAMPLE LOCATION	MATERIAL LOCATION	ASB. % & TYPE	QUANTITY	CONDITION
HTHRN-16	Floor Tile, 12” x 12” White w/ Tan Specks & Black Mastic	2nd Floor - Break Room	2nd Floor Break Room	2 - Chrysotile Tile 10 - Chrysotile Mastic	200 sq. ft.	Fair
HTHRN-17	Double Layer Floor Tile under Carpet, Green and Brown & Black Mastic	2nd Floor - Generation/ Survey Office	2nd Floor - Generation/ Survey Office	10 - Chrysotile Tile, 1st Layer 10 - Chrysotile Mastic, 1st Layer 5 - Chrysotile Tile, 2nd Layer 2 - Chrysotile Mastic, 2nd Layer	625 sq. ft.	Fair
HTHRN-18	Carpet Adhesive & Black Mastic	2nd Floor - Conference Room	-	ND	-	-
HTHRN-19	Floor Tile, 12” x 12” under Carpet, Green	2nd Floor - Offices	2nd Floor - Offices	2 - Chrysotile Tile 10 - Chrysotile Mastic	500 sq. ft.	Fair
HTHRN-20	Sheet Vinyl, Pastel Pebble Pattern	2nd Floor - Communications Room	-	ND	-	-
HTHRN-21	Plaster	2nd Floor - Communications Room	-	ND	-	-
HTHRN-22	Ceiling Tile, 2’ x 4’ Wide Fissured w/ Pinholes	2nd Floor - Communications Room	-	ND	-	-
HTHRN-23	Drywall & Joint Compound	2nd Floor - Training Area # 4	-	ND	-	-
HTHRN-24	Double Layer Floor Tile, 12” x 12” Pastel Marbled & Black Mastic	2nd Floor - Cash Remittance	2nd Floor - Cash Remittance	ND 1st Layer 10 - Chrysotile Tile, 2nd Layer 2 - Chrysotile Mastic, 2nd Layer	1,700 sq. ft.	Fair

ND - No asbestos detected
* This material was previously sampled by PGE from a report dated 8/6/96.
All quantities are approximate and are not to be used for bidding purposes.

SAMPLE #	MATERIAL DESCRIPTION	SAMPLE LOCATION	MATERIAL LOCATION	ASB. % & TYPE	QUANTITY	CONDITION
HTHRN-25	Floor Tile, 12” x 12” Brown & Tan Marbled & Black Mastic	Stair Landing Between Floors 1 & 2	-	ND	-	-
HTHRN-26	Cove Base 4” Brown & Brown Adhesive	Stair Landing Between Floors 1 & 2	-	ND	-	-
HTHRN-27	Drywall & Joint Compound	1st Floor - CPY Area	-	ND	-	-
HTHRN-28	Sheet Vinyl under Carpet, Orange, Green and Brown	1st Floor - Working Foreman’s Office	-	ND	-	-
HTHRN-29	Floor Tile, 9” x 9” Tan & Black Mastic	1st Floor - Outside of Working Foreman’s Office	1st Floor - Outside of Working Foreman’s Office	2 - Chrysotile Tile ND Mastic	25 sq. ft.	Fair
HTHRN-30	Drywall & Joint Compound	1st Floor - Warehouse		ND		
HTHRN-31	Floor Tile under Carpet, Tan & Black Mastic	1st Floor - Office North of East Stairwell	Floor Tile under Carpet, Tan & Black Mastic	5 - Chrysotile Tile 10 - Chrysotile Mastic	965 sq. ft.	Fair
HTHRN-32	Sink Undercoating, Off-White	1st Floor - Break Area	-	ND	-	-
HTHRN-33	Ceiling Tile, 2’ x 2’ Rough Textured	1st Floor - Break Area	-	ND	-	-
HTHRN-34	Plaster	Basement - Near Elevator	-	ND	-	-
HTHRN-35	Stair Tread, Tan & White Adhesive	Basement - Stairwell Adjacent to Elevator	-	ND	-	-
HTHRN-36	Floor Tile, 9” x 9” Tan & Tan Mastic	Basement - Stairwell Landing	-	ND	-	-
HTHRN-37	Window Putty	Exterior of Window	-	ND	-	-
HTHRN-38	Exterior Texture	Exterior Wall		Trace - Chrysotile		
HTHRN-39	Exterior Texture	Exterior Wall		Trace - Chrysotile		
HTHRN-40	Exterior Texture	Exterior Wall	-	ND	-	-
Assumed	Wiring	N/A	Throughout	Assumed	Unknown	Unknown
Assumed	Roofing	N/A	Roof	Assumed	Unknown	Unknown
*H-01	Sealant	Roof	-	ND	-	-
*H-02	Tar Paper	Attic, Exit to Roof	-	ND	-	-
*H-03	Insulation on Wire	Attic	-	ND	-	-
*H-04	Ceiling Tile	Attic	-	ND	-	-

ND - No asbestos detected
* This material was previously sampled by PGE from a report dated 8/6/96.
All quantities are approximate and are not to be used for bidding purposes.

SAMPLE #	MATERIAL DESCRIPTION	SAMPLE LOCATION	MATERIAL LOCATION	ASB. % & TYPE	QUANTITY	CONDITION
*H-05	Ceiling Tile	Attic	-	ND	-	-
*H-06	Insulation on Wire	Attic	Attic	80 - Chrysotile	Unknown	Unknown
*H-07	Composite Board Box	Attic	Attic	40 - Chrysotile	Unknown	Unknown
*H-08	Debris Pile	Attic	Attic	30 - Chrysotile	Unknown	Unknown
*H-09	Pipe Insulation	Attic	Attic	65 - Chrysotile	This Material has Been Removed	-
*H-10	Ceiling Tile	2nd Floor - AMS	-	ND	-	-
*H-11	Composite Board	2nd Floor - Office	-	ND	-	-
*H-12	Ceiling Tile	2nd Floor - Center Meeting Room	-	ND	-	-
*H-13	Floor Tile	2nd Floor - Co-ed Restroom	-	ND	-	-
*H-14	Cove Base	2nd Floor - Co-ed Restroom	-	ND	-	-
*H-15	Floor Tile	2nd Floor - Women's Restroom	-	ND	-	-
*H-16	Floor Tile	2nd Floor - Hallway	-	ND	-	-
*H-17	Floor Tile	Back Stairs from 1st Floor to 2nd Floor	-	ND	-	-
*H-18	Stair Tread	Back Stairs from 1st Floor to 2nd Floor	-	ND	-	-
*H-19	Stair Tread	Back Stairs from 1st Floor to 2nd Floor	-	ND	-	-
*H-20	Stair Tread	Back Stairs from 1st Floor to 2nd Floor	-	ND	-	-
*H-21	Cove Base	Back Stairs from 1st Floor to 2nd Floor	-	ND	-	-
*H-22	Floor Coat beneath Carpet	2nd Floor - Cash Remittance	-	ND	-	-
*H-23	Floor Tile	2nd Floor - Back-up Power Room	-	ND	-	-
*H-24	Floor Tile	2nd Floor - Kitchen	2nd Floor - Kitchen	5 - Chrysotile	Unknown	Unknown

ND - No asbestos detected
* This material was previously sampled by PGE from a report dated 8/6/96.
All quantities are approximate and are not to be used for bidding purposes.

