PHASE II REMOVAL SITE EVALUATION

Colville Post and Pole
Stevens County, Washington

Prepared for

U.S. Environmental Protection Agency – Region 10

December 2005

HERRERA
ENVIRONMENTAL
CONSULTANTS

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Prepared for

U.S. Environmental Protection Agency – Region 10
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Work for this investigation was performed in accordance with generally accepted professional standards and practices for the type of work performed. While information regarding subsurface conditions, including soil and ground water quality, is believed to be generally representative of conditions at the site, conditions may change within short distances. Additional subsurface materials and contaminants may be present at locations not investigated during this study.

Bruce A. Carpenter, Washington State Licensed Geologist, No. 1328

Introduction

The U.S. Environmental Protection Agency (EPA) tasked the Herrera Environmental Consultants Inc. (Herrera) Superfund Technical Assessment and Response Team (START) under Technical Direction Document (TDD) 05-03-0009 to provide natural resources technical support and a Phase II assessment of the risks associated with the Colville Post and Pole site, located in Stevens County near Colville, Washington (Figure 1). This work was the second assessment at the site; the first Removal Site Evaluation was conducted in the fall of 2002 under TDD 02-06-0006 (Herrera 2003).

The purpose of natural resources technical support was to facilitate consultation between EPA and the U.S. Army Corps of Engineers (USACE) and Fish and Wildlife Service by conducting a wetland delineation and drafting a Biological Assessment in anticipation of future Removal Action activities at the site. The purpose of the Phase II assessment activities was to further characterize surface and subsurface soils in the South Stockpile Area, North Stockpile Area, and Process Area; characterize the waste wood chip and sawdust pile; characterize ground water quality; and determine the local ground water flow and direction. Immunoassay field screening was performed during assessment activities to identify areas for further study while in the field. In addition, immunoassay field screening was performed to evaluate its applicability to monitoring site conditions during future removal activities.

EPA tasked the Environmental Response Team (ERT) and their Response Engineering and Analytical Contract (REAC) contractor, as well as the Region 10 Environmental Services Assistance Team (ESAT), to provide support services during Phase II assessment field work activities. START personnel observed and documented site conditions; conducted a push probe investigation with support from ESAT; sampled surface soils, subsurface soils, ground water, and sediment; and conducted field screening analysis. The ERT conducted a geophysical survey; sampled surface soil and subsurface soils; and installed monitoring wells. A bench test of onsite soils for bioremediation treatment is also currently being conducted by ERT in anticipation of future Removal Action activities.

The START mobilized to the site on June 12, 2005 and conducted field work activities through June 18, 2005. The ERT, REAC, and ESAT mobilized to the site on June 11 and 12, 2005 and conducted field work activities through June 17, 2005.

Site Description and History

Site Location

- Site Name—Colville Post and Pole Site
- Site Location—369 Highway 395 North, Colville, Stevens County, Washington 99114
- Site Owner—Eugene Spring, P.O. Box 535, Colville, Washington 99114
- CERCLIS ID No. —WAD988518106
- Latitude—48˚34'60" N
- Longitude—117˚57'43" W
- Legal Description—southwest of U.S. Highway 395, northeast ¼ of the northeast ¼, Section 36, Township 36N, Range 38E of the Willamette Meridian.

Site Setting and History

The Colville Post and Pole site is a 27-acre former wood treatment facility located approximately 4 miles northwest of Colville, Washington (Figure 1). The property is surrounded by rural and semi-rural properties and bordered by the BNSF Railway Company railroad and U.S. Highway 395 on the north, the Clauser property to the west, the Delvin Hill property on the south, and a residential property across the highway to the east; a removal action was recently conducted at the Bonanza Mill site to the southeast (Figure 2). The site drains ultimately to the Colville River from a series of constructed and natural ditches located across the property. Stormwater from a culvert that conveys water from a ditch that parallels the site discharges to a pond located west of the treatment pad; however, runoff from the undiked areas around the process tanks also discharges to the onsite drainage. Historically, excess water in the pond was broadcast in the fields surrounding the process area (Herrera 2003).

Colville Post and Pole operated as a wood treating facility at this location since the 1940s until primary wood treatment operations were shut down in late 2004 and then ceased entirely by January 1, 2005. The facility is currently comprised mainly of the former process area where the majority of day-to-day operations occurred, large open areas to the north and south used to store treated wood and incidental items, and a large triangle-shaped area to the southwest that remains undeveloped and provides a buffer between the facility and the Colville River (Figure 2). For

complete site ownership and process history, please refer to the first Removal Site Evaluation report (Herrera 2003).

Generalized Geology and Hydrogeology

The site is located at an elevation of approximately 1,540 feet above mean sea level in the Colville Valley, a broad valley formed by glacio-fluvial activity. The generalized hydrogeologic framework for the valley includes an unconfined aquifer situated in sand and gravel deposits discharging to the Colville River, underlain by clay over 380 feet thick near the center of the valley. This clay, associated with an historic glacial lake, serves as an aquiclude, impeding downward migration of ground water. The confined sand and gravel aquifer below the clay layer is likely interconnected with an underlying bedrock aquifer, recharged through bedrock exposed at the valley flanks (Joseph 1990).

Twenty-two push-probe borings were completed on site during the first Removal Site Evaluation to determine site surficial geology and ground water quality. In general, the local surficial geology is a mixture of fill material, sands, and gravels encountered in the first 10 feet below ground surface (bgs), and silty clay encountered between 10 and 25 feet bgs. Static water was observed at approximately 6 to 10 feet bgs; however, no information was available regarding ground water flow direction.

A description of regional and site geology and hydrogeology is available in the first Removal Site Evaluation report (Herrera 2003); additional Phase II assessment information is located in the section entitled "Site-wide Summary of Ground Water Sampling Results" of the Laboratory Methods and Sample Results section of this report.

Previous Investigations

Previous investigations began in 1991 with a limited site assessment and soil excavation as a result of an above ground storage (AST) release. Multiple investigations of known and suspected releases have been conducted since 1991 by the site owner or regulatory agency. The primary contaminant of concern identified was pentachlorophenol (PCP), although other semi-volatile organic compounds (SVOCs), metals, and petroleum products were detected in the Process Area. For detailed information concerning previous investigations conducted prior to 2002, please refer to the first Removal Site Evaluation report (Herrera 2003).

In January 2005, the START was tasked to provide documentation and sampling in support of an integrated time-critical Removal Action and Site Assessment under TDD 04-12-0022. The purpose of the work was to document time-critical removal activities and provide source and target information for Hazard Ranking System (HRS) scoring requirements. The Removal Action objective was to stabilize the site by removing product within the Process Area treatment tanks, ASTs, and associated sumps and piping.

The summary of process product and waste removed included:

- 715 gallons of PCP treating solution
- 1,375 gallons of PCP sludge
- 800 pounds of PCP-contaminated soil
- 1,200 gallons of PCP-contaminated wastewater.

In addition, 46 wipe samples were collected to determine the presence of PCP contamination on items the owner could have sold to the public.

Sampling in support of HRS scoring indicated elevated concentrations of PCP found at all surface soil locations (ranging from 241 to 25,500 micrograms per kilogram [µg/kg]). Three surface sediment samples collected along the surface water drainage pathway to the river contained elevated concentrations of PCP (ranging from 45.3 to 2,520 µg/kg). Elevated levels of several SVOCs were detected in surface and sediment samples collected across the site. For further details, please refer to the Technical Report (Herrera 2005a).

In anticipation of future Removal Action activities at the site, in April 2005 the START also provided natural resources support to EPA. The preferred alternative identified in the 2003 Removal Site Evaluation report suggested actions in the Drainage Area may impact USACE-regulated wetlands. START biologists conducted a wetland delineation at the site in May 2005 and determined that one relatively undisturbed native wetland exists onsite with a hydraulic connection to the Colville River. The wetland would likely be regulated by the USACE during future actions. For further details, please refer to the Wetland Delineation Report (Herrera 2005b).

START biologists also provided technical support to EPA's formal consultation with the U.S. Fish and Wildlife Service. A list of threatened or endangered species was obtained by EPA and a Biological Assessment was drafted in anticipation of further Removal Action activities for 2005, both to be completed at a later date.

Field Observations

Decision Areas

Decision Areas were identified during the 2002 Removal Site Evaluation as portions of the site segregated for convenience of conducting independent assessment activities. The four Decision Areas were designated as the Process Area, North Stockpile Area, South Stockpile Area, and Drainage Area (Figure 2), based on observed and potential contamination impacts, land use, sampling strategies, and mitigation options.

During the Phase II Removal Site Evaluation, activities in the Drainage Area were limited to sampling for Site Assessment HRS scoring purposes. These activities are documented separately in log books and photographs provided to EPA; therefore, the Decision Area will not be discussed in this report. Photographic documentation is provided in Appendix A.

Process Area

The Process Area has not changed significantly since the January 2005 Removal Action when all product was removed from process vessels and piping and the empty AST tanks were cut in two and placed upside down on the drip pad. The Process Area is currently surrounded by chain link fence and occupied by the treatment building and tanks, boiler shed, drip pad system, and the machine shop. The adjacent peeler and chamfering machine shop, power equipment and transformers, and office were removed by the property owner prior to Phase II field activities.

Investigation-derived waste from the January 2005 Removal Action is also located on the drip pad, stored in 55-gallon drums.

North Stockpile Area

The North Stockpile Area was generally cleared by the property owner of all wood, timbers, and abandoned mill equipment and vehicles observed during previous investigations. The peeler and associated electrical equipment were also removed.

South Stockpile Area

The South Stockpile Area was generally cleared of all wood, timbers, and abandoned mill equipment and vehicles observed during previous investigations. The wood chip and sawdust pile did not appear to have been disturbed since the January 2005 Removal Action.

Geophysical Survey

The Response Engineering and Analytical Contract (REAC) provided support to the ERT by conducting surface geophysical surveys to locate buried metallic objects throughout the North and South Stockpile Areas from June 12 through June 14, 2005. Surveys were conducted using two types of electromagnetic (EM) instruments: a Geonics™ EM31 terrain conductivity meter and a Geonics™ EM61 high sensitivity metal detector. A copy of the report provided by REAC is included in Appendix B.

Methodology

The geophysical survey grid in the South Stockpile Area (Appendix B; Figure 2) was laid out with an east-west base-line and north-south survey lines spaced at 5 foot intervals. The EM-61 was employed in wheel mode to automatically collect readings at 0.6 foot intervals. The EM-31 was manually triggered to collect data along the survey lines at 2.5 foot intervals.

The geophysical survey grid in the North Stockpile Area (Appendix B; Figure 3) was laid out with an east-west base-line and north-south survey lines spaced at 10-foot intervals. The EM-61 was employed in wheel mode to automatically collect readings at 0.6-foot intervals. The EM-31 was manually triggered to collect data along the survey lines at 2.5-foot intervals. The area surveyed was interrupted with numerous objects such as steel tanks and beams, large logs, and concrete blocks, which account for large gaps in data collection. Coordinates were noted for all above ground metal, to eliminate those anomalies from the final plot.

Results

From the results of the EM-61 data plot, two anomalies (A and B) were located in the South Stockpile Area (Figure 2; Appendix B). The larger anomaly (B), located on the northern edge of the South Stockpile Area, was excavated to reveal numerous pieces of scrap metal at approximately 5 feet bgs; the top 4 feet consisted of wood chip debris. The excavation for the second anomaly (A) was dug to 4 feet and no metal was found. Based on the magnitude of the response and findings of anomaly A, no other areas in the South Stockpile Area were deemed worthy of excavation by the Region 10 On-Scene Coordinator (OSC).

After review of the North Stockpile Area and ground truthing of the surface metal, it was concluded that no anomalies required excavation.

Sample Collection Methods and Locations

Surface soil, subsurface soil, and ground water samples were collected according to detailed Standard Operating Procedures (SOPs) presented in the Colville Post and Pole Phase II Removal Site Evaluation SSSP. Soil samples were collected from hollow-stem auger split spoon samplers, from push-probe piston-type samplers, or from excavated pits with dedicated sampling equipment. Ground water samples were collected using peristaltic pumps with dedicated tubing. In general, the following number of samples were collected at each sample location:

- One surface soil sample collected from 0-6 inches bgs
- One subsurface soil sample collected at the saturation zone (soil-water interface)
- One ground water sample collected near the top of the water column.

Additional subsurface soil or ground water samples may have been collected from unique soil horizons observed during the logging of soil borings. In the event that a surface soil sample was unable to be collected due to surface debris (i.e., wood chips) or poor recovery in the push-probe sample sleeve, a subsurface soil sample was collected from the next interval. Soil boring logs for monitoring well locations are presented in Appendix B; soil boring logs for push-probe locations are presented in Appendix C.

After surface soil, subsurface soil, and ground water samples were collected for PCP immunoassay kit screening, additional volumes were placed in sample containers according to SOPs outlined in the SSSP. To determine the accuracy of the immunoassay kit as a screening tool for PCP, and to identify additional contaminants of concern (i.e., dioxins/furans, TPH, and other SVOCs), confirmation samples were submitted for laboratory analysis.

The total number and description of surface soil, subsurface soil, and ground water samples collected at each Decision Area is presented below.

Process Area

A total of three push-probe locations (PAP11, PAP12, and PAP13) were established in and adjacent to the Process Area based on the distribution of PCP concentrations determined from the 2002 Removal Site Evaluation (Herrera 2003) and 2005 Removal Action (Herrera 2005a) (Figure 3). The following number of samples were collected and screened for PCP:

- Three surface soil samples
- Six subsurface soil samples
- Four ground water samples (from three locations).

The following number of samples were submitted to the laboratory for analysis:

- Three surface soil samples (100 percent) for SVOC analysis
- Six subsurface soil samples (100 percent) for PCP analysis
- Three surface soil samples (100 percent) and three subsurface soil samples (50 percent) for TPH analysis
- One ground water sample from each location for SVOC and TPH analyses.

North Stockpile Area

A total of four push-probe locations (NAP07, NAP08, NAP09, and NAP10) and four monitoring well locations (NAW01, NAW04, NAW05, and NAW06) were established in the North Stockpile Area based on the distribution of PCP concentrations determined from the 2002 Removal Site Evaluation (Herrera 2003) and 2005 Removal Action (Herrera 2005a) (Figure 3). The following number of samples were collected and screened for PCP:

- Eight surface soil samples
- Nine subsurface soil samples
- Eight ground water samples.

The following number of samples were submitted to the laboratory for analysis:

- Eight surface soil samples (100 percent) for SVOC and dioxin/furan analyses
- Three of the eight surface soil samples (38 percent) for TPH analysis
- One of the nine subsurface soil samples (11 percent) for PCP analysis
- Eight ground water samples (100 percent) for SVOC and TPH analyses.

South Stockpile Area

A total of six push-probe locations (SAP01, SAP02, SAP03, SAP04, SAP05, and SAP06), four monitoring well locations (SAW02, SAW03, SAW07, and SAW08), and four additional subsurface soil locations (SAH05, SAH06, SAH07, and SAH08) were established in the South Stockpile Area based on the distribution of PCP concentrations determined from the 2002 Removal Site Evaluation (Herrera 2003) and 2005 Removal Action (Herrera 2005a) (Figure 3).

Additionally, three ground water samples from existing monitoring well locations (MW-1, MW-2, and MW-4) were collected and screened for PCP. The following number of samples were collected and screened for PCP:

- Four surface soil samples
- Twenty-one subsurface samples
- Thirteen ground water samples.

The following number of samples were submitted to the laboratory for analysis:

- Three of the four surface soil samples (75 percent) for SVOC analysis
- Two of the four surface soil samples (50 percent) for dioxin/furans analysis
- One of the four surface soil samples (25 percent) for TPH analysis
- Fourteen of the 21 subsurface soil samples (67 percent) for PCP analysis
- Three of the 21 subsurface samples (14 percent) for TPH analysis
- Thirteen ground water samples (100 percent) for SVOC and PCP analysis.

Investigation Derived Waste

All wastes, including purge water, drill cuttings, personal protective equipment, and field test kit wastes generated during this investigation were placed in 55-gallon drums and marked accordingly. The 55-gallon drums were stored on site in the Process Area. A 6-foot-high security fence with pad lock surrounds the Process Area. Disposal of investigation-derived waste will be arranged based on analytical results contained within this report.

Immunoassay Field Screening Methods and Results

Immunoassay field screening was performed at the site to identify areas for further study while in the field and to evaluate its applicability to monitoring site conditions during future removal activities. This was performed using laboratory confirmation analysis for comparison purposes (see Appendix D).

The PCP immunoassay kit provides real-time data for determining general PCP contamination levels in soil and ground water samples. It was used during the Phase II Removal Site Evaluation in accordance with the manufacturers directions and with the Site-Specific Sampling Plan (Herrera 2005c).

Initial screening locations were based on data gaps identified following the 2003 RSE and the 2005 RA. Those data gaps included current site ground water conditions (i.e., flow direction and depth to ground water), the potential for additional contaminant sources in the North Stockpile Decision Area and in the vicinity of the wood chip pile in the South Stockpile Decision Area, and extent of soil and ground water contamination in these areas. A total of 51 soil samples and 24 ground water samples were screened using the immunoassay kit during Phase II field activities. A total of 42 soil samples previously had been screened using the immunoassay kit during the 2005 RA. A statistical analysis of both data sets was performed to evaluate its applicability to monitoring site conditions during future removal activities (Appendix D). This analysis determined that the 2005 RA data set was not comparable to laboratory results, but that the 2005 RSE data set was comparable to laboratory results. The immunoassay field screening kit can be used during future removal activities to provide reliable soil results for concentrations ranging from 0 to 20 ppm when used according to the manufacturer's instructions. However, results of immunoassay field screening kit results for water at the site should be used with caution (see Appendix D).

Detected concentrations of PCP in soil were compared to the EPA Region 9 Preliminary Goal (PRG) soil screening level of 3 mg/kg (EPA 2004) to identify additional potential areas for further study while in the field. Immunoassay measurements exceeding the 3 mg/kg screening level were found at the following locations:

- PAP11 in surface soil (9.1 ppm) and in subsurface soil (16 ppm at 11 feet bgs)
- PAP12 in surface soil (7.0 ppm)
- PAP13 in surface soil (360 ppm)
- SAW08 in surface soil (50 ppm)

- SAH05 in subsurface soil (9.3 ppm at 4 feet bgs)
- SAH08 in subsurface soil (4.3 ppm at 6 feet bgs).

No additional study locations were deemed necessary based on the immunoassay measurements. Locations in the Process Area Decision Area significantly exceeded the PRG; however, soils in this area have been throughly characterized during previous investigations. The PRG was also significantly exceeded in surface soil at location SAW08. Because PCP was not detected above the PRG in subsurface soil, no additional study locations were identified based on this measurement.

The immunoassay kit screening results are presented in Tables 1 and 2, and the immunoassay kit data use and correlation results, correlation graphs, and data collection print-outs are included in Appendix D.

Laboratory Methods and Sample Results

Soil and ground water samples were collected to determine potential sources and extent of contamination, and to determine potential impacts to human health and the environment. All samples were collected and analyzed in accordance with the SSSP (Herrera 2005c). All push-probe and monitoring well locations are shown in Figure 3; locations of surface soil, subsurface soil, and ground water samples submitted to the laboratory for analysis are shown in Figures 4 to 6.

Surface and subsurface soils in the Process Area, North Stockpile Area, and the South Stockpile Area were first analyzed using a PCP field-portable immunoassay screening test kit. Based on the large size (27 acres) of the site, extent of contamination, and the anticipated number of soil sample locations, laboratory analysis of all samples was not deemed practical or cost-effective. Representative numbers of surface and subsurface soil samples were selected for laboratory analysis based on test results from each Decision Area. Table 3 summarizes the chemical analyses conducted by STL Seattle, located in Tacoma, Washington, on soil and ground water samples.

A total of 65 samples were submitted to the laboratory for analysis, including: 16 surface soil (including two field duplicates), 23 subsurface soil (including two field duplicates), and 26 ground water (including two field duplicates). The following sections describe results of detected constituents for each analyzed matrix in each Decision Area. Sample analysis quality assurance and quality control data validation and complete laboratory reporting documentation are available in Appendix E.

Laboratory analytical results are compared to Washington State Model Toxics Control Act (MTCA) method A and B cleanup values (unless otherwise noted) and EPA Region 9 PRGs for industrial land use. These values are indicated to assess the relative risk associated with contaminants detected on site. MTCA method A cleanup values pertain to petroleum hydrocarbons identified onsite as DRO. MTCA method B values for direct contact (based on residential risks to human health) have been chosen for non-petroleum chemicals as conservative cleanup values; nearby residents and farmland would likely preclude the use of MTCA method C values (based on industrial exposure risks to human health). Region 9 industrial PRGs have been selected to reflect the site's relatively isolated location, with minimal adjacent residences.

Specific surface soil locations were selected for analysis of dioxins and furans based on observed site conditions. When applicable, toxic equivalency (TEQ) is included in results tables. Values for TEQ were calculated using toxic equivalency factors (TEF) provided in *Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo –p-dioxin and – dibenzofurans (CDDs and CDFs) and Update* (EPA 1989).

The World Health Organization (WHO) re-evaluated previously established TEFs in 1994 and 1997 and implemented changes to international TEFs for dioxins and furans. The 1997 WHO

TEQs (Van den Berg et al. 1998) were calculated and have been included in the tables, where applicable. As indicated in the EPA Region 9 PRG User's Guide, Region 9 has adopted the 1997 WHO TEQs.

The *OSWER Directive 9200.4-26 Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites* (April 13, 1998) recommended cleanup values for dioxin in soil provides a starting point for setting cleanup levels at CERCLA removal sites. These values have been included with the MTCA cleanup levels and Region 9 PRGs.

Process Area

Surface Soil

Laboratory results for detected analytes in four surface soils (including one field duplicate) collected across the Process Area are provided in Table 4 and results for PCP and DROs are provided on Figure 4. MTCA method A and B cleanup levels, EPA Region 9 industrial PRGs, and OSWER dioxin action levels are provided for comparison.

Locations PASSP1200 (near wood storage area) and PASSP1300 (near the former ASTs) had elevated PCP concentrations exceeding both the MTCA method B cleanup level and EPA Region 9 industrial PRG.

DROs exceeded the MTCA method A cleanup value near the ASTs at PASSP1300.

Subsurface Soil

Laboratory results for detected analytes in eight subsurface soils (including two field duplicates) collected from three boring locations across the Process Area are provided in Table 5 and results for PCP and DROs are provided on Figure 5. MTCA method A and B cleanup levels and Region 9 industrial PRGs are provided for comparison.

Sample PASBP1111 (northwest of the treatment building at 11 feet bgs) had elevated PCP concentrations exceeding both the MTCA method B cleanup level and Region 9 industrial PRG. Detected subsurface concentrations in the Process Area ranged from 0.0278 to 24.2 mg/kg, with the highest concentration detected in sample PASBP1111.

DROs exceeded the MTCA method A cleanup level at location PASBP1111.

Ground Water

Laboratory results for detected analytes in three ground water samples collected across the Process Area are provided in Table 6 and results for PCP and DROs are provided on Figure 6.

MTCA method A and B cleanup levels and Region 9 industrial PRGs are provided for comparison.

Samples PAGWP1109 (northwest of the treatment building at 11 feet bgs) and PAGWP1308 (near the former ASTs at 8 feet bgs) had elevated PCP concentrations that exceeded the MTCA method B cleanup level and Region 9 industrial PRG. Product was observed in GWP11.

Napthalene exceeded the Region 9 tap water PRG at location PAGWP1109.

Benzo(a)anthracene exceeded both the Region 9 tap water PRG and MTCA method B cleanup level at locations PAGWP1109 and PAGWP1308.

Chrysene exceeded the MTCA method B cleanup level at location PAGWP1308.

North Stockpile Area

Surface Soil

Laboratory results for detected analytes in eight surface soils collected across the North Stockpile Area are provided in Table 7 and results for PCP, DROs, and dioxins are provided on Figure 4. MTCA method A and B cleanup levels, EPA Region 9 industrial PRGs, and OSWER action levels are provided for comparison.

None of the locations exceeded MTCA cleanup levels or Region 9 PRGs for detected SVOCs and petroleum hydrocarbons.

All eight surface soil samples were analyzed for dioxin/furans. The concentrations at all locations except NASSW0400 and NASSW0500 exceeded MTCA cleanup levels and Region 9 PRGs for industrial soils, but were less than OWSER directive cleanup values of 5 to 20 mg/kg.

Subsurface Soil

Laboratory results for detected analytes in one subsurface soil sample collected in the North Stockpile Area is provided in Table 8 and results for PCP and DROs are provided on Figure 5. MTCA method A and B cleanup levels and Region 9 industrial PRGs are provided for comparison.

PCP was not detected in the subsurface soil sample collected at location NASBP0804.

Ground Water

Laboratory results for detected analytes in nine ground water samples (including one field duplicate) collected across the North Stockpile Area are provided in Table 9 and results for PCP

and DROs are provided on Figure 6. MTCA method A and B cleanup levels and Region 9 tap water PRGs are provided for comparison.

PCP concentrations exceeded the MTCA method B cleanup level and the Region 9 PRG at five of the eight North Stockpile Area locations. Detected concentrations ranged from 40.1 µg/L at NAGWP1005 to 875 µg/L at NAGWP0906.

Napthalene exceeded the Region 9 tap water PRG at locations NAGWW0403, NAGWW0504, and NAGWW0603. All three samples were collected near the western property boundary of the site.

South Stockpile Area

Surface Soil

Laboratory results for detected analytes in three surface soils (including one field duplicate) collected across the South Stockpile Area are provided in Table 10 and results for PCP, DROs, and dioxins are provided on Figure 4. MTCA method A and B cleanup levels, EPA Region 9 industrial PRGs, and OSWER cleanup levels are provided for comparison.

Location SASSW0800 exceeded the MTCA method B cleanup levels for PCP.

Location SASSW0800 exceeded the MTCA method A cleanup level for DROs.

Samples SASSW0200 and SASSW0800 were analyzed for dioxin/furans. The detected concentrations for both samples exceeded MTCA cleanup levels; the detected concentration for sample SASSW0800 exceeded the Region 9 PRGs for industrial soils, but fell within the OWSER directive cleanup values of 5 to 20 mg/kg.

Subsurface Soil

Laboratory results for detected analytes in 14 subsurface soil samples collected in the South Stockpile Area are provided in Table 11 and results for PCP and DROs are provided on Figure 5. MTCA method A and B cleanup levels and Region 9 industrial PRGs are provided for comparison. PCP was detected at 10.3 mg/kg at location SASBH0501 and at 20.5 mg/kg at location SASBP0302, exceeding both the MTCA method B cleanup level and the Region 9 industrial PRG.

Ground Water

Laboratory results for detected analytes in 14 ground water samples (including one field duplicate) collected across the South Stockpile Area are provided in Table 12 and results for

PCP and DROs are provided on Figure 6. MTCA method A and B cleanup levels and EPA Region 9 tap water PRGs are provided for comparison.

Naphthalene exceeded the Region 9 PRG for tap water in samples SAGWW0203 (11.3 µg/L), SAGWW0703 (12.2 µg/L), and SAGWW0806 (13.7 µg/L).

Site-wide Summary of Ground Water Sampling Results

Based on water levels measured in 11 monitoring wells on June 17, 2005, the general direction of ground water flow is toward the west with a very flat gradient (Figure 7). The silty clay aquiclude present across the site, at depths ranging from 10 to 23.5 feet bgs, impedes the downward migration of contaminated ground water. Alluvial sand and gravel deposits overlying the clay contribute to the lateral migration of contaminated ground water. No samples were collected from the underlying aquifer, expected to be hundreds of feet deep.

A range of ground water velocity may be calculated using the equation V = KI/Sy where: velocity equals hydraulic conductivity times hydraulic gradient divided by specific yield.

I = 0.0017 ft/ft (estimated average across site)
K = 100 gal/day/ft^2 for silty sand (Freeze and Cherry 1979)
K = 10,000 gal/day/ft^2 for sandy gravel
Sy = 0.2 (dimensionless), 0.1 to 0.3 for sand, and 0.15 to 0.30 for gravel (Driscoll 1986).

Ground water flow velocity ranges from 0.1 to 11.4 ft/day across the Colville P & P site, based on the range of hydraulic conductivity and conversion from gallons to cubic feet.

DROs were detected in three of the 11 monitoring wells at concentrations of 283 and 284 µg/L along the western property boundary and 212 µg/L in the south stockpile area. PCP was detected in two of the 11 monitoring wells at concentrations of 153 and 256 µg/L along the western property boundary. The presence of a plume of contaminated ground water migrating across the site from the Process Area to the western property boundary is supported by the presence of PCP at concentrations ranging from 40.1 to 875 µg/L in ground water samples from three probe borings completed along the northern portion of the North Stockpile Area and from 55.8 to 2,690 µg/L in two probe borings in the Process Area. Product was present in the Process Area sample that detected PCP at 2,690 µg/L in ground water.

Ground water concentrations of DRO ranged from 237 to 606 µg/L in six probe borings surrounding the wood chip pile; no PCP was detected. An elevated concentration of DRO detected at 32,900 µg/L in a probe boring completed at the boundary of the Process Area is attributed to a release of diesel from the former ASTs.

Quarterly ground water monitoring will determine seasonal variations in ground water flow and trends of PCP and DRO concentrations in ground water.

Source, Exposure Pathway, and Targets

Process Area

The threat of exposure to occupants or trespassers and wildlife exists through ingestion and inhalation of contaminated surface soil found across the Process Area. Access to the Process Area has temporarily been restricted by a 6-foot-high security fence with a padlock, installed during the 2005 Removal Action; however, vandalism and/or tampering with the fence would facilitate access and potential exposure.

The contaminants of concern detected in surface and subsurface soils were also identified in the 2002 Removal Site Evaluation: PCP and DROs. Surface soil exposure pathways are via wind and/or occupant foot and vehicular traffic, and runoff to ditches. Subsurface soil exposure pathways are via exposure to excavated soil and as a continuous source to ground water, which is migrating towards the Clauser property to the west. Contaminants of concern detected in ground water included PCP, DROs, napthalene, benzo(a)anthracene, and chrysene.

North Stockpile Area

The threat of exposure to occupants or trespassers and wildlife exists through ingestion and inhalation of impacted surface soil in limited areas of the North Stockpile Area. Dioxins were detected in surface soils at concentrations below two of three cleanup guidelines. No SVOCs were detected in surface soils during this investigation; however, heavy oils were detected during the 2002 Removal Site Evaluation. Access to the North Stockpile Area continues to be restricted along the north and west property boundaries by a barbed wire fence and the BNSF Railway Company railroad located between the facility and U.S. Highway 395.

PCP was not detected in subsurface soil; however, PCP and napthalene were detected in ground water. The local ground water flow direction is westward, towards the adjacent property and drinking water well. The potential threat to human health, wildlife, and the environment exists by ingestion of, or contact with, water from the Clauser drinking water well, if contaminated. Contaminated ground water may also discharge to the Colville River, wetlands, and drainages.

South Stockpile Area

The threat of exposure to occupants or trespassers and wildlife exists through ingestion and inhalation of contaminated surface soil in limited areas of the South Stockpile Area. Access to the South Stockpile Area is restricted to the main facility entrance and the north property boundary by a wood rail or barbed wire fence and the BNSF Railway Company railroad.

Trespassers may access the South Stockpile Area via the adjacent property to the southeast of the site, which has unrestricted access.

Elevated concentrations of PCP, diesel-range petroleum hydrocarbons, and dioxins were detected in surface soil located in hot spots across the South Stockpile Area, and PCP was detected in subsurface soil. The extent of subsurface soil contamination is limited to isolated hot spots. Surface runoff could cause these contaminants to migrate to adjacent drainages and the Colville River.

Naphthalene was detected in ground water samples, indicating migration from hot spots in subsurface or surface soils.

Removal Options

Removal options were developed using the most appropriate engineering methods to address the source of contamination for each Decision Area according to the exposure pathway and targets and analytical results from the 2002 and 2005 Removal Site Evaluations, and previous engineering experience from similar sites. This section presents an update to the proposed Removal Action options documented in the 2002 Removal Site Evaluation as a generalized summary; options for each Decision Area are presented in Table 13.

The remaining Process Area buildings, structures, and equipment that may have been impacted by contact with process chemicals should be demolished and removed for disposal.

An option for control and/or containment of contaminated surface and subsurface soil is excavation. Contaminated material at and around the Process Area and all North and South Stockpile hot spots would be removed and may be replaced with a clean backfill soil or rock cap. The estimated volume of material remains highest within the Process Area, and difficult to estimate based on limited data; however, the 2002 estimate of up to approximately 17,000 cubic yards should be used as a guide.

An alternative to excavation in the Process Area is installing a bentonite slurry wall and soil or rock cap, and placing soil or rock caps in the identified hot spot locations in the North and South Stockpile Areas. Ground water monitoring is generally needed to determine the effectiveness of the slurry wall option, therefore additional well(s) to monitor its effectiveness are likely necessary.

Contaminated material would have to be transported offsite and treated by bioremediation, thermal desorption, incineration, or soil washing prior to disposal. Onsite containment and treatment is an option with a cost effective treatment method, long-term monitoring, and continued operations and maintenance. Due to recent and historic flooding onsite, the location for material containment should not be within the 100-year floodplain elevation.

Continued quarterly ground water monitoring will be necessary to track the flow, direction, and leading edge of the contaminant plume. The west adjacent property drinking water well should be sampled to determine potential impacts from the site and future actions to address potential offsite ground water contamination (i.e., pump and treat, additional bentonite slurry wall barriers, etc.). Depending on the results, a clean source of drinking water may have to be provided to the owner, as well as for other water uses (i.e., livestock, agricultural practices, etc.).

Conclusion

Phase II field observations and sample results confirmed limited free product in Process Area subsurface soil and ground water, and established a plume of PCP in ground water in the North Stockpile Area that appears to be flowing generally towards the west to the adjacent property. The confirmed presence of a thick clay aquiclude at depths ranging from 10 to 23.5 feet bgs likely provides a vertical barrier to deeper contaminant migration. Elevated surface and subsurface soil concentrations of PCP, diesel, and dioxin were detected in the Process Area and limited locations in the North and South Stockpile Areas. Impacts to ground water were detected in limited areas in the South Stockpile Area.

The preferred removal option includes demolition and removal of all Process Area structures and associated equipment that may have been impacted; draining and excavating the pond; selective excavation of surface and subsurface soil in the Process Area; and hot spot excavation in the South Stockpile Area and the North Stockpile Area.

Continued quarterly monitoring of the ground water wells will aid in confirming the size and concentration gradient of the contaminant plume.

Soil removal requires disposal with an associated treatment method. Onsite *ex situ* bioremediation treatment is currently being investigated by ERT; however, a second method must be determined in the event bioremediation is not feasible. Soil washing was previously identified as the most cost-effective method of treatment; however, the specific treatment method would be determined by the most cost-effective off-site disposal facility, including costs for transportation, treatment, and disposal.

Immunoassay field screening for pentachlorophenol was performed at the site to evaluate its applicability to monitoring site conditions during future removal activities. Based on statistical analysis of the immunoassay and laboratory results, it was determined that the immunoassay field screening kit can be used during future removal activities to provide reliable soil results for concentrations ranging from 0 to 20 ppm. However, results of the immunoassay field screening kit for water at the site should be used with caution (see Appendix D).

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TABLES AND FIGURES

Table 1. Immunoassay and fixed laboratory pentachlorophenol analytical results for soil samples collected in June 2005 at the Colville Post and Pole site in Stevens County.

	Rapid Assay Kit			Laboratory Result
Sample ID	Run #	Dilution	(ppm)	(mg/kg)
NASSW0100	061505-01	1:1	*0.1 U*	0.0662 J
NASBW0106	061505-01	1:1	*0.1 U*	NA
NASBW0108	061505-01	1:1	*0.1 U*	NA
SASSW0200	061505-01	1:1	0.1	0.421
SASBW0206	061505-01	1:1	*0.1 U*	NA
SASBP0102	061505-01	1:1	*0.1 U*	0.0524 J
SASBP0104	061505-01	1:1	*0.1 U*	*0.102 U*
SASBP0203	061505-01	1:1	*0.1 U*	NA
SASBP0204	061505-01	1:1	*0.1 U*	*0.113 U*
SASBP0302	061505-01	1:1	*0.1 U*	**20.5**
SASBP0304	061505-01	1:1	*0.1 U*	NA
SASBP0401	061505-01	1:1	*0.1 U*	0.056 J
SASBP0404	061505-01	1:1	*0.1 U*	NA
SASSW0300	061505-01	1:1	*0.1 U*	0.0861 J
SASSW0300D	061505-01	1:1	*0.1 U*	0.0562 J
SASBW0308	061505-01	1:1	*0.1 U*	NA
SASBP053.5	061505-01	1:1	*0.1 U*	NA
SASBP0505	061505-01	1:1	*0.1 U*	*0.116 U*
SASBP0601	061505-01	1:1	*0.1 U*	NA
SASBP0604	061505-01	1:1	*0.1 U*	0.0347 J
NASSW0400	061505-02	1:1	*0.1 U*	*0.115 U*
NASBW0408	061505-02	1:1	*0.1 U*	NA
NASSP0700	061505-02	1:1	0.3	0.139
NASBP0704	061505-02	1:1	*0.1 U*	NA
NASSP0800	061505-02	1:1	0.1	0.21
NASBP0804	061505-02	1:1	*0.1 U*	*0.112 U*
NASSP0900	061505-02	1:1	*0.1 U*	0.0331 J
NASBP0904	061505-02	1:1	*0.1 U*	NA
NASSW0500	061505-02	1:1	*0.1 U*	*0.128 U*
NASBW0505	061505-02	1:1	*0.1 U*	NA
NASSP1000	061505-02	1:1	*0.1 U*	*0.108 U*
NASBP1004	061505-02	1:1	*0.1 U*	NA
NASBP1004D	061505-02	1:1	*0.1 U*	NA
PASSP1100	061605-01	1:1	**9.1**	**4.23**
PASBP1109	061605-01	1:1	*0.1 U*	0.0385 J
PASBP1111	061705-01	1:10	**16**	**24.2**
PASBP1204	061605-01	1:1	0.7	0.498

Table 1 (continued). Immunoassay and fixed laboratory pentachlorophenol analytical results for soil samples collected in June 2005 at the Colville Post and Pole site in Stevens County.

	Rapid Assay Kit			Laboratory Result
Sample ID	Run #	Dilution	(ppm)	(mg/kg)
PASBP1208	061605-01	1:1	*0.1 U*	0.0201 J
NASSW0600	061605-01	1:1	0.1	0.129
NASBW0605	061605-01	1:1	0.1	NA
SASSW0700	061605-01	1:1	*0.1 U*	NA
SASBW0704	061605-01	1:1	*0.1 U*	*0.109 U*
SASSW0800	061605-02	1:20	**50**	**73.5**
SASBW0804	061605-01	1:1	*0.1 U*	*0.112 U*
SASBW0806	061605-01	1:1	*0.1 U*	*0.123 U*
PASSP1300	061605-02	1:50	**360**	**280**
PASBP1306	061605-01	1:1	0.3	0.126 J
PASBP1308	061605-02	1:1	*0.1 U*	0.0278 J
SASBH0501	061605-02	1:1	**9.3**	**10.3**
SASBH0604	061605-02	1:1	*0.1 U*	0.235
SASBH0704	061605-02	1:1	0.9	1.39
SASBH0801	061605-02	1:1	**4.3**	**5.8**
PASSP1200	061705-01	1:10	**7.0**	**31.3**
PASSP1200D	061705-01	1:10	**21**	**22.2**

Bold values indicate results greater than USEPA Region 9 PRG screening level for pentachlorophenol of 3 mg/kg.
Italicized values indicate the reporting limit for the compound.
mg/kg - milligrams per kilogram.
ppm - parts per million.
J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.
U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.
PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).
NA - Not analyzed.

Table 2. Immunoassay and fixed laboratory pentachlorophenol analytical results for ground water samples collected at the Colville Post and Pole site in Stevens County.

	Rapid Assay Kit				Laboratory Result
Sample ID	Run #	Dilution	Sample (ppb)	Duplicate (ppb)	(µg/L)
SAGWP0104	061505-03	1:1	0.2	0.3	*2 U*
SAGWP0203	061505-03	1:1	0.1	0.1	*1.94 U*
SAGWP0302	061505-03	1:1	0.2	0.2	*1.9 U*
SAGWP0404	061505-03	1:1	0.3	0.2	*1.9 U*
SAGWP0505	061505-03	1:1	3.6	3.1	*1.92 U*
SAGWP0602	061505-03	1:1	0.1	0.1	*2 U*
NAGWP0705	061505-03	1:1	1.1	1.3	*1.9 U*
NAGWP0805	061605-02	50	137	NA	121
NAGWP0906	061705-01	200	1300	NA	875
NAGWP1005	061605-01	10	91	NA	40.1
PAGWP1109	061705-02	800	860	NA	2690
PAGWP1111	061705-01	10	8.2	NA	NA
PAGWP1208	061605-02	1:1	*0.1 U*	NA	*1.89 U*
PAGWP1308	061705-01	50	41	NA	55.8
SAGWMW105	061705-01	1:1	*0.1 U*	*0.1 U*	*1.9 U*
SAGWMW205	061705-01	1:1	0.4	0.3	*1.9 U*
SAGWMW407	061705-01	1:1	*0.1 U*	*0.1 U*	*1.9 U*
NAGWW0106	061705-01	1:1	*0.1 U*	*0.1 U*	*1.88 U*
SAGWW0203	061705-01	1:1	*0.1 U*	*0.1 U*	*1.9 U*
SAGWW0305	061705-01	1:1	*0.1 U*	*0.1 U*	*1.91 U*
NAGWW0403	061705-01	1:1	*0.1 U*	*0.1 U*	*1.9 U*
NAGWW0504	062405-01	50	200	NA	256
NAGWW0603	062405-01	50	370	NA	153
SAGWW0703	061705-02	1:1	*0.1 U*	*0.1 U*	*1.89 U*
SAGWW0806	061705-02	1:1	0.6	0.6	*1.9 U*

Italicized values indicate the reporting limit for the compound.
µg/L - micrograms per liter.
ppb - parts per billion.
U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.
NA - Not analyzed.

Table 3. Summary of laboratory chemical analysis, Colville Post and Pole site, Stevens County, Washington.

Matrix	Analytical Parameter	Analytical Method
Surface Soil	Semivolatile Organic Compounds (SVOCs)	EPA Method 8270C
	Diesel and Heavy Oil Range Petroleum Hydrocarbons	NWTPH-Dx
	Dioxins/Furans	EPA Method 8290
Subsurface Soil	Semivolatile Organic Compounds (SVOCs)	EPA Method 8270C
	Diesel and Heavy Oil Range Petroleum Hydrocarbons	NWTPH-Dx
Ground Water	Semivolatile Organic Compounds (SVOCs)	EPA Method 8270C
	Diesel and Heavy Oil Range Petroleum Hydrocarbons	NWTPH-Dx

Table 4. Process Area surface soil analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Location				MTCA Cleanup Level	EPA Region 9 PRGs for Industrial Soil
		PASSP1100	PASSP1200	PASSP1200D	PASSP1300		
NWTPH-Dx							
#2 Diesel	mg/kg	165 J	144 J	111 J	**16400**	2000 [a]	-
Motor Oil	mg/kg	1220	246 J	177 J	197 J	2000 [a]	-
SVOCs							
2-Methylnaphthalene	mg/kg	0.0179 J	0.193	0.117	*0.0213 U*	-	-
Anthracene	mg/kg	0.0192 J	0.0247 J	0.0296	*0.0213 U*	24000	100000
Bis(2-ethylhexyl)phthalate	mg/kg	0.131 J	0.115 J	*0.243 U*	*0.213 U*	71.4 (ca)	120
Fluorene	mg/kg	0.0337	*0.0261 U*	0.116	*0.0213 U*	3200	26000
Naphthalene	mg/kg	*0.025 U*	0.0392	0.0211 J	*0.0213 U*	1600	190
Pentachlorophenol	mg/kg	4.23	**31.3**	**22.2**	**280**	8.33 (ca)	9
Phenanthrene	mg/kg	0.046	0.184	0.191	*0.0213 U*	-	-
Pyrene	mg/kg	*0.025 U*	*0.0261 U*	0.155	0.813	2400	29000

Values reported on a dry-weight basis.

[a] Method A cleanup level (Ecology 2001).

Bold values indicate results greater than MTCA method B cleanup levels and/or USEPA Region 9 PRGs for industrial soil.

Italicized values indicate the reporting limit for the compound.

NA - Not analyzed.

mg/kg - milligrams per kilogram.

ug/kg - micrograms per kilogram.

SVOCs - Semivolatile organic compounds

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 5. Process Area subsurface soil analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Location								MTCA Cleanup Level	EPA Region 9 PRGs for Industrial Soil
		PASBP1109	PASBP1111	PASBP1111D	PASBP1204	PASBP1204D	PASBP1208	PASBP1306	PASBP1308		
NWTPH-Dx											
#2 Diesel	mg/kg	NA	**5590**	**5820**	9.39 J	*36.9 U*	NA	18.5 J	NA	2000 [a]	-
Motor Oil	mg/kg	NA	323	225 J	*76.7 U*	*73.8 U*	NA	*131 U*	NA	2000 [a]	-
SVOCs											
Pentachlorophenol	mg/kg	0.0385 J	**24.2**	**25.7**	0.498	0.187	0.0201 J	0.126 J	0.0278 J	8.33 (ca)	9

Values reported on a dry-weight basis.

[a] Method A cleanup level (Ecology 2001).

Bold values indicate results greater than MTCA cleanup levels and/or EPA Region 9 PRGs for industrial soil.

Italicized values indicate the reporting limit for the compound.

NA - Not analyzed.

mg/kg - milligrams per kilogram.

SVOCs - Semivolatile organic compounds.

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 6. Process Area ground water results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	PAGWP1109	PAGWP1208	PAGWP1308	MTCA Cleanup Level	EPA Region 9 PRGs for Tap Water
NWTPH-Dx						
#2 Diesel	mg/L	0.734 J	32.9	0.342 J	500 [a]	-
Motor Oil	mg/L	*0.477 U*	1.84 J	*0.476 U*	500 [a]	-
SVOCs						
2-METHYLNAPHTHALENE	ug/L	103	*0.473 U*	*0.488 U*	-	-
4-NITROANILINE	ug/L	3.03	*1.89 U*	*1.95 U*	-	3.2 (ca)
ACENAPHTHENE	ug/L	14.6	*0.189 U*	*0.195 U*	960	370
ANTHRACENE	ug/L	3.97	*0.189 U*	*0.195 U*	2400	1800
BENZO(A)ANTHRACENE	ug/L	**0.191**	*0.189 U*	**0.172 J**	0.012 (ca)	0.092 (ca)
BUTYLBENZYL PHTHALATE	ug/L	*2.84 U*	3.14	*2.93 U*	3200	7300
CHRYSENE	ug/L	*0.189 U*	*0.189 U*	**0.151 J**	0.012 (ca)	9.2 (ca)
DI-N-BUTYL PHTHALATE	ug/L	*1.89 U*	1.63 J	0.608 J	1600	3600
FLUORENE	ug/L	10.9	*0.189 U*	*0.195 U*	640	240
NAPHTHALENE	ug/L	**24**	*0.473 U*	*0.488 U*	160	6.2
PENTACHLOROPHENOL	ug/L	**2690**	*1.89 U*	**55.8**	0.792 (ca)	0.56 (ca)
PHENANTHRENE	ug/L	18.3	*0.189 U*	*0.195 U*	-	-
PYRENE	ug/L	3.86	*0.189 U*	*0.195 U*	480	180

[a] Method A cleanup level (Ecology 2001).

Bold values indicate results greater than MTCA cleanup levels and/or EPA Region 9 PRGs for tap water.

Italicized values indicate the reporting limit for the compound.

mg/L - milligrams per liter.

ug/L - micrograms per liter.

SVOCs - Semivolatile organic compounds.

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 7. North Stockpile Area surface soil analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Location								MTCA Cleanup Level	EPA Region 9 PRGs for Industrial Soil
		NASSW0100	NASSW0400	NASSW0500	NASSW0600	NASSP0700	NASSP0800	NASSP0900	NASSP1000		
NWTPH-Dx											
#2 Diesel	mg/kg	NA	NA	NA	37.3 J	8.13 J	25.7 J	NA	NA	2000 [a]	-
Motor Oil	mg/kg	NA	NA	NA	153 J	78.9	248	NA	NA	2000 [a]	-
SVOCs											
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	0.0365 J	0.0252 J	0.0333 J	0.202 U	0.0311 J	*0.211 U*	*0.207 U*	0.0231 J	71.4 (ca)	120
DI-N-BUTYL PHTHALATE	mg/kg	*0.114 U*	*0.115 U*	*0.128 U*	0.0227 J	*0.0988 U*	0.0198 J	0.0191 J	*0.108 U*	8000	62000
PENTACHLOROPHENOL	mg/kg	0.0662 J	*0.115 U*	*0.128 U*	0.129	0.139	0.21	0.0331 J	*0.108 U*	8.33 (ca)	9
PHENANTHRENE	mg/kg	*0.0228 U*	*0.0229 U*	*0.0255 U*	*0.0202 U*	*0.0198 U*	0.0073 J	*0.0207 U*	*0.0216 U*	-	-
PYRENE	mg/kg	*0.0228 U*	*0.0229 U*	*0.0255 U*	*0.0202 U*	0.0142 J	0.015 J	*0.0207 U*	*0.0216 U*	2400	29000
Dioxins/Furans											
2,3,7,8-TCDD (TEQ 1987 EPA)	ug/kg	0.012	0.0007	0.00005	0.03	**0.05**	**0.078**	**0.022**	**0.026**	0.00667	0.16 / (5 to 20) [c]
2,3,7,8-TCDD (TEQ 1997 WHO)	ug/kg	**0.055**	0.0038	0.0001	**0.12**	**0.18**	**0.30**	**0.088**	**0.089**	0.00667	0.16 / (5 to 20) [c]

Values reported on a dry-weight basis.

[a] Method A cleanup level (Ecology 2001).

[b] Method B cleanup level (Ecology 2001).

[c] OSWER Directive 9200.4-26 cleanup levels (EPA 1998).

Bold values indicate results greater than MTCA cleanup levels, EPA Region 9 PRGs for industrial soil, and/or OSWER cleanup values.

Italicized values indicate the reporting limit for the compound.

NA - Not analyzed.

mg/kg - milligrams per kilogram.

ug/kg - micrograms per kilogram.

SVOCs - Semivolatile organic compounds.

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 8. North Stockpile Area subsurface soil analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Location NASBP0804	MTCA Cleanup Levels	EPA Region 9 PRGs for Industrial Soil
NWTPH-Dx				
#2 Diesel	mg/kg	NA	2000 [a]	-
Motor Oil	mg/kg	NA	2000 [a]	-
SVOCs				
PENTACHLOROPHENOL	mg/kg	*0.112 U*	8.33 (ca)	9

Values reported on a dry-weight basis.

[a] Method A cleanup level (Ecology 2001).

Bold values indicate results greater than MTCA cleanup levels and/or EPA Region 9 PRGs for industrial soil.

Italicized values indicate the reporting limit for the compound.

NA - Not analyzed.

mg/kg - milligrams per kilogram.

SVOCs - Semivolatile organic compounds.

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 9. North Stockpile Area ground water analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Sample Location									MTCA Cleanup Level	EPA Region 9 PRGs for Tap Water
		NAGWP0705	NAGWP0805	NAGWP0906	NAGWP1005	NAGWW0106	NAGWW0106D	NAGWW0403	NAGWW0504	NAGWW0603		
NWTPH-Dx												
#2 Diesel	mg/L	*0.237 UJ*	1.07 J	0.79 J	0.121 J	*0.237 U*	*0.236 U*	*0.237 U*	0.283 J	0.284 J	500 [a]	-
Motor Oil	mg/L	*0.473 UJ*	1.25 J	0.222 J	0.114 J	*0.475 U*	*0.473 U*	*0.47 U*	0.0952 J	*0.473 U*	500 [a]	-
SVOCs												
2,4,5-TRICHLOROPHENOL	µg/L	*1.9 U*	*1.9 U*	0.568 J	*1.9 U*	*1.88 U*	*1.9 U*	*1.9 U*	*1.89 U*	*1.89 U*	1600	3600
2,4-DICHLOROPHENOL	µg/L	*1.9 U*	*1.9 U*	0.828 J	*1.9 U*	*1.88 U*	*1.9 U*	*1.9 U*	*1.89 U*	*1.89 U*	48	110
2-METHYLNAPHTHALENE	µg/L	*0.476 U*	*0.476 U*	*0.476 U*	*0.476 U*	*0.471 U*	0.212 J	3.32	0.643	2.93	-	-
ACENAPHTHENE	µg/L	*0.19 U*	*0.19 U*	*0.19 U*	*0.19 U*	*0.188 U*	*0.19 U*	0.383	0.078 J	0.348	960	370
DIBENZOFURAN	µg/L	*1.9 U*	0.278 J	*1.9 U*	*1.9 U*	*1.88 U*	*1.9 U*	0.665 J	*1.89* U	0.653 J	-	12
FLUORANTHENE	µg/L	*0.19 U*	*0.19 U*	*0.19 U*	*0.19 U*	*0.188 U*	*0.19 U*	0.305	0.0945 J	0.238	640	1500
FLUORENE	µg/L	*0.19 U*	0.11 J	*0.19 U*	*0.19 U*	*0.188 U*	*0.19 U*	0.319	0.103 J	0.459	640	240
NAPHTHALENE	µg/L	*0.476 U*	*0.476 U*	*0.476 U*	*0.476 U*	*0.471 U*	0.365 J	**11.9**	2.7	**10.8**	160	6.2
PENTACHLOROPHENOL	µg/L	*1.9 U*	**121**	**875**	**40.1**	*1.88 U*	*1.9 U*	*1.9 U*	**256**	**153**	0.792 (ca)	0.56 (ca)
PHENANTHRENE	µg/L	*0.19 U*	*0.19 U*	*0.19 U*	*0.19 U*	0.0534 J	*0.19 U*	1.01	0.18 J	0.889	-	-
PYRENE	µg/L	*0.19 U*	*0.19 U*	*0.19 U*	*0.19 U*	*0.188 U*	*0.19 U*	0.122 J	*0.189* U	0.112 J	480	180

[a] Method A cleanup level (Ecology 2001)

Bold values indicate results greater than MTCA cleanup levels and/or EPA Region 9 PRGs for tap water

Italicized values indicate the reporting limit for the compound

mg/L - milligrams per liter.

ug/L - micrograms per liter.

SVOCs - Semivolatile organic compounds

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 10. South Stockpile Area surface soil analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Location				MTCA Cleanup Level	EPA Region 9 PRGs for Industrial Soil
		SASSW0200	SASSW0300	SASSW0300D	SASSW0800		
NWTPH-Dx							
#2 Diesel	mg/kg	NA	NA	NA	**7750**	2000 [a]	-
Motor Oil	mg/kg	NA	NA	NA	352	2000 [a]	-
SVOCs							
ANTHRACENE	mg/kg	*0.0228 U*	*0.0224 U*	*0.0213 U*	0.426	24000 [b]	100000
PENTACHLOROPHENOL	mg/kg	0.421	0.0861 J	0.0562 J	**73.5**	8.33 (ca) [b]	9
PHENANTHRENE	mg/kg	0.00785 J	*0.0224 U*	*0.0213 U*	2.97	-	-
Dioxins/Furans							
2,3,7,8-TCDD (TEQ 1987 EPA)	µg/kg	**0.043**	NA	NA	**1.3**	0.00667	0.16 / (5 to 20) [c]
2,3,7,8-TCDD (TEQ 1997 WHO)	µg/kg	**0.15**	NA	NA	**7.2**	0.00667	0.16 / (5 to 20) [c]

Values reported on a dry-weight basis.

[a] Method A cleanup level (Ecology 2001).

[b] Method B cleanup level (Ecology 2001).

[c] OSWER Directive 9200.4-26 cleanup levels (EPA 1998).

