

#### 4. QUALITY ASSURANCE/QUALITY CONTROL

QA/QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware and reagents. Specific QC requirements for laboratory analyses are incorporated in the *Contract Laboratory Program Statement of Work for Organic Analyses* (EPA 1999b) and in the *Contract Laboratory Program Statement of Work for Inorganic Analyses* (EPA 2000b). These QC requirements or equivalent requirements were followed for analytical work on the IA. This section describes the QA/QC measures taken for the IA and provides an evaluation of the usability of data presented in this report.

All samples were collected following the guidance of the SQAP (E & E 2001b) and the Sample Plan Alteration Forms for the field activities. Phase 1 TAL inorganic analyses were performed at Chemtech Consulting, Mountainside, New Jersey, a Contract Laboratory Program (CLP) laboratory, following the *CLP Statement of Work for Inorganic Analyses* (EPA 2000b). Phase 1 organic analyses were performed at AATS, Baton Rouge, Louisiana, a CLP laboratory, following the *CLP Statement of Work for Organic Analyses* (EPA 1999b). Air samples were analyzed for SVOCs by STL, West Sacramento, California, a START-2 subcontracted commercial laboratory, following EPA Methods TO-13A and 8270. Product and wipe sample SVOC analyses were performed by OSE, Redmond, Washington, following EPA Method 8270. TPH field analyses were performed by a START-2 chemist following the manufacturers' instructions. TPH confirmation analyses were performed by OSE, Redmond, Washington, following EPA Method 418.1. Phase 2 inorganic analyses were performed by AATS, Broken Arrow, Oklahoma, a CLP laboratory, following the *CLP Statement of Work for Inorganic Analyses* (EPA 2000b). Phase 2 organic analyses were performed by EnviroSystems, Columbia, Maryland, a CLP laboratory, following the *CLP Statement of Work for Organic Analyses* (EPA 1999b).

All data from analyses performed by the CLP laboratories were reviewed and validated by EPA chemists. Data from the START-2 subcontracted commercial laboratories were reviewed and validated by E & E chemists. Data qualifiers were applied as necessary according to the following guidance:

- C *EPA (1990) Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures;*
- C *EPA (1994a) Contract Laboratory Program National Functional Guidelines for Inorganic Data Review;* and
- C *EPA (1999a) Contract Laboratory Program National Functional Guidelines for Organic Data Review.*

In the absence of other QC guidance, method-specific QC limits were also utilized to apply qualifiers to the data. Copies of the data QA memoranda are included in Appendix I.

#### **4.1 SATISFACTION OF DATA QUALITY OBJECTIVES**

The following EPA (1994b) guidance document was used to establish data quality objectives (DQOs) for this IA:

- *Data Quality Objectives Process for Superfund, Interim Final Guidance, EPA 600-R-96-055.*

The EPA Task Monitors determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the field work produced sufficient data that meet the DQOs stated in the SQAP (E & E 2001b). A detailed discussion of accomplished IA objectives is presented in the following sections.

#### **4.2 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES**

QA samples included rinsate blank and trip blank samples. Five trip blank samples (at a rate of one blank per cooler of VOC samples) were shipped to the laboratories. One rinsate sample collected from drilling sampling equipment was submitted for the project. QC samples included matrix spike/matrix spike duplicate (MS/MSD) samples for organic analyses or MS/duplicate samples for inorganic analyses at a rate of one MS/MSD or one MS/duplicate per 20 samples per matrix, excluding QA, wipe and product samples. QC analyses are not typically performed on QA samples as environmental sample information is not obtained from these analyses. MS/MSD analyses are not applicable for the product matrix due to high analyte concentrations in the sample. MS/MSD analyses are not applicable for wipe samples as the entire sample is consumed during analysis. Temperature blanks were included in each sample cooler to ensure that temperature requirements were met.

### **4.3 PROJECT-SPECIFIC DATA QUALITY OBJECTIVES**

The laboratory data were reviewed to ensure that DQOs for the project were met. The following describes the laboratories' abilities to meet project DQOs for precision, accuracy and completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratories and the field team were able to meet DQOs for the project.

#### **4.3.1 Precision**

Precision measures the reproducibility of the sampling and analytical methodology. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The laboratory duplicate samples or MS/MSD samples measure the precision of the analytical method.

The RPD values were reviewed for all laboratory samples. No sample results were qualified based on laboratory duplicate QC outliers. Ambient air sample field duplicate (co-located stations PY01AM/PY09AM) QC outliers included 2-methylnaphthalene on August 22-23, 2001 and benzoic acid on August 24-25, 2001. These outliers are not listed in the validation memoranda but the analytes were qualified as estimated quantities (J) with an unknown bias on the Form I's and in the analytical tables for the applicable samples. The DQO for precision of 85 % was met.

#### **4.3.2 Accuracy**

Accuracy measures the reproducibility of the sampling and analytical methodology. Laboratory accuracy is defined as the surrogate spike percent recovery (% R) for each Pesticide/PCB, SVOC, TPH or VOC analysis or the MS % Rs for all analyses. The surrogate % R values were reviewed for all appropriate sample analyses. Approximately 0.2 % of the results were qualified as estimated quantities (J) and approximately 1.8 % of the results were rejected (R) based on surrogate QC outliers.

The MS % R values were reviewed for all MS/MSD analyses. One result (approximately 0.01 % of the data) was qualified as an estimated quantity (J) based on spike QC outliers. Ten 4-nitrophenol ambient air samples results (approximately 0.1 % of the data) were rejected (R) based on MS/MSD recovery outliers. 4-Nitrophenol is not known to be used at the PI facility and therefore is not a primary contaminant of concern on this project. Overall, the project DQO for accuracy of 85 % was met.

### **4.3.3 Completeness**

Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All laboratory data were reviewed for data validation and usability. Approximately 2.4 % of the data were rejected, therefore the project DQO for completeness of 90 % was met.

### **4.3.4 Representativeness**

Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point or environmental condition. The number and selection of samples were determined in the field to account accurately for site variations and sample matrices. The DQO for representativeness of 85 % was met.

### **4.3.5 Comparability**

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this site followed applicable field sampling techniques and specific analytical methodology. The DQO for comparability was met.

## **4.4 LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PARAMETERS**

The laboratory data also were reviewed for holding times, laboratory blank samples, trip blank samples and rinsate samples. These QA/QC parameters are summarized below. In general, the laboratory and field QA/QC parameters were considered acceptable.

### **4.4.1 Holding Times**

A total of 330 results (3.6 %) were qualified as estimated quantities (J) or estimated detection/quantitation limits (UJ) with a low bias based on holding time outliers. SVOC samples PY03SS, PY05SS, PY06SS and TP10SB2 exceeded extraction holding time limits, resulting in 260 qualifications. VOC samples TP04GW, TP09GW and TB04WT exceeded holding time limits, resulting in 70 qualifications.

### **4.4.2 Laboratory Blanks**

All laboratory blanks met the frequency criteria. The following potential contaminants of concern were detected in the laboratory blanks:

Pesticides:           beta-benzene hexachloride (BHC), 4,4'-dichlorodiphenyldichloroethane (DDD), endrin aldehyde, endrin ketone, heptachlor epoxide, methoxychlor;

SVOCs:	benzoic acid, bis(2-ethylhexyl)phthalate, di-n-butylphthalate, pentachlorophenol;
TAL Inorganics:	arsenic, beryllium, calcium, iron, magnesium, potassium, selenium, silver, sodium; and
VOCs:	acetone, bromomethane, chloromethane, methylene chloride and 1,2,4-trichlorobenzene.

A total of 129 soil Pesticide, 19 water Pesticide, 5 air SVOC, 16 soil SVOC, 5 water SVOC, 46 soil TAL Inorganic, 5 water TAL Inorganic, 36 soil VOC and 21 water VOC results were qualified based on laboratory blank contamination. Associated sample results less than five times the positive blank contamination (10 times for common laboratory contaminants) were qualified as not detected (U). Associated sample results less than five times the absolute value of negative inorganic blank contamination were qualified as estimated quantities (J or UJ). See Appendix I for results that were qualified based on blank contamination.

#### **4.4.3 Trip Blanks**

Table 4-1 summarizes the trip blank results. Trip blanks met the frequency criteria. Acetone, benzene and toluene were detected below the Contract Required Quantitation Limit (CRQL) in at least one of the trip blank samples. The equipment storage area used by the START-2 for Phase 1 was also the storage area for School landscaping equipment and gasoline containers. The START-2 minimized potential contamination from these containers by keeping doors and equipment containers closed and maximizing the distance between equipment and the gasoline containers. Associated sample results less than five times the trip blank contamination were considered not detected (U). The benzene result in sample PY06SS and the toluene results in samples TP04SS, TP05SB2, TP06SS, TP08SB2, PY06SS and PY07SS were qualified as not detected (U) based on trip blank contamination. The qualifications were applied to the tables and Form I's but were not listed in the validation memoranda. There were no detections in the Phase 2 trip blank sample.

#### **4.4.4 Rinsate Blanks**

Table 4-2 summarizes the rinsate blank results. One rinsate blank sample was collected from decontaminated drill auger sampling equipment during the field event, therefore meeting the frequency criteria of one per 20 samples. Acetone, calcium, chromium, copper, endrin aldehyde, lead, magnesium, manganese, selenium and sodium were detected in the rinsate blank sample. No SVOCs, including PAHs and PCP, were detected in the rinsate blank sample.

The high acetone concentration of 1,300 micrograms per liter ( $\mu\text{g/L}$ ) is due to the use of acetone in the decontamination process. Acetone is not known to be used at the PI facility and therefore is not a contaminant of concern for this IA. Acetone was qualified as not detected (U) in four samples (TP04SS, TP05SB2, TP06SS and TP07SB2) due to rinsate blank contamination. A total of 22 additional Pesticide and/or TAL inorganic results were qualified as not detected (U) based on the other rinsate blank contaminants; none of these contaminants are known to be associated with operations at the PI facility. The qualifications were applied to the tables and Form I's but were not discussed in the validation memoranda. No SVOC sample results, including PAHs and PCP, were qualified based on rinsate blank contamination.

#### **4.4.5 Air Sample Field Blanks**

Air sample field blanks met the frequency criteria. There were no detections in any of the three air sample field blanks, therefore no sample qualifications were required.

### **4.5 TPH FIELD SCREENING ANALYSES**

A START-2 chemist analyzed 20 soil samples for TPHs. Screening results were used to delineate potential on-site surface and subsurface contamination from boreholes at the PI site and to determine the need for additional borehole advancement. Four soil samples were submitted to a contracted laboratory (OSE) for confirmation analysis. A linear regression analysis of the field screening and confirmation results for TPH performed by a START-2 chemist showed a correlation coefficient ( $R^2$ ) of 0.993. According to EPA guidance, a minimum correlation coefficient of 0.700 is necessary to consider field analytical results acceptable when compared with laboratory confirmation results. The screening results and the confirmation results show an acceptable correlation and the field screening accomplished its' objective of identifying areas of potential contaminant sources and of determining the extent of contamination in the TP area. Results from these analyses are provided in Section 6.2.1.2.

**Table 4-1**

**TRIP BLANK SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

<b>EPA Sample Number</b>	<b>01354086</b>	<b>01354087</b>	<b>01354088</b>	<b>01354099</b>	<b>02014003</b>
<b>CLP Organic Number</b>	<b>JOK96</b>	<b>JOK97</b>	<b>JOK98</b>	<b>JOKA9</b>	<b>JO7N8</b>
<b>CLP Inorganic Number</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Location ID Number</b>	<b>TB01WT</b>	<b>TB02WT</b>	<b>TB03WT</b>	<b>TB04WT</b>	<b>TB05WT</b>
<b>Volatile Organic Compounds (µg/L)</b>					
Acetone	10 U	3 JQK	10 U	10 UJK	10 U
Benzene	2 JQK	2 JQK	2 JQK	10 UJK	10 U
Toluene	2 JQK	2 JQK	2 JQK	10 UJK	10 U

Note: Only results for compounds which were detected in at least one sample were reported.

Key:

CLP = Contract Laboratory Program.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The associated numerical result is an estimate.

K = Unknown bias.

µg/L = Micrograms per liter.

NA = Not applicable.

Q = Analyte detected below the adjusted Contract Required Quantitation Limit.

TB = Trip blank.

U = The analyte was not detected. The associated numerical value is the sample quantitation limit.

UJ = The analyte was not detected. The associated numerical value is the estimated sample quantitation limit.

WT = Water.