SAMPLE #	MATERIAL DESCRIPTION	SAMPLE LOCATION	MATERIAL LOCATION	ASB. % & TYPE	QUANTITY	CONDITION
*H-25	Stair Tread	Front Entry Stairs from 1st Floor to 2nd Floor	-	ND	-	-
*H-26	Cove Base	Front Entry Stairs from 1st Floor to 2nd Floor	-	ND	-	-
*H-27	Floor Tile, Dark Red	1st Floor - Men's Restroom	-	Trace - Chrysotile	-	-
*H-28	Floor Tile, Light Red	1st Floor - Men's Restroom	-	ND	-	-
*H-29	Floor Tile	1st Floor - Women's Restroom	-	ND	-	-
*H-30	Ceiling Tile	1st Floor - Warehouse Office	-	ND	-	-
*H-31	Welding Screen	1st Floor - Shop	-	ND	-	-
*H-32	Kiln Insulation	1st Floor - Shop	-	ND	-	-
*H-33	Paneling	1st Floor - Shop Office	-	ND	-	-
*H-34	Floor Coating	1st Floor - Shop Office	-	ND	-	-
*H-35	Pipe Insulation	Basement - South Wall	Basement - South Wall	5 - Chrysotile	Unknown	Unknown
*H-36	Ceiling Tile	1st Floor - Crew Lunch Room				
*H-37	Ceiling Tile	1st Floor - Burke's Office	-	ND	-	-
*H-38	Ceiling Tile	1st Floor - Women's Restroom	-	ND	-	-
*H-39	Stair Tread	Stairs from Basement to 1st Floor	-	ND	-	-

ND - No asbestos detected
* This material was previously sampled by PGE from a report dated 8/6/96.
All quantities are approximate and are not to be used for bidding purposes.

Photo Log

Photo Log

The photographs shown in this section are from the Forensic Analytical field work. Assumed asbestos-containing materials were present at this location and are included in this section.

HTHRN-5 Brown Floor Tile under Carpet, and Black Mastic

(Picture Not Available)

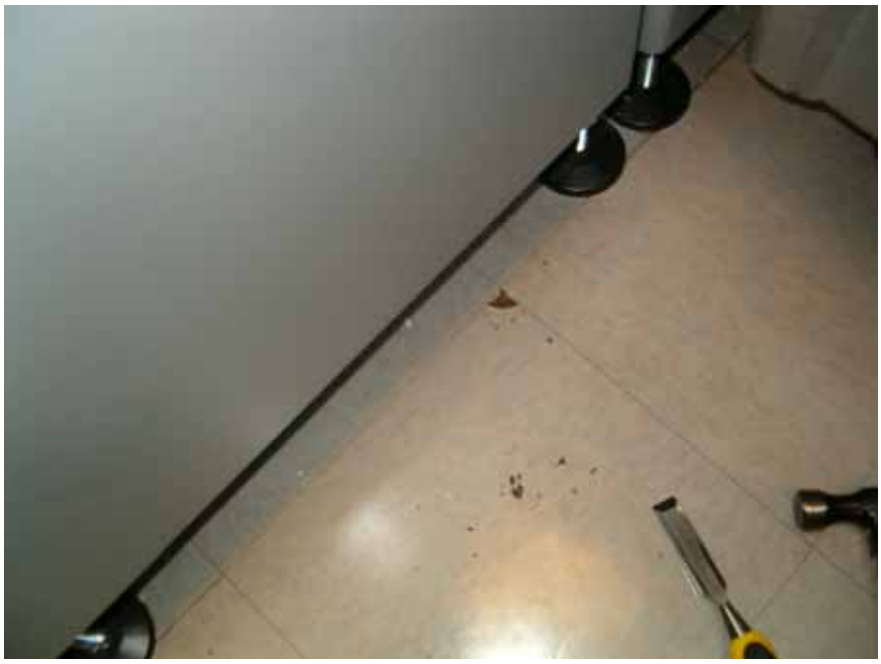
HTHRN-16 Floor Tile, 12" x 12", White w/ Tan Specks, and Black Mastic

HTHRN-17 Double Layer Floor Tile under Carpet, Brown w/ Black Mastic, and Green w/ Tan Mastic

HTHRN-19 Floor Tile, 12" x 12", Green under Carpet, and Black Mastic

(Picture Not Available)

HTHRN-24 2nd Layer Floor Tile and Black Mastic under Floor Tile, 12" x 12", Pastel Marble



HTHRN-29 Floor Tile, 9" x 9", Tan

HTHRN-31 Tan Floor Tile under Carpet

Wiring (Assumed)

LABORATORY ANALYTICAL DATA AND CHAIN OF CUSTODY RECORD

ACCREDITATION

Certificate of Completion

This is to certify that

(b) (6)

[redacted]

EPA Provi

Roofing- Assumed (Photo Not Available)

Appendix K:
Accreditation

(b) (6)

[redacted]

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Appendix L:
FACS Recommendations for Attic Dust Cleanup and Pre-Abatement Photos
(dated 8/16/11)

Forensic Analytical

ENVIRONMENTAL HEALTH CONSULTANTS

August 16, 2011

To: Doug Jenkin
Portland General Electric
doug.jenkin@pgn.com

From: Jeffrey U. Hietanen
Forensic Analytical Consulting Services
17400 SW Upper Boones Ferry Rd Suite 245
Portland, OR 97224
Phone: 503-595-1001
jhietanen@forensica.com

Subject: **Recommendations for Attic Dust Cleanup**

Mr. Jenkin,

After reviewing the sample results taken in the attic there are a few issues we would like to discuss. This letter is to inform you of our ideas for discussion after your review

Debris Pile

Bulk sampling identified a roofing material debris pile in the south west corner of the attic. This material will need to be removed by PAS under negative pressure enclosure and be cleared with aggressive sampling. Our recommendation is to clean-up and clear this area prior to conducting any other work.

Settled Dust

Dust sampling throughout the attic indicated non-detect ND levels of Asbestos by PLM however 4 of these samples were analyzed by TEM for the presence of asbestos and 3 of the 4 indicated chrysotile fibers present. While gathering these samples we conducted both personal air monitoring and area air monitoring. Personal Air monitoring indicated levels below the detection limit of 0.019 f/cc (PEL 0.1) and area samples indicated levels below DEQ criteria of 0.01 f/cc

Based upon the PLM data, the cleanup of dust would not be considered a regulated removal as the material is ND for asbestos based upon PLM results. However there are asbestos fibers present (TEM results) and we suggest certain precautions be taken.

As discussed earlier we see no problem with employees entering the attic and determining what materials need to be kept and what should be disposed of. During this time we can conduct to personal air monitoring of these employees to confirm exposure levels. We do recommend that employees wear shoe booty covers while in the attic and remove them prior to exiting to control dust migration. Also employees should have some asbestos awareness training.

General Construction Waste

For the cleanup we recommend that all materials that are to be disposed of be discarded in one of two ways:

1 – If possible it would be cost effective to set up a waste chute from the attic to a dumpster below. We would recommend a mister (spraying water and a binding compound) be placed in the waste chute and

all material to be discard sent down the shoot. These materials could be disposed of as general construction waste.

2 – If a chute is not possible waste materials can be bagged and then disposed of as construction waste.

Salvage

For materials that are to be salvaged we recommend a cleaning station be setup in the attic. Hard goods can be submersed in a soap solution, agitated and then rinsed in water. Items that can not be submersed can be wet wiped or HEPA vacummed. Once rinsed or wiped these materials can be passed out of containment. If there are goods that can not be wetted each should be discussed on a case by case basis.

Dust Removal

Once all materials are removed the attic can be HEPA vacuumed and wet wiped, visually cleared, a penetrating encapsulant sprayed, and air sampling can be conducted to confirm fiber levels are below regulatory limits.

