
East Parcel Soil Characterization and Voluntary Interim Measure Report

Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

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Geomatrix

On behalf of the respondents, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this East Parcel Soil Characterization and Voluntary Interim Measure Report is true, accurate, and complete. As to those portions of the report for which I cannot personally verify accuracy, I certify under penalty of law that this report and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who may manage the system, or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

By: 

Mr. Gary Dupuy, Project Coordinator

Date: Sept 29, 2006


**EAST PARCEL SOIL CHARACTERIZATION
AND VOLUNTARY INTERIM MEASURE
REPORT**

Former Rhone-Poulenc Site
Tukwila, Washington

September 29, 2006
8769.006

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EAST PARCEL SOIL CHARACTERIZATION AND VOLUNTARY INTERIM MEASURE REPORT

Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

1.0 INTRODUCTION

Geomatrix Consultants, Inc. (Geomatrix) has prepared this East Parcel Soil Characterization and Voluntary Interim Measure Report (Report) on behalf of Container Properties, L.L.C. (Container Properties) to present the results of soil characterization and voluntary interim measures for areas within the East Parcel as described in the East Parcel Soil Characterization Work Plan (Work Plan) (Geomatrix, 2006b). The Work Plan was approved by the U.S. Environmental Protection Agency (EPA) in a letter dated May 23, 2006. The characterization and confirmation soil sampling was completed using a multi-incremental sampling method.

Section 1.0 of this Report gives a background to the project, presents objectives of the soil characterization and soil removal, and discusses preliminary remediation goals (PRGs) and interim remedial goals for the East Parcel. Section 2.0 presents the methodology for the East Parcel soil characterization using the multi-incremental sampling characterization approach, and Section 3.0 describes the results of the characterization. Section 4.0 presents excavation methodology and Section 5.0 presents excavation and confirmation sampling results. Section 6.0 presents conclusions of this Report. Note that the excavation sections describe the multi-incremental sampling excavations, and also include a brief discussion of all other soil that has been excavated this year from the East Parcel.

1.1 BACKGROUND

The former Rhone-Poulenc facility (site) is located along the Duwamish Waterway at 9229 East Marginal Way South, Tukwila, Washington. Corrective Action at the site is covered under Resource Conservation and Recovery Act (RCRA) Section 3008(h) Administrative Order on Consent No. 1091-11-20-3008(h) (Order) between the current owner, Container Properties, former operators (Rhodia, Inc. and Bayer CropScience), and EPA Region 10, dated March 31, 1993, as amended.

The site occupies approximately 21 acres within the City of Tukwila in an area known as Seattle's South End Industrial District. Industrial use of the site began in the 1930s when I.F. Laucks built a pilot plant to formulate glue for use in plywood manufacturing. In 1946,

Monsanto Chemical Company (Monsanto) purchased the site and continued the manufacture of glue, as well as paints, resins, and storage of wood preservatives. Monsanto began vanillin production in 1952, which continued through sale of the property to Rhone-Poulenc in 1986 until Rhone-Poulenc ceased manufacturing at the site in 1991. Rhone-Poulenc closed the site permanently in April 1991 and transferred the title of the property to Rhodia, Inc. (Rhodia) in January 1998. Rhodia sold the property in November 1998 to Container Properties, the current owner. Bayer CropScience is the successor to Rhone-Poulenc, Inc.

Since facility closure in 1991, investigations have been completed to evaluate environmental impacts to soil and groundwater. The investigations have followed the RCRA process from an initial RCRA Facility Assessment (RFA) through the RCRA Facility Investigation (RFI). Studies completed subsequent to the RFI include geoprobe and geotechnical investigations conducted in support of the interim measure design. Quarterly monitoring of groundwater is currently conducted at the site.

The current property owner, Container Properties, completed construction of an interim measure in April 2003 to control the potential for contaminants from the western portion of the site to migrate toward the Duwamish Waterway. The interim measure consisted of the installation of a subsurface low-permeability barrier wall surrounding the environmentally impacted portion of the site. The area surrounded by the barrier wall corresponds to roughly the western half of the site (Figure 1). Along with the barrier wall, the interim measure includes a system of groundwater extraction wells and a pretreatment system to pump groundwater from inside the contained area, thereby creating an inward groundwater gradient. The pretreated groundwater is discharged to a publicly-owned treatment works, owned and operated by King County (County), and permitted under the Clean Water Act.

Container Properties is currently in the process of redeveloping the entire site. As part of the redevelopment, the site is being divided into two separate parcels (West and East Parcels) (Figure 1). The redevelopment activities have included demolition of aboveground structures and grading and paving of the West Parcel.

While both the West and East Parcels were part of the former Rhone-Poulenc facility, previous investigations have shown that the East Parcel was not as substantially affected by past operations (Geomatrix, 2006b). In a letter dated May 10, 2006, EPA provided PRGs for the East Parcel. EPA provided unrestricted and restricted land use PRGs for the constituents of concern (COCs) identified in the Work Plan, which are arsenic, carcinogenic polycyclic

aromatic hydrocarbons (cPAHs), copper, mercury, and polychlorinated biphenyls (PCBs). EPA will finalize site-specific cleanup levels as part of the remedy selection process.

This Report summarizes additional soil characterization activities in the East Parcel where past RFI and post RFI soil sampling results exceeded the East Parcel PRGs, and where historical sampling data were not sufficient to fully characterize the nature and extent of contamination. Where the recent characterization investigation samples exceeded PRGs, soil was removed. This Report also describes the soil removal and the results of the confirmation sampling.

In order to define which areas within the East Parcel exceeded PRGs, EPA staff suggested a characterization approach known as multi-incremental sampling. This approach, detailed in the Work Plan, requires collecting 30 or more grab samples throughout an area of interest and analyzing homogenized, composite samples for constituents of concern. The multi-incremental sampling approach is considered more representative of areas with no known source of hazardous constituents.

A brief "East Parcel Soil Characterization Data Report," submitted to EPA on August 8, 2006 (Geomatrix, 2006d), summarized the results of the characterization investigation. The following Report presents and summarizes the East Parcel soil characterization data and documents the subsequent soil removal and confirmation sampling activities.

1.2 OBJECTIVES

The primary concern for the East Parcel was the potential for contamination of soil and/or groundwater as a result of historical site practices. The objectives of the East Parcel soil characterization and cleanup were to:

- Identify areas in the East Parcel where past soil sampling results exceeded unrestricted use soil PRGs, and where sampling data may not have been sufficient;
- Conduct soil sampling in those areas and analyze the homogenous multi-incremental soil samples for constituents of concern;
- Remove soil that exceeds the unrestricted use PRGs; and
- Conduct confirmation soil sampling using the multi-incremental sampling approach in areas where soil was removed and analyze soil samples for constituents of concern.

1.3 INTERIM CLEANUP LEVELS

In a letter dated May 10, 2006, EPA provided the Respondents PRGs for the COCs identified in the Work Plan, which were to be used for the site characterization and any voluntary interim measures. The PRGs will be used in the development of a CMS for the East Parcel. A Revised East Parcel CMS Work Plan was submitted to EPA on August 8, 2006 (Geomatrix, 2006e). The CMS is submitted separately.

The PRGs provided by EPA were based on Washington Department of Ecology's (Ecology) Model Toxic Controls Act (MTCA) regulations. PCB PRGs are also based on EPA's Toxic Substances Control Act (TSCA) rules for PCB remediation waste. Since the objective of the work performed on the East Parcel is ultimately to obtain site cleanup that would enable EPA's "RCRA Corrective Action Complete without Controls" status, the data collected as part of this Report were compared to the unrestricted use PRGs.

Several constituents were included in soil analyses specified in the Work Plan for which PRGs had not been established. For several analyzed constituents with no PRGs, the Respondents used the MTCA Method A cleanup levels as interim cleanup levels. In addition, the cleanup standard for toluene was developed in general accordance with MTCA Method B cleanup level protocols to ensure that the soil cleanup criterion was protective of groundwater. In this Report, the PRGs established by EPA in the May 10, 2006, letter are referred to as PRGs. The PRGs, the cleanup criteria developed in general accordance with MTCA Method B cleanup level procedures, and the MTCA Method A cleanup levels used for other constituents are referred to collectively as interim cleanup levels.

The interim cleanup levels for benzene, cadmium, chromium (hexavalent and trivalent) lead, and naphthalene are based on MTCA Method A cleanup levels. The residential Method A cleanup levels are listed as unrestricted land use interim cleanup levels and the industrial Method A cleanup levels are listed for restricted land use. Unrestricted land use for PRGs is essentially equivalent to residential land use for MTCA cleanup levels and restricted land use PRGs are considered equivalent to industrial MTCA cleanup levels.

Based on the results of East Parcel characterization and voluntary interim measures, toluene was identified in soil and groundwater. The interim cleanup level for toluene was developed in general accordance with MTCA Method B cleanup level protocols to ensure that the soil cleanup criterion was protective of groundwater.

Additionally, total petroleum hydrocarbons (TPH) was identified in soil. The TPH included gasoline range organics (GRO), diesel range organics (DRO), and residual oil range organics (RRO); as noted in Table 1, interim cleanup levels have been established for these constituents based in Method A cleanup levels. EPA has also indicated that final site-specific cleanup levels will be finalized upon completion of the CMS process.

2.0 CHARACTERIZATION METHODOLOGY

As outlined in the Work Plan, the East Parcel soil characterization approach was based on collection of multi-incremental samples from the following seven “investigation areas,” which were defined based on reported historical use and previous analytical data:

- The former Maintenance Area;
- The former Compressor Area;
- The former Laboratory Area;
- The former Sulfuric Acid Tank Waste Solids Disposal Area;
- The former Pilot Plant Waste Disposal Area; and
- The Background Area (consisting of two sub-areas, Background Subarea 1 and Background Subarea 2).

The investigation areas are shown on Figure 1. Section 2.1 presents the rationale for the East Parcel soil characterization. Section 2.2 describes field preparation for the soil characterization. Sections 2.3 and 2.4 describe characterization sample collection and preparation methods, respectively. Section 2.5 presents decontamination and disposal methods for the characterization work, and Section 2.6 discusses analytical methods for characterization samples. Characterization methods were performed in accordance with the Work Plan, with few exceptions. These deviations are identified in the following sections.

2.1 CHARACTERIZATION RATIONALE

Table 1 shows contaminants of concern and target sampling depths for each of the seven areas. Since arsenic, copper, mercury, PCBs, and cPAHs were historically detected in some East Parcel soils at concentrations exceeding PRGs, they were included in the focus of the investigation in the East Parcel.

The depths of the sampling “surfaces” were selected as specified in the Work Plan. However, the analytical plan shown in Table 1 was adjusted from the Work Plan to include additional analyses and surfaces based on field observations or discrepancies in the original Work Plan.

2.2 FIELD PREPARATION

On June 1 and 2, 2006, Geomatrix staff prepared sampling locations in the field. Field preparation performed prior to characterization sampling consisted of the following steps:

- Two control points were located using a Trimble GeoXT Global Positioning System (GPS). This system is capable of determining positions within 3 feet using a U.S. Coast Guard radio beacon correction. The control points were compared with recent survey coordinates to verify that the GPS datum was the same as the pre-existing site survey datum NAD 83.
- The coordinates of the corners for the seven investigation areas shown on Figure 1 were determined from the base map using AutoCAD. On June 1, 2006, Geomatrix staff located the corners of each sample area using a Trimble GPS unit using NAD27 coordinate system.
- A combination of stakes, nails, flagging, and spray paint were used to designate the 35 sample locations within each investigation area (as shown in Figure 2). In one investigational area, sample locations that were placed on concrete surfaces were relocated to soil surfaces within that investigational area.
- A public (One-Call) utility locate was performed to identify utilities in the investigation area (ticket number 6170796). On June 2, 2006, a private utility locator, Applied Professional Services, was used to identify the remaining water lines and electrical service lines. The location of the County's 36-inch diameter stormwater sewer was located by the County prior to the start of drilling.

2.3 CHARACTERIZATION SAMPLE COLLECTION

Between June 5 and June 13, 2006, Geomatrix staff collected soil samples from 35 locations within each of the seven investigation areas as shown on Figure 2. A total of 245 direct-push borings were installed on the East Parcel (Figure 2). Photographs of the sampling process are included as Appendix A. The line dividing the West and East Parcels was located in the field using a GPS. The parcel divide legally described in Record of Survey dated August 26, 2005, (Barghausen, 2005) was subsequently located in the field by Barghausen surveyors, determining that the parcel boundary was marked in the field prior to the soil characterization work and had been located west of the surveyed boundary by approximately 10 feet. After sample collection, the parcel boundary location was corrected, resulting in moving the boundary approximately 10 feet to the east. Both the estimated and the corrected parcel boundaries are illustrated on Figures 1 through 3. The corrected parcel boundary shown on these figures was pulled from a recent Barghausen drawing dated 2006 (Barghausen, 2006). Movement of the parcel boundary does not substantially affect soil characterization since the

line used in the field overlaps with the West Parcel. This issue is further discussed, as it relates to soil excavation, in Section 4.3.