<b>Table 4-2</b>	
<b>RINSATE BLANK SAMPLE ANALYTICAL RESULTS SUMMARY POLES INCORPORATED OLDTOWN, IDAHO</b>	
<b>EPA Sample Number</b>	<b>01354065</b>
<b>CLP Inorganic Number</b>	<b>MJOK75</b>
<b>CLP Organic Number</b>	<b>JOK75</b>
<b>Location ID Number</b>	<b>RB01WT</b>
<b>Inorganics (µg/L)</b>	
Calcium	1,120 JBK
Chromium	2.0 JBK
Copper	18.9 JBK
Lead	2.8 JBK
Magnesium	149 JBK
Manganese	2.9 JBK
Selenium	2.2 JBK
Sodium	874 JBK
<b>Chlorinated Pesticides (µg/L)</b>	
Endrin aldehyde	<b>1.3</b>
<b>Volatile Organic Compounds (µg/L)</b>	
Acetone	<b>1,300</b>

Note: Only results for compounds which were detected in at least one sample were reported.  
 Bold type indicates concentrations above the Contract Required Detection Limit or Contract Required Quantitation Limit.

Key:

- B = Analyte detected below the adjusted Contract Required Detection Limit, but at or above the instrument detection limit.
- CLP = Contract Laboratory Program.
- EPA = United States Environmental Protection Agency.
- H = High bias.
- ID = Identification.
- J = The analyte was positively identified.  
The associated numerical result is an estimate.
- K = Unknown bias.
- µg/L = Micrograms per liter.
- RB = Rinsate blank.
- WT = Water.

## **5. ANALYTICAL RESULTS REPORTING AND BACKGROUND SAMPLES**

This section describes the reporting and methods applied to field screening results, contracted laboratory and EPA CLP analytical results presented in Sections 6 and 7 of this report and discusses background locations and sample results. Table 3-1 lists all samples collected for laboratory analysis.

Analytical results from contracted and EPA CLP laboratories are presented in the summary tables in Sections 6 and 7 and show all analytes detected above the Contract Required Detection Limit (CRDL) or CRQL for CLP analyses or sample quantitation/detection limits for commercial laboratory analyses in bold type. Field screening analytical results are similarly presented in Section 6. Analytical results indicating significant concentrations of contaminants in source samples (Section 6, Appendix I) with respect to background concentrations are shown underlined and in bold type. Similarly, analytical results indicating elevated concentrations of contaminants in target samples (Section 7) with respect to background concentrations also are underlined and in bold type.

### **5.1 ANALYTICAL RESULTS EVALUATION CRITERIA**

TPH field screening was performed only on potential source samples (although background samples were selected for comparison purposes), therefore these results are discussed only in Section 6. Due to financial constraints, the background TPH samples were not submitted to a commercial laboratory, therefore the field screening TPH samples were used for comparison. Field screening results were used to document potential source size, extent of contamination and to support conclusions based on EPA CLP and contract laboratory results.

#### **5.1.1 CLP, Field Screening and Subcontracted Laboratory Results Evaluation Criteria**

For the purposes of this investigation, significant/elevated concentrations in EPA CLP, field screening and START-2 subcontracted commercial laboratory samples are those concentrations that are:

- Equal to or greater than the CRQL/CRDL or the sample quantitation (SQL) when a non-CLP laboratory was used; and

- Equal to or greater than the background sample's CRQL/CRDL or SQL when the background concentration is below detection limits; or
- At least three times greater than the background concentration when the background concentration equals or exceeds the detection limit.

The analytical summary tables in Sections 6 and 7 present all detected analytes, but only detected analytes at potential sources or in targets meeting the significant/elevated concentration criteria are discussed in the report text except for TPH field screening results which are all discussed in the report. All detected results are discussed for background samples, including those results that were below the CRDL, CRQL or SQL. Only results above the CRDL, CRQL or SQL are used for evaluation purposes.

For analytical results that are qualified as estimated, the sample concentration was adjusted as described in *Using Qualified Data to Document an Observed Release and Observed Contamination* (EPA 1996) before determining whether the concentration was significant/elevated. The tables in Sections 6 and 7 provide adjusted concentrations in parentheses. For comparison purposes, the CRQL/CRDL is provided in parentheses for background results that are qualified because they are below the CRQL/CRDL when the analyte is detected in target samples. When samples were diluted for re-analysis at a laboratory, the dilution results were considered for evaluation and are provided in the tables. All hazardous substances detected using EPA CLP and START-2 subcontracted commercial laboratory results at source and target locations and meeting evaluation criteria can be used to document an observed release from the site to the target. For target locations, only those analytes that were also detected in a source at the site were evaluated to determine whether their concentrations were elevated.

### **5.1.2 Sample Results Reporting**

When four or more analytes are significant or elevated for an analytical suite (for example, TAL inorganics or VOCs) in Sections 6 and 7, the number of such analytes and the concentration ranges are given. When three or fewer analytes are significant or elevated for an analytical suite, the specific analyte and associated concentrations are provided. Based on EPA, Region 10, policy, evaluation of aluminum, calcium, iron, magnesium, potassium and sodium (common earth crust elements) generally is employed only in water mass tracing, which is beyond the scope of this report. Pesticides/PCBs, TAL inorganic elements and VOCs are not known to be used in operations at the PI facility and therefore are not considered attributable to site activities, but the results are provided for comparison purposes.

## **5.2 BACKGROUND SAMPLES**

Background samples were collected for surface soil, subsurface soil, sediment and ambient air matrices. Results for the appropriate background sample(s) are shown in the first column(s) in the analytical results summary tables in Sections 6 and 7 for comparison against source or target results and are highlighted for TPH field screening results in Table 6-5.

### **5.2.1 Background Surface Soil**

#### **5.2.1.1 Sample Locations**

One background surface soil sample (BG01SS) was collected from 0 to 6 inches bgs near the intersection of East 7<sup>th</sup> South and Meadowdale Streets in Oldtown, Idaho (Figure 3-1). The surface soil material was similar to that found across the site. No odor or staining was noted during sample collection. The TPH background surface soil sample (TP05SS) was collected on-site near the treatment plant. Background surface soil sample results are presented in Table 5-1.

#### **5.2.1.2 Sample Results**

Eleven TAL inorganics were detected in the background surface soil sample, including arsenic (9.7 milligrams per kilogram [mg/kg]), barium (143 mg/kg), beryllium (an estimated concentration [J] less than the CRDL but greater than the instrument detection limit [B] with an unknown bias [K] of 0.48 mg/kg), chromium (9.4 mg/kg), cobalt (an estimated concentration [EC] of 6.2 JBK mg/kg), copper (13.9 mg/kg), lead (12.3 mg/kg), manganese (375 mg/kg), nickel (an EC of 6.5 JBK mg/kg), vanadium (15.6 mg/kg) and zinc (49.9 mg/kg). PCP was detected below the CRQL (Q) at an EC of 75 JK µg/kg. Five VOCs were detected at estimated concentrations, including 1,1,2,2-tetrachloroethane (5 JQK µg/kg), 1,1,2- trichloroethane (7 JQK µg/kg), toluene (2 JQK µg/kg), trichloroethene (1 JQK µg/kg) and total xylenes (3 JQK µg/kg). No Pesticides/PCBs were detected in the surface soil sample. The TPH field screening result for sample TP05SS was 8.8 mg/kg.

## **5.2.2 Background Subsurface Soil**

### **5.2.2.1 Sample Locations**

Two background subsurface soil samples were collected from location TP06 on the PI property (Figure 3-1). These on-site samples were selected as background samples after results were received. This location was on the east side of the TP shed where relatively minimal operations relating to wood treatment occurred. Off-site background subsurface soil samples were not collected with the drill rig due to time and financial constraints. The upper sample (TP06SB1) was associated with samples collected between 10 and 47 feet bgs and the lower sample (TP06SB2) was associated with samples collected between 75 and 79.5 feet bgs. These subsurface soil materials were similar to that found across the site. No odor or stains were noted during sample collection. Background subsurface soil sample results are listed in Table 5-2.

### **5.2.2.2 Sample Results**

Twelve TAL inorganics were detected in sample TP06SB1, including arsenic (9.1 mg/kg), barium (66.2 mg/kg), beryllium (an EC of 0.30 JBK mg/kg), chromium (8.0 mg/kg), cobalt (an EC of 4.5 JBK mg/kg), copper (10.1 mg/kg), lead (9.1 mg/kg), manganese (229 mg/kg), nickel (9.9 mg/kg), selenium (an EC of 0.46 JBK mg/kg), vanadium (11.6 mg/kg) and zinc (33.8 mg/kg). The TPH field screening result for sample TP06SB1 was 67 mg/kg. Eleven TAL inorganics were detected in sample TP06SB2, including arsenic (7.8 mg/kg), barium (58.3 mg/kg), beryllium (an EC of 0.29 JBK mg/kg), chromium (6.8 mg/kg), cobalt (an EC of 4.1 JBK mg/kg), copper (8.5 mg/kg), lead (9.2 mg/kg), manganese (244 mg/kg), nickel (an EC of 5.6 JBK mg/kg), vanadium (11.3 mg/kg) and zinc (29.4 mg/kg). The TPH field screening result for sample TP06SB2 was 29.3 mg/kg. The only SVOC detected in a subsurface soil background sample was di-n-butylphthalate in the upper sample. Di-n-butylphthalate is a common laboratory contaminant not known to be associated with operations at the PI facility. No Pesticides/PCBs or VOCs were detected in the background subsurface soil samples. TPH background samples were not submitted to a commercial laboratory as the field screening results were used to document potential source size, extent of contamination and to support conclusions based on EPA CLP and contract laboratory results.

Although PI background soil results exceed the arsenic PRG (Appendix J), the concentrations are similar to the Spokane Basin natural background concentration for arsenic. The natural soil background

arsenic concentration in the Spokane Basin is 9 mg/kg (Ecology 1994). The Spokane Basin, located 40 miles south of Oldtown, Idaho, was the nearest geographic region for which natural soil background inorganic concentrations were found. The arsenic surface soil (9.7 mg/kg) and upper (9.1 mg/kg) and lower (7.8 mg/kg) subsurface soil background results are similar to the Spokane Basin area average concentration and are each approximately three times the industrial soil PRG of 2.7 mg/kg. Arsenic is not known to be associated with PI wood-treating activities, therefore none of the arsenic results will be considered attributable to site activities. Because of the similarity of the site and regional background arsenic results, arsenic in soil will not be discussed further in this report.

### **5.2.3 Background Sediment**

#### **5.2.3.1 Sample Locations**

One background sediment sample (PY02SD) was collected northeast of the PI facility along the border with the Pend Oreille River, approximately 350 feet upstream from the probable point of entry (PPE). The background sediment sample matrix matched the other sediment samples. No odor or staining was noted during sample collection. Background sediment sample results are listed in Table 5-3.

#### **5.2.3.2 Sample Results**

Thirteen TAL inorganics were detected in the sediment sample, including arsenic (5.3 mg/kg), barium (95.7 mg/kg), beryllium (an EC of 0.40 JBK mg/kg), cadmium (an EC of 0.21 JBK mg/kg), chromium (8.1 mg/kg), cobalt (an EC of 4.4 JBK mg/kg), copper (37.6 mg/kg), lead (14.5 mg/kg), manganese (94.1 mg/kg), nickel (an EC of 7.2 JBK mg/kg), selenium (an EC of 0.80 JBK mg/kg), vanadium (an EC of 12.2 JBK mg/kg) and zinc (68.0 mg/kg). The Pesticide beta-BHC was tentatively identified (N) with an EC of 2.2 JK µg/kg. The VOC trichloroethene was detected at an EC of 7 JQK µg/kg. No PCBs or SVOCs were detected in the background sediment sample.

### **5.2.4 Background Ambient Air**

#### **5.2.4.1 Sample Locations**

Historical wind speed and wind direction information were not found for the Oldtown, Idaho, vicinity, therefore upwind sample locations were determined for each sample period based on prevailing wind directions during sample collection. This information was determined on a daily basis using meteorological data collected on-site. Wind roses (which display the percentage of wind from each of 16 direction sectors and the associated range of wind speed) were created for the 48-hour pre-sampling

period and each 24-hour sampling period starting at approximately 7:00 a.m. (see Appendix F). The direction with the highest wind speed and percent wind was chosen as the prevailing wind direction. For example, the prevailing wind direction for the pre-sample period was blowing from the west-southwest (following the Pend Oreille River valley) because the highest wind speeds, 8.1 to 11.5 miles per hour (mph), were recorded in that direction (Appendix F). Wind speed is important because SVOCs deposited in on-site surface soils become airborne as dust. Light winds will blow dust that is already airborne (e.g., mechanically disturbed from vehicle traffic). However, dust generation from undisturbed surfaces requires higher wind speeds or wind gusts. The minimum wind speed required to generate dust from undisturbed surfaces is dependent on the physical characteristics of the soil or surface material and the dust generated from it (e.g., particle size distribution, particle density, percent moisture, etc.). These physical characteristics may vary across an area of soil, as well as with meteorological changes during the day. For example, dust would be more easily generated from surface soil having a distribution of smaller particle sizes and lower density than soil comprised of larger, heavier particles. Dust generation would also tend to be less from wet soil than from dry soil.