During this work we recommend the area be placed under negative pressure and workers wear half-face respirators with HEPA cartridges and disposable coveralls. Worker should have at a minimum asbestos awareness training.

PJ15223 - Hawthorne Building Attic Cleanup

Photo #01

Photo #02

Photo #03

Photo #04

© *Forensic Analytical Consulting Services*
www.forensica.com

Photo #05

Photo #06

Appendix M:
Closeout Report for Vermiculite Abatement Project

Forensic Analytical

ENVIRONMENTAL HEALTH CONSULTANTS

Asbestos Abatement Closeout Report

Hawthorne Building Vermiculite Cleanup
1510 SE Water Avenue
Portland, Oregon 97214

November 1, 2011

Prepared for:

Mr. Doug Jenkin
Portland General Electric
121 SW Salmon Street
Portland, Oregon 97204
doug.jenkin@pgn.com

Prepared by:

Todd Kreuter
Technician
Forensic Analytical Consulting Services
17400 SW Upper Boones Ferry Road, Suite 245
Durham, Oregon 97224
503-595-1001 ♦ tkreuter@forensica.com

FACS Project #PJ15223

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SECTION 1: Project Air Sample Analysis Report

SECTION 2: Project Daily Log

SECTION 3: Work Practices Checklist

SECTION 4: Certificate of Visual Inspection

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Introduction

On July 29-August 3, 2011 Forensic Analytical Specialties, Inc. (FACS) provided project oversight, and area monitoring for asbestos during the vermiculite cleanup in the attic of Hawthorne Building located at 1510 SE Water Avenue, Portland, Oregon. The results of the area sampling are provided in Section 1. Samples were collected per the NIOSH 7400 method. The perimeter samples were analyzed by phase contrast microscopy by Forensic Analytical Laboratories, Inc. (FALI), an NVALP accredited laboratory. The clearance samples were read in the field by NIOSH 582 accredited analyst, Todd Kreuter. The clearance results were under the 0.01 f/cc threshold as required by OR-DEQ.

The asbestos abatement work was performed by Performance Abatement Services. A certified supervisor and certified workers were on the project, per regulatory requirements.

It is the opinion of FACS that the asbestos abatement project met all requirements of OR-DEQ, OR-OSHA, and the specifications of the project.

Please do not hesitate to contact our office at 503-595-1001 if you have any additional questions or concerns. Thank you for the opportunity to assist Portland General Electric in promoting a more healthful environment.

Respectfully,
FORENSIC ANALYTICAL

Todd Kreuter
Technician

Reviewed by:
FORENSIC ANALYTICAL

Richard Carlin
Director

SECTION 1

SECTION 2

SECTION 3

SECTION 4

Forensic Analytical

ENVIRONMENTAL HEALTH CONSULTANTS

"The solution is in the FACS."

At Forensic Analytical Consulting Services (FACS) our mission is to leave our scientific fingerprint on every client we serve. We accomplish this by delivering data and expertise that is accurate, cost effective, and contextually useful in solving issues of public and environmental health.

Our expert teams are available to respond nationally to help resolve a broad range of chemical, physical and biological concerns:

California		***Nevada***	
Los Angeles	*310-668-5600*	*Las Vegas*	*702-784-0040*
Sacramento	*916-726-1303*	***Oregon***	
San Diego	*858-504-0033*	*Portland*	*503-595-1001*
San Francisco	*510-266-4600*		

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Appendix N:
Closeout Report for Dust and Debris Abatement Project

Forensic Analytical

ENVIRONMENTAL HEALTH CONSULTANTS

Asbestos Abatement Closeout Report

Hawthorne Building
1510 SE Water Avenue
Portland, Oregon 97214

December 19, 2011
Revised: December 30, 2011

Prepared for:

Mr. Doug Jenkin
Portland General Electric
121 SW Salmon Street
Portland, Oregon 97204
doug.jenkin@pgn.com

Prepared by:

Cherice Godard
Project Manager
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FACS Project #PJ15953

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SECTION 2: Project Daily Log

SECTION 3: Work Practices Checklist

SECTION 4: Certificate of Visual Inspection

SECTION 5: Photo Log

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Introduction

On November 30 through December 9, 2011 Forensic Analytical Consulting Services, Inc. (FACS) provided project monitoring and oversight during abatement activities at the Hawthorne Building Attic located at 1050 SE Water Avenue, Portland, Oregon. The project included: project oversight during abatement/cleaning; document shredding and content cleaning and removal; area air monitoring for asbestos in and around the work areas during the project; and aggressive clearance air sampling throughout the attic once the project was complete. The results of the air sampling are provided in Section 1. Air samples were collected per the NIOSH 7400 method and initially analyzed on site for clearance purposes. The samples were then sent to Forensic Analytical Laboratories, Inc. (FALI), an NVALP accredited laboratory, for confirmatory analysis. All air sample results were below the 0.01 f/cc threshold as required by OR-DEQ.

November 30, 2011:
Upon arrival onsite, FACS, PGE, and PAS, inspected the work area. After the first day of work, sampling strategy was discussed, and all parties agreed to reduce the sample volume of the samples collected inside the work area to prevent overloading. Due to heavy electrical requirements for the abatement work, spider boxes were provided and used for the negative air machines.

Area air samples (#15953-11302011-AD1 through #15953-11302011-AD12) were collected both inside and outside the work area during the abatement work on November 30, 2011. The results of the air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1). Two of the 12 area samples were overloaded with dust and could not be analyzed.

Two clearance samples (#15953-11302011-C1 and 15953-11302011-C2) were collected inside the boiler containment at the end of the work shift on November 30, 2011. The first sample was overloaded and could not be analyzed onsite, which was most likely a result of capturing the encapsulant in the air sample. The laboratory was able to read sample C1. The results of both clearance samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1).

December 1, 2011:
Area air samples (#15953-12012011-AD1 through #15953-12012011-AD18) were collected both inside and outside the work area during the abatement work on December 1, 2011. The results of the air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1). Two of the 18 samples were overloaded with dust and could not be analyzed. One of the samples (15953-12012011-AD16) had a result of <0.023 f/cc. This sample also had a very low volume due to an attempt to not overload the filter inside the work area, which appears to have skewed the results and increased the detection limit. The sample result is not a cause for concern due to these reasons and because it was collected inside the work area during cleaning and all workers were wearing Tyvek and half face respirators.

December 2, 2011:
Area air samples (#15953-12022011-AD1 through #15953-12022011-AD12) were collected both inside and outside the work area during the abatement work on December 2, 2011. The results of the air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1).

December 5, 2011:
Area air samples (#15953-12052011-AD1 through #15953-12052011-AD12) were collected both inside and outside the work area during the abatement work on December 5, 2011. The results of these air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1). Four of the 12 samples were overloaded with dust and could not be analyzed. An additional two samples were not analyzed because the filter was poorly placed or the pump was unplugged by the abatement contractor during sampling.

December 6, 2011:
Area air samples (#15953-12062011-AD1 through #15953-12062011-AD11) were collected both inside and outside the work area during the abatement work on December 6, 2011. The results of the air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1). One sample was not analyzed because the filter was missing inside the cassette once open.

A clearance sample (#15953-12062011-C1) was collected inside the SW containment at the end of the work shift on December 6, 2011. The result of the air sample was below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1).

December 7, 2011:
Area air samples (#15953-12072011-AD1 through #15953-12072011-AD10) were collected both inside and outside the work area during the abatement work on December 7, 2011. The results of the air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1).