Bold values indicate results greater than MTCA cleanup levels, EPA Region 9 PRGs for industrial soil, and/or OSWER cleanup values.

Italicized values indicate the reporting limit for the compound.

NA - Not analyzed.

mg/kg - milligrams per kilogram.

ug/kg - micrograms per kilogram.

SVOCs - Semivolatile organic compounds.

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 11. South Stockpile Area subsurface soil analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Location														MTCA Cleanup Level	EPA Region 9 PRGs for Industrial Soil
		SASBH0501	SASBH0604	SASBH0704	SASBH0801	SASBP0102	SASBP0104	SASBP0204	SASBP0302	SASBP0401	SASBP0505	SASBP0604	SASBW0704	SASBW0804	SASBW0806		
NWTPH-Dx																	
#2 Diesel	mg/kg	90.2 J	NA	17.1 J	89 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2000 [a]	-
Motor Oil	mg/kg	267 J	NA	69.4	193 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2000 [a]	-
SVOCs																	
PENTACHLOROPHENOL	mg/kg	**10.3**	0.235	1.39	5.8	0.0524 J	*0.102 U*	*0.113 U*	**20.5**	0.056 J	*0.116 U*	0.0347 J	*0.109 U*	*0.112 U*	*0.123 U*	8.33 (ca)	9

Values reported on a dry-weight basis.

[a] Method A cleanup level (Ecology 2001).

Bold values indicate results greater than MTCA cleanup levels and/or EPA Region 9 PRGs for industrial soil.

Italicized values indicate the reporting limit for the compound.

NA - Not analyzed.

mg/kg - milligrams per kilogram.

SVOCs - Semivolatile organic compounds.

J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.

U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.

(ca) - carcinogen; carcinogen values indicated if available.

PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).

MTCA - Model Toxics Control Act (Ecology 2001).

NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 12. South Stockpile Area ground water analytical results for the Colville Post and Pole site located in Stevens County, Washington.

Compound	Units	Location														MTCA Cleanup Level	EPA Region 9 PRGs for Tap Water
		SAGWMW105	SAGWMW105D	SAGWMW205	SAGWMW407	SAGWP0104	SAGWP0203	SAGWP0302	SAGWP0404	SAGWP0505	SAGWP0602	SAGWW0203	SAGWW0305	SAGWW0703	SAGWW0806		
NWTPH-Dx																	
#2 Diesel	mg/L	*0.237* U	*0.237* U	0.212 J	*0.237* U	0.606 J	0.274 J	0.271 J	0.0925 J	0.352 J	0.293 J	*0.236* U	*0.238* U	*0.236* U	*0.237* U	500 [a]	-
Motor Oil	mg/L	*0.474* U	*0.473* U	*0.478* U	*0.473* U	0.606 J	0.443 J	0.277 J	*0.473* U	0.205 J	0.616 J	*0.472* U	*0.475* U	*0.473* U	*0.474* U	500 [a]	-
SVOCs																	
2-METHYLNAPHTHALENE	µg/L	*0.474* U	*0.475* U	*0.474* U	*0.475* U	*0.5* U	*0.485* U	*0.476* U	*0.476* U	*0.481* U	*0.5* U	3.01	4.07	3.78	4.02	-	-
3-&4-METHYLPHENOL	µg/L	*3.79* U	*3.8* U	*3.8* U	*3.8* U	4.64	*3.88* U	*3.81* U	*3.81* U	*3.85* U	*4* U	*3.8* U	*3.82* U	*3.79* U	*3.81* U	80	180
ACENAPHTHENE	µg/L	*0.19* U	*0.19* U	*0.19* U	*0.19* U	*0.2* U	*0.194* U	*0.19* U	*0.19* U	*0.192* U	*0.2* U	0.377	0.597	0.453	0.432	960	370
ANTHRACENE	µg/L	*0.19* U	*0.19* U	*0.19* U	*0.19* U	*0.2* U	*0.194* U	*0.19* U	*0.19* U	*0.192* U	*0.2* U	*0.19* U	*0.191* U	*0.189* U	0.0233 J	2400	1800
BENZOIC ACID	µg/L	*9.48* U	*9.51* U	*9.49* U	*9.51* U	11.4 J	2.39 J	*9.52* J	*9.52* UJ	*9.62* UJ	*10* UJ	*9.51* U	*9.55* U	*9.47* U	*9.52* U	64000	150000
BUTYLBENZYL PHTHALATE	µg/L	*2.84* U	*2.85* U	*2.85* U	*2.85* U	1.29 J	*2.91* U	*2.86* U	*2.86* U	*2.88* U	*3* U	*2.85* U	*2.87* U	*2.84* U	*2.86* U	3200	7300
DIBENZOFURAN	µg/L	*1.9* U	*1.9* U	*1.9* U	*1.9* U	*2* U	*1.94* U	*1.9* U	*1.9* U	*1.92* U	*2* U	0.667 J	1.07 J	0.808 J	0.776 J	-	12
DIETHYL PHTHALATE	µg/L	*1.9* U	*1.9* U	*1.9* U	*1.9* U	0.958 J	0.579 J	*1.9* U	*1.9* U	*1.92* U	*2* U	*1.9* U	*1.91* U	*1.89* U	*1.9* U	12800	29000
DI-N-BUTYL PHTHALATE	µg/L	0.731 J	0.614 J	1.34 J	1.03 J	4.27	*3.76* U	*1.9* U	*1.9* J	1.92 J	*2* U	*1.9* J	*1.91* U	1.89 U	*1.9* U	1600	3600
DI-N-OCTYL PHTHALATE	µg/L	*1.9* U	*1.9* U	*1.9* U	*1.9* U	*2* U	*1.94* U	*1.9* U	*1.9* U	*1.92* U	*2* U	0.312 J	0.448 J	*1.89* U	*1.9* U	320	1500
FLUORANTHENE	µg/L	*0.19* U	*0.19* U	*0.19* U	*0.19* U	*0.2* U	*0.194* U	*0.19* U	*0.19* U	*0.192* U	*0.2* U	0.311	0.348	0.395	0.323	640	1500
FLUORENE	µg/L	*0.19* U	*0.19* U	*0.19* U	*0.19* U	*0.2* U	*0.194* U	*0.19* U	*0.19* U	*0.192* U	*0.2* U	0.414	0.521	0.49	0.42	640	240
NAPHTHALENE	µg/L	*0.474* U	*0.475* U	*0.474* U	*0.475* U	*0.5* U	*0.485* U	*0.476* U	*0.476* U	*0.481* U	*0.5* U	**11.3**	**13.2**	**12.2**	**13.7**	160	6.2
PENTACHLOROPHENOL	µg/L	*1.9* U	*1.9* U	*1.9* U	*1.9* U	*2* U	*1.94* U	*1.9* U	*1.9* U	*1.92* U	*2* U	*1.9* U	*1.91* U	*1.89* U	*1.9* U	0.792 (ca)	0.56 (ca)
PHENANTHRENE	µg/L	0.0473 J	*0.19* U	*0.19* U	*0.19* U	*0.2* U	*0.194* U	*0.19* U	*0.19* U	*0.192* U	*0.2* U	0.973	1.32	1.21	1.1	-	-
PHENOL	µg/L	*1.9* U	*1.9* U	*1.9* U	*1.9* U	1.98 J	*1.94* U	*1.9* U	*1.9* U	*1.92* U	*2* U	*1.9* U	*1.91* U	*1.89* U	*1.9* U	9600	11000
PYRENE	µg/L	*0.19* U	*0.19* U	*0.19* U	*0.19* U	*0.2* U	*0.194* U	*0.19* U	*0.19* U	*0.192* U	*0.2* U	0.12 J	0.159 J	0.171 J	0.15 J	480	180

[a] Method A cleanup level (Ecology 2001).
Bold values indicate results greater than MTCA cleanup levels and/or EPA Region 9 PRGs for tap water.
Italicized values indicate the reporting limit for the compound.
mg/L - milligrams per liter.
µg/L - micrograms per liter.
SVOCs - Semivolatile organic compounds.
J - The associated numerical value is an estimated quantity because the concentrations were less than the required detection limits or quality control criteria were not met.
U - The material was analyzed for, but was not detected. The associated numerical value is the laboratory reporting limit.
(ca) - carcinogen; carcinogen values indicated if available.
PRG - EPA Region 9 Preliminary Remediation Goals (EPA 2004).
MTCA - Model Toxics Control Act (Ecology 2001).
NWTPH-Dx - Northwest Total Petroleum Hydrocarbon Analysis (Ecology 1997).

Table 13. Summary of removal options by Decision Area for the Colville Post and Pole site located near Colville, Washington.

Decision Area	Removal Option
Process Area [b]	No Action
	Option 1 – Excavation and Building Demolition
	Option 2 – Ground Water Monitoring, Slurry Wall, Soil Cap
North Stockpile Area	No Action
	Hot Spot Excavation, Ground Water Monitoring
	Hot Spot Soil/Rock Cap, Ground Water Monitoring
South Stockpile Area	No Action
	Hot Spot Excavation, Ground Water Monitoring
	Hot Spot Soil/Rock Cap, Ground Water Monitoring
Drainage Area	No Action
	Hot Spot Excavation, Ground and Surface Water Monitoring
	Hot Spot Soil/Rock Cap, Ground and Surface Water Monitoring

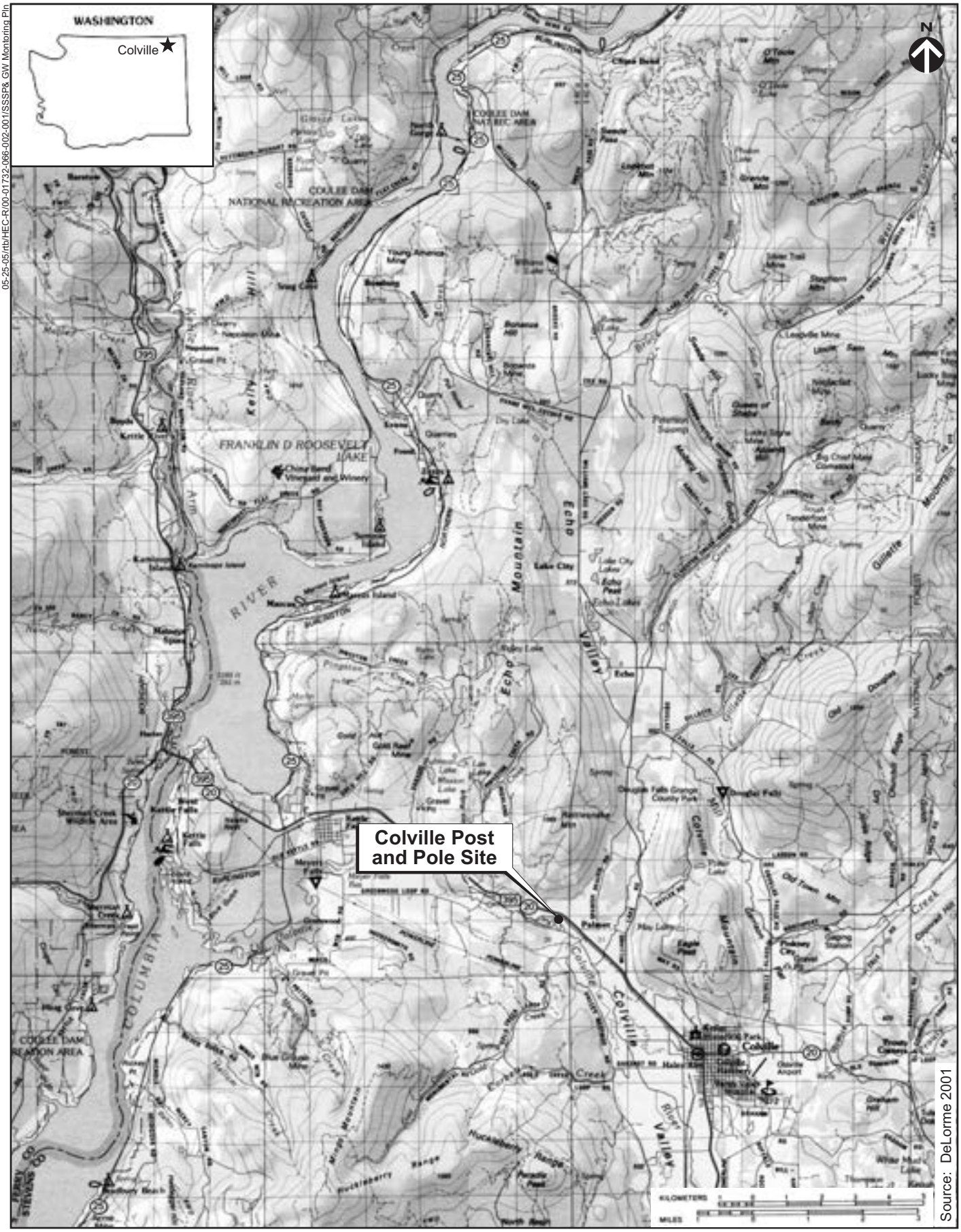


Figure 1. Vicinity map of the Colville Post and Pole site, Stevens County,Washington.

K:\Projects\000-01732-066\Projects\[Figure 2 (Site Map).mxd

North Stockpile Area
former office
treatment building
former peeler
machine shop
former peeler
former wood storage area
former chamfering machine shop
former ASTs
former treated wood storage area
boiler building
Clauser property
Process Area
former AST location
wood chips and fill material
US Highway 395
South Stockpile Area
former treated wood storage area
Drainage Area
Burlington Northern Railroad
former abandoned ASTs
Drainage Area
South Stockpile Area
Colville River
fill material
Delvin Hill property
Bonanza Mill site

Legend

- Property boundary
- Wetland boundary
- Stream
- Decision area boundary

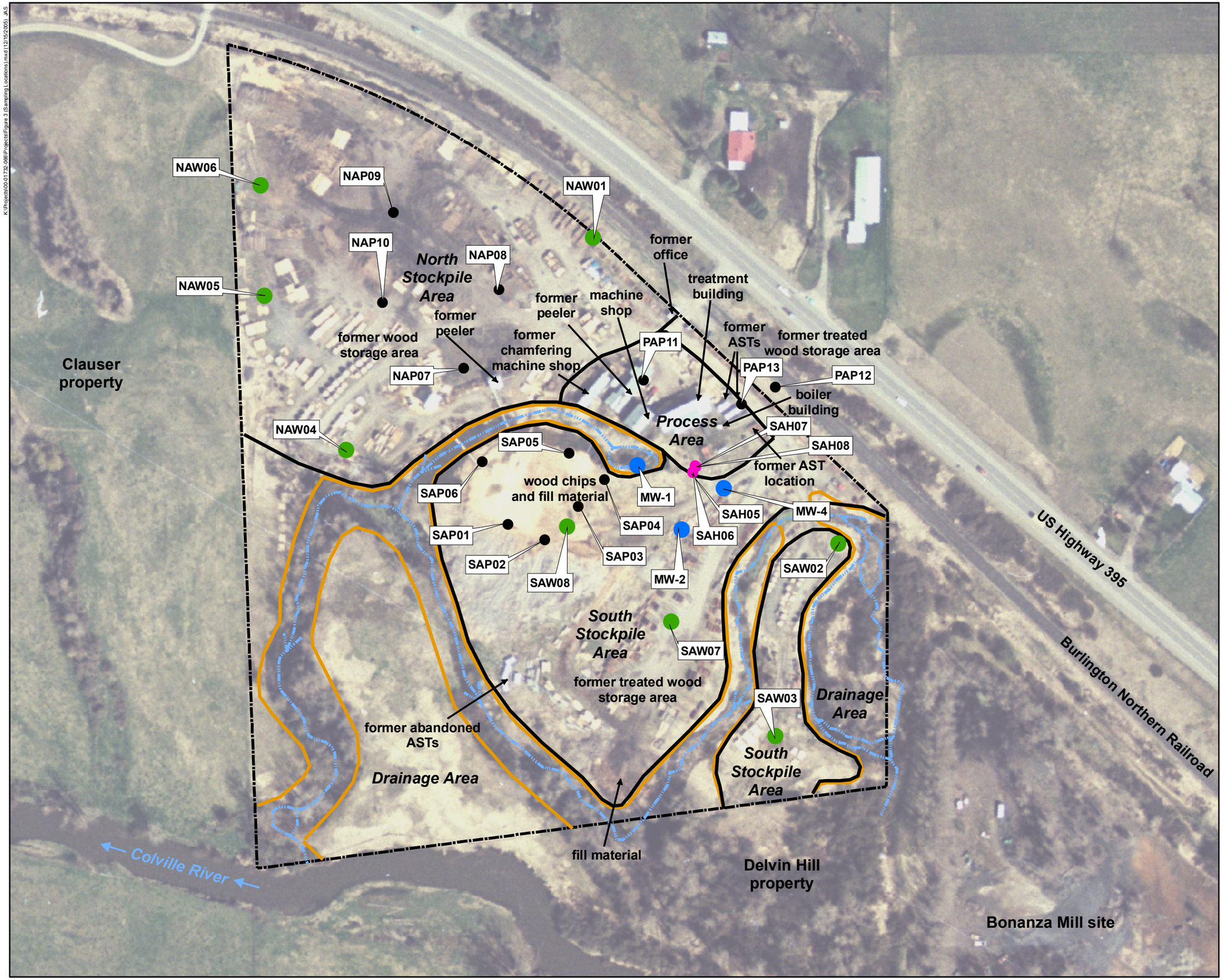
N

0 75 150 300 Feet

1 inch = 150 feet

Figure 2. Site map of the Colville Post and Pole site, Stevens County, Washington.

K:\Projects\00-01732-069\Projects\Figure 3 \Sampling Locations\ mxd (12/15/2005) JAS



Legend

- Geoprobe location
- Existing monitoring well
- New monitoring well
- Additional soil sample
- Property boundary
- Decision area boundary
- Wetland boundary
- Stream

Location ID

N

0 75 150 300 Feet

Figure 3. Sample locations for the Phase II Removal Site Evaluation at the Colville Post and Pole site, Stevens County, Washington.

K:\Projects\00-01732-066\Projects\Figure 4 (Surface).mxd (12/15/2005) JAS

NAP09
PCP 0.0331 J
DXN 0.088

NAW06
PCP 0.129
DRO 37.3 J
DXN 0.12

NAP10
PCP 0.108 U
DXN 0.089

NAP08
PCP 0.21
DRO 25.7 J
DXN 0.30

NAW01
PCP 0.0662 J
DXN 0.055

PAP11
PCP 4.23
DRO 165 J

PAP13
PCP 280.0
DRO 16,400

NAW05
PCP 0.128 U
DXN 0.0001

North Stockpile Area

former office

machine shop

former peeler

former wood storage area

former peeler

former chamfering machine shop

treatment building

former ASTs

former treated wood storage area

PAP12
PCP 31.3
DRO 144J

NAP07
PCP 0.139
DRO 8.13 J
DXN 0.18

Clauser property

boiler building

Process Area

NAW04
PCP 0.115 U
DXN 0.0038

former AST location

wood chips and fill material

SAW02
PCP 0.421
DRO 0.15

US Highway 395

South Stockpile Area

SAW08
PCP 73.5
DRO 7,750
DXN 7.2

former treated wood storage area

Burlington Northern Railroad

Drainage Area

former abandoned ASTs

Drainage Area

South Stockpile Area

SAW03
PCP 0.0861J

Colville River

fill material

Delvin Hill property

Bonanza Mill site

Legend

- Surface sampling location
- Property boundary
- Wetland boundary
- Stream
- Decision area boundary

Location ID
PCP concentration
DRO concentration
DXN concentration

PCP - pentachlorophenol

DRO - diesel range organics

DXN - dioxin

Notes:

PCP/DRO concentrations reported in mg/kg
Dioxin concentrations reported in ug/kg

9 mg/kg -Region 9 PRG industrial soil
8.33 mg/kg -MTCA method B industrial soil

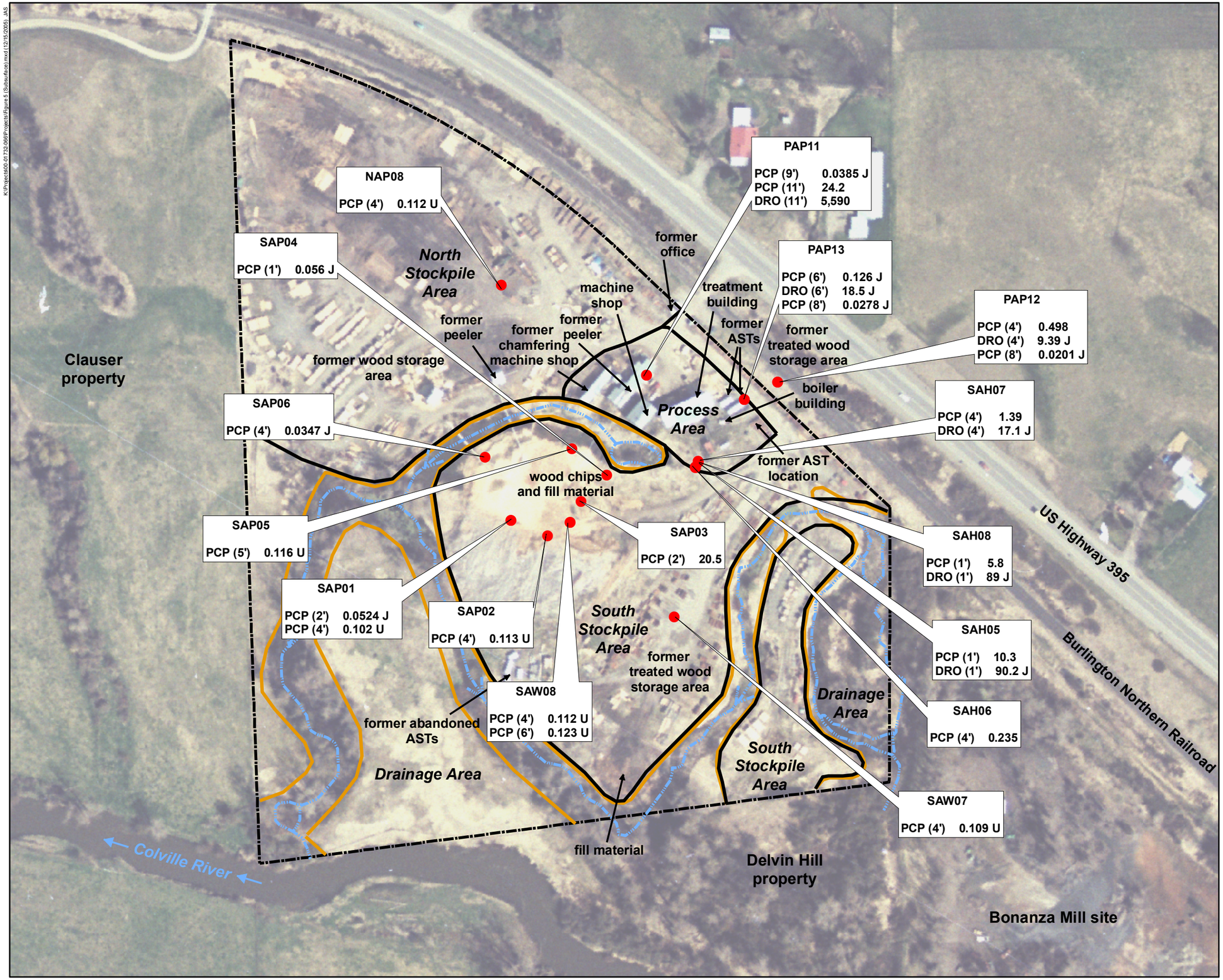
Dioxin concentrations are represented as a 2,3,7,8 - TCDD TEQ (WHO1997)

N

0 75 150 300 Feet

Figure 4. Surface soil sample results for the Phase II Removal Site Evaluation at the Colville Post and Pole site, Stevens County, Washington.

K:\Projects\00-01732-066\Projects\Figure 5 (Subsurface).mxd (12/15/2005) JAS



Legend

- Geoprobe location
- Property boundary
- Wetland boundary
- Stream
- Decision area boundary

Location ID
PCP (depth) concentration
DRO (depth) concentration

N/A - Not Analysed

PCP - pentachlorophenol

DRO - diesel range organics

Notes:

All concentrations reported in mg/kg

Example cleanup levels for PCP:

9 mg/kg -Region 9 PRG industrial soil
8.33 mg/kg -MTCA method B industrial soil

N

0 75 150 300 Feet

Figure 5. Subsurface soil sample results for the Phase II Removal Site Evaluation at the Colville Post and Pole site, Stevens County, Washington.

K:\Projects\00-01232-066\Projects\Figure 6 (Groundwater).mxd (12/15/2006) JAS

NAP09
PCP 875
DRO 0.790 J

NAW01
PCP 1.88 U
DRO 0.237 U

NAP08
PCP 121
DRO 1.07 J

SAP04
PCP 1.9 U
DRO 0.0925 J

PAP11
PCP 2690
DRO 0.734 J

NAW06
PCP 153
DRO 0.284 J

NAP10
PCP 40.1
DRO 0.121 J

North Stockpile Area

former office

PAP13
PCP 55.8
DRO 0.342 J

NAW05
PCP 256
DRO 0.283 J

machine shop

former peeler

former chamfering machine shop

former peeler

former wood storage area

treatment building

former ASTs

former treated wood storage area

PAP12
PCP 1.89 U
DRO 32.90

Clauser property

NAP07
PCP 1.9 U
DRO 0.237 U

boiler building

MW-1
PCP 1.9 U
DRO 0.237 U

Process Area

NAW04
PCP 1.9 U
DRO 0.237 U

former AST location

wood chips and fill material

MW-4
PCP 1.9 U
DRO 0.237 U

US Highway 395

SAP06
PCP 2 U
DRO 0.293 J

SAP05
PCP 1.92 U
DRO 0.352 J

SAP03
PCP 1.9 U
DRO 0.271

SAW02
PCP 1.9 U
DRO 0.236 U

SAP02
PCP 1.94 U
DRO 0.274 J

SAP01
PCP 2 U
DRO 0.606 J

South Stockpile Area

Burlington Northern Railroad

MW-2
PCP 1.9 U
DRO 0.212 J

former treated wood storage area

Drainage Area

former abandoned ASTs

SAW08
PCP 1.9 U
DRO 0.237 U

Drainage Area

South Stockpile Area

SAW03
PCP 1.91 U
DRO 0.238 U

SAW07
PCP 1.89 U
DRO 0.236 U

fill material

Colville River

Delvin Hill property

Bonanza Mill site

Legend

- Geoprobe location
- Existing monitoring well
- New monitoring well
- Property boundary
- Wetland boundary
- Stream
- Decision area boundary

Location ID
PCP concentration
DRO concentration

PCP - pentachlorophenol

DRO - diesel range organics

Notes:

PCP concentrations reported in ug/L
DRO concentrations reported in mg/L

Example cleanup levels for PCP:

0.56 ug/L	Region 9 PRG tapwater
0.729 ug/L	MTCA method B unrestricted ground water
7.29 ug/L	MTCA method C industrial ground water

N

0 75 150 300 Feet

Figure 6. Ground water sample results for the Phase II Removal Site Evaluation at the Colville Post and Pole site, Stevens County, Washington.

K:\Project\600.01732.066\Projects\Figure 7 (Groundwater Depths).mxd (12/15/2005) JAS

NAW06
1533.31 ft.

NAW05
1533.28 ft.

NAW04
1533.70 ft.

NAW01
1534.16 ft.

MW-1
1534.64 ft.

MW-4
1534.67 ft.

SAW08
1534.10 ft.

SAW07
1534.03 ft.

SAW02
1534.83 ft.

MW-2
1534.70 ft.

SAW03
1534.34 ft.

1533.5

1534.0

1534.5

North Stockpile Area

former office

machine shop

former peeler

former peeler

former chamfering machine shop

former wood storage area

treatment building

former ASTs

former treated wood storage area

boiler building

Process Area

former AST location

wood chips and fill material

South Stockpile Area

former treated wood storage area

Drainage Area

former abandoned ASTs

Drainage Area

South Stockpile Area

fill material

Clauser property

Delvin Hill property

Bonanza Mill site

US Highway 395

Burlington Northern Railroad

Colville River

Legend

- Existing monitoring well
- New monitoring well
- Property boundary
- Ground water contour lines
- Ground water flow direction
- Wetland boundary
- Stream
- Decision area boundary

Location ID
Ground water surface elevation

Notes:

Ground water elevations based on survey to mean sea level (MSL)

N

0 75 150 300 Feet

Figure 7. Ground water level contour map, June 17, 2005, for the Phase II Removal Site Evaluation at the Colville Post and Pole site, Stevens County, Washington.

APPENDIX A

Photographic Documentation

Colville Post & Pole Phase II Removal Site Evaluation
Photographic Log

Photo Number	Date	Time	Direction	By	Description
1-1	06/13/05	0810	E	PF	View of the sawdust pile, looking from the access road at the culvert.
1-2	06/13/05	1000	NE	PF	Stockpiled soil, wood waste, and waste metal from excavation to investigate geophysical anomaly (A).
1-3	06/13/05	1000	Down, N	PF	View of excavation to investigate geophysical anomaly (A).
1-4	06/13/05	1300	NW	PF	View of push probe location SAP01.
1-5	06/13/05	1410	N	PF	Collecting ground water sample SAGWP01.
1-6	06/13/05	1545	Down, N	PF	View of excavation to investigate geophysical anomaly (B).
1-7	06/13/05	1600	W	PF	View of push probe location SAP02.
1-8	06/13/05	1600	SE	PF	View of push probe location SAP02.
1-9	06/14/05	0800	N	PF	View of monitoring well location NAW01.
1-10	06/14/05	0809	E	PF	View of push probe location SAP03.
1-11	06/14/05	0945	NW	PF	Checking water level in existing monitoring well MW-1.
1-12	06/14/05	1030	SE	PF	View of push probe location SAP04.
1-13	06/14/05	1030	NW	PF	View of push probe location SAP04, looking from existing monitoring well MW-1.
1-14	06/14/05	1330	W	PF	View of monitoring well location SAW02, looking from the edge of the flagged wetland.
1-15	06/14/05	1400	W	PF	View of push probe location SAP05 location in the sawdust pile.
1-16	06/14/05	1530	SE	PF	View of monitoring well location SAW03.
1-17	06/14/05	1725	N	PF	View of push probe location SAP06, located in the NW corner of sawdust pile.
1-18	06/15/05	0824	NW	PF	View of push probe location NAP07.
1-19	06/15/05	1040	W	PF	View of monitoring well location NAW04.
1-20	06/15/05	1315	SE	PF	View of push probe location NAP08.
1-21	06/15/05	1435	N	PF	View of push probe location NAP08.
1-22	06/15/05	1530	SE	PF	View of push probe location NAP10.

Photo Number	Date	Time	Direction	By	Description
1-23	06/16/05	1321	E	PF	View of monitoring well location SAW08.
1-24	06/16/05	1326	NE	PF	Close-up of drillers working at SAW08.
1-25	06/16/05	1331	W	PF	View of monitoring well location SAW07, located to the left of the black drum.
1-26	06/16/05	1335	W	PF	View of push probe location PAP11 at NE corner of equipment building.
1-27	06/16/05	1340	SW	PF	View of push probe location PAP13 at the former AST location.
1-28	06/16/05	1419	NW	PF	Collecting subsurface soil samples SASBH0501 and SASBH0604.
1-29	06/16/05	1438	N	PF	Collecting subsurface soil samples SASBH0704 and SASBH0801.
1-30	06/17/05	1750	E	PF	View of drums of IDW. The drums shown in the photograph are described in the field logbook as drums 1-16; drum 17 is off camera to the left approximately 3 feet.
Push Probe					
2-1	06/14/05	0855	SE	BH	View of push probe location SAP03. Soils of this sample were primarily clay
2-2	06/14/05	1050	left to right is bottom to top	BC	View of core collected from push probe location SAP04, which consisted of clay from 8 to 12 feet bgs.
2-3	06/14/05	1450	left to right is bottom to top	BC	View of core collected from push probe location SAP05, which consisted of stratified clay and gravel from 24 to 28 feet bgs.
2-4	06/15/05	0945	left to right is bottom to top	BC	View of core collected from push probe location NAP07, which consisted of clay from 12 to 16 feet bgs.
2-5	06/15/05	1050	left to right is bottom to top	BH	View of core collected from push probe location NAP08, which was saturated.
2-6	06/15/05	1400	left to right is bottom to top	BC	View of core collected from push probe location NAP09, which consisted of clay from 12 to 16 feet bgs.
2-7	06/15/05	1615	left to right is bottom to top	BC	View of core collected from push probe location NAP10, which consisted of clay from 12 to 16 feet bgs.
2-8	06/16/05	0830	left to right is bottom to top	BH	View of core collected from push probe location PAP11, which contained a product layer.
2-9	06/16/05	1415	left to right is bottom to top	BC	View of core collection from push probe location PAP13, which consisted of clay from 12 to 16 feet bgs.

Photo Number	Date	Time	Direction	By	Description
REAC					
3-1	06/14/05		Down	REAC	View of core collected from monitoring well NAW01.
3-2	06/14/05		Down	REAC	View of core collected from monitoring well NAW01.
3-3	06/14/05		Down	REAC	View of core collected from monitoring well NAW01.
3-4	06/14/05		Down	REAC	View of core collected from monitoring well NAW01.
3-5	06/14/05		Down	REAC	View of core collected from 10.5 to 12 feet bgs in monitoring well SAW02.
3-6	06/14/05		Down	REAC	View of core collected from 10.5 to 12 feet bgs in monitoring well SAW02.
3-7	06/14/05		Down	REAC	View of core collected from 13.5 to 15 feet bgs in monitoring well SAW03.
3-8	06/14/05		Down	REAC	View of core collected from 13.5 to 15 feet bgs in monitoring well SAW03.
3-9	06/15/05		Down	REAC	View of core collected from 16.5 to 18 feet bgs in monitoring well SAW04.
3-10	06/15/05		NW	REAC	Drilling monitoring well NAW05.
3-11	06/15/05		NW	REAC	Drilling monitoring well NAW05.
3-12	06/16/05		Down	REAC	View of core collected from ground surface to 1.5 feet bgs in monitoring well SAW08.

BC – Bruce Carpenter
bgs – below ground surface
BH – Brady Hanson
PF – Paula Fedirchuk
REAC – Response Engineering and Analytical Contract

1-1

1-2

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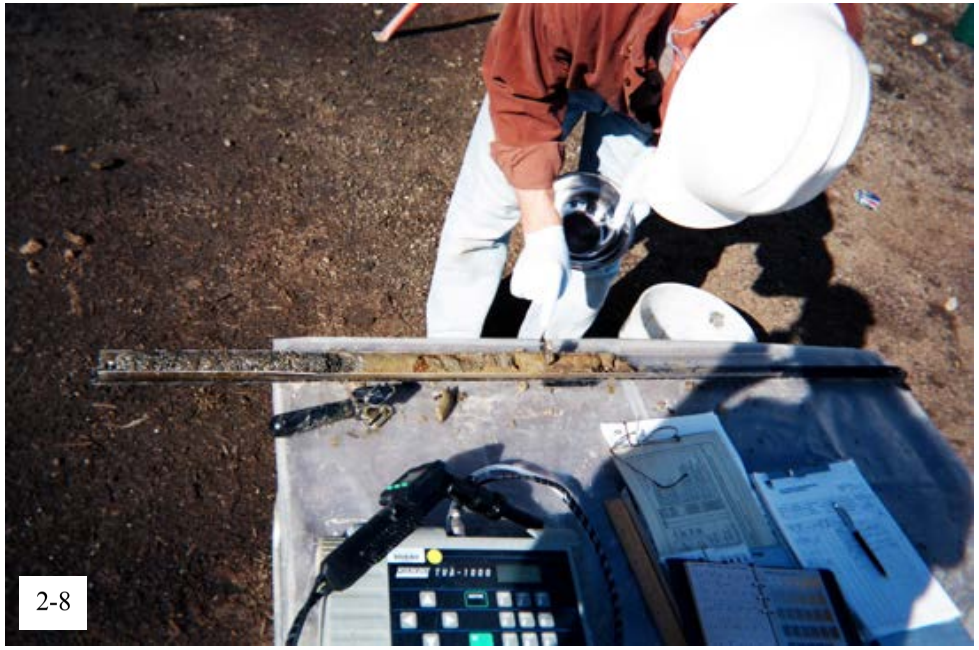

2-8

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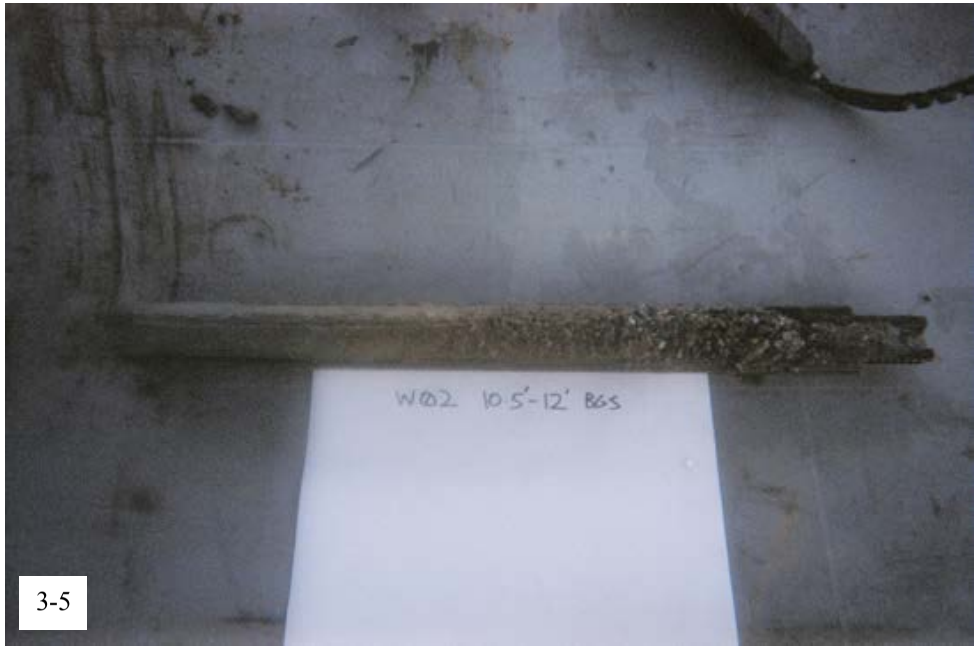
3-1


3-2


3-3


3-4



3-5

3-6

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3-11

3-12

APPENDIX B

Emergency Response Team Documentation

Lockheed Martin Technology Services
Environmental Services REAC
2890 Woodbridge Avenue Building 209 Annex
Edison, NJ 08837-3679
Telephone 732-321-4200 Facsimile 732-494-4021

LOCKHEED MARTIN

DATE: July 15, 2005

TO: Duane Newell, US EPA/ERT Work Assignment Manager

THROUGH: Dennis Miller, REAC Program Manager
T. Ferrell Miller, REAC Task Leader

FROM: Robert Phillips, REAC Geologist

SUBJECT: GEOPHYSICAL SURVEY AND MONITOR WELL INSTALLATION, COLVILLE POST AND POLE SITE, WORK ASSIGNMENT EAC00141 - TRIP REPORT

BACKGROUND

The Colville Post and Pole site (Site) is the former location of a wood treatment facility near the town of Colville, Washington (Figure 1). The treatment solution consists of 5 percent (%) pentachlorophenol (PCP) dissolved in diesel oil as a carrier. Site soil samples have been collected and analyzed for PCP and fuel contamination since 1989. Washington State Department of Ecology identified evidence of contamination around the treatment tanks and the above ground storage tanks (ASTs). Monitor wells were installed to evaluate the groundwater quality and results showed that groundwater was contaminated with heavy oils and PCP.

PURPOSE

Response Engineering and Analytical Contract (REAC) personnel provided support to the Environmental Response Team (ERT) in assisting Environmental Protection Agency (EPA) Region X personnel with locating possible buried drums at the Site using geophysical techniques. REAC personnel also supervised the installation of eight monitor wells by a drilling subcontractor. Soil cores were logged and screened to assess the extent of subsurface contamination and to determine sample collection depths. Sample management, custody and analysis is the responsibility of the Region X Superfund Technical Assessment and Response Team (START).

OBSERVATIONS AND ACTIVITIES

Geophysical survey

Methods. Two areas were surveyed with electromagnetic (EM) instruments to evaluate the presence of buried drums. The area surrounding the large sawdust pile, referred to as the "South Stockpile Area" was surveyed using a Geonics™ EM-61 high sensitivity metal detector (Figure 2) and a Geonics™ EM-31 terrain conductivity meter. The survey grid was laid out with an east-west baseline and north-south survey lines spaced at five foot intervals. The EM-61 was employed in wheel mode to automatically collect readings at 0.6-foot intervals. The EM-31 was triggered manually to collect data along the survey lines at 2.5-foot intervals. The "North Stockpile Area" was surveyed using the EM-61 on 10-foot line spacings oriented perpendicular to an east-west baseline. (Figure 3). The area surveyed was interrupted with numerous objects such as steel tanks

and beams, large logs and concrete blocks, which account for the large gaps in data collection. Coordinates were noted for all above ground metal, to eliminate those anomalies from the final plot.

Results. From the results of the EM-61 data plot, two anomalies ("A" and "B") were located in the South Stockpile Area for excavation (Figure 2). The largest anomaly on the north edge of the survey area was excavated to reveal numerous pieces of scrap metal at approximately five feet below ground surface, of which approximately four feet consisted of sawdust. The excavation for the second anomaly was dug to four feet and no metal was found. Based on the size of the response and findings of anomaly A, no other locations were deemed worthy of excavation by the Region X On-Scene Coordinator (OSC). After review of the North Stockpile Area and ground truthing of the surface metal, it was concluded that no large anomalies required excavation.

Monitor Well Installation

Methods. Using a Schram T300 drill rig, 9-inch hollow-stem augers were advanced through the overburden and the saturated zone until a layer of blue-grey silt was encountered at approximately 12 to 16 feet below grade. Continuous cores were collected using split-spoon samplers. Cores were logged and field screened using a Total Vapor Analyzer™ (TVA) 1000. All wells were constructed of two-inch inside diameter Schedule 40 polyvinyl chloride (PVC) with 10 slot (0.010 inch) screens. The wells were screened from total depth to no less than 4 feet below ground surface (bgs). This allowed for one foot of sand pack above the screen interval, two feet of bentonite clay seal and one foot of grout to ground surface. Wells were completed with either flush-mount vaults or three foot steel stick-ups as per request of the OSC.

Results. Well logs, including well construction details and TVA values are included as Appendix A. Core lithology varied very little from well to well, and indicated a layer of firm dark brown silty clay at the surface coarsening to silty sand above the water table. Cores from the saturated zone downward revealed medium sand to coarse sand and fine gravel, poorly sorted with 50% rounded 2-4 centimeter clasts. The coarse sand/fine gravel was sharply underlain by a tight dense blue-grey 100% silt layer. Total well depth (TD), screen interval and depth to water (DTW) are included in Table 1.

During well construction, soil samples were collected at the surface interval (0-12 inches) and again at the water table. Total volatile organic compounds (VOCs) were present in monitor well W08, located just south of the wood chip pile. A petroleum odor in the soil core at 4.5 feet bgs and a TVA reading of 63 parts per million (ppm) were noted.

CONCLUSIONS

No anomalies of the size and intensity that would indicate buried drums were apparent in either the North Stockpile Area or the South Stockpile Area. It was difficult to discern changes in conductivity that would indicate disturbed ground because of a four-foot thick surface layer of sawdust.

Based on the core logs and field screening, soil cores from W01 through W07 monitor wells indicated no gross contamination was present. Soil and groundwater analytical results will later be provided by Region X START contractor and may be used to verify this conclusion.

Cc: Central File - WA # EAC00141
Electronic File - L:/Archive/REAC4/141/D/TR/071505
Dennis Miller, REAC Program Manager (cover page only)

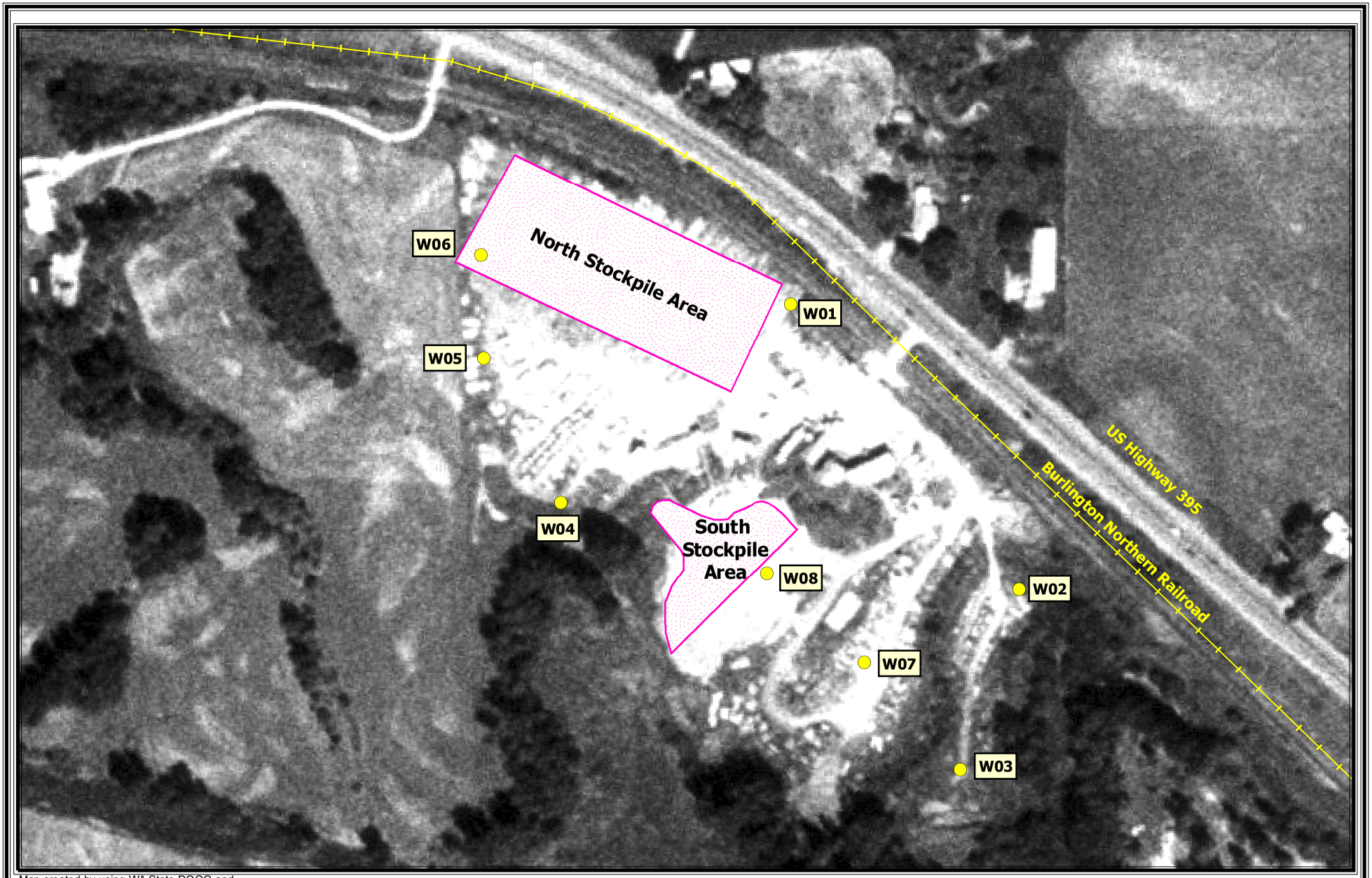
TABLE
Monitor Well Construction
Colville Post and Pole Site
Trip Report
July 2005

Table 1. Monitor Well Construction
Colville Post and Pole
Colville Washington
July 2005

Well ID	TD (feet bgs)	DTW (feet bgs)	SI (feet bgs)
W01	14.5	6.24	5 -14
W02	11.6	3.31	4 - 12
W03	14.3	5.19	5 - 15
W04	15.4	3.06	4 - 16
W05	15.2	4.57	4 - 16
W06	12.8	3.28	5 - 13
W07	12.0	3.22	4 -12
W08	21.5	6.16	6 - 20

All measurement from top of casing (TOC)
TD - total depth
DTW - depth to water
SI - screen interval
bgs - below ground surface

FIGURES
Site Map and Geophysical Surveys
Colville Post and Pole Site
Trip Report
July 2005



Map created by using WA State DOQQ and site-survey GPS data collected in Lat, Lon, Decimal Degrees, WGS84.

Map ceation date: July, 2005

Coordinate System: UTM
Zone: 11N
Datum: NAD83
Units: Meters

Data: G:/ArcViewProjects/REAC4/00-141
MXD File: G:/ArcInfoprojects/EAC00141_Colville_Post/141_Sitemap

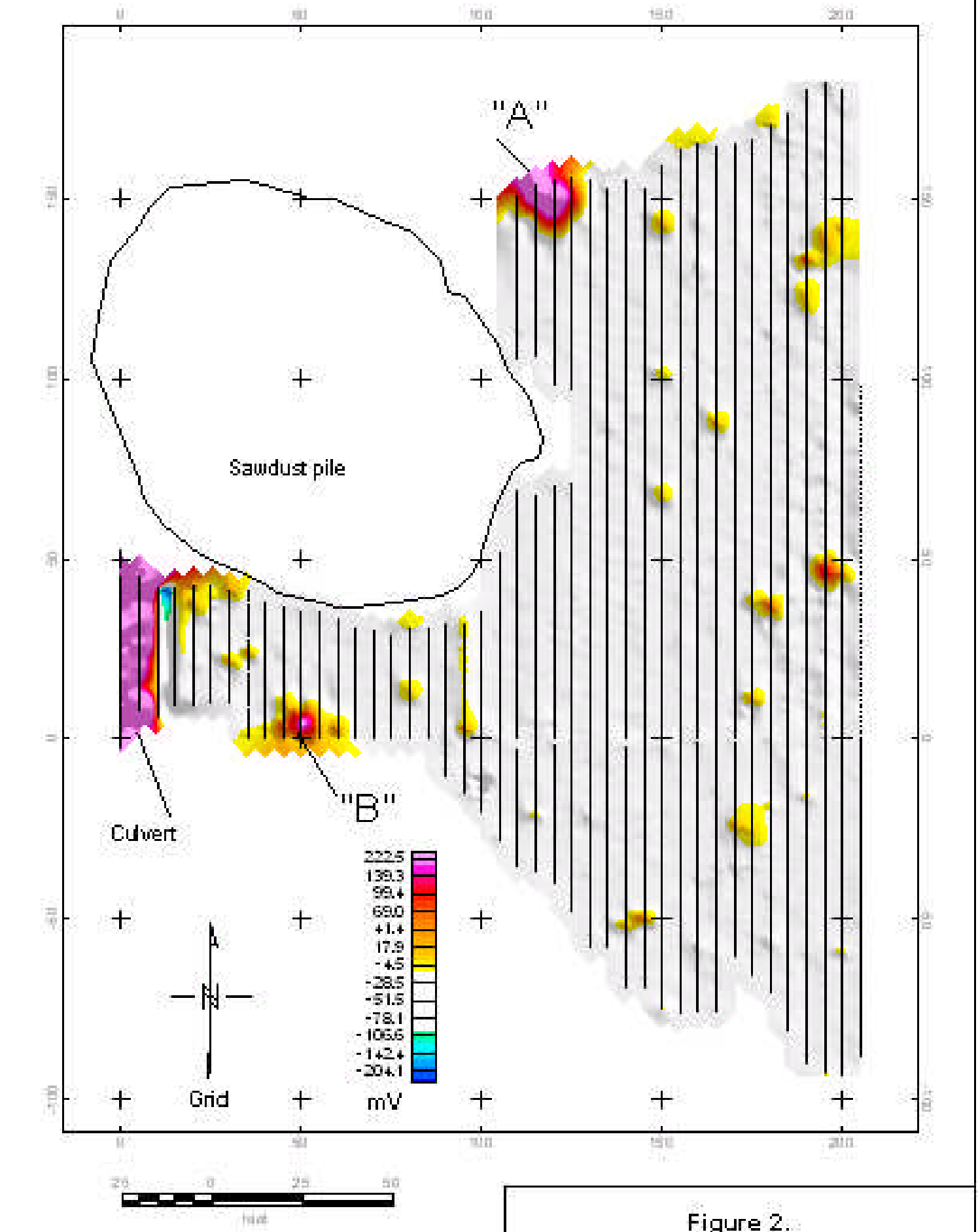
Legend

- MONITOR WELL
- RAIL ROAD
- EM SURVEY

200 0 200 400 Feet

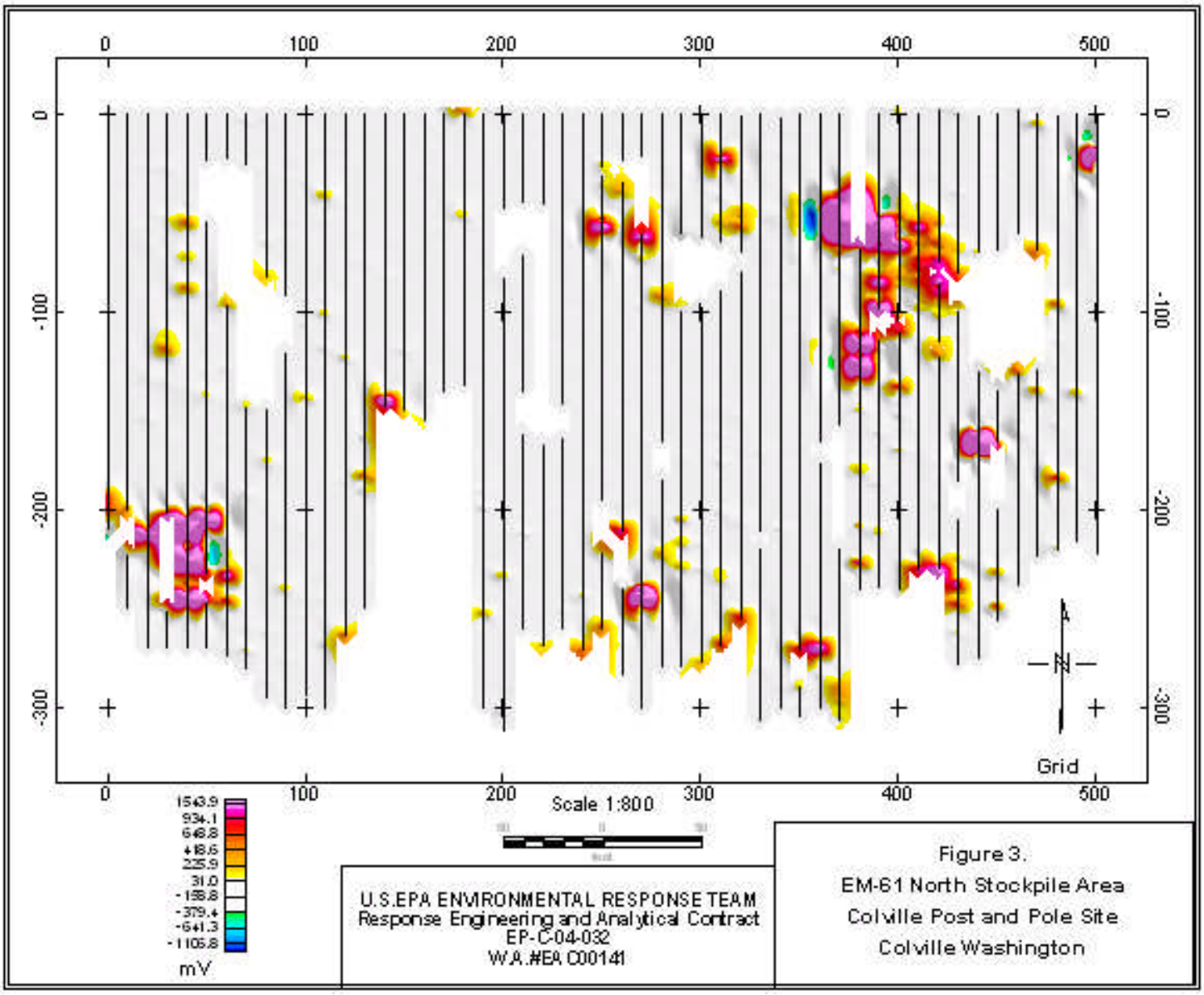
U.S.EPA ENVIRONMENTAL RESPONSE TEAM
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
EP-C-04-032
W.A.# 0-141

FIGURE 1
SITE MAP
COLVILLE POST AND POLE SITE
COLVILLE, WASHINGTON



U.S.EPA ENVIRONMENTAL RESPONSE TEAM
Response Engineering and Analytical Contract
EP-C-04-032
W.A.#EAC00141

Figure 2.
EM-61 South Stockpile Area
Coleville Post and Pole Site
Coleville Washington


0
100
200
300
400
500
-100
-200
-300
Grid
Scale 1:800
1543.9
934.1
648.8
418.6
225.9
31.0
-158.8
-379.4
-641.3
-1105.8
mV
U.S.EPA ENVIRONMENTAL RESPONSE TEAM
Response Engineering and Analytical Contract
EP-C-04-032
W.A.#EA C00141
Figure 3.
EM-61 North Stockpile Area
Colville Post and Pole Site
Colville Washington

APPENDIX A
Monitor Well Core Logs
Colville Post and Pole
Trip Report
July 2005

HERRERA
ENVIRONMENTAL
CONSULTANTS

SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # MW01
Total depth 14' BGS
Sheet ____ of ____

Project name COLVILLE P-P
Project number ____
Client ____
HEC rep. ____

Drilling Contractor ____
Location ____
Start date 6/14
Compl. date 6/14

Drilling method 8" HSA
Sampling method SPS
Ground elevation ____
Air monitoring (Y/N) ____
Instrument(s) ____

Instrument reading (ppm) F.D	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
9.0	cont X	75	6·5·4	1.5			SILTY CLAY BROWN	
0	—	90	2·3·3	3.0			SAME AS ABOVE	
0	—	90	2·2·3	4.5			SILTY CLAY GRD → SILTY SAND FINE	
0	—	90	2·2·4	6.0			SILTY F SAND MST	
0	cont X	90	3·3·11	7.5	▽		TAN SILTY F. SAND WET	
—	—	50	9·9·7	9.0			C SAND 40% 4mm RND SAT	
—	—	50	10·6·9	10.5			C SAND 50% 1-2cm RND SAT	
—	—	50	6·6·8	12.0			C SAND 50% 2cm RND	
—	—	50	3·2·3	13.5			SAME AS ABOVE	
—	—	50	1·3·1	15.0			TIGHT DENSE BLUE/GREY ~~CLAY~~ SILT @14' BGS	
								2" PVC RISER .01 SLOT SCREEN 14-5 FLUSH MOUNT
								GS
								BENT
								4'
								5'
								7' ▽
								SAND
								TD 14'

HERRERA
ENVIRONMENTAL
CONSULTANTS

SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # W02
Total depth 12' BGS
Sheet 1 of 1

Project name COLVILLE P-1
Project number
Client
HEC rep.

