Remedial Investigation Addendum
West Discharge Ravine
Kaiser Trentwood Site
Spokane Valley, Washington

Prepared for
Kaiser Aluminum Washington, LLC

April 3, 2012
2644-126

HARTCROWSER

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WEST DISCHARGE RAVINE
KAISER TRENTWOOD FACILITY
SPOKANE VALLEY, WASHINGTON

1.0 INTRODUCTION

This report presents the results of the additional sampling and analysis investigation performed for Kaiser Aluminum Washington, LLC (Kaiser) at the West Discharge Ravine (WDR) located at the Kaiser Trentwood facility in Spokane Valley, Washington. Before construction of the Industrial Wastewater Treatment (IWT) plant in 1973, wastewater from the Trentwood Facility was discharged to two discharge ravines located west and south of the plant. These areas were investigated during Phase I of the Remedial Investigation (RI) and the results of those efforts were presented in the soil RI report (Hart Crowser 2009). A cleanup of soil was performed under an Interim Action in 2007 (Hart Crowser 2007). This report is a post-interim action addendum to the Soil RI, focusing specifically on additional investigation activities in the WDR that were conducted during 2011. The results presented in this report are based on field and laboratory work completed for Kaiser by Hart Crowser between July and September 2011.

1.1 Draft Cleanup Values Comparison

Throughout the remainder of this document, detected soil and groundwater concentrations are compared to the draft cleanup values presented in "Kaiser Trentwood Site, Draft Cleanup Standards" (Washington Department of Ecology May 2010). In establishing cleanup standards for the Kaiser Trentwood Site, Ecology generally utilized MTCA Method B risk based equations and chemical and site specific data to calculate values for each indicator chemical in both groundwater and soil. However, for PCBs in particular, the calculated cleanup level is lower than the lowest available and accepted laboratory detection limits. Therefore, adjustment "up" to the MDL is provided for in WAC 173-340-707. The following is a comparison of the calculated PCB cleanup level under MTCA Method B and the MDL:

Groundwater (for protection of surface water): 64 pg/L
Method 8082 MDL for groundwater: 4500 pg/L
Unsaturated Soil (for protection of groundwater): 3.97E-04 mg/kg
Saturated Soil (for protection of groundwater): 1.99E-05 mg/kg
Method 8082 MDL for soil: 0.01 mg/kg

Other analytical methods for PCBs with lower detection limits exist, namely EPA 1668. However, this method has not been promulgated, or otherwise approved for compliance under the requirements of WAC 173-340-830.

1.2 Scope of Work

The purpose of the additional sampling and analysis investigation was to determine the nature and extent of polychlorinated biphenyl (PCB)-impacted soil beneath the WDR to determine whether it may be a potential source of PCBs in groundwater.

Specific tasks conducted by Hart Crowser included:

- Advancing three soil borings to the bottom of the WDR using sonic drilling methods for collection of subsurface soil samples;
- Drilling and installing two monitoring wells to evaluate the water quality immediately north of the WDR;
- Collecting continuous soil samples from the borings for lithological logging;
- Collecting discrete soil samples from the borings for chemical analysis to characterize WDR soil for PCBs, total petroleum hydrocarbons (TPH), and polycyclic aromatic hydrocarbons (PAHs);
- Collecting groundwater from the monitoring wells for chemical analysis and characterization; and
- Interpreting analytical results from the investigation to determine potential sources of PCBs to groundwater in the vicinity of the WDR.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Location

The Kaiser Trentwood facility is located at East 15000 Euclid Avenue in Spokane Valley, Spokane County, Washington. The WDR is located adjacent to the Spokane River, north of the Wastewater Treatment Area. It is located north and northwest of the wastewater lagoon and historically started near the former sanitary wastewater treatment plant (Figure 1). The WDR trends south and west toward the Spokane River and, when it was operational, it went through a

diversion structure (spillway) located about 80 feet from the river's edge. Easements granted to Kaiser extend into the middle of the Spokane River to encompass the WDR and the associated diffuser line. A buried pipe carried wastewater from the diversion structure to a buried diffuser line located in the Spokane River below the normal low water line. During the WDR Interim Action the diversion structure was removed and the pipe extending into the river was sealed at the water line.

2.2 Site Geology and Hydrogeology

The Kaiser site is underlain by unconsolidated glaciofluvial deposits consisting of poorly sorted sand and gravel with occasional sand lenses. The deposits appear to grade finer with depth, until reaching bedrock at depths of 200 to 300 feet below ground surface (bgs).

The local water table gradient is generally to the west and southwest. The ground surface slopes steadily, increasing to the south and west toward the Spokane River, which is incised approximately 60 feet below the surrounding ground surface. Depth to groundwater ranges from 45 to 55 feet in the southwestern portion of the site to 70 to 80 feet in the northern and eastern portions of the site. Groundwater elevation fluctuates seasonally and with changes in river stage. Along the Spokane River, groundwater is expected to occur from elevation 1920 to 1930 feet (NAVD88). Groundwater was encountered at 39 and 44 feet bgs, at time of drilling MW-27S and 28S, respectively. This corresponds to a groundwater elevation of between 1924 feet (NAVD88) at the time of drilling. In borings advanced in the bottom of the WDR (borings WDR-1 through WDR-3) groundwater was encountered at a depth of between 14.5 and 23 feet below ground surface. This corresponds to a groundwater elevation of between 1922 and 1923 feet (NAVD88) at time of drilling.

2.3 Historical Summary and Previous Investigations

Before 1973, the WDR handled wastewater originating from the casting operation, the oil reclamation building (ORB), the Hot Line, and associated processes on the north and west areas of the plant. After 1973, wastewater discharged from these areas were rerouted to the new IWT plant and lagoon, and the ravine was no longer used.

Since the wastewater discharge to the WDR stopped, water does not typically flow through the ravine. Rain water typically infiltrates due to the porous nature of the soil. There is no documentation of water flowing in the WDR since the

wastewater discharges stopped in 1973. Additional historical details are available in the soil RI (Hart Crowser 2009).

Three major remedial efforts have been conducted along the WDR. These include the Phase I investigation work (Hart Crowser 2007a), a Pre-Interim Action Sampling and Analysis Event, and an Interim Cleanup Action (Hart Crowser 2008a). Details of these remedial actions are provided in the soil RI (Hart Crowser 2009).

3.0 SOIL EXPLORATION AND SAMPLING

Three soil borings (WDR-1, WDR-2, and WDR-3) were advanced in the bottom of the WDR. The locations of the borings are shown on Figure 2. The borings were completed to depths of 31 to 46 feet bgs corresponding to a depth of at least 10 feet below the water table. These field activities were conducted on July 19, 20, and 21, 2011.

Continuous soil samples were collected using sonic drilling methods for lithologic logging. Field exploration logs are presented in Appendix A. Soils encountered during drilling predominantly consisted of sand and gravel with some intermittent silt and cobbles.

Soil sampling, collection, handling, and analysis were performed in general accordance with the WDR Work Plan (Hart Crowser 2011a). Discrete soil samples were collected at 5-foot intervals; however, due to the cobbly nature of the soil, for some of the intervals, limited soil volume was available for sample collection. An additional boring was drilled at WDR-1, immediately adjacent to the original location to provide sufficient soil sample volume for chemical analysis.

A smear zone was observed in WDR-1 soil samples from 18 to 21 bgs. No sheens or odors were otherwise detected in the samples collected.

Select soil samples were submitted to Columbia Analytical Services (CAS) in Kelso, Washington and analyzed for PCBs by United States Environmental Protection Agency (EPA) Method 8082, PAHs by EPA Method 8270D-SIM, and for total solids by EPA Method 160.3 modified. Select soil samples were also submitted to Advanced Analytical Laboratory (AAL) of Redmond, Washington and analyzed for total petroleum hydrocarbons (TPH) by Washington State Department of Ecology (Ecology) method NWTPH-HCID. Sample analytical results are presented on Table 1.

Following review of the analytical data and field exploration logs, select soil samples were submitted to AXYS Analytical Services (AXYS) in Sidney, British Columbia and analyzed for PCB congeners by EPA Method 1668A. Sample results for PCB congeners are presented on Table 2.

4.0 MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING

Two monitoring wells were installed in the area just north of the WDR. The location of the wells is shown on Figure 2. The wells, MW-27S and MW-28S, were completed to depths of 62 and 63 feet bgs, respectively. The wells were constructed in general accordance with the WDR Work Plan (Hart Crowser, 2011), with one exception; each well was constructed using a 30-foot screen interval rather than a 20-foot screen, as described in the Work Plan, as determined in the field.

Soil sampling, collection, handling, and analysis were performed in general accordance with the WDR Work Plan (Hart Crowser 2011). Discrete soil samples were collected at 5-foot intervals; however, due to the cobbly nature of the soil, for some of the intervals, limited soil volume was available for sample collection. An additional boring was drilled at MW-28S, immediately adjacent to the original location to provide sufficient soil sample volume for chemical analysis.

A petroleum sheen was observed from 33 to 43 feet bgs in the MW-28S boring.

Select soil samples were submitted to CAS in Kelso, Washington and analyzed for PCBs by EPA Method 8082, PAHs by EPA Method 8270D-SIM, and for total solids by EPA Method 160.3 modified. Select soil samples were also submitted to AAL of Redmond, Washington and analyzed for TPH by Ecology method NWTPH-HCID. Soil sample results are presented on Table 1.

Following review of the analytical data and field exploration logs, select soil samples were submitted to AXYS in Sidney, British Columbia and analyzed for PCB congeners by EPA Method 1668A. Soil sample results for PCB congeners are presented on Table 2.

Additionally, groundwater samples have been collected from each of the wells during three separate groundwater sampling events in August 2011, October 2011 and January 2012. Groundwater samples from the initial August sampling event were analyzed for PCBs by EPA Method 1668A, TPH by Ecology Method NWTPH-HCID, and total suspended solids by EPA Method 160.2. Samples from

the October 2011 and January 2012 events were analyzed by EPA Method 1668A, only. Groundwater analytical results are presented in Tables 3 and 4.

5.0 SOIL CHEMICAL ANALYSIS RESULTS

The soil samples were submitted to CAS, AAL, and AXYS for chemical analysis. Three field duplicates were also collected and submitted for analysis. This section presents a summary of the analyses performed and the analytical results, based on each analyte class. A more detailed discussion of the results and the overall conclusions are presented in Section 7.

The soil samples were analyzed for one or more of the following:

- PCBs as Aroclors by EPA Method 8082;
- PCB Congeners by EPA Method 1668A;
- PAHs by EPA Method 8270D-SIM;
- TPH identification by Ecology method NWTPH-HCID; and
- Total solids/percent moisture by EPA Method 160.3 modified/SM 2540B.

5.1 Data Quality Review Summary

All analyses were performed in a manner consistent with the methods stated in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP). The chemistry data from the samples were reviewed and validated by Hart Crowser chemists. Overall, the data quality objectives (DQOs) as set forth in the SAP were achieved, and the data for this project are acceptable for use, as qualified. The completeness for the associated data is 100 percent. Detailed discussions of the data quality indicators used to quantitate the DQOs, a detailed chemical data quality review, and chemical laboratory reports are presented in Appendix C.

5.2 PCBs as Aroclors

Analytical results for soil samples compared to draft site-specific cleanup levels (10 µg/kg) prepared by Ecology (Ecology 2010) are presented in Tables 1 and 2.

PCBs were detected above the Method 8082 reporting limit in three samples from one boring, WDR-3, from samples collected between 6 and 21 feet deep.

Aroclor 1248, the only Aroclor detected, was found in samples WDR-3-10', WDR-3-15', and WDR-3-20' with results ranging from 8.8 to 7,200 µg/kg (Table 1). In total, 18 samples from the three soil borings were submitted for analysis.

PCBs as Aroclors were not detected in any of the 11 samples submitted for analysis from the new monitoring well borings.

5.3 PCB Congeners

Select soil samples were analyzed for PCB congeners by EPA Method 1668A. Analytical results for PCB congeners in soil samples are presented in Table 2. Because PCBs are ubiquitous in the environment and are often present in laboratory blank samples, soils data were blank corrected. Qualified and validated data, as well as the blank corrected data, are reported in Table 2. During the blank correction process, blank contamination is essentially subtracted from the reported value. Therefore, total PCB congener values as reported using validated and qualified data may differ from the total concentration for the same sample in the blank corrected data.

A total of 17 soil samples were analyzed for PCB congeners from five soil borings (WDR-1 through 3 and the two monitoring well borings). Due to the extremely low detection limits established by the method, and ubiquitous PCB presence in detectable background concentrations, PCB congeners were detected in all samples above the reporting limit. Total PCB concentrations in soil samples from the monitoring well borings ranged from 145 to 1,320 pg/g (parts per trillion) and from 381 to 2,290 pg/g from borings WDR-1 and WDR-2; well below draft site specific cleanup levels based on the EPA Method 8082 method detection limit (MDL) of 10 µg/kg (parts per billion) for both saturated and unsaturated soils prepared by Ecology (Ecology 2010). However, these concentrations may exceed the Method B soil levels for protection of groundwater.

The three samples: WDR-3-10', WDR-3-15', and WDR-3-20'; contained total PCB congener concentrations in excess of draft site-specific cleanup levels. The reported concentrations of total PCB congeners, based on EPA Method 1668, from those three samples ranged from 30.2 to 15,200 µg/kg.

5.4 PAHs

Analytical results for PAHs in soil samples compared to site-specific cleanup levels are presented in Table 1. Analytical results for carcinogenic PAHs (cPAHs) in soil expressed as Benzo(a)pyrene toxic equivalents (TEQs) are also presented

in Table 1. TEQs were calculated using the MTCA toxic equivalency factors (TEF) (WAC 173-340-708).

A total of 13 samples were submitted for PAH analysis: five from the new monitoring well borings, 7 from the soil borings and one duplicate. PAHs were not detected in any of the samples from the new well borings. PAHs were detected in two samples from one boring, WDR-3, from samples collected between 16 and 26 feet depth. The only sample that had detections above the reporting limit, WDR-3-20', had a cPAH TEQ of 20.51 µg/kg. The draft site specific cleanup level for cPAH TEQ is 54 µg/kg for unsaturated soils, and 3 µg/kg for saturated soils (Ecology 2010).

5.5 Total Petroleum Hydrocarbons

Analytical results for total petroleum hydrocarbon identification are presented in Table 1. All sample results fell below laboratory reporting limits for gasoline, Stoddard/mineral spirits, Kensol, kerosene/jet fuel, diesel/fuel oil, bunker C, and heavy-oil range petroleum hydrocarbons.

5.6 Total Solids/Percent Moisture

Total solids results for the samples submitted to CAS were determined following EPA Method 160.3 Modified. Percent moisture results for the samples submitted to AAL were determined following SM 2540B. Both sets of results are presented in Table 1.

A comparison of the results for the samples analyzed at the two laboratories had relative percent differences (RPDs) within 10 percent.

6.0 GROUNDWATER CHEMICAL ANALYSIS RESULTS

Two groundwater samples were submitted to CAS, AAL, and AXYS for chemical analysis. Sample analytical results are summarized in Tables 3 and 4.

The two groundwater samples were analyzed for the following:

- PCB Congeners by EPA Method 1668A;
- Total suspended solids by Standard Methods 160.2; and
- Petroleum hydrocarbon identification by Ecology method NWTPH-HCID.

6.1 Data Quality Review Summary

All analyses were performed in a manner consistent with the methods stated in the SAP/QAPP. The chemistry data from the samples was reviewed and validated by Hart Crowser chemists. Overall, the DQOs as set forth in the SAP were achieved, and the data for this project are acceptable for use, as qualified. The completeness for the associated data is 100 percent. Detailed discussions of the data quality indicators used to quantitate the DQOs, a detailed chemical data quality review, and chemical laboratory reports are presented in Appendix C.

6.2 PCB Congeners

RI Sampling Event – August 2011

Groundwater samples were analyzed for PCB congeners by EPA Method 1668A. Analytical results for PCB congeners in groundwater samples are presented in Table 4. Because PCBs are ubiquitous in the environment and are always present in laboratory blank samples, groundwater data were blank corrected. Qualified and validated data, as well as the blank corrected data are reported in the table. As discussed in Section 5.2, blank corrected data, particularly total congener values, may be different for the same sample when comparing to validated/qualified data.

Total PCB congeners for samples collected from MW-27S and MW-28S ranged between 330 pg/L and 3,600 pg/L, respectively. The draft site specific cleanup level for PCBs in groundwater is 4,500 pg/L based on the Method 8082 MDL (Ecology 2010); the Method B groundwater cleanup level for protection of surface water is 64 pg/L (see Section 1.1).

Rather than compare all 209 individual congeners, PCB congener concentrations were summed by homolog groups based on the number of chlorine atoms (monochlorobiphenyls through decachlorobiphenyls). The relative percent homolog composition of groundwater samples from MW-27S and MW-28S are presented in Table 5. Additionally, Table 5 compares historical relative percent homolog composition of five Remelt wells and five wells near the river and within the likely flow path of the Remelt groundwater plume.

In general, the PCB homolog group compositions of samples from MW-27S and 28S were consistent with the PCB Aroclor mixtures present at the Facility. The primary PCB homologs detected in groundwater samples were dichlorobiphenyls, trichlorobiphenyls, tetrachlorobiphenyls, and pentachlorobiphenyls (see Figure 3). The primary groups of PCB homologs

present in groundwater samples are consist with composition of the PCB Aroclors (1242 and 1248) mixtures identified in soil and groundwater.

However, there are some apparent differences in relative homolog percentages which can be noted:

- Groundwater from wells MW-27S and 28S are void of penta- and hexacholorobiphenyl homolog. This absence of mid-range homologs would point to similarities in composition to groundwater from wells MW-23S and HL-MW-32S.

- In general, the new well sample results, based on total mono- and dicholorobiphenyls, as well as total octa- through decachlorobiphehyls, more similar to down gradient wells (MW-23S, MW-12A, MW-17S, HL-MW-32S, HL-MW-23S, and HL-MW-30S) than the Remelt/Hot Line wells used in the comparison.

It should be noted, however, that the analytical data used in this comparison are not from the same sampling event. Historically, analytical results vary at the facility based on groundwater elevation, which varies seasonally with river stage. Efforts were made to use data collected at similar times of the year, except for the new wells which were initially (August 2011) sampled out of sequence to the site-wide sampling program.

Quarterly Monitoring (October 2011 and January 2012)

Two sampling events have occurred as part of Kaiser's routine groundwater monitoring program since the initial WDR RI work discussed above. Monitoring wells MW-27S and MW-28S were sampled in October 2011 and January 2012 as part of that program. Total PCB congeners detected in MW-27S were 333 and 345 pg/L, respectively. Total PCB congeners detected in MW-28S were 2,836 and 2,133 pg/L. Analytical results for these additional sampling events are summarized in Table 4.

6.3 Total Suspended Solids

Analytical results for total suspended solids are presented in Table 3.

6.4 Total Petroleum Hydrocarbons

Analytical results for total petroleum hydrocarbon identification are presented in Table 3. All sample results fell below laboratory reporting limits for gasoline,

Stoddard/mineral spirits, Kensol, kerosene/jet fuel, diesel/fuel oil, bunker C, and heavy oil-range petroleum hydrocarbons.

7.0 SUMMARY AND CONCLUSIONS OF SOURCE INVESTIGATION

The purpose of this investigation was to determine if residual PCBs in WDR soils could serve as a potential source to groundwater, specifically, low-level and intermittent detections of PCBs in wells down gradient of the Remelt/Hot Line groundwater plume (MW-23S, MW-12A, MW-17S, HL-MW-23S, and HL-MW-32S). In order for WDR soils to act as a source of PCBs to groundwater, two conditions must be present: 1) PCBs must be present, in sufficient quantities, to be a source, and; 2) there must be a physical process (i.e., hydraulic gradient) which provides a transport mechanism to the wells in question. The following sections summarize the physical conditions and provide qualitative evidence that indicates that the WDR could be a potential source of PCBs to groundwater in the vicinity.

7.1 WDR Soil Concentrations

Total PCBs, as determined by EPA Method 8082, were detected above the reporting limit in three soil samples from the WDR-3 boring, with depths ranging from 6 to 21 feet bgs. Total concentrations ranged from 8.8 to 7,200 µg/kg. The draft site-specific cleanup level for soil to be protective of groundwater is 10 µg/kg based on the Method 8082 MDL (Ecology 2010); the Method B soil cleanup level for protection of groundwater is 0.397 µg/kg for unsaturated soil and 0.0199 µg/kg for saturated soil (see Section 1.1).

PCB detections in WDR-3 were primarily from the 10-foot sample interval (6 to 11 feet bgs), with detections above the reporting limit in the two subsequent sampling intervals. Therefore, PCBs are present from elevation 1932 to 1917. At the time of drilling water was encountered in boring WDR-3 at 14.5 feet bgs, or approximately elevation 1923 feet and is expected to fluctuate with river stage to elevations as high as elevation 1936, based on monitoring wells in the vicinity. Therefore, PCBs present in the soil at depths as shallow as 2 feet bgs would be in contact with groundwater during high water level periods.

Detected concentrations of PCBs in soil from boring WDR-3, while orders of magnitude lower than maximum concentrations detected at other areas of the facility (e.g., Remelt/Hot Line), are sufficient to serve as a potential source of PCBs to groundwater in the vicinity of the WDR through mass transfer of dissolved PCBs by groundwater transport. Based on a soil concentration 7,200 µg/kg , the predicted potential groundwater concentration using a partitioning

coefficient (K_d) of 310 L/kg (Hart Crowser 2011b), would be 23 µg/L. Application of the partitioning coefficient to predict groundwater concentrations is highly conservative, but this exercise demonstrates that WDR soils at the detected concentration could potentially act as a source of PCBs to groundwater.

Additionally, in 2007 an Interim Action was completed in the WDR that excavated approximately 2,500 cubic yards of PCB contaminated soil from as deep as 11 feet bgs with total PCB concentrations ranging from 0.01 to 72 mg/kg. Soil borings WDR-1 through 3 were completed through the clean fill placed during the interim action (Hart Crowser 2008a). Figure 4 presents a generalized cross section of the WDR, showing the extents of the 2007 Interim Action excavation as well as the soil boring/monitoring well information described herein. Based on historical groundwater elevations, the western third of the excavated soil in the WDR would have been in contact with groundwater during portions of the year, and may have served as a historical source of PCBs to groundwater. Furthermore, given the highly porous nature of the soils in this area, infiltration through contaminated soils above the water table (prior to the 2007 Interim Action) would have served as a transport mechanism for PCBs to groundwater as well.

7.2 Hydrogeology/Transport Mechanism

A groundwater and surface water interaction study consisting of continuous water level measurements using transducers in select wells is currently being performed at the facility. The purpose of the study is to document the relationship between water levels in the Spokane River and adjacent groundwater throughout the year, and to further define groundwater flow direction and gradients in the western area of the Kaiser property adjacent to the Spokane River, specifically near the WDR area.

7.2.1 Groundwater Flow Direction

Kaiser is located along the Spokane River between River Mile (RM) 86 and 87. River flow is directly influenced by releases from Post Falls Dam (RM 102), which is located upriver from the facility just across the Washington/Idaho border and located downstream from Lake Coeur d'Alene (Ecology 2008). The surface water hydrographs from the River Gage and River WDR transducer data were compared to hydrographs from the monitoring well locations. The comparison showed similar hydrograph signatures, with the monitoring well locations having a slight dampening and delayed response to the river hydrograph. This confirms that groundwater elevations are dependent on Spokane River elevations.

As part of the groundwater and surface water interaction study, groundwater flow direction and gradients were calculated using a three-point solution (Devlin 2003). Calculations of groundwater flow direction indicate that flow "reverses" from the typical southwestern direction toward the Spokane River to a east/southeasterly direction. Figures 5 and 6 present flow direction calculations using the three-point solution approach. Figure 5 utilizes measurements from the transducer in the river (WDR transducer) and transducers in wells MW-17S, and HL-MW-23S, and Figure 6 presents data from transducers in wells MW-12A, MW-17S, and HL-MW-23S. These data are very localized and based on gradients rather than an actual flow direction. Based on our knowledge of the site hydrogeology, the conceptual flow model asserts that during periods of high groundwater elevation, the river extends, underground, in a wave to the east, with the general flow direction continuing parallel to the river. This "wave" spreading of the river underground creates the localized south/southeasterly gradients observed in the three-point solution. The flow reversals typically last between an hour to seven days. However, sustained flow reversal, approximately one month in duration, was observed this past winter, starting in mid-February 2011. Additionally, there was a period of prolonged and predominant (but not sustained) reversal extending through the five month period ending in July 2011.

To visualize the general groundwater flow directions, site groundwater contours are presented in Figures 7 and 8. Figure 7 represents typical groundwater surface contours during "normal" southwesterly flow (October 2010). Figure 8 shows typical groundwater surface contours during the most recent period of reversal (May 2010).

7.3 Principal Component Analysis (PCA)

In an effort to distinguish and/or differentiate between potential WDR-source PCBs and Remelt/Hot Line-Source PCBs, a multivariate statistical method, principal components analysis (PCA), was performed. PCA is a technique that combines variables in a dataset and creates a new, reduced set of variables. PCA factor loading plots are then used to evaluate correlations among variables and PCA factor score plots are used to evaluate similarities and differences among samples.

Individual PCB congener concentrations from five Remelt/Hot Line wells along the PCB plume centerline, the newly installed WDR wells, and four downgradient wells were evaluated using PCA.

Based on the analyses, no significant differences in PCB congener composition could be identified which could distinguish or correlate PCBs detected in the

down gradient wells (MW-23S, MW-12A, MW-17S, HL-MW-23S, and HL-MW-32S) from PCBs detected in either Remelt or WDR wells. However, on an individual well basis, PCA did indicate/confirm that congener concentrations in wells sampled during the site-wide monitoring events in October were "different" than those wells sampled in April.

While inconclusive, the results of the PCA are not necessarily unexpected and may be attributed to the following:

- Historic discharges to the WDR were from the same original source(s) as the Remelt/Hot Line PCBs and would, therefore, be expected to be similar.

- The relative amounts of individual PCB congeners which can be transported in dissolved phase by groundwater is partitioning coefficient limited and would be expected to reach relatively the same concentrations in groundwater, regardless of soil concentration.

7.4 Conclusions

Data obtained during the additional soil and groundwater investigation at the WDR supports the assertion that: 1) concentrations of PCBs in soil at the WDR are of sufficient concentration to serve as a potential source to groundwater, and; 2) sustained groundwater flow/gradient reversal creates a sufficient transport mechanism to cause groundwater from below the WDR to be transported north and east during periods of observed groundwater flow reversals. However, the investigation did not definitively show that PCBs in the WDR area are responsible for intermittent and low-concentration PCB detections in those wells near the river.

The draft of this document recommended that monitoring wells MW-27S and MW-28S be included in the sitewide quarterly monitoring program. Since submission of the draft, two rounds of sampling have taken place and the analytical results of that sampling have been presented herein. Total PCB congener concentrations and relative percent homolog concentrations observed in the most recent samples collected from MW-27 and -28 are similar to those initially discussed and do not change the conclusion drawn in the draft document.

7.5 Recommendations

While the data presented and analyzed in this report does not conclusively define the WDR as a source of PCBs to groundwater wells in the vicinity of the ravine, the data show similarities and differences which could be attributed to

the WDR serving as a source of PCBs. Past monitoring shows that site groundwater data at the site can vary seasonally and these similarities and/or differences can be attributed to those fluctuations. We recommend that monitoring wells MW-27S and -28S continue to be sampled as part of the sitewide groundwater monitoring program and the analytical data obtained be included in future feasibility study and remedial design efforts .

8.0 LIMITATIONS

Work for this project was performed, and this report prepared, in general accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Kaiser Aluminum for specific application to the Kaiser Trentwood property. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made.

9.0 REFERENCES

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Table 1 - Analytical Results for Soil Samples

Sample ID	MW-27S-30'	MW-27S-35'	MW-27S-40'	MW-27S-45'
Sampling Date	7/19/2011	7/19/2011	7/19/2011	7/19/2011
Drill Interval in Feet	17 to 27	27 to 37	37 to 42	42 to 47
Total Solids in %	92.3	95.1	98.2	93.5
PCBs in ug/kg				
Aroclor 1016	5.4 U	5.3 U	5.1 U	5.4 U
Aroclor 1221	11 U	11 U	11 U	11 U
Aroclor 1232	5.4 U	5.3 U	5.1 U	5.4 U
Aroclor 1242	5.4 U	5.3 U	5.1 U	5.4 U
Aroclor 1248	5.4 U	5.3 U	5.1 U	5.4 U
Aroclor 1254	5.4 U	5.3 U	5.1 U	5.4 U
Aroclor 1260	5.4 U	5.3 U	5.1 U	5.4 U
Total PCBs	11 U	11 U	11 U	11 U
PAHs in ug/kg				
2-Methylnaphthalene				2.7 U
Acenaphthene				2.7 U
Acenaphthylene				2.7 U
Anthracene				2.7 U
Benzo(a)anthracene				2.7 U
Benzo(a)pyrene				2.7 U
Benzo(b)fluoranthene				2.7 U
Benzo(g,h,i)perylene				2.7 U
Benzo(k)fluoranthene				2.7 U
Chrysene				2.7 U
Dibenz(a,h)anthracene				2.7 U
Dibenzofuran				2.7 U
Fluoranthene				1.9 T
Fluorene				2.7 U
Indeno(1,2,3-cd)pyrene				2.7 U
Naphthalene				2.7 U
Phenanthrene				2.6 T
Pyrene				1.3 T
TEQ Equivalent				ND
Moisture in %	4.4	3.1	2.4	4.1
NWTPH-HCID in mg/kg				
Gasoline	20 U	20 U	20 U	20 U
Stoddard/Mineral spirits	20 U	20 U	20 U	20 U
Kensol	20 U	20 U	20 U	20 U
Kerosene/Jet fuel	20 U	20 U	20 U	20 U
Diesel/Fuel oil	50 U	50 U	50 U	50 U
Bunker C	50 U	50 U	50 U	50 U
Heavy oil	100 U	100 U	100 U	100 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MW-27S-50'	MW-28S-30'	MW-28S-35'	MW-28S-40'
Sampling Date	7/19/2011	7/21/2011	7/21/2011	7/21/2011
Drill Interval in Feet	47 to 52	28 to 33	33 to 37	37 to 43
Total Solids in %	93	95	95	96
PCBs in ug/kg				
Aroclor 1016	5.4 U	5.3 U	5.3 U	5.2 U
Aroclor 1221	11 U	11 U	11 U	11 U
Aroclor 1232	5.4 U	5.3 U	5.3 U	5.2 U
Aroclor 1242	5.4 U	5.3 U	5.3 U	5.2 U
Aroclor 1248	5.4 U	5.3 U	5.3 U	5.2 U
Aroclor 1254	5.4 U	5.3 U	5.3 U	5.2 U
Aroclor 1260	5.4 U	5.3 U	5.3 U	5.2 U
Total PCBs	11 U	11 U	11 U	11 U
PAHs in ug/kg				
2-Methylnaphthalene	2.7 U		2.7 U	
Acenaphthene	2.7 U		2.7 U	
Acenaphthylene	2.7 U		2.7 U	
Anthracene	2.7 U		2.7 U	
Benzo(a)anthracene	2.7 U		2.7 U	
Benzo(a)pyrene	2.7 U		2.7 U	
Benzo(b)fluoranthene	2.7 U		2.7 U	
Benzo(g,h,i)perylene	2.7 U		2.7 U	
Benzo(k)fluoranthene	2.7 U		2.7 U	
Chrysene	2.7 U		2.7 U	
Dibenz(a,h)anthracene	2.7 U		2.7 U	
Dibenzofuran	2.7 U		2.7 U	
Fluoranthene	2.7 U		2.7 U	
Fluorene	2.7 U		2.7 U	
Indeno(1,2,3-cd)pyrene	2.7 U		2.7 U	
Naphthalene	2.7 U		2.7 U	
Phenanthrene	2.7 U		2.7 U	
Pyrene	2.7 U		2.7 U	
TEQ Equivalent	ND		ND	
Moisture in %	6.2	10.0	3.3	4.3
NWTPH-HCID in mg/kg				
Gasoline	20 U	20 U	20 U	20 U
Stoddard/Mineral spirits	20 U	20 U	20 U	20 U
Kensol	20 U	20 U	20 U	20 U
Kerosene/Jet fuel	20 U	20 U	20 U	20 U
Diesel/Fuel oil	50 U	50 U	50 U	50 U
Bunker C	50 U	50 U	50 U	50 U
Heavy oil	100 U	100 U	100 U	100 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MW-28S-45'	MW-28S S-7	MW-28S-50'	WDR-1-15'
Sampling Date	7/21/2011	7/21/2011	7/21/2011	7/20/2011
Drill Interval in Feet	43 to 48	43 to 48 Dup of MW-28S-45'	48 to 58	11 to 16
Total Solids in %	89.9		90.1	95.6
PCBs in ug/kg				
Aroclor 1016	5.6 U		5.6 U	5.3 U
Aroclor 1221	12 U		12 U	11 U
Aroclor 1232	5.6 U		5.6 U	5.3 U
Aroclor 1242	5.6 U		5.6 U	5.3 U
Aroclor 1248	5.6 U		5.6 U	5.3 U
Aroclor 1254	5.6 U		5.6 U	5.3 U
Aroclor 1260	5.6 U		5.6 U	5.3 U
Total PCBs	12 U		12 U	11 U
PAHs in ug/kg				
2-Methylnaphthalene	2.9 U		2.8 U	
Acenaphthene	2.9 U		2.8 U	
Acenaphthylene	2.9 U		2.8 U	
Anthracene	2.9 U		2.8 U	
Benzo(a)anthracene	2.9 U		2.8 U	
Benzo(a)pyrene	2.9 U		2.8 U	
Benzo(b)fluoranthene	2.9 U		2.8 U	
Benzo(g,h,i)perylene	2.9 U		2.8 U	
Benzo(k)fluoranthene	2.9 U		2.8 U	
Chrysene	2.9 U		2.8 U	
Dibenz(a,h)anthracene	2.9 U		2.8 U	
Dibenzofuran	2.9 U		2.8 U	
Fluoranthene	2.9 U		2.8 U	
Fluorene	2.9 U		2.8 U	
Indeno(1,2,3-cd)pyrene	2.9 U		2.8 U	
Naphthalene	2.9 U		2.8 U	
Phenanthrene	2.9 U		2.8 U	
Pyrene	2.9 U		2.8 U	
TEQ Equivalent	ND		ND	
Moisture in %	7.8	9.8	6.4	3.6
NWTPH-HCID in mg/kg				
Gasoline	20 U	20 U	20 U	20 U
Stoddard/Mineral spirits	20 U	20 U	20 U	20 U
Kensol	20 U	20 U	20 U	20 U
Kerosene/Jet fuel	20 U	20 U	20 U	20 U
Diesel/Fuel oil	50 U	50 U	50 U	50 U
Bunker C	50 U	50 U	50 U	50 U
Heavy oil	100 U	100 U	100 U	100 U