Weather and wind directions during the three sampling periods had the same characteristics found during the pre-sampling period, with temperatures ranging between approximately 40 degrees F and 90 degrees F and winds generally west-southwesterly following the Pend Oreille River valley with speeds averaging from 4.6 to 6.9 mph. A secondary wind direction from the north-northeast was recorded during the first sampling period, which may have been due to a diurnal shift in wind direction during the night and early morning hours. When the prevailing wind direction was north-northeasterly, wind speeds averaged from 1.2 to 3.5 mph (E & E 2001a).

Sampler stations were placed around the PI site to ensure an appropriate background sample could be collected in the event of variable or unusual winds. Based on the prevailing winds, stations PY04AM and PY06AM, located outside and inside of the School, respectively, were consistently upwind of the PI facility during all three sample periods. Station PY03AM was also upwind during the second and third sample periods, but was downwind during the first sample period (Appendix F). Station PY04AM was selected as the more appropriate background air location as station PY06AM was inside the School. Background ambient air sample results from location PY04AM are presented in Table 5-4.

#### 5.2.4.2 Sample Results

Ambient air samples were not analyzed for Pesticides/PCBs, TAL inorganics or VOCs.

On August 22-23, 2001, five SVOCs were detected at location PY04AM, including 2-methylnaphthalene (0.40 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]), benzoic acid (an EC of 0.17 JQK  $\mu\text{g}/\text{m}^3$ ), fluorene (an EC of 0.01 JQK  $\mu\text{g}/\text{m}^3$ ), naphthalene (0.11  $\mu\text{g}/\text{m}^3$ ) and phenanthrene (an EC of 0.02 JQK  $\mu\text{g}/\text{m}^3$ ).

On August 23-24, 2001, three SVOCs were detected at location PY04AM, including 2-methylnaphthalene (0.07  $\mu\text{g}/\text{m}^3$ ), naphthalene (0.06  $\mu\text{g}/\text{m}^3$ ) and phenanthrene (an EC of 0.01 JQK  $\mu\text{g}/\text{m}^3$ ).

On August 24-25, 2001, four SVOCs were detected at location PY04AM, including 2-methylnaphthalene (0.08  $\mu\text{g}/\text{m}^3$ ), fluorene (an EC of 0.01 JQK  $\mu\text{g}/\text{m}^3$ ), naphthalene (0.06  $\mu\text{g}/\text{m}^3$ ) and phenanthrene (an EC of 0.01 JQK  $\mu\text{g}/\text{m}^3$ ).

<b>Table 5-1</b>	
<b>BACKGROUND SURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY POLES INCORPORATED OLDTOWN, IDAHO</b>	
<b>EPA Sample Number</b>	<b>01354059</b>
<b>CLP Organic Number</b>	<b>JOK69</b>
<b>CLP Inorganic Number</b>	<b>MJOK69</b>
<b>Location ID</b>	<b>BG01SS</b>
<b>Depth</b>	<b>0-6 inches</b>
<b>Description</b>	<b>East 7th South and Meadowdale</b>
<b>Inorganics (mg/kg)</b>	
Aluminum	<b>9,220</b>
Arsenic	<b>9.7</b>
Barium	<b>143</b>
Beryllium	0.48 JBK (1.03 U)
Calcium	<b>1,570</b>
Chromium	<b>9.4</b>
Cobalt	6.2 JBK (10.3 U)
Copper	<b>13.8</b>
Iron	<b>12,800</b>
Lead	<b>12.3</b>
Magnesium	<b>3,320</b>
Manganese	<b>375</b>
Nickel	6.5 JBK (8.2 U)
Potassium	<b>1,770 JH</b>
Vanadium	<b>15.6</b>
Zinc	<b>49.9</b>
<b>Semivolatile Organic Compound (µg/kg)</b>	
Pentachlorophenol	75 JQK (850 U)
<b>Volatile Organic Compounds (µg/kg)</b>	
1,1,1,2-Tetrachloroethane	5 JQK (10 U)
1,1,2-Trichloroethane	7 JQK (10 U)
Toluene	2 JQK (10 U)
Trichloroethene	1 JQK (10 U)
Xylenes (total)	3 JQK (10 U)

Note: Bold type indicates concentrations above the Contract Required Detection Limit (CRDL) or Contract Required Quantitation Limit (CRQL). The CRQL/CRDL is provided in parentheses for background results that are qualified because they are below the CRQL/CRDL when the analyte is detected in target samples.

Key:

B = Analyte detected below the adjusted CRDL, but at or above the Instrument Detection Limit.  
 BG = Background.  
 BHC = Benzene hexachloride.  
 CLP = Contract Laboratory Program.  
 EPA = United States Environmental Protection Agency.  
 H = High bias.  
 ID = Identification.  
 J = The analyte was positively identified. The associated numerical result is an estimate.  
 K = Unknown bias.  
 µg/kg = Micrograms per kilogram.  
 mg/kg = Milligrams per kilogram.  
 Q = Analyte detected below the adjusted Contract Required Quantitation Limit.  
 SS = Surface soil.  
 U = The analyzed was not detected. The associated numerical value is the CRQL/CRDL.

**Table 5-2**

**BACKGROUND SUBSURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

<b>EPA Sample Number</b>	<b>01354075</b>	<b>01354076</b>
<b>CLP Organic Number</b>	<b>JOK85</b>	<b>JOK86</b>
<b>CLP Inorganic Number</b>	<b>MJOK85</b>	<b>MJOK86</b>
<b>Location ID Number</b>	<b>TP06SB1</b>	<b>TP06SB2</b>
<b>Depth</b>	<b>45 - 47 feet</b>	<b>76-78 feet</b>
<b>Description</b>	<b>10' East of Treatment Building</b>	<b>10' East of Treatment Building</b>
<b>Inorganics (mg/kg)</b>		
Aluminum	<b>5,090</b>	<b>4,860</b>
Arsenic	<b>9.1</b>	<b>7.8</b>
Barium	<b>66.2</b>	<b>58.3</b>
Beryllium	0.30 JBK (1.02 U)	0.29 JBK (1.04 U)
Calcium	<b>10,400</b>	<b>9,690</b>
Chromium	<b>8.0</b>	<b>6.8</b>
Cobalt	4.5 JBK (10.2 U)	4.1 JBK (10.4 U)
Copper	<b>10.1</b>	<b>8.5</b>
Iron	<b>10,800</b>	<b>9,910</b>
Lead	<b>9.1</b>	<b>9.2</b>
Magnesium	<b>4,090</b>	<b>2,790</b>
Manganese	<b>229</b>	<b>244</b>
Nickel	<b>9.9</b>	5.6 JBK (8.3 U)
Potassium	<b>1,230 JK</b>	<b>1,090 JK</b>
Selenium	0.46 JBK (1.03 U)	0.46 UJK (1.04 U)
Vanadium	<b>11.6</b>	<b>11.3</b>
Zinc	<b>33.8</b>	<b>29.4</b>

Note: Bold type indicates concentrations above the Contract Required Detection Limit (CRDL).  
The CRDL is provided in parentheses for background results that are qualified because they are below the CRDL when the analyte is detected in target samples. Only compounds which were detected in at least one sample were reported.

Key:

- B = Analyte detected below the adjusted Contract Required Detection Limit, but at or above the Instrument Detection Limit.
- CLP = Contract Laboratory Program.
- EPA = United States Environmental Protection Agency.
- ID = Identification.
- J = The analyte was positively identified. The associated numerical result is an estimate.
- K = Unknown bias.
- mg/kg = Milligrams per kilogram.
- SB = Subsurface soil.
- TP = Treatment plant.
- U = The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

**Table 5-3**

**BACKGROUND SEDIMENT SAMPLE  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

<b>EPA Sample Number</b>	<b>01354061</b>
<b>CLP Organic Number</b>	<b>JOK71</b>
<b>CLP Inorganic Number</b>	<b>MJOK71</b>
<b>Location ID</b>	<b>PO02SD</b>
<b>Depth bgs</b>	<b>0-6 inches</b>
<b>Description</b>	<b>350' Upstream (West) of PPE</b>
<b>Inorganics (mg/kg)</b>	
Aluminum	<b>5,590</b>
Arsenic	<b>5.3</b>
Barium	<b>95.7</b>
Beryllium	0.40 JBK (1.19 U)
Cadmium	0.21 JBK (1.19 U)
Calcium	<b>3,510</b>
Chromium	<b>8.1</b>
Cobalt	4.4 JBK (11.9 U)
Copper	<b>37.6</b>
Iron	<b>8,640</b>
Lead	<b>14.5</b>
Magnesium	<b>2,860</b>
Manganese	<b>94.1</b>
Nickel	7.2 JBK (9.5 U)
Potassium	1,020 JBK
Selenium	0.80 JBK (1.19 U)
Sodium	122 JBK
Vanadium	<b>12.2</b>
Zinc	<b>68.0</b>
<b>Chlorinated Pesticide (µg/kg)</b>	
beta-BHC	2.2 JNK
<b>Volatile Organic Compound (µg/kg)</b>	
Trichloroethene	7 JQK (13 U)

Note: Bold type indicates concentrations above the Contract Required Detection Limit (CRDL) or Contract Required Quantitation Limit (CRQL). The CRQL/CRDL is provided in parentheses for background results that are qualified because they are below the CRQL/CRDL when the analyte is detected in target samples.

Key:

- B = Analyte detected below the Contract Required Detection Limits, but at or above the instrument detection limit.
- bgs = below ground surface.
- BHC = Benzene hexachloride.
- CLP = Contract Laboratory Program.
- EPA = United States Environmental Protection Agency.
- ID = Identification.
- J = The analyte was positively identified. The associated numerical result is an estimate.
- K = Unknown bias.
- µg/kg = Micrograms per kilogram.
- mg/kg = Milligrams per kilogram.
- N = The analyte is tentatively identified.
- PO = Pend Oreille River.
- PPE = Probable point of entry.
- Q = Analyte detected below the adjusted Contract Required Quantitation Limit.
- SD = Sediment.
- U = The analyte was not detected. The associated numerical result is the sample quantitation limit.

Table 5-4

**BACKGROUND AMBIENT AIR SAMPLE  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

<b>EPA Sample Number</b>	<b>01344104</b>	<b>01344114</b>	<b>01344124</b>
<b>CLP Organic Number</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>CLP Inorganic Number</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Location ID</b>	<b>PY04AM</b>	<b>PY04AM</b>	<b>PY04AM</b>
<b>Description</b>	<b>40' North of School</b>	<b>40' North of School</b>	<b>40' North of School</b>
<b>Date</b>	<b>August 22-23, 2001</b>	<b>August 23-24, 2001</b>	<b>August 24-25, 2001</b>
<b>Semivolatile Organic Compounds (<math>\mu\text{g}/\text{m}^3</math>)</b>			
2-Methylnaphthalene	<b>0.40</b>	<b>0.07</b>	<b>0.08</b>
Benzoic Acid	0.17 JQK (0.18 U)	0.18 U	0.16 U
Fluorene	0.01 JQK (0.04 U)	0.04 U	0.01 JQK (0.03 U)
Naphthalene	<b>0.11</b>	<b>0.06</b>	<b>0.06</b>
Phenanthrene	0.02 JQK (0.04 U)	0.01 JQK (0.04 U)	0.01 JQK (0.03 U)

Note: Only results for compounds which were detected in at least one sample were reported.  
 Bold type indicates concentrations above the sample quantitation limit.  
 Positive phthalate results were not reported as phthalates are common laboratory contaminants.  
 The sample quantitation limit (SQL) is provided in parentheses for background results  
 that are qualified because they are below the SQL when the analyte is detected in target samples.

Key:

- AM = Ambient air.
- CLP = Contract Laboratory Program.
- EPA = United States Environmental Protection Agency.
- ID = Identification.
- J = The analyte was positively identified. The associated numerical result is an estimate.
- K = Unknown bias.
- $\mu\text{g}/\text{m}^3$  = Micrograms per cubic meter.
- NA = Not applicable.
- PY = Pole yard.
- Q = Analyte detected below the adjusted sample quantitation limit.
- U = The analyte was not detected. The associated numerical value is the sample quantitation limit.

## **6. POTENTIAL SOURCES**

This section describes sample locations and analytical results of IA samples obtained from potential sources. The sampling locations, sampling rationale and analytical results are summarized in the following sections. Tables 6-1 through 6-7 summarize analytes detected at each potential source location investigated. Laboratory data sheets of analytical results for all samples are provided in Appendix I.

### **6.1 TREATMENT PLANT AREA**

The IA identified four tanks (ASTs) totaling 70,000 gallons of capacity in the TP shed. The dip tank, with a capacity of approximately 68,000 gallons, is also located in the TP area. These tanks are routinely used in the wood-treating process and contain a 5 % PCP-enriched Imperial Pole Treating oil solution. Material safety data sheets for Imperial Pole Treating oil and PCP are included in Appendix A.