A clearance sample (#15953-12072011-C1) was collected inside the NW containment during the work shift on December 7, 2011. The result of the air sample was below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1).

December 8, 2011:
Area air samples (#15953-12082011-AD1 through #15953-12082011-AD10) were collected both inside and outside the work area during the abatement work and final cleaning on December 8, 2011. The results of the air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1).

A series of aggressive air clearance samples (#15953-12082011-C1 through #15953-12082011-C5) were collected throughout the work area after final cleaning was performed on December 8, 2011. The purpose was to collect additional aggressive air clearances throughout all of the work areas within the attic space after the project was completed. The results of the air samples were below the 0.01 f/cc threshold as required by OR-DEQ (see Section 1).

The asbestos abatement/cleaning work was performed by PAS. A certified supervisor and nine to eleven certified workers were on the project during each shift, per regulatory requirements. The elevator was lined with poly sheeting prior to abatement. Bags were wet-wiped before being removed from the attic through the elevator. All contents were cleaned and either discarded through the north attic window or saved at the request of PGE. Upon completion of the abatement, the work areas and surrounding areas were HEPA vacuumed, and wet- wiped.

It is the opinion of FACS that the asbestos abatement project met all requirements of OR-DEQ, OR-OSHA, and the specifications of the project.

Please do not hesitate to contact our office at 503-595-1001 if you have any additional questions or concerns. Thank you for the opportunity to assist Portland General Electric in promoting a more healthful environment.

Respectfully,
Forensic Analytical Consulting Services, Inc.

Cherice Godard
Project Manager

Reviewed by:
Forensic Analytical Consulting Services, Inc

Robin Sharpe-Yablonka
Project Manager

SECTION 1

Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A132917
Date Received: 12/02/11
Date Analyzed: 12/02/11
Date Printed: 12/02/11
First Reported: 12/02/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 17
Total Samples Analyzed: 15

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-11302011-B1	**11195460**	11/30/11	0.0	0.0	100	NA	NA	**NA**
Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.								
15953-11302011-B2	**11195461**	11/30/11	0.0	0.0	100	NA	NA	**NA**
Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.								
15953-11302011-A01	**11195462**	11/30/11	1433.7	4.5	100	0.002	0.005	**< 0.002**
15953-11302011-A02	**11195463**	11/30/11	1439.6	1.0	100	0.002	0.005	**< 0.002**
15953-11302011-A03	**11195464**	11/30/11	1392.4	0.0	100	0.002	0.005	**< 0.002**
15953-11302011-A04	**11195465**	11/30/11	0.0	0.0	100	NA	NA	**NA**
Comments: Not suitable for analysis. Sample overloaded with particulate.								
15953-11302011-A05	**11195466**	11/30/11	1362.9	13.5	100	0.002	0.011	**0.005**
15953-11302011-A06	**11195467**	11/30/11	1303.9	0.0	100	0.002	0.006	**< 0.002**
15953-11302011-A07	**11195468**	11/30/11	1256.7	2.0	100	0.002	0.006	**< 0.002**

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Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A132917
Date Received: 12/02/11
Date Analyzed: 12/02/11
Date Printed: 12/02/11
First Reported: 12/02/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 17
Total Samples Analyzed: 15

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-11302011-A08	**11195469**	11/30/11	1227.2	3.0	100	0.002	0.006	**< 0.002**
15953-11302011-B3	**11195470**	11/30/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-11302011-A09	**11195471**	11/30/11	1256.7	12.0	100	0.002	0.011	**0.005**
15953-11302011-A10	**11195472**	11/30/11	0.0	0.0	100	NA	NA	**NA**

Comments: Not suitable for analysis. Sample overloaded with particulate.

15953-11302011-A11	**11195473**	11/30/11	1221.3	17.5	100	0.002	0.016	**0.007**
15953-11302011-A12	**11195474**	11/30/11	1233.1	9.0	100	0.002	0.009	**0.004**

Comments: Filter loaded with particulate which may affect analytical result.

15953-11302011-C1	**11195475**	11/30/11	1155.0	0.0	100	0.002	0.006	**< 0.002**
15953-11302011-C2	**11195476**	11/30/11	1215.0	7.0	100	0.002	0.007	**0.003**

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Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A132917
Date Received: 12/02/11
Date Analyzed: 12/02/11
Date Printed: 12/02/11
First Reported: 12/02/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 17
Total Samples Analyzed: 15

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

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Per Robin
Change TAT
to same day
Apl

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TSK	PM: Robin Sharpe Date: 11/30/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☑ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ Rotometer / ☐ Bubble Burette / ☐ Dry Cell No:	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-11302011-B1	Blank										
15953-11302011-B2	Blank										
15953-11302011-AD1	Second Floor – outside of The Kitchen	☐ B ☒ R ☐ C	POHUP-05	5.9	5.9	5.9	1832	2235			
15953-11302011-AD2	Second Floor – By The museum	☐ B ☒ R ☐ C	POHUP 04	5.9	5.9	5.9	1837	2241			
AD3	Second Floor – At Stairs To The Attic	☐ B ☒ R ☐ C	POHUP 03	5.9	5.9	5.9	1840	2236			
AD4	Attic – Boiler Containment	☐ B ☒ R ☐ C	POHUP 01	5.9	5.9	5.9	1845	2244			
AD5	Attic – Central	☐ B ☒ R ☐ C	POHUP 08	5.9	5.9	5.9	1854	2245			
AD6	Attic – North	☐ B ☒ R ☐ C	POHUP 06	5.9	5.9	5.9	1905	2246			
AD7	Second Floor – outside of the Kitchen	☐ B ☒ R ☐ C	POHUP 05	5.9	5.9	5.9	2235	0208			
AD8	Second Floor – By The Museum	☐ B ☒ R ☐ C	POHUP 04	5.9	5.9	5.9	2241	0209			

Relinquished by: [signature]	Date & Time: 12/01/2011	Received by: [signature]	Date & Time: 12-2-11 @ 10:30 am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	Date & Time:	Received by:	Date & Time: Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TSK	PM: Robin Sharpe Date: 11/30/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☑ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☐ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☐ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-11302011-B3	Blank										
	Blank										
15953-11302011-AD9	Second Floor — At the stairs to the attic	☐ B ☑ R ☐ C	PO HVP 03	5.9	5.9	5.9	2236	0209			
AD10	Inside the Boiler Area Containment	☐ B ☑ R ☐ C	PO HVP 01	5.9	5.9	5.9	2244	0052			
AD11	Attic — Central	☐ B ☑ R ☐ C	PO HVP 08	5.9	5.9	5.9	2245	0212			
AD12	Attic — North	☐ B ☑ R ☐ C	PO HVP 06	5.9	5.9	5.9	2246	0215			
C1	Inside the Boiler area containment	☐ B ☐ R ☑ C	PO HVP 01	15.0	15.0	15.0	0054	0211			
C2	↓ ↓	☐ B ☐ R ☑ C	PO HVP 01	15.0	15.0	15.0	0235	0356			
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									

Relinquished by: [signature]	*Date & Time:* 12/01/2011	*Received by:* [signature]	*Date & Time:* 12-2-11 @ 10:30am Condition Acceptable ☑ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133359
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 21
Total Samples Analyzed: 19

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12012011-B1	**11198637**	12/01/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12012011-B2	**11198638**	12/01/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12012011-AD1	**11198639**	12/01/11	1191.8	0.0	100	0.002	0.006	**< 0.002**
15953-12012011-AD2	**11198640**	12/01/11	1185.9	8.5	100	0.002	0.009	**0.004**
15953-12012011-AD3	**11198641**	12/01/11	1174.1	8.0	100	0.002	0.009	**0.003**
15953-12012011-AD4	**11198642**	12/01/11	0.0	0.0	100	NA	NA	**NA**

Comments: Not suitable for analysis. Sample overloaded with particulate.