Table 1 - Analytical Results for Soil Samples

Sample ID	WDR-1-20'	WDR-1-25'	WDR-1-30'	WDR-1-35'
Sampling Date	7/20/2011	7/20/2011	7/20/2011	7/21/2011
Drill Interval in Feet	16 to 21	21 to 26	26 to 31	31 to 36
Total Solids in %	90.5	96.9	88.3	89.9
PCBs in ug/kg				
Aroclor 1016	5.6 U	5.2 U	5.7 U	5.6 U
Aroclor 1221	12 U	11 U	12 U	12 U
Aroclor 1232	5.6 U	5.2 U	5.7 U	5.6 U
Aroclor 1242	5.6 U	5.2 U	5.7 U	5.6 U
Aroclor 1248	5.6 U	5.2 U	5.7 U	5.6 U
Aroclor 1254	5.6 U	5.2 U	5.7 U	5.6 U
Aroclor 1260	5.6 U	5.2 U	5.7 U	5.6 U
Total PCBs	12 U	11 U	12 U	12 U
PAHs in ug/kg				
2-Methylnaphthalene			2.9 U	2.8 U
Acenaphthene			2.9 U	2.8 U
Acenaphthylene			2.9 U	2.8 U
Anthracene			2.9 U	2.8 U
Benzo(a)anthracene			2.9 U	2.8 U
Benzo(a)pyrene			2.9 U	2.8 U
Benzo(b)fluoranthene			2.9 U	2.8 U
Benzo(g,h,i)perylene			2.9 U	2.8 U
Benzo(k)fluoranthene			2.9 U	2.8 U
Chrysene			2.9 U	2.8 U
Dibenz(a,h)anthracene			2.9 U	2.8 U
Dibenzofuran			2.9 U	2.8 U
Fluoranthene			2.9 U	2.8 U
Fluorene			2.9 U	2.8 U
Indeno(1,2,3-cd)pyrene			2.9 U	2.8 U
Naphthalene			2.9 U	2.8 U
Phenanthrene			2.9 U	2.8 U
Pyrene			2.9 U	2.8 U
TEQ Equivalent			ND	ND
Moisture in %	6.5	6.0	18	9.8
NWTPH-HCID in mg/kg				
Gasoline	20 U	20 U	20 U	20 U
Stoddard/Mineral spirits	20 U	20 U	20 U	20 U
Kensol	20 U	20 U	20 U	20 U
Kerosene/Jet fuel	20 U	20 U	20 U	20 U
Diesel/Fuel oil	50 U	50 U	50 U	50 U
Bunker C	50 U	50 U	50 U	50 U
Heavy oil	100 U	100 U	100 U	100 U

Table 1 - Analytical Results for Soil Samples

Sample ID	WDR-1-40'	WDR-2-15'	WDR-2-20'	WDR-2-25'
Sampling Date	7/20/2011	7/20/2011	7/20/2011	7/20/2011
Drill Interval in Feet	36 to 41	11 to 16	16 to 21	21 to 26
Total Solids in %	87.3	96.1	96.1	88.1
PCBs in ug/kg				
Aroclor 1016	5.8 U	5.2 U	5.2 U	5.7 U
Aroclor 1221	12 U	11 U	11 U	12 U
Aroclor 1232	5.8 U	5.2 U	5.2 U	5.7 U
Aroclor 1242	5.8 U	5.2 U	5.2 U	5.7 U
Aroclor 1248	5.8 U	5.2 U	5.2 U	5.7 U
Aroclor 1254	5.8 U	5.2 U	5.2 U	5.7 U
Aroclor 1260	5.8 U	5.2 U	5.2 U	5.7 U
Total PCBs	12 U	11 U	11 U	12 U
PAHs in ug/kg				
2-Methylnaphthalene	2.9 U			2.9 U
Acenaphthene	2.9 U			2.9 U
Acenaphthylene	2.9 U			2.9 U
Anthracene	2.9 U			2.9 U
Benzo(a)anthracene	2.9 U			2.9 U
Benzo(a)pyrene	2.9 U			2.9 U
Benzo(b)fluoranthene	2.9 U			2.9 U
Benzo(g,h,i)perylene	2.9 U			2.9 U
Benzo(k)fluoranthene	2.9 U			2.9 U
Chrysene	2.9 U			2.9 U
Dibenz(a,h)anthracene	2.9 U			2.9 U
Dibenzofuran	2.9 U			2.9 U
Fluoranthene	2.9 U			2.9 U
Fluorene	2.9 U			2.9 U
Indeno(1,2,3-cd)pyrene	2.9 U			2.9 U
Naphthalene	2.9 U			2.9 U
Phenanthrene	2.9 U			2.9 U
Pyrene	2.9 U			2.9 U
TEQ Equivalent	ND			ND
Moisture in %	9.8	3.3	1.2	11
NWTPH-HCID in mg/kg				
Gasoline	20 U	20 U	20 U	20 U
Stoddard/Mineral spirits	20 U	20 U	20 U	20 U
Kensol	20 U	20 U	20 U	20 U
Kerosene/Jet fuel	20 U	20 U	20 U	20 U
Diesel/Fuel oil	50 U	50 U	50 U	50 U
Bunker C	50 U	50 U	50 U	50 U
Heavy oil	100 U	100 U	100 U	100 U

Table 1 - Analytical Results for Soil Samples

Sample ID	WDR-2 S-5	WDR-2-30'	WDR-2-35'	WDR-3-10'
Sampling Date	7/20/2011	7/20/2011	7/20/2011	7/20/2011
Drill Interval in Feet	21 to 26 Dup of WDR-2-25'	26 to 31	31 to 36	6 to 11
Total Solids in %	87.7	90.5	93.2	93.1
PCBs in ug/kg				
Aroclor 1016	5.7 U	5.6 U	5.4 U	270 U
Aroclor 1221	12 U	12 U	11 U	540 U
Aroclor 1232	5.7 U	5.6 U	5.4 U	270 U
Aroclor 1242	5.7 U	5.6 U	5.4 U	270 U
Aroclor 1248	5.7 U	5.6 U	5.4 U	7200
Aroclor 1254	5.7 U	5.6 U	5.4 U	270 U
Aroclor 1260	5.7 U	5.6 U	5.4 U	270 U
Total PCBs	12 U	12 U	11 U	7200
PAHs in ug/kg				
2-Methylnaphthalene	2.9 U	2.8 U		
Acenaphthene	2.9 U	2.8 U		
Acenaphthylene	2.9 U	2.8 U		
Anthracene	2.9 U	2.8 U		
Benzo(a)anthracene	2.9 U	2.8 U		
Benzo(a)pyrene	3.2 U	2.8 U		
Benzo(b)fluoranthene	2.9 U	2.8 U		
Benzo(g,h,i)perylene	2.9 U	2.8 U		
Benzo(k)fluoranthene	2.9 U	2.8 U		
Chrysene	2.9 U	2.8 U		
Dibenz(a,h)anthracene	2.9 U	2.8 U		
Dibenzofuran	2.9 U	2.8 U		
Fluoranthene	2.9 U	2.8 U		
Fluorene	2.9 U	2.8 U		
Indeno(1,2,3-cd)pyrene	2.9 U	2.8 U		
Naphthalene	2.9 U	2.8 U		
Phenanthrene	2.9 U	2.8 U		
Pyrene	2.9 U	2.8 U		
TEQ Equivalent	ND	ND		
Moisture in %	13	9.1	4.4	5.5
NWTPH-HCID in mg/kg				
Gasoline	20 U	20 U	20 U	20 U
Stoddard/Mineral spirits	20 U	20 U	20 U	20 U
Kensol	20 U	20 U	20 U	20 U
Kerosene/Jet fuel	20 U	20 U	20 U	20 U
Diesel/Fuel oil	50 U	50 U	50 U	50 U
Bunker C	50 U	50 U	50 U	50 U
Heavy oil	100 U	100 U	100 U	100 U

Table 1 - Analytical Results for Soil Samples

Sample ID	WDR-3-15'	WDR-3-20'	WDR-3-25'	WDR-3-30'
Sampling Date	7/20/2011	7/20/2011	7/20/2011	7/20/2011
Drill Interval in Feet	11 to 16	16 to 21	21 to 26	26 to 31
Total Solids in %	95.9	94.1	89.3	89.8
PCBs in ug/kg				
Aroclor 1016	5.2 U	5.4 U	5.6 U	5.6 U
Aroclor 1221	11 U	11 U	12 U	12 U
Aroclor 1232	5.2 U	5.4 U	5.6 U	5.6 U
Aroclor 1242	5.2 U	5.4 U	5.6 U	5.6 U
Aroclor 1248	8.8	13	5.6 U	5.6 U
Aroclor 1254	5.2 U	5.4 U	5.6 U	5.6 U
Aroclor 1260	5.2 U	5.4 U	5.6 U	5.6 U
Total PCBs	8.8	13	12 U	12 U
PAHs in ug/kg				
2-Methylnaphthalene		14	2.8 U	
Acenaphthene		37	2.8 U	
Acenaphthylene		1.5 T	2.8 U	
Anthracene		66	2.8 U	
Benzo(a)anthracene		37	2.8 U	
Benzo(a)pyrene		13	2.8 U	
Benzo(b)fluoranthene		21	2.8 U	
Benzo(g,h,i)perylene		3.3	2.1 T	
Benzo(k)fluoranthene		8.1	2.8 U	
Chrysene		41	2.8 U	
Dibenz(a,h)anthracene		1.1 T	2.8 U	
Dibenzofuran		37	2.8 U	
Fluoranthene		180	2.8 U	
Fluorene		60	2.8 U	
Indeno(1,2,3-cd)pyrene		3.8	2.8 U	
Naphthalene		28	2.8 U	
Phenanthrene		320	2.8 U	
Pyrene		140	2.8 U	
TEQ Equivalent		20.51 J	ND	
Moisture in %	3.7	7.5	8.5	3.4 J
NWTPH-HCID in mg/kg				
Gasoline	20 U	20 U	20 U	20 U
Stoddard/Mineral spirits	20 U	20 U	20 U	20 U
Kensol	20 U	20 U	20 U	20 U
Kerosene/Jet fuel	20 U	20 U	20 U	20 U
Diesel/Fuel oil	50 U	50 U	50 U	50 U
Bunker C	50 U	50 U	50 U	50 U
Heavy oil	100 U	100 U	100 U	100 U

Table 1 - Analytical Results for Soil Samples

Sample ID	WDR-3 S-6
Sampling Date	7/20/2011
Drill Interval in Feet	26 to 31
	Dup of
	WDR-3 30'
Total Solids in %	92.1
PCBs in ug/kg	
Aroclor 1016	5.5 U
Aroclor 1221	11 U
Aroclor 1232	5.5 U
Aroclor 1242	5.5 U
Aroclor 1248	5.5 U
Aroclor 1254	5.5 U
Aroclor 1260	5.5 U
Total PCBs	11 U
PAHs in ug/kg	
2-Methylnaphthalene	
Acenaphthene	
Acenaphthylene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	
Benzo(k)fluoranthene	
Chrysene	
Dibenz(a,h)anthracene	
Dibenzofuran	
Fluoranthene	
Fluorene	
Indeno(1,2,3-cd)pyrene	
Naphthalene	
Phenanthrene	
Pyrene	
TEQ Equivalent	
Moisture in %	9.8 J
NWTPH-HCID in mg/kg	
Gasoline	20 U
Stoddard/Mineral spirits	20 U
Kensol	20 U
Kerosene/Jet fuel	20 U
Diesel/Fuel oil	50 U
Bunker C	50 U
Heavy oil	100 U

U = Not detected at the reporting limit indicated.
J = Estimated value.
T = Value is between the MDL and MRL.
ND = TEQ not calculated because values were all non-detect.

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL1-PCB-1	0.149 UB	0.158 UB	0.121 UB	0.116 UB	0.125 UB	0.26 UB
CL1-PCB-2	0.092 UB	0.093 UB	0.067 UB	0.068 UB	0.112 UB	0.112 UB
CL1-PCB-3	0.576 UB	0.361 UB	0.5 UB	0.857 UB	0.798 UB	0.574 UB
CL2-PCB-4	0.383 U	0.407	0.446	0.282 U	0.289 U	0.824
CL2-PCB-5	0.285 U	0.213 U	0.187 U	0.195 U	0.200 U	0.160 U
CL2-PCB-6	0.257 U	0.192 U	0.179 UK	0.172 U	0.176 U	0.298
CL2-PCB-7	0.258 U	0.193 U	0.169 U	0.175 U	0.179 U	0.143 U
CL2-PCB-8	0.566 UB	0.474 UB	0.437 UB	0.324 UB	0.292 UB	1.06 UB
CL2-PCB-9	0.257 U	0.192 U	0.168 U	0.172 U	0.176 U	0.141 U
CL2-PCB-10	0.261 U	0.195 U	0.171 U	0.173 U	0.178 U	0.233
CL2-PCB-11	0.606 UB	0.983 UB	0.869 UB	0.713 UB	0.936 UB	0.63 UB
CL2-PCB-12/13	0.279 U	0.208 U	0.183 U	0.192 U	0.197 U	0.158 U
CL2-PCB-14	0.263 U	0.197 U	0.172 U	0.177 U	0.182 U	0.145 U
CL2-PCB-15	7.09	1.53 UB	0.881 UB	1.84 UB	0.85	3.32
CL3-PCB-16	1.01	1.45	1.45	0.432	1.26	4.48
CL3-PCB-17	1.31	1.86	1.85	0.499 UB	1.47	6.44
CL3-PCB-18/30	6.18	8.36	7.88	1.3 UB	5.58	25
CL3-PCB-19	1.96	3.59	3.32	0.306	2.26	8.77
CL3-PCB-20/28	27.8	37.3	27.6	11.5	22.8	151
CL3-PCB-21/33	1.48 UB	1.94	1.5 UB	0.688 UK	1.53 UB	7.28
CL3-PCB-22	11.2	14.1	11	3.03	9.96	58.7
CL3-PCB-23	0.0942 U	0.0626 U	0.0634 U	0.0527 U	0.0483 U	0.151 U
CL3-PCB-24	0.247	0.44	0.416	0.0529 U	0.235	1.29
CL3-PCB-25	0.944	1.31	1.06	0.367 UK	0.972	5.31
CL3-PCB-26/29	3.52	4.77	3.82	1.17	3.06	19.3
CL3-PCB-27	1.3	1.86	1.76	0.19	1.31	6
CL3-PCB-31	20.2	26.1	20.2	6.75	17.3	103
CL3-PCB-32	7.85	12.1	10.8	1.65	7.78	38.2
CL3-PCB-34	0.092 UK	0.1	0.075	0.0503 U	0.0483 U	0.405
CL3-PCB-35	0.102 U	0.0679 U	0.0688 U	0.081	0.0483 U	0.150 U
CL3-PCB-36	0.0917 U	0.0610 U	0.0618 U	0.0489 U	0.0483 U	0.141 U
CL3-PCB-37	1.08 UB	1.05 UB	0.604 UB	3.3	0.656 UB	1.22 UB
CL3-PCB-38	0.0943 U	0.0627 U	0.0635 U	0.0492 U	0.0483 U	0.141 U
CL3-PCB-39	0.0917 U	0.162	0.093	0.102 U	0.073	0.483
CL4-PCB-40/41/71	9.82	20.5	12.6	11.1	14.2	66.9
CL4-PCB-42	4.77	9.45	6.01	5.46	7.25	34
CL4-PCB-43	0.696	1.57	0.892	0.975	1.15	5.54
CL4-PCB-44/47/65	14.6	32.3	20.4	18.6	22.9	108
CL4-PCB-45/51	4.34	8.45	6.6	2.58	6.88	30.8
CL4-PCB-46	1.35	2.77	1.97	0.892	2.22	10.5
CL4-PCB-48	2.37	5.14	3.11	3.37	3.57	16.9
CL4-PCB-49/69	10.3	21.5	13.6	12.4	15.2	71.9
CL4-PCB-50/53	3.94	7.89	6.07	2.19	5.97	27.9
CL4-PCB-52	21.7	41.2	27.6	19.3	29.1	129
CL4-PCB-54	0.074	0.198	0.117	0.0485 U	0.114	0.525
CL4-PCB-55	0.376	0.692	0.181	1.06	0.348	1.55
CL4-PCB-56	4.93 UB	12.1	5.38	12.9	6.22	30.2
CL4-PCB-57	0.0817 U	0.099	0.0790 U	0.117 U	0.0912 U	0.205
CL4-PCB-58	0.0847 U	0.0541 U	0.0819 U	0.118 U	0.0918 U	0.123

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL4-PCB-59/62/75	1.7	3.21	1.96	1.91	2.33	10.8
CL4-PCB-60	1.68 UB	4.19	1.87 UB	6.95	2.15	9.44
CL4-PCB-61/70/74/76	15.6	36.3	17.4	41.1	19.8	101
CL4-PCB-63	0.358	0.808	0.356 UK	0.842	0.462	2.27
CL4-PCB-64	8.59	17.2	10.4	10.4	12.5	55.5
CL4-PCB-66	8.32 UB	20.4	8.34 UB	26.2	9.87	48.3
CL4-PCB-67	0.271	0.499	0.246	0.58	0.275 UK	1.6
CL4-PCB-68	0.0825 U	0.0527 U	0.0798 U	0.111 U	0.0865 U	0.123 UK
CL4-PCB-72	0.0783 U	0.128	0.0757 U	0.110 U	0.0859 U	0.305
CL4-PCB-73	0.299	0.501	0.32	0.248	0.461	1.7
CL4-PCB-77	0.27 UB	0.962 UB	0.287 UB	2.45	0.256 UB	0.162 UK
CL4-PCB-78	0.0878 U	0.0561 U	0.0849 U	0.111 U	0.0867 U	0.0950 U
CL4-PCB-79	0.0721 U	0.116	0.0697 U	0.163 UK	0.0746 U	0.174
CL4-PCB-80	0.0815 U	0.0520 U	0.0788 U	0.110 U	0.0856 U	0.0939 U
CL4-PCB-81	0.0877 U	0.0527 U	0.0840 U	0.118 U	0.0927 U	0.107 U
CL5-PCB-82	0.525	1.87 UK	0.533	2.69	0.773	2.35
CL5-PCB-83/99	1.7 UB	6.17	2.35 UB	8.91	2.75 UB	10.2
CL5-PCB-84	1.27 UK	4.13	1.94 UK	3.86	2.54	10.4
CL5-PCB-85/116/117	0.696	2.93	0.913	4.17	1.17	3.93
CB-86/87/97/108/119/125	2.13 UB	7.86	3.01	11.2	4.14 UB	14.6
CL5-PCB-88/91	0.942	2.47	1.08	2.76	1.65	6.54
CL5-PCB-89	0.108 UK	0.379	0.128	0.424 UK	0.196	0.766 UK
CL5-PCB-90/101/113	2.62	8.25	3.48	11.2	4.5	16.4
CL5-PCB-92	0.518 UK	1.64	0.713	1.86	0.91	3.47
CL5-PCB-93/95/98/100/102	3.66 UB	10.2	5.46 UB	9.49	7.22 UB	27.6
CL5-PCB-94	0.105 U	0.198 UK	0.112 UK	0.139 U	0.107 UK	0.549
CL5-PCB-96	0.093	0.344	0.167	0.221	0.251	1.03
CL5-PCB-103	0.0834 U	0.086 UK	0.0681 U	0.117	0.0836 U	0.193
CL5-PCB-104	0.0600 U	0.0487 U	0.0478 U	0.0485 U	0.0516 U	0.0479 U
CL5-PCB-105	0.385 UB	3.25	0.838 UB	6.89	0.729 UB	0.679 UB
CL5-PCB-106	0.0650 U	0.0515 U	0.0612 U	0.0957 U	0.0497 U	0.0645 U
CL5-PCB-107/124	0.0716 U	0.29	0.0674 U	0.423	0.079	0.123
CL5-PCB-109	0.091 U	0.478	0.091	0.862	0.137	0.247 UK
CL5-PCB-110/115	2.77 UB	9.23	3.3 UB	13.5	4.19 UB	13.5
CL5-PCB-111	0.0741 U	0.0526 U	0.0605 U	0.0812 U	0.0680 U	0.0830 U
CL5-PCB-112	0.0710 U	0.0504 U	0.0580 U	0.0797 U	0.0667 U	0.0814 U
CL5-PCB-114	0.0671 U	0.231	0.072	0.403	0.059 UK	0.077
CL5-PCB-118	0.847 UB	5.34	1.47 UB	10.800	1.54 UB	2.23 UB
CL5-PCB-120	0.0693 U	0.0492 U	0.0566 U	0.0740 U	0.0619 U	0.0756 U
CL5-PCB-121	0.0728 U	0.0517 U	0.0595 U	0.0850 U	0.0712 U	0.0869 U
CL5-PCB-122	0.0764 U	0.15	0.0719 U	0.271	0.0556 U	0.0722 U
CL5-PCB-123	0.0715 U	0.202	0.0679 U	0.345 UK	0.064 UK	0.075
CL5-PCB-126	0.0771 U	0.0595 U	0.0755 U	0.114 U	0.0595 U	0.0780 U
CL5-PCB-127	0.0730 U	0.0578 U	0.0688 U	0.100 U	0.0520 U	0.0674 U
CL6-PCB-128/166	0.109 U	0.423 UK	0.122 UK	0.643	0.137	0.115 UK
CL6-PCB-129/138/160/163	0.614 UB	2.03 UB	0.666 UB	3.24	1.08 UB	0.704
CL6-PCB-130	0.136 U	0.188	0.0769 U	0.164 UK	0.0776 U	0.117 U
CL6-PCB-131	0.129 U	0.0707 U	0.0731 U	0.148 U	0.0765 U	0.115 U
CL6-PCB-132	0.256	0.976	0.345	1.26	0.495	0.491

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL6-PCB-133	0.126 U	0.0692 U	0.0715 U	0.138 U	0.0712 U	0.107 U
CL6-PCB-134/143	0.130 U	0.085 UK	0.0736 U	0.165	0.091 UK	0.112 U
CL6-PCB-135/151/154	0.243 UB	0.587 UB	0.32 UB	0.947 UK	0.427 UB	0.654
CL6-PCB-136	0.121 UK	0.267	0.141	0.465 UK	0.153 UK	0.39
CL6-PCB-137	0.129 U	0.112 UK	0.0731 U	0.182	0.0698 U	0.105 U
CL6-PCB-139/140	0.117 U	0.0639 U	0.0660 U	0.133 U	0.0689 U	0.104 U
CL6-PCB-141	0.117 U	0.352	0.137	0.637	0.211	0.132
CL6-PCB-142	0.131 U	0.0719 U	0.0742 U	0.145 U	0.0747 U	0.113 U
CL6-PCB-144	0.0821 U	0.121	0.0806 U	0.177	0.0657 U	0.0813 U
CL6-PCB-145	0.0654 U	0.0514 U	0.0641 U	0.0973 U	0.0547 U	0.0677 U
CL6-PCB-146	0.123	0.292 UK	0.124	0.482	0.236	0.171
CL6-PCB-147/149	0.601 UB	1.54 UB	0.521 UB	2.33 UB	0.909 UB	1.11 UB
CL6-PCB-148	0.0829 U	0.0651 U	0.0813 U	0.121 U	0.0678 U	0.0840 U
CL6-PCB-150	0.0633 U	0.0497 U	0.0621 U	0.0937 U	0.0526 U	0.0652 U
CL6-PCB-152	0.0588 U	0.0487 U	0.0576 U	0.0922 U	0.0518 U	0.0641 U
CL6-PCB-153/168	0.444	1.37	0.559 UK	2.43	0.918	0.654
CL6-PCB-155	0.0531 U	0.0487 U	0.0478 U	0.0715 U	0.0483 U	0.0479 U
CL6-PCB-156/157	0.110 U	0.273 UK	0.115	0.511	0.131	0.101 U
CL6-PCB-158	0.0867 U	0.212 UK	0.09	0.352	0.084	0.0732 U
CL6-PCB-159	0.0936 U	0.0513 U	0.0531 U	0.0991 U	0.0512 U	0.0773 U
CL6-PCB-161	0.0908 U	0.0498 U	0.0515 U	0.0956 U	0.0494 U	0.0746 U
CL6-PCB-162	0.0985 U	0.0540 U	0.0558 U	0.102 U	0.0529 U	0.0799 U
CL6-PCB-164	0.0929 U	0.122	0.0527 U	0.104 U	0.088	0.0810 U
CL6-PCB-165	0.100 U	0.0549 U	0.0567 U	0.112 U	0.0577 U	0.0872 U
CL6-PCB-167	0.0837 U	0.108 UK	0.0487 U	0.156	0.0487 U	0.0759 U
CL6-PCB-169	0.0921 U	0.0500 U	0.0535 U	0.106 U	0.0544 U	0.0791 U
CL7-PCB-170	0.130 UK	0.402 UK	0.0878 U	0.460 UK	0.232 UK	0.153
CL7-PCB-171/173	0.106 U	0.0664 U	0.0933 U	0.204	0.0664 U	0.0848 U
CL7-PCB-172	0.102 U	0.0640 U	0.0899 U	0.071 U	0.0659 U	0.0841 U
CL7-PCB-174	0.0978 U	0.386 UK	0.0862 U	0.549	0.272	0.0812 U
CL7-PCB-175	0.0933 U	0.0586 U	0.0822 U	0.0642 U	0.0605 U	0.0773 U
CL7-PCB-176	0.0676 U	0.0487 U	0.0596 U	0.095	0.0483 U	0.0606 U
CL7-PCB-177	0.0985 U	0.243 UK	0.0868 U	0.281	0.182	0.0814 U
CL7-PCB-178	0.0974 U	0.0612 U	0.0859 U	0.112 UK	0.0630 U	0.0804 U
CL7-PCB-179	0.0674 U	0.126	0.071	0.218	0.097	0.0595 U
CL7-PCB-180/193	0.203 UB	0.767 UB	0.342 UK	0.993	0.489 UB	0.189 UB
CL7-PCB-181	0.101 U	0.0632 U	0.0887 U	0.0675 U	0.0636 U	0.0812 U
CL7-PCB-182	0.0941 U	0.0591 U	0.0829 U	0.0645 U	0.0608 U	0.0776 U
CL7-PCB-183/185	0.0937 U	0.307 UK	0.0826 U	0.277	0.177	0.0763 U
CL7-PCB-184	0.0662 U	0.0487 U	0.0583 U	0.0497 U	0.0483 U	0.0599 U
CL7-PCB-186	0.0689 U	0.0487 U	0.0608 U	0.0531 U	0.0501 U	0.0639 U
CL7-PCB-187	0.148 UB	0.375 UB	0.139 UB	0.653 UB	0.283 UB	0.116 UB
CL7-PCB-188	0.0629 U	0.0487 U	0.0537 U	0.0509 U	0.0483 U	0.0634 U
CL7-PCB-189	0.0497 U	0.0487 U	0.0478 U	0.0681 U	0.0546 U	0.0507 U
CL7-PCB-190	0.0711 U	0.062 UK	0.0627 U	0.101 UK	0.057 UK	0.0660 U
CL7-PCB-191	0.0741 U	0.0487 U	0.0653 U	0.0522 U	0.0492 U	0.0628 U
CL7-PCB-192	0.0827 U	0.0519 U	0.0729 U	0.0584 U	0.0550 U	0.0703 U
CL8-PCB-194	0.096	0.216	0.0682 U	0.216	0.086	0.101 U
CL8-PCB-195	0.0671 U	0.083 UK	0.0749 U	0.123 U	0.0804 U	0.106 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL8-PCB-196	0.0850 U	0.079 UK	0.0884 U	0.111 UK	0.092	0.0895 U
CL8-PCB-197/200	0.0665 U	0.0487 U	0.0692 U	0.0666 U	0.0483 U	0.0667 U
CL8-PCB-198/199	0.0888 U	0.207	0.0923 U	0.306	0.098 UK	0.0927 U
CL8-PCB-201	0.0671 U	0.0490 U	0.0698 U	0.0652 U	0.0483 U	0.0652 U
CL8-PCB-202	0.0709 U	0.0522 U	0.0744 U	0.087	0.0564 U	0.0836 U
CL8-PCB-203	0.0815 U	0.186	0.0847 U	0.172	0.098 UK	0.0873 U
CL8-PCB-204	0.0668 U	0.0487 U	0.0694 U	0.0673 U	0.0483 U	0.0674 U
CL8-PCB-205	0.0544 U	0.0487 U	0.0602 U	0.0902 U	0.0597 U	0.0766 U
CL9-PCB-206	0.115 U	0.082 UK	0.107 U	0.125 U	0.109 U	0.136 U
CL9-PCB-207	0.0917 U	0.0570 U	0.0867 U	0.0986 U	0.0859 U	0.108 U
CL9-PCB-208	0.0962 U	0.0595 U	0.0920 U	0.103 U	0.0896 U	0.114 U
CL10-PCB-209	0.0817 U	0.069	0.116	0.129 U	0.0842 U	0.106 U
Total Monochloro Biphenyl	U	U	U	U	U	U
Total Dichloro Biphenyl	7.09	0.403	0.443	U	U	4.68
Total Trichloro Biphenyl	83.5	115	91.2	28.4	74.0	436
Total Tetrachloro Biphenyl	101	247	135	182	163	765
Total Pentachloro Biphenyl	4.91	63.5	10.2	89.6	12.2	112
Total Hexachloro Biphenyl	0.822	3.39	0.953	10.3	2.3	3.2
Total Heptachloro Biphenyl	U	0.128	0.071	2.62	0.728	0.153
Total Octachloro Biphenyl	0.096	0.609	U	0.781	0.178	U
Total Nonachloro Biphenyl	U	U	U	U	U	U
Decachloro Biphenyl	U	0.069	0.116	U	U	U
Total PCB Congeners	197	431	238	314	252	1320
TEQ (WHO 2005) ND=0	0	2.71E-04	5.6E-06	0.00081	3.9E-06	4.6E-06
TEQ (WHO 2005) ND=1/2DL	0.00526	0.0040	0.00461	0.00812	0.00382	0.00512
Aroclor 1221	0.329 U	0.246 U	0.215 U	0.216 U	0.221 U	0.177 U
Aroclor 1232	0.226 U	0.178 U	0.194 U	0.197 U	0.184 U	0.199 U
Aroclor 1242	163 J	215 J	167 J	0.463 U	137 J	837 J
Aroclor 1248	0.488 U	0.314 U	0.472 U	0.675 U	0.527 U	0.578 U
Aroclor 1254	0.798 U	0.566 U	0.651 U	161 J	0.755 U	0.922 U
Aroclor 1260	0.498 U	0.313 U	0.439 U	0.356 U	0.336 U	0.428 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL1-PCB-1	0.158 UB	0.149 UB	0.188 UB	0.181 UB	0.162 UB	0.156 UB
CL1-PCB-2	0.106 UB	0.095 UB	0.095 UB	0.078 UB	0.134 UB	0.088 UB
CL1-PCB-3	0.926 UB	0.778 UB	0.582 UB	0.888 UB	0.358 UB	0.835 UB
CL2-PCB-4	0.566	0.546	0.592	0.457	0.478	0.936
CL2-PCB-5	0.122 U	0.121 U	0.192 U	0.170 U	0.269 U	0.180 U
CL2-PCB-6	0.113 U	0.112 U	0.173 U	0.153 U	0.234 U	0.162 U
CL2-PCB-7	0.116 U	0.115 U	0.174 U	0.154 U	0.238 U	0.26
CL2-PCB-8	0.436 UB	0.844 UB	0.622 UB	0.622 UB	0.57 UB	0.513 UB
CL2-PCB-9	0.108 U	0.107 U	0.173 U	0.153 U	0.236 U	0.162 UK
CL2-PCB-10	0.251	0.115 U	0.176 U	0.155 U	0.224 U	0.165 U
CL2-PCB-11	0.596 UB	0.847 UB	1.18 UB	0.671 UB	0.812 UB	1.23 UB
CL2-PCB-12/13	0.127 U	0.618	0.366	0.166 U	0.264 U	0.985
CL2-PCB-14	0.118 U	0.117 U	0.177 U	0.157 U	0.255 U	0.166 U
CL2-PCB-15	0.59 UB	83.9	66.8	31.1	22.9	128
CL3-PCB-16	1.93	1.18	2.35	1.12	1.26	1.72
CL3-PCB-17	2.42	1.28	2.64	1.65	1.69	2.24
CL3-PCB-18/30	12.7	5.27	8.71	8.39	8.56	11.7
CL3-PCB-19	5.19	2.88	3.64	3.04	3.41	2.56
CL3-PCB-20/28	26.1	20.4	47.3	57.4	45	27
CL3-PCB-21/33	1.71	1.25 UB	4.11	2.83	2.59	1.21 UB
CL3-PCB-22	10.7	7.66	16.7	21.8	18.2	6.11
CL3-PCB-23	0.140 U	0.0484 U	0.0729 U	0.145 U	0.0630 U	0.0504 U
CL3-PCB-24	0.529	0.124 UK	0.206	0.424	0.354	0.255
CL3-PCB-25	1.04	0.79	1.71	1.71	1.65	0.693
CL3-PCB-26/29	3.93	2.27	4.6	7.28	6.18	2.73
CL3-PCB-27	2.51	0.876	1.34	1.8	1.72	1.45
CL3-PCB-31	22.3	16	30.7	43.9	36	21.9
CL3-PCB-32	18.2	7.28	8.58	11.9	12.4	8.14
CL3-PCB-34	0.137 U	0.0484 U	0.072	0.152	0.105	0.0491 U
CL3-PCB-35	0.146 U	0.121	0.751	0.157 U	0.0746 U	0.22
CL3-PCB-36	0.132 U	0.0484 U	0.0710 U	0.141 U	0.0649 U	0.0491 U
CL3-PCB-37	0.294 UK	15.8	32.8	5.38	4.35	13
CL3-PCB-38	0.138 U	0.0484 U	0.112	0.145 U	0.0645 U	0.0505 U
CL3-PCB-39	0.133 U	0.088	0.602	0.141 U	0.11	0.074
CL4-PCB-40/41/71	14.4	9.18	80.3	16	16.3	12.1
CL4-PCB-42	7.12	4.74	33.6	8.56	8.18	5.57
CL4-PCB-43	1.65	0.739	3.83	1.32	1.37	0.734
CL4-PCB-44/47/65	24.1	15.5	109	24.6	24.3	20
CL4-PCB-45/51	9.06	3.72	11.4	5.96	6.5	4.8
CL4-PCB-46	2.96	1.13	4.08	1.67	1.87	1.17
CL4-PCB-48	3.54	2.22	19.6	3.92	3.99	2.6
CL4-PCB-49/69	16.7	11.1	58.9	19.3	18.9	13.5
CL4-PCB-50/53	8.03	4.53	9.66	5.93	6.92	4.27
CL4-PCB-52	35.1	24	100	38.1	38.8	30.6
CL4-PCB-54	0.175	0.145	0.205	0.196	0.207	0.094
CL4-PCB-55	0.316	1.02	6.93	1.1	1.42	0.967
CL4-PCB-56	3.97 UB	10.7	116	12.1	10.9	11.6
CL4-PCB-57	0.113 U	0.0545 U	0.651	0.109 U	0.195 U	0.0697 U
CL4-PCB-58	0.117 U	0.063 UK	0.379	0.113 U	0.205 U	0.0722 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL4-PCB-59/62/75	2.36	1.63	10.4	3.26	3.1	1.79
CL4-PCB-60	1.24 UB	3.66	58.2	4.46	3.8	3.71
CL4-PCB-61/70/74/76	13.5 UB	25.3	307	39.5	32.5	30.7
CL4-PCB-63	0.305	0.508	6.4	0.819	0.643	0.529
CL4-PCB-64	12.3	12.3	65.9	18.6	17.4	12.7
CL4-PCB-66	5.81 UB	27.4	195	25.6	21.6	31
CL4-PCB-67	0.183	0.189	4.12	0.524	0.406	0.266 UK
CL4-PCB-68	0.107 U	0.074	0.287 U	0.110 U	0.190 U	0.0703 U
CL4-PCB-72	0.102 U	0.129	0.652	0.137	0.181 U	0.151
CL4-PCB-73	0.608	0.385	1.47	0.715	0.727	0.405
CL4-PCB-77	0.122 U	5.37	20.6	2.11	1.63	3.84
CL4-PCB-78	0.123 U	0.0593 U	0.305 U	0.117 U	0.229 U	0.0748 U
CL4-PCB-79	0.0973 U	0.15	1.41	0.0964 U	0.174 U	0.151
CL4-PCB-80	0.108 U	0.0520 U	0.283 U	0.109 U	0.202 U	0.0694 U
CL4-PCB-81	0.122 U	0.101 UK	0.782	0.122 U	0.195 U	0.0745 U
CL5-PCB-82	0.427	2.66	24	1.46	1.23	2.03
CL5-PCB-83/99	1.71 UB	8.58	66.1	4.65	3.75 UB	5.64
CL5-PCB-84	2.03 UB	3.5	30.3	2.97	2.98	3.43
CL5-PCB-85/116/117	0.677	11.5	33.8	2.45	1.94	3.91
CB-86/87/97/108/119/125	2.51 UB	9.11	82.4	6.41 UB	5.39 UB	7.99
CL5-PCB-88/91	1.09	2.83	18.3	2.03	1.82	2.06
CL5-PCB-89	0.144	0.235	3.52	0.270 UK	0.242	0.328
CL5-PCB-90/101/113	2.8	9.83	76.8	6.62	5.5	7.19
CL5-PCB-92	0.667	2.32 UK	13.7	1.49	1.27	1.52
CL5-PCB-93/95/98/100/102	5.89 UB	11.6	59.4	8.51	8.26	8.3
CL5-PCB-94	0.12	0.2	0.995	0.167 UK	0.192 U	0.154
CL5-PCB-96	0.217	0.243	1.18	0.236	0.278	0.169
CL5-PCB-103	0.0521 U	0.077 UK	0.502 U	0.101	0.156 U	0.0819 U
CL5-PCB-104	0.0491 U	0.0484 U	0.0500 U	0.05	0.0887 U	0.0490 U
CL5-PCB-105	0.393 UB	4	49.8	2.51 UB	1.42 UB	3.73
CL5-PCB-106	0.0552 U	0.0927 U	0.168 U	0.0526 U	0.139 U	0.0638 U
CL5-PCB-107/124	0.0591 U	0.44	3.73	0.191	0.150 U	0.359
CL5-PCB-109	0.064	0.68	7	0.293	0.225	0.522
CL5-PCB-110/115	2.59 UB	23.6	110	8.97 UB	7.02 UB	13.7
CL5-PCB-111	0.0492 U	0.0538 U	0.0529 U	0.0612 U	0.142 U	0.0728 U
CL5-PCB-112	0.0491 U	0.0484 U	0.0507 U	0.0586 U	0.136 U	0.0697 U
CL5-PCB-114	0.054 UK	0.19	3.99	0.179	0.134 U	0.215
CL5-PCB-118	0.653 UB	6.36	80.2	4.2 UB	2.72 UB	6.1
CL5-PCB-120	0.0491 U	0.0501 U	0.0500 U	0.0573 U	0.135 U	0.0681 U
CL5-PCB-121	0.0491 U	0.0517 U	0.0521 U	0.0602 U	0.139 U	0.0716 U
CL5-PCB-122	0.0610 U	0.662	2.79	0.189	0.167 U	0.282
CL5-PCB-123	0.0535 U	0.395	3.01	0.200 UK	0.141 U	0.234 UK
CL5-PCB-126	0.0583 U	0.0948 U	0.329	0.077	0.173 U	0.0733 U
CL5-PCB-127	0.0546 U	0.0919 U	0.189 U	0.0591 U	0.163 U	0.0716 U
CL6-PCB-128/166	0.108 UK	3.76	5.23	0.323	0.362	0.742
CL6-PCB-129/138/160/163	0.455 UK	12.8	25.5	1.84 UB	1.82 UB	2.88 UB
CL6-PCB-130	0.0867 U	1.23	1.88	0.139 U	0.225 U	0.207
CL6-PCB-131	0.0876 U	0.137 U	0.492	0.132 U	0.182 U	0.0820 U
CL6-PCB-132	0.285	3.47	9.66	0.713	0.627	1.06