Several sampling locations shown in the Work Plan for the Compressor Area were located on a large concrete slab. These boring locations were moved (after discussion with EPA in the field) so that they were outside of the slab, as shown on Figure 2.

At each of the sampling locations (within each of the seven investigation areas), samples were collected from one or two depth intervals, or “surfaces,” as described in Table 1. The 35 soil samples from each depth specified in Table 1 were used to prepare a single multi-incremental composite sample representing a “surface” for each of the seven areas. As discussed above, the parcel line was incorrectly marked in the field resulting in several sample locations from three of the investigation areas to be located on the West Parcel; however, these results were still used in the composite sampling. At every third boring, duplicate or “archive” samples were collected from each surface, producing 11 archive samples per surface per investigation area. Archive sample locations are distinguished from non-archive locations as square and circle icons, respectively, on Figure 2.

The sample location numbering system that was implemented in this investigation is described in Table 1. As an example, the fifteenth sample location within the Compressor Area from the deeper, or second, surface was labeled as “COMP-2-15.” Since this sample location happened to be an archive location, the archive sample from this location was labeled as “COMP-2-15A.”

Sample collection proceeded as follows:

- A direct-push drill rig from Cascade Drilling, Inc. (Cascade) of Woodinville, Washington, was on site during soil sampling. The sampling team included at least two Geomatrix staff members and one Cascade representative. The drilling and soil sampling was supervised by Zanna Satterwhite, a Geomatrix Project Geologist licensed in Washington State.
- A 2-inch direct-push probe with acetate liners was used to perform continuous soil sampling to the maximum desired depth at each sample location, as specified in Table 1. The core samplers were 4 feet in length. The direct-push sample cores and rods were removed and then reinserted into the same borehole in order to collect deeper soil samples.
- For each boring at the specified sample depth, a portion of soil (with gravel, if present) was scraped evenly from the designated sample depth interval into pre-

labeled, pre-cleaned 2-ounce or 4-ounce jar(s). Each jar was sealed and retained in the field until sampling for an investigation area had been completed.

- When refusal was encountered at a sample location prior to reaching the target depth, the sample location was moved approximately 1 to 10 feet away as directed by the Project Geologist, and the boring was repeated.
- At every third sample location, an archive sample was collected from the target depth into a 2- or 4-ounce jar and was labeled with sample location. A note was made in the field book to document where the archive samples were collected. Archive samples were placed in separate coolers from the samples to be composited and were eventually stored at the analytical laboratory pending future analysis.
- If a second sample depth was scheduled for collection (Table 1), then the second depth interval was sampled as described above.
- Sampling proceeded until 35 samples per investigation area were collected for each surface. For those investigation areas where two depths were specified, a total of 70 samples were collected to prepare two multi-incremental samples, one for each depth.
- After all sub-samples for an investigation area were collected, the direct-push rig was decontaminated and moved to the next of the seven investigation areas.
- The field geologist noted changes in sampling methods caused by sampling difficulties; field observations and sample locations were recorded in the field book. Borings were not lithologically logged.

Soil cores recovered from each sampling location were inspected for visual or olfactory evidence of waste materials, such as oily or discolored deposits or deposits consisting of non-soil materials. When the grid sampling in an investigation area encountered visible evidence of potential buried waste or suspected contamination, even if not at a specified multi-incremental sampling depth, the following procedures were implemented:

- EPA project staff were notified verbally or by email that potential buried waste or potential contamination was identified,
- The location was recorded in the field book for the likely presence of buried waste or contamination, along with a description of observations,
- A sample was collected for more detailed analysis to attempt to characterize the nature of the potential waste material. Sample nomenclature was labeled as ending with "W", e.g., "COMP-1-31W".

- Suspected waste samples were kept in separate coolers from the other, non-waste samples;
- The direct-push sampler was decontaminated prior to collecting any further samples; and
- Multi-incremental sampling was resumed at the next sample location, taking care to check the sample core for evidence of waste materials or contaminated soil.

The drill rig rods and sampling equipment were cleaned prior to conducting borings, and they were decontaminated before sampling began in each individual investigation area. As noted above, when waste materials or suspected contaminated soil was encountered in a boring, the drilling equipment was decontaminated between sampling points within an area.

Characterization sample jars were segregated into three different cooler types in the field – (1) samples to be composited as multi-incremental samples, (2) archive samples, and (3) suspected waste samples. Separate chain-of-custody forms were filled out for each of the three categories for each of the seven areas.

All samples were labeled with the investigation area, depth, date and time of collection, and sampler's initials. The samples were stored in coolers with water ice and kept cool. All samples were delivered to Columbia Analytical Services (CAS) laboratory in Kelso, Washington. Standard chain-of-custody procedures were followed using chain-of-custody forms for all samples sent to the laboratory.

On June 16, 2006, Geomatrix used a GPS unit to survey the approximate coordinates of all East Parcel archived soil sample locations and sample locations where suspected waste or contaminated soil was identified.

2.4 CHARACTERIZATION SAMPLE PREPARATION

The multi-incremental sampling approach relied on homogenization of the sample to ensure that the multi-incremental sample was representative of the sampling surface for each investigation area. Homogeneity was achieved at the laboratory by grinding the entire multi-incremental sample to a finer size using specialized grinding equipment, and thoroughly mixing the resulting fine-grained material using the following procedures:

- Prior to analysis, each multi-incremental sample was prepared by drying out and grinding the entire multi-incremental sample, followed by thorough mixing. Each sample was ground to less than approximately 0.125 inch (#10 sieve medium sand)

using a contained “shatter-box” ring mill composed of hardened steel, and described in the sample grinding standard operating procedure in the Soil Sampling Quality Assurance Project Plan (QAPP) for the Former Rhone-Poulenc Site (Geomatrix, 2006c). The shatter-box components were decontaminated between samples from different areas by washing with deionized water.

- After crushing and grinding each multi-incremental sample to a consistent grain size, individual samples for a specified depth were composited into a single sample so that one or two multi-incremental samples were analyzed for each investigation area. Mixing of each multi-incremental sample was done thoroughly prior to analysis using a decontaminated stainless steel spoon or spatula.
- The multi-incremental sample was then split into soil aliquot(s) to fill the required sample jars for the analyses. A small portion (approximately 4 ounces) of each well-mixed multi-incremental sample was analyzed for the constituent(s) of concern defined for each investigation area as noted in Table 1.
- Composite sample labeling followed the naming scheme in Table 1. For example, two multi-incremental samples were composited by the laboratory from samples collected in the Compressor Area, with the shallow sample labeled “COMP-1” and the deeper sample labeled “COMP-2.”

2.5 DECONTAMINATION AND DISPOSAL METHODS

The characterization soil sampling equipment was decontaminated between investigation areas using a three-step wash/rinse cycle. Water containing a dilute solution of Alconox was sprayed onto the sampling spoons and scrubbed with a brush. Overspray and drippings were contained in a five-gallon polyethylene bucket. A second spray of Alconox solution was used to remove soil from the sampling equipment. A third spray of deionized water was used to rinse the equipment.

All clean sampling equipment not intended to be used immediately was wrapped in a layer of aluminum foil to minimize inadvertent recontamination. The decontamination fluids in the bucket were decanted from the solids and treated using the existing on-site purge water disposal system following methods specified in the Revised Operation, Monitoring, Inspection, and Maintenance Plan for the HCIM (Geomatrix, 2006a). The soil cuttings were contained in 55-gallon steel drums provided by the driller. For investigation areas determined to be clean, drill cuttings were either disposed of as uncontaminated solid waste or used to fill in low areas of the site. For investigation areas determined to be contaminated, the drill cuttings were disposed as appropriate. On July 28, 2006, Envirotech Systems, Inc. of Lynnwood, Washington, picked up four 55-gallon drums of soil generated by characterization soil sampling.

Manifests and disposal tickets are included in Appendix B for all soil and waste generated from the East Parcel Characterization and disposed of off site. This includes manifests for drummed cuttings from the East Parcel Characterization. Some of these manifests and disposal tickets have not yet been received; however, these will be submitted to EPA under separate cover.

2.6 ANALYTICAL METHODS

All East Parcel soil characterization samples were collected and analyzed in general accordance with the QAPP (Geomatrix, 2006c). Table 1 lists the analyses performed for each multi-incremental soil sample collected during the East Parcel soil characterization work. Because of the volatilization that can occur as a result of grinding, multi-incremental sample analyses were limited to semivolatile organic compounds (SVOCs), metals, and PCBs. The significant COCs on the East Parcel were initially limited to SVOCs, metals, and PCBs.

The aliquot extracted for metals analysis consisted of a minimum of 1 gram of the homogenized multi-incremental sample, while organic analyses required 10 grams. Analytical methods were selected to ensure that reporting limits were lower than the interim cleanup levels.

The analytical results for each multi-incremental sample were compared to soil interim cleanup levels to determine if the surface represented by the sample was contaminated. If the multi-incremental sample concentration was greater than the interim cleanup levels, then selected archive samples were run for additional analyses, such as copper or PCBs, for further delineation of contamination.

Based on field observations such as color, odor, sheen, and photoionization detector (PID) readings, suspected waste samples were selectively analyzed for volatile organic compounds (VOCs), total petroleum hydrocarbons hydrocarbon identification (TPH-HCID), TPH as diesel extended (TPH-Dx), TPH as gasoline (TPH-G), and metals by the analytical methods identified in Table 3.

In accordance with the QAPP, all analytical data were reported with a standard laboratory data and quality control package. In addition, the laboratory provided written certification stating that the sample grinding and homogenization were performed in accordance with the standard operating procedure included in the QAPP. Quality Control (QC) measures and laboratory deliverables for the soil characterization sampling are described in Section 3.7.

3.0 SOIL CHARACTERIZATION RESULTS

The following Sections 3.1 through 3.6 present East Parcel soil characterization results by investigation area. Section 3.7 describes quality control measures, and Section 3.8 summarizes soil characterization results.

All of the specified multi-incremental sampling points were sampled. Evidence of contamination, including green coloration, PID readings, odors, and sheens were noted in some borings completed during the East Parcel soil characterization work. Figure 3 displays color-coded icons corresponding to the observations at these boring locations.

Table 2 and Figure 2 present composite characterization soil sample results for the East Parcel investigation areas. Table 3 and Figure 3 show discrete characterization soil sample results for the East Parcel investigation areas. Note that Figure 3 does not show non-archive sample locations due to space restrictions. The discrete sample analyses allowed for better delineation of copper and PCB- contaminated soil.

3.1 FORMER MAINTENANCE AREA

The former Maintenance Area is currently a graveled area. This building was presumed to have contained lubricating oils and solvents based on its use. The RFA reported that waste oils and solvents were disposed on the ground surface around the maintenance building from 1952 to 1980.

As outlined in the Work Plan, previous sample results show that total copper was detected above the PRG at five shallow sample locations at a maximum concentration of 391 mg/kg. The remaining previous copper exceedances within this area ranged from 37 to 119 mg/kg. Mercury was also detected previously in surface soils at a concentration of 4.3 mg/kg, which exceeds the PRG of 2.0 mg/kg. Arsenic was previously detected in this area at a concentration of 20 mg/kg, which is equivalent to the soil PRG. One sample previously collected from 7.5 feet below ground surface (bgs) in the former Maintenance Area exceeded the PRG for total PAHs as Benzo(a)pyrene (BaP) equivalents.

3.1.1 Field Observations

During the East Parcel soil characterization fieldwork, evidence of contamination, including green coloration, was noted in some borings in the former Maintenance Area. Green-colored soil was observed in the upper 2 feet in the western part of the Maintenance Area.

3.1.2 Analytical Results

Two composite samples were analyzed from the Maintenance Area. The upper surface composite (MAINT-1) was analyzed for arsenic, copper, and mercury, and the lower surface composite (MAINT-2) was analyzed for cPAHs. Because the Surface 1 composite copper results exceeded the copper PRG in the former Maintenance Area (Table 2), the discrete archive samples from this area were also analyzed for copper (Table 3) to try and minimize the area of excavation.

Discrete results showed that the majority of the former Maintenance Area surface soil contained copper at concentrations exceeding the PRG (Figure 3).

3.2 FORMER COMPRESSOR AREA

The former Compressor Area includes the location of the former autoclave compressor, which was located approximately 120 feet west of the former laboratory building. Leaks of compressor fluids were noted during the RFA inspection as part of the satellite accumulation area. The compressor fluid used was reported to be Pydraul A, a mineral oil carrier with PCBs formerly manufactured by Monsanto.