Drilling Contractor
Location
Start date 6/14
Compl. date 6/14

Drilling method 8" HSA
Sampling method SPS
Ground elevation
Air monitoring (Y/N)
Instrument(s)

Instrument reading (ppm)	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
0	COMP X	100	7.13.8	1.5			ORGANIC MAT 5-10 cm RND 10%	2" DIAM PVC RISER FLUSH MNT.
0	—	90	7.6.6	3.0			F SANDY SILT GRD M/C SAND MST	
0	—	40	7.4.7	4.5			M/C SAND 50% RND 4 mm WET	
0	COMP X	40	3.5.3	6.0	▽		M/C SAND 50% RND 2 cm SAT	
—	—	30	6.8.9	7.5			SAME	
—	—	20	3.5.3	9.0			SAME	
—	—	20	3.5.3	10.5			SAME AS ABOVE	
—	—	90	3.3.1	12.0			BLUE/GREY TIGHT DENSE silty @ 11.5' SILT	
								GS
								BENT.
								3
								4
								SAND
								▽
							TOTAL DEPTH 12'	

HERRERA
ENVIRONMENTAL
CONSULTANTS

SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # W-03
Total depth 15' BGS
Sheet 1 of 1

Project name Calvine Park
Project number
Client
HEC rep.

Drilling Contractor
Location
Start date 6/14
Compl. date 6/14

Drilling method 8" HSA
Sampling method SPS
Ground elevation
Air monitoring (Y/N)
Instrument(s)

Instrument reading (ppm) FID	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
0	cont X	50	6-6-4	1.5			20% SUB ANGULAR 2 cm CLAST SILTY CLAY	CLAY
0		50	12-6-4	3.0			SILTY CLAY DARK BROWN 10%	
0		20	2-4-6	4.5			TIGHT LOOSE DRY CLAY	
0		90	4-2-3	6.0			SILTY CLAY W/ F. SAND LENSE @ 5'	
0		100	1-1-2	7.5			CLAY SHF SILT DARK GREY MST	2" BLANK PVC RISER
0	cont X	90	1-1-5	9.0	▽		M SAND WELL SORTED SAT WET	
		80	5-4-5	10.5			SAME AS ABOVE SAT	
		10	3-1-3	12.0			M SAND SUB RND POOR SORTED 10%	
		10	7-8-7	13.5			POOR SORTED ANGULAR 20% 5cm CLAST	
		80	3-2-3	15.0			M/C SAND 20% 2mm CLAST BLUE GREY @ 14' DENSE TIGHT SILT	GS
								BENT.
								4
								5
								SAND
								▽
							TOTAL DEPTH 15'	

HERRERA ENVIRONMENTAL CONSULTANTS

SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # W04
Total depth 16' BGS
Sheet ____ of ____

Project name	COLVILLE P&P	Drilling Contractor		Drilling method	8" HSA
Project number		Location		Sampling method	SPS
Client		Start date	6/15	Ground elevation	
HEC rep.		Compl. date	6/15	Air monitoring (Y/N)	
				Instrument(s)	

Instrument reading (ppm) FID	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
0.9	COMP 6'	60	1·3·4	1.5			DK BROWN SANDY SILT DRY	
1.0	—	100	1·1	3.0			SAME AS ABOVE MST	
1.0	—	100	1	4.5	∇		DK BROWN 20% F. SANDY SILT MST	2" DIAM PVC RISER
1.2	—	100	1	6.0			SAME AS ABOVE MST	.01 SLOT
1.7	—	100	1	7.5			10% F. SANDY SILT WET	
1.8	COMP 6'	70	0·0·1	9.0			M. SAND LENS @ 8' SAT SILTY SAND	
1.5	—	20	2·1·1	10.5			40% 5-10 mm RND M. SAND	
1.6	—	90	1·1·3	12.0			WELL SORT M. SAND	
—	—	60	2·2·11	13.5			C. SAND w/20% 2-3 cm RND	
—	—	90	9·9·10	15.0			C. SAND SHP C. GRAVEL POOR SORT 20 mm	
—	—	50	4·2·1	16.5			C. SAND 50% POOR SORT GRAVEL	
—	—	100	1	18.0			BLUE/GREY TIGHT DENSE SILT @ 16.5	
							6.5	
							3	BENT
							4	
							5 ∇	SAND
							T.D. 16	

HERRERA
ENVIRONMENTAL CONSULTANTS

SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # W05
Total depth 16
Sheet ____ of ____

Project name	COLVILLE B & F	Drilling Contractor		Drilling method	8" HSA
Project number		Location		Sampling method	SPS
Client		Start date	6/15	Ground elevation	
HEC rep.		Compl. date	6/15	Air monitoring (Y/N)	
				Instrument(s)	

Instrument reading (ppm) FID	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
.7	comp	90	2·3·3	1.5			DK BROWN SILTY CLAY DENSE DRY	2" DIAM. PVC RISER
1.0	—	100	1·2·3	3.0			SILTY SAND DRK GREY MST	.01 SLOT
1.2	—	50	2·2·3	4.5			SILTY SAND 30% 2cm RND WET	
1.5	comp	50	9·8·11	6.0	▽		C. GRAVEL WET	
0	—	30	4·7·9	7.5			M. SAND 50% C. GRAVEL SAT	
—	—	50	5·8·8	9.0			C. SAND/F. GRAVEL POOR SORT	
—	—	30	6·6·3	10.5			SAME	
—	—	20	5·8·8	12.0			SAME	
—	—	40	4·7·9	13.5			SAME	
—	—	40	5·5·8	15.0			SAME AS ABOVE	
—	—	50	7·3·1	16.5			SAME TO 16' BLUE/GREY TIGHT BRKE SILT	
							GS.	
								BENT
							3	
							4	
							5 ▽	SAND
							16' T.D.	

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SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # W06
Total depth 14'
Sheet ____ of ____

Project name COLVILLE P&P
Project number ____
Client ____
HEC rep. ____

Drilling Contractor ____
Location ____
Start date 6/6
Compl. date 6/16

Drilling method 8" HSA
Sampling method SPT
Ground elevation ____
Air monitoring (Y/N) ____
Instrument(s) ____

Instrument reading (ppm) FID	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
.80	COMP X	50	4.4.7	1.5			DK BROWN DENSE SILT DRY	2" DIA PVC RISER .01 SLOT
1.3	—	50	2.3.3	3.0			SAME MST	
1.4	—	30	1.1.1	4.5			80% SILT W/CLAY MST	
—	—	0	0.0.2	6.0	▽		ROCK PLUG IN SAMPLER WET	
0	COMP X	50	1.5.5	7.5			C. SAND GRD F GRAVEL POOR SORT 20% F mm SAT	
0	—	50	1.4.3	9.0			C. SAND 20% F mm RVL	
—	—	40	4.5.2	10.5			SAME	
—	—	30	4.1.2	12.0			SAME	
—	—	10	4.5.3	13.5			SAME AS ABOVE	
—	—	100	0	15.0			TIGHT DENSE BLUE/GRAY SILT @ 13.5	
							6.5	BENT
							9	
							5	SAND
							▽	
							T.D. 14	

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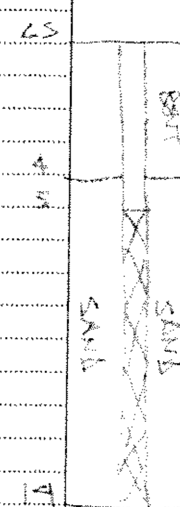
SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # W07
Total depth 14
Sheet ____ of ____

Project name		Drilling Contractor		Drilling method	
Project number		Location		Sampling method	
Client		Start date	6/16	Ground elevation	
HEC rep.		Compl. date	6/16	Air monitoring (Y/N)	
				Instrument(s)	

Instrument reading (ppm) FID	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
1.0	COMP X	50	6·8·5	1.5			DK BROWN DENSE SILT DRY	
0.8	—	80	2·3·5	3.0			DK BROWNS SILT SHP ~~M~~ SAND WELL SORT MST	
1.1	COMP X	50	4·4·6	4.5	▽		M/C SAND 20% GRAVEL RND 3 cm WET	
1.2	—	20	3·3·3	6.0			POOR SORT F GRAVEL RND 4 cm CLST SAT	
—	—	30	4·5·6	7.5			C. GRAVEL 20% 6-8 cm SAT	
—	—	60	5·9·11	9.0			C. SAND / 50% GRAVEL RND 2-6 cm SAT	
—	—	20	7·10·7	10.5			SAME	
—	—	20	5·2·1	12.0			SAME	
—	—	100	0	13.5			TIGHT DENSE BLUE GREY ~~CLAY~~ SILT @ 14'	



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SOIL BORING AND MONITORING WELL CONSTRUCTION RECORD

Boring # MW08
Total depth 19.5
Sheet ____ of ____

Project name Columbia Park
Project number ____
Client ____
HEC rep. ____

Drilling Contractor ____
Location ____
Start date 6/16
Compl. date 6/16

Drilling method 8" HSA
Sampling method SPS
Ground elevation ____
Air monitoring (Y/N) ____
Instrument(s) ____

Instrument reading (ppm)	Sample type, interval	% recovery	Blow counts	Depth (feet, BGS)	Water level (feet, BGS)	Soil group	Soil description	Well Details
6.1	COMP	100	2.5.5	1.5			WOOD CHIPS → 1" SILTY SAND, PETROL ODOR	
17.0	—	100	3.3.2	3.0			LK GREY SILTY SAND WEAK SRT MOISTURE	
63.0	COMP	100	3.2.1	4.5			SAME MST	
24.0	COMP	100	1.0.0	6.0	▽		SAME SAT	
0	—	60	1.5.8	7.5			LK GREY SILTY SAND SHP C SAND/GRAVEL	
0	—	50	5.8.7	9.0			C. SAND/GRAVEL 50% 2CM RNA WET-SAT	
—	—	40	5.6.9	10.5			SAME SAT	
—	—	30	4.5.6	12.0			SAME	
—	—	30	7.7.2	13.5			SAME	
—	—	50	1.3.8	15.0			C. SAND GRD SANDY SILT	
—	—	90	3.8.6	16.5			C. SAND/GRAVEL 50% 2-4 CM RNA ▽	
—	—	20	5.1.8	18.0			SAME GS	
—	—	20	5.5.3	19.5			C. SAND GRAVEL W/ SILTY ~~CLAY SILT~~ GRAY	SCW PST
								BENT
								5
								6
								SAND
								19.5

APPENDIX C

Push Probe Boring Logs

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SOIL PROBE RECORD

Boring # SAP01
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Carpenter/BH

Drilling Contractor ESAT
Location South of sawdust pile
Start date June 13, 2005
Compl. date June 13, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
			1			Wood chips, dry
FID=20	Push-Probe SASBP01-02	50	2		ML	Very dark grayish brown (10YR3/2) sandy SILT, moist
			3		SM	Very dark grayish brown (10YR3/2) silty SAND, moist
			4	▽		Ground water level measured at 4 feet and encountered during drilling at 4 feet
FID=10 PID=0.2	SASBP01-04 Push-Probe	30	5			
			6			
			7			
			8		GM	Gray (10YR 5/1) sandy GRAVEL with silt, cobbles (2"), wet
FID=0	Push-Probe	33	9			
			10			
			11			
			12			
FID=0	Push-Probe	50	13			
			14			
			15			
			16		CH	Gray (10YR5/1) silty CLAY, moist to wet
			17			Set temporary screen from 3.5 to 7.5 feet. Abandoned borehole by pressure grouting with bentonite.
			18			
			19			
			20			

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SOIL PROBE RECORD

Boring # SAP02
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Carpenter/BH

Drilling Contractor ESAT
Location
Start date June 13, 2005
Compl. date June 13, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
			1			Wood chips, dry
FID=0 PID=0	Push-Probe SASBP02-03	85	2 3 4	▼ ▽	ML	Ground water level measured at 3.4 feet Very dark grayish brown (10YR3/2) sandy SILT, moist
	SASBP02-04		5			Ground water encountered during drilling at 4 feet
FID=20 PID=0.4	Push-Probe	50	6 7 8		SM GM	Gray (10YR5/1) silty SAND, wet Gray (10YR 5/1) sandy GRAVEL with silt, cobbles (2"), wet
FID=0 PID=2	Push-Probe	50	9 10 11 12		ML	Lens of sandy SILT with gravel
FID=0 FID=0	Push-Probe	75	13 14 15 16		CH	Gray (10YR6/1) gravelly CLAY, with cobbles, silt, wet
			17 18 19 20			Set temporary screen from 3 to 7 feet. Abandoned borehole by pressure grouting with bentonite.

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SOIL PROBE RECORD

Boring # SAP03
Total depth 20 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Carpenter/BH

Drilling Contractor ESAT
Location
Start date June 14, 2005
Compl. date June 14, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
			1			Wood chips, dry
FID=19 PID=0	Push-Probe SASBP03-02	75	2 3 4	▽ ▼	SW	Gray (10YR6/1) and yellowish brown (10YR5/6) mottled gravelly SAND with silt, occasional cobles, moist Ground water encountered during drilling at 4 feet Ground water level measured at 4.3 feet
FID=2 PID=0	SASBP03-04 Push-Probe	50	5 6 7 8			
FID=0 PID=0	Push-Probe	100	9 10 11 12		GW	Dark gray (10YR4/1) cobbly (1.8") GRAVEL with sand, wet
FID=0 FID=0	Push-Probe	70	13 14 15 16		SM	Gray (10YR5/1) silty SAND, wet
FID=0 FID=0	Push-Probe	60	17 18 19 20		GM	Gray (10YR5/1) sandy GRAVEL with clay, wet
					SC	Gray (10YR5/1) clayey SAND, wet
					CH	Gray (10YR5/1) silty CLAY, moist to wet Set temporary screen from 4 to 8 feet. Abandoned with grout.

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SOIL PROBE RECORD

Boring # SAP04
Total depth 12 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Hanson/BAC

Drilling Contractor ESAT
Location SE of sawdust pile
Start date June 14, 2005
Compl. date June 14, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
						Wood chips, dry
	SASBP04-01		1		GW	Crushed GRAVEL, fill, dry
	Push-				SM	Dark yellowish brown (10YR3/4) silty SAND, moist
	Probe		2		SW	Light yellowish-brown (10YR6/4) gravelly SAND, with silt, moist
FID=0		60				
PID=0			3			
			4	▼		Ground water level measured at 3.95 feet
	SASBP04-04			▽		Ground water encountered during drilling at 4 feet
			5			
FID=0	Push-	35	6			
PID=0	Probe					
			7			
			8			
			9			
FID=0	Push-	50	10			
PID=0	Probe					
			11			
			12		CH	Gray (10YR5/1) silty CLAY, moist to wet
			13			Set temporary screen from 4 to 8 feet. Abandoned borehole by pressure grouting with bentonite.
			14			
			15			
			16			
			17			
			18			
			19			
			20			

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SOIL PROBE RECORD

Boring # SAP05
Total depth 28 feet
Sheet 1 of 2

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Hanson/BAC

Drilling Contractor ESAT
Location East of sawdust pile
Start date June 14, 2005
Compl. date June 14, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID (malfunctioned)

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
FID=1.2 PID=2.2	Push-Probe SASBP05-3.5	50	1 2 3			Wood chips, dry
			4		SM	Dark yellow-brown (10YR3/4) silty SAND, moist
N/A	SASBP05-05 Push-Probe	50	5 6 7 8	▼ ▽	GW	Ground water level measured at 5.00 feet. Ground water encountered during drilling at 6 feet. Gray (10YR5/1) sandy GRAVEL, with silt, wet Cobbles (2")
N/A	Push-Probe	10	9 10 11 12			
N/A	Push-Probe	20	13 14 15 16			
N/A	Push-Probe	30	17 18 19 20			

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SOIL PROBE RECORD

Boring # SAP05
Total depth 28 feet
Sheet 2 of 2

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Hanson/BAC

Drilling Contractor ESAT
Location East of sawdust pile
Start date June 14, 2005
Compl. date June 14, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID (malfunctioned)

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
N/A	Push-Probe	35	21 22 23		GW	Gray (10YR5/1) sandy GRAVEL, with silt, wet
N/A	Push-Probe	60	24 25 26 27 28		CH/ GW	Stratified (alternating layers) of light olive brown (2.5Y5/3) silty Clay and olive brown (2.5Y4/3) sandy GRAVEL, with cobbles (1.5"), wet
			29 30 31 32 33 34 35 36 37 38 39 40			Set temporary screen from 5 to 9 feet. Abandoned borehole by pressure grouting with bentonite.

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SOIL PROBE RECORD

Boring # SAP06
Total depth 12 feet
Sheet 1 of 1

Project name COLVILLE
Project number 01732-066
Client EPA
HEC rep. B. Carpenter/BH

Drilling Contractor ESAT
Location NW of sawdust pile
Start date June 14, 2005
Compl. date June 14, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
	SASBP06-01		1			Wood chips, dry
FID=0 PID=0.8	Push-Probe	50	2	▼	ML	Ground water level measured at 1.9 feet Dark gray (10YR4/1) sandy SILT, with clay, grading to sandy SILT with mica flakes, moist
			3			
			4			
	SASBP06-04		5	▽		Ground water encountered during drilling at 4 feet.
FID=0 PID=0.9	Push-Probe	50	6		SM	Gray (10YR5/1) silty SAND, with wood chip, wet
			7			
			8			
			9		GW	Gray (10YR5/1) sandy GRAVEL, wet
FID=0 PID=0.9	Push-Probe	10	10		CH	Gray (10YR5/1) gravelly CLAY, moist to wet
			11			
			12			
			13			Set temporary screen from 2 to 6 feet. Abandoned borehole by pressure grouting with bentonite.
			14			
			15			
			16			
			17			
			18			
			19			
			20			

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SOIL PROBE RECORD

Boring # NAP07
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B Hanson/BAC

Drilling Contractor ESAT
Location North side of wood peeler
Start date June 15, 2005
Compl. date June 15, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
	NASSP07-00		1		GW	Dark yellowish brown (10YR3/4), sandy GRAVEL with silt and Cobbles (1.5), moist
FID=1.0 PID=0	Push-Probe	75	2		ML	Very dark grayish brown SILT, with sand, trace clay, moist
			3		SM	Brown (10YR5/3) silty SAND, moist
			4			
	NASBP07-04		5	▽ ▼		Ground water encountered during drilling at 4 feet. Ground water level measured at 4.9 feet
FID=0.7 PID=0.9	Push-Probe	50	6		SP	Grayish brown (10YR5/2) with silt, trace gravel, mottled with iron staining, grades from medium to coarse, wet
			7			
			8			
			9		GM	Yellowish brown (10YR5/4) sandy GRAVEL with silt, trace cobbles (1"), wet
FID=0.3 PID=0	Push-Probe	10	10			
			11			
			12			
			13		CH	Gray (10YR5/1) silty CLAY, moist to wet
FID=0.2 PID=0	Push-Probe	-	14			
			15			
			16			
			17			Set temporary screen from 5 to 9 feet. Abandoned borehole by pressure grouting with bentonite.
			18			
			19			
			20			

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SOIL PROBE RECORD

Boring # NAP08
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B Hanson/BAC

Drilling Contractor ESAT
Location West of office trailer
Start date June 15, 2005
Compl. date June 15, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
FID=3.1 PID=0	NASSP08-00 Push-Probe	75	1–4	▽	GW	Dark yellowish brown (10YR3/4), sandy GRAVEL with silt, dry Color changes to very dark grayish brown (10YR3/2)
					SM	Very dark grayish brown (10YR3/2) silty SAND, moist Color changes to brown (10YR5/3) Ground water encountered during drilling at 4 feet. Very dark grayish brown (10YR3/2) silty SAND, wet
FID=0.3 PID=0	NASBP08-04 Push-Probe	50	5–8	▼		Ground water level measured at 5.3 feet
					SP	Grayish brown (10YR5/2) SAND with silt, wet Trace gravel
FID=0.8 PID=0	Push-Probe	50	9–12		SW	Grayish brown (10YR5/2) gravelly SAND with silt, wet
FID=0 PID=0	Push-Probe	80	13–16		CH	Grayish brown (10YR5/2) silty CLAY, moist to wet Color changes to gray (10YR5/1)
			17–20			Set temporary screen from 5 to 9 feet. Abandoned borehole by pressure grouting with bentonite.

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SOIL PROBE RECORD

Boring # NAP09
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B Hanson/BAC

Drilling Contractor ESAT
Location ~200 feet west of office trailer
Start date June 15, 2005
Compl. date June 15, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
FID=2.1 PID=0	NASSP09-00 Push-Probe	80	1–4		GW	Dark yellowish brown (10YR3/4), sandy GRAVEL with silt, dry
					SM	Very dark grayish brown (10YR3/2) silty SAND, dry
						Color changes to grayish brown (10YR5/2), moist
FID=1.1 PID=0	NASBP09-04 Push-Probe	40	5–8	▽		Ground water encountered during drilling at 4 feet.
				▼		Color changes to dark gray (10YR4/1) Ground water level measured at 5.6 feet
FID=0.1 PID=0	Push-Probe	50	9–12		SW	Dark yellowish brown (10YR3/4) gravelly SAND, wet
					GW	Dark yellowish brown (10YR3/4) sandy GRAVEL with silt, wet
FID=0.3 PID=0	Push-Probe	75	13–16		CH	Grayish brown (10YR5/2) silty CLAY, moist
					GW	Dark yellowish brown (10YR3/4) sandy GRAVEL with silt, wet
					CH	Gray (10YR5/1) silty CLAY, moist to wet
			17–20			Set temporary screen from 6 to 10 feet. Abandoned borehole by pressure grouting with bentonite.

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SOIL PROBE RECORD

Boring # NAP10
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Carpenter/BH

Drilling Contractor ESAT
Location SW of NAP09
Start date June 15, 2005
Compl. date June 15, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
	NASSP10-00		1		SW	Dark yellowish brown (10YR5/4), gravelly SAND with silt, cobbles (1.8"), moist
FID=0 PID=0	Push-Probe	75	2 3 4		ML	Very dark grayish brown (10YR3/2) sandy SILT, mica flakes, moist
	NASBP10-04		5	▽ ▼	SM	Grayish brown (10YR5/2) silty SAND, moist Ground water encountered during drilling at 4 feet Ground water level measured at 4.95 feet
FID=0 PID=0	Push-Probe	50	6 7 8		GW	Grayish brown (10YR5/2) sandy Gravel, with cobbles (1.5"), wet
FID=0 PID=0	Push-Probe	30	9 10 11 12			
FID=0 PID=0	Push-Probe	85	13 14 15 16		CH	Pale brown (10YR6/3) silty CLAY, moist to wet Color changes to gray (10YR6/1)
			17 18 19 20			Set temporary screen from 5 to 9 feet. Abandoned borehole by pressure grouting with bentonite.

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SOIL PROBE RECORD

Boring # PAP11
Total depth 12 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Hanson/BAC

Drilling Contractor ESAT
Location West portion of processing area
Start date June 16, 2005
Compl. date June 16, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
	PASSP11-00		1			Topsoil, fill
FID=0.8 PID=0	Push-Probe	75	2		SM	Dark yellowish brown (10YR3/4) silty SAND with gravel, moist
			3		MH	Yellowish brown (10YR5/4) sandy SILT, moist
			4			
			5		MH	Brown (10YR4/3) clayey SILT, moist
FID=0.1 PID=0.9	Push-Probe	60	6		CH	Grayish brown (10YR5/2) silty CLAY, mottled, moist
			7			
			8			
	PASBP11-09		9		SM	Brown (10YR5/3) silty Sand, mottled, moist to wet,
FID=14 PID=5	Push-Probe PASBP11-11	60	10			Ground water and product encountered during drilling at 10.5 feet.
			11	▽	GW	Very dark grayish brown (10YR3/2), sandy GRAVEL, with silt, Wet, product present
			12			
			13			Set temporary screen from 8.5 to 12.5 feet. Abandoned borehole by pressure grouting with bentonite.
			14			
			15			
			16			
			17			
			18			
			19			
			20			

HERRERA
ENVIRONMENTAL
CONSULTANTS

SOIL PROBE RECORD

Boring # PAP12
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Hanson/BAC

Drilling Contractor ESAT
Location Road north of former ASTs
area
Start date June 16, 2005
Compl. date June 16, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
			1			Topsoil, fill
FID=0.8 PID=0	Push-Probe	5	2 3 4	▼		No recovery Ground water level measured at 3 feet.
	PASBP12-04		5		MH	Dark grayish brown (10YR4/2) clayey SILT, moist
FID=0.6 PID=0	Push-Probe	80	6 7		CH	Gray (10YR5/1) silty CLAY, moist
			8		MH	Dark grayish brown (10YR4/2) clayey SILT, moist
	PASBP12-08		9		CH	Gray (10YR5/1) silty CLAY, moist
	Push-Probe	80	10	▽	SW	Brown (10YR5/3), gravelly SAND with silt, moist to wet Ground water encountered during drilling at 9.5 feet.
			11 12		GM	Dark yellowish brown (10YR4/6) sandy GRAVEL with cobbles, trace silt, wet
	Push-Probe	100	13 14 15 16		CH	Gray (10YR5/1) silty CLAY, moist to wet
			17 18 19 20			Set temporary screen from 8 to 12 feet. Abandoned borehole by pressure grouting with bentonite.

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SOIL PROBE RECORD

Boring # PAP13
Total depth 16 feet
Sheet 1 of 1

Project name COLVILLE3
Project number 01732-066
Client EPA
HEC rep. B. Hanson/BAC

Drilling Contractor ESAT
Location Beneath former ASTs in PA
Start date June 16, 2005
Compl. date June 16, 2005

Drilling method Push-probe
Sampling method 4' sampler w/liner
Ground elevation
Air monitoring (Y/N) Yes
Instrument(s) FID/PID

Instrument reading (ppm)	Sample type, interval	% recovery	Depth (feet, BGS)	Water level	Soil group	Soil description
	PASSP13-00		1			Topsoil, fill
FID=1.6 PID=0	Push-Probe	50	2		SM	Dark brown (10YR3/3) silty SAND with gravel, moist
			3	▼		Ground water level measured at 3 feet.
			4		ML	Very dark grayish brown (10YR3/2) sandy SILT, moist
FID=4.4 PID=0	Push-Probe PASBP13-06	60	5		CH	Very dark gray (10YR3/1) silty CLAY, moist
			6			Color changes to gray (10YR5/1)
					SM	Very dark brown (10YR2/2) sandy SILT, moist
			7	▽	ML	Light brownish gray (10YR6/2) sandy SILT with clay, wet Ground water encountered during drilling at 6.5 feet.
			8			
FID=0.3 PID=0	PASBP13-08 Push-Probe	60	9		GW	Light brownish gray (10YR6/2), sandy GRAVEL with cobbles (2"), trace silt, wet
			10			
			11			
			12			
FID=0.2 PID=0	Push-Probe	90	13		CH	Light gray (10YR5/1) silty CLAY, moist to wet
			14			
			15			
			16			
			17			Set temporary screen from 8 to 12 feet. Abandoned borehole by pressure grouting with bentonite.
			18			
			19			
			20			

APPENDIX D

Immunoassay Test Kit Documentation and Correlation Analysis Data

Immunoassay Field Screening

Immunoassay field screening with Rapid Assay test kits was used to determine areas requiring further study while in the field and to evaluate its applicability to monitoring site conditions during future removal activities. Statistical analyses were performed on the results from the Rapid Assay kits and corresponding laboratory results to evaluate the accuracy of the kit as a screening tool for PCP in both soil and ground water across the project area. The Rapid Assay kit and laboratory results were initially compared using a Wilcoxon signed rank test to determine if they were statistically different. After initial screening with this robust test, a graphical regression approach was used to analyze the relationship between laboratory and field data; these results can be seen in Figures D-1 and D-2. Analyses were performed on soil data collected both in January and June 2005. Because of differing field conditions and apparent differing results from the January and June data, analyses were also performed separately on data collected in each of the two months. Additionally, analysis was performed on immunoassay kit data collected from water samples in June 2005. In all these analyses, statistical significance was assessed based on an alpha (α) of 0.05. Results from these statistical analyses are described in separate subsections below for soil and ground water data.

Soil Data

Two separate field events were conducted at the site using immunoassay field screening; the January 2005 effort supported the Removal Action (RA), the June 2005 effort supported the Phase II Removal Site Evaluation (RSE). The January work was performed under freezing conditions that required modifications to methods normally applied to the field screening process associated with sample collection (homogenization of frozen soil) and processing (extended period between extraction and analysis). In addition, it was discovered that the Rapid Assay kit was shipped from the vendor with contaminated developer. A replacement kit was then obtained after the initial sample extraction had been completed, with final analysis performed up to two weeks later. Immunoassay test kit sample numbers for the two field events are summarized in Table D-1.

Table D-1. Field screening sample summary, Colville Post and Pole, 2005.

Month	Matrix	Samples Collected	Results Less Than Detection Limit	Results Greater Than Detection Limit
January/June	Soil	77	41	36
January	Soil	40	19	21
June	Soil	37	22	15
June	Water	24	17	7

This summary indicates that 50 to 60 percent of the soil sample results were below the detection limit of the field screening kit. Soil sample results ranged from the detection limit to 50 ppm, except for one value at 360 ppm (sample PASSP1300).

The Rapid Assay kit manufacturer suggests that their technology may be reliably applied to a range of PCP concentrations from 1 to 100 ppm. For this project, concentrations of 3 and 8.33 ppm are of primary interest, representing the EPA Region 9 Preliminary Remediation Goal (PRG) and the Model Toxics Control Act (MTCA) method B cleanup level, respectively. Based on the distribution of data that included a high percentage of non-detects at the low end and a single high value above the recommended kit application range, it was decided to censor the data by removing both extremes from the statistical analysis. It was felt that the high number of non-detects would unduly emphasize the low end of the distribution using a fabricated value (typically assumed to be ½ the detection limit of 1 ppm). Also, it was felt that the single high value was outside both the decision range (near the action levels identified) and well beyond the kit reliability maximum value. A summary of statistical parameters applied to both January and June data is provided in Table D-2; graphs showing the results of regression analysis are provided in Figures D-1 and D-2.

Table D-2. Descriptive statistics and results of Wilcoxon signed rank test for immunoassay data.

Month	Matrix	Test	n	Mean	Min.	Max.	Std Dev	P-value [a]	Tests Comparable?
Jan. & June	Soil	Lab	35	7.4	0.02	73.5	14.4	0.001	No
		Field	35	4.2	0.06	50.0	9.3		
Jan	Soil	Lab	21	4.1	0.02	25.5	7.1	0.006	No
		Field	21	1.3	0.06	9.7	2.2		
June	Soil	Lab	14	12.4	0.13	73.5	20.5	0.064	Yes
		Field	14	8.5	0.10	50.0	13.6		
June	Water	Lab	6	250.2 [b]	40.1	875.0	315.7	0.249	Yes
		Field	6	356.5	41.0	1,300.0	476.0		

January and June Combined Soil Data

When the January and June 2005 soil data were combined, a statistical comparison between field and lab data indicated that the tests were not comparable. Table D-2 indicates that for the June and January 2005 soil data, the Wilcoxon signed rank test is significant ($p = 0.001$). This means that the data distributions are significantly different and that the field kit will not reliably estimate lab results. A graphical analysis (Figure D-1) shows that there is a group of January data well outside the 95 percent confidence bands for the regression between the field and lab data. Thus, it can be concluded that when the January and June data are combined, the January

data is adversely affecting the relationship between the two methods. In order to examine this more closely both the January and June data were analyzed separately.

January Soil Data

In January 2005, the Wilcoxon test (Table D-2) again indicates that there was a significant difference ($p = 0.006$) between the field data and lab data. A graphical analysis of the data (Figure D-1) indicates that there is a tight relationship between field values below 2 ppm and lab values below 3 ppm, but above these values the relationship breaks down and the kit consistently underestimates results obtained in the lab. We conclude that the kit does not estimate lab values accurately for the January data.

June Soil Data

When taken alone, the June 2005 soil analysis produced the best results for the field kit and lab comparison. The Wilcoxon test (Table D-2) indicates that the two data distributions were not significantly different ($p = 0.064$) and the regression analysis shows a tight fit between the lab and field data, with only one point falling outside the 95 percent confidence band. The regression equation in Figure D-2 can thus be used to estimate lab results from field results obtained under field conditions similar to those in June 2005; the equation is:

$$\text{Lab value (ppm)} = 0.4183 + 1.4143(\text{field value (ppm)})$$

The 95 percent confidence bans around the regression line indicates that, for a given field value, there is a range of lab values within which you can say, with 95 percent confidence, that the actual value lies. In other words, the range between the bands for a given field measurement provides an indication of the uncertainty in the converted lab result.

Ground Water Data

The results of immunoassay field screening and laboratory PCP analyses of ground water samples are summarized in Table D-2. Rapid Assay data indicate PCP concentrations in ground water up to 1,300 parts per billion (ppb); laboratory analyses indicate PCP concentrations ranging between 40.1 and 2,690 µg/L (ppb). For the purpose of the statistical analysis, the result for sample PAGWP1109 was not included because the field sample extract was analyzed with an 800-times dilution to achieve a result within the linear range of the test kit. Several intermediate dilutions were required due to available field kit equipment (e.g., pipettors, volume of dilutent, etc.) and the potential to introduce errors was high.

As shown in Table D-1, the Rapid Assay test kit produced no false negatives and no false positives greater than two times the laboratory reporting limit, indicating that the field immunoassay data compared well to laboratory results (a sample was considered to be false

positive if the detected immunoassay result was more than two times the laboratory detection limit).

Results from the Wilcoxon signed rank test (p=0.249) show that the Rapid Assay kit and laboratory data for PCP in ground water are comparable (Table D-1). It should be noted that the comparison between the field and lab data is highly affected by the single maximum value for each test (Figure D-2). Because there are no other values near the maxima, the point could be considered an outlier; without this outlier the relationship between field and lab results presented would fall apart and the field and lab PCP tests would not be comparable. As such, we recommend the use of the following regression equation with caution for the conversion of field to lab results:

Lab value (ppb) = 19.604 + 0.6467(field value (ppm))

The 95 percent confidence bands in Figure D-2 present a range of uncertainty in converted lab results when using the regression equation.

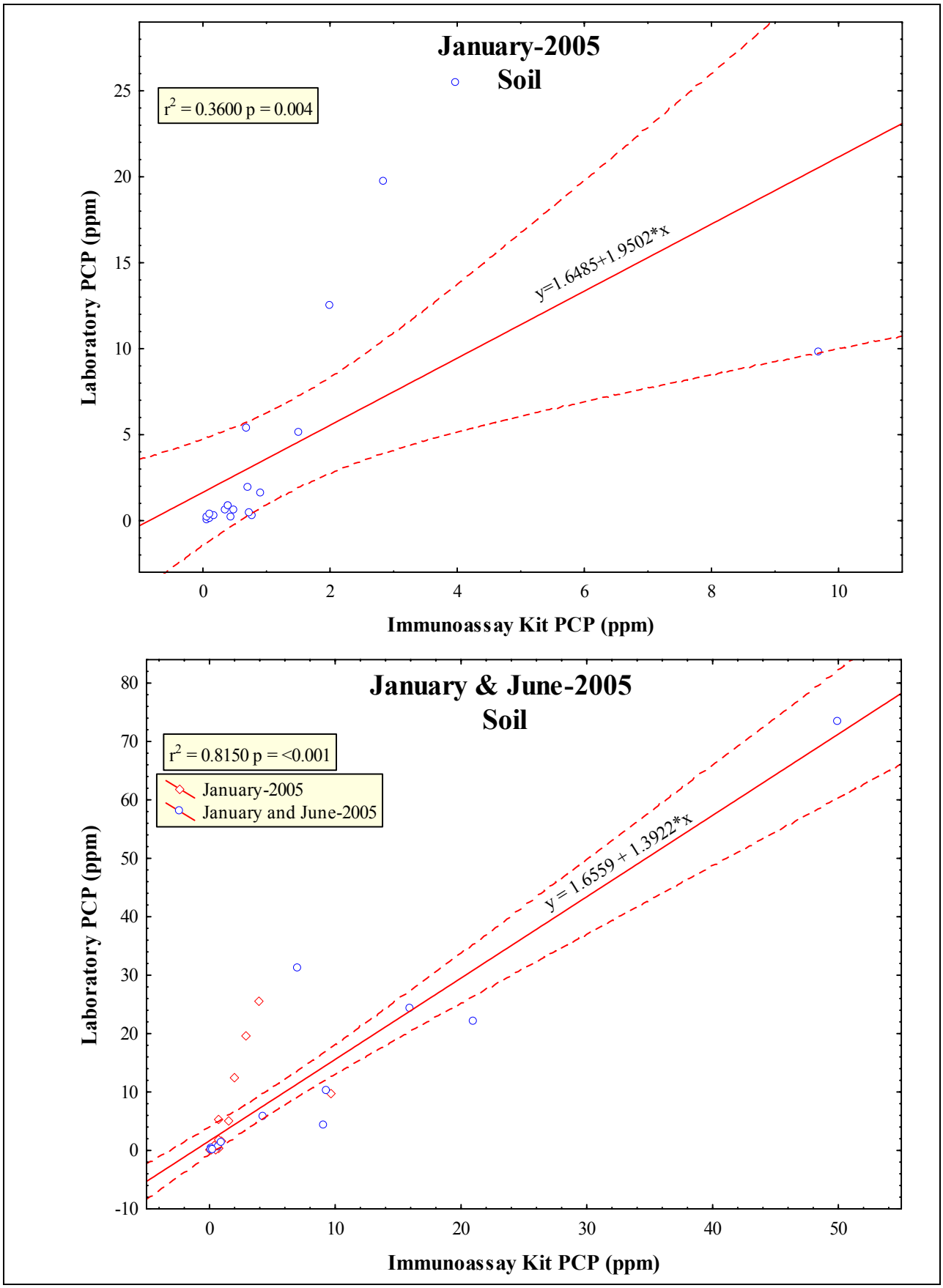


Figure D-1. January 2005 and combined January and June 2005 soil immunoassay test regression between field and laboratory data.

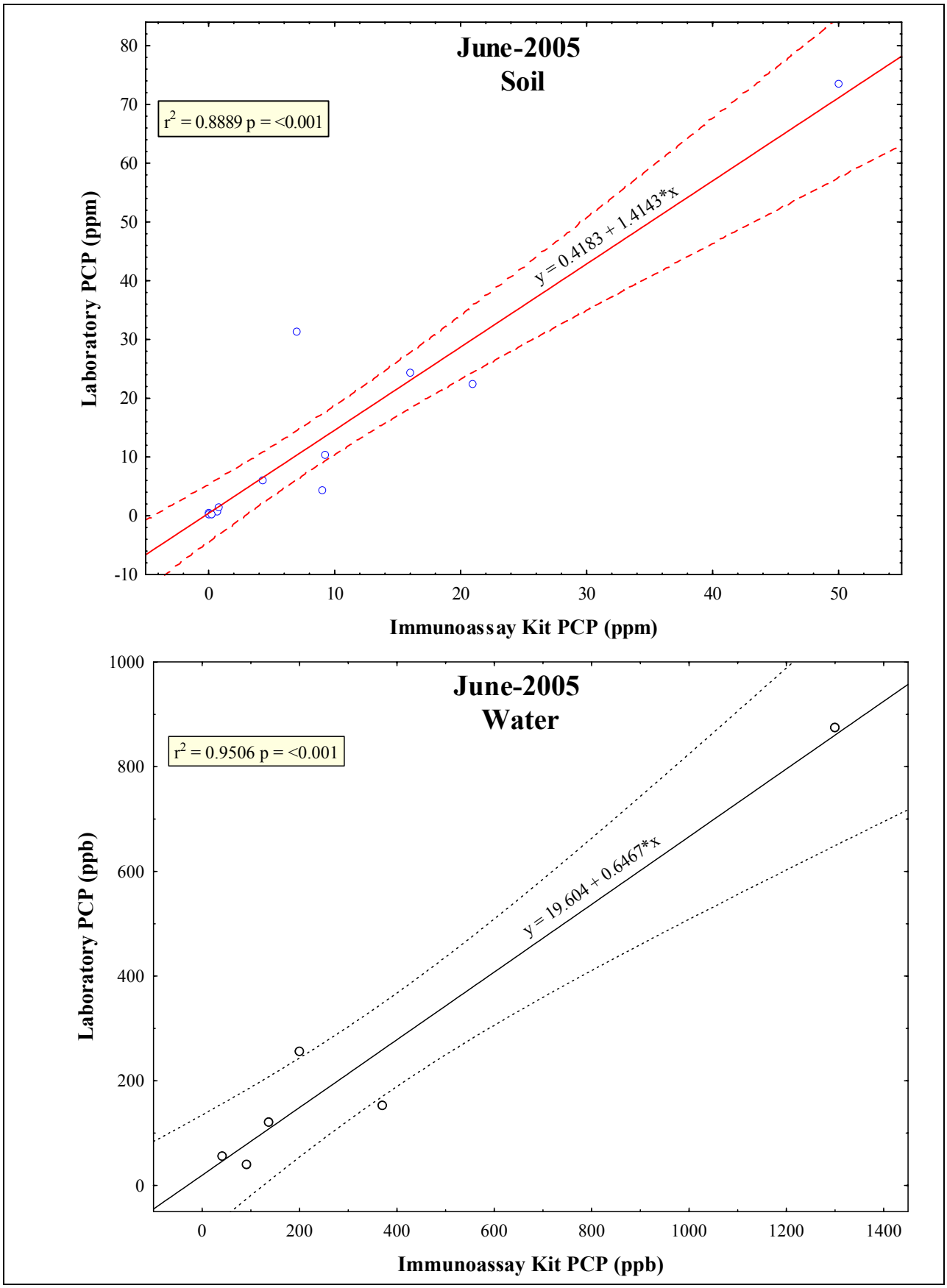


Figure D-2. June 2005 soil and water immunoassay test regression between field and laboratory data.

06-15-05 10:05:46
RUN 061505-01
******** OHMICRON ********

PROTOCOL : PCP

TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/LgtB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB/M

EQUATION OF LINE :

Slope = -0.605
Intercept = 0.435
Corr (r) = 0.9996

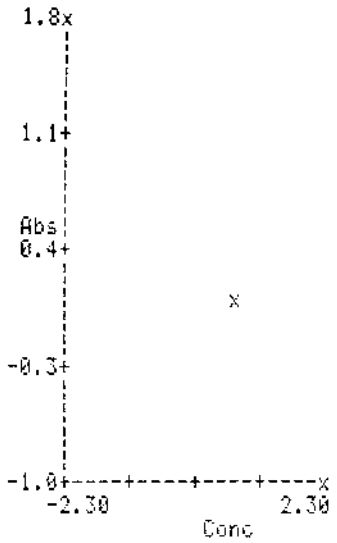
Transformed Data :

Conc	Abs
-2.30	1.810
0.69	0.063
2.30	-0.988

Calibrator Data:

Conc	Abs	%CV	Predic Diff	%Diff
0.00	1.120			
	1.222			
Mean	1.171	6.2		
0.10	1.013			0.10
	-0.005			-5.0
	1.000			0.11
	0.011			9.6
Mean	1.006	0.9		0.10
	0.003			2.7
2.00	0.588			2.02
	0.022			1.1
	0.620			1.69
	-0.308			-18.2
Mean	0.604	3.7		1.85
	-0.150			-8.1
10.00	0.315			10.72
	0.721			6.7
	0.320			10.33
	0.326			3.2
Mean	0.318	1.2		10.52
	0.521			5.0

Cal. Curve :



Control Data :

Ctrl#	Abs	Conc
1	0.732	0.88

ID: LCS

Samples Data :

Spl#	Abs	Conc
1	1.149	0.00nd

ID: NASSW0100

2 1.211 nd

ID: NASBW0106

3 1.241 nd

ID: NASBW0108

4 1.029 0.08

ID: SASSW0200

5 1.194 nd

ID: SASBW0206

6 1.185 nd

ID: SASBP0102

7 1.203 nd

ID: SASBP0104

8 1.218 nd

ID: SASBP0203

9 1.206 nd

ID: SASBP0204

10 1.143 0.00nd

ID: SASBP0302

11 1.453 nd

ID: SASBP0304

12 1.128 0.01nd

ID: SASBP0401

13 1.207 nd

ID: SASBP0404

14 1.059 0.05nd

ID: SASSW0300

15 1.074 0.04nd

ID: SASSW0300DUP

16 1.190 nd

ID: SASBW0308

17 1.137 0.01nd

ID: SASBP0535

18 1.194 nd

ID: SASBP0505

19 1.176 nd

ID: SASBP0601

20 1.164 0.00nd

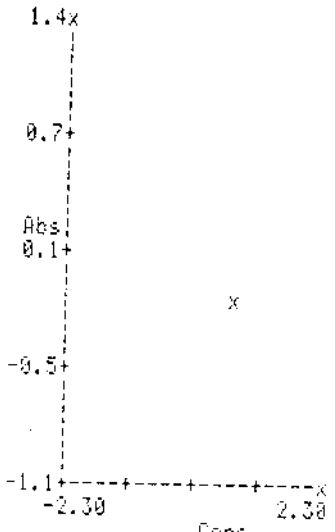
ID: SASBP0604

21 0.732 0.88

ID: LCS-rerun

END OF RUN
06-15-05 11:52:47

Cal. Curve :

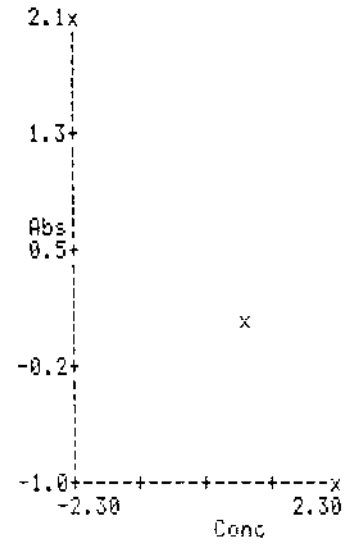


Control Data :

Ctrl#	Abs	Conc
1	0.811	1.16

ID: LCS

Cal. Curve :



Control Data :

Ctrl#	Abs	Conc
1	0.812	1.40

ID:

EQUATION OF LINE :

Slope	=	-0.538
Intercept	=	0.144
Corr (r)	=	0.9986

Transformed Data :

Conc	Abs
-2.30	1.356
0.69	-0.153
2.30	-1.143

Calibrator Data:

Conc	Abs	Diff	%CV	Predic %Diff
0.00	1.570			
	1.575			
Mean	1.573		0.2	
0.10	1.218			0.13
	0.032			24.0
	1.283			0.08
	-0.018			-21.5
Mean	1.251		3.6	0.11
	0.005			4.8
2.00	0.737			1.65
	-0.345			-20.9
	0.716			1.83
	-0.171			-9.4
Mean	0.726		2.0	1.74
	-0.260			-15.0
10.00	0.379			11.06
	1.057			9.6
	0.382			10.84
	0.845			7.8
Mean	0.380		0.6	10.95
	0.950			8.7

******** OHMICRON ********

Please Wait 30 Minutes
06-15-05 18:00:00

06-15-05 19:49:22
RUN 060505-07
******** OHMICRON ********

PROTOCOL : PCP

TECH ID :
LOT # :
EXP DATE:

Data Reduct:Lin.Regression
Xformation: Ln/Ln+B
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB/M

EQUATION OF LINE :

Slope	=	-0.665
Intercept	=	0.529
Corr (r)	=	1.0000

Transformed Data :

Conc	Abs
-2.30	2.062
0.69	0.061
2.30	-0.996

Calibrator Data:

Conc	Abs	Diff	%CV	Predic %Diff
0.00	1.244			
	1.575			
Mean	1.410		16.6*	RR rep
0.10	1.218			0.14
	0.037			26.9
	1.283			0.07
	-0.032			-46.8
Mean	1.251		3.6	0.10
	-0.000			-0.4
2.00	0.737			1.94
	-0.065			-3.3
	0.716			2.12
	0.117			5.5
Mean	0.726		2.0	2.02
	0.024			1.2
10.00	0.379			10.00
	0.003			0.0
	0.382			9.84
	-0.158			-1.6
Mean	0.380		0.6	9.92
	-0.078			-0.8

061505-02 (cont)

Samples Data :

Spl#	Abs	Conc
1	1.550	0.00nd
ID: NASSW0400		
2	1.527	0.00nd
ID: NASBW0408		
3	1.117	0.25
ID: NASSP0700		
4	1.549	0.00nd
ID: NASBP0704		
5	1.254	0.10
ID: NASSP0800		
6	1.515	0.00nd
ID: NASBP0804		
7	1.447	0.01nd
ID: NASSP0900		
8	1.504	0.00nd
ID: NASBP0904		
9	1.480	0.01nd
ID: NASSW0500		
10	1.551	0.00nd
ID: NASBW0505		
11	1.511	0.00nd
ID: NASSP1000		
12	1.494	0.01nd
ID: NASBP1004		
13	1.538	0.00nd
ID: NASBP1004DUP		
14	0.808	1.18
ID: LCS-rerun		

END OF RUN
06-15-05 20:16:56

******* OHMICRON *******
Run 061565-03
PROTOCOL : PCP

TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/LgtB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

EQUATION OF LINE :

Slope = -0.591
Intercept = 0.298
Corr (r) = 0.9996

Transformed Data :

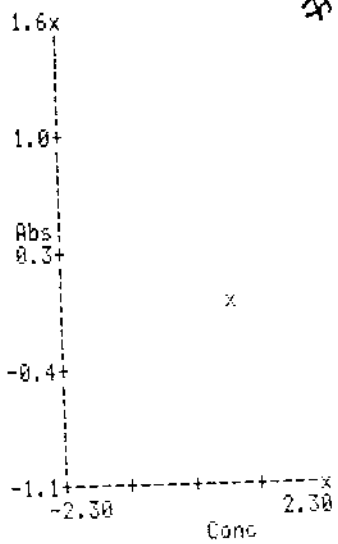
Conc	Abs
-2.30	1.643
0.69	-0.066
2.30	-1.091

Calibrator Data:

Conc	Abs	%CV	Predic	Diff	%Diff
0.00	1.593				
	1.466				
Mean	1.530	5.9			
0.10	1.251		0.13		
	0.031		23.6		
	1.313		0.08		
	-0.021		-27.2		
Mean	1.282	3.4	0.10		
	0.003		2.7		
2.00	0.765		1.65		
	-0.346		-20.9		
	0.714		2.07		
	0.074		3.6		
Mean	0.740	4.9	1.85		
	-0.148		-8.0		
10.00	0.389		10.26		
	0.261		2.5		
	0.380		10.77		
	0.771		7.2		
Mean	0.384	1.5	10.51		
	0.512		4.9		

Cal. Curve :

#11



Control Data :

Ctrl#	Abs	Conc
1	0.931	0.78

ID:_____

Samples Data :

Spl#	Abs	Conc	
1	1.173	0.22	
ID: SAGWP0104			Diff 0.03
2	1.120	0.30	
ID: "			
3	1.268	0.11	
ID: SAGWP0203			Diff 0.03
4	1.323	0.07	
ID: "			
5	1.194	0.19	
ID: SAGWP0304			Diff 0.01
6	1.202	0.18	
ID: "			
7	1.108	0.32	
ID: SAGWP0404			Diff 0.17
8	1.233	0.15	
ID: "			
9	0.593	3.59	
ID: SAGWP0505			RPD 14.0
10	0.623	3.12	
ID: "			
ID: SAGWP0602			Diff 0.01
12	1.296	0.09	
ID: "			
13	0.853	1.12	
ID: NAGWP0705			RPD 16.4
14	0.817	1.32	
ID: "			
15	0.160	62.93Hi	
ID: NAGWP0805			Dilute
16	0.157	65.22Hi	
ID: "			
17	0.138	82.80Hi	
ID: NAGWP0906			Dilute
18	0.143	77.23Hi	
ID: "			
19	0.169	56.71Hi	
ID: NAGWP1005			Dilute
20	0.164	60.22Hi	
ID: "			
21	0.934	0.77	
ID: LCS-check			

END OF RUN
06-15-05 21:49:14

06-16-05 19:51:22

06-16-05 22:18:19

RUN 060605-01

******** OHMICRON ********

PROTOCOL : PCP

TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/Ln8
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

ppm for soil.