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL6-PCB-133	0.0823 U	0.204 UK	0.366	0.129 U	0.187 U	0.0802 U
CL6-PCB-134/143	0.0851 U	0.556	1.6	0.133 U	0.188 U	0.119 UK
CL6-PCB-135/151/154	0.206 UB	2.76	6.44	0.583 UK	0.477 UB	0.818 UB
CL6-PCB-136	0.108	1.01	2.69	0.229	0.189	0.287
CL6-PCB-137	0.0807 U	1.01	1.85	0.132 U	0.208 U	0.160 UK
CL6-PCB-139/140	0.0815 U	0.197	0.546	0.120 U	0.169 U	0.0741 U
CL6-PCB-141	0.0777 U	2.15	4.67	0.265 UK	0.42	0.469
CL6-PCB-142	0.0876 U	0.137 U	0.165 U	0.134 U	0.194 U	0.0833 U
CL6-PCB-144	0.0491 U	0.266	1.19 UK	0.091	0.153 U	0.110 UK
CL6-PCB-145	0.0491 U	0.0519 U	0.0557 U	0.0589 U	0.114 U	0.0572 U
CL6-PCB-146	0.0733 U	1.79	3.02	0.266	0.224	0.524
CL6-PCB-147/149	0.452 UB	6.74	15.5	1.27 UB	1.09 UB	1.75 UB
CL6-PCB-148	0.0491 U	0.0716 U	0.0707 U	0.0746 U	0.153 U	0.0725 U
CL6-PCB-150	0.0491 U	0.0500 U	0.0540 U	0.0570 U	0.108 U	0.0554 U
CL6-PCB-152	0.0491 U	0.0484 U	0.0501 U	0.0529 U	0.0990 U	0.0514 U
CL6-PCB-153/168	0.351	5.92	15.4	1.11	0.97	1.61 UK
CL6-PCB-155	0.052	0.0484 U	0.0500 U	0.095	0.0766 U	0.0490 U
CL6-PCB-156/157	0.0664 U	0.663 UK	3.68	0.267	0.167 U	0.377
CL6-PCB-158	0.0543 U	1.16	3.04	0.224	0.172	0.315
CL6-PCB-159	0.0587 U	0.0915 U	0.171	0.0961 U	0.144 U	0.0595 U
CL6-PCB-161	0.0579 U	0.0903 U	0.114 U	0.0932 U	0.129 U	0.0577 U
CL6-PCB-162	0.0628 U	0.0979 U	0.124 U	0.101 U	0.145 U	0.0626 U
CL6-PCB-164	0.0586 U	1.14 UK	1.82	0.0954 U	0.145 U	0.265 UK
CL6-PCB-165	0.0663 U	0.104 U	0.126 U	0.103 U	0.154 U	0.0636 U
CL6-PCB-167	0.0509 U	0.352	1.15	0.172 UK	0.121 U	0.140 UK
CL6-PCB-169	0.0608 U	0.0849 U	0.117 U	0.0969 U	0.130 U	0.0588 U
CL7-PCB-170	0.0542 U	2.17	4.62	0.386	0.376	0.798
CL7-PCB-171/173	0.0564 U	0.728	1.29	0.100 UK	0.154 U	0.242
CL7-PCB-172	0.0544 U	0.414	0.824	0.0867 U	0.153 U	0.131
CL7-PCB-174	0.0508 U	2.07	4.55	0.362	0.322	0.725
CL7-PCB-175	0.0500 U	0.068 UK	0.161	0.0793 U	0.146 U	0.0766 U
CL7-PCB-176	0.0491 U	0.178	0.479	0.0575 U	0.102 U	0.059 UK
CL7-PCB-177	0.0527 U	1.28	2.85	0.221	0.197	0.387
CL7-PCB-178	0.0505 U	0.375	0.796	0.0828 U	0.148 U	0.129 UK
CL7-PCB-179	0.0491 U	0.764	1.59	0.17	0.105	0.237
CL7-PCB-180/193	0.128 UK	4.43	9.44	0.796 UB	0.629 UB	1.54
CL7-PCB-181	0.0529 U	0.0589 U	0.0800 U	0.0855 U	0.145 U	0.0826 U
CL7-PCB-182	0.0496 U	0.0552 U	0.0748 U	0.0800 U	0.141 U	0.0773 U
CL7-PCB-183/185	0.0496 U	1.09	2.86	0.222	0.155	0.445 UK
CL7-PCB-184	0.0491 U	0.0484 U	0.0526 U	0.0563 U	0.0983 U	0.0544 U
CL7-PCB-186	0.0491 U	0.0484 U	0.0548 U	0.0586 U	0.109 U	0.0566 U
CL7-PCB-187	0.061 UK	2.57	5.46	0.462 UK	0.303 UB	0.778
CL7-PCB-188	0.0491 U	0.0484 U	0.0500 U	0.0523 U	0.0790 U	0.0517 U
CL7-PCB-189	0.0491 U	0.065 UK	0.201 UK	0.0551 U	0.109 U	0.0578 U
CL7-PCB-190	0.0491 U	0.396	0.945	0.0605 U	0.108 U	0.111
CL7-PCB-191	0.0491 U	0.076	0.203 UK	0.0630 U	0.109 U	0.0609 U
CL7-PCB-192	0.0491 U	0.0491 U	0.0658 U	0.0703 U	0.123 U	0.0679 U
CL8-PCB-194	0.059 UK	1.18 UK	2.24	0.331	0.265	0.507
CL8-PCB-195	0.0606 U	0.479 UK	0.913	0.081 UK	0.179 U	0.124

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL8-PCB-196	0.0528 U	0.402	1.19	0.154 UK	0.146 U	0.202 UK
CL8-PCB-197/200	0.0491 U	0.188	0.483	0.0708 U	0.104 U	0.109 UK
CL8-PCB-198/199	0.0552 U	0.98	2.87	0.305	0.171	0.596
CL8-PCB-201	0.0491 U	0.093	0.287	0.0715 U	0.107 U	0.0605 U
CL8-PCB-202	0.0491 U	0.225 UK	0.618	0.0757 U	0.105 U	0.134 UK
CL8-PCB-203	0.0505 U	0.567 UK	1.71	0.169	0.222 UK	0.36
CL8-PCB-204	0.0491 U	0.0484 U	0.0525 U	0.0711 U	0.106 U	0.0601 U
CL8-PCB-205	0.0491 U	0.0484 U	0.128 UK	0.0594 U	0.136 U	0.0629 U
CL9-PCB-206	0.0691 U	0.382 UK	1.03	0.214 UK	0.180 U	0.333
CL9-PCB-207	0.0574 U	0.0667 U	0.135 UK	0.0843 U	0.151 U	0.0889 U
CL9-PCB-208	0.0566 U	0.100 UK	0.302	0.0878 U	0.143 U	0.122
CL10-PCB-209	0.140 UK	0.149	0.33	0.179 UK	0.149 U	0.170 UK
Total Monochloro Biphenyl	U	U	U	U	U	U
Total Dichloro Biphenyl	U	85.1	67.8	31.6	23.4	130
Total Trichloro Biphenyl	109	81.9	167	169	144	99.8
Total Tetrachloro Biphenyl	138	166	1230	234	221	193
Total Pentachloro Biphenyl	6.17	96.6	671	31.5	23.7	67.6
Total Hexachloro Biphenyl	0.792	45.2	105	3.32	2.96	3.98
Total Heptachloro Biphenyl	U	16.5	35.9	1.36	1.16	4.95
Total Octachloro Biphenyl	U	1.66	10.3	0.805	0.436	1.59
Total Nonachloro Biphenyl	U	U	1.33	U	U	0.455
Decachloro Biphenyl	U	0.149	0.33	U	U	U
Total PCB Congeners	145	493	2290	472	417	501
TEQ (WHO 2005) ND=0	0	0.00088	0.0394	0.00793	1.63E-04	6.97E-04
TEQ (WHO 2005) ND=1/2DL	0.00386	0.0069	0.0412	0.0094	0.0108	0.00526
Aroclor 1221	0.137 U	0.136 U	0.222 U	0.196 U	0.302 U	0.207 U
Aroclor 1232	0.167 U	0.164 U	0.170 U	0.165 U	0.250 U	0.221 U
Aroclor 1242	183 J	0.291 U	0.475 U	329 J	269 J	0.444 U
Aroclor 1248	0.662 U	0.318 U	1.70 U	0.653 U	1.14 U	0.416 U
Aroclor 1254	0.522 U	0.571 U	1190 J	0.659 U	1.54 U	0.783 U
Aroclor 1260	0.271 U	0.302 U	0.396 U	0.423 U	0.728 U	0.409 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL1-PCB-1	0.166 UB	0.144 UB	19.9 UK	0.232 UB	0.875 UB
CL1-PCB-2	0.092 UB	0.125 UB	13.1 U	0.178 UB	1.6
CL1-PCB-3	1.1 UB	0.297 UB	37.8	0.898 UB	1.91 UB
CL2-PCB-4	0.491	0.367	126	4.2	4.69
CL2-PCB-5	0.190 U	0.125 U	35.2 U	0.114 U	0.160 UK
CL2-PCB-6	0.171 U	0.116 U	119	0.797	1.46
CL2-PCB-7	0.316	0.118 U	33.4 U	0.31	0.342
CL2-PCB-8	0.368 UB	0.243 UB	386	3.12	3.96
CL2-PCB-9	0.171 U	0.111 U	31.7 U	0.194	0.463
CL2-PCB-10	0.174 U	0.119 U	32.4 U	0.451	0.561
CL2-PCB-11	0.636 UB	0.612 UB	64.4 UK	0.966 UB	2.86 UB
CL2-PCB-12/13	0.758	0.71	402	8.4	7.91
CL2-PCB-14	0.175 U	0.120 U	33.9 U	0.110 U	0.124 U
CL2-PCB-15	138	100	13800	498	357
CL3-PCB-16	0.904	0.581	5540	41	95.1
CL3-PCB-17	1.38	0.754 UB	6600	36.1	65.7
CL3-PCB-18/30	9.24	6.18	16600	107	138
CL3-PCB-19	4.09	2.24	1630	16	27.6
CL3-PCB-20/28	36	29.7	379000	1930	1340
CL3-PCB-21/33	0.862 UB	0.561 UB	7430	51.3	65.2
CL3-PCB-22	13.2	10.3	71000	410	329
CL3-PCB-23	0.0977 U	0.0734 U	460	0.0925 U	0.151
CL3-PCB-24	0.252	0.144	271	2.39	3.57
CL3-PCB-25	1.38	0.841	11900	60.3	39.6
CL3-PCB-26/29	4.85	4.01	33300	173	125
CL3-PCB-27	1.79	1.04	4830	28.6	28.2
CL3-PCB-31	31.5	26.8	194000	1030	794
CL3-PCB-32	12.6	9.73	37900	206	124
CL3-PCB-34	0.0951 U	0.0719 U	431	1.88	1.66
CL3-PCB-35	0.234	0.152	2530	15.5	10.8
CL3-PCB-36	0.0951 U	0.0695 U	30.2 U	0.0875 U	0.0657 U
CL3-PCB-37	13.5	9.12	108000	610	419
CL3-PCB-38	0.0978 U	0.0726 U	889	3.26	1.69
CL3-PCB-39	0.0951 U	0.0701 U	30.7 U	20.2	10.3
CL4-PCB-40/41/71	15	8.48	470000	2090	1100
CL4-PCB-42	7.22	3.89	227000	956	494
CL4-PCB-43	0.909	0.564	32700	150	78.6
CL4-PCB-44/47/65	22.4	11.5	896000	3610	1850
CL4-PCB-45/51	5.76	3.17	100000	439	292
CL4-PCB-46	1.53	0.662	27500	127	85.2
CL4-PCB-48	2.69	1.38	147000	576	292
CL4-PCB-49/69	21.7	12.7	579000	2240	1160
CL4-PCB-50/53	7.92	4.62	87500	360	224
CL4-PCB-52	51.6	31.7	950000	3560	1900
CL4-PCB-54	0.238	0.178	725	3.46	2.82
CL4-PCB-55	1.42	0.0867 U	13900	173	71.6
CL4-PCB-56	11.4	7.34	602000	3140	1290
CL4-PCB-57	0.0798 U	0.0802 U	3540	20.4	7.78
CL4-PCB-58	0.0827 U	0.0829 U	1810	8.05	3.91

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL4-PCB-59/62/75	2.78	1.85	68500	306	163
CL4-PCB-60	2.42	1.25 UB	303000	1610	641
CL4-PCB-61/70/74/76	32	20.1	2000000	8430	3380
CL4-PCB-63	0.531	0.375	38000	210	84.1
CL4-PCB-64	21.3	15.3	447000	1900	925
CL4-PCB-66	34.5	18.9	1250000	6500	2490
CL4-PCB-67	0.311 UK	0.196 UK	24100	122	50.9
CL4-PCB-68	0.0806 U	0.0756 U	1500	5.74	3.2
CL4-PCB-72	0.154	0.104 UK	4250	19.2	8.72
CL4-PCB-73	0.839	0.404	37.8 U	46.2	21
CL4-PCB-77	4.41	2.84	109000	536	229
CL4-PCB-78	0.0857 U	0.0872 U	443 U	4.70 U	2.06 U
CL4-PCB-79	0.094	0.0689 U	11800	49.8	18.6
CL4-PCB-80	0.0796 U	0.0766 U	426 U	4.12 U	1.81 U
CL4-PCB-81	0.0840 U	0.0818 U	4830	25.1	9.66
CL5-PCB-82	1.4	0.627	142000	716	255
CL5-PCB-83/99	5.74	2.61 UB	433000	2060	726
CL5-PCB-84	3.33	1.45 UB	185000	891	356
CL5-PCB-85/116/117	4.71	2.63	211000	1020	343
CB-86/87/97/108/119/125	7.28	3.73 UB	553000	2530	882
CL5-PCB-88/91	3.2	1.79	170000	657	236
CL5-PCB-89	0.254 UK	0.0661 U	21600	102	39.4
CL5-PCB-90/101/113	8.47	4.56	540000	2450	844
CL5-PCB-92	2.16	1.26	84900	427	154
CL5-PCB-93/95/98/100/102	12.3	6.58 UB	475000	1910	768
CL5-PCB-94	0.245	0.117	7110	29.8	11.8
CL5-PCB-96	0.331 UK	0.18	9910	35.2	15.8
CL5-PCB-103	0.0636 U	0.0531 U	3970	16.9	6.42
CL5-PCB-104	0.0502 U	0.0480 U	132	0.579	0.334 U
CL5-PCB-105	1.58 UB	0.826 UB	378000	1800	599
CL5-PCB-106	0.0651 U	0.0550 U	1040	6.51 U	2.02 U
CL5-PCB-107/124	0.186	0.094	27300	148	48.7
CL5-PCB-109	0.333	0.173 UK	46000	257	87.3
CL5-PCB-110/115	14.5	7.97	760000	3430	1190
CL5-PCB-111	0.0566 U	0.0502 U	149	1.04 U	0.366 U
CL5-PCB-112	0.0542 U	0.0480 U	99.2 U	0.923 U	0.325 U
CL5-PCB-114	0.079 UK	0.0483 U	28000	130	39.6
CL5-PCB-118	4.35 UB	2.25 UB	565000	2720	897
CL5-PCB-120	0.0529 U	0.0480 U	718	2.61	0.932
CL5-PCB-121	0.0556 U	0.0482 U	110 U	0.997 U	0.351 U
CL5-PCB-122	0.290 UK	0.175	16600	99.3	32.2
CL5-PCB-123	0.176	0.144 UK	19900	107	34.5
CL5-PCB-126	0.0790 U	0.0567 U	2870	11.7	4.5
CL5-PCB-127	0.0731 U	0.0545 U	548	6.45 U	2.00 U
CL6-PCB-128/166	1.36	1.05	41600	264	66.4
CL6-PCB-129/138/160/163	3.59	2.72 UB	205000	1280	322
CL6-PCB-130	0.25	0.282	14000	90.4	24.1
CL6-PCB-131	0.108 U	0.0690 U	4120	25.2	6.94
CL6-PCB-132	1.22	1.03	77000	489	130

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL6-PCB-133	0.106 U	0.0649 U	2180	14.2	3.62
CL6-PCB-134/143	0.184 UK	0.128 UK	12200	80.7	22.8
CL6-PCB-135/151/154	0.922 UK	0.656 UB	52500	258	70.8
CL6-PCB-136	0.387 UK	0.274 UK	19800	99.4	28.9
CL6-PCB-137	0.309	0.212 UK	14100	98.7	24.9
CL6-PCB-139/140	0.0979 U	0.089	4820	32.9	8.41
CL6-PCB-141	0.6	0.532	35900	245	64.1
CL6-PCB-142	0.110 U	0.0690 U	259	1.78 U	0.475 U
CL6-PCB-144	0.098 UK	0.0662 U	8850	45.3	12.2
CL6-PCB-145	0.0584 U	0.0497 U	177	1.25	0.318
CL6-PCB-146	0.447	0.444	22800	151	40.1
CL6-PCB-147/149	2.12 UB	1.67 UB	128000	795	213
CL6-PCB-148	0.0740 U	0.0685 U	123	0.634	0.127 UK
CL6-PCB-150	0.0565 U	0.0480 U	205	1.01	0.317
CL6-PCB-152	0.0524 U	0.0480 U	407	2.02	0.607
CL6-PCB-153/168	1.71	1.28	127000	779	197
CL6-PCB-155	0.0471 U	0.0480 U	42.6 U	0.0723 U	0.0494 U
CL6-PCB-156/157	0.305 UK	0.193 UK	32100	166	45
CL6-PCB-158	0.321	0.314 UK	24100	144	37.7
CL6-PCB-159	0.0787 U	0.0480 U	1830	11.8	2.49
CL6-PCB-161	0.0763 U	0.0480 U	126 U	1.17 U	0.314 U
CL6-PCB-162	0.0828 U	0.0494 U	778	5.03	1.16
CL6-PCB-164	0.324	0.299	13900	84.4	20.9
CL6-PCB-165	0.0841 U	0.0523 U	148 U	1.34 U	0.360 U
CL6-PCB-167	0.127 UK	0.15	9000	49.7	12.5
CL6-PCB-169	0.0782 U	0.0480 U	108 U	1.15 U	0.302 U
CL7-PCB-170	1.91	1.1	37000	210	43.7
CL7-PCB-171/173	0.432	0.214	10100	60.3	13.4
CL7-PCB-172	0.313	0.160 UK	5650	34.7	7.81
CL7-PCB-174	1.12	0.633	35300	203	45.1
CL7-PCB-175	0.0740 U	0.0693 U	1320	8.39	1.8
CL7-PCB-176	0.0537 U	0.0504 U	3890	24.3	5.1
CL7-PCB-177	0.669	0.44	18100	115	24.8
CL7-PCB-178	0.234 UK	0.101 UK	5840	36	7.72
CL7-PCB-179	0.323	0.113 UK	12900	78	17.8
CL7-PCB-180/193	3.21	1.88	79100	441	89.8
CL7-PCB-181	0.0799 U	0.0733 U	352	2.5	0.427
CL7-PCB-182	0.0747 U	0.0687 U	80.0 UK	0.0686 U	0.14
CL7-PCB-183/185	0.533	0.349 UK	22900	139	29.4
CL7-PCB-184	0.0525 U	0.0510 U	35.8 U	0.123 UK	0.0579 U
CL7-PCB-186	0.0547 U	0.0552 U	37.2 U	0.0551 U	0.0626 U
CL7-PCB-187	1.07	0.715	37300	234	55.6
CL7-PCB-188	0.0489 U	0.0480 U	40.2 U	0.0489 U	0.0546 U
CL7-PCB-189	0.082 UK	0.080 UK	1660	10.3	2.13
CL7-PCB-190	0.364	0.167	8380	44.2	9.21
CL7-PCB-191	0.097 UK	0.0551 U	1530	9.26	2.02
CL7-PCB-192	0.0657 U	0.0611 U	40.2 U	0.065	0.0693 U
CL8-PCB-194	1.45	1.79	24600	185	35.5
CL8-PCB-195	0.547	0.58	8840	67.5	12.8

Table 2 - Analytical Results for PCB Congeners in Soil Samples

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL8-PCB-196	0.547	0.547	10400	62.3	11.1
CL8-PCB-197/200	0.198	0.149	3230	20.4	3.96
CL8-PCB-198/199	1.5	1.12	22700	140	23.9
CL8-PCB-201	0.169	0.061 UK	2240	14.5	2.59
CL8-PCB-202	0.301	0.198 UK	4220	26.8	5
CL8-PCB-203	0.996	0.740 UK	14500	85.1	14.8
CL8-PCB-204	0.0626 U	0.0557 U	31.1 U	0.0601 U	0.0595 U
CL8-PCB-205	0.112	0.075	1150	8.12	1.56
CL9-PCB-206	0.7	0.588	7170	51.8	10
CL9-PCB-207	0.077 UK	0.0798 U	794	6.73	1.14 UK
CL9-PCB-208	0.180 UK	0.198	1770	12.6	2.25
CL10-PCB-209	0.221 UK	0.199 UK	524 UK	4.3	0.919
Total Monochloro Biphenyl	U	U	37.8	U	1.6
Total Dichloro Biphenyl	140	101	14800	515	376
Total Trichloro Biphenyl	131	99.7	882000	4740	3620
Total Tetrachloro Biphenyl	249	146	8400000	51200	16900
Total Pentachloro Biphenyl	64.1	19.4	4680000	21600	7570
Total Hexachloro Biphenyl	10.2	5.15	853000	5210	1360
Total Heptachloro Biphenyl	9.94	5.15	281000	1650	356
Total Octachloro Biphenyl	5.82	4.26	91900	610	111
Total Nonachloro Biphenyl	0.7	0.786	9730	71.1	12.3
Decachloro Biphenyl	U	U	U	4.3	0.919
Total PCB Congeners	611	381	1.52E+07	85600	30300
TEQ (WHO 2005) ND=0	4.46E-04	2.89E-04	330	1.38	0.525
TEQ (WHO 2005) ND=1/2DL	0.00558	0.00386	332	1.4	0.529
Aroclor 1221	0.219 U	0.140 U	43 U	1.65 U	1.19 U
Aroclor 1232	0.164 U	0.163 U	103 U	1.32 U	1.04 U
Aroclor 1242	0.469 U	0.301 U	1770000 J	3.53 U	2.55 U
Aroclor 1248	0.476 U	0.468 U	2730 U	64.5 U	39.7 U
Aroclor 1254	0.609 U	0.532 U	789000 J	36700 J	12900 J
Aroclor 1260	0.395 U	0.376 U	695000 J	3.90 U	2.81 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL1-PCB-1	0	0	0	0	0	0
CL1-PCB-2	0	0	0	0	0	0
CL1-PCB-3	0	0	0	0	0	0
CL2-PCB-4	0 U	0.407	0.446	0 U	0 U	0.824
CL2-PCB-5	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-6	0 U	0 U	0 U	0 U	0 U	0.298
CL2-PCB-7	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-8	0	0	0	0	0	0
CL2-PCB-9	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-10	0 U	0 U	0 U	0 U	0 U	0.233
CL2-PCB-11	0	0	0	0	0	0
CL2-PCB-12/13	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-14	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-15	7.09	0	0	0	0	3.32
CL3-PCB-16	1.01	1.45	1.45	0.432	1.26	4.48
CL3-PCB-17	1.31	1.86	1.85	0	1.47	6.44
CL3-PCB-18/30	6.18	8.36	7.88	0	5.58	25
CL3-PCB-19	1.96	3.59	3.32	0.306	2.26	8.77
CL3-PCB-20/28	27.8	37.3	27.6	11.5	22.8	151
CL3-PCB-21/33	0	1.94	0	0 U	0	7.28
CL3-PCB-22	11.2	14.1	11	3.03	9.96	58.7
CL3-PCB-23	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-24	0.247	0.44	0.416	0 U	0.235	1.29
CL3-PCB-25	0.944	1.31	1.06	0 U	0.972	5.31
CL3-PCB-26/29	3.52	4.77	3.82	0	3.06	19.3
CL3-PCB-27	1.3	1.86	1.76	0.19	1.31	6
CL3-PCB-31	20.2	26.1	20.2	6.75	17.3	103
CL3-PCB-32	7.85	12.1	10.8	1.65	7.78	38.2
CL3-PCB-34	0 U	0.1	0.075	0 U	0 U	0.405
CL3-PCB-35	0 U	0 U	0 U	0.081	0 U	0 U
CL3-PCB-36	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-37	0	0	0	3.3	0	0
CL3-PCB-38	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-39	0 U	0.162	0.093	0 U	0.073	0.483
CL4-PCB-40/41/71	9.82	20.5	12.6	11.1	14.2	66.9
CL4-PCB-42	4.77	9.45	6.01	5.46	7.25	34
CL4-PCB-43	0.696	1.57	0.892	0.975	1.15	5.54
CL4-PCB-44/47/65	14.6	32.3	20.4	18.6	22.9	108
CL4-PCB-45/51	4.34	8.45	6.6	2.58	6.88	30.8
CL4-PCB-46	1.35	2.77	1.97	0.892	2.22	10.5
CL4-PCB-48	2.37	5.14	3.11	3.37	3.57	16.9
CL4-PCB-49/69	10.3	21.5	13.6	12.4	15.2	71.9
CL4-PCB-50/53	3.94	7.89	6.07	2.19	5.97	27.9
CL4-PCB-52	21.7	41.2	27.6	19.3	29.1	129
CL4-PCB-54	0.074	0.198	0.117	0 U	0.114	0.525
CL4-PCB-55	0.376	0.692	0.181	1.06	0.348	1.55

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL4-PCB-56	0	12.1	5.38	12.9	6.22	30.2
CL4-PCB-57	0 U	0.099	0 U	0 U	0 U	0.205
CL4-PCB-58	0 U	0 U	0 U	0 U	0 U	0.123
CL4-PCB-59/62/75	1.7	3.21	1.96	1.91	2.33	10.8
CL4-PCB-60	0	4.19	0	6.95	2.15	9.44
CL4-PCB-61/70/74/76	15.6	36.3	17.4	41.1	19.8	101
CL4-PCB-63	0.358	0.808	0 U	0.842	0.462	2.27
CL4-PCB-64	8.59	17.2	10.4	10.4	12.5	55.5
CL4-PCB-66	0	20.4	0	26.2	9.87	48.3
CL4-PCB-67	0.271	0.499	0.246	0.58	0 U	1.6
CL4-PCB-68	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-72	0 U	0.128	0 U	0 U	0 U	0.305
CL4-PCB-73	0.299	0.501	0.32	0.248	0.461	1.7
CL4-PCB-77	0	0	0	2.45	0	0 U
CL4-PCB-78	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-79	0 U	0.116	0 U	0 U	0 U	0.174
CL4-PCB-80	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-81	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-82	0.525	0 U	0.533	2.69	0.773	2.35
CL5-PCB-83/99	0	6.17	0	8.91	0	10.2
CL5-PCB-84	0 U	4.13	0 U	3.86	2.54	10.4
CL5-PCB-85/116/117	0.696	2.93	0.913	4.17	1.17	3.93
CB-86/87/97/108/119/125	0	7.86	0	11.2	0	14.6
CL5-PCB-88/91	0.942	2.47	1.08	2.76	1.65	6.54
CL5-PCB-89	0 U	0.379	0.128	0 U	0.196	0 U
CL5-PCB-90/101/113	2.62	8.25	3.48	11.2	4.5	16.4
CL5-PCB-92	0 U	1.64	0.713	1.86	0.91	3.47
CL5-PCB-93/95/98/100/102	0	10.2	0	9.49	0	27.6
CL5-PCB-94	0 U	0 U	0 U	0 U	0 U	0.549
CL5-PCB-96	0.093	0.344	0.167	0.221	0.251	1.03
CL5-PCB-103	0 U	0 U	0 U	0.117	0 U	0.193
CL5-PCB-104	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-105	0	3.25	0	6.89	0	0
CL5-PCB-106	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-107/124	0 U	0.29	0 U	0.423	0.079	0.123
CL5-PCB-109	0 U	0.478	0.091	0.862	0.137	0 U
CL5-PCB-110/115	0	9.23	0	13.5	0	13.5
CL5-PCB-111	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-112	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-114	0 U	0.231	0.072	0.403	0 U	0.077
CL5-PCB-118	0	5.34	0	10.8	0	0
CL5-PCB-120	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-121	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-122	0 U	0.15	0 U	0.271	0 U	0 U
CL5-PCB-123	0 U	0.202	0 U	0 U	0 U	0.075
CL5-PCB-126	0 U	0 U	0 U	0 U	0 U	0 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL5-PCB-127	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-128/166	0 U	0 U	0 U	0.643	0.137	0 U
CL6-PCB-129/138/160/163	0	0	0	3.24	0	0
CL6-PCB-130	0 U	0.188	0 U	0 U	0 U	0 U
CL6-PCB-131	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-132	0.256	0.976	0.345	1.26	0.495	0.491
CL6-PCB-133	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-134/143	0 U	0 U	0 U	0.165	0 U	0 U
CL6-PCB-135/151/154	0	0	0	0 U	0	0
CL6-PCB-136	0 U	0.267	0.141	0 U	0 U	0.39
CL6-PCB-137	0 U	0 U	0 U	0.182	0 U	0 U
CL6-PCB-139/140	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-141	0 U	0.352	0.137	0.637	0.211	0.132
CL6-PCB-142	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-144	0 U	0.121	0 U	0.177	0 U	0 U
CL6-PCB-145	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-146	0.123	0 U	0.124	0.482	0.236	0.171
CL6-PCB-147/149	0	0	0	0	0	0
CL6-PCB-148	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-150	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-152	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-153/168	0.444	1.37	0 U	2.43	0.918	0.654
CL6-PCB-155	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-156/157	0 U	0 U	0.115	0.511	0.131	0 U
CL6-PCB-158	0 U	0 U	0.09	0.352	0.084	0 U
CL6-PCB-159	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-161	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-162	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-164	0 U	0.122	0 U	0 U	0.088	0 U
CL6-PCB-165	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-167	0 U	0 U	0 U	0.156	0 U	0 U
CL6-PCB-169	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-170	0 U	0 U	0 U	0 U	0 U	0.153
CL7-PCB-171/173	0 U	0 U	0 U	0.204	0 U	0 U
CL7-PCB-172	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-174	0 U	0 U	0 U	0.549	0.272	0 U
CL7-PCB-175	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-176	0 U	0 U	0 U	0.095	0 U	0 U
CL7-PCB-177	0 U	0 U	0 U	0.281	0.182	0 U
CL7-PCB-178	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-179	0 U	0.126	0.071	0.218	0.097	0 U
CL7-PCB-180/193	0	0	0 U	0.993	0	0
CL7-PCB-181	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-182	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-183/185	0 U	0 U	0 U	0.277	0.177	0 U
CL7-PCB-184	0 U	0 U	0 U	0 U	0 U	0 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-27S 40'	MW-27S 45'	MW-27S 50'	MW-28S 35'	MW-28S 40'	MW-28S 45'
AXYS ID	L16826-5	L16826-6	L16826-7	L16826-1	L16826-2	L16826-3
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.3 g (dry)	10.3 g (dry)	10.5 g (dry)	10.3 g (dry)	10.3 g (dry)	10.4 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL7-PCB-186	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-187	0	0	0	0	0	0
CL7-PCB-188	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-189	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-190	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-191	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-192	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-194	0.096	0.216	0 U	0.216	0.086	0 U
CL8-PCB-195	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-196	0 U	0 U	0 U	0 U	0.092	0 U
CL8-PCB-197/200	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-198/199	0 U	0.207	0 U	0.306	0 U	0 U
CL8-PCB-201	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-202	0 U	0 U	0 U	0.087	0 U	0 U
CL8-PCB-203	0 U	0.186	0 U	0.172	0 U	0 U
CL8-PCB-204	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-205	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-206	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-207	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-208	0 U	0 U	0 U	0 U	0 U	0 U
CL10-PCB-209	0 U	0.069	0.116	0 U	0 U	0 U
Total Monochloro Biphenyl	0	0	0	0	0	0
Total Dichloro Biphenyl	0	0	0	0	0	0
Total Trichloro Biphenyl	86.1	116	93.4	30.2	76.2	437
Total Tetrachloro Biphenyl	116	248	145	182	163	765
Total Pentachloro Biphenyl	0	63.5	0	89.6	0	114
Total Hexachloro Biphenyl	0	0	0	12.6	0	0
Total Heptachloro Biphenyl	0	0	0	3.27	0	0
Total Octachloro Biphenyl	0.096	0.609	0 U	0.781	0.178	0 U
Total Nonachloro Biphenyl	0 U	0 U	0 U	0 U	0 U	0 U
Decachloro Biphenyl	0 U	0.069	0.116	0 U	0 U	0 U
Total PCB Congeners (ND=0)	198	431	235	312	252	1,318