Rhodia performed a cleanup of the compressor pad in 1995. The compressor pad had been stained a reddish/pinkish color to a depth of 2 inches, indicating potential contamination with compressor oil (Rhodia, 1998). The compressor pad and surrounding soil were excavated to a depth of 8 feet from an area measuring approximately 16 feet by 19 feet. However, confirmation sampling results at the time were compared to a PCBs cleanup level that is higher than the current PRG.

Copper was detected above the PRG in three previous sample locations in the former Compressor Area. Previous samples collected near the former compressor pad in surface soils contained copper at a maximum concentration of 485 mg/kg. Copper was also detected above the PRG in a previous sample collected at 2.5 feet.

3.2.1 Field Observations

During the East Parcel soil characterization fieldwork, evidence of contamination, including green coloration, odors, and sheens were noted in some borings in the former Compressor Area. Green-colored soil was mainly observed in the upper 2 feet in the southwest portion of the Compressor Area. Hydrocarbon odors and sheen were encountered between 2 and 6 feet bgs in the same area, and a toluene odor was noted in boring COMP-X-21 in the same

area, from 6 to 8 feet bgs, as presented in Table 3. PID detections were also noted in these areas.

The Work Plan stated that if other constituents were encountered and removal was determined to be appropriate, the direct-push equipment would be used as necessary to delineate the extent of waste materials. The Work Plan stated that alternatively, excavators and/or backhoes would be used if necessary to excavate the waste materials and associated affected soils.

Six borings were installed on the West Parcel, adjacent to the East Parcel Compressor Area where toluene and TPH odors were encountered (Figure 2) to further delineate potential contamination. These constituents were not identified as constituents of concern in the Work Plan. Samples were collected from these borings to assess the western extent of contamination and, therefore, are not discussed elsewhere in this report.

3.2.2 Analytical Results

Two composite samples were analyzed from the Compressor Area. The upper surface composite (COMP-1) was analyzed for PCBs, arsenic, copper, and mercury, and the lower surface composite (COMP-2) was analyzed for PCBs (Table 2). Because the Surface 1 composite copper results exceeded the copper PRG in the Compressor Area at a relatively high concentration of 257 mg/kg, the discrete archive samples from this area were not analyzed for copper since it was assumed that copper-affected soils were widespread. PCBs were also detected above the PRG in the Compressor Area Surface 1 composite sample, so the archive samples in this area and surface were analyzed for PCBs.

Analytical results from discrete samples are presented in Table 3. Discrete results showed that PCBs were present in only one of 11 archive samples at a concentration that exceeded the PRG for PCBs. This sample was located in the southwest corner of the Compressor Area (Figure 3).

The only suspected “waste” samples collected during the East Parcel soil characterization were collected in the Compressor Area. PID readings and odors noted during the geoprobe investigation led to analyses to evaluate potential COCs. These samples were analyzed for VOCs, TPH-G, and TPH-Dx. In the southwest Compressor Area, PRG exceedances of toluene, TPH-Dx, and TPH-G were noted at depths ranging from 2 to 8 feet as shown in Table 3 and Figure 3; however, these analyses indicated that toluene was the COC detected in this area. Upon reviewing site drawings, a toluene product line was indicated running north-south along

the West Parcel/East Parcel boundary. The toluene-affected soil appears to be a result of a leak from that pipeline.

3.3 LABORATORY AREA

The area immediately west of the former laboratory building was reportedly used for one-time disposal of vanillin black liquor solids (VBLS) in 1979 (PRC, 1990). According to the RFA, the laboratory used methylene chloride for analytical extractions. The spent methylene chloride was stored at the satellite accumulation area, inside of a bermed concrete pad. There were no recorded releases of methylene chloride (PRC, 1990).

Copper was previously detected above the PRG in a soil sample collected at a depth of 0.5 foot. A previous soil sample collected at 2.5 feet bgs exceeded the PRG for total PAHs as BaP equivalents.

3.3.1 Field Observations

During the East Parcel soil characterization fieldwork, no evidence of contamination was observed in the Laboratory Area.

3.3.2 Analytical Results

Two composite samples were analyzed from the Laboratory Area. The upper surface composite (LAB-1) was analyzed for arsenic, copper, and mercury, and the lower surface composite (LAB-2) was analyzed for PCBs. Because the Surface 1 composite copper results exceeded the copper PRG in the Laboratory Area (Table 2), the discrete archive samples from this area were analyzed for copper (Table 3).

Discrete results showed copper exceedances in two “clusters” within the Laboratory Area, one small cluster at the north of the area, and one larger cluster at the south (Figure 3).

3.4 SULFURIC ACID TANK SOLIDS DISPOSAL AREA

This area is adjacent to the former Compressor Area, approximately 70 feet north of the former compressor pad. Sulfuric acid tank solids were reportedly buried in this area once in 1969 (Dames and Moore, 1986).

None of the previous soil samples collected in the Sulfuric Acid Tank Solids Area exceeded soil PRGs, except for one surface soil exceedance for copper.

3.4.1 Field Observations

During the East Parcel soil characterization fieldwork, no evidence of contamination was observed in the Sulfuric Acid Tank Solids Area.

3.4.2 Analytical Results

One composite sample was analyzed from the Sulfuric Acid Tank Solids Area. The composite (SULF-1) was analyzed for pH, arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, and silver. Because the Surface 1 composite copper results exceeded the copper PRG in the Sulfuric Acid Tank Solids Area (Table 2), the discrete archive samples from this area were analyzed for copper (Table 3).

The discrete analytical results showed copper exceedances of the PRG in two “clusters” within the Sulfuric Acid Tank Solids Area. One of these clusters was located at the north end of the area, and one at the south end (Figure 3).

3.5 FORMER PILOT PLANT WASTE DISPOSAL AREA

Dames and Moore identified this area as having been used for disposal of pilot plant wastes. I.F. Laucks Company once operated a pilot plant at the site that was used to make glue for plywood manufacturing (Landau, 1991). This area was used as an asphalt parking lot for the Rhone-Poulenc facility from the 1950s through closure of the plant.

None of the previous samples collected in the former Pilot Plant Waste Disposal Area exceeded PRGs, with the exception of cPAHs in soil samples from two sample locations. Previous soil samples from 1.25 feet and 7.5 feet in depth exceeded the PRG for total PAHs as BaP equivalents.

3.5.1 Field Observations

During the East Parcel soil characterization fieldwork, no evidence of contamination was observed in the former Pilot Plant Waste Disposal Area.

3.5.2 Analytical Results

Two composite samples were analyzed from the former Pilot Plant Waste Disposal Area. Both upper and lower surface composites (PILOT-1 and PILOT-2) were analyzed for cPAHs (Table 1). Both surfaces for this area had concentrations of cPAHs that were well below PRGs (Table 2).

3.6 BACKGROUND AREA

The Background Area of the East Parcel was not identified as an area of concern during the earlier investigations. This area of the facility was occupied by the Italian prisoner-of-war camp during the mid-1940s. During operation of the Rhone-Poulenc facility, this area was used primarily for parking of vehicles. From 1998 through 2004, the Background Area was used for temporary storage of trailer-mounted cargo containers. The Background Area was divided into two separate sub-areas, Background Subarea 1 and Background Subarea 2. Background Subarea 2 is a 40-foot-wide corridor located along the path of the former railroad spur that crossed this part of the property. The remainder of the Background Area located on either side of Background Subarea 2 is defined as the Background Subarea 1.

Copper was previously detected in two soil samples collected at depths of 5.0 and 7.5 feet, just above the copper PRG.

3.6.1 Field Observations

During the East Parcel soil characterization fieldwork, no evidence of contamination was observed in either of the Background Areas.

3.6.2 Analytical Results

Two composite samples were analyzed from the Background 1 and 2 Areas. The composites (BACK1-1 and BACK2-1) were analyzed for copper and cPAHs (Table 1). All samples for these areas had concentrations of these analytes that were below PRGs (Table 2).

3.7 QUALITY CONTROL

A data quality review was performed for each sample group. Copies of the analytical reports and associated data quality review reports were included in the previous East Parcel Soil Characterization Data Report (Geomatrix, 2006d). The data quality reviews were based on method performance and QC criteria, as specified in the Work Plan and QAPP. Hold times, initial and continuing calibrations, method blanks, surrogate recoveries, laboratory duplicate results, field duplicate results, matrix spike/matrix spike duplicate (MS/MSD) results, and reporting limits were reviewed to assess compliance with applicable methods and project requirements. If data qualification was required, data were qualified in general accordance with the definitions and use of qualifying flags outlined in the EPA documents, "U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review," October 1999, and "U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review, October 2004." Assigned qualifiers are included with

the data sheets. No data were rejected. Based upon the QC review, the data are acceptable and meet the project objectives.

In accordance with the Work Plan, duplicate multi-incremental samples were prepared for metals, cPAHs, and PCBs analyses from each of the following areas:

- The metals duplicate was collected from the 0.5-foot to 1.5-foot depth surface at the former Maintenance Area;
- The cPAHs duplicate was collected from the 1.0-foot to 2.0-foot depth surface at Background Area 1; and
- The PCB duplicate was collected from the 1.5-foot to 2.5-foot depth surface at the former Compressor Area.

The duplicate samples were prepared and analyzed by the laboratory rather than the field sampling crew, as specified by the Work Plan and QAPP. No field duplicates were collected for the discrete samples collected.

The Work Plan specified that one equipment blank be collected from the runoff of analyte-free deionized water poured into the shatter-box ring mill after all the multi-incremental samples had been processed, sample aliquots collected, and the equipment had been decontaminated. The laboratory did not collect the equipment blank sample. However, the laboratory has certified decontamination of the shatter box between samples.

Trip blanks were not analyzed because they were inadvertently not requested for analysis on the chain-of-custody forms submitted with VOCs samples. Samples were evaluated on the basis of method blank data, and no data were qualified based on the lack of trip blank data.

It should be noted that all discrete samples analyzed for PCBs were analyzed outside of hold time. PCBs are highly stable in soil matrices and the data were considered acceptable in identifying soils for remediation. These results are all qualified as estimated with “J” flags (Table 3).

3.8 SUMMARY OF FIELD RESULTS

Eleven composite soil samples from the East Parcel were analyzed. Composite samples were selectively analyzed for PCBs, cPAHs, metals, and pH. The only exceedances of PRGs were copper in the upper surface (Surface 1) samples from the Compressor, Maintenance Building

and Storage, Laboratory, and Sulfuric Acid Tank Solids Areas, and PCBs in the upper surface sample from the Compressor Area.

To better delineate the extent of copper- and PCB-affected soil, all upper surface archive samples from the Maintenance Building and Storage, Laboratory, and Sulfuric Acid Tank Solids Areas were analyzed for copper, and all upper surface archive samples from the Compressor Area were analyzed for PCBs.

Characterization analysis results revealed that in surface soil (i.e., 0.5 to 2.5 feet), copper was the only widespread contaminant, covering portions of the Maintenance Building and Storage, Laboratory, and Sulfuric Acid Tank Solids Areas, and assumed to cover all of the Compressor Area, while PCBs were confined to a small area within the southwest portion of the Compressor Area (Figure 3).

In addition, discrete sampling of suspected contaminated soil during the soil characterization fieldwork revealed levels of toluene and TPH that exceeded interim cleanup levels in the southwest portion of the Compressor Area, from 2 to 8 feet bgs (Figure 3).

4.0 EXCAVATION AND CONFIRMATION SAMPLING METHODOLOGY

As discussed in Section 3.0, some soil samples collected during the East Parcel soil characterization fieldwork contained copper, PCBs, toluene, GRO, and DRO at concentrations that exceeded the interim cleanup levels. Due to the limited extent and volume of affected soils, Container Properties decided to proceed with soil removal as an interim measure consistent with the East Parcel Site Characterization Work Plan.

The following subsections describe excavation methods in more detail.

4.1 EXCAVATION RATIONALE

The East Parcel soil characterization results showed that copper was the only widespread contaminant on the East Parcel, while soil affected by PCBs, toluene, GRO, and DRO were confined to small areas.

Analytical results for East Parcel characterization samples, as well as historical analytical results that exceeded PRGs, were posted on figures to define the areal extent of the proposed excavations. Cross sections were constructed to further estimate impacted depths. Figure 4 shows the excavation areas.

At a July 12, 2006, meeting with Geomatrix, EPA indicated agreement with the general approach to excavate to 2 feet over most of the impacted areas, with limited areas excavated to 3 feet. Limited areas of the toluene-affected soils were proposed to be excavated to approximately 10 feet in depth. EPA also agreed that “marginally-contaminated” East Parcel excavated soils, i.e., those soils with copper contamination only, could be placed within the footprint of the barrier wall in the West Parcel, and soils containing concentrations of toluene and PCBs above the PRGs were to be excavated and stockpiled on the East Parcel for off-site disposal.