EQUATION OF LINE :

Slope = -0.613
Intercept = 0.359
Corr (r) = 1.0000

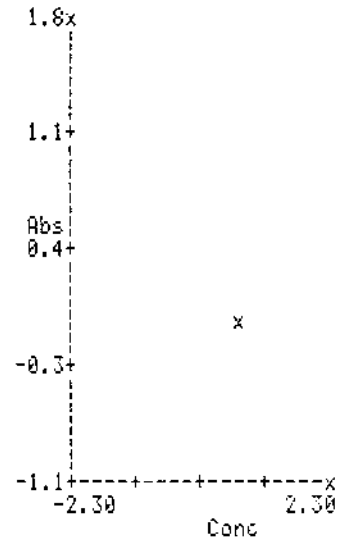
Transformed Data :

Conc	Abs
-2.30	1.771
0.69	-0.066
2.30	-1.052

Calibrator Data:

Conc	Abs	%CV	Predic %Diff
0.00	1.385		
	1.395		
Mean	1.390	0.5	
0.10	1.196		0.09
	-0.008		-8.3
	1.179		0.11
	0.006		7.4
Mean	1.188	1.0	0.10
	-0.000		-0.0
2.00	0.666		2.06
	0.055		2.7
	0.677		1.95
	-0.050		-2.6
Mean	0.672	1.2	2.00
	0.002		0.1
10.00	0.356		10.20
	0.203		2.0
	0.363		9.79
	-0.210		-2.1
Mean	0.360	1.3	9.99
	-0.006		-0.1

Cal. Curve :



Control Data :

Ctrl#	Abs	Conc
1	0.746	1.41

ID:_____

Samples Data :

Spl#	Abs	Conc
1	0.234	24.31Hi

ID: NAGWP0805 5X

2	0.307	14.96Hi

ID: " 10X

3	0.140	63.64Hi

ID: NAGWP0906 5X

4	0.174	42.81Hi

ID: " 10X

5	0.279	17.10Hi

ID: NAGWP1005 5X

6	0.375	9.11

ID: " 10X

7	0.375	9.11

ID: PASSP1100

8	1.317	0.02nd

ID: PASBP1109

9	0.241	22.99Hi

ID: PASBP1111

10	0.886	0.71

ID: PASBP1204

11	1.503	nd

ID: PASBP1208

12	1.199	0.09

ID: NASSW0600

13	1.228	0.07

ID: NASBW0605

14	1.359	0.00nd

ID: SASSW0700

15	1.312	0.02nd

ID: SASBW0704

16	0.171	44.22Hi

ID: SASSW0800

17	1.407	nd

ID: SASBW0804

18	1.329	0.01nd

ID: SASBW0806

19	0.132	71.01Hi

ID: PASSP1300

20	1.058	0.27

ID: PASBP1306

21	0.749	1.39

ID: LCS re-run

END OF RUN
06-16-05 22:37:20

06-16-05 23:46:02

********** OHMICRON **********
RUN 060605-02
PROTOCOL : PCP

TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/LgtB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

EQUATION OF LINE :

Slope = -0.574
Intercept = 0.221
Corr (r) = 0.9992

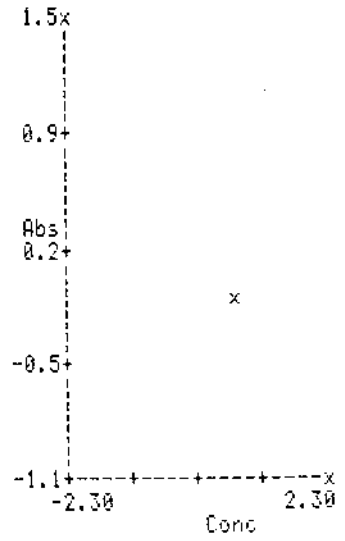
Transformed Data :

Conc	Abs
-2.30	1.522
0.69	-0.116
2.30	-1.140

Calibrator Data:

Conc	Abs	%CV	Predic %Diff
0.00	1.427		
	1.408		
Mean	1.418	0.9	
0.10	1.206		0.07
	-0.029		-41.5
	1.121		0.15
	0.045		31.1
Mean	1.164	5.2	0.10
	0.004		3.6
2.00	0.661		1.86
	-0.139		-7.5
	0.674		1.74
	-0.259		-14.9
Mean	0.668	1.4	1.80
	-0.200		-11.1
10.00	0.344		10.65
	0.655		6.1
	0.343		10.76
	0.762		7.1
Mean	0.344	0.3	10.71
	0.708		6.6

Cal. Curve :



Control Data :

Ctrl#	Abs	Conc
1	0.761	1.13

ID:_____

Samples Data :

Spl#	Abs	Conc
1	0.584	2.73

ID: NAGWP0805 50X

2	0.349	10.34Hi

ID: NAGWP0906 100X

3	1.398	0.00nd – JUST ADDED

ID: PASBP1111 10X

4	0.603	2.48

ID: SASSW0800 20X

5	0.407 S	7.19

ID: PASB1300 50X

6	1.335	0.01nd

ID: PASB1308 6

7	0.365	9.33 50

ID: SASBH0504

8	1.345	0.01nd 604

ID: SASBH0704

9	0.809	0.89

ID: SASBH0704

10	0.496	4.33

ID: SASBH0801

11	0.266	18.95Hi

ID: PASSP1200

12	0.249	21.72Hi

ID: PASP1200 Dup

13	0.125	85.70Hi

ID: PAGWP1109

14	1.293	0.03nd

ID: PAGWP1208

15	0.178	43.32Hi

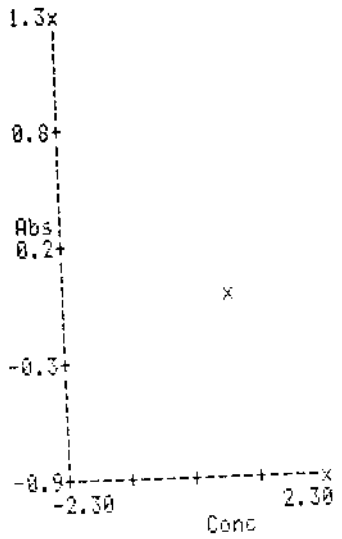
ID: PAGWP1308

16	0.749	1.21

ID: LCS rerun

END OF RUN
06-17-05 00:24:04

Cal. Curve :



Control Data :

Ctrl#	Abs	Conc
1	0.473	0.95

ID: LCS

Samples Data :

Spl#	Abs	Conc
1	0.289	6.34

ID: NAGWP0906 200X

2	0.164	31.70Hi

ID: PAGWP1109 100X

3	0.488	0.88

ID: PAGWP1111 50X

4	0.424	1.56

ID: PASGP1111 10X

5	0.502	0.70

ID: PASGP1100 10X

6	0.397	2.05

ID: PASSP1200 DUP 10X

7	0.825	0.00nd

ID: SAGWW0105 MW

8	0.866	nd

ID: "

9	0.560	0.37

ID: SAGWW0205 MW

10	0.586	0.28

ID: "

11	0.806	0.00nd

ID: SAGWMW1407

12	0.801	0.00nd

ID: "

13	0.728	0.03nd

ID: NAGWW0106

14	0.738	0.02nd

ID: "

15	0.832	nd

ID: SAGWW0203

16	0.800	0.00nd

ID: "

17	0.812	0.00nd

ID: SAGWW0305

18	0.744	0.02nd

D: "

19	0.794	0.00nd

D: SAGWW0403

20	0.793	0.00nd

D: "

ID OF RUN
-17-05 16:38:08

******** OHMICRON ********
RUN 061705-01
Please Wait 30 Minutes
06-17-05 13:35:15

06-17-05 16:33:28

******** OHMICRON ********

PROTOCOL : PCP

TECH ID :
LOT # :
EXP DATE:

Data Reduct: Lin.Regression
Xformation: Ln/LgtB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

EQUATION OF LINE :

Slope = -0.479
Intercept = 0.257
Corr (r) = 0.9993

Transformed Data :

Conc	Abs
-2.30	1.343
0.69	-0.028
2.30	-0.877

Calibrator Data:

Conc	Abs	%CV	Predic
	Diff		%Diff
0.00	0.860		
	0.800		
Mean	0.830	5.0	
0.10	0.658		0.10
	0.004		4.0
	0.659		0.10
	0.003		2.8
Mean	0.658	0.1	0.10
	0.004		3.4
2.00	0.404		1.92
	-0.083		-4.3
	0.415		1.71
	-0.288		-16.8
Mean	0.409	1.9	1.81
	-0.188		-10.4
10.00	0.240		11.16
	1.163		10.4
	0.248		10.19
	0.193		1.9
Mean	0.244	2.2	10.66
	0.665		6.2

06-17-05 17:16:20

******** OHMICRON ********
RUN 061705-02
PROTOCOL : PCP

TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/L9tB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

EQUATION OF LINE :

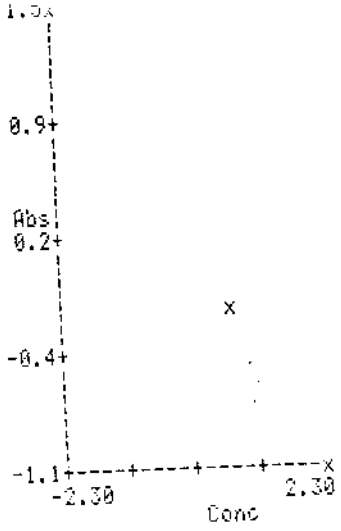
Slope = -0.571
Intercept = 0.205
Corr (r) = 0.9999

Transformed Data :

Conc	Abs
-2.30	1.529
0.69	-0.213
2.30	-1.096

Calibrator Data:

Conc	Abs	%CV	Predic %Diff
0.00	0.997		
	0.986		
Mean	0.991	0.8	
0.10	0.710		0.29
	0.182		64.6
	0.919		0.02
	-0.083		-496.5
Mean	0.815	18.1*	0.10
	-0.001		-1.4
2.00	0.425		2.36
	0.360		15.3
	0.461		1.83
	-0.165		-9.0
Mean	0.443	5.6	2.00
	0.080		3.8
10.00	0.248		9.75
	-0.252		-2.6
	0.248		9.75
	-0.252		-2.6
Mean	0.248	0.0	9.75
	-0.252		-2.6



Control Data :

Ctrl#	Abs	Conc
1	0.535	1.08

ID:_____

EQUATION OF LINE :

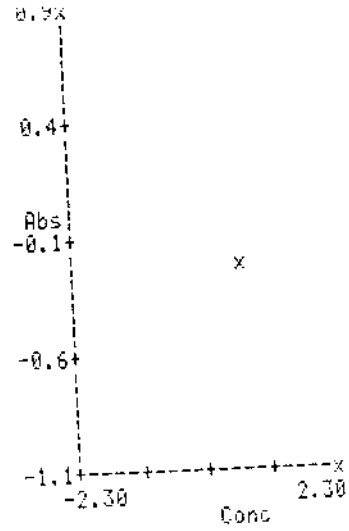
Slope = -0.435
Intercept = -0.022
Corr (r) = 0.9955

Transformed Data :

Conc	Abs
-2.30	0.941
0.69	-0.213
2.30	-1.096

Calibrator Data:

Conc	Abs	%CV	Predic %Diff
0.00	0.997		
	0.986		
Mean	0.991	0.8	
0.10	0.710		0.11
	0.013		11.2
	0.716		0.11
	0.006		5.7
Mean	0.713	0.5	0.11
	0.009		8.5
2.00	0.425		1.83
	-0.168		-9.2
	0.461		1.32
	-0.684		-52.0
Mean	0.443	5.6	1.55
	-0.449		-26.9
10.00	0.248		11.80
	1.797		15.2
	0.248		11.80
	1.797		15.2
Mean	0.248	0.0	11.80
	1.797		15.2



Control Data :

Ctrl#	Abs	Conc
1	0.540	0.63

ID:_____

EQUATION OF LINE :

Slope = -0.574
Intercept = 0.210
Corr (r) = 0.9999

Transformed Data :

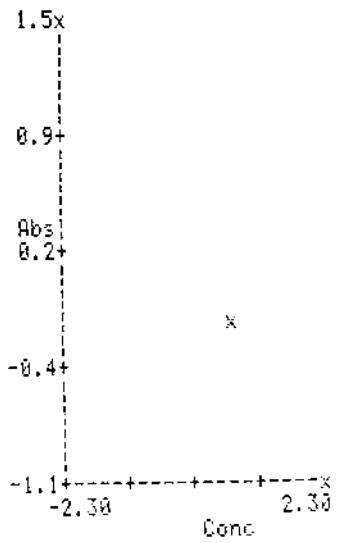
Conc	Abs
-2.30	1.542
0.69	-0.213
2.30	-1.096

Calibrator Data:

Conc	Abs	%CV	Predic %Diff
0.00	0.997		
	0.986		
Mean	0.991	0.8	
0.10	0.917		0.02
	-0.082		-456.9
	0.716		0.27
	0.174		63.5
Mean	0.817	17.5*	0.10
	-0.002		-1.5
2.00	0.425		2.37
	0.370		15.9
	0.461		1.84
	-0.155		-8.4
Mean	0.443	5.6	2.00
	0.090		4.2
10.00	0.248		9.72
	-0.283		-2.6
	0.248		9.72
	-0.283		-2.6
Mean	0.248	0.0	9.72
	-0.283		-2.6

060705-02 cont.

Cal. Curve :



Control Data :

Ctrl#	Abs	Conc
1	0.543	1.03

ID: LCS

Samples Data :

Sel#	Abs	Conc
1	0.538	1.07

ID: PAGWP1109 800X

2	0.110	53.71Hi

ID: NAGWW0504

3	0.113	51.62Hi

ID: "

4	0.121	44.89Hi

ID: NAG-WW06603

5	0.095	71.34Hi

ID: "

6	0.926	0.01nd

ID: SAGWW07703

7	0.879	0.04nd

ID: "

8	0.630	0.55

ID: SAGWW0806

9	0.622	0.58

ID: "

END OF RUN
06-17-05 18:10:01

******** OHMICRON ********

Please Wait 30 Minutes
~~06-15-05~~ 14:10:20
RUN 062405-01
06-24-05 15:53:42

******** OHMICRON ********

PROTOCOL : PCP

TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/LgtB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

EQUATION OF LINE :

Slope = -0.553
Intercept = 0.212
Corr (r) = 0.9995

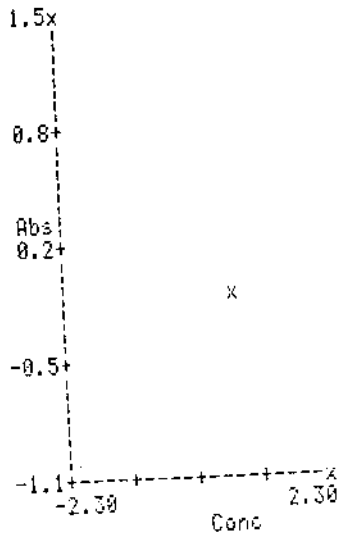
Transformed Data :

Conc	Abs
-2.30	1.469
0.69	-0.123
2.30	-1.092

Calibrator Data:

Conc	Abs	%CV	Predic
	Diff		%Diff
0.00	1.341		
	1.350		
Mean	1.345	0.4	
0.10	1.083		0.11
	0.014		12.0
	1.105		0.09
	-0.007		-7.4
Mean	1.094	1.5	0.10
	0.003		3.0
2.00	0.614		2.02
	0.018		0.9
	0.649		1.67
	-0.331		-19.9
Mean	0.631	3.9	1.83
	-0.165		-9.0
10.00	0.332		11.01
	1.013		9.2
	0.344		10.16
	0.163		1.6
Mean	0.338	2.4	10.58
	0.577		5.5

Cal. Curve :



Control Data :

Ctrl#	Abs	Conc
1	0.757	0.93

93%

ID:_____

Samples Data :

Spl#	Abs	Conc
1	0.220	28.13Hi

ID: NAGWW0504 10X

2 0.488 4.06

ID: " 50X

3 0.206 32.24Hi

ID: NAGWW0603 10X

4 0.389 7.49

ID: " 50X

5 1.285 0.01nd

ID: SAGWW0703

6 1.285 0.01nd

ID: "

7 0.921 0.36

ID: SAGWW0826

8 0.939 0.32

ID: "

9 0.905 0.40

ID: SAGWMW205

10 1.317 0.00nd

ID: PAGWP1208

11 1.327 0.00nd

ID: "

12 0.373 8.31

ID: PASSP1100

13 0.845 0.57

ID: PASBP1204

14 1.138 0.07

ID: NASSW0600

15 1.195 0.03nd

ID: NASBW0605

16 1.065 0.13

ID: PASBP1306

17 0.354 9.44

ID: SASBH0501

18 0.494 3.94

ID: SASBH0801

19 0.997 0.22

ID: NASSP0700

20 1.098 0.10

ID: NASSP0800

21 0.756 0.94

94%

ID: LCS-rerun

END OF RUN
06-24-05 16:15:55

06-24-05 16:27:15

******** OHMICRON ********

PROTOCOL : PCP-ABRA
RUN 062405-02
TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/LgtB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

Calibrators:

# of Cals :	5
# of Reps :	2

Concentrations :

#1:	0.00	PPB
#2:	5.00	PPB
#3:	10.00	PPB
#4:	25.00	PPB
#5:	100.00	PPB

Range :	0.06 -100.00
Correlation:	0.999
Rep. %CV :	10 %

END OF LISTING

06-24-05 16:36:49

******** OHMICRON ********

PROTOCOL : PCP-ABRA

TECH ID :_____
LOT # :_____
EXP DATE:_____

Data Reduct:Lin.Regression
Xformation: Ln/LgtB
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPB

EQUATION OF LINE :

Slope	=	-0.636
Intercept	=	2.228
Corr (r)	=	0.9991

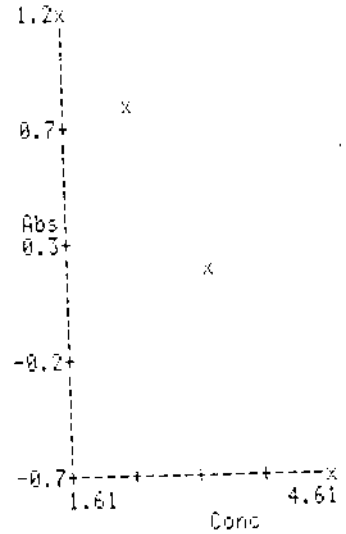
Transformed Data :

Conc	Abs
1.61	1.197
2.30	0.803
3.22	0.137
4.61	-0.683

Calibrator Data:

Conc	Abs	%CV	Predic	%Diff
0.00	0.909			
	0.933			
Mean	0.921	1.8		
5.00	0.711		4.89	-2.3
	-0.113		5.25	5.0
	0.704		4.8	-4.0
	0.251		5.07	1.3
Mean	0.707	0.6		
	0.067			
10.00	0.639		9.19	-8.1
	-0.807		9.64	-3.6
	0.633		9.42	-5.8
	-0.355		9.42	-5.8
Mean	0.636	0.7		
	-0.583			
25.00	0.480		29.14	16.6
	4.142		24.71	-1.2
	0.504		26.84	7.4
	-0.287			
Mean	0.492	3.4		
	1.841			
100.00	0.311		96.49	-3.6
	-3.511		98.73	-1.3
	0.308		97.60	-2.4
	-1.267			
Mean	0.309	0.7		
	-2.397			

Cal. Curve :



Samples Data :

Spl#	Abs	Conc
1	0.339	77.95

ID: NAGWW0504 10X

2	0.579	14.54

ID: " 50X

3	0.347	73.79

ID: NAGWW0603 10X

4	0.544	18.73

ID: " 50X

5	0.812	1.41

ID: SAGWW0703

6	0.840	0.84

ID: "

7	0.779	2.30

ID: SAGWW0806

8	0.792	1.92

ID: "

9	0.636	9.42

ID: SAGWMW205

10	0.776	2.39

ID: PAGWP1208

11	0.826	1.11

ID: "

12	0.213	220.43Hi

ID: PASSP1100

13	0.612	11.36

ID: PASBP1204

14	0.718	4.57

ID: NASSW0600

15	0.752	3.17

ID: NASBW0605

16	0.718	4.57

ID: PASBP1306

17	0.200	249.84Hi

ID: SASBH0501

18	0.317	92.18

ID: SASBH0801

19	0.657	7.93

ID: NASSP0700

20	0.670	7.12

ID: NASSP0800

END OF RUN
06-24-05 16:44:18

APPENDIX E

Data Validation and Laboratory Reports

Herrera Environmental Consultants, Inc.

Memorandum

To	Project File C00-01732-066
cc	Paula Fedirchuk, Herrera Environmental Consultants
From	Gina Catarra and Rob Zisette, Herrera Environmental Consultants
Date	December 19, 2005
Subject	Semivolatile Organic Compounds Data Validation for Colville Post and Pole, TDD #05-03-0009

This memorandum presents a review of soil, sediment, and ground water data collected from the Colville Post and Pole Site located in Stevens County, Washington. A total of 40 soil samples, five sediment sample, two wood chip samples, and 29 ground water samples were collected between June 13 and 17, 2005. STL Seattle of Tacoma, Washington analyzed the samples for semivolatile organic compounds (SVOCs) using U.S. EPA Method 8270C (USEPA 2004).

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in: the *Colville Post and Pole Phase II Removal Site Evaluation Site—Specific Sampling Plan* (SSSP) (Herrera 2005); the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (Functional Guidelines) (USEPA 1999), and the specified analytical method (USEPA 2004).

Quality control and raw laboratory data submitted by the laboratory were reviewed. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

Data Validation

Custody, Preservation, Holding Times, and Completeness—Acceptable with Discussion

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported samples were extracted and analyzed within the required holding time of 7 days for water samples and 14 days for soil samples from collection to extraction, and 40 days from extraction to analysis. The laboratory data package is complete and contains test results for all samples listed on the chain-of-custody (COC).

Based on comparison of field analysis results to laboratory results, it was determined that sample bottles submitted for samples SAGWW0305 and NAGWW0504 were incorrectly identified by the laboratory. Sample identification numbers for these two samples were changed on the laboratory data sheets. Correct sample identification numbers were entered on the form by the data reviewer and are referred to in this memorandum.

Instrument Tuning and Mass Calibration—Acceptable with Discussion

The tuning compound decafluorotriphenylphosphine was analyzed at the required frequency and all relative abundance values were acceptable with the exceptions noted below.

The tuning criteria for m/z 51 and m/z 275 in relation to m/z 198 are 30 to 80 percent and 10 to 30 percent, respectively, as established by Functional Guidelines. The tuning criteria for m/z 51 and m/z 275 were not met for several instrument performance checks. No data have been qualified because the actual relative abundance at m/z 51 and m/z127 are not critical and all other criteria were met.

Initial Calibration—Acceptable with Qualification

Initial calibrations were analyzed at the required frequency. Initial calibration criteria (i.e., percent relative standard deviation [RSD] values less than or equal to 30 percent and relative response factors [RRFs] greater than 0.05) established by Functional Guidelines were met with the exceptions noted below.

The RSD value for bis (2-chloroisopropyl) ether (32 percent) for the initial calibration analyzed on 6/01/05 exceeded the 30 percent criterion. Eliminating either the low or high standard did not result in an adjusted RSD value that met the 30 percent criterion. Bis (2-chloroisopropyl) ether was not detected above the reporting limit for the associated samples; therefore, bis (2-chloroisopropyl) ether results for all associated samples were qualified as estimated detection limits (UJ), as shown in the table below.

Sample ID	Compound	Criteria	Qualifier
RB-1	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
SAGWP0104	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
SAGWP0203	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
SAGWP0404	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
SAGWP0302	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
SAGWP0505	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
SAGWP0602	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
NAGWP0805	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
NAGWP1005	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ
RB-2	Bis (2-chloroisopropyl) ether	Initial calibration %RSD greater than 30 percent	UJ

The RSD value for 4-nitrophenol (32 percent) for the initial calibration analyzed on June 23, 2005, and the RSD value for benzoic acid (34 percent) for the initial calibration analyzed on June 1, 2005, exceeded the 30 percent criterion. In accordance with Functional Guidelines (Semivolatile Data Review Section III.E.2), the RSD for the compound that exceeded the 30 percent criterion was recalculated, eliminating either the low or high standard in the calibration curve to determine linearity. The adjusted RSD values for 4-nitrophenol (27 percent) and benzoic acid (27 percent) met the 30 percent criterion when the high standard was eliminated, indicating that the calibration is linear in the lower portion of the curve. No data were qualified because 4-nitrophenol and benzoic acid were either not detected or were detected in the lower portion of the curve for all associated samples.

Continuing Calibration—Acceptable with Qualification

Continuing calibration verification (CCV) standards were analyzed at the required frequency. Continuing calibration criteria (i.e., relative percent difference values less than or equal to 25.0 percent and RRFs greater than 0.05) established by Functional Guidelines were met for all target compounds with the exceptions noted below.

The percent difference value for bis (2-chloroethyl) ether (66 percent) in the CCV standard analyzed at 23:06 on 6/23/05 exceeded the 25.0 percent criterion. The associated bis (2-chloroethyl) ether data were not qualified because bis (2-chloroethyl) ether was not detected at the reporting limit in any associated sample and the CCV percent difference was biased high.

The percent difference value for indeno (1,2,3-cd) pyrene (52 percent), benzyl alcohol (28 percent), diethylphthalate (56 percent), 3-nitroaniline (27 percent), and 2,6-dinitrotoluene (26 percent) in the CCV standard analyzed at 20:27 on 6/25/05 exceeded the 25.0 percent criterion. The associated indeno (1,2,3-cd) pyrene, benzyl alcohol, diethylphthalate, 3-nitroaniline, and 2,6-dinitrotoluene data were not qualified because these compounds were not detected at the reporting limit in any associated sample and the CCV percent differences were biased high.

The percent difference value for 2-methylphenol (26 percent), 3-&4-methylphenol (26 percent), benzoic acid (54 percent), dimethylphthalate (69 percent), and 3-nitroaniline (34 percent) in the CCV standard analyzed at 09:41 on 6/27/05 exceeded the 25.0 percent criterion. The associated 2-methylphenol, 3-&4-methylphenol, benzoic acid, dimethylphthalate, and 3-nitroaniline data were not qualified because these compounds were not detected at the reporting limit in any associated sample and the CCV percent differences were biased high.

The percent difference values for bis (2-chloroisopropyl) ether (69 percent), benzoic acid (31 percent), 2,6-dinitrotoluene (35 percent), and bis(2-chloroethyl)ether (38 percent) in the CCV standard analyzed at 15:04 on 6/23/05 exceeded the 25.0 percent criterion. The associated bis (2-chloroisopropyl) ether and bis(2-chloroethyl)ether data were not qualified because bis(2-chloroisopropyl)ether and bis(2-chloroethyl)ether were not detected at the reporting limit in any sample and the CCV percent difference was biased high. The associated benzoic acid and

2,6-dinitrotoluene data were qualified as an estimated reporting limit (UJ) or estimated (J) because the CCV percent differences were biased low, as shown in the following table.

Sample ID	Matrix	Compound	Criteria	Qualifier
RB-1	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
RB-1	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
SAGWP0104	water	Benzoic acid	CCV %D > 25% due to low bias	J
SAGWP0104	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
SAGWP0203	water	Benzoic acid	CCV %D > 25% due to low bias	J
SAGWP0203	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
SAGWP0404	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
SAGWP0404	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
SAGWP0302	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
SAGWP0302	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
SAGWP0505	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
SAGWP0505	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
SAGWP0602	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
SAGWP0602	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
NAGWP0805	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
NAGWP0805	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
NAGWP1005	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
NAGWP1005	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ
RB-2	water	Benzoic acid	CCV %D > 25% due to low bias	UJ
RB-2	water	2,6-Dinitotoluene	CCV %D > 25% due to low bias	UJ

The percent difference values for bis (2-chloroisopropyl) ether (55 percent) and indeno (1,2,3-cd) pyrene (34 percent) in the CCV standard analyzed at 17:37 on 6/24/05 exceeded the 25.0 percent criterion. The associated indeno (1,2,3-cd) pyrene data were not qualified because indeno (1,2,3-cd) pyrene was not detected at the reporting limit in any associated sample and the CCV percent difference exceedance was biased high. The associated bis (2-chloroisopropyl) ether data were qualified as an estimated reporting limit (UJ), because bis (2-chloroisopropyl) ether was not detected at or above the reporting limit in any associated sample and the CCV percent difference was biased low, as shown in the following table.

Sample ID	Matrix	Compound	Criteria	Qualifier
BKSDH0900	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
BKSSH1000	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
CRSDH0100	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
CRSDH0200	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
CRSDH0300	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
CRSDH0400	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSP0700	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSP0800	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSP0900	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSP1000	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSW0100	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSW0400	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSW0500	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
NASSW0600	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ
PASSP1300	water	Bis (2-chloroisopropyl) ether	CCV %D > 25% due to low bias	UJ

The percent difference values for benzyl alcohol (37 percent), 4-nitrophenol (44 percent), bis (2-chloroethyl) ether (50 percent), hexachloroethane (59 percent), and bis (2-chloroethoxy) methane (54 percent) in the CCV standard analyzed at 16:06 on 7/07/05 exceeded the 25.0 percent criterion. Benzyl alcohol, 4-nitrophenol, bis (2-chloroethyl) ether, hexachloroethane, and bis (2-chloroethoxy) methane data were qualified as an estimated reporting limit (UJ), because these compounds were not detected at or above the reporting limit in any sample and the CCV percent difference exceedance was biased low, as shown in the following table.

Sample ID	Matrix	Compound	Criteria	Qualifier
SAGWW0703	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
NAGWW0603	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
SAGWW0203	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
NAGWW0403	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
SAGWW0806	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
NAGWW0504	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
SAGWW0305	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
NAGWW0106	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
NAGWW0106D	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
SAGWMW205	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
SAGWMW407	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
SAGWMW105	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
SAGWMW105D	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
PAGWP1308	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
PAGWP1109	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
PAGWP1208	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ
RB-33	water	5 compounds [a]	CCV %D > 25% due to low bias	UJ

[a] The 5 compounds include: Benzyl alcohol, 4-nitrophenol, bis (2-chloroethyl) ether, hexachloroethane, and bis (2-chloroethoxy) methane.

Blank Analysis—Acceptable with Qualification

Method blanks were extracted and analyzed at the required frequency. The method blanks do not contain reportable levels of the target compounds and no data have been qualified, with the exceptions noted below.

Di-n-butyl phthalate was detected in the method blanks associated with work order numbers 128438 and 128439 at concentrations between the method detection limit (MDL) and the reporting limit (RL). Associated data with detected concentrations of di-n-butyl phthalate, between the MDL and the RL were qualified as undetected (U) at the level of the RL. The detected concentration of di-n-butyl phthalate for sample SAGWP0203 was greater than the RL but less than 10 times the detected level of di-n-butyl phthalate in the method blank. In accordance with Functional Guidelines, the di-n-butyl phthalate result for sample SAGEP0203 was qualified as undetected (U) at the reported concentration.

Bis (2-ethylhexyl) phthalate was detected in method blank SS1456 at a concentration between the method detection limit (MDL) and the reporting limit (RL). Associated data with detected concentrations of bis (2-ethylhexyl) phthalate between the MDL and the RL were qualified as undetected (U) at the level of the RL.

Surrogate Analysis—Acceptable with Discussion

Six surrogate compounds were analyzed with each sample and blank in accordance with the requirements in the method. All surrogate recovery values were within the control limits established by Functional Guidelines with the exceptions noted below.

Recovery of one surrogate from the acid or base/neutral fraction exceeded recovery limits established by Functional Guidelines for several samples. In accordance with Functional Guidelines, no data were qualified if only one surrogate from the acid or base/neutral fraction exceeded recovery limit criteria.

Recoveries of surrogates nitrobenzene-d5 (ranging from 115 to 125 percent) and 2-fluorobiphenyl (ranging from 123 to 131 percent) exceeded the control limits (35 to 114 percent for nitrobenzene-d5 and 43 to 116 percent for 2-fluorobiphenyl) established by Functional Guidelines for ground water samples SAGWW0203, SAGWW0305, and NAGWW0504. Although two base/neutral fraction surrogates exceeded the control limit, no data were qualified because surrogate recovery criteria established by the laboratory (34 to 146 percent for nitrobenzene-d5 and 35 to 143 percent for 2-fluorobiphenyl) were met for samples SAGWW0203, SAGWW0305, and NAGWW0504.

Recovery of surrogates nitrobenzene-d5 (159 percent), 2,4,6-tribromophenol (131 percent), and terphenyl-d14 (143 percent) exceeded the control limits (ranging from 10 to 141 percent) established by Functional Guidelines for ground water sample SAGWMW205. Although two base/neutral fraction surrogates (nitrobenzene-d5 and terphenyl-d14) exceeded control limit

criteria, no data was qualified because surrogate exceedance was biased high and no base/neutral compounds were detected above the reporting limit for sample SAGWMW205.

Recoveries of surrogates 2-flurophenol (ranging from 125 to 140 percent) and phenol-d5 (ranging from 114 to 119 percent) exceeded the control limits (25 to 121 percent for 2-fluorophenol and 24 to 113 for phenol-d5) established by Functional Guidelines for sediment sample CRSDH0200 and soil samples PASBP1111, PASBP1204, PASBP1306, SASBP0604, and SASBW0804. Although two acid fraction surrogates exceeded the control limit, no data was qualified because surrogate recovery criteria established by the laboratory (36 to 145 percent for 2-fluorophenol and 38 to 149 percent for phenol-d5) were met for samples CRSDH0200, PASBP1111, PASBP1204, PASBP1306, SASBP0604, and SASBW0804.

Recovery of surrogates phenol-d5 (115 percent), nitrobenzene-d5 (177 percent), 2-fluorobiphenyl (218 percent), 2,4,6-tribromophenol (17 percent), and p-terphenyl-d14 (148 percent) exceeded the control limits (ranging from 18 to 137 percent) established by Functional Guidelines for soil sample PASSP1300. Although two acid fraction surrogates (phenol-d5 and 2,4,6-tribromophenol) exceeded the control limit criteria, no data were qualified because the surrogate recovery exceedances were marginal (2 percent for both phenol-d5 and 2,4,6-tribromophenol). Although three base/neutral fraction surrogates (nitrobenzene-d5, 2-fluorobiphenyl, and p-terphenyl-d14) exceeded control limit criteria, no data were qualified because the surrogate recovery exceedances were biased high and no base/neutral compounds were detected above the reporting limit for sample PASSP1300.

Internal Standard Evaluation—Acceptable

Internal standards were added to all samples, blanks, and QC samples as required. The response and retention time criteria established by Functional Guidelines were met.

Matrix Spike Analysis—Acceptable with Discussion

Matrix spike/matrix spike duplicate (MS/MSD) results were analyzed and reported at the required frequency. MS/MSD results were reported for ground water samples SAGWW0203 and NAGWP0705 and for soil samples PASSP1300, SASBH0501, SASBH0801, and SASBP0505. The percent recovery values (ranging from 10 to 104 percent for water and ranging from 38 to 97 for soil) met the control limits (ranging from 9 to 118 percent for water and ranging from 11 to 142 percent for soil) established by Functional Guidelines with the exceptions noted below.

Pentachlorophenol was not recovered in the MS or the MSD for samples PASSP1300 and SASBH0501, and was not recovered in the MSD for sample SASBH0801. However, pentachlorophenol was not recovered because the concentration of pentachlorophenol in the native sample was more than four times greater than the spike amount added for the MS/MSD analysis. No data were qualified because all other criteria for pentachlorophenol were met, as specified by Functional Guidelines.

The MS/MSD percent recovery values for pentachlorophenol (110 percent and 113 percent), acenaphthene (147 percent for MS), and 2,4-dinitrotoluene (159 percent and 109 percent) for sample SAGWW0203 exceeded the control limits (ranging from 9 to 118 percent) established by Functional Guidelines. No data were qualified because the exceedance for pentachlorophenol was marginal (7 and 10 percent), the MSD percent recovery for acenaphthene (104 percent) met control limit criteria (46 to 118 percent), and 2,4-dinitrotoluene was not detected above the reporting limit for any associated sample and the MS/MSD exceedance was biased high.

The MS/MSD percent recovery values for several compounds (ranging from 104 to 132 percent) for sample NAGWP0705 exceeded the control criteria (ranging from 9 to 127 percent) established by Functional Guidelines. No data were qualified because all percent recovery values met the control limits established by the laboratory.

Duplicate Analysis—Acceptable with Discussion

Matrix spike/matrix spike duplicate (MS/MSD) results were analyzed and reported at the required frequency. MS/MSD results were reported for ground water samples SAGWW0203 and NAGWP0705 and for soil samples PASSP1300, SASBH0501, SASBH0801, and SASBP0505. The relative percent difference (RPD) values (ranging from 1 to 37 percent for water and ranging from 0 to 37 percent for soil) met the control limits (ranging from 0 to less than 50 percent for both water and soil) established by Functional Guidelines with the exception noted below.

The MS/MSD RPD value for acenaphthene (34 percent) for sample SAGWW0203 exceeded the control limits (less than 31 percent) established by Functional Guidelines. No data were qualified because the exceedance was marginal (3 percent) and all other criteria were met.

Laboratory Control Sample Analysis—Acceptable

Blank spike/blank spike duplicates were extracted and analyzed at the frequency required by the analytical method. However, analysis of blank spike samples is not required by Functional Guideline and no percent recovery criteria have been established. The percent recovery values for the blank spikes (ranging from 9 to 125 percent) met the laboratory control limits (ranging from 1 to 160 percent).

Laboratory Reporting Limits—Acceptable with Qualification

Reporting limits (RLs) for the semivolatile organic compounds were specified in the SSP as CLP Contract Required Detection Limits (CRDL). The laboratory met the specified RLs.

Target compounds detected at concentrations between the method detection limit (MDL) and the RL were reported by the laboratory. The method detection limit and the reporting limit represent

different levels of accuracy. Positive values less than the reporting limit have been qualified (flagged) as estimated (J) by the laboratory.

Tentatively Identified Compounds

Tentatively identified compound reporting is not required for this project.

Overall Assessment of Data Quality

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable as qualified.

Laboratory Communications

The laboratory was not contacted regarding the semivolatile organic compounds analyses.

Definition of Data Qualifiers

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (USEPA 1999).

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

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

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

References

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USEPA. 2004. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, IIIA, and IIIB. Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. October 2004.

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	RB-1
Lab ID:	128438-01
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	4.38		2	120
Phenol - d5	22.8		1	102
Nitrobenzene - d5	79.1		34	146
2 - Fluorobiphenyl	98.2		35	143
2,4,6 - Tribromophenol	62		29	151
p - Terphenyl - d14	73.1		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	2.41	0.0554	
bis(2-Chloroethyl)ether	ND	2.41	0.39	
2-Chlorophenol	ND	2.41	0.507	
1,3-Dichlorobenzene	ND	2.41	0.442	
1,4-Dichlorobenzene	ND	2.41	0.381	
Benzyl Alcohol	ND	2.41	0.512	
1,2-Dichlorobenzene	ND	2.41	0.335	
2-Methylphenol	ND	2.41	0.471	
bis(2-Chloroisopropyl)ether	~~ND~~ 2.41 UJ	2.41	0.517	
3-&4-Methylphenol	ND	4.82	0.531	
N-nitroso-di-n-propylamine	ND	2.41	0.445	
Hexachloroethane	ND	2.41	0.459	
Nitrobenzene	ND	2.41	0.627	
Isophorone	ND	2.41	0.341	
2-Nitrophenol	ND	2.41	0.516	
2,4-Dimethylphenol	ND	12	2.2	
Benzoic Acid	~~ND~~ 12 UJ	12	1.61	
bis(2-Chloroethoxy)methane	ND	2.41	0.218	
2,4-Dichlorophenol	ND	2.41	0.224	
1,2,4-Trichlorobenzene	ND	2.41	0.148	
Naphthalene	ND	0.602	0.21	
4-Chloroaniline	ND	3.61	0.871	
Hexachlorobutadiene	ND	2.41	0.177	
4-Chloro-3-methylphenol	ND	2.41	0.294	
2-Methylnaphthalene	ND	0.602	0.18	
Hexachlorocyclopentadiene	ND	12	3.73	

12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128438-01 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	2.41	0.387	
2,4,5-Trichlorophenol	ND	2.41	0.534	
2-Chloronaphthalene	ND	0.241	0.0578	
2-Nitroaniline	ND	2.41	0.36	
Dimethylphthalate	ND	2.41	0.47	
Acenaphthylene	ND	0.241	0.0289	
2,6-Dinitrotoluene	~~ND~~ 2.41 U.J	2.41	0.458	
3-Nitroaniline	ND	2.41	0.681	
Acenaphthene	ND	0.241	0.041	
2,4-Dinitrophenol	ND	12	2.49	
4-Nitrophenol	ND	12	1.42	
Dibenzofuran	ND	2.41	0.247	
2,4-Dinitrotoluene	ND	2.41	0.692	
Diethylphthalate	ND	2.41	0.671	
4-Chlorophenylphenylether	ND	2.41	0.388	
Fluorene	ND	0.241	0.0205	
4-Nitroaniline	ND	2.41	0.467	
4,6-Dinitro-2-methylphenol	ND	12	3.73	
N-Nitrosodiphenylamine	ND	2.41	0.102	
4-Bromophenylphenylether	ND	2.41	0.264	
Hexachlorobenzene	ND	2.41	0.301	
Pentachlorophenol	ND	2.41	2.41	
Phenanthrene	ND	0.241	0.0446	
Anthracene	ND	0.241	0.0229	
Di-n-butylphthalate	~~0.510~~ 2.41 U	2.41	0.448	~~J B1~~
Fluoranthene	ND	0.241	0.0687	
Pyrene	ND	0.241	0.0349	
Butylbenzylphthalate	ND	3.61	1.17	
3,3'-Dichlorobenzidine	ND	12	2.26	
Benzo(a)anthracene	ND	0.241	0.0627	
Chrysene	ND	0.241	0.101	
bis(2-Ethylhexyl)phthalate	ND	18.1	4.59	
Di-n-octylphthalate	ND	2.41	0.329	
Benzofluoranthenes	ND	1.2	0.143	
Benzo(a)pyrene	ND	0.241	0.0398	
Indeno(1,2,3-cd)pyrene	ND	0.241	0.0337	
Dibenz(a,h)anthracene	ND	0.241	0.0373	
Benzo(g,h,i)perylene	ND	0.241	0.0614	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0104
Lab ID:	128438-02
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	1.53	X9	2	120
Phenol - d5	34.2		1	102
Nitrobenzene - d5	60.6		34	146
2 - Fluorobiphenyl	76.5		35	143
2,4,6 - Tribromophenol	63.2		29	151
p - Terphenyl - d14	70.3		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	1.98	2	0.046	J
bis(2-Chloroethyl)ether	ND	2	0.324	
2-Chlorophenol	ND	2	0.421	
1,3-Dichlorobenzene	ND	2	0.367	
1,4-Dichlorobenzene	ND	2	0.316	
Benzyl Alcohol	ND	2	0.425	
1,2-Dichlorobenzene	ND	2	0.278	
2-Methylphenol	ND	2	0.391	
bis(2-Chloroisopropyl)ether	~~ND~~ 2 U J	2	0.429	
3-&4-Methylphenol	4.64	4	0.441	
N-nitroso-di-n-propylamine	ND	2	0.369	
Hexachloroethane	ND	2	0.381	
Nitrobenzene	ND	2	0.52	
Isophorone	ND	2	0.283	
2-Nitrophenol	ND	2	0.428	
2,4-Dimethylphenol	ND	10	1.83	
Benzoic Acid	11.4 J	10	1.34	
bis(2-Chloroethoxy)methane	ND	2	0.181	
2,4-Dichlorophenol	ND	2	0.186	
1,2,4-Trichlorobenzene	ND	2	0.123	
Naphthalene	ND	0.5	0.174	
4-Chloroaniline	ND	3	0.723	
Hexachlorobutadiene	ND	2	0.147	
4-Chloro-3-methylphenol	ND	2	0.244	
2-Methylnaphthalene	ND	0.5	0.149	
Hexachlorocyclopentadiene	ND	10	3.1	

SR 12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128438-02 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	2	0.321	
2,4,5-Trichlorophenol	ND	2	0.443	
2-Chloronaphthalene	ND	0.2	0.048	
2-Nitroaniline	ND	2	0.299	
Dimethylphthalate	ND	2	0.39	
Acenaphthylene	ND	0.2	0.024	
2,6-Dinitrotoluene	~~ND~~ 2 U J	2	0.38	
3-Nitroaniline	ND	2	0.565	
Acenaphthene	ND	0.2	0.034	
2,4-Dinitrophenol	ND	10	2.07	
4-Nitrophenol	ND	10	1.18	
Dibenzofuran	ND	2	0.205	
2,4-Dinitrotoluene	ND	2	0.574	
Diethylphthalate	0.958	2	0.557	J
4-Chlorophenylphenylether	ND	2	0.322	
Fluorene	ND	0.2	0.017	
4-Nitroaniline	ND	2	0.388	
4,6-Dinitro-2-methylphenol	ND	10	3.1	
N-Nitrosodiphenylamine	ND	2	0.085	
4-Bromophenylphenylether	ND	2	0.219	
Hexachlorobenzene	ND	2	0.25	
Pentachlorophenol	ND	2	2	
Phenanthrene	ND	0.2	0.037	
Anthracene	ND	0.2	0.019	
Di-n-butylphthalate	4.27	2	0.372	~~B~~ Z
Fluoranthene	ND	0.2	0.057	
Pyrene	ND	0.2	0.029	
Butylbenzylphthalate	1.29	3	0.975	J
3,3'-Dichlorobenzidine	ND	10	1.87	
Benzo(a)anthracene	ND	0.2	0.052	
Chrysene	ND	0.2	0.084	
bis(2-Ethylhexyl)phthalate	ND	15	3.81	
Di-n-octylphthalate	ND	2	0.273	
Benzofluoranthenes	ND	1	0.119	
Benzo(a)pyrene	ND	0.2	0.033	
Indeno(1,2,3-cd)pyrene	ND	0.2	0.028	
Dibenz(a,h)anthracene	ND	0.2	0.031	
Benzo(g,h,i)perylene	ND	0.2	0.051	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0203
Lab ID:	128438-03
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	7.41		2	120
Phenol - d5	36.4		1	102
Nitrobenzene - d5	64		34	146
2 - Fluorobiphenyl	76.4		35	143
2,4,6 - Tribromophenol	70.5		29	151
p - Terphenyl - d14	77.9		35	166

Analyte		Result (ug/L)	RL	MDL	Flags
Phenol	ND		1.94	0.0447	
bis(2-Chloroethyl)ether	ND		1.94	0.315	
2-Chlorophenol	ND		1.94	0.409	
1,3-Dichlorobenzene	ND		1.94	0.356	
1,4-Dichlorobenzene	ND		1.94	0.307	
Benzyl Alcohol	ND		1.94	0.413	
1,2-Dichlorobenzene	ND		1.94	0.27	
2-Methylphenol	ND		1.94	0.38	
bis(2-Chloroisopropyl)ether	~~ND~~ 1.94 UJ		1.94	0.417	
3-&4-Methylphenol	ND		3.88	0.428	
N-nitroso-di-n-propylamine	ND		1.94	0.358	
Hexachloroethane	ND		1.94	0.37	
Nitrobenzene	ND		1.94	0.505	
Isophorone	ND		1.94	0.275	
2-Nitrophenol	ND		1.94	0.416	
2,4-Dimethylphenol	ND		9.71	1.78	
Benzoic Acid		2.39 J	9.71	1.3	J
bis(2-Chloroethoxy)methane	ND		1.94	0.176	
2,4-Dichlorophenol	ND		1.94	0.181	
1,2,4-Trichlorobenzene	ND		1.94	0.119	
Naphthalene	ND		0.485	0.169	
4-Chloroaniline	ND		2.91	0.702	
Hexachlorobutadiene	ND		1.94	0.143	
4-Chloro-3-methylphenol	ND		1.94	0.237	
2-Methylnaphthalene	ND		0.485	0.145	
Hexachlorocyclopentadiene	ND		9.71	3.01	

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Semivolatile Organics by EPA Method 8270 data for 128438-03 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.94	0.312	
2,4,5-Trichlorophenol	ND		1.94	0.43	
2-Chloronaphthalene	ND		0.194	0.0466	
2-Nitroaniline	ND		1.94	0.29	
Dimethylphthalate	ND		1.94	0.379	
Acenaphthylene	ND		0.194	0.0233	
2,6-Dinitrotoluene	~~ND~~ 1.94 U J		1.94	0.369	
3-Nitroaniline	ND		1.94	0.549	
Acenaphthene	ND		0.194	0.033	
2,4-Dinitrophenol	ND		9.71	2.01	
4-Nitrophenol	ND		9.71	1.15	
Dibenzofuran	ND		1.94	0.199	
2,4-Dinitrotoluene	ND		1.94	0.557	
Diethylphthalate		0.579	1.94	0.541	J
4-Chlorophenylphenylether	ND		1.94	0.313	
Fluorene	ND		0.194	0.0165	
4-Nitroaniline	ND		1.94	0.377	
4,6-Dinitro-2-methylphenol	ND		9.71	3.01	
N-Nitrosodiphenylamine	ND		1.94	0.0825	
4-Bromophenylphenylether	ND		1.94	0.213	
Hexachlorobenzene	ND		1.94	0.243	
Pentachlorophenol	ND		1.94	1.94	
Phenanthrene	ND		0.194	0.0359	
Anthracene	ND		0.194	0.0184	
Di-n-butylphthalate		3.76 U	1.94	0.361	B ~~J~~
Fluoranthene	ND		0.194	0.0553	
Pyrene	ND		0.194	0.0282	
Butylbenzylphthalate	ND		2.91	0.947	
3,3'-Dichlorobenzidine	ND		9.71	1.82	
Benzo(a)anthracene	ND		0.194	0.0505	
Chrysene	ND		0.194	0.0816	
bis(2-Ethylhexyl)phthalate	ND		14.6	3.7	
Di-n-octylphthalate	ND		1.94	0.265	
Benzofluoranthenes	ND		0.971	0.116	
Benzo(a)pyrene	ND		0.194	0.032	
Indeno(1,2,3-cd)pyrene	ND		0.194	0.0272	
Dibenz(a,h)anthracene	ND		0.194	0.0301	
Benzo(g,h,i)perylene	ND		0.194	0.0495	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0404
Lab ID:	128438-04
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	6.45		2	120
Phenol - d5	39.7		1	102
Nitrobenzene - d5	78.5		34	146
2 - Fluorobiphenyl	92.2		35	143
2,4,6 - Tribromophenol	63.1		29	151
p - Terphenyl - d14	76.9		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0438	
bis(2-Chloroethyl)ether	ND	1.9	0.309	
2-Chlorophenol	ND	1.9	0.401	
1,3-Dichlorobenzene	ND	1.9	0.35	
1,4-Dichlorobenzene	ND	1.9	0.301	
Benzyl Alcohol	ND	1.9	0.405	
1,2-Dichlorobenzene	ND	1.9	0.265	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	~~ND~~ 1.9 UJ	1.9	0.409	
3-&4-Methylphenol	ND	3.81	0.42	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	ND	1.9	0.363	
Nitrobenzene	ND	1.9	0.495	
Isophorone	ND	1.9	0.27	
2-Nitrophenol	ND	1.9	0.408	
2,4-Dimethylphenol	ND	9.52	1.74	
Benzoic Acid	~~ND~~ 9.52 UJ	9.52	1.28	
bis(2-Chloroethoxy)methane	ND	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.476	0.166	
4-Chloroaniline	ND	2.86	0.689	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	ND	0.476	0.142	
Hexachlorocyclopentadiene	ND	9.52	2.95	

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Semivolatile Organics by EPA Method 8270 data for 128438-04 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.9	0.306	
2,4,5-Trichlorophenol	ND	1.9	0.422	
2-Chloronaphthalene	ND	0.19	0.0457	
2-Nitroaniline	ND	1.9	0.285	
Dimethylphthalate	ND	1.9	0.371	
Acenaphthylene	ND	0.19	0.0229	
2,6-Dinitrotoluene	~~ND~~ 1.9 U J	1.9	0.362	
3-Nitroaniline	ND	1.9	0.538	
Acenaphthene	ND	0.19	0.0324	
2,4-Dinitrophenol	ND	9.52	1.97	
4-Nitrophenol	ND	9.52	1.12	
Dibenzofuran	ND	1.9	0.195	
2,4-Dinitrotoluene	ND	1.9	0.547	
Diethylphthalate	ND	1.9	0.53	
4-Chlorophenylphenylether	ND	1.9	0.307	
Fluorene	ND	0.19	0.0162	
4-Nitroaniline	ND	1.9	0.37	
4,6-Dinitro-2-methylphenol	ND	9.52	2.95	
N-Nitrosodiphenylamine	ND	1.9	0.081	
4-Bromophenylphenylether	ND	1.9	0.209	
Hexachlorobenzene	ND	1.9	0.238	
Pentachlorophenol	ND	1.9	1.9	
Phenanthrene	ND	0.19	0.0352	
Anthracene	ND	0.19	0.0181	
Di-n-butylphthalate	~~0.458~~ 1.9 U	1.9	0.354	~~J BT~~
Fluoranthene	ND	0.19	0.0543	
Pyrene	ND	0.19	0.0276	
Butylbenzylphthalate	ND	2.86	0.929	
3,3'-Dichlorobenzidine	ND	9.52	1.78	
Benzo(a)anthracene	ND	0.19	0.0495	
Chrysene	ND	0.19	0.08	
bis(2-Ethylhexyl)phthalate	ND	14.3	3.63	
Di-n-octylphthalate	ND	1.9	0.26	
Benzofluoranthenes	ND	0.952	0.113	
Benzo(a)pyrene	ND	0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND	0.19	0.0267	
Dibenz(a,h)anthracene	ND	0.19	0.0295	
Benzo(g,h,i)perylene	ND	0.19	0.0486	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0302
Lab ID:	128438-05
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	6.83		2	120
Phenol - d5	34		1	102
Nitrobenzene - d5	78.2		34	146
2 - Fluorobiphenyl	73.2		35	143
2,4,6 - Tribromophenol	67.3		29	151
p - Terphenyl - d14	80.9		35	166

Analyte	Result (ug/L)		RL	MDL	Flags
Phenol	ND		1.9	0.0438	
bis(2-Chloroethyl)ether	ND		1.9	0.309	
2-Chlorophenol	ND		1.9	0.401	
1,3-Dichlorobenzene	ND		1.9	0.35	
1,4-Dichlorobenzene	ND		1.9	0.301	
Benzyl Alcohol	ND		1.9	0.405	
1,2-Dichlorobenzene	ND		1.9	0.265	
2-Methylphenol	ND		1.9	0.372	
bis(2-Chloroisopropyl)ether	~~ND~~	1.9 UJ	1.9	0.409	
3-&4-Methylphenol	ND		3.81	0.42	
N-nitroso-di-n-propylamine	ND		1.9	0.351	
Hexachloroethane	ND		1.9	0.363	
Nitrobenzene	ND		1.9	0.495	
Isophorone	ND		1.9	0.27	
2-Nitrophenol	ND		1.9	0.408	
2,4-Dimethylphenol	ND		9.52	1.74	
Benzoic Acid	~~ND~~	9.52 UJ	9.52	1.28	
bis(2-Chloroethoxy)methane	ND		1.9	0.172	
2,4-Dichlorophenol	ND		1.9	0.177	
1,2,4-Trichlorobenzene	ND		1.9	0.117	
Naphthalene	ND		0.476	0.166	
4-Chloroaniline	ND		2.86	0.689	
Hexachlorobutadiene	ND		1.9	0.14	
4-Chloro-3-methylphenol	ND		1.9	0.232	
2-Methylnaphthalene	ND		0.476	0.142	
Hexachlorocyclopentadiene	ND		9.52	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128438-05 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.9	0.306	
2,4,5-Trichlorophenol	ND	1.9	0.422	
2-Chloronaphthalene	ND	0.19	0.0457	
2-Nitroaniline	ND	1.9	0.285	
Dimethylphthalate	ND	1.9	0.371	
Acenaphthylene	ND	0.19	0.0229	
2,6-Dinitrotoluene	~~ND~~ 1.9 UJ	1.9	0.362	
3-Nitroaniline	ND	1.9	0.538	
Acenaphthene	ND	0.19	0.0324	
2,4-Dinitrophenol	ND	9.52	1.97	
4-Nitrophenol	ND	9.52	1.12	
Dibenzofuran	ND	1.9	0.195	
2,4-Dinitrotoluene	ND	1.9	0.547	
Diethylphthalate	ND	1.9	0.53	
4-Chlorophenylphenylether	ND	1.9	0.307	
Fluorene	ND	0.19	0.0162	
4-Nitroaniline	ND	1.9	0.37	
4,6-Dinitro-2-methylphenol	ND	9.52	2.95	
N-Nitrosodiphenylamine	ND	1.9	0.081	
4-Bromophenylphenylether	ND	1.9	0.209	
Hexachlorobenzene	ND	1.9	0.238	
Pentachlorophenol	ND	1.9	1.9	
Phenanthrene	ND	0.19	0.0352	
Anthracene	ND	0.19	0.0181	
Di-n-butylphthalate	ND	1.9	0.354	
Fluoranthene	ND	0.19	0.0543	
Pyrene	ND	0.19	0.0276	
Butylbenzylphthalate	ND	2.86	0.929	
3,3'-Dichlorobenzidine	ND	9.52	1.78	
Benzo(a)anthracene	ND	0.19	0.0495	
Chrysene	ND	0.19	0.08	
bis(2-Ethylhexyl)phthalate	ND	14.3	3.63	
Di-n-octylphthalate	ND	1.9	0.26	
Benzofluoranthenes	ND	0.952	0.113	
Benzo(a)pyrene	ND	0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND	0.19	0.0267	
Dibenz(a,h)anthracene	ND	0.19	0.0295	
Benzo(g,h,i)perylene	ND	0.19	0.0486	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0505
Lab ID:	128438-06
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	6.9		2	120
Phenol - d5	36.9		1	102
Nitrobenzene - d5	55.8		34	146
2 - Fluorobiphenyl	68.5		35	143
2,4,6 - Tribromophenol	53		29	151
p - Terphenyl - d14	63.8		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.92	0.0442	
bis(2-Chloroethyl)ether	ND	1.92	0.312	
2-Chlorophenol	ND	1.92	0.405	
1,3-Dichlorobenzene	ND	1.92	0.353	
1,4-Dichlorobenzene	ND	1.92	0.304	
Benzyl Alcohol	ND	1.92	0.409	
1,2-Dichlorobenzene	ND	1.92	0.267	
2-Methylphenol	ND	1.92	0.376	
bis(2-Chloroisopropyl)ether	~~ND~~ 1.92 U.J	1.92	0.413	
3-&4-Methylphenol	ND	3.85	0.424	
N-nitroso-di-n-propylamine	ND	1.92	0.355	
Hexachloroethane	ND	1.92	0.366	
Nitrobenzene	ND	1.92	0.5	
Isophorone	ND	1.92	0.272	
2-Nitrophenol	ND	1.92	0.412	
2,4-Dimethylphenol	ND	9.62	1.76	
Benzoic Acid	~~ND~~ 9.62 U.J	9.62	1.29	
bis(2-Chloroethoxy)methane	ND	1.92	0.174	
2,4-Dichlorophenol	ND	1.92	0.179	
1,2,4-Trichlorobenzene	ND	1.92	0.118	
Naphthalene	ND	0.481	0.167	
4-Chloroaniline	ND	2.88	0.695	
Hexachlorobutadiene	ND	1.92	0.141	
4-Chloro-3-methylphenol	ND	1.92	0.235	
2-Methylnaphthalene	ND	0.481	0.143	
Hexachlorocyclopentadiene	ND	9.62	2.98	