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL1-PCB-1	0	0	0	0	0	0
CL1-PCB-2	0	0	0	0	0	0
CL1-PCB-3	0	0	0	0	0	0
CL2-PCB-4	0.566	0.546	0.592	0.457	0.478	0.936
CL2-PCB-5	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-6	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-7	0 U	0 U	0 U	0 U	0 U	0.26
CL2-PCB-8	0	0	0	0	0	0
CL2-PCB-9	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-10	0.251	0 U	0 U	0 U	0 U	0 U
CL2-PCB-11	0	0	0	0	0	0
CL2-PCB-12/13	0 U	0.618	0.366	0 U	0 U	0.985
CL2-PCB-14	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-15	0	83.9	66.8	31.1	22.9	128
CL3-PCB-16	1.93	1.18	2.35	1.12	1.26	1.72
CL3-PCB-17	2.42	1.28	2.64	1.65	1.69	2.24
CL3-PCB-18/30	12.7	5.27	8.71	8.39	8.56	11.7
CL3-PCB-19	5.19	2.88	3.64	3.04	3.41	2.56
CL3-PCB-20/28	26.1	20.4	47.3	57.4	45	27
CL3-PCB-21/33	1.71	0	4.11	2.83	2.59	0
CL3-PCB-22	10.7	7.66	16.7	21.8	18.2	6.11
CL3-PCB-23	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-24	0.529	0 U	0.206	0.424	0.354	0.255
CL3-PCB-25	1.04	0.79	1.71	1.71	1.65	0.693
CL3-PCB-26/29	3.93	2.27	4.6	7.28	6.18	2.73
CL3-PCB-27	2.51	0.876	1.34	1.8	1.72	1.45
CL3-PCB-31	22.3	16	30.7	43.9	36	21.9
CL3-PCB-32	18.2	7.28	8.58	11.9	12.4	8.14
CL3-PCB-34	0 U	0 U	0.072	0.152	0.105	0 U
CL3-PCB-35	0 U	0.121	0.751	0 U	0 U	0.22
CL3-PCB-36	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-37	0 U	15.8	32.8	5.38	4.35	13
CL3-PCB-38	0 U	0 U	0.112	0 U	0 U	0 U
CL3-PCB-39	0 U	0.088	0.602	0 U	0.11	0.074
CL4-PCB-40/41/71	14.4	9.18	80.3	16	16.3	12.1
CL4-PCB-42	7.12	4.74	33.6	8.56	8.18	5.57
CL4-PCB-43	1.65	0.739	3.83	1.32	1.37	0.734
CL4-PCB-44/47/65	24.1	15.5	109	24.6	24.3	20
CL4-PCB-45/51	9.06	3.72	11.4	5.96	6.5	4.8
CL4-PCB-46	2.96	1.13	4.08	1.67	1.87	1.17
CL4-PCB-48	3.54	2.22	19.6	3.92	3.99	2.6
CL4-PCB-49/69	16.7	11.1	58.9	19.3	18.9	13.5
CL4-PCB-50/53	8.03	4.53	9.66	5.93	6.92	4.27
CL4-PCB-52	35.1	24	100	38.1	38.8	30.6
CL4-PCB-54	0.175	0.145	0.205	0.196	0.207	0.094
CL4-PCB-55	0.316	1.02	6.93	1.1	1.42	0.967

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL4-PCB-56	0	10.7	116	12.1	10.9	11.6
CL4-PCB-57	0 U	0 U	0.651	0 U	0 U	0 U
CL4-PCB-58	0 U	0 U	0.379	0 U	0 U	0 U
CL4-PCB-59/62/75	2.36	1.63	10.4	3.26	3.1	1.79
CL4-PCB-60	0	3.66	58.2	4.46	3.8	3.71
CL4-PCB-61/70/74/76	0	25.3	307	39.5	32.5	30.7
CL4-PCB-63	0.305	0.508	6.4	0.819	0.643	0.529
CL4-PCB-64	12.3	12.3	65.9	18.6	17.4	12.7
CL4-PCB-66	0	27.4	195	25.6	21.6	31
CL4-PCB-67	0.183	0.189	4.12	0.524	0.406	0 U
CL4-PCB-68	0 U	0.074	0 U	0 U	0 U	0 U
CL4-PCB-72	0 U	0.129	0.652	0.137	0 U	0.151
CL4-PCB-73	0.608	0.385	1.47	0.715	0.727	0.405
CL4-PCB-77	0 U	5.37	20.6	2.11	1.63	3.84
CL4-PCB-78	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-79	0 U	0.15	1.41	0 U	0 U	0.151
CL4-PCB-80	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-81	0 U	0 U	0.782	0 U	0 U	0 U
CL5-PCB-82	0.427	2.66	24	1.46	1.23	2.03
CL5-PCB-83/99	0	8.58	66.1	4.65	0	5.64
CL5-PCB-84	0	3.5	30.3	2.97	2.98	3.43
CL5-PCB-85/116/117	0.677	11.5	33.8	2.45	1.94	3.91
CB-86/87/97/108/119/125	0	9.11	82.4	0	0	7.99
CL5-PCB-88/91	1.09	2.83	18.3	2.03	1.82	2.06
CL5-PCB-89	0.144	0.235	3.52	0 U	0.242	0.328
CL5-PCB-90/101/113	2.8	9.83	76.8	6.62	5.5	7.19
CL5-PCB-92	0.667	0 U	13.7	1.49	1.27	1.52
CL5-PCB-93/95/98/100/102	0	11.6	59.4	8.51	8.26	8.3
CL5-PCB-94	0.12	0.2	0.995	0 U	0 U	0.154
CL5-PCB-96	0.217	0.243	1.18	0.236	0.278	0.169
CL5-PCB-103	0 U	0 U	0 U	0.101	0 U	0 U
CL5-PCB-104	0 U	0 U	0 U	0.05	0 U	0 U
CL5-PCB-105	0	4	49.8	0	0	3.73
CL5-PCB-106	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-107/124	0 U	0.44	3.73	0.191	0 U	0.359
CL5-PCB-109	0.064	0.68	7	0.293	0.225	0.522
CL5-PCB-110/115	0	23.6	110	8.97	0	13.7
CL5-PCB-111	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-112	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-114	0 U	0.19	3.99	0.179	0 U	0.215
CL5-PCB-118	0	6.36	80.2	0	0	6.1
CL5-PCB-120	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-121	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-122	0 U	0.662	2.79	0.189	0 U	0.282
CL5-PCB-123	0 U	0.395	3.01	0 U	0 U	0 U
CL5-PCB-126	0 U	0 U	0.329	0.077	0 U	0 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL5-PCB-127	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-128/166	0 U	3.76	5.23	0.323	0.362	0.742
CL6-PCB-129/138/160/163	0 U	12.8	25.5	0	0	0
CL6-PCB-130	0 U	1.23	1.88	0 U	0 U	0.207
CL6-PCB-131	0 U	0 U	0.492	0 U	0 U	0 U
CL6-PCB-132	0.285	3.47	9.66	0.713	0.627	1.06
CL6-PCB-133	0 U	0 U	0.366	0 U	0 U	0 U
CL6-PCB-134/143	0 U	0.556	1.6	0 U	0 U	0 U
CL6-PCB-135/151/154	0	2.76	6.44	0 U	0	0
CL6-PCB-136	0.108	1.01	2.69	0.229	0.189	0.287
CL6-PCB-137	0 U	1.01	1.85	0 U	0 U	0 U
CL6-PCB-139/140	0 U	0.197	0.546	0 U	0 U	0 U
CL6-PCB-141	0 U	2.15	4.67	0 U	0.42	0.469
CL6-PCB-142	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-144	0 U	0.266	0 U	0.091	0 U	0 U
CL6-PCB-145	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-146	0 U	1.79	3.02	0.266	0.224	0.524
CL6-PCB-147/149	0	6.74	15.5	0	0	0
CL6-PCB-148	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-150	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-152	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-153/168	0.351	5.92	15.4	1.11	0.97	0 U
CL6-PCB-155	0.052	0 U	0 U	0.095	0 U	0 U
CL6-PCB-156/157	0 U	0 U	3.68	0.267	0 U	0.377
CL6-PCB-158	0 U	1.16	3.04	0.224	0.172	0.315
CL6-PCB-159	0 U	0 U	0.171	0 U	0 U	0 U
CL6-PCB-161	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-162	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-164	0 U	0 U	1.82	0 U	0 U	0 U
CL6-PCB-165	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-167	0 U	0.352	1.15	0 U	0 U	0 U
CL6-PCB-169	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-170	0 U	2.17	4.62	0.386	0.376	0.798
CL7-PCB-171/173	0 U	0.728	1.29	0 U	0 U	0.242
CL7-PCB-172	0 U	0.414	0.824	0 U	0 U	0.131
CL7-PCB-174	0 U	2.07	4.55	0.362	0.322	0.725
CL7-PCB-175	0 U	0 U	0.161	0 U	0 U	0 U
CL7-PCB-176	0 U	0.178	0.479	0 U	0 U	0 U
CL7-PCB-177	0 U	1.28	2.85	0.221	0.197	0.387
CL7-PCB-178	0 U	0.375	0.796	0 U	0 U	0 U
CL7-PCB-179	0 U	0.764	1.59	0.17	0.105	0.237
CL7-PCB-180/193	0 U	4.43	9.44	0	0	1.54
CL7-PCB-181	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-182	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-183/185	0 U	1.09	2.86	0.222	0.155	0 U
CL7-PCB-184	0 U	0 U	0 U	0 U	0 U	0 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	MW-28S 50'	WDR-1 20'	WDR-1 25'	WDR-1 30'	WDR-1 35'	WDR-2 20'
AXYS ID	L16826-4	L16826-14	L16826-8	L16826-9	L16826-19	L16826-11
Workgroup	WG37580	WG37580	WG37580	WG37580	WG37580	WG37580
Sample Size	10.2 g (dry)	10.3 g (dry)	10.0 g (dry)	10.3 g (dry)	10.3 g (dry)	10.2 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
CL7-PCB-186	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-187	0 U	2.57	5.46	0 U	0	0.778
CL7-PCB-188	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-189	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-190	0 U	0.396	0.945	0 U	0 U	0.111
CL7-PCB-191	0 U	0.076	0 U	0 U	0 U	0 U
CL7-PCB-192	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-194	0 U	0 U	2.24	0.331	0.265	0.507
CL8-PCB-195	0 U	0 U	0.913	0 U	0 U	0.124
CL8-PCB-196	0 U	0.402	1.19	0 U	0 U	0 U
CL8-PCB-197/200	0 U	0.188	0.483	0 U	0 U	0 U
CL8-PCB-198/199	0 U	0.98	2.87	0.305	0.171	0.596
CL8-PCB-201	0 U	0.093	0.287	0 U	0 U	0 U
CL8-PCB-202	0 U	0 U	0.618	0 U	0 U	0 U
CL8-PCB-203	0 U	0 U	1.71	0.169	0 U	0.36
CL8-PCB-204	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-205	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-206	0 U	0 U	1.03	0 U	0 U	0.333
CL9-PCB-207	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-208	0 U	0 U	0.302	0 U	0 U	0.122
CL10-PCB-209	0 U	0.149	0.33	0 U	0 U	0 U
Total Monochloro Biphenyl	0	0	0	0	0	0
Total Dichloro Biphenyl	0	86.8	69.6	32.9	24.8	132
Total Trichloro Biphenyl	109	83.1	167	169	144	101
Total Tetrachloro Biphenyl	163	166	1230	234	221	193
Total Pentachloro Biphenyl	0	96.6	671	53.6	44	67.6
Total Hexachloro Biphenyl	0	45.2	105	0	0	9.43
Total Heptachloro Biphenyl	0 U	16.5	35.9	2.16	2.09	4.95
Total Octachloro Biphenyl	0 U	1.66	10.3	0.805	0.436	1.59
Total Nonachloro Biphenyl	0 U	0 U	1.33	0 U	0 U	0.455
Decachloro Biphenyl	0 U	0.149	0.33	0 U	0 U	0 U
Total PCB Congeners (ND=0)	256	493	2,285	481	417	502

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL1-PCB-1	0	0	0 U	0	0
CL1-PCB-2	0	0	0 U	0	1.6
CL1-PCB-3	0	0	37.8	0	0
CL2-PCB-4	0.491	0.367	126	4.2	4.69
CL2-PCB-5	0 U	0 U	0 U	0 U	0 U
CL2-PCB-6	0 U	0 U	119	0.797	1.46
CL2-PCB-7	0.316	0 U	0 U	0.31	0.342
CL2-PCB-8	0	0	386	3.12	3.96
CL2-PCB-9	0 U	0 U	0 U	0.194	0.463
CL2-PCB-10	0 U	0 U	0 U	0.451	0.561
CL2-PCB-11	0	0	0 U	0	0
CL2-PCB-12/13	0.758	0.71	402	8.4	7.91
CL2-PCB-14	0 U	0 U	0 U	0 U	0 U
CL2-PCB-15	138	100	13800	498	357
CL3-PCB-16	0.904	0.581	5540	41	95.1
CL3-PCB-17	1.38	0	6600	36.1	65.7
CL3-PCB-18/30	9.24	6.18	16600	107	138
CL3-PCB-19	4.09	2.24	1630	16	27.6
CL3-PCB-20/28	36	29.7	379000	1930	1340
CL3-PCB-21/33	0	0	7430	51.3	65.2
CL3-PCB-22	13.2	10.3	71000	410	329
CL3-PCB-23	0 U	0 U	460	0 U	0.151
CL3-PCB-24	0.252	0.144	271	2.39	3.57
CL3-PCB-25	1.38	0.841	11900	60.3	39.6
CL3-PCB-26/29	4.85	4.01	33300	173	125
CL3-PCB-27	1.79	1.04	4830	28.6	28.2
CL3-PCB-31	31.5	26.8	194000	1030	794
CL3-PCB-32	12.6	9.73	37900	206	124
CL3-PCB-34	0 U	0 U	431	1.88	1.66
CL3-PCB-35	0.234	0.152	2530	15.5	10.8
CL3-PCB-36	0 U	0 U	0 U	0 U	0 U
CL3-PCB-37	13.5	9.12	108000	610	419
CL3-PCB-38	0 U	0 U	889	3.26	1.69
CL3-PCB-39	0 U	0 U	0 U	20.2	10.3
CL4-PCB-40/41/71	15	8.48	470000	2090	1100
CL4-PCB-42	7.22	3.89	227000	956	494
CL4-PCB-43	0.909	0.564	32700	150	78.6
CL4-PCB-44/47/65	22.4	11.5	896000	3610	1850
CL4-PCB-45/51	5.76	3.17	100000	439	292
CL4-PCB-46	1.53	0.662	27500	127	85.2
CL4-PCB-48	2.69	1.38	147000	576	292
CL4-PCB-49/69	21.7	12.7	579000	2240	1160
CL4-PCB-50/53	7.92	4.62	87500	360	224
CL4-PCB-52	51.6	31.7	950000	3560	1900
CL4-PCB-54	0.238	0.178	725	3.46	2.82
CL4-PCB-55	1.42	0 U	13900	173	71.6

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL4-PCB-56	11.4	7.34	602000	3140	1290
CL4-PCB-57	0 U	0 U	3540	20.4	7.78
CL4-PCB-58	0 U	0 U	1810	8.05	3.91
CL4-PCB-59/62/75	2.78	1.85	68500	306	163
CL4-PCB-60	2.42	0	303000	1610	641
CL4-PCB-61/70/74/76	32	20.1	2000000	8430	3380
CL4-PCB-63	0.531	0.375	38000	210	84.1
CL4-PCB-64	21.3	15.3	447000	1900	925
CL4-PCB-66	34.5	18.9	1250000	5500	2490
CL4-PCB-67	0 U	0 U	24100	122	50.9
CL4-PCB-68	0 U	0 U	1500	5.74	3.2
CL4-PCB-72	0.154	0 U	4250	19.2	8.72
CL4-PCB-73	0.839	0.404	0 U	46.2	21
CL4-PCB-77	4.41	2.84	109000	536	229
CL4-PCB-78	0 U	0 U	0 U	0 U	0 U
CL4-PCB-79	0.094	0 U	11800	49.8	18.6
CL4-PCB-80	0 U	0 U	0 U	0 U	0 U
CL4-PCB-81	0 U	0 U	4830	25.1	9.66
CL5-PCB-82	1.4	0.627	142000	716	255
CL5-PCB-83/99	5.74	0	433000	2060	726
CL5-PCB-84	3.33	0	185000	891	356
CL5-PCB-85/116/117	4.71	2.63	211000	1020	343
CB-86/87/97/108/119/125	7.28	0	553000	2530	882
CL5-PCB-88/91	3.2	1.79	170000	657	236
CL5-PCB-89	0 U	0 U	21600	102	39.4
CL5-PCB-90/101/113	8.47	4.56	540000	2450	844
CL5-PCB-92	2.16	1.26	84900	427	154
CL5-PCB-93/95/98/100/102	12.3	0	475000	1910	768
CL5-PCB-94	0.245	0.117	7110	29.8	11.8
CL5-PCB-96	0 U	0.18	9910	35.2	15.8
CL5-PCB-103	0 U	0 U	3970	16.9	6.42
CL5-PCB-104	0 U	0 U	132	0.579	0 U
CL5-PCB-105	0	0	378000	1800	599
CL5-PCB-106	0 U	0 U	1040	0 U	0 U
CL5-PCB-107/124	0.186	0.094	27300	148	48.7
CL5-PCB-109	0.333	0 U	46000	257	87.3
CL5-PCB-110/115	14.5	7.97	760000	3430	1190
CL5-PCB-111	0 U	0 U	149	0 U	0 U
CL5-PCB-112	0 U	0 U	0 U	0 U	0 U
CL5-PCB-114	0 U	0 U	28000	130	39.6
CL5-PCB-118	0	0	565000	2720	897
CL5-PCB-120	0 U	0 U	718	2.61	0.932
CL5-PCB-121	0 U	0 U	0 U	0 U	0 U
CL5-PCB-122	0 U	0.175	16600	99.3	32.2
CL5-PCB-123	0.176	0 U	19900	107	34.5
CL5-PCB-126	0 U	0 U	2870	11.7	4.5

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL5-PCB-127	0 U	0 U	548	0 U	0 U
CL6-PCB-128/166	1.36	1.05	41600	264	66.4
CL6-PCB-129/138/160/163	3.59	0	205000	1280	322
CL6-PCB-130	0.25	0.282	14000	90.4	24.1
CL6-PCB-131	0 U	0 U	4120	25.2	6.94
CL6-PCB-132	1.22	1.03	77000	489	130
CL6-PCB-133	0 U	0 U	2180	14.2	3.62
CL6-PCB-134/143	0 U	0 U	12200	80.7	22.8
CL6-PCB-135/151/154	0 U	0	52500	258	70.8
CL6-PCB-136	0 U	0 U	19800	99.4	28.9
CL6-PCB-137	0.309	0 U	14100	98.7	24.9
CL6-PCB-139/140	0 U	0.089	4820	32.9	8.41
CL6-PCB-141	0.6	0.532	35900	245	64.1
CL6-PCB-142	0 U	0 U	259	0 U	0 U
CL6-PCB-144	0 U	0 U	8850	45.3	12.2
CL6-PCB-145	0 U	0 U	177	1.25	0.318
CL6-PCB-146	0.447	0.444	22800	151	40.1
CL6-PCB-147/149	0	0	128000	795	213
CL6-PCB-148	0 U	0 U	123	0.634	0 U
CL6-PCB-150	0 U	0 U	205	1.01	0.317
CL6-PCB-152	0 U	0 U	407	2.02	0.607
CL6-PCB-153/168	1.71	1.28	127000	779	197
CL6-PCB-155	0 U	0 U	0 U	0 U	0 U
CL6-PCB-156/157	0 U	0 U	32100	166	45
CL6-PCB-158	0.321	0 U	24100	144	37.7
CL6-PCB-159	0 U	0 U	1830	11.8	2.49
CL6-PCB-161	0 U	0 U	0 U	0 U	0 U
CL6-PCB-162	0 U	0 U	778	5.03	1.16
CL6-PCB-164	0.324	0.299	13900	84.4	20.9
CL6-PCB-165	0 U	0 U	0 U	0 U	0 U
CL6-PCB-167	0 U	0.15	9000	49.7	12.5
CL6-PCB-169	0 U	0 U	0 U	0 U	0 U
CL7-PCB-170	1.91	1.1	37000	210	43.7
CL7-PCB-171/173	0.432	0.214	10100	60.3	13.4
CL7-PCB-172	0.313	0 U	5650	34.7	7.81
CL7-PCB-174	1.12	0.633	35300	203	45.1
CL7-PCB-175	0 U	0 U	1320	8.39	1.8
CL7-PCB-176	0 U	0 U	3890	24.3	5.1
CL7-PCB-177	0.669	0.44	18100	115	24.8
CL7-PCB-178	0 U	0 U	5840	36	7.72
CL7-PCB-179	0.323	0 U	12900	78	17.8
CL7-PCB-180/193	3.21	1.88	79100	441	89.8
CL7-PCB-181	0 U	0 U	352	2.5	0.427
CL7-PCB-182	0 U	0 U	0 U	0 U	0.14
CL7-PCB-183/185	0.533	0 U	22900	139	29.4
CL7-PCB-184	0 U	0 U	0 U	0 U	0 U

Table 2 - Analytical Results for PCB Congeners in Soil Samples - Blank Corrected

Sample ID	WDR-2 25'	WDR-2 30'	WDR-3 10'	WDR-3 15'	WDR-3 20'
AXYS ID	L16826-12	L16826-13	L16826-17	L16826-15	L16826-16
Workgroup	WG37580	WG37580	WG37821	WG37580	WG37580
Sample Size	10.6 g (dry)	10.4 g (dry)	1.93 g (dry)	10.2 g (dry)	10.3 g (dry)
Units	pg/g	pg/g	pg/g	pg/g	pg/g
CL7-PCB-186	0 U	0 U	0 U	0 U	0 U
CL7-PCB-187	1.07	0.715	37300	234	55.6
CL7-PCB-188	0 U	0 U	0 U	0 U	0 U
CL7-PCB-189	0 U	0 U	1660	10.3	2.13
CL7-PCB-190	0.364	0.167	8380	44.2	9.21
CL7-PCB-191	0 U	0 U	1530	9.26	2.02
CL7-PCB-192	0 U	0 U	0 U	0.065	0 U
CL8-PCB-194	1.45	1.79	24600	185	35.5
CL8-PCB-195	0.547	0.58	8840	67.5	12.8
CL8-PCB-196	0.547	0.547	10400	62.3	11.1
CL8-PCB-197/200	0.198	0.149	3230	20.4	3.96
CL8-PCB-198/199	1.5	1.12	22700	140	23.9
CL8-PCB-201	0.169	0 U	2240	14.5	2.59
CL8-PCB-202	0.301	0 U	4220	26.8	5
CL8-PCB-203	0.996	0 U	14500	85.1	14.8
CL8-PCB-204	0 U	0 U	0 U	0 U	0 U
CL8-PCB-205	0.112	0.075	1150	8.12	1.56
CL9-PCB-206	0.7	0.588	7170	51.8	10
CL9-PCB-207	0 U	0 U	794	6.73	0 U
CL9-PCB-208	0 U	0.198	1770	12.6	2.25
CL10-PCB-209	0 U	0 U	0 U	4.3	0.919
Total Monochloro Biphenyl	0	0	37.8	0	0
Total Dichloro Biphenyl	141	102	14800	516	379
Total Trichloro Biphenyl	132	102	882000	4740	3620
Total Tetrachloro Biphenyl	249	147	8400000	36200	16900
Total Pentachloro Biphenyl	70	36.8	4680000	21600	7570
Total Hexachloro Biphenyl	12.3	10.2	853000	5210	1360
Total Heptachloro Biphenyl	9.94	5.15	281000	1650	356
Total Octachloro Biphenyl	5.82	4.26	91900	610	111
Total Nonachloro Biphenyl	0.7	0.786	9730	71.1	12.3
Decachloro Biphenyl	0 U	0 U	0 U	4.3	0.919
Total PCB Congeners (ND=0)	610	383	15216269	70,571	30,280

U = Not detected at the reporting limit indicated.
J = Estimated value.
K = Ion ratios do not meet identification criteria acceptance limits for positive identification.
B = Detected in blank.

Table 3 - Analytical Results for Groundwater Samples

Sample ID	MW-27S	MW-28S
Sampling Date	8/04/2011	8/04/2011
SDG	A10804-5	A10804-5
	K1107271	K1107271
Total Susp. Solids in mg/L	10	5 U
NWTPH-HCID in mg/L		
Gasoline	0.20 U	0.20 U
Stoddard/Mineral spirits	0.20 U	0.20 U
Kensol	0.20 U	0.20 U
Kerosene/Jet fuel	0.20 U	0.20 U
Diesel/Fuel oil	0.50 U	0.50 U
Bunker C	0.50 U	0.50 U
Heavy oil	0.50 U	0.50 U

U = Not detected at the reporting limit indicated.

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples

Sample ID	MW-27S	MW-28S	MW-27s *	MW-28s *	MW-27S *	MW-28S *
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-5	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.888 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL1-PCB-1	0.899 UB	0.93 UB	0.978 U	1.20 U	0.949	1.2
CL1-PCB-2	0.772	0.667 U	0.946 U	0.711	0.718	0.68
CL1-PCB-3	2.46 UB	1.84 UB	1.97	1.95	1.76	2.42
CL2-PCB-4	5.57 U	39.4	2.44	22.2	6.11	26.5
CL2-PCB-5	4.64 U	2.25 U	1.12 U	1.03 U	0.659 U	0.976 U
CL2-PCB-6	4.17 U	3.57	1.04 U	2.21	0.568 U	1.42
CL2-PCB-7	4.31 U	3.6	1.08 U	1.00 U	0.589 U	8.31
CL2-PCB-8	3.98 U	10.7	2.04	6.68	2.09	4.29
CL2-PCB-9	3.98 U	1.91 U	1.02 U	0.940 U	0.576 U	0.854 U
CL2-PCB-10	3.90 U	10.8	1.10 U	5.88	1.01	4.83
CL2-PCB-11	9.81 UB	11.7 UB	12.5	27.2	17.9	7.21
CL2-PCB-12/13	5.00 U	2.29 U	1.09 U	1.01 U	0.648 U	0.96 U
CL2-PCB-14	4.46 U	2.06 U	1.05 U	0.967 U	0.613 U	0.909 U
CL2-PCB-15	5.11 U	5.89	1.54	4	1.54	1.92
CL3-PCB-16	7.77	63.8	3.79	33.6	4.41	27.5
CL3-PCB-17	10	69.8	3.79 U	39.9	5.37	31.2
CL3-PCB-18/30	37.5	357	22.5	224	29.2	158
CL3-PCB-19	26.9	360	22.9	184	35.5	184
CL3-PCB-20/28	75.3	297	15.7	171	21.9	143
CL3-PCB-21/33	3.64	19.9	2.26	13.6	3.14	10.4
CL3-PCB-22	28.4	132	7.12	73.5	10.2	64.1
CL3-PCB-23	0.829 U	1.23 U	0.552 U	0.615 U	0.553 U	0.61 U
CL3-PCB-24	1.85	11.3	0.867	5.51	0.704	5.29
CL3-PCB-25	4.18	17.1	1.62	12.8	2.05 U	8.24
CL3-PCB-26/29	12.4	62.6	4.14	39.3	4.64	28.9
CL3-PCB-27	6.66	73.3	3.86	39.6	4.72	29.2
CL3-PCB-31	59.8	295	18.6	189	23.3	142
CL3-PCB-32	52	408	27.4	258	30.1	188
CL3-PCB-34	0.780 U	1.26 U	0.552 U	1.12 U	0.553 U	0.821
CL3-PCB-35	1.00 U	1.30 U	1.65	5.1	1.06 U	0.694 U
CL3-PCB-36	0.856 U	1.32 U	0.552 U	0.563 U	0.553 U	0.615 U
CL3-PCB-37	0.924 U	1.34 U	0.552 U	2.11 U	0.628	1.08
CL3-PCB-38	0.868 U	1.32 U	0.552 U	0.563 U	0.553 U	0.638 U
CL3-PCB-39	0.857 U	1.26 U	0.552 U	0.563 U	0.553 U	0.681
CL4-PCB-40/41/71	70.8	105	13.8	116	15	93.9
CL4-PCB-42	34.9	44	7	56.6	7.43	41
CL4-PCB-43	5.57	9.98	1.25 U	10	1.13	9.03
CL4-PCB-44/47/65	115	206	24.7	220	29.6	171
CL4-PCB-45/51	44.1	129	15.2	135	19.5	94.9
CL4-PCB-46	14.1	48.4	4.62	46.3	4.48 U	32.6
CL4-PCB-48	16.3	26.8	3.53	32.4	4.81	23.6
CL4-PCB-49/69	84.7	116	18.2	147	20.2	104
CL4-PCB-50/53	43.7	141	17.4	148	20.2 U	98.2
CL4-PCB-52	173	328	50.5	372	49.5	257
CL4-PCB-54	1.54	7.21	1.28 U	6.6	1.61	6.25
CL4-PCB-55	1.55 U	1.04 U	1.17 U	1.11 U	0.735 U	0.792 U
CL4-PCB-56	19.1	15	2.85	14.2	3.45	12
CL4-PCB-57	1.33 U	0.943 U	1.04 U	0.984 U	0.701 U	0.755 U
CL4-PCB-58	1.41 U	0.986 U	1.06 U	1.01 U	0.727 U	0.782 U