4.2 FIELD PREPARATION

Field preparation performed prior to soil excavation consisted of the following steps:

- On July 31, 2006, using the sample location flags used in the field from the soil characterization fieldwork, as well as a Trimble GPS unit and a map of previous historical analytical result PRG exceedances, Geomatrix staff marked excavation extents as shown in Figure 4 on the ground and surrounding silt fences using spray paint and stakes. All proposed excavation corners were located and marked. In

addition, the corrected West/East Parcel divide line had been clearly delineated with stakes and pink flags by Barghausen.

- Elevations of excavation corners were surveyed using a surveyor's transit laser level and rod, provided by Engineering/Remediation Resources Group (ERRG). Benchmarks for the laser level were taken from the Barghausen surveyed markings on site. Additionally, 11 "interior" elevations were collected from the center of the proposed excavations, along with X,Y coordinates collected using the Trimble GPS and five "exterior" elevations and their X, Y coordinates were recorded for points surrounding the excavation.
- A public (One-Call) utility locate was performed to re-identify utilities in the investigation area (ticket number 6237091). A private utility locate was not redone for the East Parcel soil removal.
- On July 31, 2006, a pre-construction meeting was held on site between ERRG, Rushforth Construction (Rushforth), and Geomatrix to discuss the excavation scope of work.

4.3 EXCAVATION TECHNIQUES

Excavation of the soil was completed between August 1 and September 23, 2006. ERRG of Seattle, Washington (subcontractor to Rushforth), performed the work. Four HAZWOPER-trained staff from ERRG worked on the East Parcel excavation, with two 25-cubic yard (CY) dump trucks and two tracked excavators operating simultaneously.

Geomatrix staff were on site at all times during the excavations. Photographs of the excavation process are included in Appendix C. As shown in Figure 4, some excavation areas were excavated to 2 feet bgs; some were excavated to 3 feet bgs, and two areas were excavated to up to 16 feet bgs. The maximum depth of excavation in the East Parcel area was 17 feet in order to remove toluene-affected soils. Marginally contaminated soil with copper contamination only was excavated and placed on the West Parcel within the area enclosed by the barrier wall, in areas designated by Geomatrix, adding slightly to the pre-existing grade in the area inside the barrier wall. Appendix D contains tables and maps identifying the source and placement locations for all excavated soil placed on the West Parcel. Soil containing toluene and/or PCBs above the interim cleanup levels (from the deeper excavations shown on Figures 4 and 8) was excavated and stockpiled on the East Parcel for off-site disposal. This material was placed in a constructed visqueen-lined and bermed storage pad.

Thirty-eight tons of TPH- and PCB-contaminated soils were excavated from the former Compressor Area by J Harper Contractors, Inc. (J Harper) in April and May 2006. The

removal and subsequent disposal of these soils in July 2006 are described in the 2006 Geomatrix report, “Voluntary Interim Measure Report - Hazardous Waste Storage Area and Transformer A Area Cleanup”, which was submitted to EPA on August 18 (Geomatrix, 2006g).

The East Parcel soil excavation was performed as follows:

- ERRG first removed railroad tracks and ties in the northern Maintenance Area. All removed materials were disposed or scrapped by ERRG in accordance with all applicable state and federal laws and regulations. Copies of all manifests and disposal tickets have been requested by Geomatrix and are forthcoming (Appendix B).
- Soils to be placed in the West Parcel were excavated, transported, and placed onto designated areas. In general, soil was placed within the barrier wall in the West Parcel. ERRG worked closely with Geomatrix and Rushforth staff to ensure that the source and placement locations for all soil moved to the West Parcel were properly tracked. Geomatrix staff recorded the source and placement of excavated soil from the East Parcel. Appendix D includes figures and tables showing origin and placement of East Parcel excavated soil.
- Soils that will be disposed of off site (see Figure 4) were excavated and piled into a visqueen-lined and bermed area and later will be loaded into trucks for off-site disposal in accordance with applicable state and federal regulations. The stockpile area was constructed by ERRG with a minimum 8-inch berm in the East Parcel area shown on Figure 4. Photos of the stockpile are located in Appendix C. The stockpile was lined and covered with 10 mil UV resistant plastic sheeting.
- Geomatrix staff periodically checked the depth of excavations using a laser transit level and rod, and relayed depth information to the excavator operators.
- ERRG controlled fugitive dust generation, as appropriate, by using water to suppress dust and by using the on-site fire hydrant for water, fire hoses, and water trailers.
- Geomatrix staff periodically monitored the breathing zone ambient air VOC concentrations with a PID. If PID readings exceeded 5 ppm, respirators with organic vapor cartridges were donned as required by Geomatrix’s health and safety plan.
- In areas being excavated for copper and/or PCBs, after excavations were complete, Geomatrix staff collected multi-incremental confirmation samples from the base of all excavated areas and submitted the samples for analysis (see Section 4.4). Based on these analytical results, additional excavation was completed in the former Maintenance and Compressor Areas.

- ERRG will be grading the area to an even grade (grading and compaction was not complete at the time the Report was finalized). The deep excavations (approximately 15 feet) will be brought up to 5 feet bgs with clean concrete rubble, followed by clean sand and then with soils adjacent to the deep excavations. These materials will be placed into the deep excavation in lifts approximately 8 inches in thickness and compacted to approximately 90% of the maximum density using the excavator. The areas adjacent to the deep excavations will not be lowered by more than 1 additional foot in backfilling the deep excavations. Following backfill of the deep excavations, the area will be graded to promote drainage to the south. This will require movement of soils from the designated grading area to fill in the excavated areas and importing of clean fill to bring up the grade enough to prevent ponding in the winter months. No compaction of the graded area will be performed.
- ERRG will be remobilized to the site after final off-site disposal arrangements are made to load stockpiled, excavated soil onto trucks for disposal.

Volume measurement was determined by the difference between pre-excavation and post-excavation surveys, and performed by ERRG staff with Geomatrix staff supervision. Geomatrix staff confirmed the pre- and post-excavation survey locations to determine volumes. The excavated volume was calculated by inputting surveyed locations into AutoCAD.

As-built surveys of all East Parcel excavation area corners were performed by Geomatrix staff on August 10 and September 1, 2006, using a Leica GS-50 GPS Unit, on Washington North, Coast Guard Beacon (NAD 83) coordinate system. This information is shown on Figure 4.

Approximately 500 CY of soil was excavated from the deep Compressor Area excavation and stockpiled on the East Parcel. Approximately 1,700 CY of soil were excavated from the deep Maintenance Area excavation and stockpiled on the East Parcel. Approximately 3,500 CY of soil was excavated from the remaining shallow excavations in the East Parcel and placed within the barrier wall on the West Parcel.

As discussed in Section 2.3, prior to the soil characterization in June 2006, the line dividing the West and East Parcels was incorrectly marked in the field. After characterization samples were collected, the parcel boundary was surveyed and the boundary moved approximately 10 feet to the east. The corrected parcel boundary is illustrated on Figures 4 through 6. While the original field-marked East Parcel boundary was found to be in error, moving the boundary 10 feet to the east did not substantially affect the characterization results. Where soil contamination was found to exist on the West Parcel in close proximity to the East Parcel, additional soils were removed to minimize any potential for recontamination from COCs on the West Parcel.

4.4 CONFIRMATION SAMPLE COLLECTION

After excavation was complete, confirmation samples were collected to confirm that all affected soils were removed. Confirmation sampling of the soil was completed by Geomatrix staff between August 7 and September 23, 2006. To ensure that removal of all affected soil had been achieved, single multi-incremental composite confirmation samples were collected for each of the four investigation areas (Figure 5). For the Compressor and Maintenance Areas, a multi-incremental composite sample was collected, except in the areas of the deeper toluene-affected excavations. In the deeper excavations, discrete grab samples were collected as confirmation samples for VOC analysis. Photographs of the sampling process are included in Appendix C. Results are presented in Tables 4 and 5 and are discussed in Section 5.0.

4.4.1 Composite and Archive Confirmation Sample Collection

Confirmation sampling in the Maintenance Building and Storage, Laboratory, and Sulfuric Acid Tank Solids, and Compressor Areas was conducted using the multi-incremental sampling method. Thirty-five soil samples were used to prepare a single multi-incremental composite sample, representing the base of the excavation in each investigation area. Unlike the multi-incremental samples collected during the characterization, these multi-incremental samples were composited in the field, not the laboratory. Using a single composite sample method simplified the unneeded complication of handling and labeling more than 120 sample jars. EPA agreed with this modification to the sampling procedure. In addition, duplicate or “archive” samples were collected at every sample location, not every third sample location, producing 35 archive samples per confirmation area.

Sample collection proceeded as follows:

- Thirty-five evenly spaced sample locations were drawn on a map in the field for each of the four excavation areas. Sample locations were only placed inside excavation areas within each investigation area, not the entire original investigation area.
- Each of the 35 approximate locations was labeled and staked with red flags for each confirmation area (Figure 5 and photos in Appendix C).
- At each of the sampling locations (within each of the four excavation areas), samples were collected from the base of the excavation. For each sample location, approximately 2 tablespoons full of soil (with gravel, if present) was scraped into a pre-labeled, pre-cleaned 1-gallon bucket for the composite sample. Loose soil was cleared away prior to sampling.

- Additional volume from every sample location was placed in a 2-ounce or 4-ounce jar and was labeled with sample location. Each jar was sealed and retained until sampling for an investigation area had been completed. Archive samples were eventually shipped to the analytical laboratory pending future analysis.
- Sampling proceeded until 35 samples per excavation area were collected.
- The Project Geologist noted field observations such as odor, sample locations, and depths in the field book.

The sample location numbering system followed the characterization sampling nomenclature, using an imaginary Surface 4. As an example, the fifteenth sample location within the former Maintenance Area was labeled as “MAINT-4-15A.” The Maintenance Area composite bucket sample was labeled “MAINT-4”.

Sample jars and buckets for each sampling area were segregated into coolers. Separate chain-of-custody forms were filled out for each of the excavation areas.

All samples were labeled with the excavation area, date and time of collection, and sampler’s initials. The samples were stored in coolers with water ice and kept at 4°C or less. All samples were delivered to the CAS laboratory in Kelso, Washington. Standard chain-of-custody procedures were followed for all samples.

Geomatrix staff used numbered red flags to mark all East Parcel shallow confirmation soil sample locations, and the individual sample locations were not surveyed using a GPS unit.

4.4.2 Discrete Confirmation Sample Collection

Discrete confirmation samples were collected from the walls and base of the deep Compressor Area and deep Maintenance Area excavations. Composite sampling was not conducted in the deep excavations, as multi-incremental sampling is inappropriate for VOC contamination. Due to the depth of the excavations (up to 17 feet bgs), soil samples were collected by Geomatrix staff directly from the excavator bucket, except for the deepest bottom sample in the Compressor Area, which was collected from a 2-inch galvanized steel pipe about 5-feet long (pre-rinsed with distilled deionized water) that was pushed into the bottom of the water pool in the northeast corner of the excavation. Samples to be analyzed for VOCs were collected using EPA Method 5035, in accordance with the QAPP. PID readings were collected from the surface of the excavated soil and recorded in the field book for each sample location.

Former Compressor Area

For the deep Compressor Area excavation, four confirmation samples were collected from the east wall; two north wall confirmation samples were collected; one south wall confirmation sample was collected, and five base confirmation samples were collected (Table 5). Two west wall confirmation samples for the deep Compressor Area excavation were collected and analyzed; however, it should be noted that these confirmation samples were located in the West Parcel and are not considered representative of soils left in-place on the East Parcel (Figure 8). Base confirmation samples were collected at depths ranging from 10 to 16 feet. The north end of the excavation was excavated at depths ranging from 12 to 16 feet in depth (depending on tidal variations) even after groundwater was encountered to approximately 17 feet in depth. This resulted in the maximum amount of contamination being removed.

The eastern half of the north wall of the deep Compressor Area excavation (on the Eastern Parcel) was extended approximately 3 feet under the south edge of the Compressor Area concrete slab (Figure 8). The excavator bucket was able to reach under the concrete slab and scrape away at the eastern half of the north wall of the excavation without having to remove the concrete slab (see photos in Appendix C).

Former Maintenance Area

For the deep Maintenance Area excavation, two confirmation samples were collected from the east wall; four north wall confirmation samples were collected; three south wall confirmation samples were collected, and five base confirmation samples were collected (Table 5). No west wall confirmation samples for the deep Maintenance Area excavation were collected because the west wall was on the West Parcel. Base confirmation samples were collected at depths ranging from 11 to 12 feet below the surface of the shallow Maintenance Area excavation. The deep Maintenance Area excavation was excavated to approximately 6 inches below the lowest tidal water table at about 14 feet. Soil excavation below the water table resulted in the majority of the toluene-affected soil being removed. In addition, groundwater in the bottom of the excavation was pumped out on three separate occasions and into a Baker tank. This action should have removed the majority of the contamination from both soil and groundwater. It should be noted that groundwater in this area flows southwest toward Slip 6 and combined with the fact that the excavation was extended over 10 feet west onto the West Parcel, recontamination of this area is unlikely. Further groundwater impacts are not anticipated.