15953-12012011-AD5	**11198643**	12/01/11	1126.9	12.0	100	0.002	0.012	**0.005**
15953-12012011-AD6	**11198644**	12/01/11	1109.2	9.5	100	0.002	0.010	**0.004**
15953-12012011-AD7	**11198645**	12/01/11	1079.7	0.0	100	0.002	0.007	**< 0.002**

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Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133359
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 21
Total Samples Analyzed: 19

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12012011-AD8	**11198646**	12/01/11	1079.7	4.0	100	0.002	0.007	**< 0.002**
15953-12012011-B3	**11198647**	12/01/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12012011-AD9	**11198648**	12/01/11	1079.7	1.0	100	0.002	0.007	**< 0.002**
15953-12012011-AD10	**11198649**	12/01/11	0.0	0.0	100	NA	NA	**NA**

Comments: Not suitable for analysis. Sample overloaded with particulate.

15953-12012011-AD11	**11198650**	12/01/11	1079.7	7.0	100	0.002	0.008	**0.003**
15953-12012011-AD12	**11198651**	12/01/11	1073.8	5.0	100	0.003	0.007	**< 0.003**
15953-12012011-AD13	**11198652**	12/01/11	914.5	0.0	100	0.003	0.008	**< 0.003**
15953-12012011-AD14	**11198653**	12/01/11	926.3	3.0	100	0.003	0.008	**< 0.003**
15953-12012011-AD15	**11198654**	12/01/11	932.2	6.0	100	0.003	0.009	**0.003**
15953-12012011-AD16	**11198655**	12/01/11	117.6	5.0	100	0.023	0.063	**< 0.023**

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Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133359
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 21
Total Samples Analyzed: 19

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12012011-AD17	**11198656**	12/01/11	926.3	4.5	100	0.003	0.008	**< 0.003**
15953-12012011-AD18	**11198657**	12/01/11	932.2	0.0	100	0.003	0.008	**< 0.003**

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TSK	PM: Robin Sharpe, Date: 12/01/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☒ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-12012011-B1	Blank										
↓ ↓ B2	Blank										
15953-12012011-A01	2ND Floor - outside of The Kitchen	☐ B ☒ R ☐ C	Pump 05	5.9	5.9	5.9	1740	2102	1191.8		
A02	2ND Floor - at the Stairs to the Attic	☐ B ☒ R ☐ C	Pump 04	5.9	5.9	5.9	1741	2102	1185.9		
A03	2ND Floor - Museum	☐ B ☒ R ☐ C	Pump 03	5.9	5.9	5.9	1744	2103	1174.1		
A04	Inside the SW Attic Containment	☐ B ☒ R ☐ C	Pump 07	2.1	2.1	2.1	1753	2109	411.6		
A05	Attic - Central	☐ B ☒ R ☐ C	Pump 08	5.9	5.9	5.9	1759	2110	1126.9		
A06	Attic - North	☐ B ☒ R ☐ C	Pump 09	5.9	5.9	5.9	1804	2112	1109.2		
A07	2ND Floor - outside of The Kitchen	☐ B ☒ R ☐ C	Pump 05	5.9	5.9	5.9	2102	0005	1079.7		
A08	2ND Floor - The Stairs to The Attic	☐ B ☐ R ☐ C	Pump 04	5.9	5.9	5.9	2102	0005	1079.7		

Relinquished by: [signature]	*Date & Time:* 12/09/2011 RW	*Received by:* [signature]	*Date & Time:* 12/12/11 1030am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TSK	PM: Robin Sharpe Date: 12/01/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☒ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ Rotometer / ☐ Bubble Burette / ☐ Dry Cell No:	Code F:	Analyzed by: Date: Scope No.: [illegible]

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-120-2011-B3	Blank										
	Blank										
15953-120-2011-AD9	2nd Floor - museum	☐ B ☒ R ☐ C	PoHvP 03	5.9	5.9	5.9	2103	0006			
AD10	Attic - SW containment	☐ B ☒ R ☐ C	PoHvP 07	2.1	2.1	2.1	2109	0011			
AD11	Attic - central	☐ B ☒ R ☐ C	PoHvP 08	5.9	5.9	5.9	2110	0013			
AD12	Attic - North	☐ B ☒ R ☐ C	PoHvP 09	5.9	5.9	5.9	2112	0014			
AD13	2nd Floor - outside of the kitchen	☐ B ☒ R ☐ C	PoHvP 05	5.9	5.9	5.9	0005	0240			
14	2nd Floor at the stairs to the Attic	☐ B ☒ R ☐ C	PoHvP 04	5.9	5.9	5.9	0005	0242			
15	2nd Floor - museum	☐ B ☒ R ☐ C	PoHvP 03	5.8	5.9	5.9	0006	0244			
16	Attic - SW containment	☐ B ☒ R ☐ C	PoHvP 07	2.1	2.1	2.1	0011	0107			

Relinquished by: [signature]	Date & Time: 12/02/2011 1200	Received by: [signature]	Date & Time: 12/13/11 1000am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	Date & Time:	Received by:	Date & Time: Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TSK	PM: Robin Sharpe Date: 12/01/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☒ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
	Blank										
	Blank										
15953-12012011-A017	Attic - Central	☒ B ☐ R ☐ C	POHUD 08	5.9	5.9	5.9	0013	0250			
↓ ↓ A018	Attic - North	☒ B ☐ R ☐ C	POHUD 09	5.9	5.9	5.9	0014	0252			
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									

Relinquished by: [signature]	*Date & Time:* 12/04/2011	*Received by:* [signature]	*Date & Time:* 12/13/11 1030 Condition Acceptable ☐ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Project Manager
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133326
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12022011-B1	**11198432**	12/02/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12022011-B2	**11198433**	12/02/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12022011-AD1	**11198434**	12/02/11	1374.7	1.0	100	0.002	0.005	**< 0.002**
15953-12022011-AD2	**11198435**	12/02/11	1374.7	5.0	100	0.002	0.005	**< 0.002**
15953-12022011-AD3	**11198436**	12/02/11	1386.5	1.0	100	0.002	0.005	**< 0.002**
15953-12022011-AD4	**11198437**	12/02/11	1386.5	2.0	100	0.002	0.005	**< 0.002**
15953-12022011-AD5	**11198438**	12/02/11	1097.4	18.5	100	0.002	0.019	**0.008**
15953-12022011-AD6	**11198439**	12/02/11	1085.6	12.5	100	0.002	0.013	**0.006**
15953-12022011-AD7	**11198440**	12/02/11	1386.5	0.0	100	0.002	0.005	**< 0.002**

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Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Project Manager
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133326
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12022011-AD8	**11198441**	12/02/11	1386.5	1.0	100	0.002	0.005	**< 0.002**
15953-12022011-B3	**11198442**	12/02/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12022011-AD9	**11198443**	12/02/11	1368.8	0.5	100	0.002	0.005	**< 0.002**
15953-12022011-AD10	**11198444**	12/02/11	1374.7	2.5	100	0.002	0.005	**< 0.002**
15953-12022011-AD11	**11198445**	12/02/11	1374.7	4.0	100	0.002	0.005	**< 0.002**
15953-12022011-AD12	**11198446**	12/02/11	1362.9	0.0	100	0.002	0.005	**< 0.002**