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples

Sample ID	MW-27S	MW-28S	MW-27s *	MW-28s *	MW-27S *	MW-28S *
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-5	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.888 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL4-PCB-59/62/75	11	14.1	1.03 U	16	2.28	12.7
CL4-PCB-60	4.75	4.5	1.22 U	4.52	1.21	2.81
CL4-PCB-61/70/74/76	62.3	53.5	16.7	66.4	14 U	43.9
CL4-PCB-63	1.36 U	1.07	0.984 U	1.37	0.681 U	1.08
CL4-PCB-64	55.9	68	10.3	80.6	11.8	61
CL4-PCB-66	32	21.2	7.38	24	5.86	15.9
CL4-PCB-67	1.21 U	0.830 U	0.924 U	0.874 U	0.622 U	0.67 U
CL4-PCB-68	1.30 U	0.877 U	0.999 U	0.945 U	0.657 U	0.707 U
CL4-PCB-72	1.24 U	0.879 U	0.985 U	0.931 U	0.633 U	0.682 U
CL4-PCB-73	0.742 U	0.930 U	0.777 U	0.643 U	0.553 U	0.687
CL4-PCB-77	1.36 U	1.08 U	0.923 U	0.98	0.629 U	0.653 U
CL4-PCB-78	1.57 U	1.34 U	1.11 U	1.05 U	0.682 U	0.734 U
CL4-PCB-79	1.27 U	1.05 U	0.932 U	0.881 U	0.584 U	0.629 U
CL4-PCB-80	1.39 U	1.03 U	0.999 U	0.945 U	0.658 U	0.708 U
CL4-PCB-81	1.39 U	1.07 U	0.995 U	0.912 U	0.641 U	0.63 U
CL5-PCB-82	4.91	2.94 U	3.55 U	3.13 U	1.15 U	1.75
CL5-PCB-83/99	18.1 UB	7.72 UB	15.5	13.9	6.71	7.01
CL5-PCB-84	21.5	10.0	5.43 U	13.8	3.34	10.2
CL5-PCB-85/116/117	7.93	2.28 U	4.14 U	5.2	2.49	1.51 U
CB-86/87/97/108/119/125	23.3 UB	12.4 UB	14.4	17.6	6.41	9.95
CL5-PCB-88/91	14.1	4.43 UK	3.34 U	7.85	2	5.06 U
CL5-PCB-89	2.13 U	2.31 U	3.40 U	3.00 U	0.957 U	0.952 U
CL5-PCB-90/101/113	27.4 UB	16.5 UB	19.8	23.2	8.19	11.2
CL5-PCB-92	7.72	2.31 U	3.26 U	5.62	1.65	2.23
CL5-PCB-93/95/98/100/102	63.9	29.0 UB	18.6	51.2	11	30.7
CL5-PCB-94	2.01 U	2.15 U	3.59 U	3.17 U	0.974 U	0.969 U
CL5-PCB-96	2.19 UK	1.4	2.24 U	2.55	0.604 U	1.79
CL5-PCB-103	1.61 U	1.74 U	2.86 U	2.53 U	0.806 U	0.801 U
CL5-PCB-104	1.02 U	1.13 U	2.11 U	1.56 U	0.564 U	0.652 U
CL5-PCB-105	4.71 UB	3.32 UB	8.18 U	5.16 U	3.62	1.78
CL5-PCB-106	1.29 U	1.39 U	2.72 U	2.12 U	0.702 U	0.724 U
CL5-PCB-107/124	1.40 U	1.60 U	2.88 U	2.25 U	0.789 U	0.813 U
CL5-PCB-109	1.36	1.55 U	2.45 U	1.91 U	0.714 U	0.736 U
CL5-PCB-110/115	31 UB	15.9 UB	19	18.1	8.33	12.4
CL5-PCB-111	1.47 U	1.89 U	2.39 U	2.11 U	0.668 U	0.665 U
CL5-PCB-112	1.60 U	1.72 U	2.32 U	2.05 U	0.661 U	0.658 U
CL5-PCB-114	1.18 U	1.39 U	2.24 U	1.76 U	0.712 U	0.76 U
CL5-PCB-118	10.3 UB	7.09 UB	20.4	15.3	7.54	3.22
CL5-PCB-120	1.38 U	1.79 U	2.17 U	1.92 U	0.631 U	0.627 U
CL5-PCB-121	1.51 U	1.68 U	2.50 U	2.21 U	0.717 U	0.713 U
CL5-PCB-122	1.44 U	1.67 U	2.92 U	2.28 U	0.797 U	0.821 U
CL5-PCB-123	1.29 U	1.45 U	2.49 U	1.99 U	0.779 U	0.777 U
CL5-PCB-126	1.47 U	1.75 U	2.64 U	1.95 U	0.8 U	0.777 U
CL5-PCB-127	1.31 U	1.43 U	2.75 U	2.15 U	0.82 U	0.846 U
CL6-PCB-128/166	4.70 UK	3.01	3.41 U	2.61 U	1.99	1.02 U
CL6-PCB-129/138/160/163	14.0 UB	12.7 UB	17.6	10	11.7	3.89
CL6-PCB-130	2.26 U	3.26 U	4.12 U	3.22 U	1.7 U	1.29 U
CL6-PCB-131	2.30 U	3.41 U	3.95 U	3.08 U	1.53 U	1.16 U
CL6-PCB-132	13.4	3.39 U	4.54 U	3.14 U	3.86	1.97

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples

Sample ID	MW-27S	MW-28S	MW-27s *	MW-28s *	MW-27S *	MW-28S *
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-5	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.888 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL6-PCB-133	2.21 U	3.07 U	3.69 U	2.88 U	1.44 U	1.08 U
CL6-PCB-134/143	2.36 U	3.40 U	3.93 U	3.07 U	1.53 U	1.16 U
CL6-PCB-135/151/154	8.30 UK	2.36 U	3.59 U	3.09	3.08	1.2
CL6-PCB-136	3.74	1.71 U	2.02 U	1.57 U	0.809	0.619 U
CL6-PCB-137	2.08 U	2.97 U	4.02 U	3.14 U	1.72 U	1.3 U
CL6-PCB-139/140	2.08 U	3.04 U	3.52 U	2.75 U	1.4 U	1.06 U
CL6-PCB-141	2.01 U	2.67 U	3.70 U	2.89 U	1.51 U	1.14 U
CL6-PCB-142	2.33 U	3.27 U	3.93 U	3.07 U	1.53 U	1.16 U
CL6-PCB-144	2.50 U	2.40 U	2.68 U	2.08 U	0.86 U	0.759 U
CL6-PCB-145	2.10 U	1.88 U	2.18 U	1.69 U	0.741 U	0.654 U
CL6-PCB-146	2.59	2.67 U	3.16 U	2.47 U	1.33 U	1 U
CL6-PCB-147/149	19.9	4.57	9.22 U	5.39 U	4.68	2.72
CL6-PCB-148	2.58 U	2.43 U	2.74 U	2.12 U	0.898 U	0.792 U
CL6-PCB-150	2.04 U	1.62 U	2.09 U	1.62 U	0.707 U	0.624 U
CL6-PCB-152	1.87 U	1.58 U	1.97 U	1.53 U	0.663 U	0.585 U
CL6-PCB-153/168	6.58 UB	4.84 UB	11.5	8.43	7.85	3.05
CL6-PCB-155	1.43 U	1.12 U	1.80 U	1.34 U	0.553 U	0.59 U
CL6-PCB-156/157	1.76 U	2.22 U	3.12 U	2.35 U	1.49	0.964 U
CL6-PCB-158	1.39	1.83 U	2.57 U	2.01 U	1.06 U	0.802 U
CL6-PCB-159	1.38 U	1.95 U	2.70 U	2.11 U	1.16 U	0.874 U
CL6-PCB-161	1.46 U	2.05 U	2.72 U	2.13 U	1.08 U	0.816 U
CL6-PCB-162	1.49 U	1.95 U	2.78 U	2.17 U	1.17 U	0.88 U
CL6-PCB-164	1.53 UK	2.02 U	2.73 U	2.13 U	1.11 U	0.836 U
CL6-PCB-165	1.69 U	2.43 U	3.06 U	2.39 U	1.18 U	0.89 U
CL6-PCB-167	1.33 U	1.90 U	2.32 U	1.87 U	1.11 U	0.756 U
CL6-PCB-169	1.27 U	1.89 U	2.37 U	1.88 U	1.01 U	0.788 U
CL7-PCB-170	1.74 U	2.11 U	2.21 U	1.32 U	1.57	1 U
CL7-PCB-171/173	1.74 U	2.06 U	0.940 U	0.701 U	0.885 U	1.06 U
CL7-PCB-172	1.77 U	2.03 U	0.938 U	0.700 U	0.89 U	1.06 U
CL7-PCB-174	2.16	1.81 U	0.889 U	1.01	1.34	0.955 U
CL7-PCB-175	1.58 U	1.87 U	0.889 U	0.663 U	0.767 U	0.914 U
CL7-PCB-176	1.24 U	1.50 U	0.674 U	0.563 U	0.593 U	0.707 U
CL7-PCB-177	2.55	1.97 U	0.942 U	0.702 U	0.903	1.03 U
CL7-PCB-178	1.65 U	2.00 U	0.914 U	0.682 U	0.813 U	0.969 U
CL7-PCB-179	1.26 U	1.53 U	0.639 U	0.563 U	0.553 U	0.639 U
CL7-PCB-180/193	1.39 U	1.65	2.51	2.53	3.31	1.09
CL7-PCB-181	1.65 U	1.94 U	0.902 U	0.673 U	0.834 U	0.994 U
CL7-PCB-182	1.59 U	1.83 U	0.877 U	0.654 U	0.798 U	0.951 U
CL7-PCB-183/185	1.6	1.88 U	0.876 U	0.653 U	1.15	0.945 U
CL7-PCB-184	1.21 U	1.46 U	0.644 U	0.563 U	0.557 U	0.664 U
CL7-PCB-186	1.30 U	1.60 U	0.703 U	0.563 U	0.631 U	0.753 U
CL7-PCB-187	8.84 UK	1.80 U	1.74 U	1.84 U	1.99	0.895 U
CL7-PCB-188	1.33 U	1.46 U	0.639 U	0.563 U	0.561 U	0.722 U
CL7-PCB-189	1.06 U	1.21 U	0.742 U	0.754 U	0.656 U	0.596 U
CL7-PCB-190	1.25 U	1.48 U	0.705 U	0.563 U	0.664 U	0.791 U
CL7-PCB-191	1.26 U	1.45 U	0.683 U	0.563 U	0.659 U	0.786 U
CL7-PCB-192	1.43 U	1.61 U	0.759 U	0.566 U	0.712 U	0.849 U
CL8-PCB-194	1.72 U	1.90 U	0.691 U	0.668 U	4.14 U	0.881 U
CL8-PCB-195	2.05 U	2.05 U	0.712 U	0.688 U	4.43 U	0.9 U

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples

Sample ID	MW-27S	MW-28S	MW-27s *	MW-28s *	MW-27S *	MW-28S *
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-5	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.888 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL8-PCB-196	1.76 U	2.20 U	0.757 U	0.563 U	4.33 U	1.02 U
CL8-PCB-197/200	1.31 U	1.51 U	0.553 U	0.563 U	3.35 U	0.758 U
CL8-PCB-198/199	3.03	2.24 U	0.796 U	0.563 U	4.7 U	1.08 U
CL8-PCB-201	1.30 U	1.49 U	0.552 U	0.563 U	3.36 U	0.763 U
CL8-PCB-202	1.80 U	2.00 U	0.608 U	0.563 U	3.3 U	0.818 U
CL8-PCB-203	1.67 U	2.07 U	0.724 U	0.563 U	4.24 U	0.992 U
CL8-PCB-204	1.30 U	1.51 U	0.563 U	0.563 U	3.31 U	1.24
CL8-PCB-205	1.08 U	1.27 U	0.552 U	0.563 U	0.696 U	0.669 U
CL9-PCB-206	2.23 U	2.29 U	2.60 U	2.69 U	1.49 U	1.47 U
CL9-PCB-207	2.11 U	1.86 U	2.10 U	2.15 U	1.29 U	1.27 U
CL9-PCB-208	2.28 U	1.93 U	2.01 U	2.05 U	1.29 U	1.27 U
CL10-PCB-209	1.48 U	1.61 U	1.11 U	1.19	1.51	1.15
Total Monochloro Biphenyl	0.772	U	1.97	2.66	3.43	4.3
Total Dichloro Biphenyl	U	74	18.5	68.2	28.7	54.5
Total Trichloro Biphenyl	326	2170	132	1290	174	1020
Total Tetrachloro Biphenyl	789	1340	192	1500	173	1080
Total Pentachloro Biphenyl	121	11.1	108	174	61.3	92.2
Total Hexachloro Biphenyl	41.0	7.56	29.1	21.5	35.5	12.8
Total Heptachloro Biphenyl	6.31	1.65	2.51	3.54	10.3	1.09
Total Octachloro Biphenyl	3.03	U	U	U	U	1.24
Total Nonachloro Biphenyl	U	U	U	U	U	U
Decachloro Biphenyl	U	U	U	1.19	1.51	1.15
Total PCB Congeners	1290	3600	484	3060	488	2270
Aroclor 1221	5.57 U	2.50 U	1.38 U	1.27 U	0.774 U	1.09 U
Aroclor 1232	2.46 U	3.76 U	1.88 U	1.91 U	1.88 U	1.85 U
Aroclor 1242	518 J	2880 J	177	1770	1.66 U	2.34 U
Aroclor 1248	8.36 U	7.01 U	6.4 U	6.06 U	340	1770
Aroclor 1254	17.1 U	22.9 U	239	252	7.75 U	7.7 U
Aroclor 1260	8.70 U	10.6 U	12.6	12.7	4.99 U	5 U
TEQ (WHO 2005) ND=0	0	0	0.00061	0.00056	0.00038	0.00015
TEQ (WHO 2005) ND=1/2DL	0.0930	0.116	0.169	0.127	0.0557	0.051

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples - Blank Corrected

Sample ID	MW-27S	MW-28S	MW-27s	MW-28s	MW-27S	MW-28S
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-4	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.906 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL1-PCB-1	0	0	0 U	0 U	0	0
CL1-PCB-2	0.772	0 U	0 U	0	0	0
CL1-PCB-3	0	0	0	0	1.76	2.42
CL2-PCB-4	0 U	39.4	2.44	22.2	6.11	26.5
CL2-PCB-5	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-6	0 U	3.57	0 U	2.21	0 U	1.42
CL2-PCB-7	0 U	3.6	0 U	0 U	0 U	8.31
CL2-PCB-8	0 U	10.7	0	0	0	0
CL2-PCB-9	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-10	0 U	10.8	0 U	5.88	1.01	4.83
CL2-PCB-11	0	0	0	0	0	0
CL2-PCB-12/13	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-14	0 U	0 U	0 U	0 U	0 U	0 U
CL2-PCB-15	0 U	5.89	0	0	1.54	1.92
CL3-PCB-16	7.77	63.8	3.79	33.6	4.41	27.5
CL3-PCB-17	10	69.8	0 U	39.9	5.37	31.2
CL3-PCB-18/30	37.5	357	22.5	224	29.2	158
CL3-PCB-19	26.9	360	22.9	184	35.5	184
CL3-PCB-20/28	75.3	297	0	171	0	143
CL3-PCB-21/33	3.64	19.9	0	13.6	3.14	10.4
CL3-PCB-22	28.4	132	0	73.5	10.2	64.1
CL3-PCB-23	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-24	1.85	11.3	0.867	5.51	0.704	5.29
CL3-PCB-25	4.18	17.1	1.62	12.8	0 U	8.24
CL3-PCB-26/29	12.4	62.6	4.14	39.3	4.64	28.9
CL3-PCB-27	6.66	73.3	3.86	39.6	4.72	29.2
CL3-PCB-31	59.8	295	0	189	0	142
CL3-PCB-32	52	408	27.4	258	30.1	188
CL3-PCB-34	0 U	0 U	0 U	0 U	0 U	0.821
CL3-PCB-35	0 U	0 U	1.65	5.1	0 U	0 U
CL3-PCB-36	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-37	0 U	0 U	0 U	0 U	0.628	1.08
CL3-PCB-38	0 U	0 U	0 U	0 U	0 U	0 U
CL3-PCB-39	0 U	0 U	0 U	0 U	0 U	0.681
CL4-PCB-40/41/71	70.8	105	13.8	116	15	93.9
CL4-PCB-42	34.9	44	7	56.6	7.43	41
CL4-PCB-43	5.57	9.98	0 U	10	1.13	9.03
CL4-PCB-44/47/65	115	206	24.7	220	29.6	171
CL4-PCB-45/51	44.1	129	15.2	135	19.5	94.9
CL4-PCB-46	14.1	48.4	4.62	46.3	0 U	32.6
CL4-PCB-48	16.3	26.8	3.53	32.4	4.81	23.6
CL4-PCB-49/69	84.7	116	18.2	147	20.2	104
CL4-PCB-50/53	43.7	141	17.4	148	0 U	98.2
CL4-PCB-52	173	328	50.5	372	49.5	257
CL4-PCB-54	1.54	7.21	0 U	6.6	1.61	6.25

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples - Blank Corrected

Sample ID	MW-27S	MW-28S	MW-27s	MW-28s	MW-27S	MW-28S
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-4	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.906 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL4-PCB-55	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-56	19.1	15	2.85	14.2	0	12
CL4-PCB-57	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-58	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-59/62/75	11	14.1	0 U	16	2.28	12.7
CL4-PCB-60	4.75	4.5	0 U	4.52	1.21	2.81
CL4-PCB-61/70/74/76	62.3	53.5	0	0	0 U	0
CL4-PCB-63	0 U	1.07	0 U	1.37	0 U	1.08
CL4-PCB-64	55.9	68	10.3	80.6	11.8	61
CL4-PCB-66	32	21.2	0	0	0	0
CL4-PCB-67	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-68	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-72	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-73	0 U	0 U	0 U	0 U	0 U	0.687
CL4-PCB-77	0 U	0 U	0 U	0.98	0 U	0 U
CL4-PCB-78	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-79	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-80	0 U	0 U	0 U	0 U	0 U	0 U
CL4-PCB-81	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-82	4.91	0 U	0 U	0 U	0 U	1.75
CL5-PCB-83/99	0	0	0	0	0	0
CL5-PCB-84	21.5	10	0 U	13.8	3.34	10.2
CL5-PCB-85/116/117	7.93	0 U	0 U	5.2	2.49	0 U
CB-86/87/97/108/119/125	0	0	14.4	17.6	0	0
CL5-PCB-88/91	14.1	0 U	0 U	7.85	2	0 U
CL5-PCB-89	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-90/101/113	0	0	19.8	23.2	8.19	11.2
CL5-PCB-92	7.72	0 U	0 U	5.62	1.65	2.23
CL5-PCB-93/95/98/100/102	63.9	0	0	0	0	0
CL5-PCB-94	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-96	0 U	1.4	0 U	2.55	0 U	1.79
CL5-PCB-103	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-104	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-105	0	0	0 U	0 U	0	0
CL5-PCB-106	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-107/124	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-109	1.36	0 U	0 U	0 U	0 U	0 U
CL5-PCB-110/115	0	0	19	18.1	8.33	12.4
CL5-PCB-111	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-112	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-114	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-118	0	0	0	0	0	0
CL5-PCB-120	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-121	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-122	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-123	0 U	0 U	0 U	0 U	0 U	0 U

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples - Blank Corrected

Sample ID	MW-27S	MW-28S	MW-27s	MW-28s	MW-27S	MW-28S
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-4	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.906 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL5-PCB-126	0 U	0 U	0 U	0 U	0 U	0 U
CL5-PCB-127	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-128/166	0 U	3.01	0 U	0 U	1.99	0 U
CL6-PCB-129/138/160/163	0	0	17.6	10	0	0
CL6-PCB-130	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-131	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-132	13.4	0 U	0 U	0 U	0	0
CL6-PCB-133	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-134/143	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-135/151/154	0 U	0 U	0 U	3.09	3.08	1.2
CL6-PCB-136	3.74	0 U	0 U	0 U	0.809	0 U
CL6-PCB-137	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-139/140	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-141	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-142	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-144	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-145	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-146	2.59	0 U	0 U	0 U	0 U	0 U
CL6-PCB-147/149	19.9	4.57	0 U	0 U	0	0
CL6-PCB-148	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-150	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-152	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-153/168	0	0	0	0	0	0
CL6-PCB-155	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-156/157	0 U	0 U	0 U	0 U	1.49	0 U
CL6-PCB-158	1.39	0 U	0 U	0 U	0 U	0 U
CL6-PCB-159	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-161	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-162	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-164	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-165	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-167	0 U	0 U	0 U	0 U	0 U	0 U
CL6-PCB-169	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-170	0 U	0 U	0 U	0 U	1.57	0 U
CL7-PCB-171/173	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-172	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-174	2.16	0 U	0 U	1.01	1.34	0 U
CL7-PCB-175	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-176	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-177	2.55	0 U	0 U	0 U	0.903	0 U
CL7-PCB-178	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-179	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-180/193	0 U	1.65	0	0	0	0
CL7-PCB-181	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-182	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-183/185	1.6	0 U	0 U	0 U	1.15	0 U

Table 4 - Analytical Results for PCB Congeners in Groundwater Samples - Blank Corrected

Sample ID	MW-27S	MW-28S	MW-27s	MW-28s	MW-27S	MW-28S
AXYS ID	L16764-1	L16764-2	L17118-4	L17118-4	L17428-2	L17428-5
Workgroup	WG37427	WG37427	WG38144	WG38144	WG38975	WG38975
Sample Date	7/11	7/11	10/11	10/11	1/12	1/12
Sample Size	0.810 L	0.918 L	0.906 L	0.906 L	0.904 L	0.924 L
Units	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
CL7-PCB-184	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-186	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-187	0 U	0 U	0 U	0 U	1.99	0 U
CL7-PCB-188	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-189	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-190	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-191	0 U	0 U	0 U	0 U	0 U	0 U
CL7-PCB-192	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-194	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-195	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-196	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-197/200	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-198/199	3.03	0 U	0 U	0 U	0 U	0 U
CL8-PCB-201	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-202	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-203	0 U	0 U	0 U	0 U	0 U	0 U
CL8-PCB-204	0 U	0 U	0 U	0 U	0 U	1.24
CL8-PCB-205	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-206	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-207	0 U	0 U	0 U	0 U	0 U	0 U
CL9-PCB-208	0 U	0 U	0 U	0 U	0 U	0 U
CL10-PCB-209	0 U	0 U	0 U	1.19	1.51	1.15
Total Monochloro Biphenyl	0	0	0	0	0	0
Total Dichloro Biphenyl	0	85.7	0	0	0	0
Total Trichloro Biphenyl	326	2170	132	1290	174	1020
Total Tetrachloro Biphenyl	789	1340	192	1500	173	1080
Total Pentachloro Biphenyl	0	0	0	0	0	0
Total Hexachloro Biphenyl	0	0	0	0	0	0
Total Heptachloro Biphenyl	6.31	1.65	0	0	0	0
Total Octachloro Biphenyl	3.03	0 U	0 U	0 U	0 U	1.24
Total Nonachloro Biphenyl	0 U	0 U	0 U	0 U	0 U	0 U
Decachloro Biphenyl	0 U	0 U	0 U	1.19	1.51	1.15
Total PCB Congeners (ND = 0)	**1288**	**3600**	**330**	**2,836**	**345**	**2133**

U = Not detected at the reporting limit indicated.

J = Estimated value.

K = Ion ratios do not meet identification criteria acceptance limits for positive identification.

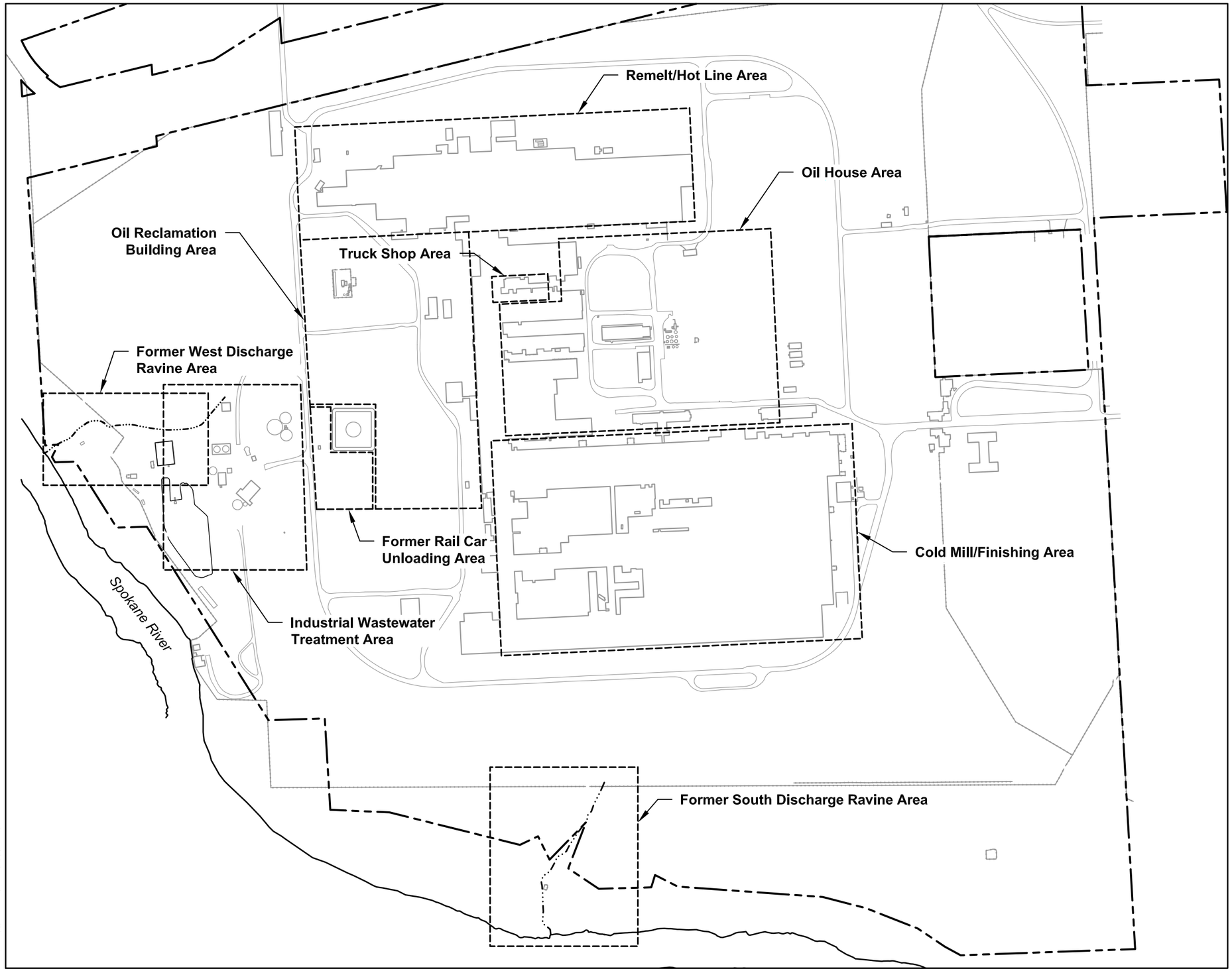
B = Detected in blank.

* October 2011 and January 2012 data have not been validated.

Table 5 - Comparison of Relative Percent Homologs

	MW-23S Apr-11 %	MW-27S Jul-11 %	MW-28S Jul-11 %	MW-12A Apr-11 %	MW-17S Apr-11 %	HL-MW-32S Apr-11 %	HL-MW-23S Apr-11 %	HL-MW-30S Apr-10 %	RM-MW-13S Apr-08 %	RM-MW-15S Apr-08 %	RM-MW-16S Apr-08 %	RM-MW-17S Apr-08 %
Total Monochloro Biphenyl	0	0	0	0	0	0	0	3.095E-03	1.669E-03	7.127E-03	4.484E-03	1.006E-01
Total Dichloro Biphenyl	0	0	2.382E+00	1.606E+00	0	0	0	1.482E+00	1.175E+00	2.371E+00	4.553E+00	5.145E+00
Total Trichloro Biphenyl	4.192E+01	2.899E+01	6.032E+01	5.304E+01	3.354E+01	6.857E+01	4.475E+01	4.237E+01	4.379E+01	3.956E+01	5.828E+01	4.113E+01
Total Tetrachloro Biphenyl	5.283E+01	7.017E+01	3.725E+01	4.243E+01	5.523E+01	2.906E+01	4.962E+01	5.265E+01	4.966E+01	4.874E+01	3.462E+01	4.830E+01
Total Pentachloro Biphenyl	5.205E+00	0	0	2.884E+00	1.079E+01	0	5.016E+00	3.439E+00	5.042E+00	8.234E+00	2.426E+00	5.122E+00
Total Hexachloro Biphenyl	0	0	0	3.945E-02	4.154E-01	1.794E+00	4.728E-01	5.789E-02	2.693E-01	8.740E-01	1.023E-01	1.780E-01
Total Heptachloro Biphenyl	2.899E-02	5.612E-01	4.587E-02	0	2.043E-02	5.670E-01	1.202E-01	3.322E-03	5.063E-02	1.900E-01	1.468E-02	1.532E-02
Total Octachloro Biphenyl	1.917E-02	2.695E-01	0	0	0	0	1.985E-02	0	7.667E-03	3.027E-02	2.588E-03	2.148E-03
Total Nonachloro Biphenyl	0	0	0	0	0	0	0	0	6.176E-04	1.698E-03	2.862E-04	1.622E-04
Decachloro Biphenyl	0	0	0	0	0	0	0	0	3.943E-06	1.579E-04	3.578E-05	2.104E-07
Total	100	100	100	100	100	100	100	100	100	100	100	100

Facility Map



Area Boundary

Note: Area boundaries shown on this figure are approximate.

N

0 500 1000

Scale in Feet

EAL 12/6/11 2644126-003.DWG

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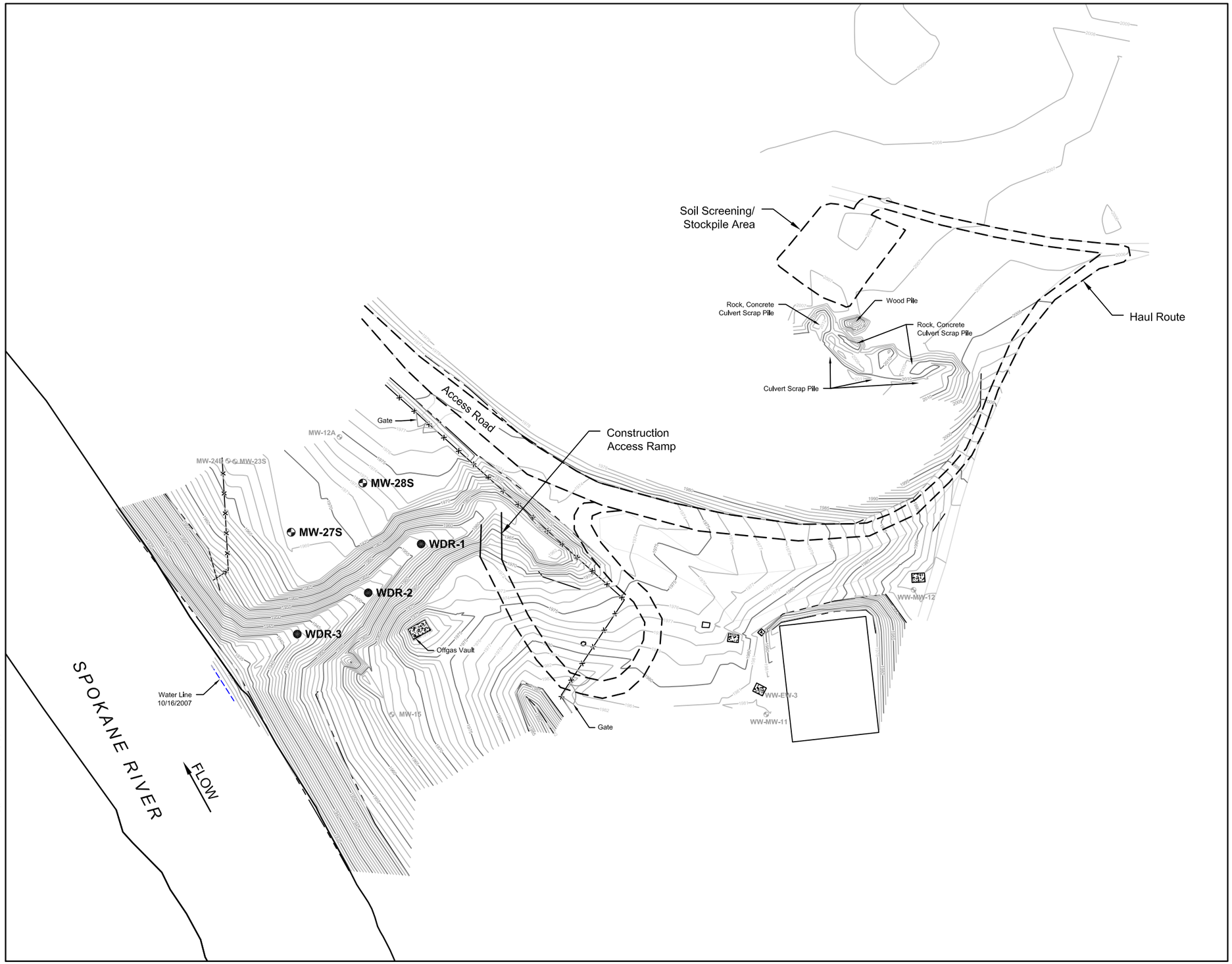
Figure 1

Former WDR Exploration Plan



Exploration Location and Number

MW-27S Monitoring Well

WDR-1 Soil Boring

N

0 100 200

Scale in Feet

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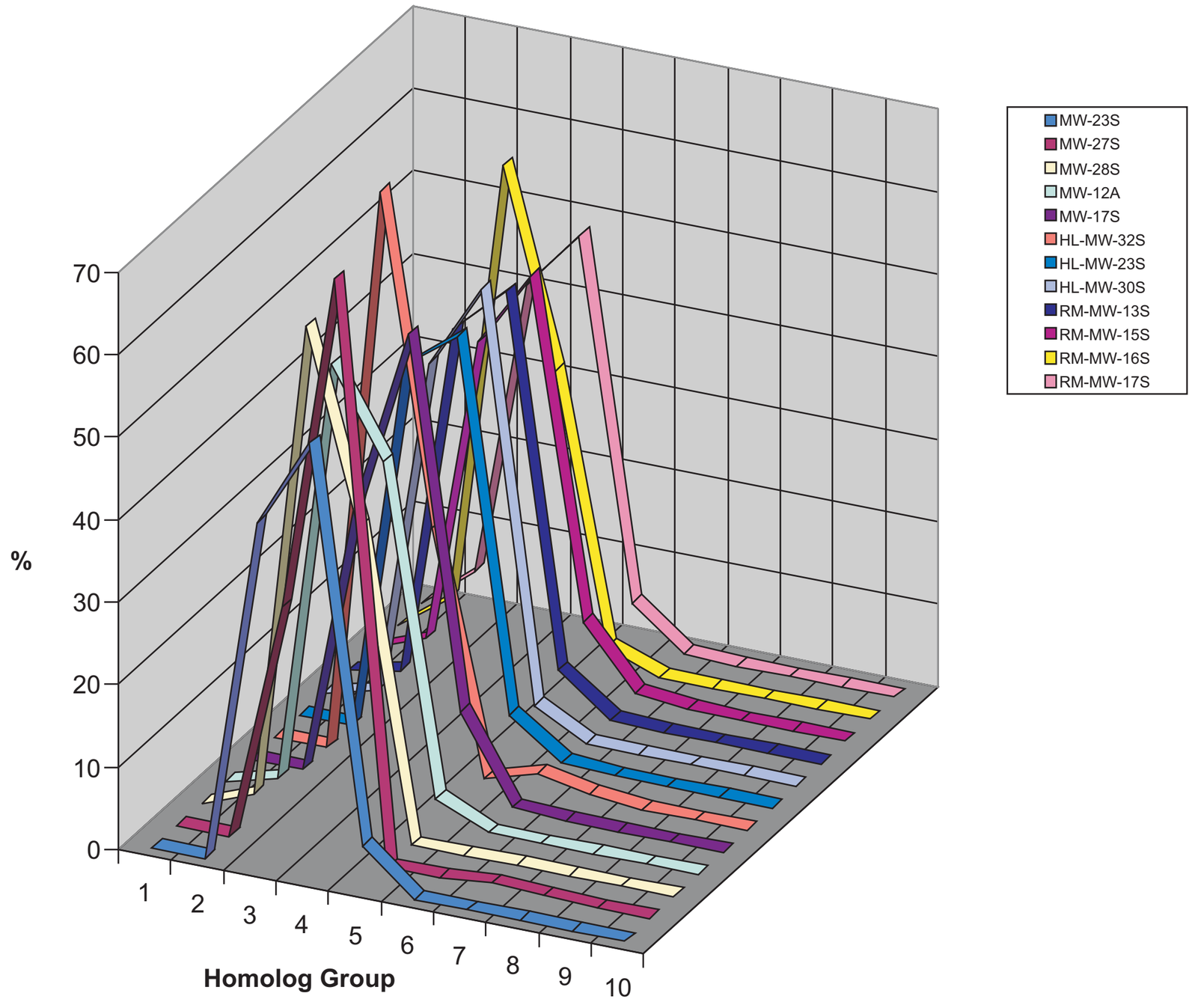
Figure 2