The sample location numbering system that was implemented during discrete confirmation sampling included the site, date, and relative location. For example, the two north wall samples

from the deep Compressor Area excavation were labeled “FRP080906N1” and “FRP080906N2”. Sample jars were placed in a separate cooler from other confirmation samples. Separate chain-of-custody forms were filled out for the deep Compressor Area and deep Maintenance Area excavations.

All samples were labeled with the sample number, date and time of collection, and sampler’s initials. The samples were stored in coolers with water ice and kept at 4°C or less. All discrete samples were delivered to Analytical Resources, Inc. laboratory (ARI) in Tukwila, Washington. Standard chain-of-custody procedures were followed for all samples.

Geomatrix staff recorded depths and approximate horizontal locations of discrete sample locations in the field book. With the exception of borings GMX-5, GMX-11, and GMX-12, discrete sample locations were not surveyed using a GPS unit.

4.5 CONFIRMATION SAMPLE PREPARATION

The multi-incremental confirmation sampling approach for the shallower excavations relied on homogenization of the sample to ensure that the multi-incremental sample was representative of the sampling surface for each investigation area. Homogeneity was achieved through grinding the entire multi-incremental sample to a finer size and thoroughly mixing the resulting fine-grained material following the procedures specified in the QAPP.

All shallow excavation confirmation samples were delivered to the CAS laboratory in Kelso, Washington. CAS has specialized grinding equipment and followed the sample grinding and homogenization procedures specified in the general soil sampling QAPP. Each sample was dried and then ground to less than approximately 0.125 inch (#10 sieve) using a contained “shatter-box” ring mill composed of hardened steel. The shatter-box components were decontaminated between samples from different areas by washing with deionized water. After crushing and grinding each multi-incremental sample to a consistent grain size, the sample was mixed thoroughly following the standard operating procedure and then split into sample aliquot(s).

4.6 DECONTAMINATION AND DISPOSAL METHODS

The soil sampling equipment was decontaminated between sampling areas following a three-step wash/rinse cycle. Water containing a dilute solution of Alconox was sprayed onto the sampling spoons and scrubbed with a brush. Overspray and drippings were contained in a 5-gallon polyethylene bucket. A second spray of Alconox solution was used to remove soil

from the sampling equipment. A third spray of deionized water was used to rinse the equipment.

All clean sampling equipment not intended to be used immediately was wrapped in a layer of aluminum foil to minimize inadvertent recontamination. The decontamination fluids in the bucket were decanted from the solids and treated using the existing on-site purge water disposal system following methods specified in the Revised Operation, Monitoring, Inspection, and Maintenance Plan for the HCM (Geomatrix, 2006a).

As described in Section 4.3, for shallow excavation areas, excavated soil was placed in stockpiles on the West Parcel inside the barrier wall limits. Soil generated from the deep Compressor Area and deep Maintenance Area excavations was placed on the East Parcel. These toluene-contaminated soil stockpiles will be disposed as contaminated soil by Rabanco to the Roosevelt Regional Landfill in Klickitat County, Washington. The transformer soil excavated by J. Harper from the former Transformer A location near the Compressor Area within the East Parcel in April to May 2006 was disposed of by Rabanco to the Roosevelt Regional Landfill in Klickitat County, Washington, on July 20, 2006, (Geomatrix, 2006g). Railroad ties were uncovered in the northeast former Maintenance Area and were segregated from the excavated soil and also placed on the East Parcel in a pile. Fourteen thousand gallons of water pumped from the Maintenance Area deep excavation were placed in a Baker Tank and will be disposed of in accordance with state and federal regulations once the analytical results are received (see Section 5.1.2).

Manifests and disposal tickets for soil, water and waste generated and disposed of off-site from the East Parcel are included in Appendix B. This includes manifests for asbestos-containing material, oil/water separator and contents, TPH-contaminated transformer soil stockpiles, toluene-contaminated soil stockpiles, toluene-contaminated groundwater, railroad ties, miscellaneous abandoned underground piping removed during the excavations, concrete, and asphalt removed during the excavations. It should be noted that several manifests have not yet been received and will be sent to EPA under separate cover.

4.7 ANALYTICAL METHODS

Table 4 lists the analyses performed for each multi-incremental soil sample collected during the East Parcel confirmation sampling. Composite analytical samples from shallow excavation areas were analyzed for copper and PCBs. The aliquot extracted for copper analysis consisted of a minimum of 1 gram of the homogenized multi-incremental sample, while organic analyses

required 10 grams. Discrete analytical samples from the deep Compressor Area excavation were analyzed for TPH-Dx, TPH-G, benzene, toluene, ethylbenzene, and xylene (BTEX), and PCBs. Discrete analytical samples associated with the deep Maintenance Area excavation were analyzed for BTEX and total organic carbon (TOC). These analyses are listed in Tables 5 and 6.

The composite chemical analyses were performed by CAS rather than ARI, since CAS has the appropriate crushing equipment and can provide equivalent analytical services. The discrete chemical analyses from the deep Compressor Area excavation were performed by ARI since these samples did not require crushing and grinding.

All East Parcel soil confirmation samples were collected and analyzed in accordance with the Soil Sampling QAPP for the Former Rhone-Poulenc Site (Geomatrix, 2006c). All multi-incremental and discrete sample analytical data were reported with a CLP-type laboratory data and quality control package. In addition, the laboratory provided written certification stating that the sample grinding and homogenization were performed as specified in the standard operating procedure included in the QAPP. Quality control for the confirmation sampling is described in Section 5.5.

5.0 EXCAVATION AND CONFIRMATION SAMPLING RESULTS

Table 4 and Figure 5 present composite sample results for the East Parcel excavation areas. Table 5 and Figures 6 through 8 show discrete sample results for the East Parcel excavation areas. Analytical results from confirmation sampling are included in Appendix E. A database on CD, including all analytical results for characterization and confirmation soil sampling, is included as Appendix F. Analytical results for the confirmation sampling and observations are described in the following subsections. Photographs of confirmation sampling are presented in Appendix C.

Sections 5.1 to 5.4 describe excavation and confirmation sampling results ordered by investigation area. Section 5.5 describes quality control measures for confirmation sampling.

5.1 FORMER MAINTENANCE AREA

Excavation for the former Maintenance Area went as planned, except for an increase in depth from 3 to 17 feet bgs and an increase in areal extent in the southwest corner that were due to unanticipated toluene contamination. In addition, a concrete vault associated with the former process sewer, an apparent oil/water separator, and some asbestos-containing pipe were encountered.

5.1.1 Surface Soil

The Maintenance Area confirmation composite sample MAINT-4 was analyzed for copper. This sample contained 76.6 mg/kg copper, above the copper PRG of 36.4 mg/kg (Table 4). Because the MAINT-4 composite copper results exceeded the copper PRG in the Maintenance Area, the 35 discrete archive samples from this area were analyzed for copper (Table 5).

Discrete results showed that 19 out of 35 Maintenance Area surface soil archive samples contained copper at concentrations exceeding the PRG (Figure 6).

Therefore, one additional foot was excavated from the copper-affected areas within the Maintenance Area on August 18 and 19, 2006, and the area was sampled again on August 19, 2006, using the multi-incremental sampling methods outlined in Section 4.4.1. Maintenance Area confirmation composite sample MAINT-5 was analyzed for copper. This sample contained copper at a concentration below the PRG (Table 4).

5.1.2 Deep Excavation

During shallow excavation, an area of toluene contamination was discovered in the southwest corner of the former Maintenance Area. Approximately 130 CY of soil from this area (between 0 and 2.5 feet bgs) were stockpiled separately on the West Parcel in a visqueen-lined pile marked as “SW Maintenance Stockpile,” and later transferred to a visqueen-lined pile on the East Parcel for off-site disposal.

Because the toluene contamination appeared to be at a depth near the water table (approximately 10 to 15 feet bgs), excavation was halted until the extent of contamination in soil and groundwater was better defined. On August 24 and 26, 2006, 12 direct push borings, GMX-1 to GMX-12, were installed around the perimeter of the excavation, and soil and grab groundwater samples were collected from the borings. Figures 7 and 8 show the deep excavation boring locations, and Table 7 shows analytical results for these samples. Appendix G includes boring logs.

Using direct push boring results, the toluene-affected soil and groundwater on the East Parcel was shown to be of limited extent, covering the corner area approximately 35 feet east from the East/West Parcel divide and 75 feet north of the southern property line (Figure 6). The majority of the soil contamination was shown to be just above the water table (Table 7). Between August 19 and 28, 2006, the southwest Maintenance Area was excavated down to a maximum depth of 16 feet bgs (Figure 7). Shallow soil with PID readings below 100 ppm was excavated and placed immediately to the north of the excavation. Soil observed to have PID readings above 100 ppm was added to the visqueen-lined stockpile on the East Parcel for off-site disposal. More details on origin and placement locations of excavated soil are included in Appendix D.

Confirmation samples collected from the base and north, east, and south sidewalls of the deep excavation were analyzed for BTEX. Results are presented in Table 5 and on Figure 7. All samples contained concentrations of these analytes either below the detection limit, or below their respective interim cleanup levels, with the exception of confirmation base sample RP082806-B1 and confirmation sidewall sample RP082806-N1, which contained toluene at concentrations of 150 and 81 mg/kg, respectively, above the interim cleanup level for toluene of 0.83 mg/kg. More soil was excavated from the north sidewall, and two more samples, RP083106-N3 and RP083106-N4, were collected from the new sidewall and analyzed for BTEX. Both samples contained concentrations of benzene, toluene, ethylbenzene, and xylene that were below interim cleanup levels.

On September 23, 2006, two additional south sidewall confirmation samples were collected from the deep excavation. These samples were collected along the current fence line which coincides with the southern property boundary for the East Parcel. Soil confirmation samples RP092306-1 and -3 both contained COCs exceeding the interim cleanup levels. Both samples contained benzene above the interim cleanup level, and RP092306-3 contained toluene (Table 5). Both samples were collected from the sidewall of the excavation at the property boundary (Figure 7).

A soil confirmation sample was collected from the base of the excavation on September 23, 2006 (RP092306-2), and this sample did not contain any COCs at concentrations exceeding the interim cleanup levels (Table 5).

Upon completion of the excavation, the groundwater in the excavation had a slight sheen of toluene. To address the remaining toluene, on August 30, 2006, the groundwater in the excavation was pumped out into a 21,000-gallon open top Baker Tank. The excavation was left to recharge over the course of the day and was pumped out again in order to collect as much free phase toluene as possible from the excavation. Approximately 6,000 gallons of water were collected in the Baker Tank on August 30. On August 31, 2006, the excavation had a very slight sheen after recharging overnight. The excavation was pumped down once on August 31, 2006, bringing the total to approximately 14,000 gallons collected in the Baker Tank (see photos in Appendix C). Water in the Baker tank will be treated on site using the pre-treatment system and discharged to the sewer.

5.1.3 Concrete Vaults

An approximate 4-foot-diameter concrete vault and an adjacent 3-foot-diameter vault were encountered in the north former Maintenance Area on August 3, 2006. The larger vault had a metal culvert running to the north holding two asbestos-containing transite pipes (PIPE-1). The large vault had standing water less than 2 feet deep that was light brown colored with some froth on top. The cover to the larger vault had been encased in a 1-foot thick, 8-foot circumference of concrete that had been pulled up by the excavator. When the cover was scraped clean it read "SEWER". The smaller vault was 6 inches below grade and the larger vault was less than 2 feet below grade. A survey drawing by Barghausen (Site Demolition Plan, Sheet E-3 dated 12/21/04) showed two sanitary sewer manholes in this location with conduit running from the north and conduit running west to the pump station. It is assumed that these structures were the sanitary sewer manholes shown in the drawing. The smaller manhole was taken out during the excavation and the larger manhole remains in place.

5.1.4 Oil/Water Separator

During excavation of surface soil in the former Maintenance Area, a 6-foot-long by 4-foot-diameter half-cylinder concrete structure was encountered at the south end of the excavation on August 8, 2006. It is assumed that this structure was an oil/water separator; the liquid in this oil/water separator was sampled on August 8, 2006, and analyzed for TPH-Dx, TPH-G/BTEX, and PCBs. DRO, RRO, and PCBs were detected in the sample (Table 6). The sediment in the oil/water separator was sampled on August 11, 2006 and analyzed for PCBs and TPH-Dx based on the liquid analysis (Table 6). Concentrations of RRO and PCBs in the sediment exceeded soil interim cleanup levels (Table 6). A copy of the analytical results is included in Appendix E. The oil/water separator was emptied of liquid by ERRG on August 9, 2006, using a pump and 330-gallon plastic tote. The remaining sludge in the oil/water separator was removed by using 50 pounds of NAPA Super Absorbent and drummed on August 18, 2006 into four 55-gallon drums. EPA was verbally notified of the analytical results on August 10, 2006, and a letter report was submitted to EPA on August 17, 2006 (Geomatrix, 2006f). The letter report documented the sampling results and described the oil/water separator. The concrete oil/water separator (2 tons) was removed from the site on September 20, 2006 by Envirotech of Lynnwood, Washington. The concrete was disposed of at Chemical Waste Management in Arlington, Oregon.