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: TSK	PM: **Robin Sharpe** Date: 12/02/2011
Contact:	**Robin Sharpe** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	**1510 SE Water Ave.** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C3880** **FACS Job #:** **PJ15953**	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	~~Code F:~~	Analyzed by: ~~TSK~~ Date: ~~12/2/11~~ Scope No.: ~~CH2~~

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
152153-120220-B1	Blank										
B2	Blank										
A01	2nd Floor – Kitchen	☐ B ☐ R ☐ C	05	5.9	5.9	5.9	~~1840~~ 1822	2215			
A02	– at stairs To Attic	☐ B ☐ R ☐ C	04	5.9	5.9	5.9	1824	2217			
A03	– Museum	☐ B ☐ R ☐ C	03	5.9	5.9	5.9	1825	2220			
A04	Attic South	☐ B ☐ R ☐ C	07	5.9	5.9	5.9	1832	2227			
A05	Central	☐ B ☐ R ☐ C	08	5.9	5.9	5.9	1922	2228			
A06	North	☐ B ☐ R ☐ C	09	5.9	5.9	5.9	1926	2230			
A07	2nd Floor – outside of Kitch	☐ B ☐ R ☐ C	05	5.9	5.9	5.9	2215	0210			
A08	2nd Floor – @ Stairs to The Attic	☐ B ☐ R ☐ C	04	5.9	5.9	5.9	2217	0212			

Relinquished by: [signature]	*Date & Time:* 12/12/2011 1200	*Received by:* B Prasad	*Date & Time:* 12/12/11 1030 Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by:	PM: **Robin Sharpe** Date:
Contact:	**Robin Sharpe** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to rsharpe@forensica.com and rvclasquez@forensica.com
Site:	**1510 SE Water Ave.** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C3880** **FACS Job #: PJ15953**	Analysis:	☐ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-12022011-03	Blank										
	Blank										
A09	Second Floor – Museum	☐ B ☒ R ☐ C	05	5.9	5.9	5.9	2220	0212			
A010	Attic – South	☐ B ☒ R ☐ C	07	5.9	5.9	5.9	2227	0220			
A011	Attic central	☐ B ☒ R ☐ C	08	5.9	5.9	5.9	2228	0221			
A012	Attic north	☐ B ☒ R ☐ C	09	5.9	5.9	5.9	2230	0221			
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									

Relinquished by: [signature]	*Date & Time:* 12/13/2011 1200	*Received by:* [signature]	*Date & Time:* 12/13/12/0700 Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Project Manager
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133356
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 13
Total Samples Analyzed: 9

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12052011-B1	**11198599**	12/05/11	0.0	0.0	100	NA	NA	**NA**
Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.								
15953-12052011-B2	**11198600**	12/05/11	0.0	0.0	100	NA	NA	**NA**
Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.								
15953-12052011-AD1	**11198601**	12/05/11	826.0	11.5	100	0.003	0.016	**0.007**
15953-12052011-AD2	**11198602**	12/05/11	1215.4	23.0	100	0.002	0.021	**0.009**
15953-12052011-AD3	**11198603**	12/05/11	1215.4	16.5	100	0.002	0.015	**0.007**
15953-12052011-AD4	**11198604**	12/05/11	0.0	0.0	100	NA	NA	**NA**
Comments: Not suitable for analysis. Sample overloaded with particulate.								
15953-12052011-A7	**11198605**	12/05/11	1781.8	5.5	100	0.002	0.004	**< 0.002**
15953-12052011-A8	**11198606**	12/05/11	1952.9	26.0	100	0.001	0.014	**0.007**
15953-12052011-B3	**11198607**	12/05/11	0.0	2.0	100	NA	NA	**NA**
Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.								

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Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Project Manager
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133356
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 13
Total Samples Analyzed: 9

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12052011-AD9	**11198608**	12/05/11	1958.8	25.0	100	0.001	0.013	**0.006**
15953-12052011-AD10	**11198609**	12/05/11	0.0	0.0	100	NA	NA	**NA**
Comments: Not suitable for analysis. Sample overloaded with particulate.								
15953-12052011-AD11	**11198610**	12/05/11	0.0	0.0	100	NA	NA	**NA**
Comments: Not suitable for analysis. Sample overloaded with particulate.								
15953-12052011-AD12	**11198611**	12/05/11	0.0	0.0	100	NA	NA	**NA**
Comments: Not suitable for analysis. Sample overloaded with particulate.								

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TSK	PM: Robin Sharpe Date: 12/05/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☒ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-1205 2011-B1	Blank										
B2	Blank										
AD1	2nd Floor - Across From Lunch Room	☐ B ☒ R ☐ C	PHVP-05 05	5.9	5.9	5.9	1705	1925			
AD2	2nd Floor - Stairs to The Attic	☐ B ☒ R ☐ C	PHVP-03 04	5.9	5.9	5.9	1708	20:34			
AD3	2nd - Floor - Museum	☐ B ☒ R ☐ C	PHVP-04 03	5.9	5.9	5.9	1710	20:36			
AD4	Attic - South	☐ B ☒ R ☐ C	PHV 07	5.9	5.9	5.9	1720	20:38			
~~AD5~~	~~Attic - central~~	☐ B ☒ R ☐ C	~~PHV 08~~	~~5.9~~	~~5.9~~	~~5.9~~	~~1723~~	~~20:40~~		~~BAD~~	~~FIHER~~
AD6	Attic - North	☐ B ☒ R ☐ C	PHV 09	5.9	~~5.9~~ 0	~~5.9~~ 0	1727	20:45	Pump found unplugged	VOID	
A7	Second Floor - outside of Kitchen	☐ B ☒ R ☐ C	05	5.9	5.9	5.9	19:25	0027			
A8	2nd fl - Stairs to Attic	☐ B ☒ R ☐ C	04	5.9	5.9	5.9	20:34	0205			

Relinquished by: [signature]	*Date & Time:* 12/08/2011 1200	*Received by:* [signature]	*Date & Time:* 12/13/11 1030am HE Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: TSK	PM: **Robin.Sharpe** Date: 12/05/2011
Contact:	**Robin Sharpe** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	**1510 SE Water Ave.** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C3880** **FACS Job #:** **PJ15953**	Analysis:	☐ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-120511-32	Blank										
	Blank										
15953-120511-AD9	2nd floor - museum	☐ B ☐ R ☐ C	03	5.9	5.9	5.9	20:36	02:08			
AD10	Attic - South	☐ B ☐ R ☐ C	07	5.9	5.9	5.9	20:38	02:28			
AD11	Attic - Central	☐ B ☐ R ☐ C	08	5.9	5.9	5.9	20:40	02:30			
AD12	Attic - North	☐ B ☐ R ☐ C	09	5.9	5.9	5.9	20:45	02:31			
~~AD13~~		☐ B ☐ R ☐ C									
~~AD14~~		☐ B ☐ R ☐ C									
~~AD15~~		☐ B ☐ R ☐ C									
~~AD16~~		☐ B ☐ R ☐ C									

Relinquished by:	*Date & Time:* 12/14/2011 1200	*Received by:*	*Date & Time:* 12/13/11 1630 Condition Acceptable ☑ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133357
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 12
Total Samples Analyzed: 11