An SPCC inspection was conducted as part of the IA. Secondary containment walls for the ASTs consisted of treated poles placed lengthwise around the perimeter of the treatment shed. Soil was mounded against the poles on the inside of the containment to prevent potential leaks from going under the poles (photograph 3-25 in Appendix D), however, several breaches were noted between the secondary containment wall poles. Besides the inadequate containment walls, the native soil floor inside the containment area did not appear to be impervious to oil, therefore the AST area has inadequate secondary containment. The dip tank is located partially below ground (to a depth of 8 feet bgs) and does not have any secondary containment. See the inspection report (Appendix A) for a detailed list of discrepancies.

#### **6.1.1 Sample Locations**

Two product samples were collected during the IA. These samples were collected to determine SVOCs in the PCP-oil solution and for comparison with SVOCs found in other IA samples. Oil sample TP01PD and sludge sample TP02PD were collected from the dip tank after completion of the pole treatment process.

### **6.1.2 Sample Results**

Sample results are summarized in Table 6-1. Twelve SVOCs were detected above sample quantitation limits in the oil sample, ranging from 150 mg/kg (acenaphthylene) to 39,000 mg/kg (PCP). Eleven SVOCs were detected above sample quantitation limits in the sludge sample, ranging from 110 mg/kg (dibenzofuran) to 72,000 mg/kg (PCP). The dip tank samples were not analyzed for Pesticides/PCBs, TAL inorganics or VOCs.

## **6.2 CONTAMINATED SOIL SOURCES**

Previous investigations, including the May 2001 IDEQ surface soil sample collection activities, identified several contaminated soil sources at the PI property. Wood-treating compounds may have migrated to surficial and subsurface soils from past and ongoing plant processes, especially near the TP. Contaminated soil sources also may be present beneath the pole storage decks from areal deposition or from treated pole dripping. Gravel fill covers the roads on the PI facility but native soil is exposed at the surface in the pole yard and TP areas.

### **6.2.1 Treatment Plant Facility**

The TP facility area (approximately 400 feet by 400 feet) includes the wood treatment product (oil) storage tanks, limited secondary containment, pole loading/unloading areas and a PCP block storage area (Figure 3-1). The total area of exposed soil at the TP is approximately 160,000 square feet (ft<sup>2</sup>).

#### **6.2.1.1 Sample Locations**

Four surface soil and 14 subsurface soil samples were collected from seven borings (TP04 through TP10) in the TP area (Figure 3-1). Six borings were originally planned in this area (E & E 2001b), but the number of borings was increased to more thoroughly delineate the extent of contamination in this area. Boreholes were drilled to a maximum depth of 85.5 feet and samples were collected from surface soils (TP04SS, TP05SS, TP06SS and TP09SS) and subsurface soils (TP04SB1 through TP10SB2) as described in Section 3.

#### **6.2.1.2 Sample Results**

Wood-treating oil stains and/or petroleum odors were observed in one surface and five subsurface soil samples collected from three boreholes (TP04, TP05 and TP08) at depths ranging from 0

to 52 feet bgs (Table 3-1). The extent of oil stains in subsurface soils appears to encompass an area of approximately 3,200 ft<sup>2</sup> (80 feet by 40 feet) with an approximate thickness of 42 feet (oil stains were noted between 10 and 52 feet bgs). Based on these observations, the total volume of wood-treating oil-impacted subsurface soils is estimated to be 4,978 cubic yards. These area and volume values are estimates due to limited surface and subsurface soil sample collection activities in the TP area.

Borehole surface soil sample results are summarized in Table 6-2. Surface soil sample results for selected analytes (those with PRG exceedances) are presented in Figure 6-1. One SVOC was detected at a significant concentration in three of four surface soil samples, including PCP in samples TP04SS (270,000 micrograms per kilogram [ $\mu\text{g}/\text{kg}$ ]), TP06SS (180,000  $\mu\text{g}/\text{kg}$ ) and TP09SS (30,000  $\mu\text{g}/\text{kg}$ ). Two TAL inorganic elements were detected at significant concentrations in two of four surface soil samples including lead at 38.0 mg/kg in one sample and nickel with concentrations of 13.4 mg/kg and 14.5 mg/kg in two samples. No Pesticides/PCBs or VOCs were detected at significant concentrations in surface soil samples. Lead and nickel are not known to be used in operations at the PI facility and therefore will not be considered attributable to site activities.

Borehole CLP subsurface soil sample results are summarized in Table 6-3 (upper subsurface samples) and 6-4 (lower subsurface samples). Subsurface soil sample results for selected analytes (those with PRG exceedances) are presented in Figure 6-2. One TAL inorganic element (selenium) was detected at a significant concentration in 1 of 14 subsurface soil samples (an EC of 1.1 J mg/kg with low bias [L] in sample TP09SB2). SVOCs were detected at significant concentrations in 6 of 14 subsurface soil samples ranging from an AC of 1,200  $\mu\text{g}/\text{kg}$  (fluoranthene) to 1,700,000  $\mu\text{g}/\text{kg}$  (PCP). VOCs were detected at significant concentrations in 5 of 14 subsurface soil samples ranging from an AC of 10  $\mu\text{g}/\text{kg}$  (ethylbenzene) to 400  $\mu\text{g}/\text{kg}$  (total xylenes). No Pesticides/PCBs were detected at significant concentrations in the subsurface soil samples. Selenium and VOCs are not known to be used in operations at the PI facility and therefore will not be considered attributable to site activities.

Borehole TPH results are summarized in Table 6-5. The field screening TPH results ranged from 8.8 mg/kg at location TP05SS to greater than 10,000 mg/kg at locations TP04SS, TP05SB1, TP06SS, TP07SB2, TP07SB-50 (50 feet bgs) and TP08SB1. Locations TP04SS, TP04SB2, TP05SB1, TP05SB2, TP06SS, TP07SB1, TP07SB2, TP08SB1, TP08SB2, TP09SS, TP07SB-40 and TP07SB-50 had significant field screening TPH results.

The commercial laboratory confirmation results were as follows: 56 mg/kg at location TP04SB2; 29,000 mg/kg at location TP07SB2; 840 mg/kg at location TP09SS; and 26 U mg/kg at location TP09SB1.

The field screening results agreed with the commercial laboratory results for the four samples analyzed by both methods, with a correlation coefficient of 0.993.

Significant concentrations of SVOCs were detected in surface and subsurface soils at the TP facility. In general, the highest concentrations of PCP surface soil contamination occurred in the closest samples to the dip tank, including samples TP04SS and TP06SS. The highest subsurface soil contamination was detected at sample locations TP05 and TP07, also located near the dip tank.

## **6.2.2 Treated Pole Storage Area**

The treated pole storage area is used to store poles after oil treatment in the dip tank. The poles are transported from the dip tank to this area by Pettibones and are stacked on pole decks constructed with treated poles so that they do not come in contact with the ground. Native soil lies exposed underneath the pole decks. Railroad tracks cross this area; the spurs located in this area are used for infrequent pole loading and unloading. The treated pole storage area is approximately 300 feet by 300 feet, with a total area of approximately 90,000 ft<sup>2</sup>.

### **6.2.2.1 Sample Locations**

Six surface soil samples were collected from six locations in the Pole Yard. The samples were collected from areas of recent (PY01SS, PY02SS, PY03SS) and historical (PY04SS, PY05SS, PY06SS) treated pole storage. The samples were collected as described in Section 3.

### **6.2.2.2 Sample Results**

Visibly contaminated soil, odors and elevated organic vapors were not noted in Pole Yard surface soils. Subsurface soil samples were not collected in the area.

Sample results are summarized in Table 6-6. Surface soil sample results for selected analytes (those with PRG exceedances) are presented in Figure 6-3. SVOCs were detected at significant concentrations in five of six Pole Yard surface soil samples ranging from 370 µg/kg (chrysene) to an estimated concentration of 600,000 JL µg/kg (PCP). Two TAL inorganics were detected at significant concentrations in four of six Pole Yard surface soil samples ranging from 10.1 mg/kg (nickel) to 56.4 mg/kg (lead). One VOC (acetone) was detected at a significant concentration in one of six surface soil samples (PY05SS at 87 µg/kg). No Pesticides/PCBs were detected at significant concentrations in Pole

Yard surface soil samples. Acetone, lead and nickel are not known to be used in operations at the PI facility and therefore will not be considered attributable to site activities.

In general, surface soil contamination occurred throughout the treated pole storage area, with significant PCP concentrations found at four of six locations.

### **6.2.3 PCP Sack Area**

A discarded PCP cloth sack was noted on the hillside north of the TP. The sack is an outer cover for the transportation and storage of the PCP blocks and does not typically come into direct contact with PCP. As a precaution, surface soil sample PY07SS was collected from this area at the OSCs direction.

#### **6.2.3.1 Sample Location**

One surface soil sample was collected in this area (Figure 3-1). Areas of stained surficial soil were not observed in this area.

#### **6.2.3.2 Sample Results**

Sample results are summarized in Table 6-7. One SVOC (PCP at 4,000 µg/kg) and one VOC (1,1,2-trichloroethane at 11 µg/kg) were detected at significant concentrations in the PCP Sack Area. 1,1,2-Trichloroethane is not known to be used in operations at the PI facility and therefore is not considered attributable to site activities.

Surface soil contamination occurred at the PCP storage sack area with a significant SVOC concentration for PCP found in the surface soil sample.

**Table 6-1**

**DIP TANK SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

<b>EPA Sample Number</b>	<b>01344131</b>	<b>01344132</b>
<b>CLP Inorganic Number</b>	<b>NA</b>	<b>NA</b>
<b>CLP Organic Number</b>	<b>NA</b>	<b>NA</b>
<b>Location ID</b>	<b>TP01PD</b>	<b>TP02PD</b>
<b>Description</b>	<b>Dip Tank Oil</b>	<b>Dip Tank Sludge</b>
<b>Semivolatile Organic Compounds (mg/kg)</b>		
1-Methylnaphthalene	<b>6,400</b>	<b>6,300</b>
2-Methylnaphthalene	<b>11,000</b>	<b>11,000</b>
2,4-Dinitrotoluene	100 U	96 JQK
Acenaphthene	<b>970</b>	<b>950</b>
Acenaphthylene	<b>150</b>	<b>150</b>
Anthracene	<b>350</b>	<b>410</b>
Dibenzofuran	<b>510</b>	<b>110</b>
Fluoranthene	52 JQK	99 U
Fluorene	<b>1,400</b>	<b>1,400</b>
Naphthalene	<b>640</b>	<b>600</b>
n-Nitrosodiphenylamine	<b>1,800</b>	99 U
Pentachlorophenol	<b>39,000</b>	<b>72,000</b>
Phenanthrene	<b>4,000</b>	<b>3,900</b>
Pyrene	<b>170</b>	<b>160</b>

Note: Only compounds which were detected in at least one sample were reported.  
 Bold type indicates concentrations above the sample quantitation limit.

Key:

- CLP = Contract Laboratory Program.
- EPA = United States Environmental Protection Agency.
- ID = Identification.
- J = The analyte was positively identified. The associated numerical result is an estimate.
- K = Unknown bias.
- mg/kg = Milligrams per kilogram.
- NA = Not applicable.
- PD = Product.
- Q = The result is estimated because the concentration is below the adjusted sample quantitation limit.
- TP = Treatment plant.
- U = The analyte was not detected. The associated numerical value is the sample quantitation limit.