5.1.5 Asbestos Pipe

During excavation of surface soil in the former Maintenance Area, suspect asbestos-containing pipe and lining were encountered in three areas. Two pipes (samples PIPE-1 and PIPE-2) and the oil/water separator lining (sample LINING-1) were sampled on August 7 and 9, 2006, by Zanna Satterwhite, a Geomatrix AHERA Building Inspector (License No. 1014996). Samples were submitted to NVL Laboratories, Inc. (NVL) of Seattle, Washington. Both pipes were shown to contain asbestos at concentrations above 1%, and therefore are considered asbestos-containing material. Results are tabulated in Table 6 and are included in Appendix E. Long Services Corporation (Long Services) of Kent, Washington, an asbestos abatement firm subcontracted by Rushforth, bagged the loose portions of the PIPE-1 and PIPE-2 fragments on August 9, 2006, and transported them off site. ERRG exposed the remaining PIPE-1 material, and on August 17, 2006, Long Services completed the abatement of the two pipes. It should be noted that waste manifests for the asbestos removal have not yet been received and will be sent to EPA under separate cover.

5.2 FORMER COMPRESSOR AREA

The former Compressor Area was excavated as planned, except for an increase in depth from 10 to 17 feet bgs and an increase in areal extent. The deep excavation was made larger than originally planned due to high headspace hits on the PID. A large concrete vault associated with the former process sewer and several pipes were encountered inside the deeper excavation.

5.2.1 Surface Soil

Compressor Area shallow confirmation composite sample COMP-4 was analyzed for copper. This sample contained 54.9 mg/kg copper, above the copper PRG of 36.4 mg/kg (Table 4). Therefore, one additional foot was excavated from the Compressor Area on August 17, 2006, and the area was sampled again on August 17, 2006, using the multi-incremental sampling methods outlined in Section 4.4.1. This sample (COMP-5) contained copper at a concentration below the PRG (Table 4).

5.2.2 Deep Excavation

Fourteen Compressor Area deep excavation confirmation samples were analyzed for TPH-Dx, TPH-G/BTEX, and PCBs (Table 5).

All samples contained concentrations of these analytes either below the detection limit, or below their respective interim cleanup levels, with the exception of confirmation base sample FRP080906 B4, collected at 15.0 feet bgs from the north base of the deep excavation, which contained benzene at a concentration of 0.054 mg/kg (Figure 6).

Two more bucket loads of soil were excavated from the north base area, and another sample, FRP081506 B5, was collected at 16.0 feet, below the previous sample, and analyzed for BTEX. The sample contained concentrations of benzene, toluene, ethylbenzene, and xylene that were all below cleanup goals.

Several subsurface structures were encountered during excavation of this toluene area:

- One 2-inch steel and one 1-inch steel pipe were encountered in the deep compressor excavation area, running north-south at approximately 2 feet bgs. Sections of the pipes running through the excavation were removed by ERRG and set aside on the ground. The 2-inch pipe is assumed to be the toluene pipeline shown on the historic drawing and is considered the likely source of the toluene-affected soil.

- Two approximate 6-inch-diameter pipes running northeast/southwest through the northwest corner of the deep excavation were encountered at approximately 3 feet bgs. Both pipes were broken by ERRG. One of the pipes leaked water, causing the northwest corner of the excavation to fill several feet deep with water.
- An approximate 6-foot diameter concrete vault filled with pea gravel was encountered in the southeast corner of the deep Compressor Area excavation; the vault is approximately 8 feet tall. This vault had a process sewer line running north to south at approximately 6 feet bgs (see photos in Appendix C). Water leaking from this pipe had no odor, no sheen, and appeared to be trapped rain/groundwater.

5.3 LABORATORY AREA

Excavation for the Laboratory Area went as planned, and nothing unusual was observed during the excavation, with the exception of a sewer line vault, which connected directly to the vault in the maintenance area (the pipe between the two vaults was asbestos pipe PIPE-1) (see Section 5.1). The Laboratory Area confirmation composite sample LAB-4 was analyzed for copper. This sample contained copper at a concentration of 33.3 mg/kg, which is below the PRG (Table 4).

5.4 SULFURIC ACID TANK SOLIDS DISPOSAL AREA

Excavation for the Sulfuric Acid Tank Solids Area went as planned, and nothing unusual was observed during the excavation. The Sulfuric Acid Tank Solids Disposal Area confirmation composite sample SULF-4 was analyzed for copper. This sample contained copper at a concentration of 17.1 mg/kg, which is below the PRG (Table 4).

5.5 QUALITY CONTROL

A multi-incremental duplicate sample was prepared for analysis of copper and PCBs. For multi-incremental samples, duplicate samples serve as a check on the grinding and homogenization of the ground sample rather than on variation in analyte concentrations due to sampling variability. The duplicate was an aliquot collected from one of the multi-incremental samples after completing the soil preparation. The duplicate samples consisted of separate aliquots from the two multi-incremental samples identified above. The duplicate samples were prepared and analyzed by the laboratory rather than the field sampling crew.

The laboratory ran the multi-incremental equipment blank which had no detectable PCBs; Copper was detected in the equipment blank sample at 0.00019 mg/L. No data was qualified

by this copper detection since the copper concentrations in the associated samples were at least five times greater than the blank result.

Discrete sampling field duplicates for water and soil were collected in the field during direct push sampling. No equipment blank was collected during discrete sampling.

6.0 CONCLUSIONS

The objective of the Site Characterization and Voluntary Interim Corrective Measure of the East Parcel was to evaluate soils in the East Parcel of the former Rhone Poulenc site and, where necessary, perform corrective measures to address any areas identified as being above unrestricted cleanup criteria. Based on site history and the RFI, COCs identified in the East Parcel were limited to PCBs, cPAHs, metals (primarily copper) and pH. EPA developed PRGs for these COCs assuming unrestricted property use, and these PRGs were used for comparative purposes throughout the East Parcel work. Due to VOCs, specifically toluene, being encountered during the investigation, several constituents were included in soil analyses specified in the Work Plan for which PRGs had not been established. For several analyzed constituents with no PRGs, the Respondents used the MTCA Method A cleanup levels as interim cleanup levels. In addition, the cleanup standard for toluene was developed in general accordance with MTCA Method B cleanup level protocols to ensure that the soil cleanup criterion was protective of groundwater. EPA will finalize site-specific cleanup levels as part of the remedy selection process.

Container Properties and EPA agreed upon EPA's multi-incremental sampling method for all characterization and confirmation sampling. This approach resulted in dividing the East Parcel into seven investigation areas:

- The former Maintenance Area;
- The former Compressor Area;
- The former Laboratory Area;
- The former Sulfuric Acid Tank Waste Solids Disposal Area;
- The former Pilot Plant Waste Disposal Area; and
- The Background Area (consisting of two sub-areas, Background Subarea 1 and Background Subarea 2).

In June 2006, multi-incremental sampling methods were used to collect 11 composite soil samples, each comprised of 35 discrete samples from a specific depth. The composite samples were selectively analyzed for PCBs, cPAHs, metals, and pH, based on historical use and constituents of concern for each investigation area. In addition, the investigation encountered two areas of VOC impacts in which discrete samples were taken. Composite and discrete sample analyses revealed the following exceedances of the interim cleanup levels:

Shallow contamination:

- Copper was shown to exceed its PRG in the portions of the upper surface (0.5 to 2.5 feet bgs) of the Compressor, Maintenance Building and Storage, Laboratory, and Sulfuric Acid Tank Solids Areas.
- PCBs were shown to exceed its PRG in the southwest portion upper surface (1.5 to 2.5 feet bgs) of the Compressor Area.

Deeper contamination:

- Toluene, GRO, and DRO were shown to exceed their respective soil interim cleanup levels from 2 to at least 8 feet bgs in the southwest portion of the Compressor Area.
- Toluene was shown to exceed the soil interim cleanup level from approximately 8 to at least 15 feet bgs in the southwest Maintenance Area.

Areas of soil shown to exceed one or more interim cleanup levels were excavated in August and September 2006 by ERRG, under the supervision of Geomatrix staff. Excavation depths ranged from 2 to 4 feet bgs, with the exception of the southwest Compressor and southwest Maintenance Areas, which were excavated to a maximum depth of 17 feet bgs. Copper-affected soil (soil from all excavation areas except the southwest Compressor Area) was relocated to the West Parcel within the area enclosed by the barrier wall, while soil containing concentrations of toluene, PCBs, DRO, or GRO above interim cleanup levels (from the southwest Compressor Area and/or southwest Maintenance Area excavations) was stockpiled on the East Parcel for off-site disposal. A total estimated volume of 5000 CY of COC-affected soil was removed from the East Parcel of which 1500 CY were shipped to Rabanco Roosevelt Class III landfill for disposal and the remainder placed on the west parcel within the barrier wall area.

Multi-incremental and discrete confirmation soil sampling was conducted after the initial planned excavations. Analysis results revealed that soil on the base of the Compressor and Maintenance Area shallow excavations still exceeded the copper PRG. The discrete sampling in the deep excavation of the Compressor Area also showed additional contamination on the bottom of the excavation. Therefore, another round of excavation was completed in the Compressor and Maintenance Areas. Multi-incremental and discrete confirmation soil sampling was conducted again after excavation. Analysis results confirm that all soil exceeding interim cleanup levels has been removed from the East Parcel.

The excavation for toluene within the Maintenance Area in the extreme southwest corner of the East Parcel removed soil to the south property line, to at least 10 feet into the West Parcel, and to at least 6 inches to a foot below the water table. A sheen of toluene was visible on the water table in the excavation even after completion of all soil removal. Approximately 14,000 gallons of groundwater were pumped from the open excavation and stored in a Baker tank for ultimate treatment and disposal. This groundwater removal appears to have removed the majority of remaining toluene and this area is effectively cleaned up.

Based on extensive site characterization and soil removal actions completed in the East Parcel, all soil exceeding the interim cleanup levels for residential or unrestricted use has been removed. All soil remaining on the East Parcel meets the interim cleanup levels. Groundwater in the southwest corner of the Maintenance Area may contain toluene at elevated concentrations; however, these concentrations are expected to diminish rapidly since the source has been removed.

7.0 REFERENCES

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TABLES

EAST PARCEL ANALYTICAL REQUIREMENTS AND SAMPLING STRATEGY
 Former Rhone-Poulenc East Marginal Way Facility
 Tukwila, Washington

TABLE 1

Area of Interest		Depth	Sample ID	Analytes	Depth	Sample ID	Analytes
Former Maintenance Area		0.5 to 1.5	MAINT-1-	As, Cu, Hg	7.0 to 8.0	MAINT-2-	cPAHs
Laboratory Area		0.5 to 1.5	LAB-1-	As, Cu, Hg	2.5 to 3.5	LAB-2-	cPAHs
Former Compressor Area		1.5 to 2.5	COMP-1-	PCBs, As, Cu, Hg	7.0 to 8.0	COMP-2-	PCBs
Former Sulfuric Acid Tanks Solids Disposal Area		0.5 to 1.5	SULF-1-	pH, Ag, As, Ba, Cd, Cr, Cu, Hg, Pb, Se	--	--	--
Former Pilot Plant Waste Disposal Area		1.0 to 2.0	PLOT-1-	cPAHs	7.0 to 8.0	PLOT-2-	cPAHs
Background 1		1.0 to 2.0	BACK1-1-	cPAHs, Cu	--	--	--
Background 2 (RR)		1.0 to 2.0	BACK2-1-	cPAHs, Cu	--	--	--

Notes:

Depths are in feet below ground surface (bgs).

Metals analyzed by EPA Method 6000/7000: mercury analyzed by EPA Method 7010.

pH analyzed using EPA Method 9045B.

Ag = silver

As = arsenic

Ba = barium

Cd = cadmium

Cr = chromium

Cu = copper

Hg = mercury analyzed by EPA Method 7010.

Pb = lead

pH = potential hydrogen

Se = selenium

cPAHs = carcinogenic polycyclic aromatic hydrocarbons analyzed using EPA Method 8270C.

PCBs = polychlorinated biphenyls analyzed using EPA Method 8082.