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12062011-B1	**11198612**	12/06/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12062011-B2	**11198613**	12/06/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12062011-AD1	**11198614**	12/06/11	1480.9	3.5	100	0.002	0.005	**< 0.002**
15953-12062011-AD2	**11198615**	12/06/11	1463.2	0.0	100	0.002	0.005	**< 0.002**
15953-12062011-AD3	**11198616**	12/06/11	1410.1	3.0	100	0.002	0.005	**< 0.002**
15953-12062011-AD5	**11198617**	12/06/11	1475.0	6.0	100	0.002	0.005	**0.002**
15953-12062011-AD6	**11198618**	12/06/11	1480.9	1.0	100	0.002	0.005	**< 0.002**
15953-12062011-AD7	**11198619**	12/06/11	1357.0	0.0	100	0.002	0.005	**< 0.002**
15953-12062011-AD8	**11198620**	12/06/11	1345.2	2.0	100	0.002	0.006	**< 0.002**

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Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133357
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 12
Total Samples Analyzed: 11

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12062011-AD11	**11198622**	12/06/11	802.4	0.0	100	0.003	0.009	**< 0.003**
15953-12062011-C1	**11198623**	12/06/11	1230.0	5.0	100	0.002	0.006	**< 0.002**

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: TSK	PM: **Robin Sharpe** Date: 12/06/2011
Contact:	**Robin Sharpe** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	**1510 SE Water Ave.** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☒ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C3880** FACS Job #: **PJ15953**	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-120620 11-B1	Blank										
B2	Blank										
A01	2nd Floor - outside of Kitchen	☐ B ☒ R ☐ C	05	5.9	5.9	5.9	1804	2215			
A02	2nd Floor - @ stairs to the Attic	☐ B ☒ R ☐ C	04	5.9	5.9	5.9	1809	2217			
A03	2nd Floor - museum	☐ B ☒ R ☐ C	03	5.9	5.9	5.9	1951	2250			
A04	Attic - south	☐ B ☒ R ☐ C	07	5.9	5.9	5.9	1834	2246	No Filter	In cassette	
A05	Attic - center	☐ B ☒ R ☐ C	08	5.9	5.9	5.9	1836	2246			
A06	Attic - North	☐ B ☒ R ☐ C	09	5.9	5.9	5.9	1836	2247			
A07	2nd Floor - across from Kitchen	☒ B ☐ R ☐ C	05	5.9	5.9	5.9	2215	0209			
A08	2nd Floor - @ stairs to the attic	☐ B ☐ R ☐ C	04	5.9	5.9	5.9	2217	0205			

Relinquished by: [signature]	*Date & Time:* 12/06/2011 1200	*Received by:* [signature]	*Date & Time:* 12/13/11 10:30am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TJK	PM: Robin Sharpe, Date: 12/06/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☑ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☐ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☑ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
	Blank										
	Blank										
A09	Attic, South	B ☑ R C	07	5.9	5.9	5.9	2246	0210	overloaded	not submitted	
A010	Attic, Central	B ☑ R C	08	5.9	5.9	5.9	2246	0211	↓	↓	↓
A011	2nd Floor Museum	B ☑ R C	03	5.9	5.9	5.9	2350	0206			
C1	Attic ~ SW Containment	B R ☑ C	09	12.3	12.3	12.3	0040	0220			
		B R C									
		B R C									
		B R C									
		B R C									

Relinquished by: [signature]	*Date & Time:* 12/09/2011 1200	*Received by:* [signature]	*Date & Time:* 12/12/11 0900 Condition Acceptable ☑ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133358
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 13
Total Samples Analyzed: 13

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12072011-B1	**11198624**	12/07/11	0.0	1.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12072011-B2	**11198625**	12/07/11	0.0	2.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12072011-AD1	**11198626**	12/07/11	1563.5	4.5	100	0.002	0.005	**< 0.002**
15953-12072011-AD2	**11198627**	12/07/11	1557.6	10.0	100	0.002	0.007	**0.003**
15953-12072011-AD3	**11198628**	12/07/11	1616.6	23.0	100	0.002	0.015	**0.007**
15953-12072011-AD4	**11198629**	12/07/11	1581.2	2.5	100	0.002	0.005	**< 0.002**
15953-12072011-C1	**11198630**	12/07/11	1242.3	2.0	100	0.002	0.006	**< 0.002**
15953-12072011-AD5	**11198631**	12/07/11	1610.7	3.0	100	0.002	0.005	**< 0.002**
15953-12072011-AD6	**11198632**	12/07/11	1510.4	3.0	100	0.002	0.005	**< 0.002**

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Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133358
Date Received: 12/13/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 13
Total Samples Analyzed: 13

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12072011-AD7	**11198633**	12/07/11	1504.5	10.0	100	0.002	0.007	**0.003**
15953-12072011-AD8	**11198634**	12/07/11	1451.4	8.0	100	0.002	0.006	**0.002**
15953-12072011-AD9	**11198635**	12/07/11	1457.3	8.0	100	0.002	0.006	**0.002**
15953-12072011-AD10	**11198636**	12/07/11	1386.5	3.5	100	0.002	0.005	**< 0.002**

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: TS K PM: **Robin Sharpe**	Date: 12/07/2011
Contact:	**Robin Sharpe** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	**1510 SE Water Ave.** **Portland OR 97214**	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☑ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	**C3880** **FACS Job #: PJ15953**	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-12072011-B1	Blank										
B2	Blank										
A01	2nd Floor – access from the Kitchen	☐ B ☑ R ☐ C	05	5.9	5.9	5.9	1745	2210			
A02	2nd Floor – at stairs to attic	☐ B ☑ R ☐ C	04	5.9	5.9	5.9	1747	2211			
A03	Attic, South	☐ B ☑ R ☐ C	07	5.9	5.9	5.9	1758	2232			
A04	Attic Central	☐ B ☑ R ☐ C	08	5.9	5.9	5.9	1804	2232			
C1	Attic NW Compartment	☐ B ☐ R ☑ C	09	12.3	12.3	12.3	2230	0011			
A05	2nd Floor museum	☐ B ☒ R ☐ C	03	5.9	5.9	5.9	1800	2233			
A06	2nd Floor – access from the Kitchen	☐ B ☒ R ☐ C	05	5.9	5.9	5.9	2216	0226			
A07	2nd Floor – @ the Base of the Stairs.	☐ B ☒ R ☐ C	04	5.9	5.9	5.9	2211	0226			

Relinquished by: [signature]	*Date & Time:* 12/08/2011 12:00	*Received by:* [signature]	*Date & Time:* 12/12/11 10:30 am FIE Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: TSK	PM: Robin Sharpe Date: 12/07/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☐ 2-Day ☐ 3-Day ☒ 5-Day ☐ Other ☐ Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☐ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ Rotometer / ☐ Bubble Burette / ☐ Dry Cell No:	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
	Blank										
	Blank										
A09	attic south	☐ B ☒ R ☐ C	07	5.9	5.9	5.9	2232	0238			
A09	Attic Central	☐ B ☒ R ☐ C	08	5.9	5.9	5.9	2232	0239			
A010	2nd Floor Museum	☐ B ☒ R ☐ C	03	5.9	5.9	5.9	2233	0228			
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									
		☐ B ☐ R ☐ C									

Relinquished by: Todd [signature]	Date & Time: 12/08/2011 1200	Received by: B Prunnel	Date & Time: 12/13/11 1030 am Condition Acceptable ☐ Yes ☐ No
Relinquished by:	Date & Time:	Received by:	Date & Time: Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133424
Date Received: 12/15/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 18
Total Samples Analyzed: 18

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12082011-B1	**11199086**	12/08/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12082011-B2	**11199087**	12/08/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12082011-A01	**11199088**	12/08/11	1439.6	1.0	100	0.002	0.005	**< 0.002**
15953-12082011-A02	**11199089**	12/08/11	1416.0	2.5	100	0.002	0.005	**< 0.002**
15953-12082011-A03	**11199090**	12/08/11	1410.1	1.0	100	0.002	0.005	**< 0.002**
15953-12082011-A04	**11199091**	12/08/11	1362.9	10.5	100	0.002	0.009	**0.004**
15953-12082011-A05	**11199092**	12/08/11	1333.4	2.0	100	0.002	0.006	**< 0.002**
15953-12082011-A06	**11199093**	12/08/11	1598.9	0.0	100	0.002	0.005	**< 0.002**
15953-12082011-A07	**11199094**	12/08/11	1598.9	12.0	100	0.002	0.009	**0.004**

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Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133424
Date Received: 12/15/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 18
Total Samples Analyzed: 18

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**
15953-12082011-A08	**11199095**	12/08/11	1598.9	3.0	100	0.002	0.005	**< 0.002**
15953-12082011-B3	**11199096**	12/08/11	0.0	0.0	100	NA	NA	**NA**

Comments: This result was used to blank correct the other samples on this report. Blank filters are reported only as number of fibers and fields counted.