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Semivolatile Organics by EPA Method 8270 data for 128438-06 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.92	0.309	
2,4,5-Trichlorophenol	ND	1.92	0.426	
2-Chloronaphthalene	ND	0.192	0.0462	
2-Nitroaniline	ND	1.92	0.288	
Dimethylphthalate	ND	1.92	0.375	
Acenaphthylene	ND	0.192	0.0231	
2,6-Dinitrotoluene	~~ND~~ 1.92U	1.92	0.365	
3-Nitroaniline	ND	1.92	0.543	
Acenaphthene	ND	0.192	0.0327	
2,4-Dinitrophenol	ND	9.62	1.99	
4-Nitrophenol	ND	9.62	1.13	
Dibenzofuran	ND	1.92	0.197	
2,4-Dinitrotoluene	ND	1.92	0.552	
Diethylphthalate	ND	1.92	0.536	
4-Chlorophenylphenylether	ND	1.92	0.31	
Fluorene	ND	0.192	0.0163	
4-Nitroaniline	ND	1.92	0.373	
4,6-Dinitro-2-methylphenol	ND	9.62	2.98	
N-Nitrosodiphenylamine	ND	1.92	0.0817	
4-Bromophenylphenylether	ND	1.92	0.211	
Hexachlorobenzene	ND	1.92	0.24	
Pentachlorophenol	ND	1.92	1.92	
Phenanthrene	ND	0.192	0.0356	
Anthracene	ND	0.192	0.0183	
Di-n-butylphthalate	~~1.8~~ 1.92 U	1.92	0.358	~~JBT~~
Fluoranthene	ND	0.192	0.0548	
Pyrene	ND	0.192	0.0279	
Butylbenzylphthalate	ND	2.88	0.938	
3,3'-Dichlorobenzidine	ND	9.62	1.8	
Benzo(a)anthracene	ND	0.192	0.05	
Chrysene	ND	0.192	0.0808	
bis(2-Ethylhexyl)phthalate	ND	14.4	3.66	
Di-n-octylphthalate	ND	1.92	0.263	
Benzofluoranthenes	ND	0.962	0.114	
Benzo(a)pyrene	ND	0.192	0.0317	
Indeno(1,2,3-cd)pyrene	ND	0.192	0.0269	
Dibenz(a,h)anthracene	ND	0.192	0.0298	
Benzo(g,h,i)perylene	ND	0.192	0.049	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0602
Lab ID:	128438-07
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	4.79		2	120
Phenol - d5	20.8		1	102
Nitrobenzene - d5	57.9		34	146
2 - Fluorobiphenyl	63.2		35	143
2,4,6 - Tribromophenol	46.7		29	151
p - Terphenyl - d14	46.6		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	2	0.046	
bis(2-Chloroethyl)ether	ND	2	0.324	
2-Chlorophenol	ND	2	0.421	
1,3-Dichlorobenzene	ND	2	0.367	
1,4-Dichlorobenzene	ND	2	0.316	
Benzyl Alcohol	ND	2	0.425	
1,2-Dichlorobenzene	ND	2	0.278	
2-Methylphenol	ND	2	0.391	
bis(2-Chloroisopropyl)ether	~~ND~~ 2 U J	2	0.429	
3-&4-Methylphenol	ND	4	0.441	
N-nitroso-di-n-propylamine	ND	2	0.369	
Hexachloroethane	ND	2	0.381	
Nitrobenzene	ND	2	0.52	
Isophorone	ND	2	0.283	
2-Nitrophenol	ND	2	0.428	
2,4-Dimethylphenol	ND	10	1.83	
Benzoic Acid	~~ND~~ 10 U J	10	1.34	
bis(2-Chloroethoxy)methane	ND	2	0.181	
2,4-Dichlorophenol	ND	2	0.186	
1,2,4-Trichlorobenzene	ND	2	0.123	
Naphthalene	ND	0.5	0.174	
4-Chloroaniline	ND	3	0.723	
Hexachlorobutadiene	ND	2	0.147	
4-Chloro-3-methylphenol	ND	2	0.244	
2-Methylnaphthalene	ND	0.5	0.149	
Hexachlorocyclopentadiene	ND	10	3.1	

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Semivolatile Organics by EPA Method 8270 data for 128438-07 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	2	0.321	
2,4,5-Trichlorophenol	ND	2	0.443	
2-Chloronaphthalene	ND	0.2	0.048	
2-Nitroaniline	ND	2	0.299	
Dimethylphthalate	ND	2	0.39	
Acenaphthylene	ND	0.2	0.024	
2,6-Dinitrotoluene	~~ND~~ 2 UJ	2	0.38	
3-Nitroaniline	ND	2	0.565	
Acenaphthene	ND	0.2	0.034	
2,4-Dinitrophenol	ND	10	2.07	
4-Nitrophenol	ND	10	1.18	
Dibenzofuran	ND	2	0.205	
2,4-Dinitrotoluene	ND	2	0.574	
Diethylphthalate	ND	2	0.557	
4-Chlorophenylphenylether	ND	2	0.322	
Fluorene	ND	0.2	0.017	
4-Nitroaniline	ND	2	0.388	
4,6-Dinitro-2-methylphenol	ND	10	3.1	
N-Nitrosodiphenylamine	ND	2	0.085	
4-Bromophenylphenylether	ND	2	0.219	
Hexachlorobenzene	ND	2	0.25	
Pentachlorophenol	ND	2	2	
Phenanthrene	ND	0.2	0.037	
Anthracene	ND	0.2	0.019	
Di-n-butylphthalate	ND	2	0.372	
Fluoranthene	ND	0.2	0.057	
Pyrene	ND	0.2	0.029	
Butylbenzylphthalate	ND	3	0.975	
3,3'-Dichlorobenzidine	ND	10	1.87	
Benzo(a)anthracene	ND	0.2	0.052	
Chrysene	ND	0.2	0.084	
bis(2-Ethylhexyl)phthalate	ND	15	3.81	
Di-n-octylphthalate	ND	2	0.273	
Benzofluoranthenes	ND	1	0.119	
Benzo(a)pyrene	ND	0.2	0.033	
Indeno(1,2,3-cd)pyrene	ND	0.2	0.028	
Dibenz(a,h)anthracene	ND	0.2	0.031	
Benzo(g,h,i)perylene	ND	0.2	0.051	

gc 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP805
Lab ID:	128438-08
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

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Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	5.67		2	120
Phenol - d5	32.6		1	102
Nitrobenzene - d5	70.6		34	146
2 - Fluorobiphenyl	96.6		35	143
2,4,6 - Tribromophenol	78.3		29	151
p - Terphenyl - d14	81.9		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0438	
bis(2-Chloroethyl)ether	ND	1.9	0.309	
2-Chlorophenol	ND	1.9	0.401	
1,3-Dichlorobenzene	ND	1.9	0.35	
1,4-Dichlorobenzene	ND	1.9	0.301	
Benzyl Alcohol	ND	1.9	0.405	
1,2-Dichlorobenzene	ND	1.9	0.265	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	~~ND~~ 1.9 UJ	1.9	0.409	
3-&4-Methylphenol	ND	3.81	0.42	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	ND	1.9	0.363	
Nitrobenzene	ND	1.9	0.495	
Isophorone	ND	1.9	0.27	
2-Nitrophenol	ND	1.9	0.408	
2,4-Dimethylphenol	ND	9.52	1.74	
Benzoic Acid	~~ND~~ 9.52 UJ	9.52	1.28	
bis(2-Chloroethoxy)methane	ND	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.476	0.166	
4-Chloroaniline	ND	2.86	0.689	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	ND	0.476	0.142	
Hexachlorocyclopentadiene	ND	9.52	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128438-08 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.9	0.306	
2,4,5-Trichlorophenol	ND	1.9	0.422	
2-Chloronaphthalene	ND	0.19	0.0457	
2-Nitroaniline	ND	1.9	0.285	
Dimethylphthalate	ND	1.9	0.371	
Acenaphthylene	ND	0.19	0.0229	
2,6-Dinitrotoluene	~~ND~~ 1.9 U J	1.9	0.362	
3-Nitroaniline	ND	1.9	0.538	
Acenaphthene	ND	0.19	0.0324	
2,4-Dinitrophenol	ND	9.52	1.97	
4-Nitrophenol	ND	9.52	1.12	
Dibenzofuran	0.278	1.9	0.195	J
2,4-Dinitrotoluene	ND	1.9	0.547	
Diethylphthalate	ND	1.9	0.53	
4-Chlorophenylphenylether	ND	1.9	0.307	
Fluorene	0.11	0.19	0.0162	J
4-Nitroaniline	ND	1.9	0.37	
4,6-Dinitro-2-methylphenol	ND	9.52	2.95	
N-Nitrosodiphenylamine	ND	1.9	0.081	
4-Bromophenylphenylether	ND	1.9	0.209	
Hexachlorobenzene	ND	1.9	0.238	
Pentachlorophenol	121	1.9	1.9	D10
Phenanthrene	ND	0.19	0.0352	
Anthracene	ND	0.19	0.0181	
Di-n-butylphthalate	~~0.678~~ 1.94	1.9	0.354	~~J B1~~
Fluoranthene	ND	0.19	0.0543	
Pyrene	ND	0.19	0.0276	
Butylbenzylphthalate	ND	2.86	0.929	
3,3'-Dichlorobenzidine	ND	9.52	1.78	
Benzo(a)anthracene	ND	0.19	0.0495	
Chrysene	ND	0.19	0.08	
bis(2-Ethylhexyl)phthalate	ND	14.3	3.63	
Di-n-octylphthalate	ND	1.9	0.26	
Benzofluoranthenes	ND	0.952	0.113	
Benzo(a)pyrene	ND	0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND	0.19	0.0267	
Dibenz(a,h)anthracene	ND	0.19	0.0295	
Benzo(g,h,i)perylene	ND	0.19	0.0486	

gr 12/12/08

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP1005
Lab ID:	128438-09
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	4.6		2	120
Phenol - d5	25.7		1	102
Nitrobenzene - d5	64.1		34	146
2 - Fluorobiphenyl	88.2		35	143
2,4,6 - Tribromophenol	77.9		29	151
p - Terphenyl - d14	80.3		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0438	
bis(2-Chloroethyl)ether	ND	1.9	0.309	
2-Chlorophenol	ND	1.9	0.401	
1,3-Dichlorobenzene	ND	1.9	0.35	
1,4-Dichlorobenzene	ND	1.9	0.301	
Benzyl Alcohol	ND	1.9	0.405	
1,2-Dichlorobenzene	ND	1.9	0.265	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	~~ND~~ 1.9 UJ	1.9	0.409	
3-&4-Methylphenol	ND	3.81	0.42	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	ND	1.9	0.363	
Nitrobenzene	ND	1.9	0.495	
Isophorone	ND	1.9	0.27	
2-Nitrophenol	ND	1.9	0.408	
2,4-Dimethylphenol	ND	9.52	1.74	
Benzoic Acid	~~ND~~ 9.52 UJ	9.52	1.28	
bis(2-Chloroethoxy)methane	ND	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.476	0.166	
4-Chloroaniline	ND	2.86	0.689	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	ND	0.476	0.142	
Hexachlorocyclopentadiene	ND	9.52	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128438-09 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.9	0.306	
2,4,5-Trichlorophenol	ND	1.9	0.422	
2-Chloronaphthalene	ND	0.19	0.0457	
2-Nitroaniline	ND	1.9	0.285	
Dimethylphthalate	ND	1.9	0.371	
Acenaphthylene	ND	0.19	0.0229	
2,6-Dinitrotoluene	~~ND~~ 1.9 UJ	1.9	0.362	
3-Nitroaniline	ND	1.9	0.538	
Acenaphthene	ND	0.19	0.0324	
2,4-Dinitrophenol	ND	9.52	1.97	
4-Nitrophenol	ND	9.52	1.12	
Dibenzofuran	ND	1.9	0.195	
2,4-Dinitrotoluene	ND	1.9	0.547	
Diethylphthalate	ND	1.9	0.53	
4-Chlorophenylphenylether	ND	1.9	0.307	
Fluorene	ND	0.19	0.0162	
4-Nitroaniline	ND	1.9	0.37	
4,6-Dinitro-2-methylphenol	ND	9.52	2.95	
N-Nitrosodiphenylamine	ND	1.9	0.081	
4-Bromophenylphenylether	ND	1.9	0.209	
Hexachlorobenzene	ND	1.9	0.238	
Pentachlorophenol	40.1	1.9	1.9	D10
Phenanthrene	ND	0.19	0.0352	
Anthracene	ND	0.19	0.0181	
Di-n-butylphthalate	~~0.511~~ 1.9 U	1.9	0.354	~~JBT~~
Fluoranthene	ND	0.19	0.0543	
Pyrene	ND	0.19	0.0276	
Butylbenzylphthalate	ND	2.86	0.929	
3,3'-Dichlorobenzidine	ND	9.52	1.78	
Benzo(a)anthracene	ND	0.19	0.0495	
Chrysene	ND	0.19	0.08	
bis(2-Ethylhexyl)phthalate	ND	14.3	3.63	
Di-n-octylphthalate	ND	1.9	0.26	
Benzofluoranthenes	ND	0.952	0.113	
Benzo(a)pyrene	ND	0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND	0.19	0.0267	
Dibenz(a,h)anthracene	ND	0.19	0.0295	
Benzo(g,h,i)perylene	ND	0.19	0.0486	

12/12/05

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	RB-2
Lab ID:	128438-10
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/23/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	5.11		2	120
Phenol - d5	21.3		1	102
Nitrobenzene - d5	74.1		34	146
2 - Fluorobiphenyl	90.5		35	143
2,4,6 - Tribromophenol	66.1		29	151
p - Terphenyl - d14	80.8		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	2.06	0.0474	
bis(2-Chloroethyl)ether	ND	2.06	0.334	
2-Chlorophenol	ND	2.06	0.434	
1,3-Dichlorobenzene	ND	2.06	0.378	
1,4-Dichlorobenzene	ND	2.06	0.326	
Benzyl Alcohol	ND	2.06	0.438	
1,2-Dichlorobenzene	ND	2.06	0.287	
2-Methylphenol	ND	2.06	0.403	
bis(2-Chloroisopropyl)ether	~~ND~~ 2.06 UJ	2.06	0.442	
3-&4-Methylphenol	ND	4.12	0.455	
N-nitroso-di-n-propylamine	ND	2.06	0.38	
Hexachloroethane	ND	2.06	0.393	
Nitrobenzene	ND	2.06	0.536	
Isophorone	ND	2.06	0.292	
2-Nitrophenol	ND	2.06	0.441	
2,4-Dimethylphenol	ND	10.3	1.89	
Benzoic Acid	~~ND~~ 10.3 UJ	10.3	1.38	
bis(2-Chloroethoxy)methane	ND	2.06	0.187	
2,4-Dichlorophenol	ND	2.06	0.192	
1,2,4-Trichlorobenzene	ND	2.06	0.127	
Naphthalene	ND	0.515	0.179	
4-Chloroaniline	ND	3.09	0.745	
Hexachlorobutadiene	ND	2.06	0.152	
4-Chloro-3-methylphenol	ND	2.06	0.252	
2-Methylnaphthalene	ND	0.515	0.154	
Hexachlorocyclopentadiene	ND	10.3	3.2	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128438-10 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	2.06	0.331	
2,4,5-Trichlorophenol	ND	2.06	0.457	
2-Chloronaphthalene	ND	0.206	0.0495	
2-Nitroaniline	ND	2.06	0.308	
Dimethylphthalate	ND	2.06	0.402	
Acenaphthylene	ND	0.206	0.0247	
2,6-Dinitrotoluene	~~ND~~ 2.06 U J	2.06	0.392	
3-Nitroaniline	ND	2.06	0.582	
Acenaphthene	ND	0.206	0.0351	
2,4-Dinitrophenol	ND	10.3	2.13	
4-Nitrophenol	ND	10.3	1.22	
Dibenzofuran	ND	2.06	0.211	
2,4-Dinitrotoluene	ND	2.06	0.592	
Diethylphthalate	ND	2.06	0.574	
4-Chlorophenylphenylether	ND	2.06	0.332	
Fluorene	ND	0.206	0.0175	
4-Nitroaniline	ND	2.06	0.4	
4,6-Dinitro-2-methylphenol	ND	10.3	3.2	
N-Nitrosodiphenylamine	ND	2.06	0.0876	
4-Bromophenylphenylether	ND	2.06	0.226	
Hexachlorobenzene	ND	2.06	0.258	
Pentachlorophenol	ND	2.06	2.06	
Phenanthrene	ND	0.206	0.0381	
Anthracene	ND	0.206	0.0196	
Di-n-butylphthalate	~~0.567~~ 2.06 U	2.06	0.384	~~JB1~~
Fluoranthene	ND	0.206	0.0588	
Pyrene	ND	0.206	0.0299	
Butylbenzylphthalate	ND	3.09	1.01	
3,3'-Dichlorobenzidine	ND	10.3	1.93	
Benzo(a)anthracene	ND	0.206	0.0536	
Chrysene	ND	0.206	0.0866	
bis(2-Ethylhexyl)phthalate	ND	15.5	3.93	
Di-n-octylphthalate	1.42	2.06	0.281	J
Benzofluoranthenes	ND	1.03	0.123	
Benzo(a)pyrene	ND	0.206	0.034	
Indeno(1,2,3-cd)pyrene	ND	0.206	0.0289	
Dibenz(a,h)anthracene	ND	0.206	0.032	
Benzo(g,h,i)perylene	ND	0.206	0.0526	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP0705
Lab ID:	128439-01
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	74.4		2	120
Phenol - d5	47.1		1	102
Nitrobenzene - d5	101		34	146
2 - Fluorobiphenyl	116		35	143
2,4,6 - Tribromophenol	107		29	151
p - Terphenyl - d14	114		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0438	
bis(2-Chloroethyl)ether	ND	1.9	0.309	
2-Chlorophenol	ND	1.9	0.401	
1,3-Dichlorobenzene	ND	1.9	0.35	
1,4-Dichlorobenzene	ND	1.9	0.301	
Benzyl Alcohol	ND	1.9	0.405	
1,2-Dichlorobenzene	ND	1.9	0.265	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	ND	1.9	0.409	
3-&4-Methylphenol	ND	3.81	0.42	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	ND	1.9	0.363	
Nitrobenzene	ND	1.9	0.495	
Isophorone	ND	1.9	0.27	
2-Nitrophenol	ND	1.9	0.408	
2,4-Dimethylphenol	ND	9.52	1.74	
Benzoic Acid	ND	9.52	1.28	
bis(2-Chloroethoxy)methane	ND	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.476	0.166	
4-Chloroaniline	ND	2.86	0.689	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	ND	0.476	0.142	
Hexachlorocyclopentadiene	ND	9.52	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128439-01 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.9	0.306	
2,4,5-Trichlorophenol	ND		1.9	0.422	
2-Chloronaphthalene	ND		0.19	0.0457	
2-Nitroaniline	ND		1.9	0.285	
Dimethylphthalate	ND		1.9	0.371	
Acenaphthylene	ND		0.19	0.0229	
2,6-Dinitrotoluene	ND		1.9	0.362	
3-Nitroaniline	ND		1.9	0.538	
Acenaphthene	ND		0.19	0.0324	
2,4-Dinitrophenol	ND		9.52	1.97	
4-Nitrophenol	ND		9.52	1.12	
Dibenzofuran	ND		1.9	0.195	
2,4-Dinitrotoluene	ND		1.9	0.547	
Diethylphthalate	ND		1.9	0.53	
4-Chlorophenylphenylether	ND		1.9	0.307	
Fluorene	ND		0.19	0.0162	
4-Nitroaniline	ND		1.9	0.37	
4,6-Dinitro-2-methylphenol	ND		9.52	2.95	
N-Nitrosodiphenylamine	ND		1.9	0.081	
4-Bromophenylphenylether	ND		1.9	0.209	
Hexachlorobenzene	ND		1.9	0.238	
Pentachlorophenol	ND		1.9	1.9	
Phenanthrene	ND		0.19	0.0352	
Anthracene	ND		0.19	0.0181	
Di-n-butylphthalate		0.73	1.9 U 1.9	0.354	~~JBT~~
Fluoranthene	ND		0.19	0.0543	
Pyrene	ND		0.19	0.0276	
Butylbenzylphthalate	ND		2.86	0.929	
3,3'-Dichlorobenzidine	ND		9.52	1.78	
Benzo(a)anthracene	ND		0.19	0.0495	
Chrysene	ND		0.19	0.08	
bis(2-Ethylhexyl)phthalate	ND		14.3	3.63	
Di-n-octylphthalate	ND		1.9	0.26	
Benzofluoranthenes	ND		0.952	0.113	
Benzo(a)pyrene	ND		0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND		0.19	0.0267	
Dibenz(a,h)anthracene	ND		0.19	0.0295	
Benzo(g,h,i)perylene	ND		0.19	0.0486	

8m 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP0906
Lab ID:	128439-02
Date Received:	6/17/2005
Date Prepared:	6/20/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	77.2		2	120
Phenol - d5	39.4		1	102
Nitrobenzene - d5	87.7		34	146
2 - Fluorobiphenyl	95.8		35	143
2,4,6 - Tribromophenol	101		29	151
p - Terphenyl - d14	94.9		35	166

Analyte		Result (ug/L)	RL	MDL	Flags
Phenol	ND		1.9	0.0438	
bis(2-Chloroethyl)ether	ND		1.9	0.309	
2-Chlorophenol	ND		1.9	0.401	
1,3-Dichlorobenzene	ND		1.9	0.35	
1,4-Dichlorobenzene	ND		1.9	0.301	
Benzyl Alcohol	ND		1.9	0.405	
1,2-Dichlorobenzene	ND		1.9	0.265	
2-Methylphenol	ND		1.9	0.372	
bis(2-Chloroisopropyl)ether	ND		1.9	0.409	
3-&4-Methylphenol	ND		3.81	0.42	
N-nitroso-di-n-propylamine	ND		1.9	0.351	
Hexachloroethane	ND		1.9	0.363	
Nitrobenzene	ND		1.9	0.495	
Isophorone	ND		1.9	0.27	
2-Nitrophenol	ND		1.9	0.408	
2,4-Dimethylphenol	ND		9.52	1.74	
Benzoic Acid	ND		9.52	1.28	
bis(2-Chloroethoxy)methane	ND		1.9	0.172	
2,4-Dichlorophenol		0.828 ~~0.828~~	1.9 ~~1.9~~	0.177	+ J
1,2,4-Trichlorobenzene	ND		1.9	0.117	
Naphthalene	ND		0.476	0.166	
4-Chloroaniline	ND		2.86	0.689	
Hexachlorobutadiene	ND		1.9	0.14	
4-Chloro-3-methylphenol	ND		1.9	0.232	
2-Methylnaphthalene	ND		0.476	0.142	
Hexachlorocyclopentadiene	ND		9.52	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128439-02 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.9	0.306	
2,4,5-Trichlorophenol		0.568	1.9	0.422	J
2-Chloronaphthalene	ND		0.19	0.0457	
2-Nitroaniline	ND		1.9	0.285	
Dimethylphthalate	ND		1.9	0.371	
Acenaphthylene	ND		0.19	0.0229	
2,6-Dinitrotoluene	ND		1.9	0.362	
3-Nitroaniline	ND		1.9	0.538	
Acenaphthene	ND		0.19	0.0324	
2,4-Dinitrophenol	ND		9.52	1.97	
4-Nitrophenol	ND		9.52	1.12	
Dibenzofuran	ND		1.9	0.195	
2,4-Dinitrotoluene	ND		1.9	0.547	
Diethylphthalate	ND		1.9	0.53	
4-Chlorophenylphenylether	ND		1.9	0.307	
Fluorene	ND		0.19	0.0162	
4-Nitroaniline	ND		1.9	0.37	
4,6-Dinitro-2-methylphenol	ND		9.52	2.95	
N-Nitrosodiphenylamine	ND		1.9	0.081	
4-Bromophenylphenylether	ND		1.9	0.209	
Hexachlorobenzene	ND		1.9	0.238	
Pentachlorophenol		875	1.9	1.9	~~D100~~
Phenanthrene	ND		0.19	0.0352	
Anthracene	ND		0.19	0.0181	
Di-n-butylphthalate		~~0.646~~ 1.94	1.9	0.354	~~JB1~~
Fluoranthene	ND		0.19	0.0543	
Pyrene	ND		0.19	0.0276	
Butylbenzylphthalate	ND		2.86	0.929	
3,3'-Dichlorobenzidine	ND		9.52	1.78	
Benzo(a)anthracene	ND		0.19	0.0495	
Chrysene	ND		0.19	0.08	
bis(2-Ethylhexyl)phthalate	ND		14.3	3.63	
Di-n-octylphthalate	ND		1.9	0.26	
Benzofluoranthenes	ND		0.952	0.113	
Benzo(a)pyrene	ND		0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND		0.19	0.0267	
Dibenz(a,h)anthracene	ND		0.19	0.0295	
Benzo(g,h,i)perylene	ND		0.19	0.0486	

12/6/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWW0703
Lab ID:	128474-01
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	45.4		2	120
Phenol - d5	40.8		1	102
Nitrobenzene - d5	104		34	146
2 - Fluorobiphenyl	103		35	143
2,4,6 - Tribromophenol	110		29	151
p - Terphenyl - d14	115		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.89	0.0436	
bis(2-Chloroethyl)ether	~~ND~~ 1.89 U J	1.89	0.307	
2-Chlorophenol	ND	1.89	0.399	
1,3-Dichlorobenzene	ND	1.89	0.348	
1,4-Dichlorobenzene	ND	1.89	0.299	
Benzyl Alcohol	~~ND~~ 1.89 U J	1.89	0.402	
1,2-Dichlorobenzene	ND	1.89	0.263	
2-Methylphenol	ND	1.89	0.37	
bis(2-Chloroisopropyl)ether	ND	1.89	0.406	
3-&4-Methylphenol	ND	3.79	0.418	
N-nitroso-di-n-propylamine	ND	1.89	0.349	
Hexachloroethane	~~ND~~ 1.89 U J	1.89	0.361	
Nitrobenzene	ND	1.89	0.492	
Isophorone	ND	1.89	0.268	
2-Nitrophenol	ND	1.89	0.405	
2,4-Dimethylphenol	ND	9.47	1.73	
Benzoic Acid	ND	9.47	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.89 U J	1.89	0.171	
2,4-Dichlorophenol	ND	1.89	0.176	
1,2,4-Trichlorobenzene	ND	1.89	0.116	
Naphthalene	12.2	0.473	0.165	
4-Chloroaniline	ND	2.84	0.685	
Hexachlorobutadiene	ND	1.89	0.139	
4-Chloro-3-methylphenol	ND	1.89	0.231	
2-Methylnaphthalene	3.78	0.473	0.141	
Hexachlorocyclopentadiene	ND	9.47	2.94	

gm 12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-01 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.89	0.304	
2,4,5-Trichlorophenol	ND		1.89	0.42	
2-Chloronaphthalene	ND		0.189	0.0455	
2-Nitroaniline	ND		1.89	0.283	
Dimethylphthalate	ND		1.89	0.369	
Acenaphthylene	ND		0.189	0.0227	
2,6-Dinitrotoluene	ND		1.89	0.36	
3-Nitroaniline	ND		1.89	0.535	
Acenaphthene		0.453	0.189	0.0322	
2,4-Dinitrophenol	ND		9.47	1.96	
4-Nitrophenol	~~ND~~ 9.474J		9.47	1.12	
Dibenzofuran		0.808	1.89	0.194	J
2,4-Dinitrotoluene	ND		1.89	0.544	
Diethylphthalate	ND		1.89	0.527	
4-Chlorophenylphenylether	ND		1.89	0.305	
Fluorene		0.49	0.189	0.0161	
4-Nitroaniline	ND		1.89	0.367	
4,6-Dinitro-2-methylphenol	ND		9.47	2.94	
N-Nitrosodiphenylamine	ND		1.89	0.0805	
4-Bromophenylphenylether	ND		1.89	0.207	
Hexachlorobenzene	ND		1.89	0.237	
Pentachlorophenol	ND		1.89	1.89	
Phenanthrene		1.21	0.189	0.035	
Anthracene	ND		0.189	0.018	
Di-n-butylphthalate		~~0.792~~ 1.894	1.89	0.352	~~J~~
Fluoranthene		0.395	0.189	0.054	
Pyrene		0.171	0.189	0.0275	J
Butylbenzylphthalate	ND		2.84	0.923	
3,3'-Dichlorobenzidine	ND		9.47	1.77	
Benzo(a)anthracene	ND		0.189	0.0492	
Chrysene	ND		0.189	0.0795	
bis(2-Ethylhexyl)phthalate	ND		14.2	3.61	
Di-n-octylphthalate	ND		1.89	0.259	
Benzofluoranthenes	ND		0.947	0.113	
Benzo(a)pyrene	ND		0.189	0.0313	
Indeno(1,2,3-cd)pyrene	ND		0.189	0.0265	
Dibenz(a,h)anthracene	ND		0.189	0.0294	
Benzo(g,h,i)perylene	ND		0.189	0.0483	

gm 12/12/06

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0603
Lab ID:	128474-02
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/8/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	64.6		2	120
Phenol - d5	43.5		1	102
Nitrobenzene - d5	107		34	146
2 - Fluorobiphenyl	117		35	143
2,4,6 - Tribromophenol	78.4		29	151
p - Terphenyl - d14	81.4		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.89	0.0435	
bis(2-Chloroethyl)ether	~~ND~~ 1.89 UJ	1.89	0.307	
2-Chlorophenol	ND	1.89	0.398	
1,3-Dichlorobenzene	ND	1.89	0.347	
1,4-Dichlorobenzene	ND	1.89	0.299	
Benzyl Alcohol	~~ND~~ 1.89 UJ	1.89	0.402	
1,2-Dichlorobenzene	ND	1.89	0.263	
2-Methylphenol	ND	1.89	0.37	
bis(2-Chloroisopropyl)ether	ND	1.89	0.406	
3-&4-Methylphenol	ND	3.78	0.417	
N-nitroso-di-n-propylamine	ND	1.89	0.349	
Hexachloroethane	~~ND~~ 1.89 UJ	1.89	0.36	
Nitrobenzene	ND	1.89	0.492	
Isophorone	ND	1.89	0.268	
2-Nitrophenol	ND	1.89	0.405	
2,4-Dimethylphenol	ND	9.46	1.73	
Benzoic Acid	ND	9.46	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.89 UJ	1.89	0.171	
2,4-Dichlorophenol	ND	1.89	0.176	
1,2,4-Trichlorobenzene	ND	1.89	0.116	
Naphthalene	10.8	0.473	0.165	
4-Chloroaniline	ND	2.84	0.684	
Hexachlorobutadiene	ND	1.89	0.139	
4-Chloro-3-methylphenol	ND	1.89	0.231	
2-Methylnaphthalene	2.93	0.473	0.141	
Hexachlorocyclopentadiene	ND	9.46	2.93	

gm 12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-02 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.89	0.304	
2,4,5-Trichlorophenol	ND		1.89	0.419	
2-Chloronaphthalene	ND		0.189	0.0454	
2-Nitroaniline	ND		1.89	0.283	
Dimethylphthalate	ND		1.89	0.369	
Acenaphthylene	ND		0.189	0.0227	
2,6-Dinitrotoluene	ND		1.89	0.36	
3-Nitroaniline	ND		1.89	0.535	
Acenaphthene		0.348	0.189	0.0322	
2,4-Dinitrophenol	ND		9.46	1.96	
4-Nitrophenol	~~ND~~ 9.46 UJ		9.46	1.12	
Dibenzofuran		0.653	1.89	0.194	J
2,4-Dinitrotoluene	ND		1.89	0.543	
Diethylphthalate	ND		1.89	0.527	
4-Chlorophenylphenylether	ND		1.89	0.305	
Fluorene		0.459	0.189	0.0161	
4-Nitroaniline	ND		1.89	0.367	
4,6-Dinitro-2-methylphenol	ND		9.46	2.93	
N-Nitrosodiphenylamine	ND		1.89	0.0804	
4-Bromophenylphenylether	ND		1.89	0.207	
Hexachlorobenzene	ND		1.89	0.237	
Pentachlorophenol		153	1.89	1.89	~~D100~~
Phenanthrene		0.889	0.189	0.035	
Anthracene	ND		0.189	0.018	
Di-n-butylphthalate		~~0.65~~ 1.894	1.89	0.352	~~J~~
Fluoranthene		0.238	0.189	0.0539	
Pyrene		0.112	0.189	0.0274	J
Butylbenzylphthalate	ND		2.84	0.922	
3,3'-Dichlorobenzidine	ND		9.46	1.77	
Benzo(a)anthracene	ND		0.189	0.0492	
Chrysene	ND		0.189	0.0795	
bis(2-Ethylhexyl)phthalate	ND		14.2	3.6	
Di-n-octylphthalate	ND		1.89	0.258	
Benzofluoranthenes	ND		0.946	0.113	
Benzo(a)pyrene	ND		0.189	0.0312	
Indeno(1,2,3-cd)pyrene	ND		0.189	0.0265	
Dibenz(a,h)anthracene	ND		0.189	0.0293	
Benzo(g,h,i)perylene	ND		0.189	0.0482	

gf 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWW0203
Lab ID:	128474-03
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	54.3		2	120
Phenol - d5	43.8		1	102
Nitrobenzene - d5	125		34	146
2 - Fluorobiphenyl	123		35	143
2,4,6 - Tribromophenol	108		29	151
p - Terphenyl - d14	116		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0437	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 UJ	1.9	0.308	
2-Chlorophenol	ND	1.9	0.4	
1,3-Dichlorobenzene	ND	1.9	0.349	
1,4-Dichlorobenzene	ND	1.9	0.3	
Benzyl Alcohol	~~ND~~ 1.89 UJ	1.9	0.404	
1,2-Dichlorobenzene	ND	1.9	0.264	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	ND	1.9	0.408	
3-&4-Methylphenol	ND	3.8	0.419	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	~~ND~~ 1.9 UJ	1.9	0.362	
Nitrobenzene	ND	1.9	0.494	
Isophorone	ND	1.9	0.269	
2-Nitrophenol	ND	1.9	0.407	
2,4-Dimethylphenol	ND	9.51	1.74	
Benzoic Acid	ND	9.51	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 UJ	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	11.3	0.475	0.165	
4-Chloroaniline	ND	2.85	0.687	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	3.01	0.475	0.142	
Hexachlorocyclopentadiene	ND	9.51	2.95	

12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-03 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.9	0.305	
2,4,5-Trichlorophenol	ND	1.9	0.421	
2-Chloronaphthalene	ND	0.19	0.0456	
2-Nitroaniline	ND	1.9	0.284	
Dimethylphthalate	ND	1.9	0.371	
Acenaphthylene	ND	0.19	0.0228	
2,6-Dinitrotoluene	ND	1.9	0.361	
3-Nitroaniline	ND	1.9	0.537	
Acenaphthene	0.377	0.19	0.0323	
2,4-Dinitrophenol	ND	9.51	1.97	
4-Nitrophenol	~~ND~~ 9.51 U J	9.51	1.12	
Dibenzofuran	0.667	1.9	0.195	J
2,4-Dinitrotoluene	ND	1.9	0.546	
Diethylphthalate	ND	1.9	0.529	
4-Chlorophenylphenylether	ND	1.9	0.306	
Fluorene	0.414	0.19	0.0162	
4-Nitroaniline	ND	1.9	0.369	
4,6-Dinitro-2-methylphenol	ND	9.51	2.95	
N-Nitrosodiphenylamine	ND	1.9	0.0808	
4-Bromophenylphenylether	ND	1.9	0.208	
Hexachlorobenzene	ND	1.9	0.238	
Pentachlorophenol	ND	1.9	1.9	
Phenanthrene	0.973	0.19	0.0352	
Anthracene	ND	0.19	0.0161	
Di-n-butylphthalate	~~0.686~~ 1.9 U	1.9	0.354	~~J~~
Fluoranthene	0.311	0.19	0.0542	
Pyrene	0.12	0.19	0.0276	J
Butylbenzylphthalate	ND	2.85	0.927	
3,3'-Dichlorobenzidine	ND	9.51	1.78	
Benzo(a)anthracene	ND	0.19	0.0494	
Chrysene	ND	0.19	0.0798	
bis(2-Ethylhexyl)phthalate	ND	14.3	3.62	
Di-n-octylphthalate	0.312	1.9	0.26	J
Benzofluoranthenes	ND	0.951	0.113	
Benzo(a)pyrene	ND	0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND	0.19	0.0266	
Dibenz(a,h)anthracene	ND	0.19	0.0295	
Benzo(g,h,i)perylene	ND	0.19	0.0485	

SM 12/12/07

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0403
Lab ID:	128474-04
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	37.3		2	120
Phenol - d5	21.2		1	102
Nitrobenzene - d5	111		34	146
2 - Fluorobiphenyl	90.8		35	143
2,4,6 - Tribromophenol	103		29	151
p - Terphenyl - d14	110		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0436	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 UJ	1.9	0.307	
2-Chlorophenol	ND	1.9	0.399	
1,3-Dichlorobenzene	ND	1.9	0.348	
1,4-Dichlorobenzene	ND	1.9	0.3	
Benzyl Alcohol	~~ND~~ 1.89 UJ	1.9	0.403	
1,2-Dichlorobenzene	ND	1.9	0.264	
2-Methylphenol	ND	1.9	0.371	
bis(2-Chloroisopropyl)ether	ND	1.9	0.407	
3-&4-Methylphenol	ND	3.79	0.418	
N-nitroso-di-n-propylamine	ND	1.9	0.35	
Hexachloroethane	~~ND~~ 1.9 UJ	1.9	0.361	
Nitrobenzene	ND	1.9	0.493	
Isophorone	ND	1.9	0.268	
2-Nitrophenol	ND	1.9	0.406	
2,4-Dimethylphenol	ND	9.48	1.73	
Benzoic Acid	ND	9.48	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 UJ	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.176	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	11.9	0.474	0.165	
4-Chloroaniline	ND	2.84	0.685	
Hexachlorobutadiene	ND	1.9	0.139	
4-Chloro-3-methylphenol	ND	1.9	0.231	
2-Methylnaphthalene	3.32	0.474	0.141	
Hexachlorocyclopentadiene	ND	9.48	2.94	

12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-04 continued...

Analyte	Result (ug/L)		RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.9	0.304	
2,4,5-Trichlorophenol	ND		1.9	0.42	
2-Chloronaphthalene	ND		0.19	0.0455	
2-Nitroaniline	ND		1.9	0.283	
Dimethylphthalate	ND		1.9	0.37	
Acenaphthylene	ND		0.19	0.0227	
2,6-Dinitrotoluene	ND		1.9	0.36	
3-Nitroaniline	ND		1.9	0.536	
Acenaphthene		0.383	0.19	0.0322	
2,4-Dinitrophenol	ND		9.48	1.96	
4-Nitrophenol	~~ND~~ 9.48 UJ		9.48	1.12	
Dibenzofuran		0.665	1.9	0.194	J
2,4-Dinitrotoluene	ND		1.9	0.544	
Diethylphthalate	ND		1.9	0.528	
4-Chlorophenylphenylether	ND		1.9	0.305	
Fluorene		0.319	0.19	0.0161	
4-Nitroaniline	ND		1.9	0.368	
4,6-Dinitro-2-methylphenol	ND		9.48	2.94	
N-Nitrosodiphenylamine	ND		1.9	0.0806	
4-Bromophenylphenylether	ND		1.9	0.208	
Hexachlorobenzene	ND		1.9	0.237	
Pentachlorophenol	ND		1.9	1.9	
Phenanthrene		1.01	0.19	0.0351	
Anthracene	ND		0.19	0.018	
Di-n-butylphthalate		~~0.749~~ 1.94	1.9	0.353	J
Fluoranthene		0.305	0.19	0.054	
Pyrene		0.122	0.19	0.0275	J
Butylbenzylphthalate	ND		2.84	0.924	
3,3'-Dichlorobenzidine	ND		9.48	1.77	
Benzo(a)anthracene	ND		0.19	0.0493	
Chrysene	ND		0.19	0.0796	
bis(2-Ethylhexyl)phthalate	ND		14.2	3.61	
Di-n-octylphthalate	ND		1.9	0.259	
Benzofluoranthenes	ND		0.948	0.113	
Benzo(a)pyrene	ND		0.19	0.0313	
Indeno(1,2,3-cd)pyrene	ND		0.19	0.0265	
Dibenz(a,h)anthracene	ND		0.19	0.0294	
Benzo(g,h,i)perylene	ND		0.19	0.0483	

SR 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWW0806
Lab ID:	128474-05
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	36		2	120
Phenol - d5	22.5		1	102
Nitrobenzene - d5	122		34	146
2 - Fluorobiphenyl	102		35	143
2,4,6 - Tribromophenol	99.5		29	151
p - Terphenyl - d14	121		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0438	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 U J	1.9	0.309	
2-Chlorophenol	ND	1.9	0.401	
1,3-Dichlorobenzene	ND	1.9	0.35	
1,4-Dichlorobenzene	ND	1.9	0.301	
Benzyl Alcohol	~~ND~~ 1.9 U J	1.9	0.405	
1,2-Dichlorobenzene	ND	1.9	0.265	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	ND	1.9	0.409	
3-&4-Methylphenol	ND	3.81	0.42	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	~~ND~~ 1.9 U J	1.9	0.363	
Nitrobenzene	ND	1.9	0.495	
Isophorone	ND	1.9	0.27	
2-Nitrophenol	ND	1.9	0.408	
2,4-Dimethylphenol	ND	9.52	1.74	
Benzoic Acid	ND	9.52	1.28	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 U J	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	13.7	0.476	0.166	
4-Chloroaniline	ND	2.86	0.689	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	4.02	0.476	0.142	
Hexachlorocyclopentadiene	ND	9.52	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-05 continued...

Analyte		Result (ug/L)		RL	MDL	Flags
2,4,6-Trichlorophenol	ND			1.9	0.306	
2,4,5-Trichlorophenol	ND			1.9	0.422	
2-Chloronaphthalene	ND			0.19	0.0457	
2-Nitroaniline	ND			1.9	0.285	
Dimethylphthalate	ND			1.9	0.371	
Acenaphthylene	ND			0.19	0.0229	
2,6-Dinitrotoluene	ND			1.9	0.362	
3-Nitroaniline	ND			1.9	0.538	
Acenaphthene		0.432		0.19	0.0324	
2,4-Dinitrophenol	ND			9.52	1.97	
4-Nitrophenol	~~ND~~	9.52 UJ		9.52	1.12	
Dibenzofuran		0.776		1.9	0.195	J
2,4-Dinitrotoluene	ND			1.9	0.547	
Diethylphthalate	ND			1.9	0.53	
4-Chlorophenylphenylether	ND			1.9	0.307	
Fluorene		0.42		0.19	0.0162	
4-Nitroaniline	ND			1.9	0.37	
4,6-Dinitro-2-methylphenol	ND			9.52	2.95	
N-Nitrosodiphenylamine	ND			1.9	0.081	
4-Bromophenylphenylether	ND			1.9	0.209	
Hexachlorobenzene	ND			1.9	0.238	
Pentachlorophenol	ND			1.9	1.9	
Phenanthrene		1.1		0.19	0.0352	
Anthracene		0.0233		0.19	0.0181	J
Di-n-butylphthalate		~~0.886~~	1.94	1.9	0.354	~~J~~
Fluoranthene		0.323		0.19	0.0543	
Pyrene		0.15		0.19	0.0276	J
Butylbenzylphthalate	ND			2.86	0.929	
3,3'-Dichlorobenzidine	ND			9.52	1.78	
Benzo(a)anthracene	ND			0.19	0.0495	
Chrysene	ND			0.19	0.08	
bis(2-Ethylhexyl)phthalate	ND			14.3	3.63	
Di-n-octylphthalate	ND			1.9	0.26	
Benzofluoranthenes	ND			0.952	0.113	
Benzo(a)pyrene	ND			0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND			0.19	0.0267	
Dibenz(a,h)anthracene	ND			0.19	0.0295	
Benzo(g,h,i)perylene	ND			0.19	0.0486	

SR 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	~~NAGWW0504~~ SAGWW0305
Lab ID:	128474-06
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

12/12/05

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	42.9		2	120
Phenol - d5	33.3		1	102
Nitrobenzene - d5	120		34	146
2 - Fluorobiphenyl	125		35	143
2,4,6 - Tribromophenol	81.3		29	151
p - Terphenyl - d14	108		35	166

Analyte		Result (ug/L)	RL	MDL	Flags
Phenol	ND		1.91	0.0439	
bis(2-Chloroethyl)ether	~~ND~~ 1.91 UJ		1.91	0.309	
2-Chlorophenol	ND		1.91	0.402	
1,3-Dichlorobenzene	ND		1.91	0.351	
1,4-Dichlorobenzene	ND		1.91	0.302	
Benzyl Alcohol	~~ND~~ 1.91 UJ		1.91	0.406	
1,2-Dichlorobenzene	ND		1.91	0.266	
2-Methylphenol	ND		1.91	0.373	
bis(2-Chloroisopropyl)ether	ND		1.91	0.41	
3-&4-Methylphenol	ND		3.82	0.421	
N-nitroso-di-n-propylamine	ND		1.91	0.352	
Hexachloroethane	~~ND~~ 1.91 UJ		1.91	0.364	
Nitrobenzene	ND		1.91	0.497	
Isophorone	ND		1.91	0.27	
2-Nitrophenol	ND		1.91	0.409	
2,4-Dimethylphenol	ND		9.55	1.75	
Benzoic Acid	ND		9.55	1.28	
bis(2-Chloroethoxy)methane	~~ND~~ 1.91 UJ		1.91	0.173	
2,4-Dichlorophenol	ND		1.91	0.178	
1,2,4-Trichlorobenzene	ND		1.91	0.117	
Naphthalene		13.2	0.478	0.166	
4-Chloroaniline	ND		2.87	0.691	
Hexachlorobutadiene	ND		1.91	0.14	
4-Chloro-3-methylphenol	ND		1.91	0.233	
2-Methylnaphthalene		4.07	0.478	0.142	
Hexachlorocyclopentadiene	ND		9.55	2.96	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-06 continued...