RR = railroad

TABLE 2

EAST PARCEL COMPOSITE SAMPLE ANALYTICAL RESULTS
Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

Area of Investigation	Sample ID	Depth (feet)	cPAHs (mg/kg) ²	Total PCBs (mg/kg)	pH	Metals (mg/kg)								
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver
Interim Cleanup Levels ¹			0.1	1	--	20	--	2	19/2,000 ³	36.4	250	2	--	--
Background 1	BACK1-1	1.0 to 2.0	0.02549 J							15.7				
	BACK1-1 (dup)	1.0 to 2.0	0.02839 J											
Background 2 (RR)	BACK2-1	1.0 to 2.0	0.0983 J							24.8 J				
Former Compressor Area	COMP-1	1.5 to 2.5		7.4		2.82				257		0.415		
	COMP-1 (dup)	1.5 to 2.5		6.9										
	COMP-2	7.0 to 8.0		<0.17 U										
Former Maintenance Area	MAINT-1	0.5 to 1.5				4.76				110		0.450		
	MAINT-1 (dup)	0.5 to 1.5				4.56				106		0.427		
	MAINT-2	7.0 to 8.0	0.001761 J											
Former Pilot Plant Waste Disposal Area	PILOT-1	1.0 to 2.0	0.005782 J											
	PILOT-2	7.0 to 8.0	0.001865 J											
Former Sulfuric Acid Tanks Solids Disposal Area	SULF-1	0.5 to 1.5			7.74 J	2.53	33.5	0.08	10.7	41.5	6.52	0.055	0.3 J	0.123 J
Laboratory Area	LAB-1	0.5 to 1.5				4.9				40.3		0.043		
	LAB-2	2.5 to 3.5	0.0155 J											

Notes:

- Interim cleanup levels represent EPA proposed preliminary remedial goals, or PRGs for the East Parcel for arsenic, cPAHs as Benzo(a)pyrene equivalents, copper, and PCBs. Interim cleanup levels for benzene, xylenes, ethyl benzene, cadmium, chromium (trivalent and hexavalent chromium), and lead are based on MTCA Method A residential soil cleanup levels.
- cPAHs = carcinogenic polycyclic aromatic hydrocarbons, expressed as benzo(a)pyrene equivalent.
- Chromium VI cleanup level is 19 mg/kg; Chromium III cleanup level is 2,000 mg/kg. This investigation assumes chromium is present as Chromium III.

BACK1-1 B(a)P = (17*1.0)+(12*.1)+(22*.1)+(18*.1)+(25*.01)+(3.1*.4)+(18*.1)= 25.49, less than 100 CL.
 BACK1-1 DUPLICATE B(a)P = (19*1.0)+(14*.1)+(24*.1)+(19*.1)+(29*.01)+(3.5*.4)+(20*.1)= 28.39, less than 100 CL.
 BACK2-1 B(a)P = (65*1.0)+(51*.1)+(87*.1)+(74*.1)+(120*.01)+(12*.4)+(61*.1)= 98.3, less than 100 CL.
 MAINT-2 B(a)P = (1.2*1.0)+(0.83*.1)+(1.3*.1)+(0.97*.1)+(1.7*.01)+(0.26*.4)+(1.3*.1)= 1.761, less than 100 CL.
 PILOT-1 B(a)P = (3.9*1.0)+(3.6*.1)+(4.4*.1)+(3.5*.1)+(6.6*.01)+(0.74*.4)+(3.7*.1)= 5.782, less than 100 CL.
 PILOT-2 B(a)P = (1.2*1.0)+(0.85*.1)+(1.6*.1)+(1.1*.1)+(2.4*.01)+(0.34*.4)+(1.5*.1)= 1.865, less than 100 CL.
 LAB-2 B(a)P = (11*1.0)+(8.4*.1)+(11*.1)+(8.6*.1)+(15*.01)+(1.5*.4)+(9.5*.1)= 15.5, less than 100 CL.

Bold results exceed cleanup level.

PCBs = polychlorinated biphenyls

U = The compound was analyzed for, but was not detected ("non-detect") at or above the MRL/MDL.

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

TABLE 3

EAST PARCEL DISCRETE SAMPLE ANALYTICAL RESULTS
Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

Notes:

1. Interim cleanup levels represent EPA proposed preliminary remedial goals, or PRGs for the East Parcel for arsenic, cPAHs as Benzo(a)pyrene equivalents, copper, and PCBs.
Interim cleanup levels for benzene, cadmium, chromium (trivalent and hexavalent chromium), lead, naphthalene, TPH-DRO, TPH-RRO, and TPH-GRO are based on MTCA Method A residential soil cleanup levels.
Interim cleanup levels for toluene are for toluene was developed in general accordance with MTCA Method B cleanup level protocols to ensure that the soil cleanup criterion was protective of groundwater.
2. Chromium VI cleanup level is 19 mg/kg; Chromium III cleanup level is 2,000 mg/kg. This investigation assumes chromium is present as Chromium III.
3. The gasoline result has a chromatographic fingerprint that resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
4. The diesel result chromatographic fingerprint resembles a petroleum product but the elution pattern does not match the calibration standard.
5. The residual range result resembles an oil, but does not match the calibration standard.

Bold results exceed cleanup level.

GRO - NWTPH = gasoline range organics, northwest total petroleum hydrocarbons method

DRO - NWTPH = diesel range organics, northwest total petroleum hydrocarbons method

RRO - NWTPH = residual range organics, northwest total petroleum hydrocarbons method

PCBs = polychlorinated biphenyls

VOCs = volatile organic compounds (only detected VOCs are shown on this table)

U = The compound was analyzed for, but was not detected ("non-detect") at or above the MRL/MDL.

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

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

All PCB results were analyzed outside of hold time and are qualified as estimated (J).

mg/kg = milligrams per kilogram

TABLE 4

EAST PARCEL COMPOSITE CONFIRMATION SAMPLE ANALYTICAL RESULTS


Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

Area of Investigation	Sample ID	Collection Date	Depth (feet)	Total PCBs (mg/kg)	Copper (mg/kg)
Interim Cleanup Level ¹				1	36.4
Former Compressor Area	COMP-4	8/10/2006	3.0	0.26 J	54.9
	COMP-4 (dup)	8/10/2006	3.0	0.30 J	NA
	COMP-5	8/17/2006	4 to 5.5	NA	25.8
Former Maintenance Area	MAINT-4	8/9/2006	2.0 to 3.0	NA	74.6
	MAINT-4 (dup)	8/9/2006	2.0 to 3.0	NA	76.6
	MAINT-5	8/19/2006	2.0 to 4.0	NA	36.3
Former Sulfuric Acid Tanks Solids	SULF-4	8/10/2006	2.0 to 3.0	NA	17.1
Laboratory Area	LAB-4	8/9/2006	2.0 to 3.0	NA	33.3

				Total PCBs (mg/L)	Copper (mg/L)
Equipment Blank	ER-1	--	--	<0.00042 U	0.00019

Notes:

1. Interim cleanup levels represent EPA proposed preliminary remedial goals, or PRGs for the East Parcel for copper, and PCBs. **Bold** results exceed cleanup level.

 shaded cells indicate that the samples exceeded the interim cleanup level so additional soil was excavated.

PCBs = polychlorinated biphenyls

U = The compound was analyzed for, but was not detected ("non-detect") at or above the reporting limit.

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

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

TABLE 5

EAST PARCEL DISCRETE CONFIRMATION SAMPLE ANALYTICAL RESULTS

Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

Area of Investigation	Sample Location	Sample ID	Matrix	Depth (feet)	GRO - NWTPH (mg/kg)	DRO - NWTPH (mg/kg)	RRO - NWTPH (mg/kg)	PCBs (mg/kg)	VOCs (mg/kg)				Copper (mg/kg)
									Benzene	Toluene	Ethylbenzene	Xylene	
Interim Cleanup Level					100/30	2,000	2,000	1	0.03	0.83	--	--	36.4
Former Compressor Area - Deep Excavation	North Wall	FRP080906 N1	Soil	4.0	<9.5 U	<32 U	<63 U	<0.063 U	<0.024 U	0.19	<0.024 U	<0.072 U	NA
		FRP080906 N2	Soil	11.0	<8.6 U	<33 U	<67 U	<0.067 U	<0.021 U	0.098	<0.021 U	<0.064 U	NA
	South Wall	FRP080706 S1	Soil	8.0	<7.4 U	<33 U	<67 U	<0.061 U	<0.037 U	<0.037 U	<0.037 U	<0.150 U	NA
		FRP080706 W1	Soil	7.0	<9.5 U	<33 U	<67 U	<0.067 U	NA	NA	NA	NA	NA
	West Wall	FRP080806 W1	Soil	6.0	NA	NA	NA	NA	<0.023 U	<0.023 U	<0.023 U	<0.069 U	NA
		FRP080706 W2	Soil	6.0	<8.8 U	<32 U	<63 U	<0.063 U	NA	NA	NA	NA	NA
		FRP080806 W2	Soil	7.0	NA	NA	NA	NA	<0.023 U	<0.023 U	<0.023 U	<0.069 U	NA
	East Wall	FRP080706 E1	Soil	8.0	<7.8 U	<32 U	<63 U	<0.063 U	<0.039 U	0.054	<0.039 U	<0.160 U	NA
		FRP080706 E2	Soil	8.0	<8.4 U	<31 U	<62 U	<0.062 U	NA	NA	NA	NA	NA
		FRP080806 E2	Soil	6.0	NA	NA	NA	NA	<0.031 U	<0.031 U	<0.031 U	<0.092 U	NA
		FRP080706 E3	Soil	7.0	<8.2 U	<29 U	<59 U	<0.059 U	<0.041 U	<0.041 U	<0.041 U	<0.160 U	NA
	Base	FRP080706 E4	Soil	8.0	<8.0 U	<31 U	<63 U	<0.063 U	<0.040 U	<0.040 U	<0.040 U	<0.160 U	NA
		FRP080906 B1	Soil	10.0	<8.3 U	<33 U	<67 U	<0.067 U	0.028	0.200	0.044	0.219	NA
		FRP080906 B2	Soil	11.0	<8.0 U	<35 U	<70 U	<0.070 U	<0.020 U	0.045	<0.020 U	0.040	NA
		FRP080906 B3	Soil	13.0	<8.6 U	<33 U	<67 U	<0.067 U	0.030	<0.022 U	<0.022 U	<0.065 U	NA
FRP080906 B4		Soil	15.0	<8.6 U	<35 U	<69 U	<0.069 U	0.054	<0.022 U	<0.022 U	<0.065 U	NA	
	FRP081506 B5	Soil	16.0	NA	NA	NA	NA	<0.020 U	0.070	<0.020 U	<0.060 U	NA	
	FRP081506 B5A (field duplicate)	Soil	16.0	NA	NA	NA	NA	<0.020 U	0.220	<0.020 U	<0.060 U	NA	
Former Maintenance Building and Storage Area - Shallow Excavation		MAINT-4-1A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	46.9
		MAINT-4-2A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	61.5
		MAINT-4-3A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	42.4
		MAINT-4-4A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	26.8
		MAINT-4-5A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	69.2
		MAINT-4-6A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	10.3
		MAINT-4-7A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	17.7
		MAINT-4-8A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	21.0
		MAINT-4-9A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	95.6
		MAINT-4-10A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	15.1
		MAINT-4-11A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	27.2
		MAINT-4-12A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	244
		MAINT-4-13A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	168
		MAINT-4-14A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	202
		MAINT-4-15A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	31.0
	MAINT-4-16A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	62.6	
	MAINT-4-17A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	81.5	