Table 6-2

**TREATMENT PLANT SURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354059	01354066	01354070	01354074	01354091	
CLP Organic Number	JOK69	JOK76	JOK80	JOK84	JOKA1	
CLP Inorganic Number	MJOK69	MJOK76	MJOK80	MJOK84	MJOKA1	
Location ID	BG01SS	TP04SS	TP05SS	TP06SS	TP09SS	
Depth	0-6 inches	0-6 inches	0-6 inches	0-6 inches	0-6 inches	
Description	Background	15' North of Treatment Building	15' South of Treatment Building	10' East of Treatment Building	15' West of Treatment Building	Industrial Soil PRGs
<b>Inorganics (mg/kg)</b>						
Aluminum	9,220	4,780	6,720	8,190	7,360	100,000
Arsenic	9.7	7.6	15.0	12.4	8.9	2.7
Barium	143	52.5	72.1	88.4	71.0	--
Beryllium	0.48 JBK (1.03 U)	0.26 JBK	0.38 JBK	0.44 JBK	0.36 JBK	2,200
Calcium	1,570	1,660	21,100	2,630	1,870	--
Chromium	9.4	6.7	9.5	13.4	9.4	100,000
Cobalt	6.2 JBK (10.3 U)	4.5 JBK	6.5 JBK	7.6 JBK	5.4 JBK	100,000
Copper	13.8	11.3	14.7	15.8	15.8	76,000
Iron	12,800	9,370	14,200	15,500	12,800	100,000
Lead	12.3	17.2	12.3	38.0	22.9	750
Magnesium	3,320	3,100	5,100	4,460	3,310	--
Manganese	375	242	359	296	326	32,000
Nickel	6.5 JBK (8.2 U)	4.7 JBK	14.5	13.4	7.0 JBK	41,000
Potassium	1,770 JH	812 JBK	1,560 JK	1,680 JK	1,170 JH	--
Selenium	0.45 UJK	0.82 JBK	0.81 JBK	0.61 JBK	1.0 JBK	10,000
Thallium	1.2 U	1.2 U	1.6 JBK	1.2 U	1.2 U	130
Vanadium	15.6	10 JBK	13.9	18.3	14.4	14,000
Zinc	49.9	34.6	49.6	64.0	44.4	100,000
<b>Chlorinated Pesticides (µg/kg)</b>						
Endosulfan II	3.4 U	70 U	3.9 U	24 JNK	18 U	5,300,000
Endosulfan sulfate	3.4 U	70 U	3.9 U	30 JNK	18 U	--
Endrin aldehyde	3.4 U	70 U	3.9 U	18 JNK	18 U	--
Endrin ketone	3.4 U	70 U	3.9 U	55 JNK	18 U	--
Heptachlor epoxide	1.7 U	36 U	2.0 U	25 JNK	9.1 U	270
Methoxychlor	17 U	610 JNK	20 U	88 U	91 U	4,400,000
<b>Semivolatile Organic Compound (µg/kg)</b>						
Pentachlorophenol	75 JQK (850 U)	270,000	990 U	180,000	30,000	11,000
<b>Volatile Organic Compounds (µg/kg)</b>						
1,1,2,2-Tetrachloroethane	5 JQK (10 U)	11 UJK	12 U	10 UJK	11 U	900
1,1,2-Trichloroethane	7 JQK (10 U)	11 UJK	12 U	3 JQK	11 U	1,900
Tetrachloroethene	10 U	3 JQK	12 U	1 JQK	11 U	19,000
Toluene	2 JQK (10 U)	11 U	12 U	10 U	11 U	520,000
Trichloroethene	1 JQK (10 U)	11 UJK	12 U	1 JQK	11 U	6,100
Trichlorofluoromethane	10 U	2 JQK	12 U	10 U	11 U	2,000,000
Xylenes (total)	3 JQK (10 U)	6 JQK	12 U	10 UJK	11 U	210,000

Key is on the next page.

**Table 6-2**

**TREATMENT PLANT SURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

Note: Only compounds which were detected in at least one sample were reported.  
Bold type indicates definitive concentrations above the Contract Required Detection Limit or Contract Required Quantitation Limit.  
Underlined type indicates result is significant as defined in Section 6.  
Highlighted cells indicate results greater than one or more regulatory limits listed in the Table.  
The CRQL/CRDL is provided in parentheses for background results that are qualified because they are below the CRQL/CRDL when the analyte is detected in target samples.

Key:

B = Analyte detected below the adjusted Contract Required Detection Limit, but at or above the instrument detection limit.  
BG = Background.  
CLP = Contract Laboratory Program.  
EPA = United States Environmental Protection Agency.  
H = High bias.  
ID = Identification.  
J = The analyte was positively identified. The associated numerical result is an estimate.  
K = Unknown bias.  
µg/kg = Micrograms per kilogram.  
mg/kg = Milligrams per kilogram.  
PRG = EPA Region 9 Preliminary Remediation Goal.  
Q = Analyte detected below the adjusted Contract Required Quantitation Limit.  
SS = Surface soil.  
TP = Treatment plant.  
U = The analyte was not detected. The associated numerical result is the sample detection/quantitation limit.  
UJ = The analyte was not detected. The associated numerical result is the estimated sample detection/quantitation limit.

Table 6-3

**TREATMENT PLANT UPPER SUBSURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354075	01354067	01354071	01354079	01354083	01354092	01354089	
CLP Organic Number	JOK85	JOK77	JOK81	JOK89	JOK93	JOKA2	JOK99	
CLP Inorganic Number	MJOK85	MJOK77	MJOK81	MJOK89	MJOK93	MJOKA2	MJOK99	
Location ID Number	TP06SB1	TP04SB1	TP05SB1	TP07SB1	TP08SB1	TP09SB1	TP10SB1	
Depth	45 - 47 feet	10 - 12 feet	35 - 37 feet	36 - 37 feet	35 - 37 feet	35 - 37 feet	35 - 37 feet	
Description	Background-10' East of Treatment Building	15' North of Treatment Building	15' South of Treatment Building	15' South of Treatment Building and East of TP05	40' South of Treatment Building within Pole Yard	15' West of Treatment Building	100' South of Treatment Building in Pole Yard	Industrial Soil PRGs
<b>Inorganics (mg/kg)</b>								
Aluminum	5,090	3,440	6,920	7,100	4,570	5,820	5,540	100,000
Antimony	0.75 U	0.80 U	0.78 U	0.82 U	0.79 U	0.76 U	0.95 JBK	820
Arsenic	9.1	9.4	7.1	11.8	10.4	13.8	12.5	2.7
Barium	66.2	60.0	69.6	86.7	56.4	72.2	61.2	--
Beryllium	0.30 JBK	0.25 JBK	0.37 JBK	0.42 JBK	0.29 JBK	0.34 JBK	0.30 JBK	2,200
Calcium	10,400	11,600	2,290	18,900	26,100	25,100	21,500	--
Chromium	8.0	5.0	8.2	9.9	7.2	7.8	9.4	100,000
Cobalt	4.5 JBK	5.1 JBK	5.1 JBK	6.8 JBK	4.7 JBK	6.2 JBK	5.9 JBK	100,000
Copper	10.1	10.0	13.8	17.4	12.1	14.1	12.7	76,000
Iron	10,800	8,060	11,000	14,300	10,700	13,200	13,000	100,000
Lead	9.1	9.8	13.6	13.2	9.4	12.3	9.8	750
Magnesium	4,090	2,840	3,110	4,600	3,710	4,200	4,990	--
Manganese	229	238	315	384	309	386	323	32,000
Nickel	9.9	6.0 JBK	13.4	12.4	5.4 JBK	9.5	6.1 JBK	41,000
Potassium	1,230 JK	1,010 JBK	1,170 JK	1,740 JK	1,120 JH	1,140 JH	1,390 JH	--
Selenium	0.46 JBK	0.86 JBK	0.83 JBK	0.98 JBK	0.47 UJK	0.78 JBK	0.45 UJK	10,000
Sodium	99.9 U	146 JBK	103 U	109 U	105 U	101 U	101 U	--
Vanadium	11.6	9.5 JBK	12.9	15.0	10.8	12.1	12.9	14,000
Zinc	33.8	30.3	35.9	48.1	35.8	42.8	40.6	100,000
<b>Chlorinated Pesticides (µg/kg)</b>								
4,4'-DDD	3.4 U	3.6 U	18 U	37 U	4.4 JNK	4.1 U	4.0 U	1,700
alpha-Chlordane	1.8 U	1.8 U	9.0 U	24 JNK	2.0 U	2.1 U	2.0 U	11,000
delta-BHC	1.8 U	1.8 U	9.0 U	19 U	4.5 JNK	2.1 U	2.0 U	--
Dieldrin	3.4 U	3.6 U	18 U	37 U	4.5 JNK	4.1 U	4.0 U	150
Endosulfan I	1.8 U	1.8 U	9.0 U	48 JNK	8.7 JNK	2.1 U	2.0 U	5,300,000
Endrin Aldehyde	3.4 U	3.6 U	18 U	37 U	6.7 JNK	4.1 U	4.0 U	--
gamma-BHC (Lindane)	1.8 U	1.8 U	9.0 U	78 JNK	2.0 U	2.1 U	2.0 U	--
gamma-Chlordane	1.8 U	1.8 U	9.0 U	22 JNK	2.2 U	2.1 U	2.0 U	11,000
Heptachlor epoxide	1.8 U	1.8 U	9.0 U	29 JNK	5.5 JNK	2.1 U	2.0 U	270

Key is at the end of the table

Table 6-3

**TREATMENT PLANT UPPER SUBSURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354075	01354067	01354071	01354079	01354083	01354092	01354089	Industrial Soil PRGs
CLP Organic Number	JOK85	JOK77	JOK81	JOK89	JOK93	JOKA2	JOK99	
CLP Inorganic Number	MJOK85	MJOK77	MJOK81	MJOK89	MJOK93	MJOKA2	MJOK99	
Location ID Number	TP06SB1	TP04SB1	TP05SB1	TP07SB1	TP08SB1	TP09SB1	TP10SB1	
Depth	45 - 47 feet	10 - 12 feet	35 - 37 feet	36 - 37 feet	35 - 37 feet	35 - 37 feet	35 - 37 feet	
Description	Background-10' East of Treatment Building	15' North of Treatment Building	15' South of Treatment Building	15' South of Treatment Building and East of TP05	40' South of Treatment Building within Pole Yard	15' West of Treatment Building	100' South of Treatment Building in Pole Yard	
<b>Semivolatile Organic Compounds (µg/kg)</b>								
2-Methylnaphthalene	340 U	360 U	83 JQK	<b>550,000</b>	<b>19,000</b>	410 U	400 U	--
Acenaphthene	340 U	360 U	350 UJK	<b>25,000 JH</b> <b>(5,300 AC)</b>	3,300 JQK	410 U	400 U	38,000,000
Anthracene	340 U	360 U	350 U	7,500 JQK	12,000 UJK	410 U	400 U	100,000,000
Benzo(b)fluoranthene	340 U	360 U	100 JQK	11,000 UJK	12,000 UJK	410 U	400 U	2,900
Benzo(g,h,i)perylene	340 U	360 U	120 JQK	11,000 UJK	12,000 UJK	410 U	400 U	--
Benzo(k)fluoranthene	340 U	360 U	85 JQK	11,000 UJK	12,000 UJK	410 U	400 U	29,000
Chrysene	340 U	360 U	180 JQK	11,000 UJK	12,000 UJK	410 U	400 U	290,000
Di-n-butylphthalate	35 JQK	360 U	350 U	11,000 UJK	12,000 UJK	410 U	400 U	--
Fluorene	340 U	360 U	350 UJK	<b>30,000 JH</b> <b>(3,000 AC)</b>	1,600 JQK	410 U	400 U	33,000,000
Naphthalene	340 U	360 U	350 U	<b>40,000</b>	12,000 U	410 U	400 U	190,000
Pentachlorophenol	860 U	850 JQK	<b>6,000 JH</b> <b>(82.8 AC)</b>	<b>880,000</b>	<b>100,000</b>	1,000 U	55 JQK	11,000
Phenanthrene	340 U	360 U	350 U	<b>86,000 JH</b> <b>(8,600 AC)</b>	5,000 JQK	410 U	400 U	--
Pyrene	340 U	360 U	350 U	9,200 JQK	12,000 UJK	410 U	400 U	54,000,000
<b>Volatile Organic Compounds (µg/kg)</b>								
1,1,2,2-Tetrachloroethane	10 U	11 U	11 U	22 UJK	29 U	12 U	5 JQK	900
1,1,2-Trichloroethane	10 U	11 U	11 U	22 U	29 U	12 U	5 JQK	1,900
Ethylbenzene	10 U	11 U	11 U	<b>100 JH</b> <b>(10 AC)</b>	29 U	12 U	12 U	230,000
Isopropylbenzene	10 U	11 U	11 U	54 JQK	29 U	12 U	12 U	--
Methylcyclohexane	10 U	11 U	11 U	7 JQK	29 U	12 U	12 U	8,800,000
Toluene	10 U	11 U	11 U	<b>58 JH</b> <b>(36 AC)</b>	29 U	12 U	12 U	520,000
Xylenes (total)	10 U	11 U	11 U	<b>920 JH</b> <b>(92 AC)</b>	<b>33</b>	12 U	12 U	210,000

Key is at the end of the table

**Table 6-3**

**TREATMENT PLANT UPPER SUBSURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

Note: Only compounds which were detected in at least one sample were reported.  
Bold type indicates definitive concentrations above the Contract Required Detection Limit or Contract Required Quantitation Limit.  
Underlined type indicates result is significant as defined in Section 6.  
Highlighted cells indicate results greater than one or more regulatory limits listed in the Table.

Key:

AC = Adjusted concentration.  
B = Analyte detected below the adjusted Contract Required Detection Limit, but at or above the instrument detection limit.  
BHC = Benzene hexachloride.  
CLP = Contract Laboratory Program.  
DDD = Dichlorodiphenyldichlorethane.  
EPA = United States Environmental Protection Agency.  
H = High bias.  
ID = Identification.  
J = The analyte was positively identified. The associated numerical result is an estimate.  
K = Unknown bias.  
µg/kg = Micrograms per kilogram.  
mg/kg = Milligrams per kilogram.  
N = The compound is tentatively identified.  
PRG = EPA Region 9 Preliminary Remediation Goal.  
Q = Analyte detected below the adjusted Contract Required Quantitation Limit.  
SB = Subsurface soil.  
TP = Treatment plant.  
U = The analyte was not detected. The associated numerical result is the sample detection/quantitation limit.  
UJ = The analyte was not detected. The associated numerical result is the estimated sample detection/quantitation limit.