Analyte	Result (ug/L)		RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.91	0.307	
2,4,5-Trichlorophenol	ND		1.91	0.423	
2-Chloronaphthalene	ND		0.191	0.0458	
2-Nitroaniline	ND		1.91	0.286	
Dimethylphthalate	ND		1.91	0.372	
Acenaphthylene	ND		0.191	0.0229	
2,6-Dinitrotoluene	ND		1.91	0.363	
3-Nitroaniline	ND		1.91	0.54	
Acenaphthene		0.597	0.191	0.0325	
2,4-Dinitrophenol	ND		9.55	1.98	
4-Nitrophenol	~~ND~~ 9.55	UJ	9.55	1.13	
Dibenzofuran		1.07	1.91	0.196	J
2,4-Dinitrotoluene	ND		1.91	0.548	
Diethylphthalate	ND		1.91	0.532	
4-Chlorophenylphenylether	ND		1.91	0.308	
Fluorene		0.521	0.191	0.0162	
4-Nitroaniline	ND		1.91	0.371	
4,6-Dinitro-2-methylphenol	ND		9.55	2.96	
N-Nitrosodiphenylamine	ND		1.91	0.0812	
4-Bromophenylphenylether	ND		1.91	0.209	
Hexachlorobenzene	ND		1.91	0.239	
Pentachlorophenol	ND		1.91	1.91	
Phenanthrene		1.32	0.191	0.0353	
Anthracene	ND		0.191	0.0181	
Di-n-butylphthalate		~~0.846~~ 1.914	1.91	0.355	~~J~~
Fluoranthene		0.348	0.191	0.0544	
Pyrene		0.159	0.191	0.0277	J
Butylbenzylphthalate	ND		2.87	0.931	
3,3'-Dichlorobenzidine	ND		9.55	1.79	
Benzo(a)anthracene	ND		0.191	0.0497	
Chrysene	ND		0.191	0.0802	
bis(2-Ethylhexyl)phthalate	ND		14.3	3.64	
Di-n-octylphthalate		0.448	1.91	0.261	J
Benzofluoranthenes	ND		0.955	0.114	
Benzo(a)pyrene	ND		0.191	0.0315	
Indeno(1,2,3-cd)pyrene	ND		0.191	0.0267	
Dibenz(a,h)anthracene	ND		0.191	0.0296	
Benzo(g,h,i)perylene	ND		0.191	0.0487	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	~~SAGWW0305~~ NAGWW0504
Lab ID:	128474-07
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

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Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	39.3		2	120
Phenol - d5	24.6		1	102
Nitrobenzene - d5	115		34	146
2 - Fluorobiphenyl	131		35	143
2,4,6 - Tribromophenol	91.7		29	151
p - Terphenyl - d14	96.5		35	166

Analyte	Result (ug/L)		RL	MDL	Flags
Phenol	ND		1.89	0.0435	
bis(2-Chloroethyl)ether	~~ND~~	1.89 UJ	1.89	0.307	
2-Chlorophenol	ND		1.89	0.398	
1,3-Dichlorobenzene	ND		1.89	0.347	
1,4-Dichlorobenzene	ND		1.89	0.299	
Benzyl Alcohol	~~ND~~	1.89 UJ	1.89	0.402	
1,2-Dichlorobenzene	ND		1.89	0.263	
2-Methylphenol	ND		1.89	0.37	
bis(2-Chloroisopropyl)ether	ND		1.89	0.406	
3-&4-Methylphenol	ND		3.78	0.417	
N-nitroso-di-n-propylamine	ND		1.89	0.349	
Hexachloroethane	~~ND~~	1.91 UJ	1.89	0.36	
Nitrobenzene	ND		1.89	0.492	
Isophorone	ND		1.89	0.268	
2-Nitrophenol	ND		1.89	0.405	
2,4-Dimethylphenol	ND		9.46	1.73	
Benzoic Acid	ND		9.46	1.27	
bis(2-Chloroethoxy)methane	~~ND~~	1.91 UJ	1.89	0.171	
2,4-Dichlorophenol	ND		1.89	0.176	
1,2,4-Trichlorobenzene	ND		1.89	0.116	
Naphthalene		2.7	0.473	0.165	
4-Chloroaniline	ND		2.84	0.684	
Hexachlorobutadiene	ND		1.89	0.139	
4-Chloro-3-methylphenol	ND		1.89	0.231	
2-Methylnaphthalene		0.643	0.473	0.141	
Hexachlorocyclopentadiene	ND		9.46	2.93	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-07 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.89	0.304	
2,4,5-Trichlorophenol	ND		1.89	0.419	
2-Chloronaphthalene	ND		0.189	0.0454	
2-Nitroaniline	ND		1.89	0.283	
Dimethylphthalate	ND		1.89	0.369	
Acenaphthylene	ND		0.189	0.0227	
2,6-Dinitrotoluene	ND		1.89	0.36	
3-Nitroaniline	ND		1.89	0.535	
Acenaphthene		0.078	0.189	0.0322	J
2,4-Dinitrophenol	ND		9.46	1.96	
4-Nitrophenol	~~ND~~ 9.46 UJ		9.46	1.12	
Dibenzofuran	ND		1.89	0.194	
2,4-Dinitrotoluene	ND		1.89	0.543	
Diethylphthalate	ND		1.89	0.527	
4-Chlorophenylphenylether	ND		1.89	0.305	
Fluorene		0.103	0.189	0.0161	J
4-Nitroaniline	ND		1.89	0.367	
4,6-Dinitro-2-methylphenol	ND		9.46	2.93	
N-Nitrosodiphenylamine	ND		1.89	0.0804	
4-Bromophenylphenylether	ND		1.89	0.207	
Hexachlorobenzene	ND		1.89	0.237	
Pentachlorophenol		256	1.89	1.89	~~D100~~
Phenanthrene		0.18	0.189	0.035	J
Anthracene		0.0204	0.189	0.018	J
Di-n-butylphthalate		~~0.737~~ 1.894	1.89	0.352	~~J~~
Fluoranthene		0.0945	0.189	0.0539	J
Pyrene	ND		0.189	0.0274	
Butylbenzylphthalate	ND		2.84	0.922	
3,3'-Dichlorobenzidine	ND		9.46	1.77	
Benzo(a)anthracene	ND		0.189	0.0492	
Chrysene	ND		0.189	0.0795	
bis(2-Ethylhexyl)phthalate	ND		14.2	3.6	
Di-n-octylphthalate	ND		1.89	0.258	
Benzofluoranthenes	ND		0.946	0.113	
Benzo(a)pyrene	ND		0.189	0.0312	
Indeno(1,2,3-cd)pyrene	ND		0.189	0.0265	
Dibenz(a,h)anthracene	ND		0.189	0.0293	
Benzo(g,h,i)perylene	ND		0.189	0.0482	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0106
Lab ID:	128474-08
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	36.7		2	120
Phenol - d5	0.813	X9	1	102
Nitrobenzene - d5	115		34	146
2 - Fluorobiphenyl	85		35	143
2,4,6 - Tribromophenol	49.9		29	151
p - Terphenyl - d14	109		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.88	0.0433	
bis(2-Chloroethyl)ether	~~ND~~ 1.88 UJ	1.88	0.305	
2-Chlorophenol	ND	1.88	0.396	
1,3-Dichlorobenzene	ND	1.88	0.346	
1,4-Dichlorobenzene	ND	1.88	0.298	
Benzyl Alcohol	~~ND~~ 1.88 UJ	1.88	0.4	
1,2-Dichlorobenzene	ND	1.88	0.262	
2-Methylphenol	ND	1.88	0.368	
bis(2-Chloroisopropyl)ether	ND	1.88	0.404	
3-&4-Methylphenol	ND	3.77	0.415	
N-nitroso-di-n-propylamine	ND	1.88	0.347	
Hexachloroethane	~~ND~~ 1.88 UJ	1.88	0.359	
Nitrobenzene	ND	1.88	0.49	
Isophorone	ND	1.88	0.266	
2-Nitrophenol	ND	1.88	0.403	
2,4-Dimethylphenol	ND	9.42	1.72	
Benzoic Acid	ND	9.42	1.26	
bis(2-Chloroethoxy)methane	~~ND~~ 1.88 UJ	1.88	0.17	
2,4-Dichlorophenol	ND	1.88	0.175	
1,2,4-Trichlorobenzene	ND	1.88	0.116	
Naphthalene	ND	0.471	0.164	
4-Chloroaniline	ND	2.82	0.681	
Hexachlorobutadiene	ND	1.88	0.138	
4-Chloro-3-methylphenol	ND	1.88	0.23	
2-Methylnaphthalene	ND	0.471	0.14	
Hexachlorocyclopentadiene	ND	9.42	2.92	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-08 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.88	0.302	
2,4,5-Trichlorophenol	ND	1.88	0.417	
2-Chloronaphthalene	ND	0.188	0.0452	
2-Nitroaniline	ND	1.88	0.282	
Dimethylphthalate	ND	1.88	0.367	
Acenaphthylene	ND	0.188	0.0226	
2,6-Dinitrotoluene	ND	1.88	0.358	
3-Nitroaniline	ND	1.88	0.532	
Acenaphthene	ND	0.188	0.032	
2,4-Dinitrophenol	ND	9.42	1.95	
4-Nitrophenol	~~ND~~ 9.42 UJ	9.42	1.11	
Dibenzofuran	ND	1.88	0.193	
2,4-Dinitrotoluene	ND	1.88	0.54	
Diethylphthalate	ND	1.88	0.524	
4-Chlorophenylphenylether	ND	1.88	0.303	
Fluorene	ND	0.188	0.016	
4-Nitroaniline	ND	1.88	0.365	
4,6-Dinitro-2-methylphenol	ND	9.42	2.92	
N-Nitrosodiphenylamine	ND	1.88	0.08	
4-Bromophenylphenylether	ND	1.88	0.206	
Hexachlorobenzene	ND	1.88	0.235	
Pentachlorophenol	ND	1.88	1.88	
Phenanthrene	0.0534	0.188	0.0348	J
Anthracene	ND	0.188	0.0179	
Di-n-butylphthalate	~~1.01~~ 1.88 J	1.88	0.35	~~J~~
Fluoranthene	ND	0.188	0.0537	
Pyrene	ND	0.188	0.0273	
Butylbenzylphthalate	ND	2.82	0.918	
3,3'-Dichlorobenzidine	ND	9.42	1.76	
Benzo(a)anthracene	ND	0.188	0.049	
Chrysene	ND	0.188	0.0791	
bis(2-Ethylhexyl)phthalate	ND	14.1	3.59	
Di-n-octylphthalate	ND	1.88	0.257	
Benzofluoranthenes	ND	0.942	0.112	
Benzo(a)pyrene	ND	0.188	0.0311	
Indeno(1,2,3-cd)pyrene	ND	0.188	0.0264	
Dibenz(a,h)anthracene	ND	0.188	0.0292	
Benzo(g,h,i)perylene	ND	0.188	0.048	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0106D
Lab ID:	128474-09
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	55.2		2	120
Phenol - d5	38.1		1	102
Nitrobenzene - d5	122		34	146
2 - Fluorobiphenyl	81.8		35	143
2,4,6 - Tribromophenol	77.8		29	151
p - Terphenyl - d14	119		35	166

Analyte	Result (ug/L)		RL	MDL	Flags
Phenol	ND		1.9	0.0437	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 UJ		1.9	0.308	
2-Chlorophenol	ND		1.9	0.4	
1,3-Dichlorobenzene	ND		1.9	0.349	
1,4-Dichlorobenzene	ND		1.9	0.3	
Benzyl Alcohol	~~ND~~ 1.9 UJ		1.9	0.404	
1,2-Dichlorobenzene	ND		1.9	0.264	
2-Methylphenol	ND		1.9	0.372	
bis(2-Chloroisopropyl)ether	ND		1.9	0.408	
3-&4-Methylphenol	ND		3.8	0.419	
N-nitroso-di-n-propylamine	ND		1.9	0.351	
Hexachloroethane	~~ND~~ 1.9 UJ		1.9	0.362	
Nitrobenzene	ND		1.9	0.494	
Isophorone	ND		1.9	0.269	
2-Nitrophenol	ND		1.9	0.407	
2,4-Dimethylphenol	ND		9.51	1.74	
Benzoic Acid	ND		9.51	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 UJ		1.9	0.172	
2,4-Dichlorophenol	ND		1.9	0.177	
1,2,4-Trichlorobenzene	ND		1.9	0.117	
Naphthalene		0.365	0.475	0.165	J
4-Chloroaniline	ND		2.85	0.687	
Hexachlorobutadiene	ND		1.9	0.14	
4-Chloro-3-methylphenol	ND		1.9	0.232	
2-Methylnaphthalene		0.212	0.475	0.142	J
Hexachlorocyclopentadiene	ND		9.51	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-09 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.9	0.305	
2,4,5-Trichlorophenol	ND		1.9	0.421	
2-Chloronaphthalene	ND		0.19	0.0456	
2-Nitroaniline	ND		1.9	0.284	
Dimethylphthalate	ND		1.9	0.371	
Acenaphthylene	ND		0.19	0.0228	
2,6-Dinitrotoluene	ND		1.9	0.361	
3-Nitroaniline	ND		1.9	0.537	
Acenaphthene	ND		0.19	0.0323	
2,4-Dinitrophenol	ND		9.51	1.97	
4-Nitrophenol	~~ND~~ 9.51 UJ		9.51	1.12	
Dibenzofuran	ND		1.9	0.195	
2,4-Dinitrotoluene	ND		1.9	0.546	
Diethylphthalate	ND		1.9	0.529	
4-Chlorophenylphenylether	ND		1.9	0.306	
Fluorene	ND		0.19	0.0162	
4-Nitroaniline	ND		1.9	0.369	
4,6-Dinitro-2-methylphenol	ND		9.51	2.95	
N-Nitrosodiphenylamine	ND		1.9	0.0808	
4-Bromophenylphenylether	ND		1.9	0.208	
Hexachlorobenzene	ND		1.9	0.238	
Pentachlorophenol	ND		1.9	1.9	
Phenanthrene	ND		0.19	0.0352	
Anthracene	ND		0.19	0.0181	
Di-n-butylphthalate		4.51 U	1.9	0.354	
Fluoranthene	ND		0.19	0.0542	
Pyrene	ND		0.19	0.0276	
Butylbenzylphthalate	ND		2.85	0.927	
3,3'-Dichlorobenzidine	ND		9.51	1.78	
Benzo(a)anthracene	ND		0.19	0.0494	
Chrysene	ND		0.19	0.0798	
bis(2-Ethylhexyl)phthalate	ND		14.3	3.62	
Di-n-octylphthalate	ND		1.9	0.26	
Benzofluoranthenes	ND		0.951	0.113	
Benzo(a)pyrene	ND		0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND		0.19	0.0266	
Dibenz(a,h)anthracene	ND		0.19	0.0295	
Benzo(g,h,i)perylene	ND		0.19	0.0485	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW205
Lab ID:	128474-10
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	60.8		2	120
Phenol - d5	52.5		1	102
Nitrobenzene - d5	158	X9	34	146
2 - Fluorobiphenyl	114		35	143
2,4,6 - Tribromophenol	131		29	151
p - Terphenyl - d14	143		35	166

Analyte	**Result (ug/L)**	**RL**	**MDL**	**Flags**
Phenol	ND	1.9	0.0436	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 UJ	1.9	0.307	
2-Chlorophenol	ND	1.9	0.399	
1,3-Dichlorobenzene	ND	1.9	0.348	
1,4-Dichlorobenzene	ND	1.9	0.3	
Benzyl Alcohol	~~ND~~ 1.9 UJ	1.9	0.403	
1,2-Dichlorobenzene	ND	1.9	0.264	
2-Methylphenol	ND	1.9	0.371	
bis(2-Chloroisopropyl)ether	ND	1.9	0.407	
3-&4-Methylphenol	ND	3.8	0.418	
N-nitroso-di-n-propylamine	ND	1.9	0.35	
Hexachloroethane	~~ND~~ 1.9 UJ	1.9	0.361	
Nitrobenzene	ND	1.9	0.493	
Isophorone	ND	1.9	0.269	
2-Nitrophenol	ND	1.9	0.406	
2,4-Dimethylphenol	ND	9.49	1.74	
Benzoic Acid	ND	9.49	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 UJ	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.176	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.474	0.165	
4-Chloroaniline	ND	2.85	0.686	
Hexachlorobutadiene	ND	1.9	0.139	
4-Chloro-3-methylphenol	ND	1.9	0.231	
2-Methylnaphthalene	ND	0.474	0.141	
Hexachlorocyclopentadiene	ND	9.49	2.94	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-10 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.9	0.305	
2,4,5-Trichlorophenol	ND	1.9	0.42	
2-Chloronaphthalene	ND	0.19	0.0455	
2-Nitroaniline	ND	1.9	0.284	
Dimethylphthalate	ND	1.9	0.37	
Acenaphthylene	ND	0.19	0.0228	
2,6-Dinitrotoluene	ND	1.9	0.361	
3-Nitroaniline	ND	1.9	0.536	
Acenaphthene	ND	0.19	0.0323	
2,4-Dinitrophenol	ND	9.49	1.96	
4-Nitrophenol	~~ND~~ 9.49 UJ	9.49	1.12	
Dibenzofuran	ND	1.9	0.194	
2,4-Dinitrotoluene	ND	1.9	0.545	
Diethylphthalate	ND	1.9	0.528	
4-Chlorophenylphenylether	ND	1.9	0.306	
Fluorene	ND	0.19	0.0161	
4-Nitroaniline	ND	1.9	0.368	
4,6-Dinitro-2-methylphenol	ND	9.49	2.94	
N-Nitrosodiphenylamine	ND	1.9	0.0806	
4-Bromophenylphenylether	ND	1.9	0.208	
Hexachlorobenzene	ND	1.9	0.237	
Pentachlorophenol	ND	1.9	1.9	
Phenanthrene	ND	0.19	0.0351	
Anthracene	ND	0.19	0.018	
Di-n-butylphthalate	1.34 ~~1.34~~ ~~1.9 U~~	1.9	0.353	~~J~~ J
Fluoranthene	ND	0.19	0.0541	
Pyrene	ND	0.19	0.0275	
Butylbenzylphthalate	ND	2.85	0.925	
3,3'-Dichlorobenzidine	ND	9.49	1.78	
Benzo(a)anthracene	ND	0.19	0.0493	
Chrysene	ND	0.19	0.0797	
bis(2-Ethylhexyl)phthalate	ND	14.2	3.61	
Di-n-octylphthalate	ND	1.9	0.259	
Benzofluoranthenes	ND	0.949	0.113	
Benzo(a)pyrene	ND	0.19	0.0313	
Indeno(1,2,3-cd)pyrene	ND	0.19	0.0266	
Dibenz(a,h)anthracene	ND	0.19	0.0294	
Benzo(g,h,i)perylene	ND	0.19	0.0484	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW407
Lab ID:	128474-11
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	54.5		2	120
Phenol - d5	40.8		1	102
Nitrobenzene - d5	103		34	146
2 - Fluorobiphenyl	76.8		35	143
2,4,6 - Tribromophenol	90.9		29	151
p - Terphenyl - d14	108		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0437	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 U J	1.9	0.308	
2-Chlorophenol	ND	1.9	0.4	
1,3-Dichlorobenzene	ND	1.9	0.349	
1,4-Dichlorobenzene	ND	1.9	0.3	
Benzyl Alcohol	~~ND~~ 1.9 U J	1.9	0.404	
1,2-Dichlorobenzene	ND	1.9	0.264	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	ND	1.9	0.408	
3-&4-Methylphenol	ND	3.8	0.419	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	~~ND~~ 1.9 U J	1.9	0.362	
Nitrobenzene	ND	1.9	0.494	
Isophorone	ND	1.9	0.269	
2-Nitrophenol	ND	1.9	0.407	
2,4-Dimethylphenol	ND	9.51	1.74	
Benzoic Acid	ND	9.51	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 U J	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.475	0.165	
4-Chloroaniline	ND	2.85	0.687	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	ND	0.475	0.142	
Hexachlorocyclopentadiene	ND	9.51	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-11 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.9	0.305	
2,4,5-Trichlorophenol	ND		1.9	0.421	
2-Chloronaphthalene	ND		0.19	0.0456	
2-Nitroaniline	ND		1.9	0.284	
Dimethylphthalate	ND		1.9	0.371	
Acenaphthylene	ND		0.19	0.0228	
2,6-Dinitrotoluene	ND		1.9	0.361	
3-Nitroaniline	ND		1.9	0.537	
Acenaphthene	ND		0.19	0.0323	
2,4-Dinitrophenol	ND		9.51	1.97	
4-Nitrophenol	~~ND~~ 9.51 UJ		9.51	1.12	
Dibenzofuran	ND		1.9	0.195	
2,4-Dinitrotoluene	ND		1.9	0.546	
Diethylphthalate	ND		1.9	0.529	
4-Chlorophenylphenylether	ND		1.9	0.306	
Fluorene	ND		0.19	0.0162	
4-Nitroaniline	ND		1.9	0.369	
4,6-Dinitro-2-methylphenol	ND		9.51	2.95	
N-Nitrosodiphenylamine	ND		1.9	0.0808	
4-Bromophenylphenylether	ND		1.9	0.208	
Hexachlorobenzene	ND		1.9	0.238	
Pentachlorophenol	ND		1.9	1.9	
Phenanthrene	ND		0.19	0.0352	
Anthracene	ND		0.19	0.0181	
Di-n-butylphthalate		1.03 ~~1.05~~ ~~1.91~~	1.9	0.354	~~J~~ J
Fluoranthene	ND		0.19	0.0542	
Pyrene	ND	SR 12/12/05	0.19	0.0276	
Butylbenzylphthalate	ND		2.85	0.927	
3,3'-Dichlorobenzidine	ND		9.51	1.78	
Benzo(a)anthracene	ND		0.19	0.0494	
Chrysene	ND		0.19	0.0798	
bis(2-Ethylhexyl)phthalate	ND		14.3	3.62	
Di-n-octylphthalate	ND		1.9	0.26	
Benzofluoranthenes	ND		0.951	0.113	
Benzo(a)pyrene	ND		0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND		0.19	0.0266	
Dibenz(a,h)anthracene	ND		0.19	0.0295	
Benzo(g,h,i)perylene	ND		0.19	0.0485	

SR 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW105
Lab ID:	128474-12
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	44.1		2	120
Phenol - d5	28.2		1	102
Nitrobenzene - d5	125		34	146
2 - Fluorobiphenyl	92.9		35	143
2,4,6 - Tribromophenol	103		29	151
p - Terphenyl - d14	114		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0436	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 UJ	1.9	0.307	
2-Chlorophenol	ND	1.9	0.399	
1,3-Dichlorobenzene	ND	1.9	0.348	
1,4-Dichlorobenzene	ND	1.9	0.3	
Benzyl Alcohol	~~ND~~ 1.9 UJ	1.9	0.403	
1,2-Dichlorobenzene	ND	1.9	0.264	
2-Methylphenol	ND	1.9	0.371	
bis(2-Chloroisopropyl)ether	ND	1.9	0.407	
3-&4-Methylphenol	ND	3.79	0.418	
N-nitroso-di-n-propylamine	ND	1.9	0.35	
Hexachloroethane	~~ND~~ 1.9 UJ	1.9	0.361	
Nitrobenzene	ND	1.9	0.493	
Isophorone	ND	1.9	0.268	
2-Nitrophenol	ND	1.9	0.406	
2,4-Dimethylphenol	ND	9.48	1.73	
Benzoic Acid	ND	9.48	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 UJ	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.176	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.474	0.165	
4-Chloroaniline	ND	2.84	0.685	
Hexachlorobutadiene	ND	1.9	0.139	
4-Chloro-3-methylphenol	ND	1.9	0.231	
2-Methylnaphthalene	ND	0.474	0.141	
Hexachlorocyclopentadiene	ND	9.48	2.94	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-12 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.9	0.304	
2,4,5-Trichlorophenol	ND		1.9	0.42	
2-Chloronaphthalene	ND		0.19	0.0455	
2-Nitroaniline	ND		1.9	0.283	
Dimethylphthalate	ND		1.9	0.37	
Acenaphthylene	ND		0.19	0.0227	
2,6-Dinitrotoluene	ND		1.9	0.36	
3-Nitroaniline	ND		1.9	0.536	
Acenaphthene	ND		0.19	0.0322	
2,4-Dinitrophenol	ND		9.48	1.96	
4-Nitrophenol	~~ND~~ 9.48 UJ		9.48	1.12	
Dibenzofuran	ND		1.9	0.194	
2,4-Dinitrotoluene	ND		1.9	0.544	
Diethylphthalate	ND		1.9	0.528	
4-Chlorophenylphenylether	ND		1.9	0.305	
Fluorene	ND		0.19	0.0161	
4-Nitroaniline	ND		1.9	0.368	
4,6-Dinitro-2-methylphenol	ND		9.48	2.94	
N-Nitrosodiphenylamine	ND		1.9	0.0806	
4-Bromophenylphenylether	ND		1.9	0.208	
Hexachlorobenzene	ND		1.9	0.237	
Pentachlorophenol	ND		1.9	1.9	
Phenanthrene		0.0473	0.19	0.0351	J
Anthracene	ND		0.19	0.018	
Di-n-butylphthalate		0,731 ~~0.731~~ ~~1.9 U~~	1.9	0.353	~~J~~ J
Fluoranthene	ND	SM 12/12/05	0.19	0.054	
Pyrene	ND		0.19	0.0275	
Butylbenzylphthalate	ND		2.84	0.924	
3,3'-Dichlorobenzidine	ND		9.48	1.77	
Benzo(a)anthracene	ND		0.19	0.0493	
Chrysene	ND		0.19	0.0796	
bis(2-Ethylhexyl)phthalate	ND		14.2	3.61	
Di-n-octylphthalate	ND		1.9	0.259	
Benzofluoranthenes	ND		0.948	0.113	
Benzo(a)pyrene	ND		0.19	0.0313	
Indeno(1,2,3-cd)pyrene	ND		0.19	0.0265	
Dibenz(a,h)anthracene	ND		0.19	0.0294	
Benzo(g,h,i)perylene	ND		0.19	0.0483	

SM 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW105D
Lab ID:	128474-13
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/7/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	45		2	120
Phenol - d5	41.9		1	102
Nitrobenzene - d5	118		34	146
2 - Fluorobiphenyl	83.8		35	143
2,4,6 - Tribromophenol	101		29	151
p - Terphenyl - d14	110		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.9	0.0437	
bis(2-Chloroethyl)ether	~~ND~~ 1.9 UJ	1.9	0.308	
2-Chlorophenol	ND	1.9	0.4	
1,3-Dichlorobenzene	ND	1.9	0.349	
1,4-Dichlorobenzene	ND	1.9	0.3	
Benzyl Alcohol	~~ND~~ 1.9 UJ	1.9	0.404	
1,2-Dichlorobenzene	ND	1.9	0.264	
2-Methylphenol	ND	1.9	0.372	
bis(2-Chloroisopropyl)ether	ND	1.9	0.408	
3-&4-Methylphenol	ND	3.8	0.419	
N-nitroso-di-n-propylamine	ND	1.9	0.351	
Hexachloroethane	~~ND~~ 1.9 UJ	1.9	0.362	
Nitrobenzene	ND	1.9	0.494	
Isophorone	ND	1.9	0.269	
2-Nitrophenol	ND	1.9	0.407	
2,4-Dimethylphenol	ND	9.51	1.74	
Benzoic Acid	ND	9.51	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.9 UJ	1.9	0.172	
2,4-Dichlorophenol	ND	1.9	0.177	
1,2,4-Trichlorobenzene	ND	1.9	0.117	
Naphthalene	ND	0.475	0.165	
4-Chloroaniline	ND	2.85	0.687	
Hexachlorobutadiene	ND	1.9	0.14	
4-Chloro-3-methylphenol	ND	1.9	0.232	
2-Methylnaphthalene	ND	0.475	0.142	
Hexachlorocyclopentadiene	ND	9.51	2.95	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-13 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.9	0.305	
2,4,5-Trichlorophenol	ND		1.9	0.421	
2-Chloronaphthalene	ND		0.19	0.0456	
2-Nitroaniline	ND		1.9	0.284	
Dimethylphthalate	ND		1.9	0.371	
Acenaphthylene	ND		0.19	0.0228	
2,6-Dinitrotoluene	ND		1.9	0.361	
3-Nitroaniline	ND		1.9	0.537	
Acenaphthene	ND		0.19	0.0323	
2,4-Dinitrophenol	ND		9.51	1.97	
4-Nitrophenol	~~ND~~	9.51 UJ	9.51	1.12	
Dibenzofuran	ND		1.9	0.195	
2,4-Dinitrotoluene	ND		1.9	0.546	
Diethylphthalate	ND		1.9	0.529	
4-Chlorophenylphenylether	ND		1.9	0.306	
Fluorene	ND		0.19	0.0162	
4-Nitroaniline	ND		1.9	0.369	
4,6-Dinitro-2-methylphenol	ND		9.51	2.95	
N-Nitrosodiphenylamine	ND		1.9	0.0808	
4-Bromophenylphenylether	ND		1.9	0.208	
Hexachlorobenzene	ND		1.9	0.238	
Pentachlorophenol	ND		1.9	1.9	
Phenanthrene	ND		0.19	0.0352	
Anthracene	ND		0.19	0.0181	
Di-n-butylphthalate		0.614 ~~0.814~~ ~~1.94~~	1.9	0.354	~~J~~ J
Fluoranthene	ND		0.19	0.0542	
Pyrene	ND		0.19	0.0276	
Butylbenzylphthalate	ND		2.85	0.927	
3,3'-Dichlorobenzidine	ND		9.51	1.78	
Benzo(a)anthracene	ND		0.19	0.0494	
Chrysene	ND		0.19	0.0798	
bis(2-Ethylhexyl)phthalate	ND		14.3	3.62	
Di-n-octylphthalate	ND		1.9	0.26	
Benzofluoranthenes	ND		0.951	0.113	
Benzo(a)pyrene	ND		0.19	0.0314	
Indeno(1,2,3-cd)pyrene	ND		0.19	0.0266	
Dibenz(a,h)anthracene	ND		0.19	0.0295	
Benzo(g,h,i)perylene	ND		0.19	0.0485	

SR 12/12/05

SR 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PAGWP1308
Lab ID:	128474-14
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/8/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	66.5		2	120
Phenol - d5	47.4		1	102
Nitrobenzene - d5	123		34	146
2 - Fluorobiphenyl	77.3		35	143
2,4,6 - Tribromophenol	95.1		29	151
p - Terphenyl - d14	106		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.95	0.0449	
bis(2-Chloroethyl)ether	~~ND~~ 1.95 UJ	1.95	0.316	
2-Chlorophenol	ND	1.95	0.411	
1,3-Dichlorobenzene	ND	1.95	0.358	
1,4-Dichlorobenzene	ND	1.95	0.308	
Benzyl Alcohol	~~ND~~ 1.95 UJ	1.95	0.415	
1,2-Dichlorobenzene	ND	1.95	0.271	
2-Methylphenol	ND	1.95	0.381	
bis(2-Chloroisopropyl)ether	ND	1.95	0.419	
3-&4-Methylphenol	ND	3.9	0.43	
N-nitroso-di-n-propylamine	ND	1.95	0.36	
Hexachloroethane	~~ND~~ 1.95 UJ	1.95	0.372	
Nitrobenzene	ND	1.95	0.507	
Isophorone	ND	1.95	0.276	
2-Nitrophenol	ND	1.95	0.418	
2,4-Dimethylphenol	ND	9.76	1.79	
Benzoic Acid	ND	9.76	1.31	
bis(2-Chloroethoxy)methane	~~ND~~ 1.95 UJ	1.95	0.177	
2,4-Dichlorophenol	ND	1.95	0.181	
1,2,4-Trichlorobenzene	ND	1.95	0.12	
Naphthalene	ND	0.488	0.17	
4-Chloroaniline	ND	2.93	0.705	
Hexachlorobutadiene	ND	1.95	0.143	
4-Chloro-3-methylphenol	ND	1.95	0.238	
2-Methylnaphthalene	ND	0.488	0.145	
Hexachlorocyclopentadiene	ND	9.76	3.02	

12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-14 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.95	0.313	
2,4,5-Trichlorophenol	ND		1.95	0.432	
2-Chloronaphthalene	ND		0.195	0.0468	
2-Nitroaniline	ND		1.95	0.292	
Dimethylphthalate	ND		1.95	0.38	
Acenaphthylene	ND		0.195	0.0234	
2,6-Dinitrotoluene	ND		1.95	0.371	
3-Nitroaniline	ND		1.95	0.551	
Acenaphthene	ND		0.195	0.0332	
2,4-Dinitrophenol	ND		9.76	2.02	
4-Nitrophenol	~~ND~~ 9.76 UJ		9.76	1.15	
Dibenzofuran	ND		1.95	0.2	
2,4-Dinitrotoluene	ND		1.95	0.56	
Diethylphthalate	ND		1.95	0.543	
4-Chlorophenylphenylether	ND		1.95	0.314	
Fluorene	ND		0.195	0.0166	
4-Nitroaniline	ND		1.95	0.379	
4,6-Dinitro-2-methylphenol	ND		9.76	3.02	
N-Nitrosodiphenylamine	ND		1.95	0.0829	
4-Bromophenylphenylether	ND		1.95	0.214	
Hexachlorobenzene	ND		1.95	0.244	
Pentachlorophenol		55.8	1.95	1.95	~~D10~~
Phenanthrene	ND		0.195	0.0361	
Anthracene	ND		0.195	0.0185	
Di-n-butylphthalate		0.608	1.95	0.363	J
Fluoranthene	ND		0.195	0.0556	
Pyrene	ND		0.195	0.0283	
Butylbenzylphthalate	ND		2.93	0.951	
3,3'-Dichlorobenzidine	ND		9.76	1.83	
Benzo(a)anthracene		0.172	0.195	0.0507	J
Chrysene		0.151	0.195	0.082	J
bis(2-Ethylhexyl)phthalate	ND		14.6	3.72	
Di-n-octylphthalate	ND		1.95	0.266	
Benzofluoranthenes	ND		0.976	0.116	
Benzo(a)pyrene	ND		0.195	0.0322	
Indeno(1,2,3-cd)pyrene	ND		0.195	0.0273	
Dibenz(a,h)anthracene	ND		0.195	0.0302	
Benzo(g,h,i)perylene	ND		0.195	0.0498	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PAGWP1109
Lab ID:	128474-15
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/8/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	46.7		2	120
Phenol - d5	45.4		1	102
Nitrobenzene - d5	115		34	146
2 - Fluorobiphenyl	74.7		35	143
2,4,6 - Tribromophenol	26.2	X9	29	151
p - Terphenyl - d14	71.5		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.89	0.0435	
bis(2-Chloroethyl)ether	~~ND~~ 1.89 UJ	1.89	0.307	
2-Chlorophenol	ND	1.89	0.398	
1,3-Dichlorobenzene	ND	1.89	0.347	
1,4-Dichlorobenzene	ND	1.89	0.299	
Benzyl Alcohol	~~ND~~ 1.89 UJ	1.89	0.402	
1,2-Dichlorobenzene	ND	1.89	0.263	
2-Methylphenol	ND	1.89	0.37	
bis(2-Chloroisopropyl)ether	ND	1.89	0.406	
3-&4-Methylphenol	ND	3.78	0.417	
N-nitroso-di-n-propylamine	ND	1.89	0.349	
Hexachloroethane	~~ND~~ 1.89 UJ	1.89	0.36	
Nitrobenzene	ND	1.89	0.492	
Isophorone	ND	1.89	0.268	
2-Nitrophenol	ND	1.89	0.405	
2,4-Dimethylphenol	ND	9.46	1.73	
Benzoic Acid	ND	9.46	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.89 UJ	1.89	0.171	
2,4-Dichlorophenol	ND	1.89	0.176	
1,2,4-Trichlorobenzene	ND	1.89	0.116	
Naphthalene	24	0.473	0.165	
4-Chloroaniline	ND	2.84	0.684	
Hexachlorobutadiene	ND	1.89	0.139	
4-Chloro-3-methylphenol	ND	1.89	0.231	
2-Methylnaphthalene	103	0.473	0.141	~~D100~~
Hexachlorocyclopentadiene	ND	9.46	2.93	

7/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-15 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		1.89	0.304	
2,4,5-Trichlorophenol	ND		1.89	0.419	
2-Chloronaphthalene	ND		0.189	0.0454	
2-Nitroaniline	ND		1.89	0.283	
Dimethylphthalate	ND		1.89	0.369	
Acenaphthylene	ND		0.189	0.0227	
2,6-Dinitrotoluene	ND		1.89	0.36	
3-Nitroaniline	ND		1.89	0.535	
Acenaphthene		14.6	0.189	0.0322	
2,4-Dinitrophenol	ND		9.46	1.96	
4-Nitrophenol	~~ND~~ 9.46 UJ		9.46	1.12	
Dibenzofuran	ND		1.89	0.194	
2,4-Dinitrotoluene	ND		1.89	0.543	
Diethylphthalate	ND		1.89	0.527	
4-Chlorophenylphenylether	ND		1.89	0.305	
Fluorene		10.9	0.189	0.0161	
4-Nitroaniline		3.03	1.89	0.367	
4,6-Dinitro-2-methylphenol	ND		9.46	2.93	
N-Nitrosodiphenylamine	ND		1.89	0.0804	
4-Bromophenylphenylether	ND		1.89	0.207	
Hexachlorobenzene	ND		1.89	0.237	
Pentachlorophenol		2690	1.89	1.89	~~D1000~~
Phenanthrene		18.3	0.189	0.035	
Anthracene		3.97	0.189	0.018	
Di-n-butylphthalate	ND		1.89	0.352	
Fluoranthene	ND		0.189	0.0539	
Pyrene		3.86	0.189	0.0274	
Butylbenzylphthalate	ND		2.84	0.922	
3,3'-Dichlorobenzidine	ND		9.46	1.77	
Benzo(a)anthracene		0.191	0.189	0.0492	
Chrysene	ND		0.189	0.0795	
bis(2-Ethylhexyl)phthalate	ND		14.2	3.6	
Di-n-octylphthalate	ND		1.89	0.258	
Benzofluoranthenes	ND		0.946	0.113	
Benzo(a)pyrene	ND		0.189	0.0312	
Indeno(1,2,3-cd)pyrene	ND		0.189	0.0265	
Dibenz(a,h)anthracene	ND		0.189	0.0293	
Benzo(g,h,i)perylene	ND		0.189	0.0482	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PAGWP1208
Lab ID:	128474-16
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/8/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	38.1		2	120
Phenol - d5	39.6		1	102
Nitrobenzene - d5	116		34	146
2 - Fluorobiphenyl	83.2		35	143
2,4,6 - Tribromophenol	78.8		29	151
p - Terphenyl - d14	105		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	1.89	0.0436	
bis(2-Chloroethyl)ether	~~ND~~ 1.89 UJ	1.89	0.307	
2-Chlorophenol	ND	1.89	0.399	
1,3-Dichlorobenzene	ND	1.89	0.348	
1,4-Dichlorobenzene	ND	1.89	0.299	
Benzyl Alcohol	~~ND~~ 1.89 UJ	1.89	0.402	
1,2-Dichlorobenzene	ND	1.89	0.263	
2-Methylphenol	ND	1.89	0.37	
bis(2-Chloroisopropyl)ether	ND	1.89	0.406	
3-&4-Methylphenol	ND	3.79	0.418	
N-nitroso-di-n-propylamine	ND	1.89	0.349	
Hexachloroethane	~~ND~~ 1.89 UJ	1.89	0.361	
Nitrobenzene	ND	1.89	0.492	
Isophorone	ND	1.89	0.268	
2-Nitrophenol	ND	1.89	0.405	
2,4-Dimethylphenol	ND	9.47	1.73	
Benzoic Acid	ND	9.47	1.27	
bis(2-Chloroethoxy)methane	~~ND~~ 1.89 UJ	1.89	0.171	
2,4-Dichlorophenol	ND	1.89	0.176	
1,2,4-Trichlorobenzene	ND	1.89	0.116	
Naphthalene	ND	0.473	0.165	
4-Chloroaniline	ND	2.84	0.685	
Hexachlorobutadiene	ND	1.89	0.139	
4-Chloro-3-methylphenol	ND	1.89	0.231	
2-Methylnaphthalene	ND	0.473	0.141	
Hexachlorocyclopentadiene	ND	9.47	2.94	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-16 continued...

Analyte	Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	1.89	0.304	
2,4,5-Trichlorophenol	ND	1.89	0.42	
2-Chloronaphthalene	ND	0.189	0.0455	
2-Nitroaniline	ND	1.89	0.283	
Dimethylphthalate	ND	1.89	0.369	
Acenaphthylene	ND	0.189	0.0227	
2,6-Dinitrotoluene	ND	1.89	0.36	
3-Nitroaniline	ND	1.89	0.535	
Acenaphthene	ND	0.189	0.0322	
2,4-Dinitrophenol	ND	9.47	1.96	
4-Nitrophenol	~~ND~~ 9.47 U J	9.47	1.12	
Dibenzofuran	ND	1.89	0.194	
2,4-Dinitrotoluene	ND	1.89	0.544	
Diethylphthalate	ND	1.89	0.527	
4-Chlorophenylphenylether	ND	1.89	0.305	
Fluorene	ND	0.189	0.0161	
4-Nitroaniline	ND	1.89	0.367	
4,6-Dinitro-2-methylphenol	ND	9.47	2.94	
N-Nitrosodiphenylamine	ND	1.89	0.0805	
4-Bromophenylphenylether	ND	1.89	0.207	
Hexachlorobenzene	ND	1.89	0.237	
Pentachlorophenol	ND	1.89	1.89	
Phenanthrene	ND	0.189	0.035	
Anthracene	ND	0.189	0.018	
Di-n-butylphthalate	1.63	1.89	0.352	J
Fluoranthene	ND	0.189	0.054	
Pyrene	ND	0.189	0.0275	
Butylbenzylphthalate	3.14	2.84	0.923	
3,3'-Dichlorobenzidine	ND	9.47	1.77	
Benzo(a)anthracene	ND	0.189	0.0492	
Chrysene	ND	0.189	0.0795	
bis(2-Ethylhexyl)phthalate	ND	14.2	3.61	
Di-n-octylphthalate	ND	1.89	0.259	
Benzofluoranthenes	ND	0.947	0.113	
Benzo(a)pyrene	ND	0.189	0.0313	
Indeno(1,2,3-cd)pyrene	ND	0.189	0.0265	
Dibenz(a,h)anthracene	ND	0.189	0.0294	
Benzo(g,h,i)perylene	ND	0.189	0.0483	

10/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	RB-3
Lab ID:	128474-17
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	7/8/2005
% Solids	-
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	38.4		2	120
Phenol - d5	26.3		1	102
Nitrobenzene - d5	104		34	146
2 - Fluorobiphenyl	78.5		35	143
2,4,6 - Tribromophenol	90.2		29	151
p - Terphenyl - d14	99.1		35	166

Analyte	Result (ug/L)	RL	MDL	Flags
Phenol	ND	2.09	0.048	
bis(2-Chloroethyl)ether	~~ND~~ 2.09 UJ	2.09	0.338	
2-Chlorophenol	ND	2.09	0.439	
1,3-Dichlorobenzene	ND	2.09	0.383	
1,4-Dichlorobenzene	ND	2.09	0.33	
Benzyl Alcohol	~~ND~~ 2.09 UJ	2.09	0.444	
1,2-Dichlorobenzene	ND	2.09	0.29	
2-Methylphenol	ND	2.09	0.408	
bis(2-Chloroisopropyl)ether	ND	2.09	0.448	
3-&4-Methylphenol	ND	4.18	0.46	
N-nitroso-di-n-propylamine	ND	2.09	0.385	
Hexachloroethane	~~ND~~ 2.09 UJ	2.09	0.398	
Nitrobenzene	ND	2.09	0.543	
Isophorone	ND	2.09	0.295	
2-Nitrophenol	ND	2.09	0.447	
2,4-Dimethylphenol	ND	10.4	1.91	
Benzoic Acid	ND	10.4	1.4	
bis(2-Chloroethoxy)methane	~~ND~~ 2.09 UJ	2.09	0.189	
2,4-Dichlorophenol	ND	2.09	0.194	
1,2,4-Trichlorobenzene	ND	2.09	0.128	
Naphthalene	ND	0.522	0.182	
4-Chloroaniline	ND	3.13	0.755	
Hexachlorobutadiene	ND	2.09	0.153	
4-Chloro-3-methylphenol	ND	2.09	0.255	
2-Methylnaphthalene	ND	0.522	0.156	
Hexachlorocyclopentadiene	ND	10.4	3.24	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128474-17 continued...

Analyte		Result (ug/L)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		2.09	0.335	
2,4,5-Trichlorophenol	ND		2.09	0.462	
2-Chloronaphthalene	ND		0.209	0.0501	
2-Nitroaniline	ND		2.09	0.312	
Dimethylphthalate	ND		2.09	0.407	
Acenaphthylene	ND		0.209	0.0251	
2,6-Dinitrotoluene	ND		2.09	0.397	
3-Nitroaniline	ND		2.09	0.59	
Acenaphthene	ND		0.209	0.0355	
2,4-Dinitrophenol	ND		10.4	2.16	
4-Nitrophenol	~~ND~~ 10.4 UJ		10.4	1.23	
Dibenzofuran	ND		2.09	0.214	
2,4-Dinitrotoluene	ND		2.09	0.599	
Diethylphthalate	ND		2.09	0.581	
4-Chlorophenylphenylether	ND		2.09	0.336	
Fluorene	ND		0.209	0.0177	
4-Nitroaniline	ND		2.09	0.405	
4,6-Dinitro-2-methylphenol	ND		10.4	3.24	
N-Nitrosodiphenylamine	ND		2.09	0.0887	
4-Bromophenylphenylether	ND		2.09	0.229	
Hexachlorobenzene	ND		2.09	0.261	
Pentachlorophenol	ND		2.09	2.09	
Phenanthrene	ND		0.209	0.0386	
Anthracene	ND		0.209	0.0198	
Di-n-butylphthalate		~~1.14~~ 2.094	2.09	0.388	J
Fluoranthene	ND		0.209	0.0595	
Pyrene	ND		0.209	0.0303	
Butylbenzylphthalate	ND		3.13	1.02	
3,3'-Dichlorobenzidine	ND		10.4	1.95	
Benzo(a)anthracene	ND		0.209	0.0543	
Chrysene	ND		0.209	0.0877	
bis(2-Ethylhexyl)phthalate	ND		15.7	3.98	
Di-n-octylphthalate	ND		2.09	0.285	
Benzofluoranthenes	ND		1.04	0.124	
Benzo(a)pyrene	ND		0.209	0.0344	
Indeno(1,2,3-cd)pyrene	ND		0.209	0.0292	
Dibenz(a,h)anthracene	ND		0.209	0.0324	
Benzo(g,h,i)perylene	ND		0.209	0.0532	

SC 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	BKSDH0900
Lab ID:	128479-01
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	61.15
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	119		36	145
Phenol - d5	111		38	149
Nitrobenzene - d5	96.1		38	141
2 - Fluorobiphenyl	100		42	140
2,4,6 - Tribromophenol	97.4		28	143
p - Terphenyl - d14	113		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	79.5	11.5	
bis(2-Chloroethyl)ether	ND	159	25	
2-Chlorophenol	ND	79.5	10.7	
1,3-Dichlorobenzene	ND	79.5	13.5	
1,4-Dichlorobenzene	ND	79.5	13.4	
Benzyl Alcohol	ND	79.5	31.6	
1,2-Dichlorobenzene	ND	79.5	10.8	
2-Methylphenol	ND	79.5	15	
bis(2-Chloroisopropyl)ether	ND 397 4 J	397	127	
3-&4-Methylphenol	91.3	79.5	18.8	
N-nitroso-di-n-propylamine	ND	79.5	21.3	
Hexachloroethane	ND	79.5	26.9	
Nitrobenzene	ND	159	47.8	
Isophorone	ND	159	8.01	
2-Nitrophenol	ND	79.5	18.1	
2,4-Dimethylphenol	ND	31.8	12.2	
Benzoic Acid	ND	954	254	
bis(2-Chloroethoxy)methane	ND	159	30.5	
2,4-Dichlorophenol	ND	79.5	14.1	
1,2,4-Trichlorobenzene	ND	79.5	13.5	
Naphthalene	ND	31.8	14.1	
4-Chloroaniline	ND	159	14.8	
Hexachlorobutadiene	ND	79.5	11.6	
4-Chloro-3-methylphenol	ND	79.5	14.2	
2-Methylnaphthalene	ND	31.8	8.27	
Hexachlorocyclopentadiene	ND	79.5	12.6	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128479-01 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	79.5	12.6	
2,4,5-Trichlorophenol	ND	79.5	12.3	
2-Chloronaphthalene	ND	31.8	10.7	
2-Nitroaniline	ND	31.8	8.63	
Dimethylphthalate	ND	159	31.2	
Acenaphthylene	ND	31.8	9.36	
2,6-Dinitrotoluene	ND	79.5	17	
3-Nitroaniline	ND	159	46.6	
Acenaphthene	ND	31.8	8.15	
2,4-Dinitrophenol	ND	795	111	
4-Nitrophenol	ND	795	130	
Dibenzofuran	ND	79.5	7.34	
2,4-Dinitrotoluene	ND	159	27	
Diethylphthalate	ND	159	57.4	
4-Chlorophenylphenylether	ND	159	34.2	
Fluorene	ND	31.8	10.3	
4-Nitroaniline	ND	318	65.2	
4,6-Dinitro-2-methylphenol	ND	159	28.6	
N-Nitrosodiphenylamine	ND	31.8	9.09	
4-Bromophenylphenylether	ND	159	29.2	
Hexachlorobenzene	ND	31.8	8.41	
Pentachlorophenol	127	159	30.8	J
Phenanthrene	ND	31.8	9.44	
Anthracene	ND	31.8	6.04	
Di-n-butylphthalate	ND	159	28.9	
Fluoranthene	ND	31.8	16.1	
Pyrene	23.1	31.8	5.4	J
Butylbenzylphthalate	ND	318	34	
3,3'-Dichlorobenzidine	ND	318	69	
Benzo(a)anthracene	ND	31.8	16.1	
Chrysene	ND	31.8	11.4	
bis(2-Ethylhexyl)phthalate	65.1	318	29.1	J
Di-n-octylphthalate	ND	318	29.2	
Benzofluoranthenes	ND	63.6	14.4	
Benzo(a)pyrene	ND	31.8	10.1	
Indeno(1,2,3-cd)pyrene	ND	31.8	7.25	
Dibenz(a,h)anthracene	ND	31.8	9.87	
Benzo(g,h,i)perylene	ND	31.8	7.65	

SC 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	BKSSH1000
Lab ID:	128479-02
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	94.64
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	106		36	145
Phenol - d5	85.5		38	149
Nitrobenzene - d5	106		38	141
2 - Fluorobiphenyl	102		42	140
2,4,6 - Tribromophenol	109		28	143
p - Terphenyl - d14	107		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	52	7.52	
bis(2-Chloroethyl)ether	ND	104	16.3	
2-Chlorophenol	ND	52	7	
1,3-Dichlorobenzene	ND	52	8.87	
1,4-Dichlorobenzene	ND	52	8.75	
Benzyl Alcohol	ND	52	20.7	
1,2-Dichlorobenzene	ND	52	7.07	
2-Methylphenol	ND	52	9.82	
bis(2-Chloroisopropyl)ether	~~ND~~ 260 UJ	260	83.1	
3-&4-Methylphenol	ND	52	12.3	
N-nitroso-di-n-propylamine	ND	52	13.9	
Hexachloroethane	ND	52	17.6	
Nitrobenzene	ND	104	31.3	
Isophorone	ND	104	5.24	
2-Nitrophenol	ND	52	11.9	
2,4-Dimethylphenol	ND	20.8	7.96	
Benzoic Acid	ND	624	167	
bis(2-Chloroethoxy)methane	ND	104	20	
2,4-Dichlorophenol	ND	52	9.23	
1,2,4-Trichlorobenzene	ND	52	8.83	
Naphthalene	ND	20.8	9.22	
4-Chloroaniline	ND	104	9.68	
Hexachlorobutadiene	ND	52	7.61	
4-Chloro-3-methylphenol	ND	52	9.29	
2-Methylnaphthalene	ND	20.8	5.41	
Hexachlorocyclopentadiene	ND	52	8.25	

12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128479-02 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	52	8.23	
2,4,5-Trichlorophenol	ND	52	8.08	
2-Chloronaphthalene	ND	20.8	7.02	
2-Nitroaniline	ND	20.8	5.65	
Dimethylphthalate	ND	104	20.4	
Acenaphthylene	ND	20.8	6.13	
2,6-Dinitrotoluene	ND	52	11.1	
3-Nitroaniline	ND	104	30.5	
Acenaphthene	ND	20.8	5.34	
2,4-Dinitrophenol	ND	520	72.7	
4-Nitrophenol	ND	520	85.2	
Dibenzofuran	ND	52	4.81	
2,4-Dinitrotoluene	ND	104	17.7	
Diethylphthalate	ND	104	37.6	
4-Chlorophenylphenylether	ND	104	22.4	
Fluorene	ND	20.8	6.72	
4-Nitroaniline	ND	208	42.7	
4,6-Dinitro-2-methylphenol	ND	104	18.7	
N-Nitrosodiphenylamine	ND	20.8	5.95	
4-Bromophenylphenylether	ND	104	19.1	
Hexachlorobenzene	ND	20.8	5.5	
Pentachlorophenol	23	104	20.2	J
Phenanthrene	ND	20.8	6.18	
Anthracene	ND	20.8	3.95	
Di-n-butylphthalate	ND	104	18.9	
Fluoranthene	ND	20.8	10.5	
Pyrene	ND	20.8	3.54	
Butylbenzylphthalate	ND	208	22.3	
3,3'-Dichlorobenzidine	ND	208	45.2	
Benzo(a)anthracene	ND	20.8	10.5	
Chrysene	ND	20.8	7.44	
bis(2-Ethylhexyl)phthalate	37.1	208	19	J
Di-n-octylphthalate	ND	208	19.1	
Benzofluoranthenes	ND	41.6	9.43	
Benzo(a)pyrene	ND	20.8	6.59	
Indeno(1,2,3-cd)pyrene	ND	20.8	4.75	
Dibenz(a,h)anthracene	ND	20.8	6.46	
Benzo(g,h,i)perylene	ND	20.8	5.01	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	CRSDH0100
Lab ID:	128479-03
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	63.31
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	103		36	145
Phenol - d5	86.1		38	149
Nitrobenzene - d5	92.9		38	141
2 - Fluorobiphenyl	90.6		42	140
2,4,6 - Tribromophenol	95.5		28	143
p - Terphenyl - d14	95.9		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	68.3	9.87	
bis(2-Chloroethyl)ether	ND	137	21.4	
2-Chlorophenol	ND	68.3	9.19	
1,3-Dichlorobenzene	ND	68.3	11.6	
1,4-Dichlorobenzene	ND	68.3	11.5	
Benzyl Alcohol	ND	68.3	27.2	
1,2-Dichlorobenzene	ND	68.3	9.27	
2-Methylphenol	ND	68.3	12.9	
bis(2-Chloroisopropyl)ether	~~ND~~ 3414J	341	109	
3-&4-Methylphenol	196	68.3	16.1	
N-nitroso-di-n-propylamine	ND	68.3	18.3	
Hexachloroethane	ND	68.3	23.1	
Nitrobenzene	ND	137	41.1	
Isophorone	ND	137	6.88	
2-Nitrophenol	ND	68.3	15.6	
2,4-Dimethylphenol	ND	27.3	10.4	
Benzoic Acid	ND	819	218	
bis(2-Chloroethoxy)methane	ND	137	26.2	
2,4-Dichlorophenol	ND	68.3	12.1	
1,2,4-Trichlorobenzene	ND	68.3	11.6	
Naphthalene	ND	27.3	12.1	
4-Chloroaniline	ND	137	12.7	
Hexachlorobutadiene	ND	68.3	9.98	
4-Chloro-3-methylphenol	ND	68.3	12.2	
2-Methylnaphthalene	ND	27.3	7.1	
Hexachlorocyclopentadiene	ND	68.3	10.8	

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Semivolatile Organics by EPA Method 8270 data for 128479-03 continued...

Analyte	Result (ug/kg)		RL	MDL	Flags
2,4,6-Trichlorophenol	ND		68.3	10.8	
2,4,5-Trichlorophenol	ND		68.3	10.6	
2-Chloronaphthalene	ND		27.3	9.22	
2-Nitroaniline	ND		27.3	7.41	
Dimethylphthalate	ND		137	26.8	
Acenaphthylene	ND		27.3	8.04	
2,6-Dinitrotoluene	ND		68.3	14.6	
3-Nitroaniline	ND		137	40	
Acenaphthene	ND		27.3	7	
2,4-Dinitrophenol	ND		683	95.4	
4-Nitrophenol	ND		683	112	
Dibenzofuran	ND		68.3	6.31	
2,4-Dinitrotoluene	ND		137	23.2	
Diethylphthalate	ND		137	49.3	
4-Chlorophenylphenylether	ND		137	29.4	
Fluorene	ND		27.3	8.82	
4-Nitroaniline	ND		273	56	
4,6-Dinitro-2-methylphenol	ND		137	24.6	
N-Nitrosodiphenylamine	ND		27.3	7.81	
4-Bromophenylphenylether	ND		137	25.1	
Hexachlorobenzene	ND		27.3	7.22	
Pentachlorophenol	ND		137	26.5	
Phenanthrene		15.4	27.3	8.11	J
Anthracene	ND		27.3	5.19	
Di-n-butylphthalate	ND		137	24.9	
Fluoranthene		35.5	27.3	13.8	
Pyrene		22.7	27.3	4.64	J
Butylbenzylphthalate	ND		273	29.2	
3,3'-Dichlorobenzidine	ND		273	59.3	
Benzo(a)anthracene	ND		27.3	13.8	
Chrysene	ND		27.3	9.76	
bis(2-Ethylhexyl)phthalate		53.3	273	25	J
Di-n-octylphthalate	ND		273	25.1	
Benzofluoranthenes		14.5	54.6	12.4	J
Benzo(a)pyrene	ND		27.3	8.64	
Indeno(1,2,3-cd)pyrene	ND		27.3	6.23	
Dibenz(a,h)anthracene	ND		27.3	8.48	
Benzo(g,h,i)perylene	ND		27.3	6.57	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	CRSDH0200
Lab ID:	128479-04
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	65.42
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	140		36	145
Phenol - d5	119		38	149
Nitrobenzene - d5	118		38	141
2 - Fluorobiphenyl	111		42	140
2,4,6 - Tribromophenol	108		28	143
p - Terphenyl - d14	115		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	64.4	9.32	
bis(2-Chloroethyl)ether	ND	129	20.2	
2-Chlorophenol	ND	64.4	8.67	
1,3-Dichlorobenzene	ND	64.4	11	
1,4-Dichlorobenzene	ND	64.4	10.8	
Benzyl Alcohol	ND	64.4	25.7	
1,2-Dichlorobenzene	ND	64.4	8.75	
2-Methylphenol	ND	64.4	12.2	
bis(2-Chloroisopropyl)ether	~~ND~~ 322 UJ	322	103	
3-&4-Methylphenol	291	64.4	15.2	
N-nitroso-di-n-propylamine	ND	64.4	17.3	
Hexachloroethane	ND	64.4	21.8	
Nitrobenzene	ND	129	38.8	
Isophorone	ND	129	6.5	
2-Nitrophenol	ND	64.4	14.7	
2,4-Dimethylphenol	ND	25.8	9.86	
Benzoic Acid	ND	773	206	
bis(2-Chloroethoxy)methane	ND	129	24.7	
2,4-Dichlorophenol	ND	64.4	11.4	
1,2,4-Trichlorobenzene	ND	64.4	10.9	
Naphthalene	ND	25.8	11.4	
4-Chloroaniline	ND	129	12	
Hexachlorobutadiene	ND	64.4	9.42	
4-Chloro-3-methylphenol	ND	64.4	11.5	
2-Methylnaphthalene	ND	25.8	6.7	
Hexachlorocyclopentadiene	ND	64.4	10.2	

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Semivolatile Organics by EPA Method 8270 data for 128479-04 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	64.4	10.2	
2,4,5-Trichlorophenol	ND	64.4	10	
2-Chloronaphthalene	ND	25.8	8.7	
2-Nitroaniline	ND	25.8	7	
Dimethylphthalate	ND	129	25.3	
Acenaphthylene	ND	25.8	7.59	
2,6-Dinitrotoluene	ND	64.4	13.8	
3-Nitroaniline	ND	129	37.8	
Acenaphthene	ND	25.8	6.61	
2,4-Dinitrophenol	ND	644	90.1	
4-Nitrophenol	ND	644	106	
Dibenzofuran	ND	64.4	5.96	
2,4-Dinitrotoluene	ND	129	21.9	
Diethylphthalate	ND	129	46.5	
4-Chlorophenylphenylether	ND	129	27.7	
Fluorene	ND	25.8	8.33	
4-Nitroaniline	ND	258	52.8	
4,6-Dinitro-2-methylphenol	ND	129	23.2	
N-Nitrosodiphenylamine	ND	25.8	7.37	
4-Bromophenylphenylether	ND	129	23.7	
Hexachlorobenzene	ND	25.8	6.82	
Pentachlorophenol	ND	129	25	
Phenanthrene	ND	25.8	7.66	
Anthracene	ND	25.8	4.9	
Di-n-butylphthalate	ND	129	23.5	
Fluoranthene	ND	25.8	13	
Pyrene	ND	25.8	4.38	
Butylbenzylphthalate	ND	258	27.6	
3,3'-Dichlorobenzidine	ND	258	55.9	
Benzo(a)anthracene	ND	25.8	13	
Chrysene	ND	25.8	9.22	
bis(2-Ethylhexyl)phthalate	34.1	258	23.6	J
Di-n-octylphthalate	ND	258	23.7	
Benzofluoranthenes	ND	51.6	11.7	
Benzo(a)pyrene	ND	25.8	8.16	
Indeno(1,2,3-cd)pyrene	ND	25.8	5.88	
Dibenz(a,h)anthracene	ND	25.8	8	
Benzo(g,h,i)perylene	ND	25.8	6.2	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	CRSDH0300
Lab ID:	128479-05
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	43.93
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	119		36	145
Phenol - d5	93.2		38	149
Nitrobenzene - d5	101		38	141
2 - Fluorobiphenyl	99.5		42	140
2,4,6 - Tribromophenol	102		28	143
p - Terphenyl - d14	110		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	102	14.7	
bis(2-Chloroethyl)ether	ND	204	32	
2-Chlorophenol	ND	102	13.7	
1,3-Dichlorobenzene	ND	102	17.3	
1,4-Dichlorobenzene	ND	102	17.1	
Benzyl Alcohol	ND	102	40.5	
1,2-Dichlorobenzene	ND	102	13.8	
2-Methylphenol	ND	102	19.2	
bis(2-Chloroisopropyl)ether	~~ND~~ 509 UJ	509	163	
3-&4-Methylphenol	47.9	102	24	J
N-nitroso-di-n-propylamine	ND	102	27.3	
Hexachloroethane	ND	102	34.4	
Nitrobenzene	ND	204	61.3	
Isophorone	ND	204	10.3	
2-Nitrophenol	ND	102	23.2	
2,4-Dimethylphenol	ND	40.7	15.6	
Benzoic Acid	ND	1220	326	
bis(2-Chloroethoxy)methane	ND	204	39.1	
2,4-Dichlorophenol	ND	102	18.1	
1,2,4-Trichlorobenzene	ND	102	17.3	
Naphthalene	ND	40.7	18	
4-Chloroaniline	ND	204	18.9	
Hexachlorobutadiene	ND	102	14.9	
4-Chloro-3-methylphenol	ND	102	18.2	
2-Methylnaphthalene	ND	40.7	10.6	
Hexachlorocyclopentadiene	ND	102	16.1	

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Semivolatile Organics by EPA Method 8270 data for 128479-05 continued...