Comparison of Relative Homolog Percentages



2644126-AA.cdr EAL 12/06/11

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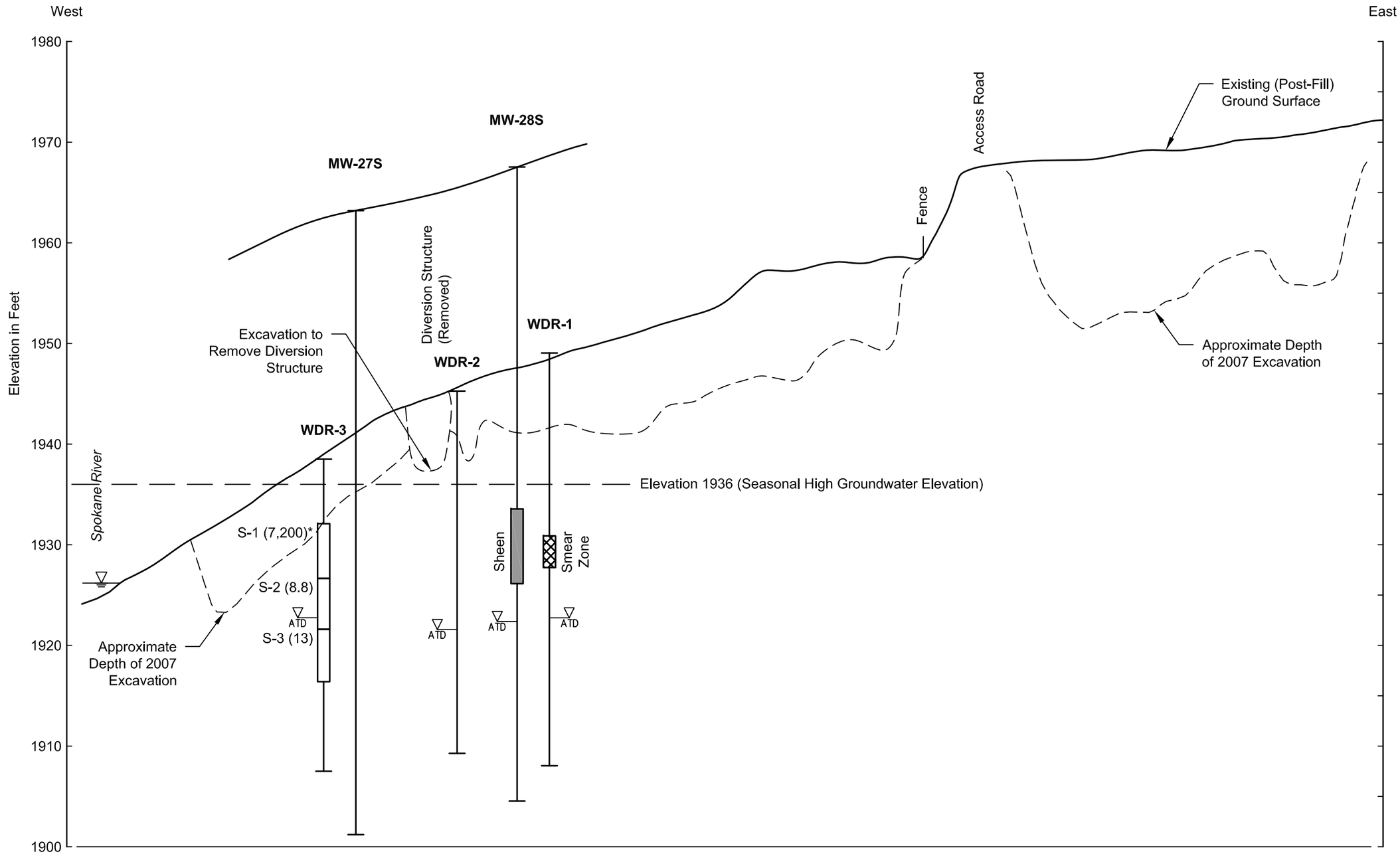
Figure 3

Generalized WDR Cross Section



*7,200 ug/kg Total PCB, EPA Method 8082

EAL 12/5/11 2644126-009.DWG

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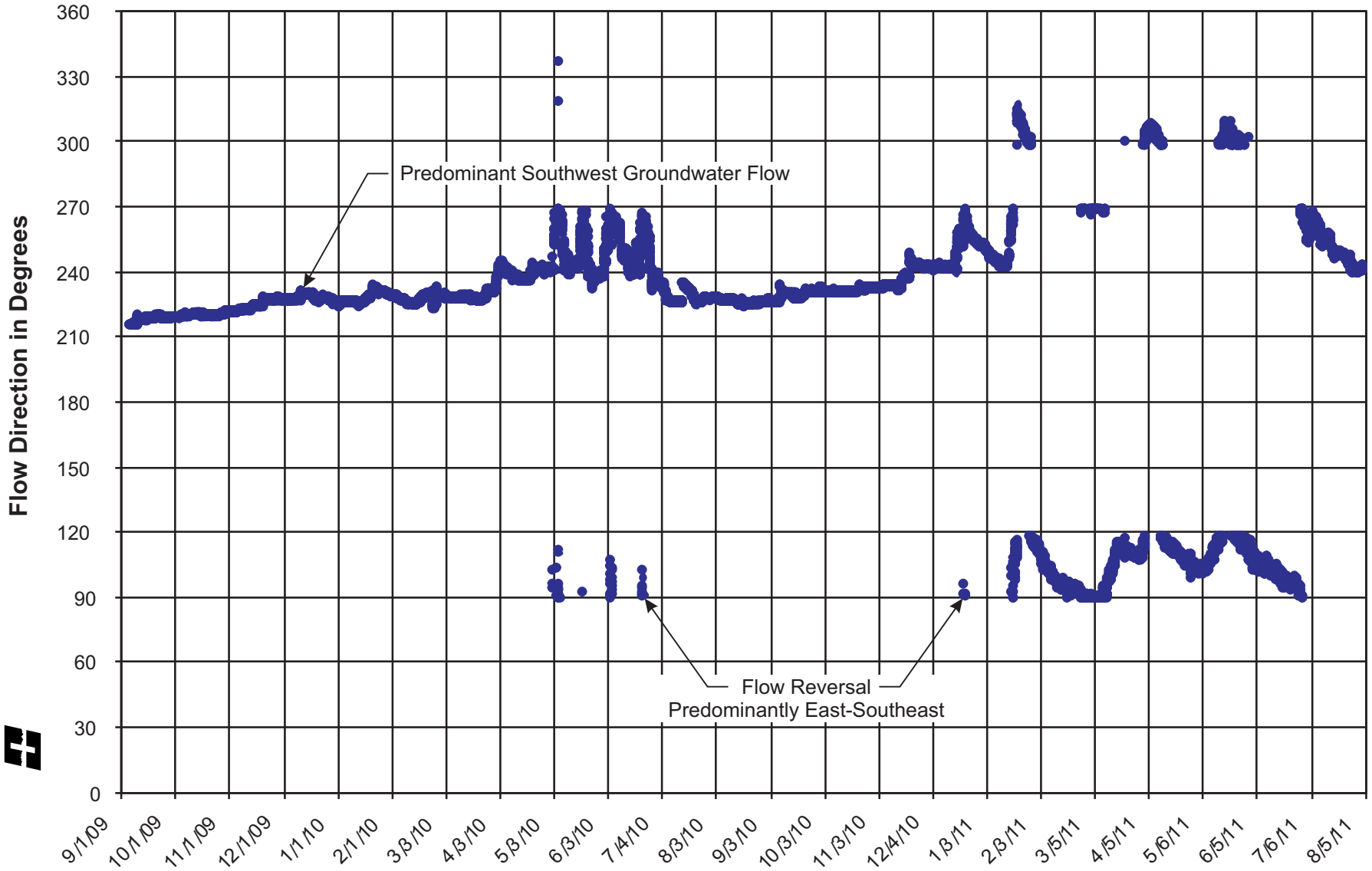
Figure 4

Groundwater Direction - River-WDR, MW-17S, HL-MW-23S



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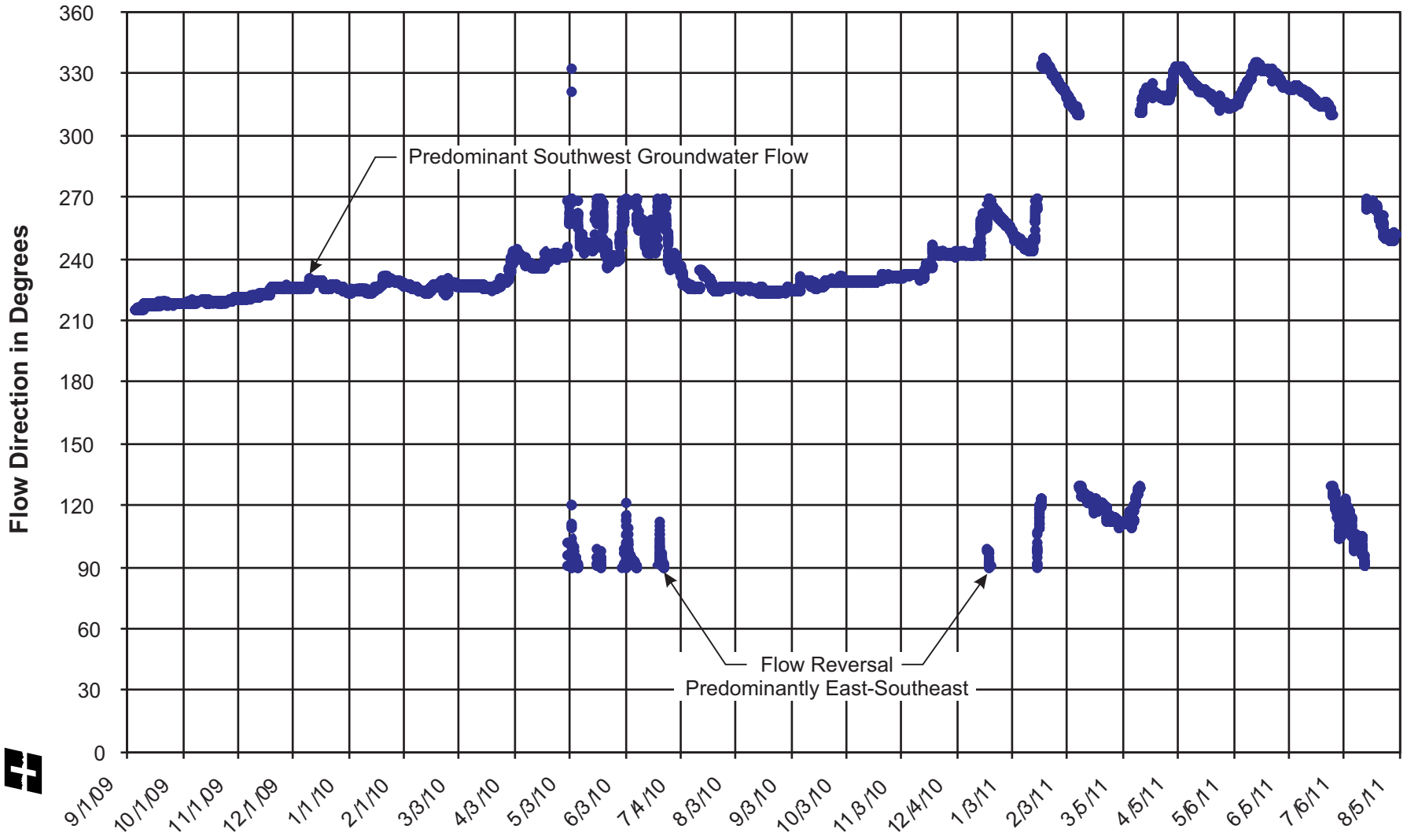
2644-126
Figure 5
12/11

2644126-AB.cdr EAL 12/06/11

Groundwater Direction Using Wells MW-12A, MW-17S, and HL-MW-23S



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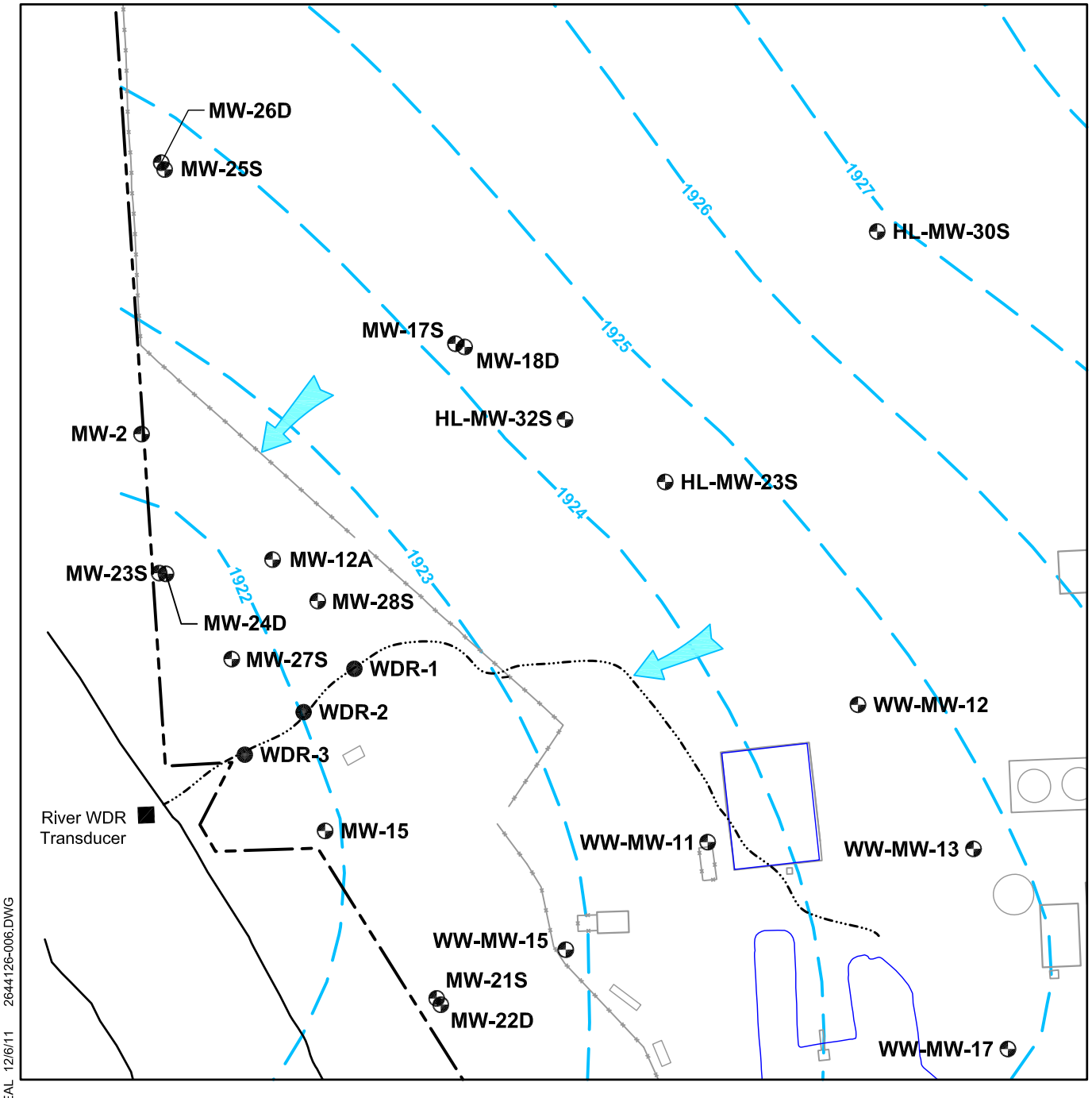
2644-126
Figure 6
12/11

2644126-AC.cdr EAL 12/06/11

October 2010 Groundwater Map



Exploration Location and Number

OH-MW-4 Monitoring Well

WDR-1 Soil Boring

1932 Groundwater Elevation Contour in Feet (NAVD88)

Inferred Groundwater Flow Direction

N

0 150 300

Scale in Feet

Note: Monitoring wells MW-27S and MW-28S installed in July 2011. Soil borings WDR-1, WDR-2, and WDR-3 drilled in July 2011.

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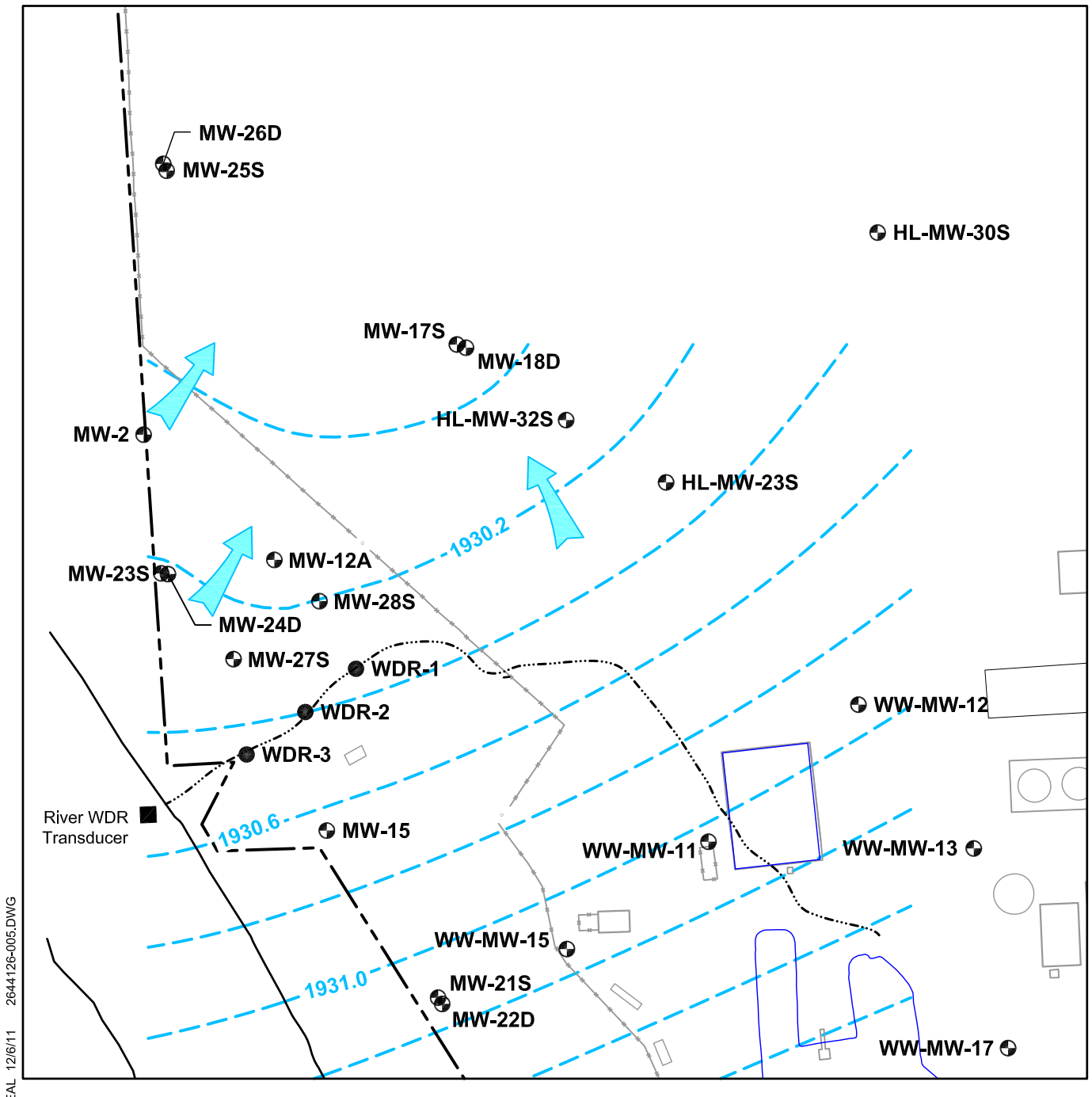
Figure 7

May 2010 Groundwater Map



Exploration Location and Number

OH-MW-4 Monitoring Well

WDR-1 Soil Boring

1932 Groundwater Elevation Contour in Feet (NAVD88)

Inferred Groundwater Flow Direction

N

0 150 300

Scale in Feet

Note: Monitoring wells MW-27S and MW-28S installed in July 2011. Soil borings WDR-1, WDR-2, and WDR-3 drilled in July 2011.

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Figure 8

APPENDIX A
FIELD EXPLORATION METHODS AND ANALYSIS

Key to Exploration Logs

Sample Description

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits and probes is estimated based on visual observation and is presented parenthetically on the logs.

SAND or GRAVEL Density	Standard Penetration Resistance (N) in Blows/Foot	SILT or CLAY Consistency	Standard Penetration Resistance (N) in Blows/Foot	Approximate Shear Strength in TSF
Very loose	0 to 4	Very soft	0 to 2	<0.125
Loose	4 to 10	Soft	2 to 4	0.125 to 0.25
Medium dense	10 to 30	Medium stiff	4 to 8	0.25 to 0.5
Dense	30 to 50	Stiff	8 to 15	0.5 to 1.0
Very dense	>50	Very stiff	15 to 30	1.0 to 2.0
		Hard	>30	>2.0

Sampling Test Symbols

- 1.5" I.D. Split Spoon
- Grab (Jar)
- 3.0" I.D. Split Spoon
- Shelby Tube (Pushed)
- Bag
- Cuttings
- Core Run

Moisture

Dry	Little perceptible moisture
Damp	Some perceptible moisture, likely below optimum
Moist	Likely near optimum moisture content
Wet	Much perceptible moisture, likely above optimum

Minor Constituents	Estimated Percentage
Trace	<5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

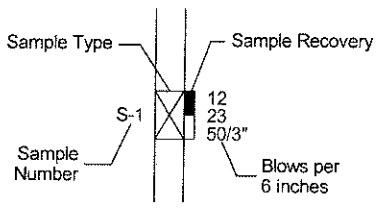
Laboratory Test Symbols

GS	Grain Size Classification
CN	Consolidation
UU	Unconsolidated Undrained Triaxial
CU	Consolidated Undrained Triaxial
CD	Consolidated Drained Triaxial
QU	Unconfined Compression
DS	Direct Shear
K	Permeability
PP	Pocket Penetrometer Approximate Compressive Strength in TSF
TV	Torvane Approximate Shear Strength in TSF
CBR	California Bearing Ratio
MD	Moisture Density Relationship
AL	Atterberg Limits Water Content in Percent Liquid Limit Natural Plastic Limit
PID	Photoionization Detector Reading
CA	Chemical Analysis
DT	In Situ Density in PCF
OT	Tests by Others

Groundwater Indicators

- Groundwater Level on Date or (ATD) At Time of Drilling
- Groundwater Seepage (Test Pits)

Sample Key



SOIL CLASSIFICATION CHART

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

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

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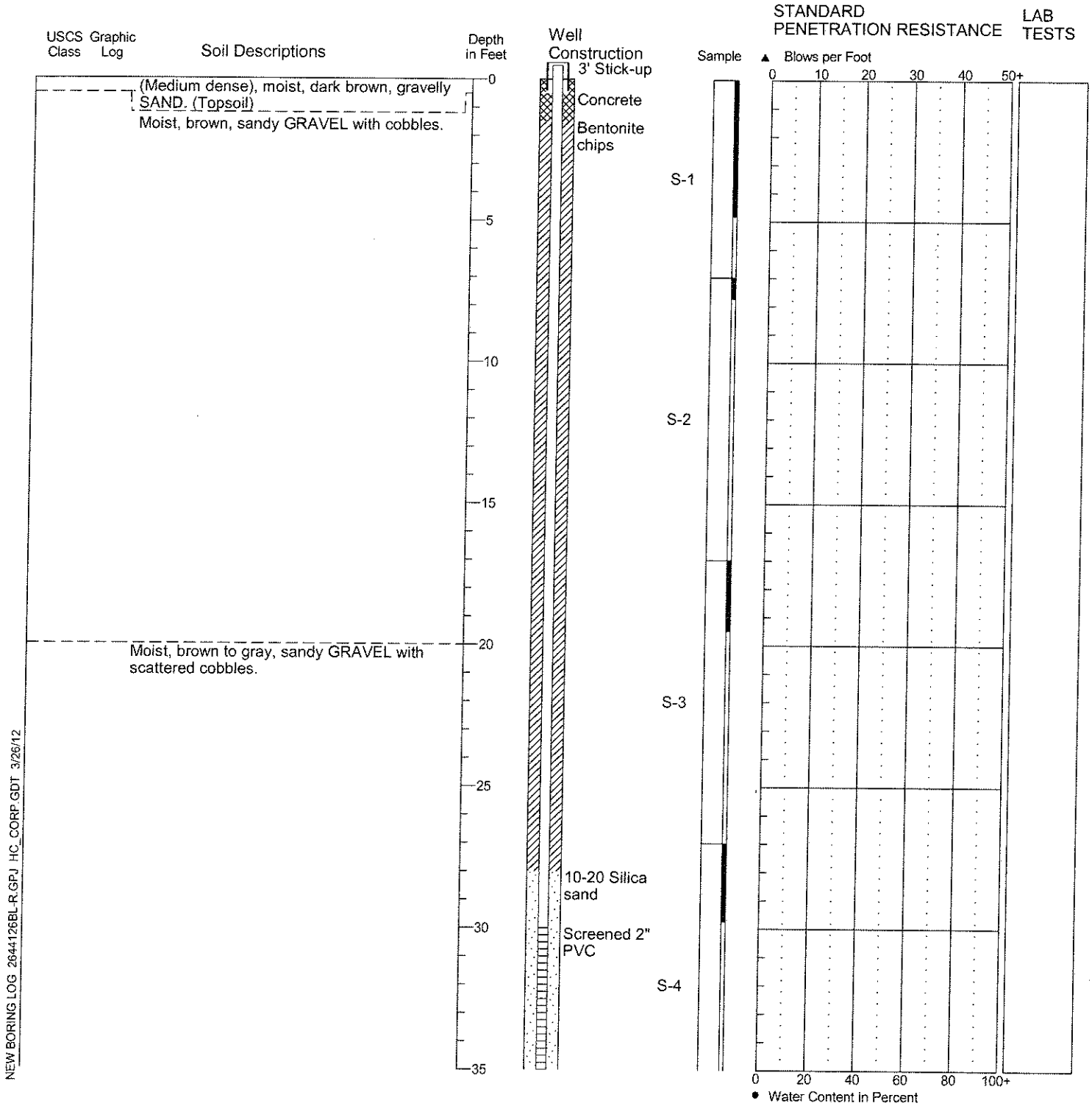
Figure A-1

Boring Log & Construction Data for Monitoring Well MW-27S

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



NEW BORING LOG 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

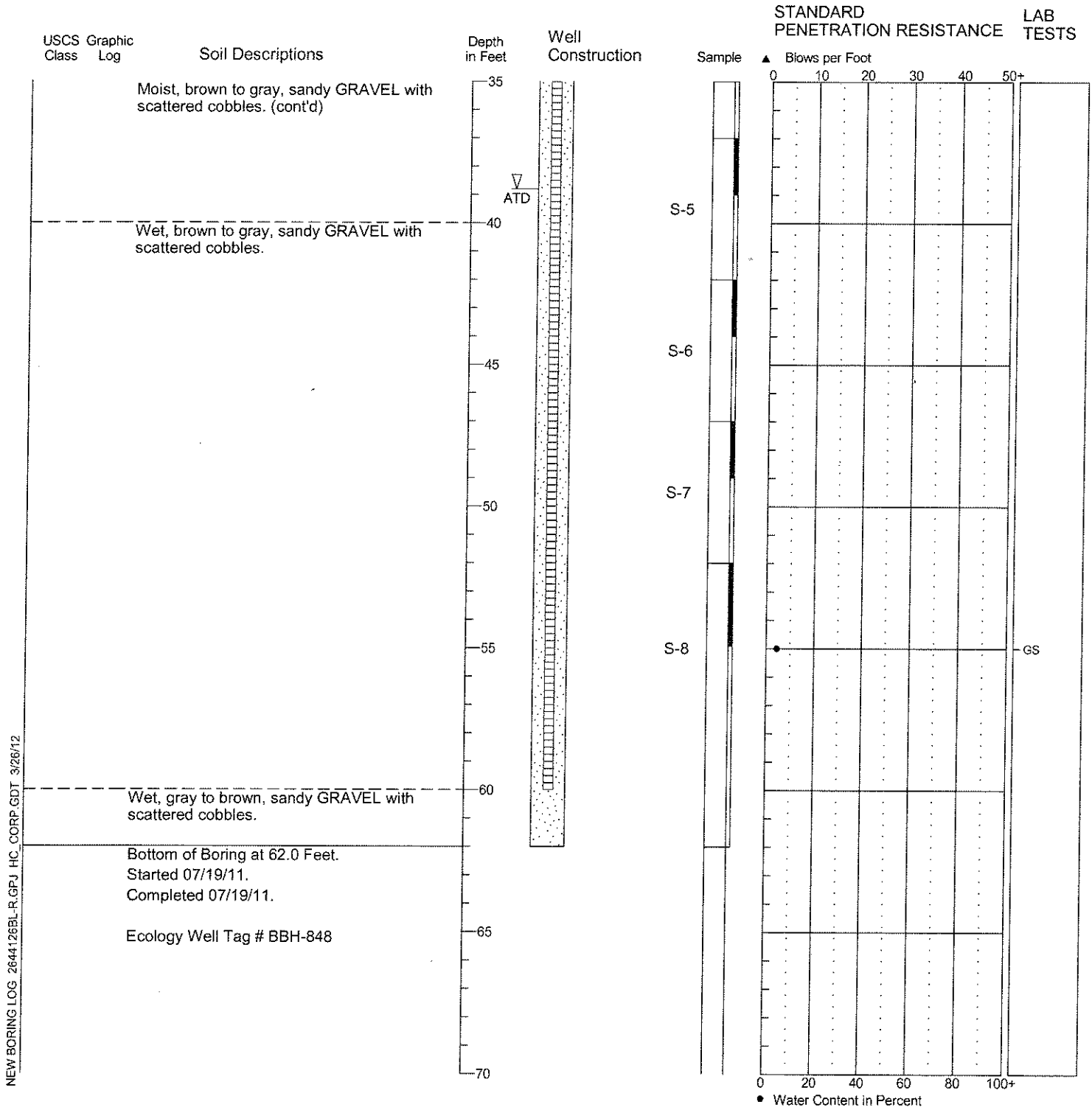
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

HARTCROWSER

Boring Log & Construction Data for Monitoring Well MW-27S

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



1. Refer to Figure A-1 for explanation of descriptions and symbols.
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4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

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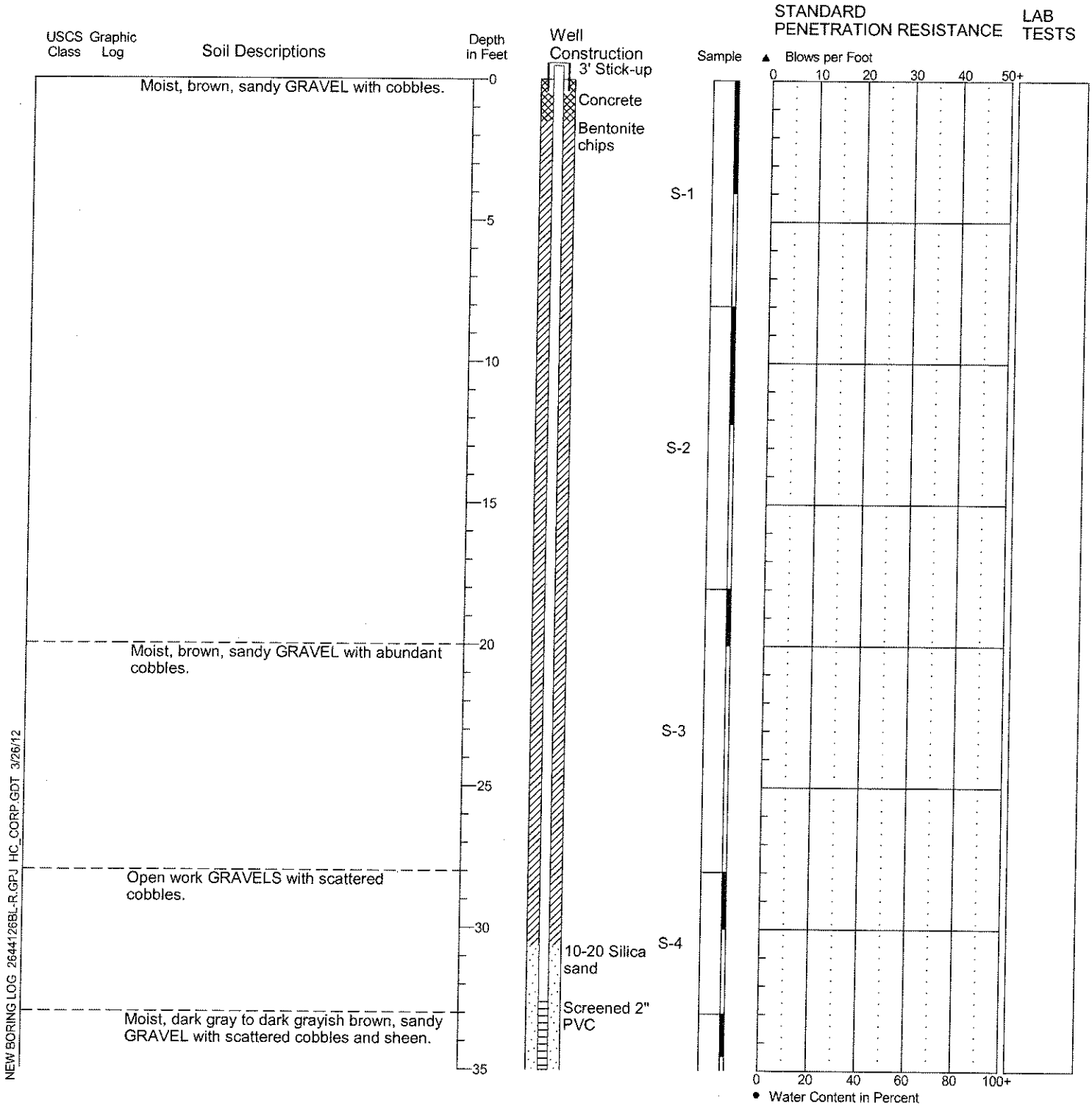
Figure A-2 *2/2*