Table 6-4

**TREATMENT PLANT LOWER SUBSURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354076	01354068	01354072	01354080	01354084	01354093	01354090	
CLP Organic Number	JOK86	JOK78	JOK82	JOK90	JOK94	JOKA3	JOKA0	
CLP Inorganic Number	MJOK86	MJOK78	MJOK82	MJOK90	MJOK94	MJOKA3	MJOKA0	
Location ID Number	TP06SB2	TP04SB2	TP05SB2	TP07SB2	TP08SB2	TP09SB2	TP10SB2	
Depth	76 - 78 feet	77.7 - 78.7 feet	78 - 79 feet	78 - 79.5 feet	75 - 77 feet	75 - 77 feet	75 - 77 feet	
Description	Background- 10' East of Treatment Building	15' North of Treatment Building	15' South of Treatment Building	15' South of Treatment Building and East of TP05	40' South of Treatment Building within Pole Yard	15' West of Treatment Building	100' South of Treatment Building in Pole Yard	Industrial Soil PRGs
<b>Inorganics (mg/kg)</b>								
Aluminum	4,860	9,210	6,340	7,420	3,400	5,550	6,260	100,000
Antimony	0.77 U	0.75 U	0.83 U	0.82 U	0.82 JBK	0.90 JBK	0.85 U	820
Arsenic	7.8	7.2	15.7	15.2	6.9	16.9	11.1	2.7
Barium	58.3	82.4	62.2	81.0	45.3	70.7	70.0	--
Beryllium	0.29 JBK (1.04 U)	0.37 JBK	0.40 JBK	0.42 JBK	0.23 JBK	0.36 JBK	0.36 JBK	2,200
Calcium	9,690	1,840	24,100	14,100	8,600	17,100	9,200	--
Chromium	6.8	13.5	8.9	10.5	5.0	7.8	9.4	100,000
Cobalt	4.1 JBK (10.4 U)	5.8 JBK	6.6 JBK	7.0 JBK	4.3 JBK	6.4 JBK	5.7 JBK	100,000
Copper	8.5	15.0	18.9	14.9	8.7	14.0	11.9	76,000
Iron	9,910	12,400	13,800	15,500	7,670	13,600	13,100	100,000
Lead	9.2	36.7	14.2	13.9	7.0	14.6	11.7	750
Magnesium	2,790	3,670	4,330	5,370	2,540	4,070	4,300	--
Manganese	244	322	352	369	144	289	255	32,000
Nickel	5.6 JBK (8.3 U)	10.7	10	10.2	3.2 JBK	6.2 JBK	5.7 JBK	41,000
Potassium	1,090 JK	1,310 JK	1,450 JK	1,620 JK	929 JBK	1,350 JH	1,600 JH	--
Selenium	0.46 UJK (1.04 AC)	0.52 JBK	0.60 JBK	0.49 UJK	0.45 UJK	1.1 JL	0.50 UJK	10,000
Thallium	1.2 U	1.1 U	1.3 JBK	1.3 U	1.2 U	1.2 U	1.3 U	130
Vanadium	11.3	15.7	13.4	17.1	9.8 JBK	15.4	16.0	14,000
Zinc	29.4	44.2	47.5	45.7	25.1	42.7	39.7	100,000
<b>Chlorinated Pesticides (µg/kg)</b>								
Endrin Aldehyde	3.4 U	3.4 U	43 JNK	370 U	180 U	3.6 U	3.9 U	--
Endrin ketone	3.4 U	4.0 JNK	36 U	370 U	180 U	3.6 U	3.9 U	--
Heptachlor epoxide	1.8 U	1.8 U	48 JNK	190 U	94 U	1.8 U	2.0 U	270

Key is at the end of the table

Table 6-4

**TREATMENT PLANT LOWER SUBSURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354076	01354068	01354072	01354080	01354084	01354093	01354090	
CLP Organic Number	JOK86	JOK78	JOK82	JOK90	JOK94	JOKA3	JOKA0	
CLP Inorganic Number	MJOK86	MJOK78	MJOK82	MJOK90	MJOK94	MJOKA3	MJOKA0	
Location ID Number	TP06SB2	TP04SB2	TP05SB2	TP07SB2	TP08SB2	TP09SB2	TP10SB2	
Depth	76 - 78 feet	77.7 - 78.7 feet	78 - 79 feet	78 - 79.5 feet	75 - 77 feet	75 - 77 feet	75 - 77 feet	
Description	Background- 10' East of Treatment Building	15' North of Treatment Building	15' South of Treatment Building	15' South of Treatment Building and East of TP05	40' South of Treatment Building within Pole Yard	15' West of Treatment Building	100' South of Treatment Building in Pole Yard	Industrial Soil PRGs
<b>Semivolatile Organic Compounds (µg/kg)</b>								
2-Methylnaphthalene	340 U	340 U	<u>450,000</u>	<u>510,000</u>	<u>16,000</u>	360 U	390 UJK	--
Acenaphthene	340 U	340 U	11,000 UJK	11,000 U	10,000 JQK	360 U	390 UJK	38,000,000
Acenaphthylene	340 U	340 U	11,000 UJK	11,000 U	2,200 JQK	360 U	390 UJK	--
Anthracene	340 U	340 U	<u>13,000 JH</u> <u>(1,300 AC)</u>	6,400 JQK	2,000 JQK	360 U	390 UJK	100,000,000
Benzo(a)anthracene	340 U	74 JQK	2,200 JQK	3,000 JQK	1,700 JQK	360 U	390 UJK	2,900
Benzo(a)pyrene	340 U	41 JQK	11,000 UJK	11,000 U	11,000 UJK	360 U	390 UJK	290
Benzo(b)fluoranthene	340 U	190 JQK	1,200 JQK	2,600 JQK	11,000 UJK	360 U	390 UJK	2,900
Benzo(g,h,i)perylene	340 U	70 JQK	11,000 UJK	11,000 U	11,000 UJK	360 U	390 UJK	--
Benzo(k)fluoranthene	340 U	140 JQK	1,300 JQK	2,100 JQK	11,000 UJK	360 U	390 UJK	29,000
Chrysene	340 U	300 JQK	4,600 JQK	4,500 JQK	2,000 JQK	360 U	390 UJK	290,000
Dibenzo(a,h)anthracene	340 U	140 JQK	11,000 UJK	11,000 U	11,000 UJK	360 U	390 UJK	290
Di-n-butylphthalate	340 U	340 U	11,000 UJK	11,000 UJK	11,000 UJK	44 JQK	390 UJK	--
Fluoranthene	340 U	220 JQK	5,800 JQK	<u>12,000 JH</u> <u>(1,200 AC)</u>	6,700 JQK	360 U	390 UJK	30,000,000
Fluorene	340 U	340 U	<u>27,000 JH</u> <u>(2,700 AC)</u>	<u>31,000</u>	11,000 UJK	360 U	390 UJK	33,000,000
Indeno(1,2,3-cd)pyrene	340 U	62 JQK	11,000 UJK	11,000 U	11,000 UJK	360 U	390 UJK	2,900
Naphthalene	340 U	340 U	<u>31,000 JH</u> <u>(3,100 AC)</u>	<u>20,000</u>	11,000 U	360 U	390 UJK	190,000
Pentachlorophenol	860 U	<u>2,100</u>	<u>1,700,000</u>	<u>1,600,000</u>	<u>230,000</u>	900 U	66 JQK	11,000
Phenanthrene	340 U	60 JQK	130,000 JQK	<u>100,000 JH</u> <u>(10,000 AC)</u>	<u>18,000 JH</u> <u>(1,800 AC)</u>	360 U	390 UJK	--
Pyrene	340 U	200 JQK	<u>21,000</u>	<u>16,000 JH</u> <u>(1,300 AC)</u>	6,400 JQK	360 U	390 UJK	54,000,000
<b>Volatile Organic Compounds (µg/kg)</b>								
1,1,2,2-Tetrachloroethane	10 U	10 U	110 U	110 UJK	28 U	11 U	3 JQK	900
1,1,2-Trichloroethane	10 U	10 U	110 U	110 UJK	13 JQK	11 U	3 JQK	1,900
Ethylbenzene	10 U	10 U	25 JQK	37 JQK	3 JQK	11 U	12 U	230,000
Isopropylbenzene	10 U	10 U	110 U	110 UJK	15 JQK	11 U	12 U	--
Tetrachloroethene	10 U	10 U	110 U	110 UJK	6 JQK	11 U	12 U	19,000
Toluene	10 U	10 U	110 U	22 JQK	28 U	11 U	12 U	520,000
Trichloroethene	10 U	10 U	110 U	110 UJK	7 JQK	11 U	12 U	6,100
Xylenes (total)	10 U	10 U	<u>400</u>	<u>640 JH</u> <u>(64 AC)</u>	<u>51</u>	11 U	12 U	210,000

Key is at the end of the table

Table 6-5

**SOIL TPH SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

<b>EPA Sample Number</b>	<b>Location ID</b>	<b>Field Analytical Result (mg/kg)</b>	<b>Associated Background Result (mg/kg)</b>	<b>Commercial Lab Result (mg/kg)</b>
01354066	TP04SS	<u>&gt; 10,000</u>	<b>8.8</b>	NA
01354067	TP04SB1	<b>14.7</b>	<b>67</b>	NA
01354068	TP04SB2	<u>600</u>	<b>29.3</b>	<b>56</b>
01354070	TP05SS (surface background)	<b>8.8</b>	Not Applicable	NA
01354071	TP05SB1	<u>&gt; 10,000</u>	<b>67</b>	NA
01354072	TP05SB2	<u>3,324</u>	<b>29</b>	NA
01354074	TP06SS	<u>&gt; 10,000</u>	<b>8.8</b>	NA
01354075	TP06SB1 (upper subsurface background)	<b>67</b>	Not Applicable	NA
01354076	TP06SB2 (lower subsurface background)	<b>29.3</b>	Not Applicable	NA
01354079	TP07SB1	<u>3,071</u>	<b>67</b>	NA
01354080	TP07SB2	<u>&gt; 10,000</u>	<b>29.3</b>	<u>29,000</u>
01354083	TP08SB1	<u>&gt; 10,000</u>	<b>67</b>	NA
01354084	TP08SB2	<u>3,911</u>	<b>29.3</b>	NA
01354089	TP10SB1	<b>14.6</b>	<b>67</b>	NA
01354090	TP10SB2	<b>16.3</b>	<b>29.3</b>	NA
01354091	TP09SS	<u>1,632</u>	<b>8.8</b>	<b>840</b>
01354092	TP09SB1	<b>18</b>	<b>67</b>	26 U
01354093	TP09SB2	<b>14.4</b>	<b>29.3</b>	NA
Not Applicable	TP07SB-40	<u>3,560</u>	<b>67</b>	NA
Not Applicable	TP07SB-50	<u>&gt; 10,000</u>	<b>67</b>	NA

Note: Bold type indicates concentrations above the sample quantitation limit.  
Underlined type indicates result is significant as defined in Section 5.

## Key:

EPA = United States Environmental Protection Agency.  
ID = Identification.  
mg/kg = Milligrams per kilogram.  
NA = Not analyzed.  
SB = Subsurface Soil.  
SS = Surface Soil.  
TP = Treatment plant.  
TPH = Total Petroleum Hydrocarbon.  
U = The analyte was not detected. The associated numerical result is the sample quantitation limit.