15953-12082011-A09	**11199097**	12/08/11	1616.6	2.5	100	0.002	0.005	**< 0.002**
15953-12082011-A10	**11199098**	12/08/11	1610.7	1.0	100	0.002	0.005	**< 0.002**
15953-12082011-C1	**11199099**	12/08/11	1110.0	1.0	100	0.002	0.007	**< 0.002**
15953-12082011-C2	**11199100**	12/08/11	1110.0	1.0	100	0.002	0.007	**< 0.002**
15953-12082011-C3	**11199101**	12/08/11	1080.0	0.0	100	0.002	0.007	**< 0.002**
15953-12082011-C4	**11199102**	12/08/11	1050.0	0.0	100	0.003	0.007	**< 0.003**
15953-12082011-C5	**11199103**	12/08/11	1005.0	4.0	100	0.003	0.007	**< 0.003**

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Forensic Analytical Laboratories

Final Report

Airborne Fiber Analysis

NIOSH 7400 Method, Issue 2, 15 August 1994, counting rules 'A'

Forensic Analytical Consulting Svcs
Robin Sharpe
17400 SW Upper Boones Ferry Rd
Suite 245
Durham, OR 97224

Client ID: PE21
Report Number: A133424
Date Received: 12/15/11
Date Analyzed: 12/16/11
Date Printed: 12/16/11
First Reported: 12/16/11

Job ID/Site: PJ15953; 1510 SE Water Ave. Portland OR 97214

FALI Job ID: PE21
Total Samples Submitted: 18
Total Samples Analyzed: 18

Sample ID	Lab Number	Date Collected	Volume (L)	Fibers	Fields	LOD F/cc	95% UCL	**Fibers/cc**

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

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Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	PE21 FACS Portland Portland General Electric	Sampled by: BR	PM: Robin Sharpe Date: 12/08/2011
Contact:	Robin Sharpe Phone: (503) 595-1001	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	1510 SE Water Ave. Portland OR 97214	Turnaround Time:	1-Day ☒ / 2-Day ☐ / 3-Day ☐ / 5-Day ☐ / Other ☐ / Due Date and Time:
Client No.:	C3880 FACS Job #: PJ15953	Analysis:	☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☒ Rotometer / ☐ Bubble Burette / ☐ Dry Cell No:	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-120811-B1	Blank										
B2	Blank										
AD1	2nd Floor - across from the Kitchen	B ☐ R ☒ C ☐	05 ~~5.9~~	5.9	5.9	5.9	1745	2147			
AD2	2nd Floor Attic stairs	B ☐ R ☒ C ☐	04 ~~5.9~~	5.9	5.9	5.9	1747	2147			
AD3	2nd Floor - Museum	B ☐ R ☒ C ☐	03 ~~5.9~~	5.9	5.9	5.9	1750	2149			
AD4	Attic South	B ☐ R ☒ C ☐	01 ~~5.9~~	5.9	5.9	5.9	1801	2152			
AD5	Attic Central	B ☐ R ☒ C ☐	02 ~~5.9~~	5.9	5.9	5.9	1807	2159			
AD6	2nd Floor - across from the Kitchen	B ☐ R ☒ C ☐	05	5.9	5.9	5.9	2147	0218			
AD7	2nd Floor - @ stairs to the Attic	B ☐ R ☒ C ☐	04	5.9	5.9	5.9	2147	0218			
AD8	2nd Floor Museum	B ☐ R ☒ C ☐	03	5.9	5.9	5.9	2149	0220			

Relinquished by:	Date & Time: 12/14/2011 1400	Received by:	Date & Time: 12-13-11 @ 11:30am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	Date & Time:	Received by:	Date & Time: Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

Forensic Analytical
ENVIRONMENTAL HEALTH CONSULTANTS

AIR SAMPLE REQUEST FORM

Client:	**PE21 FACS Portland** **Portland General Electric**	Sampled by: JSK	PM: **Robin Sharpe** Date: 12/08/2011
Contact:	**Robin Sharpe** Phone: **(503) 595-1001**	Special Instructions:	E-mail results to rsharpe@forensica.com and rvelasquez@forensica.com
Site:	**1510 SE Water Ave.** **Portland OR 97214**	Turnaround Time:	1-Day ☒ / 2-Day ☐ / 3-Day ☐ / 5-Day ☐ / Other ☐ / Due Date and Time:
Client No.:	**C3880**	**FACS Job #:** **PJ15953**	Analysis: ☒ PCM / ☐ TEM: AHERA / ☐ Yamate II / ☐ NIOSH 7402 / ☐ Metals: Pb / ☐ Other:
Calibration:	☐ *Rotometer* / ☐ *Bubble Burette* / ☐ *Dry Cell No:*	Code F:	Analyzed by: Date: Scope No.:

Sample No.	Sample Location	Type	Pump ID	LPM Start	LPM End	LPM Average	Time On	Time Off	Total Volume	Fiber / Field	Fiber / CC
15953-M082011-B	Blank										
	Blank										
A09	Attic - South	☐ B ☒ R ☐ C	07	5.9	5.9	5.9	2152	0226			
A10	Attic central	☐ B ☒ R ☐ C	08	5.9	5.9	5.9	2153	0226			
C1	Attic SE	☐ B ☐ R ☒ C	07	15.0	15.0	15.0	0231	0345			
C2	Attic SW	☐ B ☐ R ☒ C	08	15.0	15.0	15.0	0233	0347			
C3	Attic central	☐ B ☐ R ☒ C	03	15.0	15.0	15.0	0235	0347			
C4	Attic NW	☐ B ☐ R ☒ C	04	15.0	15.0	15.0	0237	0352			
C5	Attic NE	☐ B ☐ R ☒ C	09	15.0	15.0	15.0	0241	0348			
		☐ B ☐ R ☐ C									

Relinquished by:	*Date & Time:* 12/12/2011 1100	*Received by:*	*Date & Time:* 12-13-11 @ 11:30am Condition Acceptable ☒ Yes ☐ No
Relinquished by:	*Date & Time:*	*Received by:*	*Date & Time:* Condition Acceptable ☐ Yes ☐ No

* B - Background R - Removal C - Clearance

SECTION 2

SECTION 3

SECTION 4

SECTION 5

Photo #01 – Post Abatement, North

Photo #02 – Post Abatement, Northeast

Photo #03 – Attic, Post Abatement, Northwest

Photo #04 – Attic, Post Abatement, North Caged Area

Photo #05 – Attic, Post Abatement, Central (Facing North)

Photo #06 – Attic, Post Abatement, South

Photo #07 – Attic, Post Abatement, Southwest

Photo #08 – Attic, Post Abatement, South Caged Area

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