Analyte	Result (ug/kg)		RL	MDL	Flags
2,4,6-Trichlorophenol	ND		102	16.1	
2,4,5-Trichlorophenol	ND		102	15.8	
2-Chloronaphthalene	ND		40.7	13.7	
2-Nitroaniline	ND		40.7	11.1	
Dimethylphthalate	ND		204	39.9	
Acenaphthylene	ND		40.7	12	
2,6-Dinitrotoluene	ND		102	21.8	
3-Nitroaniline	ND		204	59.7	
Acenaphthene	ND		40.7	10.4	
2,4-Dinitrophenol	ND		1020	142	
4-Nitrophenol	ND		1020	167	
Dibenzofuran	ND		102	9.41	
2,4-Dinitrotoluene	ND		204	34.6	
Diethylphthalate	ND		204	73.5	
4-Chlorophenylphenylether	ND		204	43.8	
Fluorene	ND		40.7	13.2	
4-Nitroaniline	ND		407	83.5	
4,6-Dinitro-2-methylphenol	ND		204	36.7	
N-Nitrosodiphenylamine	ND		40.7	11.6	
4-Bromophenylphenylether	ND		204	37.5	
Hexachlorobenzene	ND		40.7	10.8	
Pentachlorophenol	ND		204	39.5	
Phenanthrene	ND		40.7	12.1	
Anthracene	ND		40.7	7.74	
Di-n-butylphthalate	ND		204	37.1	
Fluoranthene	ND		40.7	20.6	
Pyrene	ND		40.7	6.92	
Butylbenzylphthalate	ND		407	43.6	
3,3'-Dichlorobenzidine	ND		407	88.4	
Benzo(a)anthracene	ND		40.7	20.6	
Chrysene	ND		40.7	14.6	
bis(2-Ethylhexyl)phthalate		57	407	37.3	J
Di-n-octylphthalate	ND		407	37.5	
Benzofluoranthenes	ND		81.5	18.4	
Benzo(a)pyrene	ND		40.7	12.9	
Indeno(1,2,3-cd)pyrene	ND		40.7	9.29	
Dibenz(a,h)anthracene	ND		40.7	12.6	
Benzo(g,h,i)perylene	ND		40.7	9.79	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	CRSDH0400
Lab ID:	128479-06
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	56.35
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	111		36	145
Phenol - d5	97.2		38	149
Nitrobenzene - d5	102		38	141
2 - Fluorobiphenyl	92.5		42	140
2,4,6 - Tribromophenol	102		28	143
p - Terphenyl - d14	112		42	151

Sample results are on a dry weight basis.

Analyte		Result (ug/kg)	RL	MDL	Flags
Phenol	ND		75.1	10.9	
bis(2-Chloroethyl)ether	ND		150	23.6	
2-Chlorophenol	ND		75.1	10.1	
1,3-Dichlorobenzene	ND		75.1	12.8	
1,4-Dichlorobenzene	ND		75.1	12.6	
Benzyl Alcohol	ND		75.1	29.9	
1,2-Dichlorobenzene	ND		75.1	10.2	
2-Methylphenol	ND		75.1	14.2	
bis(2-Chloroisopropyl)ether	~~ND~~ 375 U J		375	120	
3-&4-Methylphenol		380	75.1	17.7	
N-nitroso-di-n-propylamine	ND		75.1	20.1	
Hexachloroethane	ND		75.1	25.4	
Nitrobenzene	ND		150	45.2	
Isophorone	ND		150	7.57	
2-Nitrophenol	ND		75.1	17.1	
2,4-Dimethylphenol	ND		30	11.5	
Benzoic Acid	ND		901	240	
bis(2-Chloroethoxy)methane	ND		150	28.8	
2,4-Dichlorophenol	ND		75.1	13.3	
1,2,4-Trichlorobenzene	ND		75.1	12.7	
Naphthalene	ND		30	13.3	
4-Chloroaniline	ND		150	14	
Hexachlorobutadiene	ND		75.1	11	
4-Chloro-3-methylphenol	ND		75.1	13.4	
2-Methylnaphthalene	ND		30	7.81	
Hexachlorocyclopentadiene	ND		75.1	11.9	

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STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128479-06 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		75.1	11.9	
2,4,5-Trichlorophenol	ND		75.1	11.7	
2-Chloronaphthalene	ND		30	10.1	
2-Nitroaniline	ND		30	8.15	
Dimethylphthalate	ND		150	29.4	
Acenaphthylene	ND		30	8.84	
2,6-Dinitrotoluene	ND		75.1	16.1	
3-Nitroaniline	ND		150	44	
Acenaphthene	ND		30	7.7	
2,4-Dinitrophenol	ND		751	105	
4-Nitrophenol	ND		751	123	
Dibenzofuran	ND		75.1	6.94	
2,4-Dinitrotoluene	ND		150	25.5	
Diethylphthalate	ND		150	54.2	
4-Chlorophenylphenylether	ND		150	32.3	
Fluorene	ND		30	9.7	
4-Nitroaniline	ND		300	61.6	
4,6-Dinitro-2-methylphenol	ND		150	27	
N-Nitrosodiphenylamine	ND		30	8.59	
4-Bromophenylphenylether	ND		150	27.6	
Hexachlorobenzene	ND		30	7.94	
Pentachlorophenol	ND		150	29.1	
Phenanthrene	ND		30	8.92	
Anthracene	ND		30	5.71	
Di-n-butylphthalate	ND		150	27.3	
Fluoranthene	ND		30	15.2	
Pyrene	ND		30	5.11	
Butylbenzylphthalate	ND		300	32.1	
3,3'-Dichlorobenzidine	ND		300	65.2	
Benzo(a)anthracene	ND		30	15.2	
Chrysene	ND		30	10.7	
bis(2-Ethylhexyl)phthalate		37.9	300	27.5	J
Di-n-octylphthalate	ND		300	27.6	
Benzofluoranthenes	ND		60.1	13.6	
Benzo(a)pyrene	ND		30	9.5	
Indeno(1,2,3-cd)pyrene	ND		30	6.85	
Dibenz(a,h)anthracene	ND		30	9.32	
Benzo(g,h,i)perylene	ND		30	7.22	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASBP08040
Lab ID:	128479-07
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	79.71
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	134		36	145
Phenol - d5	111		38	149
2 - Fluorobiphenyl	96.1		42	140

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Pentachlorophenol	ND	112	21.7	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSP0700
Lab ID:	128479-08
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	92.22
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	131		36	145
Phenol - d5	107		38	149
Nitrobenzene - d5	111		38	141
2 - Fluorobiphenyl	108		42	140
2,4,6 - Tribromophenol	101		28	143
p - Terphenyl - d14	120		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	49.4	7.14	
bis(2-Chloroethyl)ether	ND	98.8	15.5	
2-Chlorophenol	ND	49.4	6.65	
1,3-Dichlorobenzene	ND	49.4	8.42	
1,4-Dichlorobenzene	ND	49.4	8.31	
Benzyl Alcohol	ND	49.4	19.7	
1,2-Dichlorobenzene	ND	49.4	6.71	
2-Methylphenol	ND	49.4	9.33	
bis(2-Chloroisopropyl)ether	~~ND~~ 247 UJ	247	78.9	
3-&4-Methylphenol	ND	49.4	11.7	
N-nitroso-di-n-propylamine	ND	49.4	13.2	
Hexachloroethane	ND	49.4	16.7	
Nitrobenzene	ND	98.8	29.7	
Isophorone	ND	98.8	4.98	
2-Nitrophenol	ND	49.4	11.3	
2,4-Dimethylphenol	ND	19.8	7.56	
Benzoic Acid	ND	593	158	
bis(2-Chloroethoxy)methane	ND	98.8	19	
2,4-Dichlorophenol	ND	49.4	8.76	
1,2,4-Trichlorobenzene	ND	49.4	8.39	
Naphthalene	ND	19.8	8.75	
4-Chloroaniline	ND	98.8	9.19	
Hexachlorobutadiene	ND	49.4	7.22	
4-Chloro-3-methylphenol	ND	49.4	8.82	
2-Methylnaphthalene	ND	19.8	5.14	
Hexachlorocyclopentadiene	ND	49.4	7.84	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-08 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	49.4	7.82	
2,4,5-Trichlorophenol	ND	49.4	7.67	
2-Chloronaphthalene	ND	19.8	6.67	
2-Nitroaniline	ND	19.8	5.37	
Dimethylphthalate	ND	98.8	19.4	
Acenaphthylene	ND	19.8	5.82	
2,6-Dinitrotoluene	ND	49.4	10.6	
3-Nitroaniline	ND	98.8	28.9	
Acenaphthene	ND	19.8	5.07	
2,4-Dinitrophenol	ND	494	69.1	
4-Nitrophenol	ND	494	80.9	
Dibenzofuran	ND	49.4	4.56	
2,4-Dinitrotoluene	ND	98.8	16.8	
Diethylphthalate	ND	98.8	35.7	
4-Chlorophenylphenylether	ND	98.8	21.2	
Fluorene	ND	19.8	6.38	
4-Nitroaniline	ND	198	40.5	
4,6-Dinitro-2-methylphenol	ND	98.8	17.8	
N-Nitrosodiphenylamine	ND	19.8	5.65	
4-Bromophenylphenylether	ND	98.8	18.2	
Hexachlorobenzene	ND	19.8	5.23	
Pentachlorophenol	139	98.8	19.2	
Phenanthrene	ND	19.8	5.87	
Anthracene	ND	19.8	3.75	
Di-n-butylphthalate	ND	98.8	18	
Fluoranthene	ND	19.8	9.98	
Pyrene	14.2	19.8	3.36	J
Butylbenzylphthalate	ND	198	21.1	
3,3'-Dichlorobenzidine	ND	198	42.9	
Benzo(a)anthracene	ND	19.8	9.98	
Chrysene	ND	19.8	7.06	
bis(2-Ethylhexyl)phthalate	31.1	198	18.1	J
Di-n-octylphthalate	ND	198	18.2	
Benzofluoranthenes	ND	39.5	8.95	
Benzo(a)pyrene	ND	19.8	6.25	
Indeno(1,2,3-cd)pyrene	ND	19.8	4.51	
Dibenz(a,h)anthracene	ND	19.8	6.14	
Benzo(g,h,i)perylene	ND	19.8	4.75	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSP0800
Lab ID:	128479-09
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	89.26
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	139		36	145
Phenol - d5	111		38	149
Nitrobenzene - d5	120		38	141
2 - Fluorobiphenyl	110		42	140
2,4,6 - Tribromophenol	105		28	143
p - Terphenyl - d14	120		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	52.8	7.63	
bis(2-Chloroethyl)ether	ND	106	16.6	
2-Chlorophenol	ND	52.8	7.1	
1,3-Dichlorobenzene	ND	52.8	8.99	
1,4-Dichlorobenzene	ND	52.8	8.88	
Benzyl Alcohol	ND	52.8	21	
1,2-Dichlorobenzene	ND	52.8	7.17	
2-Methylphenol	ND	52.8	9.96	
bis(2-Chloroisopropyl)ether	~~ND~~ 264 UJ	264	84.3	
3-&4-Methylphenol	ND	52.8	12.5	
N-nitroso-di-n-propylamine	ND	52.8	14.1	
Hexachloroethane	ND	52.8	17.8	
Nitrobenzene	ND	106	31.8	
Isophorone	ND	106	5.32	
2-Nitrophenol	ND	52.8	12	
2,4-Dimethylphenol	ND	21.1	8.07	
Benzoic Acid	ND	633	169	
bis(2-Chloroethoxy)methane	ND	106	20.3	
2,4-Dichlorophenol	ND	52.8	9.36	
1,2,4-Trichlorobenzene	ND	52.8	8.96	
Naphthalene	ND	21.1	9.35	
4-Chloroaniline	ND	106	9.82	
Hexachlorobutadiene	ND	52.8	7.72	
4-Chloro-3-methylphenol	ND	52.8	9.42	
2-Methylnaphthalene	ND	21.1	5.49	
Hexachlorocyclopentadiene	ND	52.8	8.37	

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Semivolatile Organics by USEPA Method 8270 data for 128479-09 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	52.8	8.35	
2,4,5-Trichlorophenol	ND	52.8	8.19	
2-Chloronaphthalene	ND	21.1	7.12	
2-Nitroaniline	ND	21.1	5.73	
Dimethylphthalate	ND	106	20.7	
Acenaphthylene	ND	21.1	6.22	
2,6-Dinitrotoluene	ND	52.8	11.3	
3-Nitroaniline	ND	106	30.9	
Acenaphthene	ND	21.1	5.41	
2,4-Dinitrophenol	ND	528	73.8	
4-Nitrophenol	ND	528	86.4	
Dibenzofuran	ND	52.8	4.88	
2,4-Dinitrotoluene	ND	106	17.9	
Diethylphthalate	ND	106	38.1	
4-Chlorophenylphenylether	ND	106	22.7	
Fluorene	ND	21.1	6.82	
4-Nitroaniline	ND	211	43.3	
4,6-Dinitro-2-methylphenol	ND	106	19	
N-Nitrosodiphenylamine	ND	21.1	6.04	
4-Bromophenylphenylether	ND	106	19.4	
Hexachlorobenzene	ND	21.1	5.58	
Pentachlorophenol	210	106	20.5	
Phenanthrene	7.3	21.1	6.27	J
Anthracene	ND	21.1	4.01	
Di-n-butylphthalate	19.8	106	19.2	J
Fluoranthene	ND	21.1	10.7	
Pyrene	15	21.1	3.59	J
Butylbenzylphthalate	ND	211	22.6	
3,3'-Dichlorobenzidine	ND	211	45.8	
Benzo(a)anthracene	ND	21.1	10.7	
Chrysene	ND	21.1	7.55	
bis(2-Ethylhexyl)phthalate	ND	211	19.3	
Di-n-octylphthalate	ND	211	19.4	
Benzofluoranthenes	ND	42.2	9.56	
Benzo(a)pyrene	ND	21.1	6.68	
Indeno(1,2,3-cd)pyrene	ND	21.1	4.81	
Dibenz(a,h)anthracene	ND	21.1	6.55	
Benzo(g,h,i)perylene	ND	21.1	5.08	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSP0900
Lab ID:	128479-10
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	88.01
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	104		36	145
Phenol - d5	90.9		38	149
Nitrobenzene - d5	84.2		38	141
2 - Fluorobiphenyl	95.2		42	140
2,4,6 - Tribromophenol	86.1		28	143
p - Terphenyl - d14	99.1		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	51.9	7.5	
bis(2-Chloroethyl)ether	ND	104	16.3	
2-Chlorophenol	ND	51.9	6.98	
1,3-Dichlorobenzene	ND	51.9	8.84	
1,4-Dichlorobenzene	ND	51.9	8.72	
Benzyl Alcohol	ND	51.9	20.6	
1,2-Dichlorobenzene	ND	51.9	7.04	
2-Methylphenol	ND	51.9	9.79	
bis(2-Chloroisopropyl)ether	~~ND~~ 259 U J	259	82.9	
3-&4-Methylphenol	ND	51.9	12.2	
N-nitroso-di-n-propylamine	ND	51.9	13.9	
Hexachloroethane	ND	51.9	17.5	
Nitrobenzene	ND	104	31.2	
Isophorone	ND	104	5.23	
2-Nitrophenol	ND	51.9	11.8	
2,4-Dimethylphenol	ND	20.7	7.93	
Benzoic Acid	ND	622	166	
bis(2-Chloroethoxy)methane	ND	104	19.9	
2,4-Dichlorophenol	ND	51.9	9.2	
1,2,4-Trichlorobenzene	ND	51.9	8.81	
Naphthalene	ND	20.7	9.19	
4-Chloroaniline	ND	104	9.65	
Hexachlorobutadiene	ND	51.9	7.58	
4-Chloro-3-methylphenol	ND	51.9	9.26	
2-Methylnaphthalene	ND	20.7	5.39	
Hexachlorocyclopentadiene	ND	51.9	8.23	

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Semivolatile Organics by USEPA Method 8270 data for 128479-10 continued...

Analyte	Result (ug/kg)		RL	MDL	Flags
2,4,6-Trichlorophenol	ND		51.9	8.2	
2,4,5-Trichlorophenol	ND		51.9	8.05	
2-Chloronaphthalene	ND		20.7	7	
2-Nitroaniline	ND		20.7	5.63	
Dimethylphthalate	ND		104	20.3	
Acenaphthylene	ND		20.7	6.11	
2,6-Dinitrotoluene	ND		51.9	11.1	
3-Nitroaniline	ND		104	30.4	
Acenaphthene	ND		20.7	5.32	
2,4-Dinitrophenol	ND		519	72.5	
4-Nitrophenol	ND		519	84.9	
Dibenzofuran	ND		51.9	4.79	
2,4-Dinitrotoluene	ND		104	17.6	
Diethylphthalate	ND		104	37.4	
4-Chlorophenylphenylether	ND		104	22.3	
Fluorene	ND		20.7	6.7	
4-Nitroaniline	ND		207	42.5	
4,6-Dinitro-2-methylphenol	ND		104	18.7	
N-Nitrosodiphenylamine	ND		20.7	5.93	
4-Bromophenylphenylether	ND		104	19.1	
Hexachlorobenzene	ND		20.7	5.49	
Pentachlorophenol		33.1	104	20.1	J
Phenanthrene	ND		20.7	6.16	
Anthracene	ND		20.7	3.94	
Di-n-butylphthalate		19.1	104	18.9	J
Fluoranthene	ND		20.7	10.5	
Pyrene	ND		20.7	3.53	
Butylbenzylphthalate	ND		207	22.2	
3,3'-Dichlorobenzidine	ND		207	45	
Benzo(a)anthracene	ND		20.7	10.5	
Chrysene	ND		20.7	7.42	
bis(2-Ethylhexyl)phthalate	ND		207	19	
Di-n-octylphthalate	ND		207	19.1	
Benzofluoranthenes	ND		41.5	9.4	
Benzo(a)pyrene	ND		20.7	6.57	
Indeno(1,2,3-cd)pyrene	ND		20.7	4.73	
Dibenz(a,h)anthracene	ND		20.7	6.44	
Benzo(g,h,i)perylene	ND		20.7	4.99	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSP1000
Lab ID:	128479-11
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	90.96
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	128		36	145
Phenol - d5	102		38	149
Nitrobenzene - d5	94.4		38	141
2 - Fluorobiphenyl	108		42	140
2,4,6 - Tribromophenol	91.8		28	143
p - Terphenyl - d14	103		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	54	7.81	
bis(2-Chloroethyl)ether	ND	108	17	
2-Chlorophenol	ND	54	7.27	
1,3-Dichlorobenzene	ND	54	9.21	
1,4-Dichlorobenzene	ND	54	9.09	
Benzyl Alcohol	ND	54	21.5	
1,2-Dichlorobenzene	ND	54	7.34	
2-Methylphenol	ND	54	10.2	
bis(2-Chloroisopropyl)ether	~~ND~~ 270 VJ	270	86.4	
3-&4-Methylphenol	ND	54	12.8	
N-nitroso-di-n-propylamine	ND	54	14.5	
Hexachloroethane	ND	54	18.3	
Nitrobenzene	ND	108	32.5	
Isophorone	ND	108	5.45	
2-Nitrophenol	ND	54	12.3	
2,4-Dimethylphenol	ND	21.6	8.27	
Benzoic Acid	ND	648	173	
bis(2-Chloroethoxy)methane	ND	108	20.8	
2,4-Dichlorophenol	ND	54	9.59	
1,2,4-Trichlorobenzene	ND	54	9.18	
Naphthalene	ND	21.6	9.58	
4-Chloroaniline	ND	108	10.1	
Hexachlorobutadiene	ND	54	7.9	
4-Chloro-3-methylphenol	ND	54	9.65	
2-Methylnaphthalene	ND	21.6	5.62	
Hexachlorocyclopentadiene	ND	54	8.57	

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Semivolatile Organics by USEPA Method 8270 data for 128479-11 continued...

Analyte	Result (ug/kg)		RL	MDL	Flags
2,4,6-Trichlorophenol	ND		54	8.55	
2,4,5-Trichlorophenol	ND		54	8.39	
2-Chloronaphthalene	ND		21.6	7.3	
2-Nitroaniline	ND		21.6	5.87	
Dimethylphthalate	ND		108	21.2	
Acenaphthylene	ND		21.6	6.37	
2,6-Dinitrotoluene	ND		54	11.6	
3-Nitroaniline	ND		108	31.7	
Acenaphthene	ND		21.6	5.54	
2,4-Dinitrophenol	ND		540	75.5	
4-Nitrophenol	ND		540	88.5	
Dibenzofuran	ND		54	4.99	
2,4-Dinitrotoluene	ND		108	18.4	
Diethylphthalate	ND		108	39	
4-Chlorophenylphenylether	ND		108	23.2	
Fluorene	ND		21.6	6.98	
4-Nitroaniline	ND		216	44.3	
4,6-Dinitro-2-methylphenol	ND		108	19.5	
N-Nitrosodiphenylamine	ND		21.6	6.18	
4-Bromophenylphenylether	ND		108	19.9	
Hexachlorobenzene	ND		21.6	5.72	
Pentachlorophenol	ND		108	21	
Phenanthrene	ND		21.6	6.42	
Anthracene	ND		21.6	4.11	
Di-n-butylphthalate	ND		108	19.7	
Fluoranthene	ND		21.6	10.9	
Pyrene	ND		21.6	3.67	
Butylbenzylphthalate	ND		216	23.1	
3,3'-Dichlorobenzidine	ND		216	46.9	
Benzo(a)anthracene	ND		21.6	10.9	
Chrysene	ND		21.6	7.73	
bis(2-Ethylhexyl)phthalate		23.1	216	19.8	J
Di-n-octylphthalate	ND		216	19.9	
Benzofluoranthenes	ND		43.2	9.79	
Benzo(a)pyrene	ND		21.6	6.84	
Indeno(1,2,3-cd)pyrene	ND		21.6	4.93	
Dibenz(a,h)anthracene	ND		21.6	6.71	
Benzo(g,h,i)perylene	ND		21.6	5.2	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSW0100
Lab ID:	128479-12
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	76.45
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	118		36	145
Phenol - d5	97.5		38	149
Nitrobenzene - d5	101		38	141
2 - Fluorobiphenyl	101		42	140
2,4,6 - Tribromophenol	95.1		28	143
p - Terphenyl - d14	105		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	57	8.24	
bis(2-Chloroethyl)ether	ND	114	17.9	
2-Chlorophenol	ND	57	7.67	
1,3-Dichlorobenzene	ND	57	9.71	
1,4-Dichlorobenzene	ND	57	9.58	
Benzyl Alcohol	ND	57	22.7	
1,2-Dichlorobenzene	ND	57	7.74	
2-Methylphenol	ND	57	10.8	
bis(2-Chloroisopropyl)ether	~~ND~~ 265 UJ	285	91	
3-&4-Methylphenol	ND	57	13.4	
N-nitroso-di-n-propylamine	ND	57	15.3	
Hexachloroethane	ND	57	19.3	
Nitrobenzene	ND	114	34.3	
Isophorone	ND	114	5.74	
2-Nitrophenol	ND	57	13	
2,4-Dimethylphenol	ND	22.8	8.72	
Benzoic Acid	ND	684	182	
bis(2-Chloroethoxy)methane	ND	114	21.9	
2,4-Dichlorophenol	ND	57	10.1	
1,2,4-Trichlorobenzene	ND	57	9.67	
Naphthalene	ND	22.8	10.1	
4-Chloroaniline	ND	114	10.6	
Hexachlorobutadiene	ND	57	8.33	
4-Chloro-3-methylphenol	ND	57	10.2	
2-Methylnaphthalene	ND	22.8	5.92	
Hexachlorocyclopentadiene	ND	57	9.03	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-12 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	57	9.01	
2,4,5-Trichlorophenol	ND	57	8.84	
2-Chloronaphthalene	ND	22.8	7.69	
2-Nitroaniline	ND	22.8	6.19	
Dimethylphthalate	ND	114	22.3	
Acenaphthylene	ND	22.8	6.71	
2,6-Dinitrotoluene	ND	57	12.2	
3-Nitroaniline	ND	114	33.4	
Acenaphthene	ND	22.8	5.84	
2,4-Dinitrophenol	ND	570	79.6	
4-Nitrophenol	ND	570	93.3	
Dibenzofuran	ND	57	5.26	
2,4-Dinitrotoluene	ND	114	19.4	
Diethylphthalate	ND	114	41.1	
4-Chlorophenylphenylether	ND	114	24.5	
Fluorene	ND	22.8	7.36	
4-Nitroaniline	ND	228	46.7	
4,6-Dinitro-2-methylphenol	ND	114	20.5	
N-Nitrosodiphenylamine	ND	22.8	6.52	
4-Bromophenylphenylether	ND	114	21	
Hexachlorobenzene	ND	22.8	6.03	
Pentachlorophenol	66.2	114	22.1	J
Phenanthrene	ND	22.8	6.77	
Anthracene	ND	22.8	4.33	
Di-n-butylphthalate	ND	114	20.7	
Fluoranthene	ND	22.8	11.5	
Pyrene	ND	22.8	3.87	
Butylbenzylphthalate	ND	228	24.4	
3,3'-Dichlorobenzidine	ND	228	49.4	
Benzo(a)anthracene	ND	22.8	11.5	
Chrysene	ND	22.8	8.15	
bis(2-Ethylhexyl)phthalate	36.5	228	20.8	J
Di-n-octylphthalate	ND	228	21	
Benzofluoranthenes	ND	45.6	10.3	
Benzo(a)pyrene	ND	22.8	7.21	
Indeno(1,2,3-cd)pyrene	ND	22.8	5.2	
Dibenz(a,h)anthracene	ND	22.8	7.08	
Benzo(g,h,i)perylene	ND	22.8	5.48	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSW0400
Lab ID:	128479-13
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	79.25
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	121		36	145
Phenol - d5	89.8		38	149
Nitrobenzene - d5	104		38	141
2 - Fluorobiphenyl	90.8		42	140
2,4,6 - Tribromophenol	92.2		28	143
p - Terphenyl - d14	96.1		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	57.3	8.28	
bis(2-Chloroethyl)ether	ND	115	18	
2-Chlorophenol	ND	57.3	7.71	
1,3-Dichlorobenzene	ND	57.3	9.76	
1,4-Dichlorobenzene	ND	57.3	9.63	
Benzyl Alcohol	ND	57.3	22.8	
1,2-Dichlorobenzene	ND	57.3	7.78	
2-Methylphenol	ND	57.3	10.8	
bis(2-Chloroisopropyl)ether	~~ND~~ 286 U J	286	91.5	
3-&4-Methylphenol	ND	57.3	13.5	
N-nitroso-di-n-propylamine	ND	57.3	15.4	
Hexachloroethane	ND	57.3	19.4	
Nitrobenzene	ND	115	34.5	
Isophorone	ND	115	5.77	
2-Nitrophenol	ND	57.3	13.1	
2,4-Dimethylphenol	ND	22.9	8.76	
Benzoic Acid	ND	687	183	
bis(2-Chloroethoxy)methane	ND	115	22	
2,4-Dichlorophenol	ND	57.3	10.2	
1,2,4-Trichlorobenzene	ND	57.3	9.73	
Naphthalene	ND	22.9	10.1	
4-Chloroaniline	ND	115	10.7	
Hexachlorobutadiene	ND	57.3	8.37	
4-Chloro-3-methylphenol	ND	57.3	10.2	
2-Methylnaphthalene	ND	22.9	5.96	
Hexachlorocyclopentadiene	ND	57.3	9.08	

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Semivolatile Organics by USEPA Method 8270 data for 128479-13 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		57.3	9.06	
2,4,5-Trichlorophenol	ND		57.3	8.89	
2-Chloronaphthalene	ND		22.9	7.73	
2-Nitroaniline	ND		22.9	6.22	
Dimethylphthalate	ND		115	22.5	
Acenaphthylene	ND		22.9	6.75	
2,6-Dinitrotoluene	ND		57.3	12.3	
3-Nitroaniline	ND		115	33.6	
Acenaphthene	ND		22.9	5.88	
2,4-Dinitrophenol	ND		573	80.1	
4-Nitrophenol	ND		573	93.8	
Dibenzofuran	ND		57.3	5.29	
2,4-Dinitrotoluene	ND		115	19.5	
Diethylphthalate	ND		115	41.4	
4-Chlorophenylphenylether	ND		115	24.6	
Fluorene	ND		22.9	7.4	
4-Nitroaniline	ND		229	47	
4,6-Dinitro-2-methylphenol	ND		115	20.6	
N-Nitrosodiphenylamine	ND		22.9	6.55	
4-Bromophenylphenylether	ND		115	21.1	
Hexachlorobenzene	ND		22.9	6.06	
Pentachlorophenol	ND		115	22.2	
Phenanthrene	ND		22.9	6.8	
Anthracene	ND		22.9	4.35	
Di-n-butylphthalate	ND		115	20.8	
Fluoranthene	ND		22.9	11.6	
Pyrene	ND		22.9	3.89	
Butylbenzylphthalate	ND		229	24.5	
3,3'-Dichlorobenzidine	ND		229	49.7	
Benzo(a)anthracene	ND		22.9	11.6	
Chrysene	ND		22.9	8.19	
bis(2-Ethylhexyl)phthalate		25.2	229	21	J
Di-n-octylphthalate	ND		229	21.1	
Benzofluoranthenes	ND		45.8	10.4	
Benzo(a)pyrene	ND		22.9	7.25	
Indeno(1,2,3-cd)pyrene	ND		22.9	5.22	
Dibenz(a,h)anthracene	ND		22.9	7.11	
Benzo(g,h,i)perylene	ND		22.9	5.51	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSW0500
Lab ID:	128479-14
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	78.37
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	120		36	145
Phenol - d5	91.1		38	149
Nitrobenzene - d5	92.9		38	141
2 - Fluorobiphenyl	99.2		42	140
2,4,6 - Tribromophenol	94		28	143
p - Terphenyl - d14	96.9		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	63.8	9.22	
bis(2-Chloroethyl)ether	ND	128	20	
2-Chlorophenol	ND	63.8	8.58	
1,3-Dichlorobenzene	ND	63.8	10.9	
1,4-Dichlorobenzene	ND	63.8	10.7	
Benzyl Alcohol	ND	63.8	25.4	
1,2-Dichlorobenzene	ND	63.8	8.66	
2-Methylphenol	ND	63.8	12	
bis(2-Chloroisopropyl)ether	~~ND~~ 319 UJ	319	102	
3-&4-Methylphenol	ND	63.8	15.1	
N-nitroso-di-n-propylamine	ND	63.8	17.1	
Hexachloroethane	ND	63.8	21.6	
Nitrobenzene	ND	128	38.4	
Isophorone	ND	128	6.43	
2-Nitrophenol	ND	63.8	14.5	
2,4-Dimethylphenol	ND	25.5	9.76	
Benzoic Acid	ND	765	204	
bis(2-Chloroethoxy)methane	ND	128	24.5	
2,4-Dichlorophenol	ND	63.8	11.3	
1,2,4-Trichlorobenzene	ND	63.8	10.8	
Naphthalene	ND	25.5	11.3	
4-Chloroaniline	ND	128	11.9	
Hexachlorobutadiene	ND	63.8	9.32	
4-Chloro-3-methylphenol	ND	63.8	11.4	
2-Methylnaphthalene	ND	25.5	6.63	
Hexachlorocyclopentadiene	ND	63.8	10.1	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-14 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		63.8	10.1	
2,4,5-Trichlorophenol	ND		63.8	9.9	
2-Chloronaphthalene	ND		25.5	8.61	
2-Nitroaniline	ND		25.5	6.93	
Dimethylphthalate	ND		128	25	
Acenaphthylene	ND		25.5	7.51	
2,6-Dinitrotoluene	ND		63.8	13.6	
3-Nitroaniline	ND		128	37.4	
Acenaphthene	ND		25.5	6.54	
2,4-Dinitrophenol	ND		638	89.2	
4-Nitrophenol	ND		638	104	
Dibenzofuran	ND		63.8	5.89	
2,4-Dinitrotoluene	ND		128	21.7	
Diethylphthalate	ND		128	46	
4-Chlorophenylphenylether	ND		128	27.4	
Fluorene	ND		25.5	8.24	
4-Nitroaniline	ND		255	52.3	
4,6-Dinitro-2-methylphenol	ND		128	23	
N-Nitrosodiphenylamine	ND		25.5	7.3	
4-Bromophenylphenylether	ND		128	23.5	
Hexachlorobenzene	ND		25.5	6.75	
Pentachlorophenol	ND		128	24.7	
Phenanthrene	ND		25.5	7.58	
Anthracene	ND		25.5	4.85	
Di-n-butylphthalate	ND		128	23.2	
Fluoranthene	ND		25.5	12.9	
Pyrene	ND		25.5	4.34	
Butylbenzylphthalate	ND		255	27.3	
3,3'-Dichlorobenzidine	ND		255	55.4	
Benzo(a)anthracene	ND		25.5	12.9	
Chrysene	ND		25.5	9.12	
bis(2-Ethylhexyl)phthalate		33.3	255	23.3	J
Di-n-octylphthalate	ND		255	23.5	
Benzofluoranthenes	ND		51	11.6	
Benzo(a)pyrene	ND		25.5	8.07	
Indeno(1,2,3-cd)pyrene	ND		25.5	5.82	
Dibenz(a,h)anthracene	ND		25.5	7.92	
Benzo(g,h,i)perylene	ND		25.5	6.14	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSW0600
Lab ID:	128479-15
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	82.97
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	94.3		36	145
Phenol - d5	91.5		38	149
Nitrobenzene - d5	83.4		38	141
2 - Fluorobiphenyl	87		42	140
2,4,6 - Tribromophenol	83.7		28	143
p - Terphenyl - d14	85.7		42	151

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Phenol	ND	50.4	7.29	
bis(2-Chloroethyl)ether	ND	101	15.8	
2-Chlorophenol	ND	50.4	6.79	
1,3-Dichlorobenzene	ND	50.4	8.59	
1,4-Dichlorobenzene	ND	50.4	8.48	
Benzyl Alcohol	ND	50.4	20.1	
1,2-Dichlorobenzene	ND	50.4	6.85	
2-Methylphenol	ND	50.4	9.52	
bis(2-Chloroisopropyl)ether	~~ND~~ 252 UJ	252	80.6	
3-&4-Methylphenol	ND	50.4	11.9	
N-nitroso-di-n-propylamine	ND	50.4	13.5	
Hexachloroethane	ND	50.4	17	
Nitrobenzene	ND	101	30.4	
Isophorone	ND	101	5.08	
2-Nitrophenol	ND	50.4	11.5	
2,4-Dimethylphenol	ND	20.2	7.72	
Benzoic Acid	ND	605	161	
bis(2-Chloroethoxy)methane	ND	101	19.4	
2,4-Dichlorophenol	ND	50.4	8.95	
1,2,4-Trichlorobenzene	ND	50.4	8.56	
Naphthalene	ND	20.2	8.94	
4-Chloroaniline	ND	101	9.38	
Hexachlorobutadiene	ND	50.4	7.37	
4-Chloro-3-methylphenol	ND	50.4	9.01	
2-Methylnaphthalene	ND	20.2	5.25	
Hexachlorocyclopentadiene	ND	50.4	8	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-15 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		50.4	7.98	
2,4,5-Trichlorophenol	ND		50.4	7.83	
2-Chloronaphthalene	ND		20.2	6.81	
2-Nitroaniline	ND		20.2	5.48	
Dimethylphthalate	ND		101	19.8	
Acenaphthylene	ND		20.2	5.94	
2,6-Dinitrotoluene	ND		50.4	10.8	
3-Nitroaniline	ND		101	29.6	
Acenaphthene	ND		20.2	5.17	
2,4-Dinitrophenol	ND		504	70.5	
4-Nitrophenol	ND		504	82.6	
Dibenzofuran	ND		50.4	4.66	
2,4-Dinitrotoluene	ND		101	17.1	
Diethylphthalate	ND		101	36.4	
4-Chlorophenylphenylether	ND		101	21.7	
Fluorene	ND		20.2	6.52	
4-Nitroaniline	ND		202	41.4	
4,6-Dinitro-2-methylphenol	ND		101	18.2	
N-Nitrosodiphenylamine	ND		20.2	5.77	
4-Bromophenylphenylether	ND		101	18.6	
Hexachlorobenzene	ND		20.2	5.34	
Pentachlorophenol		129	101	19.6	
Phenanthrene	ND		20.2	5.99	
Anthracene	ND		20.2	3.83	
Di-n-butylphthalate		22.7	101	18.4	J
Fluoranthene	ND		20.2	10.2	
Pyrene	ND		20.2	3.43	
Butylbenzylphthalate	ND		202	21.6	
3,3'-Dichlorobenzidine	ND		202	43.8	
Benzo(a)anthracene	ND		20.2	10.2	
Chrysene	ND		20.2	7.21	
bis(2-Ethylhexyl)phthalate	ND		202	18.5	
Di-n-octylphthalate	ND		202	18.6	
Benzofluoranthenes	ND		40.3	9.14	
Benzo(a)pyrene	ND		20.2	6.39	
Indeno(1,2,3-cd)pyrene	ND		20.2	4.6	
Dibenz(a,h)anthracene	ND		20.2	6.26	
Benzo(g,h,i)perylene	ND		20.2	4.85	

12/12/15

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1109
Lab ID:	128479-16
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	81.29
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	109		36	145
Phenol - d5	85.3		38	149
2 - Fluorobiphenyl	91.6		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	38.5	109	21.1	J

12/12/05

00037

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1111
Lab ID:	128479-17
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	86.3
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	125		36	145
Phenol - d5	115		38	149
2 - Fluorobiphenyl	72.7		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	24200	112	21.6	D100

GP 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1111D
Lab ID:	128479-18
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	89.85
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	107		36	145
Phenol - d5	98.6		38	149
2 - Fluorobiphenyl	83.2		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	25700	105	20.4	D10

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1204
Lab ID:	128479-19
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/25/2005
% Solids	64.41
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	127		36	145
Phenol - d5	114		38	149
2 - Fluorobiphenyl	98.1		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	498	143	27.8	

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1204D
Lab ID:	128479-20
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/25/2005
% Solids	64.04
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	107		36	145
Phenol - d5	95.5		38	149
2 - Fluorobiphenyl	95.1		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	187	151	29.3	

gc 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1208
Lab ID:	128479-21
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	88.36
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	123		36	145
Phenol - d5	105		38	149
2 - Fluorobiphenyl	99.3		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	20.1	98.9	19.2	J

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00042

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1306
Lab ID:	128479-22
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	32.9
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	135		36	145
Phenol - d5	117		38	149
2 - Fluorobiphenyl	91		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	126	284	55.1	J

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STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1308
Lab ID:	128479-23
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	89.34
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	119		36	145
Phenol - d5	98.7		38	149
2 - Fluorobiphenyl	95.9		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	27.8	107	20.8	J

12/12/05

00044

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1100
Lab ID:	128479-24
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	74.27
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	110		36	145
Phenol - d5	92		38	149
Nitrobenzene - d5	96.6		38	141
2 - Fluorobiphenyl	103		42	140
2,4,6 - Tribromophenol	96.4		28	143
p - Terphenyl - d14	116		42	151

Sample results are on a dry weight basis.

Analyte		**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Phenol	ND		62.6	9.05	
bis(2-Chloroethyl)ether	ND		125	19.7	
2-Chlorophenol	ND		62.6	8.43	
1,3-Dichlorobenzene	ND		62.6	10.7	
1,4-Dichlorobenzene	ND		62.6	10.5	
Benzyl Alcohol	ND		62.6	24.9	
1,2-Dichlorobenzene	ND		62.6	8.5	
2-Methylphenol	ND		62.6	11.8	
bis(2-Chloroisopropyl)ether	ND		313	100	
3-&4-Methylphenol	ND		62.6	14.8	
N-nitroso-di-n-propylamine	ND		62.6	16.8	
Hexachloroethane	ND		62.6	21.2	
Nitrobenzene	ND		125	37.7	
Isophorone	ND		125	6.31	
2-Nitrophenol	ND		62.6	14.3	
2,4-Dimethylphenol	ND		25	9.58	
Benzoic Acid	ND		751	200	
bis(2-Chloroethoxy)methane	ND		125	24	
2,4-Dichlorophenol	ND		62.6	11.1	
1,2,4-Trichlorobenzene	ND		62.6	10.6	
Naphthalene	ND		25	11.1	
4-Chloroaniline	ND		125	11.6	
Hexachlorobutadiene	ND		62.6	9.15	
4-Chloro-3-methylphenol	ND		62.6	11.2	
2-Methylnaphthalene		17.9	25	6.51	J
Hexachlorocyclopentadiene	ND		62.6	9.93	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-24 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		62.6	9.9	
2,4,5-Trichlorophenol	ND		62.6	9.72	
2-Chloronaphthalene	ND		25	8.45	
2-Nitroaniline	ND		25	6.8	
Dimethylphthalate	ND		125	24.5	
Acenaphthylene	ND		25	7.37	
2,6-Dinitrotoluene	ND		62.6	13.4	
3-Nitroaniline	ND		125	36.7	
Acenaphthene	ND		25	6.42	
2,4-Dinitrophenol	ND		626	87.5	
4-Nitrophenol	ND		626	103	
Dibenzofuran	ND		62.6	5.78	
2,4-Dinitrotoluene	ND		125	21.3	
Diethylphthalate	ND		125	45.2	
4-Chlorophenylphenylether	ND		125	26.9	
Fluorene		33.7	25	8.09	
4-Nitroaniline	ND		250	51.3	
4,6-Dinitro-2-methylphenol	ND		125	22.5	
N-Nitrosodiphenylamine	ND		25	7.16	
4-Bromophenylphenylether	ND		125	23	
Hexachlorobenzene	ND		25	6.62	
Pentachlorophenol		4230	125	24.3	~~D10~~
Phenanthrene		46	25	7.44	
Anthracene		19.2	25	4.76	J
Di-n-butylphthalate	ND		125	22.8	
Fluoranthene	ND		25	12.6	
Pyrene	ND		25	4.26	
Butylbenzylphthalate	ND		250	26.8	
3,3'-Dichlorobenzidine	ND		250	54.3	
Benzo(a)anthracene	ND		25	12.6	
Chrysene	ND		25	8.95	
bis(2-Ethylhexyl)phthalate		131	250	22.9	J
Di-n-octylphthalate	ND		250	23	
Benzofluoranthenes	ND		50.1	11.3	
Benzo(a)pyrene	ND		25	7.92	
Indeno(1,2,3-cd)pyrene	ND		25	5.71	
Dibenz(a,h)anthracene	ND		25	7.77	
Benzo(g,h,i)perylene	ND		25	6.02	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1200
Lab ID:	128479-25
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	75.14
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	125		36	145
Phenol - d5	109		38	149
Nitrobenzene - d5	109		38	141
2 - Fluorobiphenyl	93.3		42	140
2,4,6 - Tribromophenol	88.7		28	143
p - Terphenyl - d14	92.9		42	151

Sample results are on a dry weight basis.

		Result			
Analyte		**(ug/kg)**	**RL**	**MDL**	**Flags**
Phenol	ND		65.2	9.43	
bis(2-Chloroethyl)ether	ND		130	20.5	
2-Chlorophenol	ND		65.2	8.78	
1,3-Dichlorobenzene	ND		65.2	11.1	
1,4-Dichlorobenzene	ND		65.2	11	
Benzyl Alcohol	ND		65.2	26	
1,2-Dichlorobenzene	ND		65.2	8.85	
2-Methylphenol	ND		65.2	12.3	
bis(2-Chloroisopropyl)ether	ND		326	104	
3-&4-Methylphenol	ND		65.2	15.4	
N-nitroso-di-n-propylamine	ND		65.2	17.5	
Hexachloroethane	ND		65.2	22	
Nitrobenzene	ND		130	39.3	
Isophorone	ND		130	6.57	
2-Nitrophenol	ND		65.2	14.9	
2,4-Dimethylphenol	ND		26.1	9.98	
Benzoic Acid	ND		782	209	
bis(2-Chloroethoxy)methane	ND		130	25	
2,4-Dichlorophenol	ND		65.2	11.6	
1,2,4-Trichlorobenzene	ND		65.2	11.1	
Naphthalene		39.2	26.1	11.6	
4-Chloroaniline	ND		130	12.1	
Hexachlorobutadiene	ND		65.2	9.53	
4-Chloro-3-methylphenol	ND		65.2	11.6	
2-Methylnaphthalene		193	26.1	6.78	
Hexachlorocyclopentadiene	ND		65.2	10.3	

12/12/05

STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-25 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		65.2	10.3	
2,4,5-Trichlorophenol	ND		65.2	10.1	
2-Chloronaphthalene	ND		26.1	8.8	
2-Nitroaniline	ND		26.1	7.08	
Dimethylphthalate	ND		130	25.6	
Acenaphthylene	ND		26.1	7.68	
2,6-Dinitrotoluene	ND		65.2	14	
3-Nitroaniline	ND		130	38.2	
Acenaphthene	ND		26.1	6.69	
2,4-Dinitrophenol	ND		652	91.2	
4-Nitrophenol	ND		652	107	
Dibenzofuran	ND		65.2	6.02	
2,4-Dinitrotoluene	ND		130	22.2	
Diethylphthalate	ND		130	47.1	
4-Chlorophenylphenylether	ND		130	28	
Fluorene	ND		26.1	8.42	
4-Nitroaniline	ND		261	53.5	
4,6-Dinitro-2-methylphenol	ND		130	23.5	
N-Nitrosodiphenylamine	ND		26.1	7.46	
4-Bromophenylphenylether	ND		130	24	
Hexachlorobenzene	ND		26.1	6.9	
Pentachlorophenol		31300	130	25.3	~~D10~~
Phenanthrene		184	26.1	7.75	
Anthracene		24.7	26.1	4.96	J
Di-n-butylphthalate	ND		130	23.7	
Fluoranthene	ND		26.1	13.2	
Pyrene	ND		26.1	4.43	
Butylbenzylphthalate	ND		261	27.9	
3,3'-Dichlorobenzidine	ND		261	56.6	
Benzo(a)anthracene	ND		26.1	13.2	
Chrysene	ND		26.1	9.32	
bis(2-Ethylhexyl)phthalate		115	261	23.9	J
Di-n-octylphthalate	ND		261	24	
Benzofluoranthenes	ND		52.2	11.8	
Benzo(a)pyrene	ND		26.1	8.25	
Indeno(1,2,3-cd)pyrene	ND		26.1	5.95	
Dibenz(a,h)anthracene	ND		26.1	8.1	
Benzo(g,h,i)perylene	ND		26.1	6.27	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1200D
Lab ID:	128479-26
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	77.62
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2 - Fluorophenol	119		36	145
Phenol - d5	109		38	149
Nitrobenzene - d5	97.1		38	141
2 - Fluorobiphenyl	102		42	140
2,4,6 - Tribromophenol	102		28	143
p - Terphenyl - d14	112		42	151

Sample results are on a dry weight basis.

Analyte		Result (ug/kg)	RL	MDL	Flags
Phenol	ND		60.7	8.78	
bis(2-Chloroethyl)ether	ND		121	19.1	
2-Chlorophenol	ND		60.7	8.17	
1,3-Dichlorobenzene	ND		60.7	10.3	
1,4-Dichlorobenzene	ND		60.7	10.2	
Benzyl Alcohol	ND		60.7	24.2	
1,2-Dichlorobenzene	ND		60.7	8.24	
2-Methylphenol	ND		60.7	11.5	
bis(2-Chloroisopropyl)ether	ND		303	97	
3-&4-Methylphenol	ND		60.7	14.3	
N-nitroso-di-n-propylamine	ND		60.7	16.3	
Hexachloroethane	ND		60.7	20.5	
Nitrobenzene	ND		121	36.5	
Isophorone	ND		121	6.12	
2-Nitrophenol	ND		60.7	13.8	
2,4-Dimethylphenol	ND		24.3	9.29	
Benzoic Acid	ND		728	194	
bis(2-Chloroethoxy)methane	ND		121	23.3	
2,4-Dichlorophenol	ND		60.7	10.8	
1,2,4-Trichlorobenzene	ND		60.7	10.3	
Naphthalene		21.1	24.3	10.8	J
4-Chloroaniline	ND		121	11.3	
Hexachlorobutadiene	ND		60.7	8.87	
4-Chloro-3-methylphenol	ND		60.7	10.8	
2-Methylnaphthalene		117	24.3	6.31	
Hexachlorocyclopentadiene	ND		60.7	9.62	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-26 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		60.7	9.6	
2,4,5-Trichlorophenol	ND		60.7	9.42	
2-Chloronaphthalene	ND		24.3	8.19	
2-Nitroaniline	ND		24.3	6.59	
Dimethylphthalate	ND		121	23.8	
Acenaphthylene	ND		24.3	7.15	
2,6-Dinitrotoluene	ND		60.7	13	
3-Nitroaniline	ND		121	35.6	
Acenaphthene	ND		24.3	6.23	
2,4-Dinitrophenol	ND		607	84.8	
4-Nitrophenol	ND		607	99.4	
Dibenzofuran	ND		60.7	5.61	
2,4-Dinitrotoluene	ND		121	20.6	
Diethylphthalate	ND		121	43.8	
4-Chlorophenylphenylether	ND		121	26.1	
Fluorene		116	24.3	7.84	
4-Nitroaniline	ND		243	49.8	
4,6-Dinitro-2-methylphenol	ND		121	21.8	
N-Nitrosodiphenylamine	ND		24.3	6.94	
4-Bromophenylphenylether	ND		121	22.3	
Hexachlorobenzene	ND		24.3	6.42	
Pentachlorophenol		22200	121	23.5	~~D10~~
Phenanthrene		191	24.3	7.21	
Anthracene		29.6	24.3	4.61	
Di-n-butylphthalate	ND		121	22.1	
Fluoranthene	ND		24.3	12.3	
Pyrene		155	24.3	4.13	
Butylbenzylphthalate	ND		243	26	
3,3'-Dichlorobenzidine	ND		243	52.7	
Benzo(a)anthracene	ND		24.3	12.3	
Chrysene	ND		24.3	8.68	
bis(2-Ethylhexyl)phthalate	ND		243	22.2	
Di-n-octylphthalate	ND		243	22.3	
Benzofluoranthenes	ND		48.5	11	
Benzo(a)pyrene	ND		24.3	7.68	
Indeno(1,2,3-cd)pyrene	ND		24.3	5.53	
Dibenz(a,h)anthracene	ND		24.3	7.54	
Benzo(g,h,i)perylene	ND		24.3	5.84	

qm 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1300
Lab ID:	128479-27
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	87.85
Dilution Factor	1

Semivolatile Organics by EPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	117		36	145
Phenol - d5	115		38	149
Nitrobenzene - d5	177	X9	38	141
2 - Fluorobiphenyl	218	X9	42	140
2,4,6 - Tribromophenol	16.7	X9	28	143
p - Terphenyl - d14	148		42	151

Sample results are on a dry weight basis.

Analyte		Result (ug/kg)	RL	MDL	Flags
Phenol	ND		53.3	7.71	
bis(2-Chloroethyl)ether	ND		107	16.7	
2-Chlorophenol	ND		53.3	7.17	
1,3-Dichlorobenzene	ND		53.3	9.08	
1,4-Dichlorobenzene	ND		53.3	8.96	
Benzyl Alcohol	ND		53.3	21.2	
1,2-Dichlorobenzene	ND		53.3	7.24	
2-Methylphenol	ND		53.3	10.1	
bis(2-Chloroisopropyl)ether	~~ND~~ 266 UJ		266	85.2	
3-&4-Methylphenol	ND		53.3	12.6	
N-nitroso-di-n-propylamine	ND		53.3	14.3	
Hexachloroethane	ND		53.3	18	
Nitrobenzene	ND		107	32.1	
Isophorone	ND		107	5.37	
2-Nitrophenol	ND		53.3	12.2	
2,4-Dimethylphenol	ND		21.3	8.15	
Benzoic Acid	ND		640	171	
bis(2-Chloroethoxy)methane	ND		107	20.5	
2,4-Dichlorophenol	ND		53.3	9.46	
1,2,4-Trichlorobenzene	ND		53.3	9.05	
Naphthalene	ND		21.3	9.44	
4-Chloroaniline	ND		107	9.91	
Hexachlorobutadiene	ND		53.3	7.79	
4-Chloro-3-methylphenol	ND		53.3	9.52	
2-Methylnaphthalene	ND		21.3	5.54	
Hexachlorocyclopentadiene	ND		53.3	8.45	

GR 12/12/05

STL Seattle

Semivolatile Organics by EPA Method 8270 data for 128479-27 continued...

Analyte		Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND		53.3	8.43	
2,4,5-Trichlorophenol	ND		53.3	8.27	
2-Chloronaphthalene	ND		21.3	7.2	
2-Nitroaniline	ND		21.3	5.79	
Dimethylphthalate	ND		107	20.9	
Acenaphthylene	ND		21.3	6.28	
2,6-Dinitrotoluene	ND		53.3	11.4	
3-Nitroaniline	ND		107	31.2	
Acenaphthene	ND		21.3	5.47	
2,4-Dinitrophenol	ND		533	74.5	
4-Nitrophenol	ND		533	87.3	
Dibenzofuran	ND		53.3	4.92	
2,4-Dinitrotoluene	ND		107	18.1	
Diethylphthalate	ND		107	38.5	
4-Chlorophenylphenylether	ND		107	22.9	
Fluorene	ND		21.3	6.89	
4-Nitroaniline	ND		213	43.7	
4,6-Dinitro-2-methylphenol	ND		107	19.2	
N-Nitrosodiphenylamine	ND		21.3	6.1	
4-Bromophenylphenylether	ND		107	19.6	
Hexachlorobenzene	ND		21.3	5.64	
Pentachlorophenol		280000	107	20.7	~~D100~~
Phenanthrene	ND		21.3	6.33	
Anthracene	ND		21.3	4.05	
Di-n-butylphthalate	ND		107	19.4	
Fluoranthene	ND		21.3	10.8	
Pyrene		812	21.3	3.62	
Butylbenzylphthalate	ND		213	22.8	
3,3'-Dichlorobenzidine	ND		213	46.3	
Benzo(a)anthracene	ND		21.3	10.8	
Chrysene	ND		21.3	7.62	
bis(2-Ethylhexyl)phthalate	ND		213	19.5	
Di-n-octylphthalate	ND		213	19.6	
Benzofluoranthenes	ND		42.6	9.66	
Benzo(a)pyrene	ND		21.3	6.75	
Indeno(1,2,3-cd)pyrene	ND		21.3	4.86	
Dibenz(a,h)anthracene	ND		21.3	6.62	
Benzo(g,h,i)perylene	ND		21.3	5.13	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBH0501
Lab ID:	128479-28
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/25/2005
% Solids	93.78
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	116		36	145
Phenol - d5	95.4		38	149
2 - Fluorobiphenyl	101		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	10300	103	19.9	~~D10~~

12/12/05

00053

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBH0604
Lab ID:	128479-29
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	91.09
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	123		36	145
Phenol - d5	99.2		38	149
2 - Fluorobiphenyl	108		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	235	105	20.4	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBH0704
Lab ID:	128479-30
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	81.63
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	114		36	145
Phenol - d5	105		38	149
2 - Fluorobiphenyl	96.6		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	1390	120	23.3	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBH0801
Lab ID:	128479-31
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	83.8
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	118		36	145
Phenol - d5	108		38	149
2 - Fluorobiphenyl	104		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	5800	111	21.6	~~D10~~

12/12/05

00056

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBP0102
Lab ID:	128479-32
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	82.89
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	122		36	145
Phenol - d5	104		38	149
2 - Fluorobiphenyl	105		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	52.4	118	22.9	J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBP0104
Lab ID:	128479-33
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	91.67
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	121		36	145
Phenol - d5	107		38	149
2 - Fluorobiphenyl	109		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	ND	102	19.7	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBP0204
Lab ID:	128479-34
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	85.04
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	144		36	145
Phenol - d5	107		38	149
2 - Fluorobiphenyl	108		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	ND	113	21.9	

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65000

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBP0302
Lab ID:	128479-35
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	94.7
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	110		36	145
Phenol - d5	93.9		38	149
2 - Fluorobiphenyl	97.4		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	20500	95.3	18.5	~~D10~~

gc 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBP0401
Lab ID:	128479-36
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	90
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	145		36	145
Phenol - d5	115		38	149
2 - Fluorobiphenyl	108		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	56	109	21.1	J

gc 12/12/05

19008

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBP0505
Lab ID:	128479-37
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/28/2005
% Solids	84.53
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	92.8		36	145
Phenol - d5	103		38	149
2 - Fluorobiphenyl	107		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	ND	116	22.5	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBP0604
Lab ID:	128479-38
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	73.01
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	129		36	145
Phenol - d5	118		38	149
2 - Fluorobiphenyl	99.7		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	34.7	128	24.8	J

gc 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBW0704
Lab ID:	128479-39
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	89.95
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	113		36	145
Phenol - d5	100		38	149
2 - Fluorobiphenyl	95.3		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	ND	109	21.2	

gf 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBW0804
Lab ID:	128479-40
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	81.35
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	139		36	145
Phenol - d5	118		38	149
2 - Fluorobiphenyl	103		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	ND	112	21.8	

gc 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBW0806
Lab ID:	128479-41
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/26/2005
% Solids	79.3
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	137		36	145
Phenol - d5	112		38	149
2 - Fluorobiphenyl	105		42	140

Sample results are on a dry weight basis.