Table 6-6

**TREATED POLE STORAGE AREA SURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354059	01354055	01354056	01354057	01354095	01354096	01354097	Industrial Soil PRGs
CLP Inorganic Number	MJOK69	MJOK65	MJOK66	MJOK67	MJOKA5	MJOKA6	MJOKA7	
CLP Organic Number	JOK69	JOK65	JOK66	JOK67	JOKA5	JOKA6	JOKA7	
Location ID	BG01SS	PY01SS	PY02SS	PY03SS	PY04SS	PY05SS	PY06SS	
Depth	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	
Description	Background	Pole Yard Sample 1 -Whole pole storage area	Pole Yard Sample 2-Whole pole storage area	Pole Yard Sample 3 - Butt- Dip pole storage area	Pole Yard Sample 4-Whole pole storage area	Pole Yard Sample 5-Whole pole storage area	Pole Yard Sample 6-Whole pole storage area	
<b>Inorganics (mg/kg)</b>								
Aluminum	9,220	10,500	11,800	12,900	20,100	13,600	10,500	100,000
Arsenic	9.7	8.5	6.2	7.6	6.7	7.9	8.1	2.7
Barium	143	141	144	129	174	147	139	--
Beryllium	0.48 JBK (1.03 U)	0.51 JBK	0.52 JBK	0.53 JBK	0.67 JBK	0.55 JBK	0.47 JBK	2,200
Cadmium	0.14 U	0.20 JBK	0.39 JBK	0.17 JBK	0.15 U	0.15 U	0.14 U	810
Calcium	1,570	2,250	1,400	1,120	1,600	1,860	2,160	--
Chromium	9.4	9.6	7.0	9.5	8.9	7.2	14.7	100,000
Cobalt	6.2 JBK (10.3 U)	6.6 JBK	5.5 JBK	5.8 JBK	6.7 JBK	5.3 JBK	6.7 JBK	100,000
Copper	13.8	21.7	19.1	20.6	15.8	15.1	19.5	76,000
Iron	12,800	13,400	10,500	12,600	13,100	10,900	14,300	100,000
Lead	12.3	46.5	56.4	25.4	12.0	26.6	40.0	750
Magnesium	3,320	3,110	2,020	2,460	2,510	2,230	4,040	--
Manganese	375	475	569	484	438	439	526	32,000
Nickel	6.5 JBK (8.2 U)	12.7	10.1	12.8	6.8 JBK	4.7 JBK	7.6 JBK	41,000
Potassium	1,770 JH	1,850 JK	1,030 JBK	1,120 JK	1,280 JH	1,230 JH	2,040 JH	--
Selenium	0.45 U	0.54 JBK	0.72 JBK	0.70 JBK	0.48 UJK	0.46 UJK	0.45 UJK	10,000
Thallium	1.2 U	1.3 JBK	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	130
Vanadium	15.6	16.8	15.1	18.6	20.4	15.3	19.6	14,000
Zinc	49.9	65.4	59.3	67.4	39.6	50.3	66.3	100,000
<b>Chlorinated Pesticides (µg/kg)</b>								
4,4'-DDD	3.4 U	3.4 U	18 U	51 JNK	3.5 U	17 U	35 JNK	1,700
4,4'-DDT	3.4 U	7.7 JNK	45 JNK	200 JNK	3.5 U	17 U	94 JNK	1,200
delta-BHC	1.7 U	1.8 U	9.2 U	9.4 JNK	1.8 U	8.9 U	8.7 U	--
Endosulfan I	1.7 U	1.8 U	9.2 U	34 JNK	1.8 U	18 JNK	9.7 JNK	5,300,000
Endosulfan sulfate	3.4 U	3.9 JNK	18 U	75 JNK	3.5 U	17 U	24 JNK	--
Endrin aldehyde	3.4 U	3.4 U	18 U	69 JNK	3.5 U	17 JNK	54 JNK	--
Endrin ketone	3.4 U	8.7 JNK	50 JNK	65 JNK	3.5 U	17 U	28 JNK	--
gamma-BHC	1.7 U	1.8 U	9.2 U	23 JNK	1.8 U	8.9 U	8.7 U	--
gamma-Chlordane	1.7 U	1.8 U	9.2 U	8.9 UJK	1.8 U	11 JNK	8.7 U	11,000,000
Heptachlor epoxide	1.7 U	1.8 U	9.2 U	12 JNK	1.8 U	16 JNK	15 JNK	270

Key is at the end of the table.

Table 6-6

**TREATED POLE STORAGE AREA SURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354059	01354055	01354056	01354057	01354095	01354096	01354097	Industrial Soil PRGs
CLP Inorganic Number	MJOK69	MJOK65	MJOK66	MJOK67	MJOKA5	MJOKA6	MJOKA7	
CLP Organic Number	JOK69	JOK65	JOK66	JOK67	JOKA5	JOKA6	JOKA7	
Location ID	BG01SS	PY01SS	PY02SS	PY03SS	PY04SS	PY05SS	PY06SS	
Depth	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	0 - 6 inches	
Description	Background	Pole Yard Sample 1 -Whole pole storage area	Pole Yard Sample 2-Whole pole storage area	Pole Yard Sample 3 - Butt- Dip pole storage area	Pole Yard Sample 4-Whole pole storage area	Pole Yard Sample 5-Whole pole storage area	Pole Yard Sample 6-Whole pole storage area	
<b>Semivolatile Organic Compounds (µg/kg)</b>								
2-Methylnaphthalene	340 U	140 JQK	140 JQK	11,000 UJK	350 U	11,000 UJK	10,000 UJK	--
Acenaphthylene	340 U	340 U	64 JQK	160,000 UJK	350 U	11,000 UJK	10,000 UJK	38,000,000
Anthracene	340 U	340 U	63 JQK	160,000 UJK	350 U	11,000 UJK	10,000 UJK	100,000,000
Benzo(a)anthracene	340 U	340 U	74 JQK	160,000 UJK	350 U	11,000 UJK	10,000 UJK	2,900
Benzo(a)pyrene	340 U	43 JQK	360 U	160,000 UJK	350 U	11,000 UJK	10,000 UJK	290
Benzo(b)fluoranthene	340 U	55 JQK	330 JQK	160,000 UJK	350 U	11,000 UJK	10,000 UJK	2,900
Benzo(k)fluoranthene	340 U	340 U	280 JQK	160,000 UJK	350 U	11,000 UJK	10,000 UJK	29,000
bis(2-Ethylhexyl)phthalate	340 U	41 JQK	190 JQK	160,000 UJK	350 U	11,000 UJK	10,000 UJK	180,000
Chrysene	340 U	89 JQK	<b>370</b>	160,000 UJK	350 U	11,000 UJK	10,000 UJK	290,000
Dibenzofuran	340 U	340 U	37 JQK	160,000 UJK	350 U	11,000 UJK	10,000 UJK	5,100,000
Fluoranthene	340 U	120 JQK	<b>390</b>	160,000 UJK	350 U	11,000 UJK	10,000 UJK	30,000,000
Fluorene	340 U	340 U	37 JQK	160,000 UJK	350 U	1,600 JQK	10,000 UJK	33,000,000
Naphthalene	340 U	56 JQK	120 JQK	11,000 UJK	350 U	11,000 UJK	10,000 UJK	190,000
Pentachlorophenol	75 JQK (850 U)	<b>8,000</b>	<b>44,000</b>	<b>600,000 JL</b>	890 U	<b>64,000 JL</b>	<b>100,000 JL</b>	11,000
Phenanthrene	340 U	170 JQK	<b>500</b>	160,000 UJK	350 U	6,400 JQK	1,100 JQK	--
Pyrene	340 U	130 JQK	<b>640</b>	160,000 UJK	350 U	11,000 UJK	10,000 UJK	54,000,000
<b>Volatile Organic Compounds (µg/kg)</b>								
1,1,2,2-Tetrachloroethane	5 JQK (10 U)	10 U	11 U	11 U	2 JQK	2 JQK	10 U	900
1,1,2-Trichloroethane	7 JQK (10 U)	10 U	11 U	11 U	5 JQK	5 JQK	8 JQK	1,900
2-Butanone	10 U	10 U	11 U	11 U	11 U	9 JQK	10 U	--
Acetone	24 U	10 UJK	11 UJK	<b>49 JH (4.9 AC)</b>	11 U	<b>87</b>	47 U	6,200,000
Benzene	10 U	10 U	11 U	11 U	11 U	11 U	10 U	1,500
cis-1,2-Dichloroethene	10 U	10 U	11 U	11 U	11 U	2 JQK	2 JQK	150,000
Toluene	2 JQK (10 U)	10 U	11 U	11 U	2 JQK	4 JQK	10 U	520,000
Trichloroethene	1 JQK (10 U)	10 U	11 U	11 U	1 JQK	2 JQK	2 JQK	6,100
Xylenes (total)	3 JQK (10 U)	10 U	11 U	11 U	11 U	1 JQK	10 U	210,000

Key is on the next page.

Table 6-6

**TREATED POLE STORAGE AREA SURFACE SOIL SAMPLES  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

Note: Only compounds which were detected in at least one sample were reported.  
Bold type indicates definitive concentrations above the Contract Required Detection Limit or Contract Required Quantitation Limit.  
Underlined type indicates result is significant as defined in Section 5.  
Highlighted cells indicate results greater than one or more regulatory limits listed in the Table.

Key:

AC = Adjusted concentration.  
B = Analyte detected below the Contract Required Detection Limit, but at or above the instrument detection limit.  
BG = Background.  
BHC = Benzene hexachloride.  
CLP = Contract Laboratory Program.  
DDD = Dichlorodiphenyldichlorethane.  
DDE = Dichlorodiphenyldichloroethylene.  
DDT = Dichlorodiphenyltrichlorethane.  
EPA = United States Environmental Protection Agency.  
ID = Identification.  
J = The analyte was positively identified. The associated numerical result is an estimate.  
K = Unknown bias.  
µg/kg = Micrograms per kilogram.  
mg/kg = Milligrams per kilogram.  
N = Tentatively identified.  
PRG = EPA Region 9 Preliminary Remediation Goal.  
PY = Pole yard.  
Q = Analyte detected below the adjusted Contract Required Quantitation Limit.  
SS = Surface soil.  
U = The analyte was not detected. The associated numerical result is the sample detection/quantitation limit.  
UJ = The analyte was not detected. The associated numerical result is the estimated sample detection/quantitation limit.

Table 6-7

**PCP STORAGE SACK AREA  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

EPA Sample Number	01354059	01354098	
CLP Organic Number	JOK69	JOKA8	
CLP Inorganic Number	MJOK69	MJOKA8	
Location ID	BG01SS	PY07SS	
Depth	0 - 6 inches	0 - 6 inches	
Description	Background	Under PCP Sack-50' North of Treatment Building	Industrial Soil PRGs
<b>Inorganics (mg/kg)</b>			
Aluminum	9,220	8,190	100,000
Arsenic	9.7	7.5	2.7
Barium	143	104	--
Beryllium	0.48 JBK (1.03 U)	0.41 JBK	2,200
Calcium	1,570	2,370	--
Chromium	9.4	10.3	100,000
Cobalt	6.2 JBK (10.3 U)	5.8 JBK	100,000
Copper	13.8	17.7	76,000
Iron	12,800	13,400	100,000
Lead	12.3	34.5	750
Magnesium	3,320	3,620	--
Manganese	375	390	32,000
Nickel	6.5 JBK (8.2 U)	6.2 JBK	41,000
Potassium	1,770 JH	1,680 JH	--
Thallium	1.2 U	1.5 JBK	130
Vanadium	15.6	17.3	14,000
Zinc	49.9	55.5	100,000
<b>Chlorinated Pesticides (µg/kg)</b>			
Endosulfan sulfate	3.4 U	5.2 JNK	--
Endrin aldehyde	3.4 U	4.0 JNK	--
Endrin ketone	3.4 U	4.9 JNK	--
<b>Semivolatile Organic Compounds (µg/kg)</b>			
2-Methylnaphthalene	340 U	96 JQK	--
Chrysene	340 U	74 JQK	290,000
Fluoranthene	340 U	68 JQK	30,000,000
Naphthalene	340 U	44 JQK	190,000
Pentachlorophenol	75 JQK (850 U)	<b>4,000</b>	11,000
Phenanthrene	340 U	130 JQK	--
Pyrene	340 U	110 JQK	54,000,000
<b>Volatile Organic Compounds (µg/kg)</b>			
1,1,2,2-Tetrachloroethane	5 JQK (10 U)	4 JQK	900
1,1,2-Trichloroethane	7 JQK (10 U)	<b>11</b>	1,900
cis-1,2-Dichloroethene	10 U	2 JQK	210,000
Tetrachloroethene	10 U	1 JQK	19,000
Toluene	2 JQK (10 U)	10 U	520,000
Trichloroethene	1 JQK (10 U)	2 JQK	6,100
Xylenes (total)	3 JQK (10 U)	3 JQK	210,000

Key is on the next page.