Boring Log & Construction Data for Monitoring Well MW-28S

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

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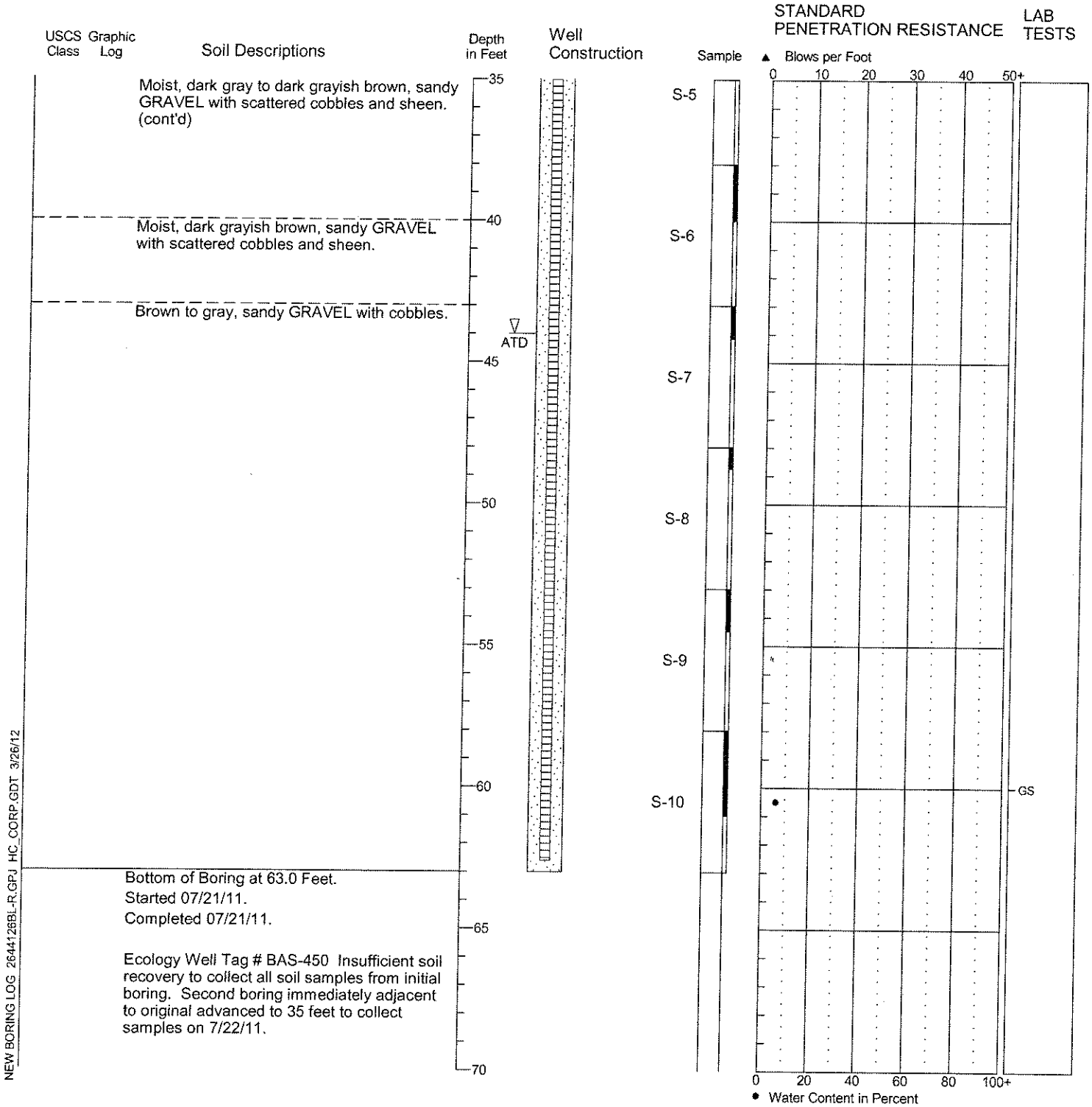
Figure A-3 1/2

Boring Log & Construction Data for Monitoring Well MW-28S

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



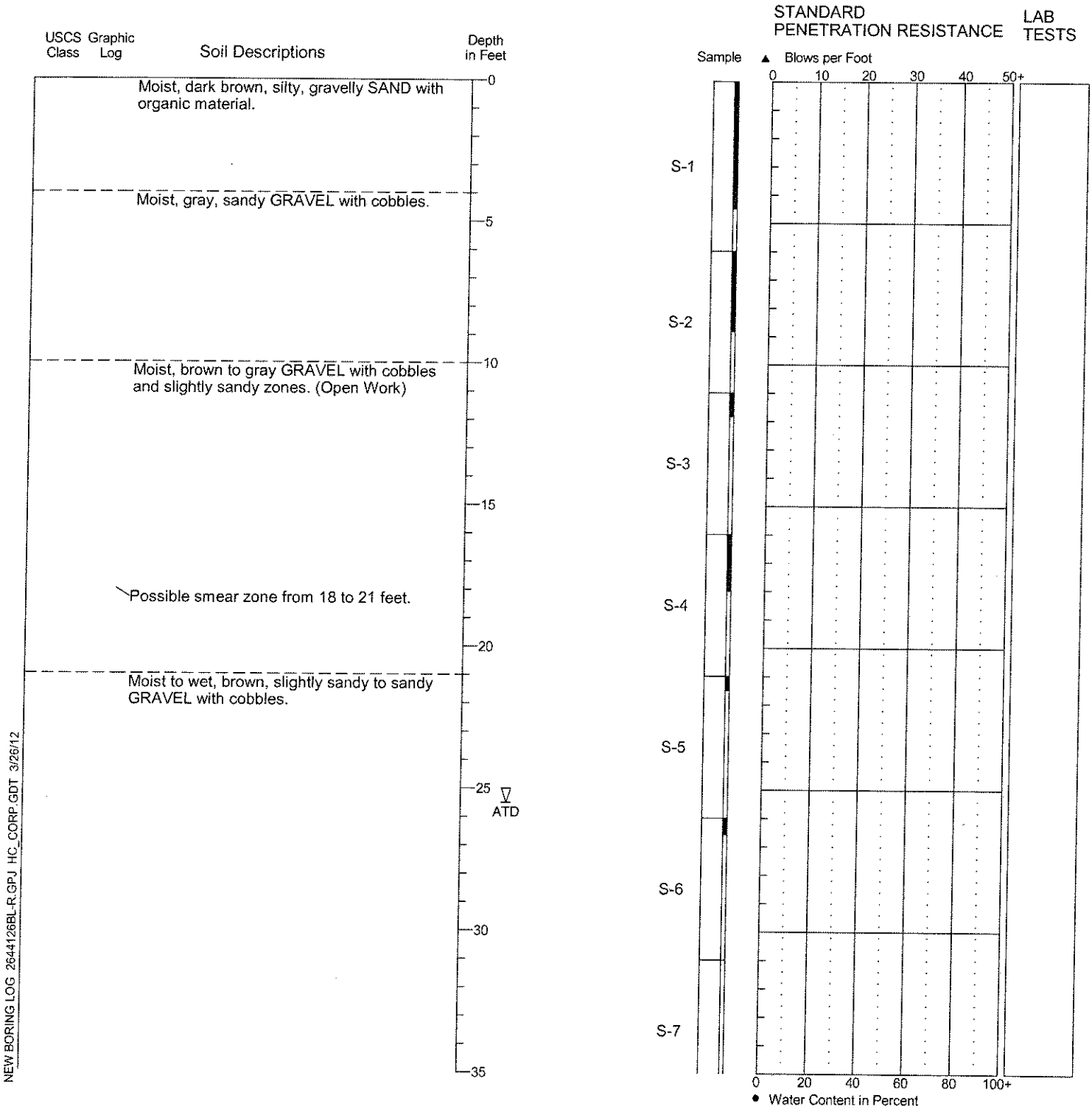
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

HARTCROWSER

Boring Log WDR-1

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



NEW BORING LOG 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

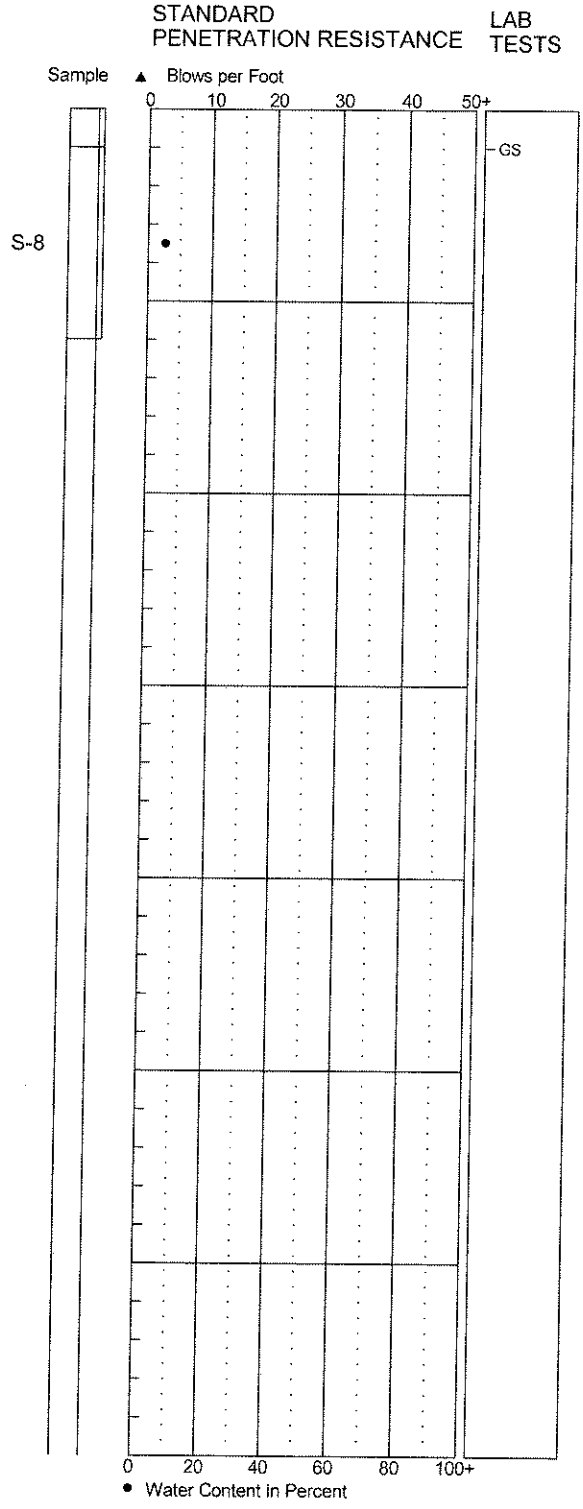
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

Boring Log WDR-1

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen

USCS Class	Graphic Log	Soil Descriptions	Depth in Feet
		Moist to wet, brown, slightly sandy to sandy GRAVEL with cobbles. (cont'd)	35
			40
		Bottom of Boring at 41.0 Feet. Started 07/21/11. Completed 07/21/11. Insufficient soil recovery to collect all soil samples from initial boring. Additional boring advanced immediately adjacent to original to collect additional soil for lab testing from appropriate intervals on 7/21/11.	45
			50
			55
			60
			65
			70



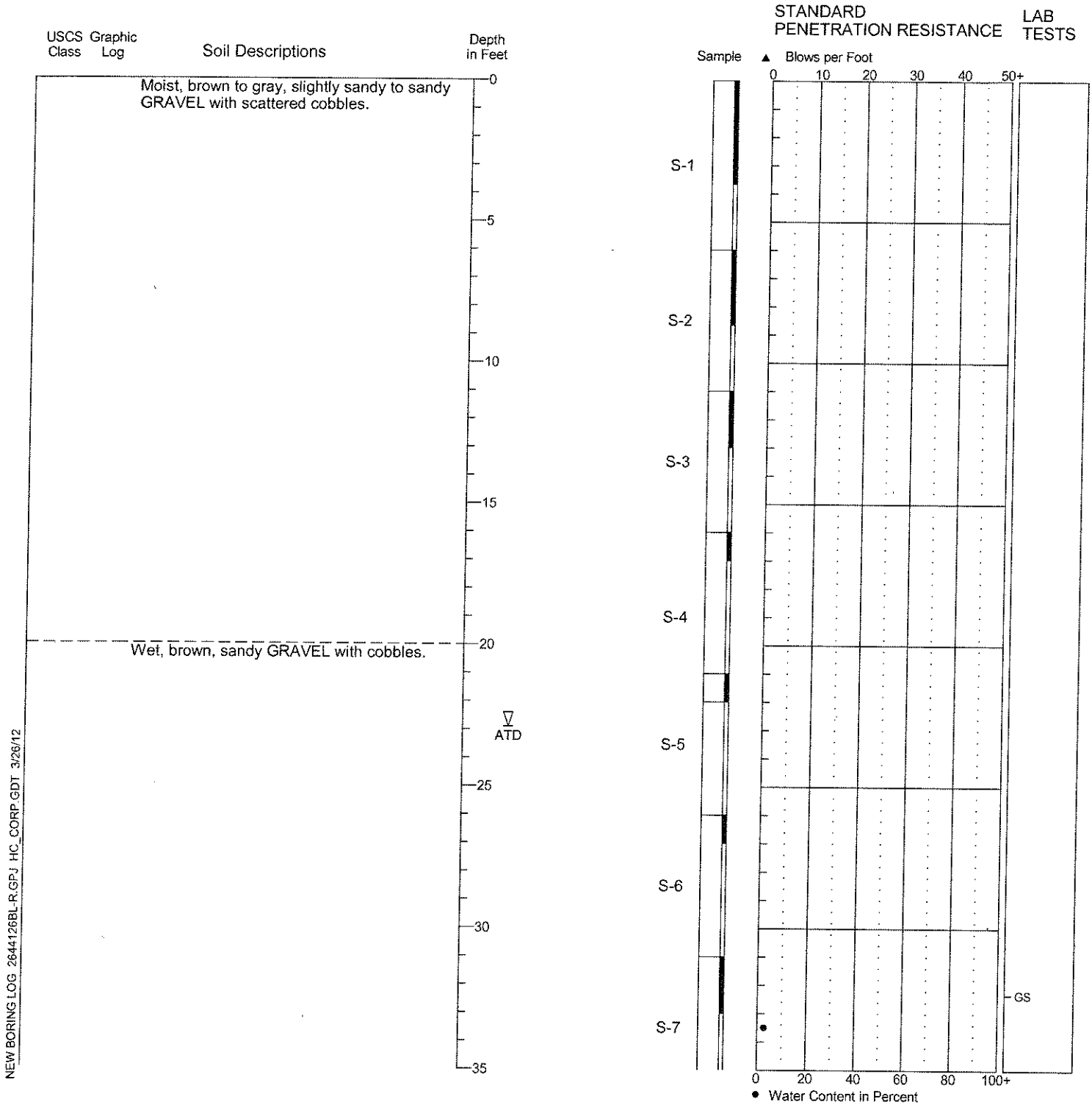
NEW BORING LOG 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

Boring Log WDR-2

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



NEW BORING LOG 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

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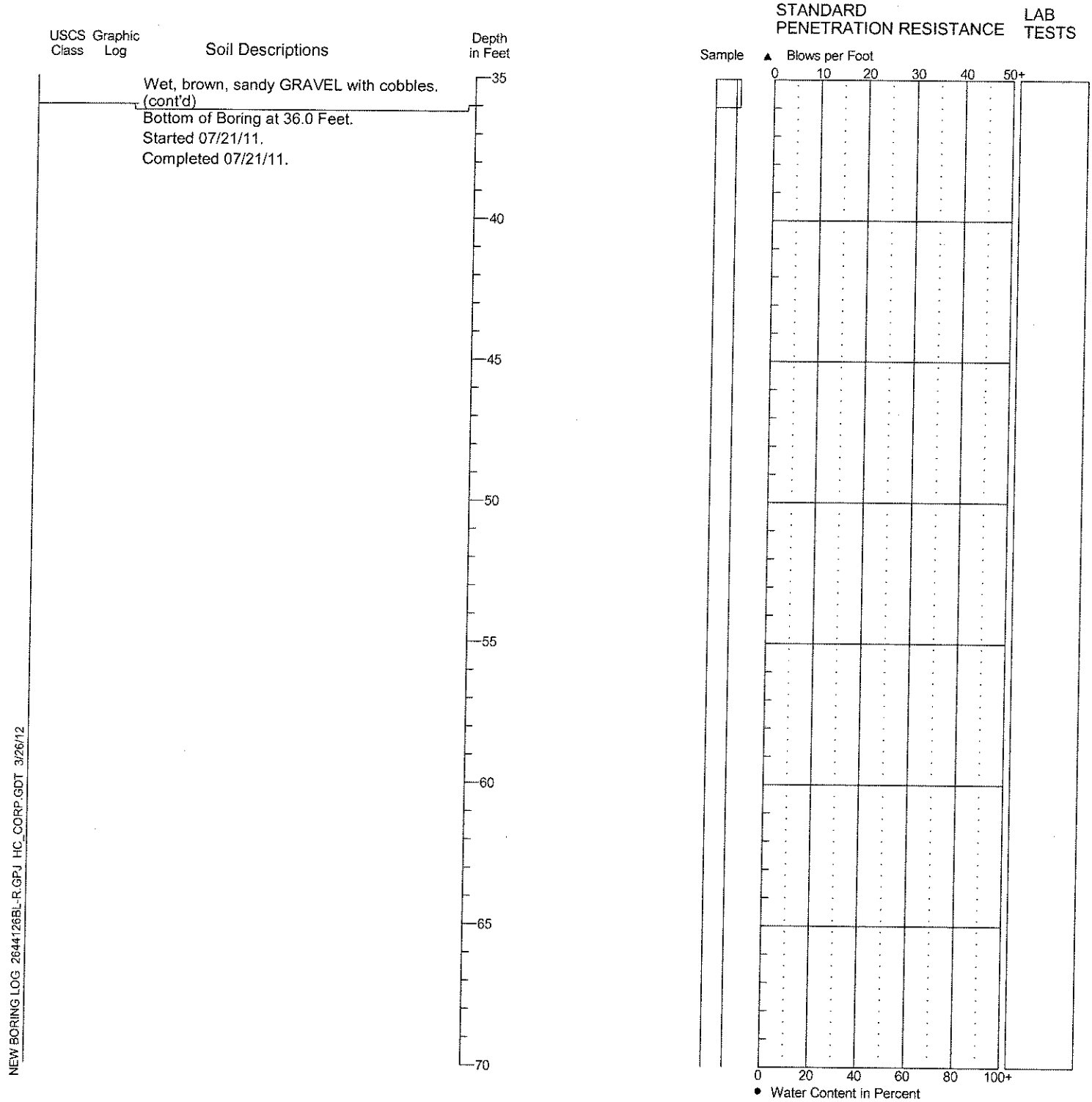
Boring Log WDR-2

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



NEW BORING LOG 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

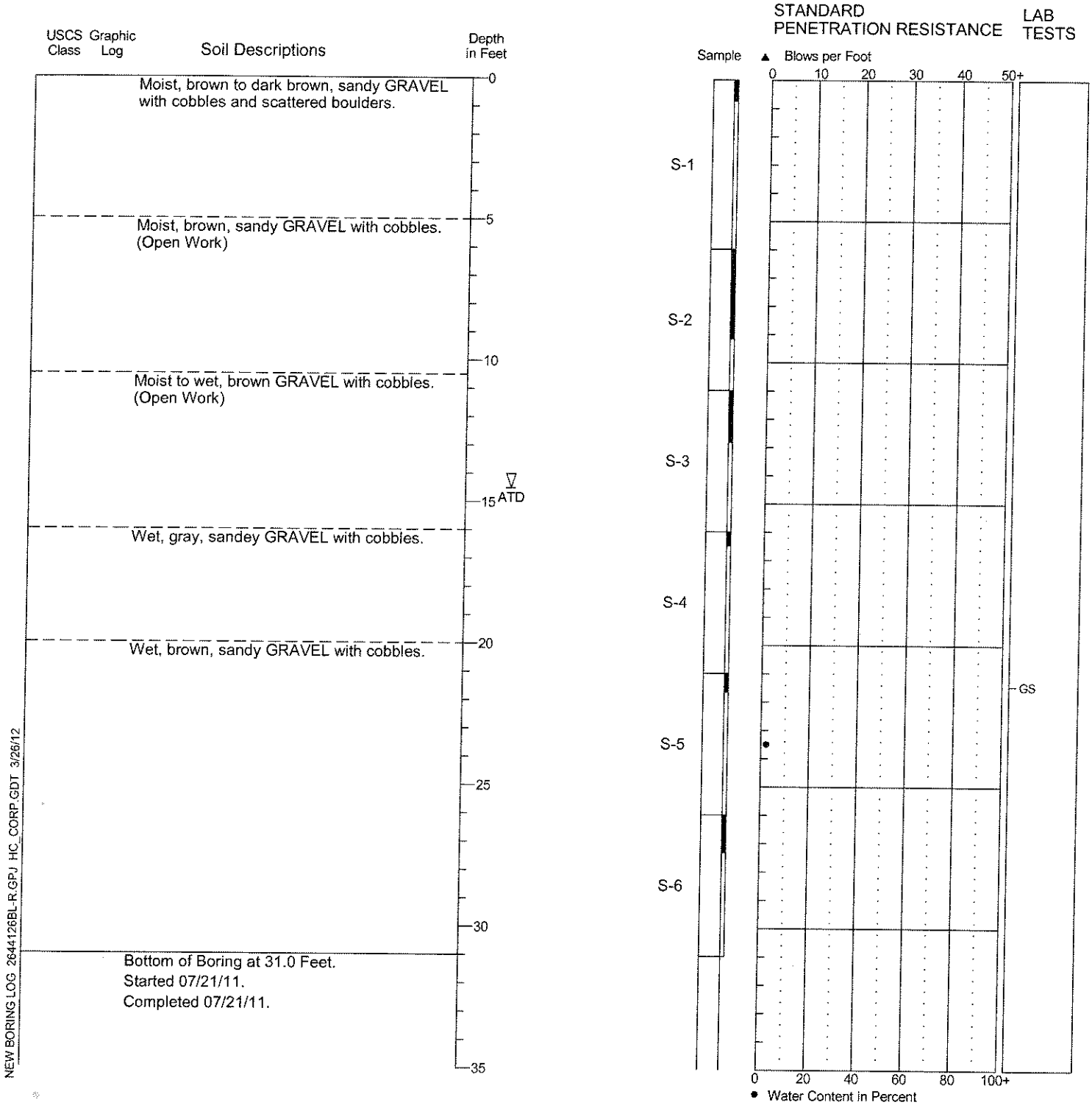
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

HARTCROWSER

Boring Log WDR-3

Location: See Figure 2.
Approximate Ground Surface Elevation: Feet
Horizontal Datum:
Vertical Datum:

Drill Equipment: Environmental West Sonic Drill
Hammer Type: Sonic
Hole Diameter: 6 inches
Logged By: B. McDonald Reviewed By: C. Poulsen



NEW BORING LOG 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. Sample recovery shown in upper portion of sample interval. Specific depth of material recovery is not known.

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Figure A-6

APPENDIX B
SOIL LABORATORY TESTING PROGRAM

APPENDIX B
SOIL LABORATORY TESTING PROGRAM

A laboratory testing program was performed for this study to evaluate the basic index and geotechnical engineering properties of the site soils. Both disturbed and relatively undisturbed samples were tested. The tests performed and the procedures followed are outlined below.

Soil Classification

Field Observation and Laboratory Analysis. Soil samples from the explorations were visually classified in the field and then taken to our laboratory where the classifications were verified in a relatively controlled laboratory environment. Field and laboratory observations include density/consistency, moisture condition, and grain size and plasticity estimates.

The classifications of selected samples were checked by laboratory tests such as Atterberg limits determinations and grain size analyses. Classifications were made in general accordance with the Unified Soil Classification (USC) System, ASTM D 2487, as presented on Figure B-1.

Water Content Determinations

Water contents were determined for most samples recovered in the explorations in general accordance with ASTM D 2216, as soon as possible following their arrival in our laboratory. Water contents were not determined for very small samples nor samples where large gravel contents would result in values considered unrepresentative. The results of these tests are plotted at the respective sample depth on the exploration logs. In addition, water contents are routinely determined for samples subjected to other testing. These are also presented on the exploration logs.

Grain Size Analysis (GS)

Grain size distribution was analyzed on representative samples in general accordance with ASTM D 422. Wet sieve analysis was used to determine the size distribution greater than the U.S. No. 200 mesh sieve. The size distribution for particles smaller than the No. 200 mesh sieve was determined by the hydrometer method for a selected number of samples. The results of the tests are presented as curves on Figures B-2 and B-3 plotting percent finer by weight versus grain size.

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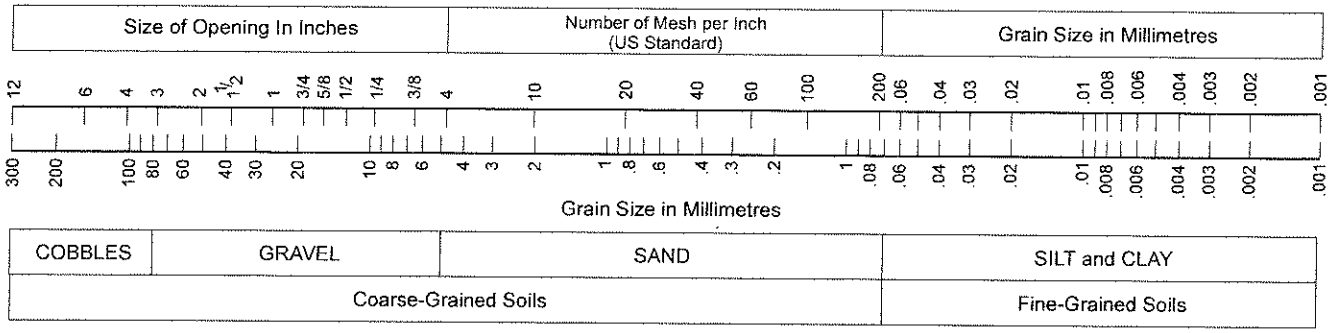
Unified Soil Classification (USC) System
Soil Grain Size



Coarse-Grained Soils

G W	G P	G M	G C	S W	S P	S M	S C
Clean GRAVEL <5% fines		GRAVEL with >12% fines		Clean SAND <5% fines		SAND with >12% fines	
GRAVEL >50% coarse fraction larger than No. 4				SAND >50% coarse fraction smaller than No. 4			
Coarse-Grained Soils >50% larger than No. 200 sieve							

* Coarse-grained soils with percentage of fines between 5 and 12 are considered borderline cases requiring use of dual symbols.

G W and S W $\left(\frac{D_{60}}{D_{10}}\right)$ >4 for G W, >6 for S W & $1 \leq \frac{(D_{30})^2}{D_{10} \times D_{60}} \leq 3$

G P and S P Clean GRAVEL or SAND not meeting requirements for G W and S W

G M and S M Atterberg limits below A line with PI <4

G C and S C Atterberg limits above A Line with PI >7

D_{10}, D_{30}, and D_{60} are the particles diameter of which 10, 30, and 60 percent, respectively, of the soil weight are finer.

Fine-Grained Soils

M L	C L	O L	M H	C H	O H	Pt
SILT	CLAY	Organic	SILT	CLAY	Organic	Highly Organic Soils
Soils with Liquid Limit <50%			Soils with Liquid Limit >50%			
Fine-Grained Soils >50% smaller than No. 200 sieve						

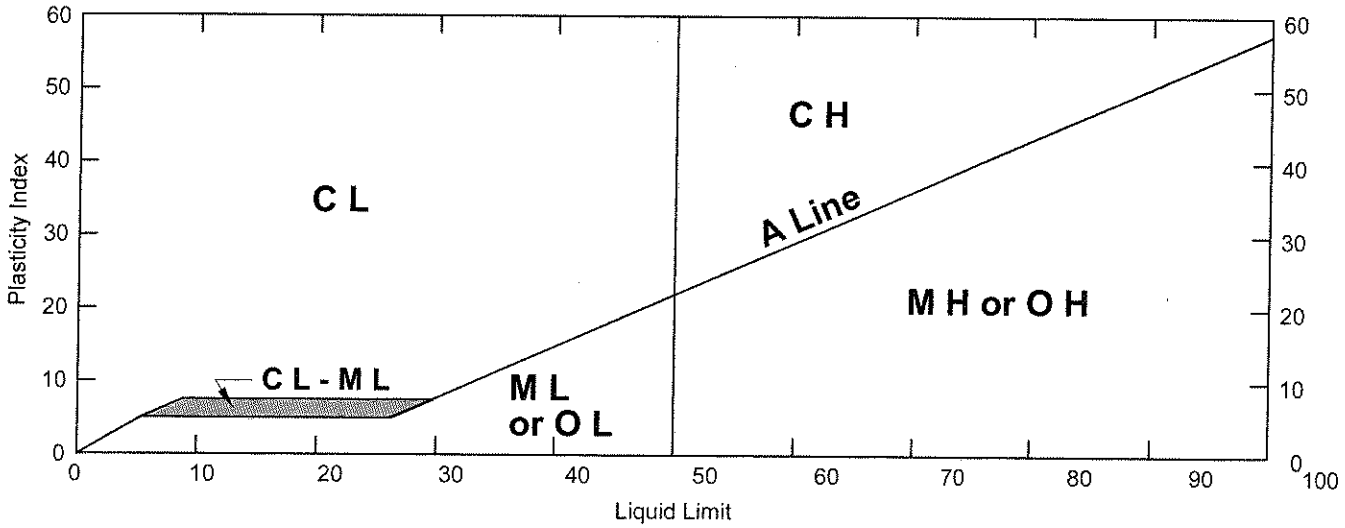


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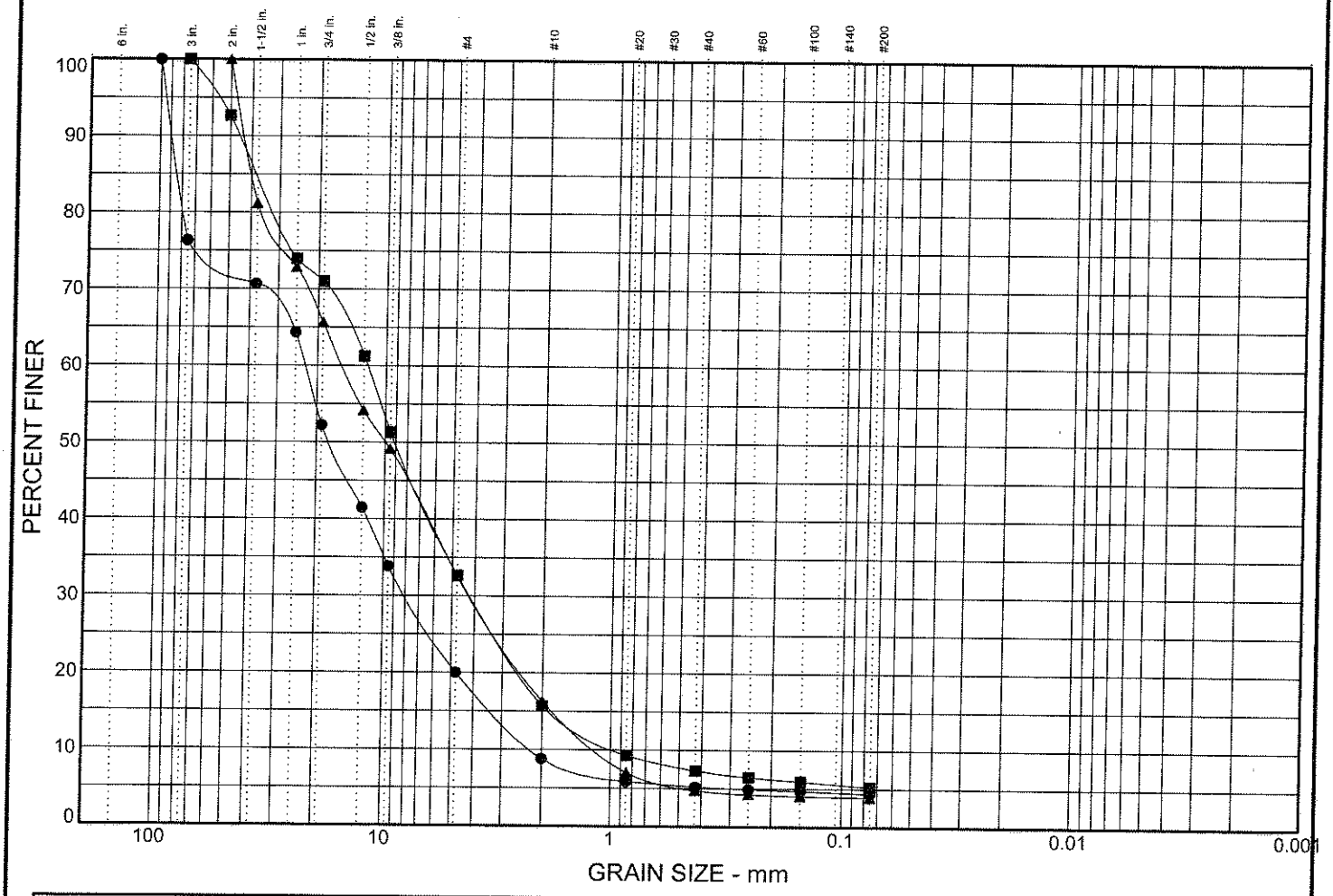
Figure B-1

SRF Grain Size (B-1).cdr 3/06

Particle Size Distribution Test Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
●	23.7	56.3	15.6	4.4	
■	0.0	67.3	27.4	5.2	
▲	0.0	67.5	28.6	3.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			83.356	22.661	17.423	7.838	3.233	2.197	1.23	10.32
■			37.649	12.07	9.037	4.146	1.823	0.935	1.52	12.91
▲			39.757	15.474	9.957	4.151	1.78	1.118	1.00	13.84

MATERIAL DESCRIPTION	USCS	NAT. MOIST.
● sandy GRAVEL, trace silt	GW	4.4%
■ slightly silty, sandy GRAVEL	GW-GM	6.2%
▲ sandy GRAVEL, trace silt	GW	5.3%

Remarks:

●

■

▲

Project: Kaiser Trentwood

Client:

● Source: MW-27S Sample No.: S-8 Depth: 55.0 to 60.0
■ Source: MW-28S Sample No.: S-10 Depth: 58.0 to 63.0
▲ Source: WDR-1 Sample No.: S-8 Depth: 36.0 to 41.0

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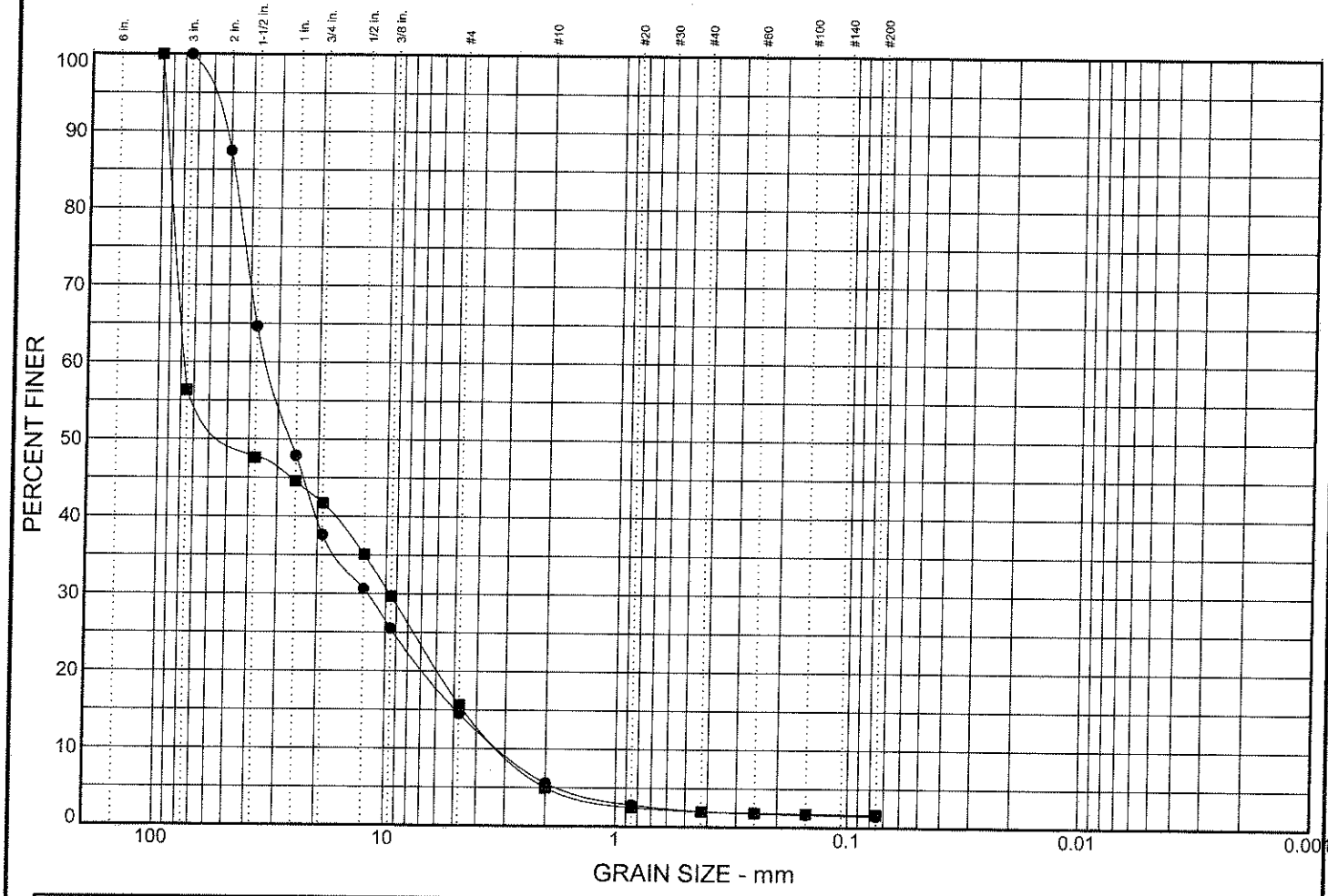
Figure B-2

GRAIN SIZE 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

Particle Size Distribution Test Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	85.5	13.0	1.5	
■	43.7	40.7	13.9	1.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			48.455	33.5	26.308	12.078	4.892	3.064	1.42	10.93
■			90.593	76.84	45.283	9.637	4.508	3.004	0.40	25.58

MATERIAL DESCRIPTION	USCS	NAT. MOIST.
● sandy GRAVEL, trace silt	GW	2.8%
■ sandy GRAVEL, trace silt	GP	2.2%

Remarks:

●

■

Project: Kaiser Trentwood

Client:

● Source: WDR-2 Sample No.: S-7 Depth: 31.0 to 36.0

■ Source: WDR-3 Sample No.: S-5 Depth: 21.0 to 26.0

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Figure B-3

GRAINSIZE 2644126BL-R.GPJ HC_CORP.GDT 3/26/12

APPENDIX C
CHEMICAL DATA QUALITY REVIEW AND ANALYTICAL LABORATORY REPORTS

APPENDIX C
CHEMICAL DATA QUALITY REVIEW AND ANALYTICAL LABORATORY REPORTS

Data Quality Review Summary

Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared to their average values. Precision is generally evaluated using both matrix spike/matrix spike duplicate (MS/MSD) (or laboratory duplicate) results and field duplicate results. MS/MSD and laboratory duplicate results provide information on laboratory precision (only), while field duplicates provide information on field and laboratory precision combined.