Analyte		**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	ND		123	23.9	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASSW0200
Lab ID:	128479-42
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/27/2005
% Solids	87.37
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	99.5		36	145
Phenol - d5	112		38	149
Nitrobenzene - d5	103		38	141
2 - Fluorobiphenyl	97.1		42	140
2,4,6 - Tribromophenol	95.5		28	143
p - Terphenyl - d14	106		42	151

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Phenol	ND	57.1	8.25	
bis(2-Chloroethyl)ether	ND	114	17.9	
2-Chlorophenol	ND	57.1	7.68	
1,3-Dichlorobenzene	ND	57.1	9.72	
1,4-Dichlorobenzene	ND	57.1	9.6	
Benzyl Alcohol	ND	57.1	22.7	
1,2-Dichlorobenzene	ND	57.1	7.75	
2-Methylphenol	ND	57.1	10.8	
bis(2-Chloroisopropyl)ether	ND	285	91.2	
3-&4-Methylphenol	ND	57.1	13.5	
N-nitroso-di-n-propylamine	ND	57.1	15.3	
Hexachloroethane	ND	57.1	19.3	
Nitrobenzene	ND	114	34.4	
Isophorone	ND	114	5.75	
2-Nitrophenol	ND	57.1	13	
2,4-Dimethylphenol	ND	22.8	8.73	
Benzoic Acid	ND	685	183	
bis(2-Chloroethoxy)methane	ND	114	21.9	
2,4-Dichlorophenol	ND	57.1	10.1	
1,2,4-Trichlorobenzene	ND	57.1	9.69	
Naphthalene	ND	22.8	10.1	
4-Chloroaniline	ND	114	10.6	
Hexachlorobutadiene	ND	57.1	8.34	
4-Chloro-3-methylphenol	ND	57.1	10.2	
2-Methylnaphthalene	ND	22.8	5.93	
Hexachlorocyclopentadiene	ND	57.1	9.05	

12/12/05

STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-42 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	57.1	9.03	
2,4,5-Trichlorophenol	ND	57.1	8.86	
2-Chloronaphthalene	ND	22.8	7.7	
2-Nitroaniline	ND	22.8	6.2	
Dimethylphthalate	ND	114	22.4	
Acenaphthylene	ND	22.8	6.72	
2,6-Dinitrotoluene	ND	57.1	12.2	
3-Nitroaniline	ND	114	33.4	
Acenaphthene	ND	22.8	5.85	
2,4-Dinitrophenol	ND	571	79.8	
4-Nitrophenol	ND	571	93.5	
Dibenzofuran	ND	57.1	5.27	
2,4-Dinitrotoluene	ND	114	19.4	
Diethylphthalate	ND	114	41.2	
4-Chlorophenylphenylether	ND	114	24.5	
Fluorene	ND	22.8	7.37	
4-Nitroaniline	ND	228	46.8	
4,6-Dinitro-2-methylphenol	ND	114	20.5	
N-Nitrosodiphenylamine	ND	22.8	6.53	
4-Bromophenylphenylether	ND	114	21	
Hexachlorobenzene	ND	22.8	6.04	
Pentachlorophenol	421	114	22.1	
Phenanthrene	7.85	22.8	6.78	J
Anthracene	ND	22.8	4.34	
Di-n-butylphthalate	ND	114	20.8	
Fluoranthene	ND	22.8	11.5	
Pyrene	ND	22.8	3.88	
Butylbenzylphthalate	ND	228	24.4	
3,3'-Dichlorobenzidine	ND	228	49.5	
Benzo(a)anthracene	ND	22.8	11.5	
Chrysene	ND	22.8	8.16	
bis(2-Ethylhexyl)phthalate	~~708~~ 228 U	228	20.9	~~JB1~~
Di-n-octylphthalate	ND	228	21	
Benzofluoranthenes	ND	45.7	10.3	
Benzo(a)pyrene	ND	22.8	7.22	
Indeno(1,2,3-cd)pyrene	ND	22.8	5.2	
Dibenz(a,h)anthracene	ND	22.8	7.09	
Benzo(g,h,i)perylene	ND	22.8	5.49	

gs 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASSW0300
Lab ID:	128479-43
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/27/2005
% Solids	88.11
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	91.6		36	145
Phenol - d5	108		38	149
Nitrobenzene - d5	99.2		38	141
2 - Fluorobiphenyl	86.2		42	140
2,4,6 - Tribromophenol	87.5		28	143
p - Terphenyl - d14	88.2		42	151

Sample results are on a dry weight basis.

		Result			
Analyte		**(ug/kg)**	**RL**	**MDL**	**Flags**
Phenol	ND		56	8.09	
bis(2-Chloroethyl)ether	ND		112	17.6	
2-Chlorophenol	ND		56	7.53	
1,3-Dichlorobenzene	ND		56	9.54	
1,4-Dichlorobenzene	ND		56	9.41	
Benzyl Alcohol	ND		56	22.3	
1,2-Dichlorobenzene	ND		56	7.6	
2-Methylphenol	ND		56	10.6	
bis(2-Chloroisopropyl)ether	ND		280	89.4	
3-&4-Methylphenol	ND		56	13.2	
N-nitroso-di-n-propylamine	ND		56	15	
Hexachloroethane	ND		56	18.9	
Nitrobenzene	ND		112	33.7	
Isophorone	ND		112	5.64	
2-Nitrophenol	ND		56	12.8	
2,4-Dimethylphenol	ND		22.4	8.56	
Benzoic Acid	ND		672	179	
bis(2-Chloroethoxy)methane	ND		112	21.5	
2,4-Dichlorophenol	ND		56	9.93	
1,2,4-Trichlorobenzene	ND		56	9.5	
Naphthalene	ND		22.4	9.92	
4-Chloroaniline	ND		112	10.4	
Hexachlorobutadiene	ND		56	8.18	
4-Chloro-3-methylphenol	ND		56	10	
2-Methylnaphthalene	ND		22.4	5.82	
Hexachlorocyclopentadiene	ND		56	8.88	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-43 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	56	8.85	
2,4,5-Trichlorophenol	ND	56	8.69	
2-Chloronaphthalene	ND	22.4	7.56	
2-Nitroaniline	ND	22.4	6.08	
Dimethylphthalate	ND	112	21.9	
Acenaphthylene	ND	22.4	6.59	
2,6-Dinitrotoluene	ND	56	12	
3-Nitroaniline	ND	112	32.8	
Acenaphthene	ND	22.4	5.74	
2,4-Dinitrophenol	ND	560	78.2	
4-Nitrophenol	ND	560	91.7	
Dibenzofuran	ND	56	5.17	
2,4-Dinitrotoluene	ND	112	19	
Diethylphthalate	ND	112	40.4	
4-Chlorophenylphenylether	ND	112	24.1	
Fluorene	ND	22.4	7.23	
4-Nitroaniline	ND	224	45.9	
4,6-Dinitro-2-methylphenol	ND	112	20.1	
N-Nitrosodiphenylamine	ND	22.4	6.4	
4-Bromophenylphenylether	ND	112	20.6	
Hexachlorobenzene	ND	22.4	5.92	
Pentachlorophenol	86.1	112	21.7	J
Phenanthrene	ND	22.4	6.65	
Anthracene	ND	22.4	4.25	
Di-n-butylphthalate	ND	112	20.4	
Fluoranthene	ND	22.4	11.3	
Pyrene	ND	22.4	3.81	
Butylbenzylphthalate	ND	224	24	
3,3'-Dichlorobenzidine	ND	224	48.6	
Benzo(a)anthracene	ND	22.4	11.3	
Chrysene	ND	22.4	8	
bis(2-Ethylhexyl)phthalate	~~102~~ 224 U	224	20.5	~~J~~ BT
Di-n-octylphthalate	ND	224	20.6	
Benzofluoranthenes	ND	44.8	10.1	
Benzo(a)pyrene	ND	22.4	7.09	
Indeno(1,2,3-cd)pyrene	ND	22.4	5.1	
Dibenz(a,h)anthracene	ND	22.4	6.95	
Benzo(g,h,i)perylene	ND	22.4	5.38	

SM 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASSW0300D
Lab ID:	128479-44
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/27/2005
% Solids	86.59
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	76.4		36	145
Phenol - d5	88.4		38	149
Nitrobenzene - d5	84.1		38	141
2 - Fluorobiphenyl	89.5		42	140
2,4,6 - Tribromophenol	85.7		28	143
p - Terphenyl - d14	94.5		42	151

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Phenol	ND	53.2	7.69	
bis(2-Chloroethyl)ether	ND	106	16.7	
2-Chlorophenol	ND	53.2	7.16	
1,3-Dichlorobenzene	ND	53.2	9.06	
1,4-Dichlorobenzene	ND	53.2	8.95	
Benzyl Alcohol	ND	53.2	21.2	
1,2-Dichlorobenzene	ND	53.2	7.22	
2-Methylphenol	ND	53.2	10	
bis(2-Chloroisopropyl)ether	ND	266	85	
3-&4-Methylphenol	ND	53.2	12.6	
N-nitroso-di-n-propylamine	ND	53.2	14.3	
Hexachloroethane	ND	53.2	18	
Nitrobenzene	ND	106	32	
Isophorone	ND	106	5.36	
2-Nitrophenol	ND	53.2	12.1	
2,4-Dimethylphenol	ND	21.3	8.14	
Benzoic Acid	ND	638	170	
bis(2-Chloroethoxy)methane	ND	106	20.4	
2,4-Dichlorophenol	ND	53.2	9.44	
1,2,4-Trichlorobenzene	ND	53.2	9.03	
Naphthalene	ND	21.3	9.43	
4-Chloroaniline	ND	106	9.89	
Hexachlorobutadiene	ND	53.2	7.78	
4-Chloro-3-methylphenol	ND	53.2	9.5	
2-Methylnaphthalene	ND	21.3	5.53	
Hexachlorocyclopentadiene	ND	53.2	8.44	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-44 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	53.2	8.42	
2,4,5-Trichlorophenol	ND	53.2	8.26	
2-Chloronaphthalene	ND	21.3	7.18	
2-Nitroaniline	ND	21.3	5.78	
Dimethylphthalate	ND	106	20.9	
Acenaphthylene	ND	21.3	6.27	
2,6-Dinitrotoluene	ND	53.2	11.4	
3-Nitroaniline	ND	106	31.2	
Acenaphthene	ND	21.3	5.46	
2,4-Dinitrophenol	ND	532	74.4	
4-Nitrophenol	ND	532	87.1	
Dibenzofuran	ND	53.2	4.92	
2,4-Dinitrotoluene	ND	106	18.1	
Diethylphthalate	ND	106	38.4	
4-Chlorophenylphenylether	ND	106	22.9	
Fluorene	ND	21.3	6.87	
4-Nitroaniline	ND	213	43.6	
4,6-Dinitro-2-methylphenol	ND	106	19.2	
N-Nitrosodiphenylamine	ND	21.3	6.09	
4-Bromophenylphenylether	ND	106	19.6	
Hexachlorobenzene	ND	21.3	5.63	
Pentachlorophenol	56.2	106	20.6	J
Phenanthrene	ND	21.3	6.32	
Anthracene	ND	21.3	4.04	
Di-n-butylphthalate	ND	106	19.4	
Fluoranthene	ND	21.3	10.7	
Pyrene	ND	21.3	3.62	
Butylbenzylphthalate	ND	213	22.8	
3,3'-Dichlorobenzidine	ND	213	46.2	
Benzo(a)anthracene	ND	21.3	10.7	
Chrysene	ND	21.3	7.61	
bis(2-Ethylhexyl)phthalate	~~80.5~~ 213 U	213	19.5	~~JBT~~
Di-n-octylphthalate	ND	213	19.6	
Benzofluoranthenes	ND	42.6	9.64	
Benzo(a)pyrene	ND	21.3	6.73	
Indeno(1,2,3-cd)pyrene	ND	21.3	4.85	
Dibenz(a,h)anthracene	ND	21.3	6.61	
Benzo(g,h,i)perylene	ND	21.3	5.12	

SR 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASSW0800
Lab ID:	128479-45
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/27/2005
% Solids	84.66
Dilution Factor	10

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	71.4		36	145
Phenol - d5	88.8		38	149
Nitrobenzene - d5	110		38	141
2 - Fluorobiphenyl	102		42	140
2,4,6 - Tribromophenol	0	X9	28	143
p - Terphenyl - d14	160	X9	42	151

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Phenol	ND	507	73.3	
bis(2-Chloroethyl)ether	ND	1010	159	
2-Chlorophenol	ND	507	68.3	
1,3-Dichlorobenzene	ND	507	66.4	
1,4-Dichlorobenzene	ND	507	85.3	
Benzyl Alcohol	ND	507	202	
1,2-Dichlorobenzene	ND	507	68.9	
2-Methylphenol	ND	507	95.8	
bis(2-Chloroisopropyl)ether	ND	2540	810	
3-&4-Methylphenol	ND	507	120	
N-nitroso-di-n-propylamine	ND	507	136	
Hexachloroethane	ND	507	171	
Nitrobenzene	ND	1010	305	
Isophorone	ND	1010	51.1	
2-Nitrophenol	ND	507	116	
2,4-Dimethylphenol	ND	203	77.6	
Benzoic Acid	ND	6090	1620	
bis(2-Chloroethoxy)methane	ND	1010	195	
2,4-Dichlorophenol	ND	507	90	
1,2,4-Trichlorobenzene	ND	507	86.1	
Naphthalene	ND	203	89.9	
4-Chloroaniline	ND	1010	94.3	
Hexachlorobutadiene	ND	507	74.1	
4-Chloro-3-methylphenol	ND	507	90.6	
2-Methylnaphthalene	ND	203	52.7	
Hexachlorocyclopentadiene	ND	507	80.4	

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STL Seattle

Semivolatile Organics by USEPA Method 8270 data for 128479-45 continued...

Analyte	Result (ug/kg)	RL	MDL	Flags
2,4,6-Trichlorophenol	ND	507	80.2	
2,4,5-Trichlorophenol	ND	507	78.7	
2-Chloronaphthalene	ND	203	68.5	
2-Nitroaniline	ND	203	55.1	
Dimethylphthalate	ND	1010	199	
Acenaphthylene	ND	203	59.7	
2,6-Dinitrotoluene	ND	507	109	
3-Nitroaniline	ND	1010	297	
Acenaphthene	ND	203	52	
2,4-Dinitrophenol	ND	5070	709	
4-Nitrophenol	ND	5070	831	
Dibenzofuran	ND	507	46.9	
2,4-Dinitrotoluene	ND	1010	172	
Diethylphthalate	ND	1010	366	
4-Chlorophenylphenylether	ND	1010	218	
Fluorene	ND	203	65.5	
4-Nitroaniline	ND	2030	416	
4,6-Dinitro-2-methylphenol	ND	1010	183	
N-Nitrosodiphenylamine	ND	203	58	
4-Bromophenylphenylether	ND	1010	187	
Hexachlorobenzene	ND	203	53.7	
Pentachlorophenol	73500	1010	197	~~D10~~
Phenanthrene	2970	203	60.3	
Anthracene	426	203	38.5	
Di-n-butylphthalate	ND	1010	185	
Fluoranthene	ND	203	102	
Pyrene	ND	203	34.5	
Butylbenzylphthalate	ND	2030	217	
3,3'-Dichlorobenzidine	ND	2030	440	
Benzo(a)anthracene	ND	203	102	
Chrysene	ND	203	72.5	
bis(2-Ethylhexyl)phthalate	ND	2030	186	
Di-n-octylphthalate	ND	2030	187	
Benzofluoranthenes	ND	406	91.9	
Benzo(a)pyrene	ND	203	64.2	
Indeno(1,2,3-cd)pyrene	ND	203	46.3	
Dibenz(a,h)anthracene	ND	203	63	
Benzo(g,h,i)perylene	ND	203	48.8	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAWCH1104
Lab ID:	128479-46
Date Received:	6/20/2005
Date Prepared:	7/1/2005
Date Analyzed:	7/2/2005
% Solids	-
Dilution Factor	1

TCLP Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	40.7		2	120
Phenol - d5	74.6		1	102
2 - Fluorobiphenyl	48.9		35	143

Analyte	Result (ug/L)	RL	MDL	Flags
Pentachlorophenol	ND	20	20	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAWCH1201
Lab ID:	128479-47
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/27/2005
% Solids	32.92
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
2 - Fluorophenol	85.5		36	145
Phenol - d5	84.9		38	149
2 - Fluorobiphenyl	89.4		42	140

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	RL	MDL	Flags
Pentachlorophenol	ND	577	112	

gk 12/12/05

STL Seattle

Client Name	Herrera Environmental Consultants
Project Name	Colville 3/00-01732-066
Date Received	06-20-05

Sample Preparation Information for Toxicity Characteristic Leaching Procedure (TCLP) EPA Method 1311

Client Sample ID	SAWCH1201
Lab ID	128479-47

% Solids:	100
No. of Extractions:	1
Type of Extraction(s):	Rotary
Extraction Fluid:	#1
Date Filtered:	06-28-05

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAWCH1201
Lab ID:	128479-47
Date Received:	6/20/2005
Date Prepared:	7/1/2005
Date Analyzed:	7/2/2005
% Solids	-
Dilution Factor	1

TCLP Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	33.2		2	120
Phenol - d5	68.6		1	102
2 - Fluorobiphenyl	37.1		35	143

Analyte	**Result (ug/L)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	ND	20	20	

QK 12/12/05

STL Seattle

Client Name	Herrera Environmental Consultants
Project Name	Colville 3/00-01732-066
Date Received	06-20-05

Sample Preparation Information for Toxicity Characteristic Leaching Procedure (TCLP) EPA Method 1311

Client Sample ID	SAWCH1104
Lab ID	128479-46

% Solids:	100
No. of Extractions:	1
Type of Extraction(s):	Rotary
Extraction Fluid:	#1
Date Filtered:	06-28-05

12/12/05

00093

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAWCH1104
Lab ID:	128479-46
Date Received:	6/20/2005
Date Prepared:	6/24/2005
Date Analyzed:	6/27/2005
% Solids	27.86
Dilution Factor	1

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
2 - Fluorophenol	83.6		36	145
Phenol - d5	99.6		38	149
2 - Fluorobiphenyl	106		42	140

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**RL**	**MDL**	**Flags**
Pentachlorophenol	1660	645	125	

12/12/05

Herrera Environmental Consultants, Inc.

Memorandum

To	Project File C00-01732-066
cc	Paula Fedirchuk, Herrera Environmental Consultants
From	Gina Catarra and Rob Zisette, Herrera Environmental Consultants
Date	December 19, 2005
Subject	Petroleum Hydrocarbon Data Validation for Colville Post and Pole, TDD-#05-03-0009

This memorandum presents a review of soil, sediment, and ground water data collected from the Colville Post and Pole Site located in Stevens County, Washington. A total of 16 soil samples and 30 ground water samples were collected between June 13 and 17, 2005. STL Seattle of Tacoma, Washington analyzed the samples for petroleum hydrocarbons using Ecology's NWTPH-Dx Method (Ecology 1997).

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in: the *Colville Post and Pole Phase II Removal Site Evaluation Site-Specific Sampling Plan* (SSSP) (Herrera 2005); the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (Functional Guidelines) (USEPA 1999), and the specified analytical method (Ecology 1997).

Quality control and raw laboratory data submitted by the laboratory were reviewed. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

Data Validation

Custody, Preservation, Holding Times, and Completeness—Acceptable

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported samples were extracted and analyzed within the required holding time of 7 days for water samples and 14 days for soil samples from collection to extraction, and 40 days from extraction to analysis. The laboratory data package is complete and contains test results for all samples listed on the chain-of-custody (COC).

Initial Calibration—Acceptable

Initial calibrations were analyzed at the required frequency. Initial calibration criteria (i.e., linear correlation of greater than or equal to 0.990 and percent relative standard deviation [RSD] values less than or equal to 15 percent) established by method were met.

Continuing Calibration—Acceptable

Continuing calibration verification (CCV) standards were analyzed at the required frequency. Continuing calibration criteria (i.e., relative percent difference values less than or equal to 15 percent) established by the method were met.

Blank Analysis—Acceptable

Method blanks were extracted and analyzed at the required frequency. The method blanks did not contain reportable levels of the target compounds and no data have been qualified.

Surrogate Analysis—Acceptable with Qualification

One surrogate compound (o-terphenyl) was analyzed with each sample and blank in accordance with method requirements. All surrogate recovery values were within the control limits (50 to 150 percent) established by the method with the exceptions noted below.

Recovery of surrogate o-terphenyl did not meet the control limit (50 to 150 percent) for samples NAGWP0705 (22 percent), SAGWP0203 (44 percent), PASBP1204 (46 percent), PASBP1204D (48 percent), and PASBP1306 (45 percent). No data were qualified for samples PASBP1204, SAGWP0203, PASBP1204D, and PASBP1306 because the exceedance was marginal (ranging from 2 to 6 percent). Results for sample NAGWP0705 were qualified as an estimated reporting limit (UJ) because the exceedance was biased low and the target compounds were not detected above the reporting limit.

Surrogate o-terphenyl was not recovered for sample PASSP1300. No data were qualified because sample PASSP1300 was analyzed at a 10 times dilution due to the high concentration of target compounds in the native sample.

Matrix Spike Analysis—Acceptable with Discussion

Matrix spike/matrix spike duplicate (MS/MSD) results were analyzed and reported at the required frequency. MS/MSD results were reported for ground water samples NAGWP0705 and SAGWW0203 and for soil samples PASSP1300, SASBH0501, and SASBH0801. The percent recovery values (ranging from 77 to 102 percent for water and ranging from 80 to 113 for soil) met the control limits (50 to 150 percent) established by the method with the exception noted below.

Diesel was not recovered in the MS or the MSD for sample PASSP1300 because the concentration of diesel in the native sample was more than four times greater than the spike amount added for the MS/MSD analysis. No data were qualified because all other criteria were met.

Duplicate Analysis—Acceptable

Matrix spike/matrix spike duplicate (MS/MSD) results were analyzed and reported at the required frequency. MS/MSD results were reported for ground water samples NAGWP0705 and SAGWW0203 and for soil samples PASSP1300, SASBH0501, and SASBH0801. The relative percent difference (RPD) values (ranging from 0 to 22 percent) met the control limits (less than 27 percent) established by the laboratory.

Laboratory Control Sample Analysis—Acceptable

Blank spike/blank spike duplicates were extracted and analyzed at the frequency required by the analytical method. The percent recovery values for the blank spikes (ranging from 94 to 112 percent) met the laboratory control limits (ranging from 70 to 125 percent) and no data were qualified.

Laboratory Reporting Limits—Acceptable with Qualification

Reporting limits (RLs) for the petroleum hydrocarbon compounds met the method specified RLs.

Target compounds detected at concentrations between the method detection limit (MDL) and the RL were reported by the laboratory. The method detection limit and the reporting limit represent different levels of accuracy. Positive values less than the reporting limit have been qualified (flagged) as estimated (J) by the laboratory.

Compounds Identification—Acceptable with Qualification

The laboratory identified several samples with detected concentrations for diesel and motor oil compounds that do not match the standard petroleum elution patterns. These results have been qualified as estimated (J) as shown in the following table.

Sample ID	Compound	Criteria	Qualifier
SAGWP0104	#2 Diesel	Does not match standard petroleum elution pattern	J
SAGWP0104	Motor oil	Does not match standard petroleum elution pattern	J
SAGWP0203	#2 Diesel	Does not match standard petroleum elution pattern	J
SAGWP0302	#2 Diesel	Does not match standard petroleum elution pattern	J
SAGWP0505	#2 Diesel	Does not match standard petroleum elution pattern	J
SAGWP0602	#2 Diesel	Does not match standard petroleum elution pattern	J
SAGWP0602	Motor oil	Does not match standard petroleum elution pattern	J
NAGWP0805	#2 Diesel	Does not match standard petroleum elution pattern	J
NAGWP0805	Motor oil	Does not match standard petroleum elution pattern	J
NAGWP0906	#2 Diesel	Does not match standard petroleum elution pattern	J
NAGWW0605	#2 Diesel	Does not match standard petroleum elution pattern	J
NAGWW0504	#2 Diesel	Does not match standard petroleum elution pattern	J
PAGWP1308	#2 Diesel	Does not match standard petroleum elution pattern	J
PAGWP1109	#2 Diesel	Does not match standard petroleum elution pattern	J
NASSW0600	#2 Diesel	Does not match standard petroleum elution pattern	J
NASSW0600	Motor oil	Does not match standard petroleum elution pattern	J
PASSP1200	#2 Diesel	Does not match standard petroleum elution pattern	J
PASSP1200	Motor oil	Does not match standard petroleum elution pattern	J
PASSP1200D	#2 Diesel	Does not match standard petroleum elution pattern	J
PASSP1200D	Motor oil	Does not match standard petroleum elution pattern	J
SASBH0501	#2 Diesel	Does not match standard petroleum elution pattern	J
SASBH0501	Motor oil	Does not match standard petroleum elution pattern	J
SASBH0801	#2 Diesel	Does not match standard petroleum elution pattern	J
SASBH0801	Motor oil	Does not match standard petroleum elution pattern	J

Overall Assessment of Data Quality

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable as qualified.

Laboratory Communications

The laboratory was not contacted regarding the semivolatile organic compounds analyses.

Definition of Data Qualifiers

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (USEPA 1999).

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

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

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

References

Ecology. 1997. Analytical Methods for Petroleum Hydrocarbons. Publication No. ECY 97-602. Washington State Department of Ecology Toxics Cleanup Program and the Ecology Environmental Laboratory. June 1997.

Herrera. 2005. Colville Post and Pole Phase II Removal Site Evaluation Site-Specific Sampling Plan (SSSP). Prepared by Herrera Environmental Consultants, Inc., for U.S. Environmental Protection Agency, Region 10, Seattle, Washington. June 2005.

USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA 540/R-99/008. U.S. Environmental Protection Agency, Washington, D.C. October 1999.

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	RB-1
Lab ID:	128438-01
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	87.6		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.102	0.25	0.0765	J
Motor Oil	ND	0.499	0.0948	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0104
Lab ID:	128438-02
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terpheny!	53.5		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.606	0.251	0.0768	~~X2~~ J
Motor Oil	0.606	0.502	0.0952	~~X2~~ J

12/12/05

00026

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0203
Lab ID:	128438-03
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	44.3	N	50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	0.274	0.241	0.0737	~~X2~~ J
Motor Oil	0.443	0.481	0.0914	J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0404
Lab ID:	128438-04
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	92.2		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.0925	0.236	0.0724	J
Motor Oil	ND	0.473	0.0897	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0302
Lab ID:	128438-05
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	90.4		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.271	0.238	0.073	~~X2~~ J
Motor Oil	0.277	0.477	0.0905	J

SR 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0505
Lab ID:	128438-06
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	87.6		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.352	0.241	0.0739	~~X2~~ J
Motor Oil	0.205	0.483	0.0916	J

6/21/05

00030

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWP0602
Lab ID:	128438-07
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	54.6		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.293	0.243	0.0744	~~X2~~ J
Motor Oil	0.616	0.485	0.0922	~~X2~~ J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP805
Lab ID:	128438-08
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	84.7		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	1.07	0.237	0.0728	~~X2~~ J
Motor Oil	1.25	0.475	0.0902	~~X2~~ J

12/12/05

00032

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP1005
Lab ID:	128438-09
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	86.2		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.121	0.237	0.0727	J
Motor Oil	0.114	0.474	0.0901	J

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09033

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	RB-2
Lab ID:	128438-10
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	68.2		50	150

Analyte		Result (mg/L)	RL	MDL	Flags
#2 Diesel	ND		0.251	0.0768	
Motor Oil	ND		0.501	0.0951	

12/12/05

00034

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP0705
Lab ID:	128439-01
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	22	X9	50	150

Analyte		Result (mg/L)	RL	MDL	Flags
#2 Diesel	~~ND~~	0.237 UJ	0.237	0.0725	
Motor Oil	~~ND~~	0.473 UJ	0.473	0.0898	

8/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWP0906
Lab ID:	128439-02
Date Received:	6/17/2005
Date Prepared:	6/21/2005
Date Analyzed:	6/21/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	High
o-terphenyl	94.2		50	150

Analyte	Result (mg/L)	RL	MDL	Flags
#2 Diesel	0.79	0.237	0.0726	~~X2~~ J
Motor Oil	0.222	0.474	0.09	J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWW0703
Lab ID:	128474-01
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	86.5		50	150

		Result			
Analyte		**(mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND		0.236	0.0724	
Motor Oil	ND		0.473	0.0897	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0603
Lab ID:	128474-02
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	88.5		50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	0.284	0.236	0.0724	~~X2~~
Motor Oil	ND	0.473	0.0897	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWW0203
Lab ID:	128474-03
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	81.7		50	150

Analyte		**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND		0.236	0.0723	
Motor Oil	ND		0.472	0.0897	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0403
Lab ID:	128474-04
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	81.1		50	150

		Result			
Analyte		**(mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND		0.237	0.0726	
Motor Oil	ND		0.474	0.09	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWW0806
Lab ID:	128474-05
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	84.9		50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND	0.237	0.0727	
Motor Oil	ND	0.474	0.0901	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0504
Lab ID:	128474-06
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	79.6		50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	0.283	0.237	0.0728	~~X2~~ J
Motor Oil	0.0952	0.475	0.0902	J

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWW0305
Lab ID:	128474-07
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	77.7		50	150

Analyte		**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND		0.238	0.0728	
Motor Oil	ND		0.475	0.0902	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0106
Lab ID:	128474-08
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	76		50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND	0.237	0.0728	
Motor Oil	ND	0.475	0.0902	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NAGWW0106D
Lab ID:	128474-09
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	80.7		50	150

Analyte		Result (mg/L)	RL	MDL	Flags
#2 Diesel	ND		0.236	0.0724	
Motor Oil	ND		0.473	0.0897	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW205
Lab ID:	128474-10
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	High
o-terphenyl	78.9		50	150

Analyte		Result (mg/L)	RL	MDL	Flags
#2 Diesel		0.212	0.239	0.0732	J
Motor Oil	ND		0.478	0.0907	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW407
Lab ID:	128474-11
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	73.6		50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND	0.237	0.0725	
Motor Oil	ND	0.473	0.0899	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW105
Lab ID:	128474-12
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	75.9		50	150

Analyte		**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND		0.237	0.0726	
Motor Oil	ND		0.474	0.09	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SAGWMW105D
Lab ID:	128474-13
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	75		50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND	0.237	0.0725	
Motor Oil	ND	0.473	0.0898	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PAGWP1308
Lab ID:	128474-14
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	86		50	150

Analyte		**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel		0.342	0.238	0.073	~~X2~~ J
Motor Oil	ND		0.476	0.0904	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PAGWP1109
Lab ID:	128474-15
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	79		50	150

Analyte		Result (mg/L)	RL	MDL	Flags
#2 Diesel		0.734	0.239	0.0731	~~X2~~ J
Motor Oil	ND		0.477	0.0906	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PAGWP1208
Lab ID:	128474-16
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/27/2005
% Solids	-
Dilution Factor	5

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	175	X9	50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	32.9	1.18	0.361	
Motor Oil	1.84	2.36	0.447	J

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	RB-3
Lab ID:	128474-17
Date Received:	6/20/2005
Date Prepared:	6/23/2005
Date Analyzed:	6/24/2005
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	75.5		50	150

Analyte	**Result (mg/L)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND	0.249	0.0762	
Motor Oil	ND	0.498	0.0945	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PAGWP1109
Lab ID:	128474-15
Date Received:	6/20/2005
Date Prepared:	6/22/2005
Date Analyzed:	6/22/2005
% Solids	-
Dilution Factor	1

NWTPH-HCID - Hydrocarbon Identification Method for Water Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
1-bromo-4-fluorobenzene	34.4	X9	50	150
o-terphenyl	42.8	X9	50	150

Analyte	**Result (mg/L)**	**RL**	**Flags**
Gasoline (Toluene-nC12)	>0.0946	0.0946	
#2 Diesel (>nC12-nC24)	>0.237	0.237	
Motor Oil (>nC24-nC32)	>0.473	0.473	

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSP0700
Lab ID:	128479-08
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/29/2005
% Solids	92.22
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	56.3		50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	8.13	24.7	5.94	J
Motor Oil	78.9	49.4	8.64	

12/12/05

00077

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSP0800
Lab ID:	128479-09
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/29/2005
% Solids	89.26
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	59.4		50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	25.7	26.4	6.35	J
Motor Oil	248	52.7	9.23	

12/12/05

000178

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	NASSW0600
Lab ID:	128479-15
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/29/2005
% Solids	82.97
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	62.3		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	MDL	Flags
#2 Diesel	37.3	28.4	6.84	~~X2~~ J
Motor Oil	153	56.8	9.94	~~X2~~ J

gr 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1111
Lab ID:	128479-17
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	86.3
Dilution Factor	5

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	113		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	MDL	Flags
#2 Diesel	5590	130	31.3	
Motor Oil	323	260	45.6	

SL 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1111D
Lab ID:	128479-18
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	89.85
Dilution Factor	5

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	113		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	MDL	Flags
#2 Diesel	5820	117	28.2	
Motor Oil	225	234	41	J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1204
Lab ID:	128479-19
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/29/2005
% Solids	64.41
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	45.8	X9	50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	9.39	38.4	9.24	J
Motor Oil	ND	76.7	13.4	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1204D
Lab ID:	128479-20
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	64.04
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	47.6	X9	50	150

Sample results are on a dry weight basis.

Analyte		**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	ND		36.9	8.89	
Motor Oil	ND		73.8	12.9	

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASBP1306
Lab ID:	128479-22
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	32.9
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	44.7	X9	50	150

Sample results are on a dry weight basis.

		Result				
Analyte		**(mg/kg)**	**RL**	**MDL**	**Flags**	
#2 Diesel		18.5	65.3	15.7	J	
Motor Oil	ND		131	22.9		

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1100
Lab ID:	128479-24
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	74.27
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	64.8		50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	165	33.2	7.99	X1 J
Motor Oil	1220	66.3	11.6	

12/12/05

X1 - Chromatogram suggests this might be overlap from motor oil range

00085

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1200
Lab ID:	128479-25
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	75.14
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	61		50	150

Sample results are on a dry weight basis.

	Result			
Analyte	**(mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	144	32.8	7.9	~~X2~~ J
Motor Oil	246	65.6	11.5	~~X2~~ J

12/12/05

000836

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1200D
Lab ID:	128479-26
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	77.62
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	62.7		50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	111	29.6	7.13	~~X2~~ J
Motor Oil	177	59.2	10.4	~~X2~~ J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	PASSP1300
Lab ID:	128479-27
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	87.85
Dilution Factor	10

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	-	X8	50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	16400	264	63.6	
Motor Oil	197	528	92.5	J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBH0501
Lab ID:	128479-28
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	93.78
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	79.5		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	MDL	Flags
#2 Diesel	90.2	26.2	6.3	~~X2~~ J
Motor Oil	267	52.3	9.16	~~X2~~ J

12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBH0704
Lab ID:	128479-30
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	81.63
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	70.9		50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	17.1	27.6	6.64	J
Motor Oil	69.4	55.2	9.66	

12/12/05

06000

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASBH0801
Lab ID:	128479-31
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	83.8
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	70.4		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	MDL	Flags
#2 Diesel	89	28.5	6.86	~~X2~~ J
Motor Oil	193	57	9.98	~~X2~~ J

8L 12/12/05

STL Seattle

Client Name:	Herrera Environmental Consultants
Client ID:	SASSW0800
Lab ID:	128479-45
Date Received:	6/20/2005
Date Prepared:	6/29/2005
Date Analyzed:	6/30/2005
% Solids	84.66
Dilution Factor	5

Diesel and Motor Oil by NWTPH-Dx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	120		50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**MDL**	**Flags**
#2 Diesel	7750	137	33	
Motor Oil	352	274	48.1	

gc 12/12/05

STL SEATTLE

Client Sample ID: BKSSH1000

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-001 Work Order #...: HD6HW1AC Matrix.....: SOLID
Date Sampled...: 06/16/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 4.3

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.21	pg/g	SW846 8290
Total PeCDF	ND	0.65	pg/g	SW846 8290
Total HxCDF	**13**		**pg/g**	**SW846 8290**
Total HpCDF	**23**		**pg/g**	**SW846 8290**
Total TCDD	ND	0.22	pg/g	SW846 8290
Total PeCDD	ND	0.43	pg/g	SW846 8290
Total HxCDD	**2.8**		**pg/g**	**SW846 8290**
Total HpCDD	**66**		**pg/g**	**SW846 8290**
2,3,7,8-TCDD	ND	0.22	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	0.43	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.43	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	1.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.83	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	**40**		**pg/g**	**SW846 8290**
OCDD	**340**		**pg/g**	**SW846 8290**
2,3,7,8-TCDF	ND	0.18	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	0.34	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.29	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	1.6	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.42	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.46	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.48	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	**6.8**		**pg/g**	**SW846 8290**
1,2,3,4,7,8,9-HpCDF	ND	0.49	pg/g	SW846 8290
OCDF	**5.8 J**		**pg/g**	**SW846 8290**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	79	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	87	(40 - 135)
13C-OCDD	62	(40 - 135)
13C-2,3,7,8-TCDF	86	(40 - 135)
13C-1,2,3,7,8-PeCDF	78	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	81	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	77	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

12/12/05

STL SEATTLE

Client Sample ID: NASSP0700

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-002 Work Order #...: HD6JD1AC Matrix.....: SOLID
Date Sampled...: 06/15/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/08/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 11

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	17		pg/g	SW846 8290
Total PeCDF	210		pg/g	SW846 8290
Total HxCDF	1400		pg/g	SW846 8290
Total HpCDF	3100		pg/g	SW846 8290
Total TCDD	9.4		pg/g	SW846 8290
Total PeCDD	79		pg/g	SW846 8290
Total HxCDD	1300		pg/g	SW846 8290
Total HpCDD	11000		pg/g	SW846 8290
2,3,7,8-TCDD	2.2		pg/g	SW846 8290
1,2,3,7,8-PeCDD	27		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	68		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	270		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	270 D		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	6100 J		pg/g	SW846 8290
OCDD	60000		pg/g	SW846 8290
2,3,7,8-TCDF	1.7 CON		pg/g	SW846 8290
1,2,3,7,8-PeCDF	7.9		pg/g	SW846 8290
2,3,4,7,8-PeCDF	18		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND D	83	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND D	54	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND D	74	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND D	58	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	990		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	56		pg/g	SW846 8290
OCDF	4100		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(40 - 135)
13C-1,2,3,7,8-PeCDD	76	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	85	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	54	(40 - 135)
13C-OCDD	48	(40 - 135)
13C-2,3,7,8-TCDF	44	(40 - 135)
13C-1,2,3,7,8-PeCDF	42	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	65	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	30 *	(40 - 135)

eg 12/12/05

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STL SEATTLE

Client Sample ID: NASSP0700

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-002 Work Order #...: HD6JD1AC Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

D Result was obtained from the analysis of a dilution.

E Estimated result. Result concentration exceeds the calibration range.

CON Confirmation analysis.

* Surrogate recovery is outside stated control limits.

STL SEATTLE

Client Sample ID: NASSP0800

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-003 Work Order #...: HD6JF1AC Matrix.....: SOLID
Date Sampled...: 06/15/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/08/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 11

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	15		pg/g	SW846 8290
Total PeCDF	130		pg/g	SW846 8290
Total HxCDF	1500		pg/g	SW846 8290
Total HpCDF	5100		pg/g	SW846 8290
Total TCDD	6.4		pg/g	SW846 8290
Total PeCDD	110		pg/g	SW846 8290
Total HxCDD	2200		pg/g	SW846 8290
Total HpCDD	17000		pg/g	SW846 8290
2,3,7,8-TCDD	2.3		pg/g	SW846 8290
1,2,3,7,8-PeCDD	44		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	92		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	510		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	310 Ø		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	10000 Ø J		pg/g	SW846 8290
OCDD	110000 Ø		pg/g	SW846 8290
2,3,7,8-TCDF	2.8 CON		pg/g	SW846 8290
1,2,3,7,8-PeCDF	11		pg/g	SW846 8290
2,3,4,7,8-PeCDF	17		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	91		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	56		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	66		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	24		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1400		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	100		pg/g	SW846 8290
OCDF	6600 Ø		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(40 - 135)
13C-1,2,3,7,8-PeCDD	60	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	63	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	88	(40 - 135)
13C-OCDD	44	(40 - 135)
13C-2,3,7,8-TCDF	48	(40 - 135)
13C-1,2,3,7,8-PeCDF	67	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	71	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	70	(40 - 135)

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STL SEATTLE

Client Sample ID: NASSP0800

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-003 Work Order #...: HD6JF1AC Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

D Result was obtained from the analysis of a dilution.

E Estimated result. Result concentration exceeds the calibration range.

CON Confirmation analysis.

STL SEATTLE

Client Sample ID: NASSP0900

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-004 Work Order #...: HD6JG1AC Matrix.....: SOLID
Date Sampled...: 06/15/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 12

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	1.7		pg/g	SW846 8290
Total PeCDF	27		pg/g	SW846 8290
Total HxCDF	470		pg/g	SW846 8290
Total HpCDF	1300		pg/g	SW846 8290
Total TCDD	0.80		pg/g	SW846 8290
Total PeCDD	23		pg/g	SW846 8290
Total HxCDD	640		pg/g	SW846 8290
Total HpCDD	5700		pg/g	SW846 8290
2,3,7,8-TCDD	0.80 J		pg/g	SW846 8290
1,2,3,7,8-PeCDD	12		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	26		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	150		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	80		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	3400 ~~E~~ J		pg/g	SW846 8290
OCDD	27000 ~~E~~ J		pg/g	SW846 8290
2,3,7,8-TCDF	0.71 J,CON		pg/g	SW846 8290
1,2,3,7,8-PeCDF	4.0 J		pg/g	SW846 8290
2,3,4,7,8-PeCDF	4.5 J		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	27		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	16		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	19		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	1.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	390		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	26		pg/g	SW846 8290
OCDF	1200		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	78	(40 - 135)
13C-1,2,3,7,8-PeCDD	72	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	76	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	100	(40 - 135)
13C-OCDD	88	(40 - 135)
13C-2,3,7,8-TCDF	76	(40 - 135)
13C-1,2,3,7,8-PeCDF	77	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	77	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	87	(40 - 135)

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STL SEATTLE

Client Sample ID: NASSP0900

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-004 Work Order #...: HD6JG1AC Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

E Estimated result. Result concentration exceeds the calibration range.

CON Confirmation analysis.

STL SEATTLE

Client Sample ID: NASSP1000

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-005 Work Order #...: HD6JH1AC Matrix.....: SOLID
Date Sampled...: 06/15/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 8.8

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	2.1		pg/g	SW846 8290
Total PeCDF	36		pg/g	SW846 8290
Total HxCDF	420		pg/g	SW846 8290
Total HpCDF	1300		pg/g	SW846 8290
Total TCDD	3.2		pg/g	SW846 8290
Total PeCDD	35		pg/g	SW846 8290
Total HxCDD	640		pg/g	SW846 8290
Total HpCDD	5000		pg/g	SW846 8290
2,3,7,8-TCDD	1.0 J		pg/g	SW846 8290
1,2,3,7,8-PeCDD	19		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	37		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	130		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	90		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	2900 E J		pg/g	SW846 8290
OCDD	22000 E J		pg/g	SW846 8290
2,3,7,8-TCDF	1.1 J,CON		pg/g	SW846 8290
1,2,3,7,8-PeCDF	4.3 J		pg/g	SW846 8290
2,3,4,7,8-PeCDF	4.4 J		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	21		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	14		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	15		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	1.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	380		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	20		pg/g	SW846 8290
OCDF	1100		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	(40 - 135)
13C-1,2,3,7,8-PeCDD	75	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	85	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	120	(40 - 135)
13C-OCDD	114	(40 - 135)
13C-2,3,7,8-TCDF	79	(40 - 135)
13C-1,2,3,7,8-PeCDF	78	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	104	(40 - 135)

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(Continued on next page)

STL SEATTLE

Client Sample ID: NASSP1000

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-005 Work Order #...: HD6JH1AC Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

E Estimated result. Result concentration exceeds the calibration range.

CON Confirmation analysis.

STL SEATTLE

Client Sample ID: NASSW0100

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-006 Work Order #...: HD6JL1AC Matrix.....: SOLID
Date Sampled...: 06/14/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 28

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.57	pg/g	SW846 8290
Total PeCDF	22		pg/g	SW846 8290
Total HxCDF	460		pg/g	SW846 8290
Total HpCDF	1100		pg/g	SW846 8290
Total TCDD	1.8		pg/g	SW846 8290
Total PeCDD	12		pg/g	SW846 8290
Total HxCDD	300		pg/g	SW846 8290
Total HpCDD	3300		pg/g	SW846 8290
2,3,7,8-TCDD	ND	0.49	pg/g	SW846 8290
1,2,3,7,8-PeCDD	7.3		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	16		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	65		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	43		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1900		pg/g	SW846 8290
OCDD	22000 E J		pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.50	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	1.8	pg/g	SW846 8290
2,3,4,7,8-PeCDF	5.2 J		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	53		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	16		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	15		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	1.4	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	300		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	27		pg/g	SW846 8290
OCDF	690		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	79	(40 - 135)
13C-1,2,3,7,8-PeCDD	69	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	78	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	108	(40 - 135)
13C-OCDD	110	(40 - 135)
13C-2,3,7,8-TCDF	76	(40 - 135)
13C-1,2,3,7,8-PeCDF	75	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	81	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	96	(40 - 135)

12/12/05

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

J Estimated result. Result is less than the reporting limit.

STL SEATTLE

Client Sample ID: NASSW0400

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-007 Work Order #...: HD6JN1AC Matrix.....: SOLID
Date Sampled...: 06/15/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 23

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.52	pg/g	SW846 8290
Total PeCDF	ND	0.96	pg/g	SW846 8290
Total HxCDF	**26**		**pg/g**	**SW846 8290**
Total HpCDF	**75**		**pg/g**	**SW846 8290**
Total TCDD	ND	0.49	pg/g	SW846 8290
Total PeCDD	ND	0.92	pg/g	SW846 8290
Total HxCDD	**34**		**pg/g**	**SW846 8290**
Total HpCDD	**330**		**pg/g**	**SW846 8290**
2,3,7,8-TCDD	ND	0.48	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	0.92	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	1.3	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	**6.5**		**pg/g**	**SW846 8290**
1,2,3,7,8,9-HxCDD	**4.9 J**		**pg/g**	**SW846 8290**
1,2,3,4,6,7,8-HpCDD	**190**		**pg/g**	**SW846 8290**
OCDD	**1600**		**pg/g**	**SW846 8290**
2,3,7,8-TCDF	ND	0.52	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	0.57	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.56	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	**3.3 J**		**pg/g**	**SW846 8290**
1,2,3,6,7,8-HxCDF	ND	0.84	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	1.1	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.96	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	**22**		**pg/g**	**SW846 8290**
1,2,3,4,7,8,9-HpCDF	ND	2.3	pg/g	SW846 8290
OCDF	**53**		**pg/g**	**SW846 8290**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	(40 - 135)
13C-1,2,3,7,8-PeCDD	73	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	74	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	89	(40 - 135)
13C-OCDD	81	(40 - 135)
13C-2,3,7,8-TCDF	78	(40 - 135)
13C-1,2,3,7,8-PeCDF	76	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	75	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	86	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

STL SEATTLE

Client Sample ID: NASSW0500

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-008 Work Order #...: HD6JP1AC Matrix.....: SOLID
Date Sampled...: 06/15/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 23

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	ND	0.21	pg/g	SW846 8290
Total PeCDF	ND	0.30	pg/g	SW846 8290
Total HxCDF	ND	0.82	pg/g	SW846 8290
Total HpCDF	**8.2**		**pg/g**	**SW846 8290**
Total TCDD	ND	0.27	pg/g	SW846 8290
Total PeCDD	ND	0.54	pg/g	SW846 8290
Total HxCDD	ND	1.1	pg/g	SW846 8290
Total HpCDD	**22**		**pg/g**	**SW846 8290**
2,3,7,8-TCDD	ND	0.27	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	0.54	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.61	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.52	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.53	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	**12**		**pg/g**	**SW846 8290**
OCDD	**120**		**pg/g**	**SW846 8290**
2,3,7,8-TCDF	ND	0.21	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	0.30	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.29	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.56	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.53	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.57	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.61	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	2.1	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.25	pg/g	SW846 8290
OCDF	**14**		**pg/g**	**SW846 8290**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	82	(40 - 135)
13C-1,2,3,7,8-PeCDD	67	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	75	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	89	(40 - 135)
13C-OCDD	74	(40 - 135)
13C-2,3,7,8-TCDF	83	(40 - 135)
13C-1,2,3,7,8-PeCDF	76	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	81	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	80	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

STL SEATTLE

Client Sample ID: NASSW0600

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-009 Work Order #...: HD6JR1AC Matrix.....: SOLID
Date Sampled...: 06/16/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 15

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	3.9		pg/g	SW846 8290
Total PeCDF	54		pg/g	SW846 8290
Total HxCDF	690		pg/g	SW846 8290
Total HpCDF	2400		pg/g	SW846 8290
Total TCDD	2.1		pg/g	SW846 8290
Total PeCDD	28		pg/g	SW846 8290
Total HxCDD	860		pg/g	SW846 8290
Total HpCDD	8600		pg/g	SW846 8290
2,3,7,8-TCDD	0.87 J		pg/g	SW846 8290
1,2,3,7,8-PeCDD	14		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	35		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	220		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	100		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	5000 J		pg/g	SW846 8290
OCDD	46000 J		pg/g	SW846 8290
2,3,7,8-TCDF	1.1 J,CON		pg/g	SW846 8290
1,2,3,7,8-PeCDF	5.4 J		pg/g	SW846 8290
2,3,4,7,8-PeCDF	6.3		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	36		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	18		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	21		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	2.7	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	500		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	38		pg/g	SW846 8290
OCDF	3500		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	80	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	113	(40 - 135)
13C-OCDD	102	(40 - 135)
13C-2,3,7,8-TCDF	87	(40 - 135)
13C-1,2,3,7,8-PeCDF	86	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	97	(40 - 135)

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STL SEATTLE

Client Sample ID: NASSW0600

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-009 Work Order #...: HD6JR1AC Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

E Estimated result. Result concentration exceeds the calibration range.

CON Confirmation analysis.

STL SEATTLE

Client Sample ID: SASSW0200

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-010 Work Order #...: HD6JT1AC Matrix.....: SOLID
Date Sampled...: 06/14/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/07/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 0.0

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	6.8		pg/g	SW846 8290
Total PeCDF	71		pg/g	SW846 8290
Total HxCDF	710		pg/g	SW846 8290
Total HpCDF	2100		pg/g	SW846 8290
Total TCDD	12		pg/g	SW846 8290
Total PeCDD	130		pg/g	SW846 8290
Total HxCDD	1300		pg/g	SW846 8290
Total HpCDD	8100		pg/g	SW846 8290
2,3,7,8-TCDD	2.8		pg/g	SW846 8290
1,2,3,7,8-PeCDD	31		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	62		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	210		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	160		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4500 E J		pg/g	SW846 8290
OCDD	32000 E J		pg/g	SW846 8290
2,3,7,8-TCDF	0.97 J,CON		pg/g	SW846 8290
1,2,3,7,8-PeCDF	4.8 J		pg/g	SW846 8290
2,3,4,7,8-PeCDF	6.6		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	39		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	25		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	30		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	1.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	660		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	35		pg/g	SW846 8290
OCDF	2500		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	(40 - 135)
13C-1,2,3,7,8-PeCDD	75	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	104	(40 - 135)
13C-OCDD	96	(40 - 135)
13C-2,3,7,8-TCDF	80	(40 - 135)
13C-1,2,3,7,8-PeCDF	78	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	80	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	92	(40 - 135)

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STL SEATTLE

Client Sample ID: SASSW0200

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-010 Work Order #...: HD6JT1AC Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

J Estimated result. Result is less than the reporting limit.

CON Confirmation analysis.

STL SEATTLE

Client Sample ID: SASSW0800

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-011 Work Order #...: HD6J01AC Matrix.....: SOLID
Date Sampled...: 06/16/05 Date Received..: 06/22/05
Prep Date.....: 06/28/05 Analysis Date..: 07/08/05
Prep Batch #...: 5179566
Dilution Factor: 1
% Moisture.....: 15

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Total TCDF	80		pg/g	SW846 8290
Total PeCDF	8300		pg/g	SW846 8290
Total HxCDF	99000		pg/g	SW846 8290
Total HpCDF	140000		pg/g	SW846 8290
Total TCDD	ND	6.7	pg/g	SW846 8290
Total PeCDD	170		pg/g	SW846 8290
Total HxCDD	21000		pg/g	SW846 8290
Total HpCDD	340000		pg/g	SW846 8290
2,3,7,8-TCDD	ND	6.7	pg/g	SW846 8290
1,2,3,7,8-PeCDD	170		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	120		pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	11000 E J		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	670 E		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	190000 E		pg/g	SW846 8290
OCDD	860000 D, E J		pg/g	SW846 8290
2,3,7,8-TCDF	25 CON		pg/g	SW846 8290
1,2,3,7,8-PeCDF	770		pg/g	SW846 8290
2,3,4,7,8-PeCDF	1900		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	14000 E J		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	3000 E J		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	3100 E J		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	3900 E J		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	41000 E J		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	2300		pg/g	SW846 8290
OCDF	9900 D		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	77	(40 - 135)
13C-1,2,3,7,8-PeCDD	43	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	59	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	134	(40 - 135)
13C-OCDD	96	(40 - 135)
13C-2,3,7,8-TCDF	115	(40 - 135)
13C-1,2,3,7,8-PeCDF	107	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	69	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	83	(40 - 135)

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STL SEATTLE

Client Sample ID: SASSW0800

Trace Level Organic Compounds

Lot-Sample #...: G5F220307-011 Work Order #...: HD6J01AC Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

D Result was obtained from the analysis of a dilution.

CON Confirmation analysis.