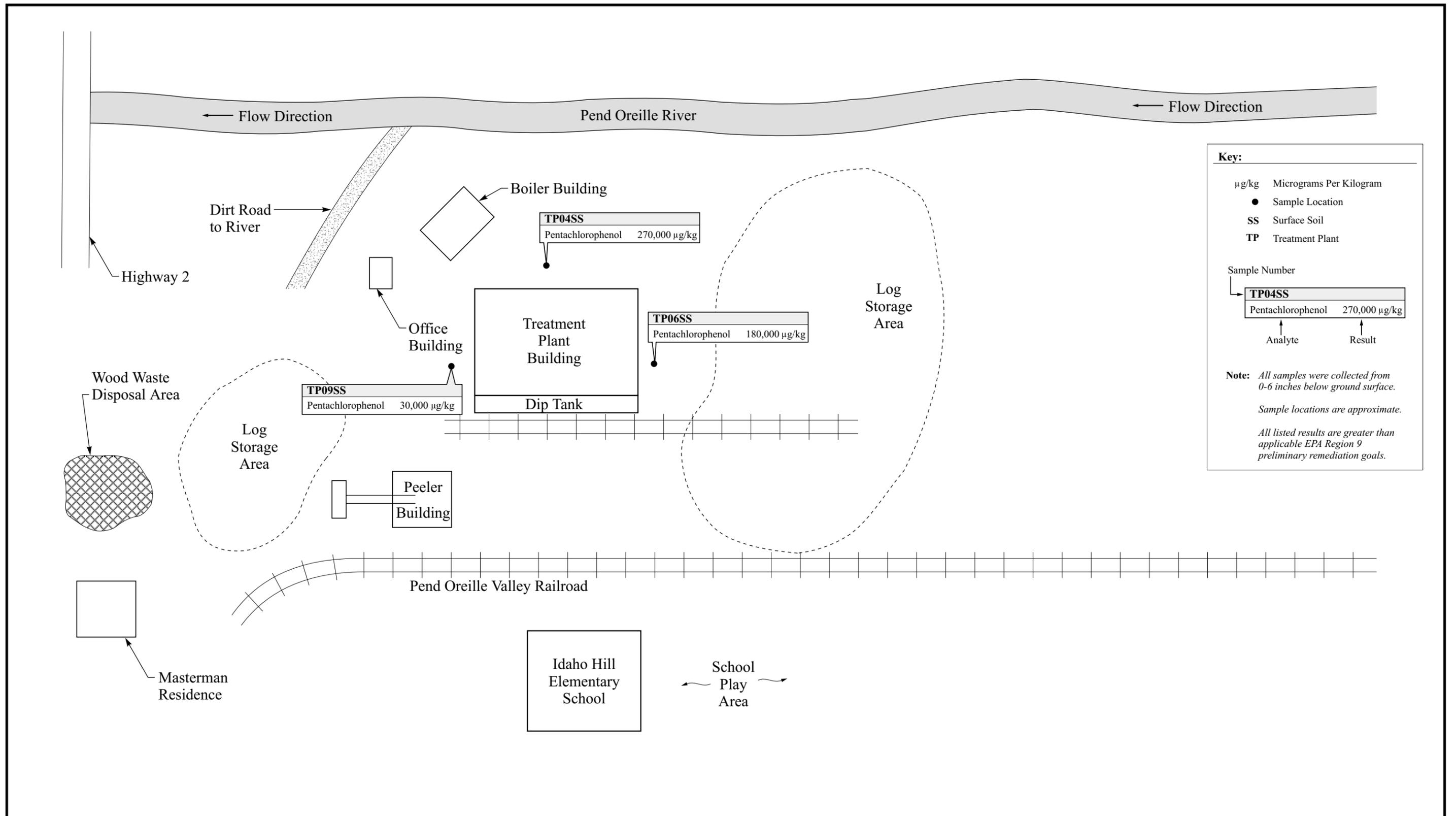
**Table 6-7**

**PCP STORAGE SACK AREA  
ANALYTICAL RESULTS SUMMARY  
POLES INCORPORATED  
OLDTOWN, IDAHO**

Note: Only results for compounds which were detected in at least on sample were reported.  
Bold type indicates definitive concentrations above the Contract Required Detection Limit or Contract Required Quantitation Limit.  
Underlined type indicates result is significant as defined in Section 5.  
Highlighted cells indicate results greater than one or more regulatory limits listed in the Table.

Key:

B = Analyte detected below the adjusted Contract Required Detection Limit, but at or above the instrument detection limit.  
BG = Background.  
CLP = Contract Laboratory Program.  
EPA = United States Environmental Protection Agency.  
ID = Identification.  
J = The analyte was positively identified. The associated numerical result is an estimate.  
K = Unknown bias.  
µg/kg = Micrograms per kilogram.  
mg/kg = Milligrams per kilogram.  
N = Tentatively identified.  
PRG = EPA Region 9 Preliminary Remediation Goal.  
PY = Pole yard.  
Q = Analyte detected below the adjusted Contract Required Quantitation Limit.  
SS = Surface soil.  
U = The analyte was not detected. The associated numerical result is the sample detection/quantitation limit.



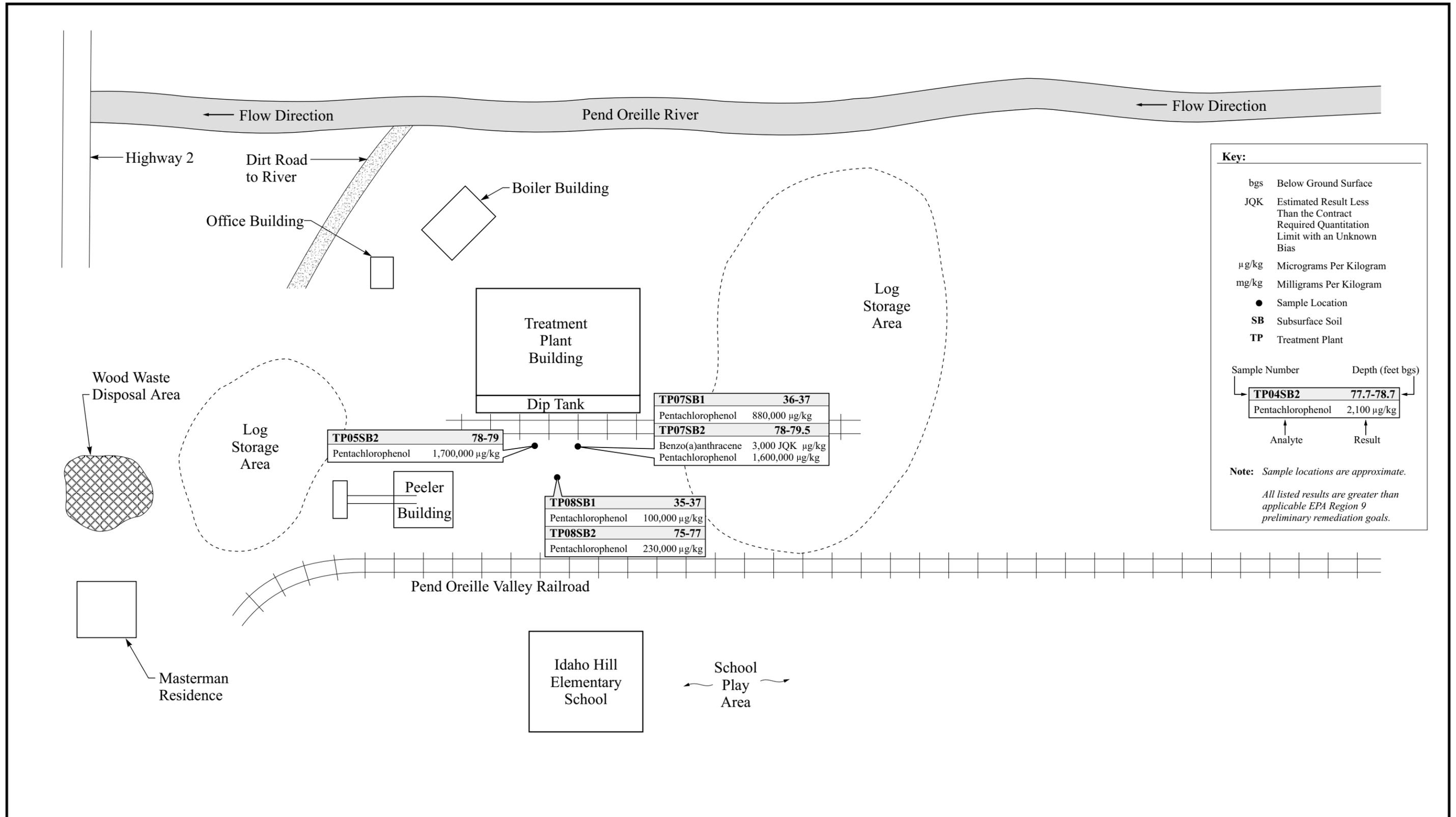
**Key:**

- µg/kg Micrograms Per Kilogram
- Sample Location
- SS Surface Soil
- TP Treatment Plant

Sample Number

<b>TP04SS</b>
Pentachlorophenol 270,000 µg/kg
Analyte Result

**Note:** All samples were collected from 0-6 inches below ground surface.  
Sample locations are approximate.  
All listed results are greater than applicable EPA Region 9 preliminary remediation goals.



**Key:**

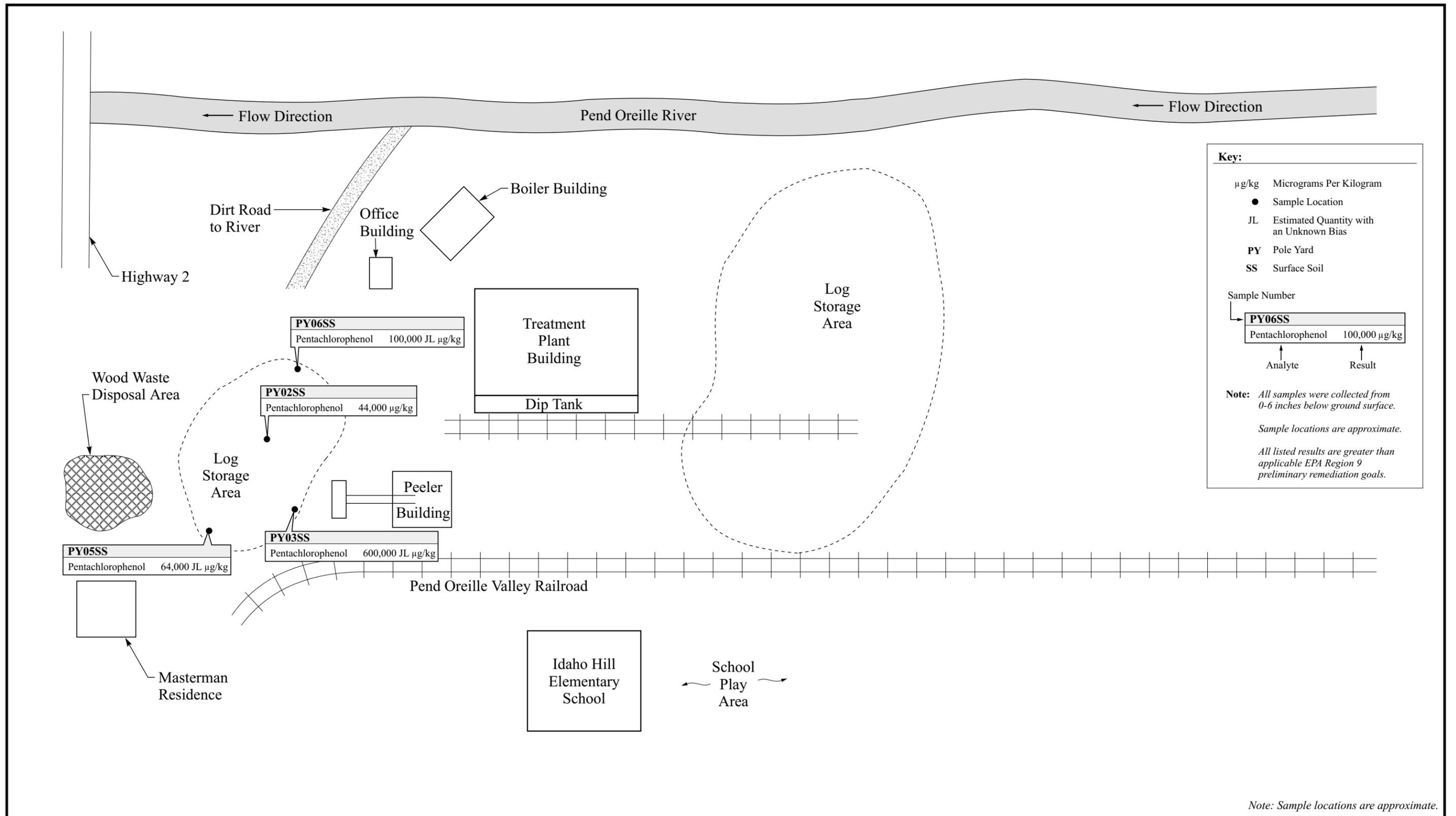
- bgs Below Ground Surface
- JQK Estimated Result Less Than the Contract Required Quantitation Limit with an Unknown Bias
- µg/kg Micrograms Per Kilogram
- mg/kg Milligrams Per Kilogram
- Sample Location
- SB Subsurface Soil
- TP Treatment Plant

Sample Number	Depth (feet bgs)
TP04SB2	77.7-78.7
Pentachlorophenol	2,100 µg/kg

↑ Analyte                      ↑ Result

**Note:** Sample locations are approximate.

All listed results are greater than applicable EPA Region 9 preliminary remediation goals.



Note: Sample locations are approximate.