Analytical precision is quantitatively expressed as the relative percent difference (RPD) between the MS/MSD or duplicates. Analytical precision measurements were carried out on project-specific samples whenever possible at a minimum frequency of one per sample delivery group (SDG). Data qualifiers were assigned based on high RPDs of MS/MSD or laboratory duplicates.

The project-specific precision acceptance criterium for field duplicates was 50 percent RPD. The field duplicate precision was not calculated if sample results were not detected above the reporting limits.

Accuracy

Accuracy measures the closeness of the measured value to the true value. The accuracy of chemical test results was assessed by "spiking" samples with known standards (surrogates, laboratory control samples, and/or matrix spikes) and measuring the percent recovery.

Accuracy measurements for all fractions were carried out at a minimum frequency of one per SDG. Recoveries of surrogates, MS/MSDs, and LCSs were generally acceptable for all analyses. Data were qualified for some samples based on surrogate or MS recoveries being out of control limits. These data qualifications are described in greater detail below and are generally the result of matrix interferences in the samples.

Completeness

Completeness is defined as the percentage of measurements made which are judged to be valid measurements. The completeness of the data is the number of acceptable data points over the total number of data points times 100. A target completeness goal for this work was 95 percent. No results were rejected based on data QA/QC review; therefore, the completeness of the data for this project was 100 percent.

Data Qualifiers

The following data qualifiers were applied to results by the laboratory or during the validation process. More than one qualifier may be applied to analytical results.

U – The analyte was not detected. The associated value is the estimated detection limit.

J – The analyte was detected and positively identified. The associated value is an estimated concentration because reported sample concentrations are less than the practical quantitation limit.

B – The analyte was detected in both the laboratory method blank and the sample.

K – Ion abundance ratios did not meet criteria for compound identification and the analyte is considered undetected. Results may be due to interfering compounds eluting within a PCB retention time window or an interference coeluting with a PCB congener.

Chemical Data Quality Review for Soil Samples

26 soil samples and three field duplicates were collected on July 19 through 22, 2011. The samples were submitted to Columbia Analytical Services, Inc. (CAS), of Kelso, WA, Advanced Analytical Laboratory (AAL) of Redmond, WA, , and AXYS Analytical Services of Sidney, British Columbia for chemical analysis. The sample results were reported as CAS Service Job ID K1106844, AAL A10726-4, and AXYS WG37925.

The soil samples submitted to CAS were analyzed for the following:

- Polychlorinated biphenyls (PCBs) as Aroclors by EPA Method 8082;
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270D-SIM; and

- Total solids by EPA Method 160.3 Modified.

The soil samples submitted to AAL were analyzed for the following:

- Petroleum hydrocarbon identification by Washington State Department of Ecology (Ecology) method NWTPH-HCID; and
- Percent moisture by Standard Methods 2540B.

Quality assurance/quality control (QA/QC) reviews of laboratory procedures were performed on an ongoing basis by the laboratories. Hart Crowser performed the data review, using laboratory quality control results summary sheets and raw data, as required, to ensure they met data quality objectives for the project. Data review followed the format outlined in the National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008) modified to include specific criteria of the individual analytical methods.

- Holding times;
- Method blanks;
- Surrogate recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory duplicate relative percent differences (RPDs);
- Field duplicate RPDs;
- Internal Standard recoveries (where applicable);
- Calibration criteria (where applicable); and
- Reporting limits (RL).

The data were determined to be acceptable for use, with certain qualifiers. Full laboratory results are presented at the end of this appendix. Results of the data reviews, organized by analysis class, follow.

Sample Receiving Discrepancies

Sample WDR-2 S-5: One sample container was received broken at CAS laboratory. The soil was transferred to another container at the laboratory. Sample results were not qualified.

Sample MW-28S 45': The sample was listed twice on the chain of custody submitted to CAS laboratory. The sample was logged into the Laboratory Information Management System (LIMS) twice, as MW-28S 45' PAH and MW-28S 45' PCB. Dry weight was determined twice on this sample.

Sample MW-28S 50′: The sample was listed twice on the chain of custody submitted to CAS laboratory. The sample was logged into the LIMS twice, as MW-28S 50′ PAH and MW-28S 50′ PCB. Dry weight was determined twice on this sample.

Sample MW-28S 35′: The sample was collected on both July 21 and 22, 2011, and listed twice on the chain of custody submitted to CAS laboratory. The sample was logged into the LIMS twice, as MW-28S 35′ PAH and MW-28S 35′ PCB. Dry weight was determined twice on this sample.

For several samples, CAS laboratory added PAH or PCB to the sample name, if only one analytical test was requested. The laboratory was not consistent in this sample identification scheme. Sample results presented within tables in the report are identified without the PAH or PCB suffix.

Polychlorinated Biphenyls (PCBs) as Aroclors

Analytical Methods

The samples were extracted following EPA Method 3541. The extracts were cleaned for sulfur following EPA Method 3660. The samples were analyzed by Gas Chromatograph fitted with an Electron Capture Detector (GC/ECD) following EPA Method 8082.

Sample Holding Times and Receiving Temperatures

All samples were prepared and analyzed within holding time limits. One cooler was received at the laboratory below the method established 2 to 6°C. As PCBs are relatively thermally stable, the samples were not qualified.

Laboratory Detection Limits

Reporting limits were raised for sample WDR-3 10′ due to high levels of PCBs present and required dilutions. The laboratory qualified the result with "D". The qualifier was removed.

Blank Contamination

No target analytes were detected in laboratory blanks associated with the samples.

Laboratory Control Sample Recovery

Laboratory control sample recoveries were within QAPP and laboratory limits.

Matrix Spike/Matrix Spike Duplicate Recovery

Matrix spike recoveries were within QAPP and laboratory control limits.

Surrogate Recovery

Surrogate recoveries were within QAPP and laboratory control limits.

Sample WDR-3 10′ was analyzed at a high dilution due to high levels of PCBs present. The recovery of the surrogate Decachlorobiphenyl (DCB) was diluted below the MRL and was therefore not applicable. While the surrogate recovery fell within the control limits, the criteria were not applicable due to the high dilutions. The results for this sample were not qualified.

Field Duplicate Sample Analysis

Sample and duplicate results were below the reporting limit, so RPDs were not applicable.

Initial Calibration Curves

The initial calibration curves fell within acceptance criteria.

Continuing Calibration Verification (CCV) Recoveries

CCV recoveries were within control limits.

Polychlorinated Biphenyls (PCBs) as Congeners

Analytical Methods

The samples were extracted and analyzed following EPA Method 1668A.

Samples WDR-3 15′ and WDR-3 20′ required dilution to bring the instrument response for congeners 61/70/74/76 and 66 into the calibrated linear range of the instrument. Reported results for these two congener groups are from the diluted sample analysis. Results for the other congeners in these two samples are from the undiluted analysis.

Samples MW-28S 50′ and WDR-1 35′ were reanalyzed to verify that detections were not a result of carry over from high concentration samples analyzed immediately before these samples.

The initial analysis of sample WDR-3 10′ did not meet the method criteria. The sample was reanalyzed and met criteria. Only data from the reanalysis are reported.

Sample Holding Times and Receiving Temperatures

Sample documentation was complete. The laboratory noted that no custody seals were present on the sample shipping container though the cooler was sealed. Samples were collected July 20 through July 22, 2011, shipped to the laboratory on August 30 and received on August 31. The laboratory noted a minor discrepancy in sampling time between the chain-of-custody form and the container label for sample WDR-1-35′. Sample temperature was 2°C as received by the laboratory. Samples were refrigerated upon receipt by the laboratory. The analytical method indicates that samples may be stored up to one year if stored in the dark at 0 to 4°C and preserved. Samples were extracted and analyzed within method specified holding times.

Laboratory Detection Limits

The laboratory achieved the estimated minimum levels (EML) specified in Method 1668A. Reported quantitation limits and analytical results were adjusted for any required dilution factors.

Instrument Calibration and Performance

Instrument mass resolution and peak resolution met method specified criteria of greater than 10,000 amu and less than 20 percent valley/peak height, respectively. Internal standard calibration linearity met criteria of less than 20 percent relative standard deviation. Calibration verification (VER) standard recovery met method specified criteria.

Interferences were present with the instrument lock mass for PCB 32 in sample WDR-3 20′. Since this congener is not considered toxic and has only a minor contribution to the total concentration, data are not significantly affected.

Laboratory Ongoing Precision and Recovery (OPR) Results

OPR analyte recoveries were within method performance specifications.

Blank Contamination

The following analytes with ion ratios meeting quality control criteria or within 10 percent of criteria were detected in the laboratory method blank.

Analyte	IUPAC Number (multiple numbers indicate coelution)	Lab Blank in pg/g
2-MoCB	1	0.095
3-MoCB	2	0.065
4-MoCB	3	0.526
2,4-DiCB	8	0.192
3,3′-DiCB	11	0.602
4,4′-DiCB	15	0.274
2,2′,3-TriCB	16	Ion ratio out
2,2′,4-TriCB	17	0.084
2,2′,5-TriCB	18 + 30	0.245
2,3,3′-TriCB	20 + 28	0.740
2,3,4-TriCB	21 + 33	0.168
2,3,4′-TriCB	22	0.198
2,4′,5-TriCB	31	0.496
2,4′,6-TriCB	32	0.113
2,4,4′-TriCB	37	0.206
2,2′,3,3′-TeCB	40 + 41 + 71	0.455
2,2′,3,4′-TeCB	42	0.289
2,2′,3,5′-TeCB	44 + 47 + 65	1.05
2,2′,3,6-TeCB	45 + 51	0.190
2,2′,4,5-TeCB	48	Ion ratio out
2,2′,4,5′-TeCB	49 + 69	0.704
2,2′,4,6-TeCB	50 + 53	0.149
2,2′,5,5′-TeCB	52	1.16
2,3,3′,4′-TeCB	56	0.503
2,3,3′,6-TeCB	59 + 62 + 75	Ion ratio out
2,3,4,4′-TeCB	60	0.195
2,3,4,5-TeCB	61 + 70 + 74 + 76	1.48
2,3,4′,6-TeCB	64	0.486
2,3′,4,4′-TeCB	66	0.902
3,3′,4,4′-TeCB	77	0.131
2,2′,3,3′,5-PeCB	83 + 89	0.383
2,2′,3,3′,6-PeCB	84	0.238
2,2′,3,4,4′-PeCB	85	Ion ratio out
2,2′,3,4,5-PeCB	86 +87 + 97 + 108 + 119 + 125	0.645

2,2′,3,4,6-PeCB	88	Ion ratio out
2,2′,3,4′,5-PeCB	90 + 101 + 113	Ion ratio out
2,2′,3,5,6-PeCB	93 + 95 + 98 + 100 + 102	0.724
2,3,3′,4,,4′-PeCB	105	0.266
2,3,3′,4,6-PeB	109	Ion ratio out
2,3,3′,4′,6-PeB	110 + 115	0.787
2,3′,4,4′,5-PeB	118	0.484
2,2′,3,3′,4,5-HxCB	129 + 138 + 160 + 163	0.321
2,2′,3,3′,5,6′-HxCB	135	0.146
2,2′,3,4′,5,6-HxCB	147	0.343
2,2′,4,4′,5,5′-HxCB	153 + 168	Ion ratio out
2,2′,3,4,4′,5,5′-HpCB	180	0.092
2,2′,3,4′,5,5′,6-HpCB	187	0.070

The following analytes were present in the blank associated with the reanalysis of sample WDR-3 10′.

Analyte	IUPAC Number (multiple numbers indicate coelution)	Lab Blank in pg/g
2-MoCB	1	0.442
3-MoCB	2	Ion ratio out
4-MoCB	3	1.63
2,4-DiCB	8	Ion ratio out
3,3′-DiCB	11	6.47
4,4′-DiCB	15	1.32
2,2′,3-TriCB	16	0.791
2,2′,4-TriCB	17	Ion ratio out
2,2′,5-TriCB	18 + 30	1.71
2,3,3′-TriCB	20 + 28	15.5
2,3,4-TriCB	21 + 33	0.827
2,3,4′-TriCB	22	2.79
2,3′,4-TriCB	25	0.461
2,3′,5-TriCB	26	1.74
2,4′,5-TriCB	31	9.21
2,4′,6-TriCB	32	1.72
2,4,4′-TriCB	37	4.21
2,2′,3,3′-TeCB	40 + 41 + 71	14.8
2,2′,3,4′-TeCB	42	7.92
2,2′,3,5′-TeCB	43	0.583
2,2′,3,5′-TeCB	44 + 47 + 65	28.2
2,2′,3,6-TeCB	45 + 51	4.18

2,2′,3,6′-TeCB	46	1.05
2,2′,4,5-TeCB	48	5.49
2,2′,4,5′-TeCB	49 + 69	20.5
2,2′,4,6-TeCB	50 + 53	3.45
2,2′,5,5′-TeCB	52	32.4
2,3,3′,4′-TeCB	56	15.9
2,3,3′,6-TeCB	59 + 62 + 75	2.72
2,3,4,4′-TeCB	60	9.69
2,3,4,5-TeCB	61 + 70 + 74 + 76	62.8
2,3,4′,5-TeCB	63	1.61
2,3,4′,6-TeCB	64	15.2
2,3′,4,4′-TeCB	66	37.7
2,3′,4,5-TeCB	67	0.794
3,3′,4,4′-TeCB	77	3.34
2,2′,3,3′,4-PeCB	82	4.79
2,2′,3,3′,5-PeCB	83 + 89	18.6
2,2′,3,3′,6-PeCB	84	6.89
2,2′,3,4,4′-PeCB	85	6.99
2,2′,3,4,5-PeCB	86 +87 + 97 + 108 + 119 + 125	21.1
2,2′,3,4,6-PeCB	88	4.97
2,2′,3,4,6′-PeCB	89	Ion ratio out
2,2′,3,4′,5-PeCB	90 + 101 + 113	22.1
2,2′,3,5,5′-PeCB	92	3.69
2,2′,3,5,6-PeCB	93 + 95 + 98 + 100 + 102	17.5
2,2′,3,6,6′-PeCB	96	0.426
2,3,3′,4,4′-PeCB	105	9.64
2,3,3′,4′,5-PeCB	107	1.01
2,3,3′,4′,6-PeB	110 + 115	24.7
2,3,4,4′,5-PeB	114	1.10
2,3′,4,4′,5-PeB	118	15.5
2′,3,4,4′,5-PeB	123	0.623
2,2′,3,3′,4,4′-HxCB	128	1.23
2,2′,3,3′,4,5-HxCB	129 + 138 + 160 + 163	6.28
2,2′,3,3′,4,6′-HxCB	132	Ion ratio out
2,2′,3,3′,5,6′-HxCB	135	Ion ratio out
2,2′,3,3′,6,6′-HxCB	136	Ion ratio out
2,2′,3,4,5,5′-HxCB	141	Ion ratio out
2,2′,3,4,5′,6-HxCB	144	Ion ratio out
2,2′,3,4′,5,5′-HxCB	146	0.929
2,2′,3,4′,5,6-HxCB	147	4.64
2,2′,4,4′,5,5′-HxCB	153 + 168	4.88

2,3,3′,4,4′,5-HxCB	156	0.923
2,3,3′,4,4′,6-HxCB	158	Ion ratio out
2,3′,4,4′,5,5′-HxCB	167	0.382
2,2′,3,3′,4,4′,5-HpCB	170	1.02
2,2′,3,3′,4,5,6′-HpCB	174	0.948
2,2′,3,3′,5,6,6′-HpCB	179	0.542
2,2′,3,4,4′,5,5′-HpCB	180	2.67
2,2′,3,4′,5,5′,6-HpCB	187	1.35
2,2′,3,3′,4,4′,5,5′-OcCB	194	Ion ratio out
2,2′,3,3′,4,5,5′,6-OcCB	198	0.739
2,2′,3,4,4′,5,5′,6-OcCB	203	0.473
2,2′,3,3′,4,4′,5,5′,6,6′-DeCl	209	Ion ratio out

Sample results were qualified as non-detected (UB) when concentrations were less than ten times those reported in the laboratory method blank. In cases where ion ratios for analytes detected in the blank did not meet criteria, blank results were applied to samples if ion ratios were within 10 percent of the criteria.

Cleanup Standard Recovery

Recovery of cleanup recovery standards was within method specified criteria for all quality control (calibration/verification, initial precision/recovery, and ongoing precision/recovery) and test samples.

Internal Standard Recovery

The labeled internal standard compound (surrogate) recoveries were within method-specified QC limits for all quality control (calibration/verification, initial precision/recovery, and ongoing precision/recovery) and test samples.

Compound Identification Criteria

The signal to noise ratio for reported analytes was greater than 2.5. Relative retention times of reported analytes compared to labeled standards were within method-specified criteria. Ion signals for each reported compound maximized within $\pm$ 2 scans. Results for samples that did not meet ion abundance relative ratios were qualified UK and were considered to be undetected.

PCB Homolog Concentrations

The laboratory calculated PCB homolog concentrations by summing concentrations of individual PCB congeners that were positively identified (ion ratios were within criteria) for each homolog group. The laboratory did not qualify or correct results based on laboratory blank contamination.

During data validation, homolog concentrations were corrected for laboratory method blank results.

PCB Toxics Equivalents (TEQ) Calculation

Total PCB TEQs were calculated using World Health Organization (WHO) 2005 toxics equivalents factors. TEQs were calculated by summing TEQs of individual PCB congeners that were positively identified (ion ratios were within criteria). The laboratory did not qualify or correct results based on laboratory blank contamination. Calculated results were presented using values of both 0.0 and one-half the detection limit for non-detected congeners.

During data validation, calculated TEQs were corrected for laboratory method blank results.

PCB Aroclor Equivalents Calculation

The laboratory determined Aroclor equivalent concentrations by summing the concentrations of specific PCB congeners, characteristic of the Aroclor formulation, and multiplying by empirically determined quantitation factors. The laboratory did not qualify or correct results based on laboratory blank contamination. Aroclor identification must be considered as tentative since, in most cases, all of the peaks characteristic of an individual Aroclor were not present. In addition, concentrations must be considered as estimated since the empirical quantitation factor is derived from analysis of laboratory standards.

Calculated Aroclor results for a number of samples were qualified as non-detected due to blank contamination.

Polycyclic Aromatic Hydrocarbons (PAHs)

Analytical Methods

The samples were extracted following EPA Method 3541. The extracts were silica gel cleaned following EPA Method 3630. The samples were analyzed by

Gas Chromatograph fitted with a Mass Spectrometer (GC/MS) in the Selected Ion Mode (SIM) following EPA Method 8270D-SIM.

Sample Holding Times and Receiving Temperatures

All samples were prepared and analyzed within holding time limits. One cooler was received at the laboratory below the method established 2 to 6°C. As PAHs are relatively thermally stable, the samples were not qualified.

Laboratory Detection Limits

Reporting limits were raised for benzo(a)pyrene in sample WDR-2 S-5 due to matrix interferences. The laboratory qualified the result with "Ui. The qualifier was changed to "U".

Sample results that fell between the Method Detection Limit (MDL) and Method Reporting Limit (MRL) were qualified by the laboratory with "J". The "J" qualifier was changed to "T" to be consistent with Ecology's EIM database.

Blank Contamination

No target analytes were detected in laboratory blanks associated with the samples.

Laboratory Control Sample Recovery

Laboratory control sample recoveries were within QAPP and laboratory limits.

Matrix Spike/Matrix Spike Duplicate Recovery

Matrix spike recoveries were within QAPP and laboratory control limits.

Surrogate Recovery

Surrogate recoveries were within QAPP and laboratory control limits.

Internal Standard Recovery

Internal standards were within acceptance criteria.

Field Duplicate Sample Analysis

Sample and duplicate results were below the reporting limit, so RPDs were not applicable.

Initial Calibration Curves

The initial calibration curves fell within acceptance criteria.

Continuing Calibration Verification (CCV) Recoveries

CCV recoveries were within control limits.

Petroleum Hydrocarbons

Analytical Methods

The samples were analyzed by Gas Chromatograph fitted with a Flame Ionization Detector (GC/FID) following NWTPH-HCID method.

Sample Holding Times

All samples were prepared and analyzed within holding time limits.

Laboratory Detection Limits

Reporting limits were acceptable.

Blank Contamination

No target analytes were detected in laboratory blanks associated with the samples.

Laboratory Control Sample Recovery

Not applicable.

Matrix Spike/Matrix Spike Duplicate Analysis

Not applicable.

Surrogate Recovery

Surrogate recoveries were within laboratory control limits.

Laboratory Duplicate Sample Analysis

Sample and duplicate results were below the reporting limit, so RPDs were not applicable.

Field Duplicate Sample Analysis

Sample and duplicate results were below the reporting limit, so RPDs were not applicable.

Initial Calibration Curves

Not provided.

Continuing Calibration Verification (CCV) Recoveries

Not provided.

Total Solids/Percent Moisture

Analytical Methods

Total solids results for the samples submitted to CAS were determined following EPA Method 160.3 Modified. Percent moisture results for the samples submitted to AAL were determined following SM 2540B.

Sample Holding Times

All samples were prepared and analyzed within holding time limits.

Laboratory Detection Limits

Reporting limits were acceptable.

Laboratory Duplicate Sample Analysis

Duplicate RPDs were acceptable.

A comparison of the results for the samples analyzed at the two laboratories had RPDs within 10 percent.

Field Duplicate Sample Analysis

Field duplicate RPDs were acceptable with the following exception:

- WDR-3 30'/WDR-3 S-6: The RPD exceeded 50 percent for the percent moisture determination at AAL. The samples were below the reporting limit for the HCID analysis, and no results were qualified. The RPD fell within control limits for the total solids determination for those samples at CAS.

Chemical Data Quality Review for Groundwater Samples

Two groundwater samples were collected on August 4, 2011. The samples were submitted to Columbia Analytical Services, Inc. (CAS), of Kelso, WA, Advanced Analytical Laboratory (AAL) of Redmond, WA, and AXYS Analytical Services of Sidney, British Columbia for chemical analysis. The sample results were reported as CAS Service Job ID K1107271, AAL A10804-5, and AXYS L16764.

The water samples submitted to CAS were analyzed for the following:

- Total suspended solids by Standard Methods 2540D.

The water samples submitted to AAL were analyzed for the following:

- Petroleum hydrocarbon identification by Ecology method NWTPH-HCID.

The water samples submitted to AXYS were analyzed for the following:

- Polychlorinated biphenyl (PCB) congeners by EPA method 1668.

Quality assurance/quality control (QA/QC) reviews of laboratory procedures were performed on an ongoing basis by the laboratories. Hart Crowser performed the data review, using laboratory quality control results summary sheets and raw data, as required, to ensure they met data quality objectives for the project. Data review followed the format outlined in the National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008) and the EPA Region 10 SOP for validation of Method 1668 Toxic, Dioxin-Like, PCB Data (EPA 1995) modified to include specific criteria of the individual analytical methods.

- Holding times;

- Method blanks;
- Surrogate recoveries;
- Labeled compound recovery;
- Ongoing precision and recovery (OPR) standard results;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- Laboratory duplicate relative percent differences (RPDs);
- Calibration criteria (where applicable); and
- Reporting limits (RL).

The data were determined to be acceptable for use, with certain qualifiers. Complete laboratory results are presented at the end of this appendix. Results of the data reviews, organized by analysis group, follow.

Polychlorinated Biphenyls (PCBs)

Analytical Methods

The samples were extracted and analyzed following EPA Method 1668A.

Sample Holding Times and Receiving Temperatures

Sample documentation was complete. The laboratory noted that no custody seals were present on the sample shipping container though the cooler was sealed. Samples were collected on August 4, 2011, shipped to the laboratory on August 17 and received on August 18. The laboratory noted a minor discrepancy in sampling time between the chain-of-custody form and the container label for sample MW28S. Sample temperature was 5°C as received by the laboratory. Samples were refrigerated upon receipt by the laboratory. The analytical method indicates that samples may be stored up to one year if stored in the dark at 0 to 4°C and preserved. Samples were extracted and analyzed within method specified holding times.

Laboratory Detection Limits

The laboratory achieved the estimated minimum levels (EML) specified in Method 1668A. Reported quantitation limits and analytical results were adjusted for any required dilution factors.

Instrument Calibration and Performance

Instrument mass resolution and peak resolution met method specified criteria of greater than 10,000 amu and less than 20 percent valley/peak height,

respectively. Internal standard calibration linearity met criteria of less than 20 percent relative standard deviation. Calibration verification (VER) standard recovery met method specified criteria.

Interferences were present with the instrument lock mass for PCBs 187 and 197/200. Since these congeners are not considered toxic and have only a minor contribution to the total concentration, data are not significantly affected.

Laboratory Ongoing Precision and Recovery (OPR) Results

OPR analyte recoveries were within method performance specifications.

Blank Contamination

The following analytes with ion ratios meeting quality control criteria or within 10 percent of criteria were detected in the laboratory method blank.

Analyte	IUPAC Number (multiple numbers indicate coelution)	Lab Blank in pg/L
2-MoCB	1	0.947
4-MoCB	3	3.87
3,3′-DiCB	11	7.26
2,2′,5-TriCB	18 + 30	1.21
2,3,3′-TriCB	20 + 28	1.50
2,4′,5-TriCB	31	1.07
2,2′,3,5′-TeCB	44 + 47 + 65	2.50
2,2′,5,5′-TeCB	52	3.37
2,3,4,5-TeCB	61 + 70 + 74 + 76	4.08
2,3′,4,4′-TeCB	66	1.65
2,2′,3,3′,5-PeB	83 + 89	5.02
2,2′,3,4,5-PeCB	86 +87 + 97 + 108 + 119 + 125	4.65
2,2′,3,4′,5-PeCB	90 + 101 + 113	6.02
2,2′,3,5,6-PeCB	93 + 95 + 98 + 100 + 102	4.66
2,3,3′,4,,4′-PeCB	105	1.82
2,3,3′,4′,6-PeB	110 + 115	6.03
2,3′,4,4′,5-PeB	118	4.30
2,2′,3,3′,4,5-HxCB	129 + 138 + 160 + 163	5.28
2,2′,4,4′,5,5′-HxCB	153 + 168	3.67

Sample results were qualified as non-detected (UB) when concentrations were less than ten times those reported in the laboratory method blank. In cases where ion ratios for analytes detected in the blank did not meet criteria, blank

results were applied to samples if ion ratios were within 10 percent of the criteria.

Cleanup Standard Recovery

Recovery of cleanup recovery standards was within method specified criteria for all quality control (calibration/verification, initial precision/recovery, and ongoing precision/recovery) and test samples.

Internal Standard Recovery

The labeled internal standard compound (surrogate) recoveries were within method-specified QC limits for all quality control (calibration/verification, initial precision/recovery, and ongoing precision/recovery) and test samples.

Recoveries in the laboratory method blank were slightly below acceptance criteria for the following labeled compounds.

Internal Standard	Percent Recovery	Acceptance Limits
13C12-2,2′,4,4′,6,6′-HxCB	21.3	25 to 150
13C12-2,2′,3,3′,4,4′,5,5′,6,6′-DeCB	24.7	25 to 150
13C12-2,2′,3,3′,5,5′-PeCB	26.4	30 to 135

Since data are recovery corrected, these slight variations would not have a significant impact on the final results and results were not qualified.

Compound Identification Criteria

The signal to noise ratio for reported analytes was greater than 2.5. Relative retention times of reported analytes compared to labeled standards were within method-specified criteria. Ion signals for each reported compound maximized within $\pm$ 2 scans. Results for samples that did not meet ion abundance relative ratios were qualified UK and were considered to be undetected.

PCB Homolog Concentrations

The laboratory calculated PCB homolog concentrations by summing concentrations of individual PCB congeners that were positively identified (ion ratios were within criteria) for each homolog group. The laboratory did not qualify or correct results based on laboratory blank contamination.

During data validation, homolog concentrations were corrected for laboratory method blank results.

PCB Toxics Equivalents (TEQ) Calculation

Total PCB TEQs were calculated using World Health Organization (WHO) 2005 toxics equivalents factors. TEQs were calculated by summing TEQs of individual PCB congeners that were positively identified (ion ratios were within criteria). The laboratory did not qualify or correct results based on laboratory blank contamination. Calculated results were presented using values of both 0.0 and one-half the detection limit for non-detected congeners.

During data validation, calculated TEQs were corrected for laboratory method blank results.

PCB Aroclor Equivalents Calculation

The laboratory determined Aroclor equivalent concentrations by summing the concentrations of specific PCB congeners, characteristic of the Aroclor formulation, and multiplying by empirically determined quantitation factors. The laboratory did not qualify or correct results based on laboratory blank contamination. Aroclor identification must be considered as tentative since, in most cases, all of the peaks characteristic of an individual Aroclor were not present. In addition, concentrations must be considered as estimated since the empirical quantitation factor is derived from analysis of laboratory standards.

Aroclor 1254 results for samples MW-27S and MW-28S were qualified as non-detected due to blank contamination.

Petroleum Hydrocarbons

Analytical Methods

The samples were analyzed by Gas Chromatograph fitted with a Flame Ionization Detector (GC/FID) following NWTPH-HCID method.

Sample Holding Times

All samples were prepared and analyzed within holding time limits.

Laboratory Detection Limits

Reporting limits were acceptable.

Blank Contamination

No target analytes were detected in laboratory blanks associated with the samples.

Laboratory Control Sample Recovery

Not applicable.

Matrix Spike/Matrix Spike Duplicate Analysis

Not applicable.

Surrogate Recovery

Surrogate recoveries were within laboratory control limits.

Laboratory Duplicate Sample Analysis

Sample and duplicate results were below the reporting limit, so RPDs were not applicable.

Initial Calibration Curves

Not provided.

Continuing Calibration Verification (CCV) Recoveries

Not provided.

Total Suspended Solids

Analytical Methods

Total suspended solids results were determined following SM 2540D.

Sample Holding Times

All samples were prepared and analyzed within holding time limits.

Laboratory Detection Limits

Reporting limits were acceptable.

Blank Contamination

No target analytes were detected in laboratory blanks associated with the samples.

Laboratory Control Sample Recovery

LCS recoveries were within control limits.

Laboratory Duplicate Sample Analysis

Sample and duplicate RPDs were within control limits with the following exception:

- Batch QC: The RPD exceeded the laboratory control limit, but fell within the QAPP control limit. Sample results were not qualified.

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ANALYTICAL LABORATORY REPORTS (SEE ATTACHED CD-ROM)

[Please Note: October 2011 and January 2012 groundwater data presented in this Appendix in portable document format (.pdf) has been copied from a larger file which contains analytical results for monitoring wells not discussed in this RI Addendum. Individual sample data are limited to samples MW-27S and MW-28S. Global portions of the data report, such as the Case Narrative and QC Summary, may contain reference to samples which were part of the site-wide monitoring events, but not presented in this Appendix.]