TABLE 5

EAST PARCEL DISCRETE CONFIRMATION SAMPLE ANALYTICAL RESULTS

Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

Area of Investigation	Sample Location	Sample ID	Matrix	Depth (feet)	GRO - NWTPH (mg/kg)	DRO - NWTPH (mg/kg)	RRO - NWTPH (mg/kg)	PCBs (mg/kg)	VOCs (mg/kg)				Copper (mg/kg)
									Benzene	Toluene	Ethylbenzene	Xylene	
Interim Cleanup Level					100/30	2,000	2,000	1	0.03	0.83	--	--	36.4
Former Maintenance Building and Storage Area - Shallow Excavation (Continued)		MAINT-4-18A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	11.2
		MAINT-4-19A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	55.0
		MAINT-4-20A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	86.6
		MAINT-4-21A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	60.1
		MAINT-4-22A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	96.0
		MAINT-4-23A	Soil	3.0	NA	NA	NA	NA	NA	NA	NA	NA	31.9
		MAINT-4-24A	Soil	3.0	NA	NA	NA	NA	NA	NA	NA	NA	22.0
		MAINT-4-25A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	120
		MAINT-4-26A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	29.3
		MAINT-4-27A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	124
		MAINT-4-28A	Soil	2.5	NA	NA	NA	NA	NA	NA	NA	NA	32.5
		MAINT-4-29A	Soil	2.5	NA	NA	NA	NA	NA	NA	NA	NA	20.7
		MAINT-4-30A	Soil	3.0	NA	NA	NA	NA	NA	NA	NA	NA	19.4
		MAINT-4-31A	Soil	2.5	NA	NA	NA	NA	NA	NA	NA	NA	65.1
		MAINT-4-32A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	18.4
		MAINT-4-33A	Soil	2.0	NA	NA	NA	NA	NA	NA	NA	NA	44.0
	MAINT-4-34A	Soil	3.0	NA	NA	NA	NA	NA	NA	NA	NA	7.94	
	MAINT-4-35A	Soil	3.0	NA	NA	NA	NA	NA	NA	NA	NA	299	
Former Maintenance Building and Storage Area - Deep Excavation	North Wall	RP082806-N1	Soil	8.0	NA	NA	NA	NA	0.036	81	<0.070 U	<0.140 U	NA
		RP082806-N2	Soil	8.0	NA	NA	NA	NA	0.045	0.23	<0.074 U	0.67	NA
		RP083106-N3	Soil	8.0	NA	NA	NA	NA	<0.021 U	<0.021 U	<0.021 U	<0.063 U	NA
		RP083106-N4	Soil	8.0	NA	NA	NA	NA	<0.021 U	<0.021 U	<0.021 U	0.11	NA
	East Wall	RP082806-E1	Soil	8.0	NA	NA	NA	NA	<0.020 U	<0.082 U	<0.082 U	<0.164 U	NA
		RP082806-E2	Soil	8.0	NA	NA	NA	NA	<0.020 U	0.10	<0.068 U	<0.136 U	NA
	South Wall	RP082806-S1	Soil	11.5	NA	NA	NA	NA	3.7	3,800 E	11	14.2	NA
		RP092306-1	Soil	8.0	NA	NA	NA	NA	0.110	<0.046 U	<0.046 U	<0.092 U	NA
		RP092306-3	Soil	8.0	NA	NA	NA	NA	0.12	530	0.13	0.15	NA
	Base	RP082806-B1	Soil	12.0	NA	NA	NA	NA	0.065	150	<0.076 U	<0.152 U	NA
RP082806-B2		Soil	11.0	NA	NA	NA	NA	<0.020 U	0.47	<0.061 U	<0.122 U	NA	
RP082806-B3		Soil	12.0	NA	NA	NA	NA	<0.020 U	4.7	<0.068 U	<0.136 U	NA	
RP082806-B4		Soil	12.0	NA	NA	NA	NA	<0.020 U	0.16	<0.068 U	<0.136 U	NA	
	RP092306-2	Soil	11.0	NA	NA	NA	NA	<0.044 U	0.100	<0.044 U	<0.088 U	NA	

Notes:

- Interim cleanup levels represent EPA proposed preliminary remedial goals, or PRGs for the East Parcel for copper, and PCBs. Interim cleanup levels for benzene, ethyl benzene, and xylenes are based on MTCA Method A residential soil cleanup levels. The interim cleanup level for toluene was developed in general accordance with MTCA Method B cleanup level protocols to ensure that the soil cleanup criterion was protective of groundwater.
- The GRO result is mainly attributed to a single peak (toluene).

Bold results exceed cleanup level.

Shaded cells indicate that the samples exceeded the interim cleanup level so additional soil was excavated.

GRO - NWTPH = gasoline range organics, northwest total petroleum hydrocarbons method

DRO - NWTPH = diesel range organics, northwest total petroleum hydrocarbons method

RRO - NWTPH = residual range organics, northwest total petroleum hydrocarbons method

PCBs = polychlorinated biphenyls

VOCs = volatile organic compounds

NA = not analyzed.

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

mg/kg = milligrams per kilogram

EAST PARCEL DIRECT PUSH BORING SAMPLE ANALYTICAL RESULTS
 Former Rhone-Poulenc East Marginal Way Facility
 Tukwila, Washington

TABLE 6

Area of Investigation	Sample Location	Sample ID	Matrix	Depth (feet)	VOCs (mg/kg or mg/L)				Total Organic Carbon (%)	
					Benzene	Toluene	Ethylbenzene	Xylene		
Former Maintenance Building and Storage Area - Deep Excavation	Direct Push Borings	RP082406-16 (GMX-14.0)	Soil	4.0	<1.1 U	440	<1.1 U	<2.2 U	0.358	
		RP082406-17 (GMX-1-8.0)	Soil	8.0	<10 U	5,600	<10 U	<21 U	NA	
		RP082406-12 (GMX-2-2.5)	Soil	2.5	<0.1 U	43	<0.1 U	<0.20 U	NA	
		RP082406-13 (GMX-2-8.0)	Soil	8.0	<44 U	20,000	<44 U	<88 U	NA	
		RP082406-15 (GMX-2A-8.0 (field duplicate))	Soil	8.0	<47 U	23,000	<47 U	<94 U	NA	
		RP082406-09 (GMX-3-2.0)	Soil	2.0	<0.022 U	<0.022 U	<0.022 U	<0.044 U	NA	
		RP082406-10 (GMX-3-5.5)	Soil	5.5	<0.022 U	<0.022 U	<0.022 U	<0.044 U	NA	
		RP082406-05 (GMX-4-2.0)	Soil	2.0	<0.021 U	0.021	<0.021 U	<0.043 U	0.256	
		RP082406-06 (GMX-4-4.0)	Soil	4.0	<0.020 U	1.5	<0.020 U	<0.040 U	NA	
		RP082606-01 (GMX-6-13.0)	Soil	13.0	<0.014 U	<0.014 U	<0.014 U	<0.027 U	NA	
		RP082606-03 (GMX-7-13.0)	Soil	13.0	<0.012 U	<0.012 U	<0.012 U	<0.025 U	NA	
		RP082606-05 (GMX-8-9.0)	Soil	9.0	<2.8 U	1,600	<2.8 U	<5.7 U	NA	
		RP082606-07 (GMX-10-9.0)	Soil	9.0	<0.033 U	<0.033 U	<0.033 U	<0.067 U	NA	
		RP082406-18 (GMX-1)	Water	8 to 13	<0.250 U	32	<0.250 U	<0.250 U	<0.250 U	NA
		RP082406-14 (GMX-2)	Water	8 to 13	<1 U	90	<1 U	<1 U	<1 U	NA
		RP082406-11 (GMX-3)	Water	10 to 15	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	NA
		RP082406-07 (GMX-4)	Water	7 to 12	<0.001 U	0.0032	<0.001 U	<0.001 U	<0.001 U	NA
		RP082406-03 (GMX-5)	Water	13 to 18	<0.050 U	4.1	<0.050 U	<0.050 U	<0.050 U	NA
		RP082406-04 (GMX-5A (field duplicate))	Water	13 to 18	<0.050 U	3.6	<0.050 U	<0.050 U	<0.050 U	NA
		RP082606-02 (GMX-6)	Water	11 to 16	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	NA
RP082606-04 (GMX-7)	Water	11 to 16	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	NA		
RP082606-08 (GMX-10)	Water	11 to 16	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	NA		

Notes:

- Interim cleanup levels for benzene, ethyl benzene, and xylenes are based on MTCA Method A residential soil cleanup levels. The interim cleanup level for toluene was developed in general accordance with MTCA Method B cleanup level protocols to ensure that the soil cleanup criterion was protective of groundwater. Bold results exceed cleanup level.
- shaded cells indicate that the samples exceeded the interim cleanup level so additional soil was excavated.

VOCs = volatile organic compounds
 NA = not analyzed
 mg/kg = milligrams per kilogram
 mg/L = milligrams per liter

TABLE 7

EAST PARCEL ASBESTOS AND OIL/WATER SEPARATOR ANALYTICAL RESULTS

Former Rhone-Poulenc East Marginal Way Facility
Tukwila, Washington

Area of Investigation	Sample Location	Date	Sample ID	Asbestos (%)	TPH - GRO (ppm)	TPH - DRO (ppm)	TPH - RRO (ppm)	PCBs (ppm)
Interim Cleanup Levels ¹				--	30/100	2,000	2,000	1
Former Maintenance Area	Oil-Water Separator - Liquid	8/8/2006	FRP 080806	NA	<0.25 U	22	160	0.28
	Oil-Water Separator - Sediment	8/11/2006	FRP 081106 OWS	NA	NA	840	6,600	10
	Oil-Water Separator - Lining	8/9/2006	LINING-1	<1	NA	NA	NA	NA
	North Former Maintenance Area	8/7/2006	PIPE-1	9	NA	NA	NA	NA
	West Former Maintenance Area	8/9/2006	PIPE-2	27	NA	NA	NA	NA

Notes:

1. Interim cleanup levels represent EPA proposed preliminary remedial goals, or PRGs for the East Parcel for PCBs.

Interim cleanup levels for TPH-DRO, TPH-RRO, and TPH-GRO are based on MTCA Method A residential soil cleanup levels.

Bold results exceed cleanup level.

TPH = total petroleum hydrocarbons

GRO - NWTPH = gasoline range organics, northwest total petroleum hydrocarbons method

DRO - NWTPH = diesel range organics, northwest total petroleum hydrocarbons method

RRO - NWTPH = residual range organics, northwest total petroleum hydrocarbons method

PCBs = polychlorinated biphenyls

U = The compound was analyzed for, but was not detected ("non-detect") at or above the reporting limit.

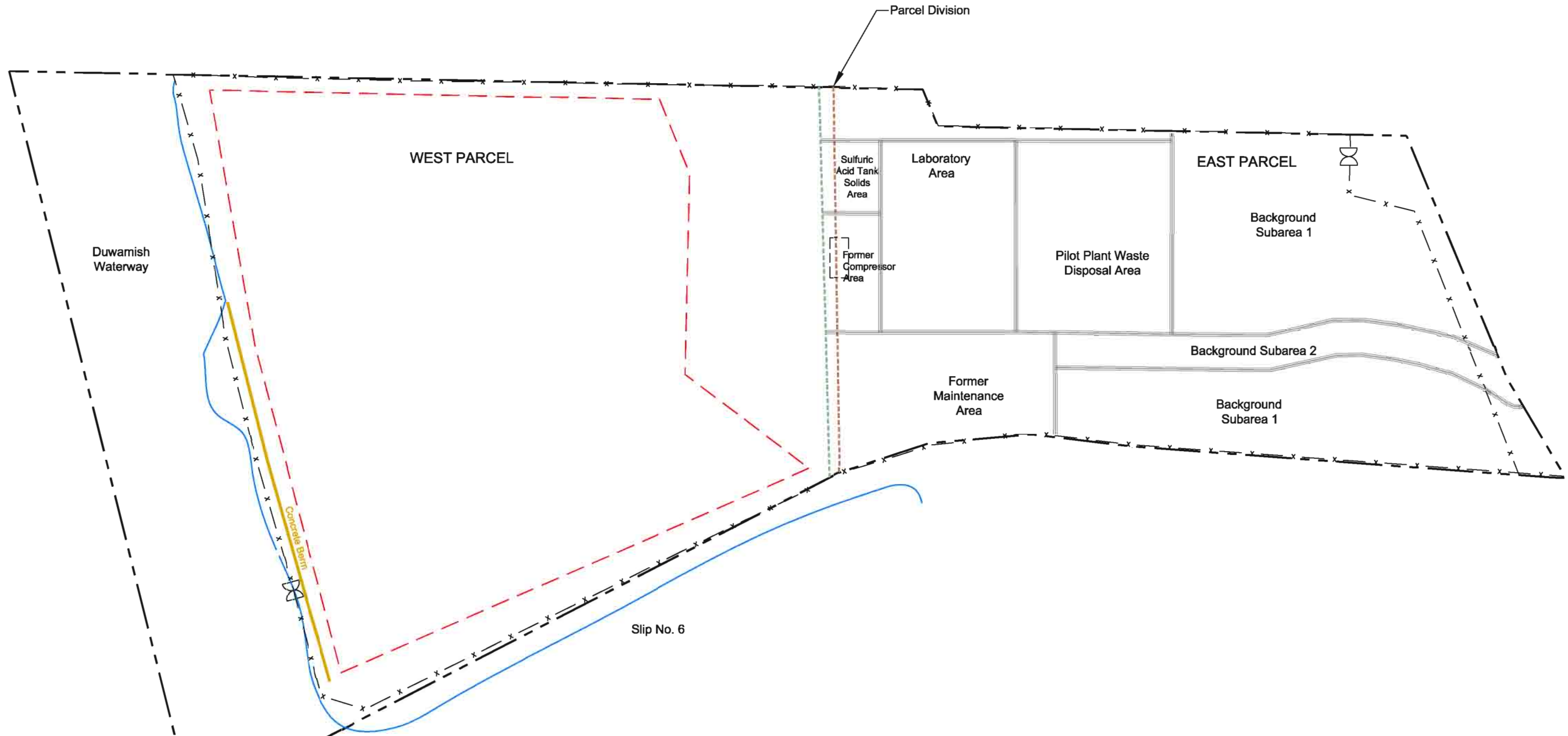
NA = not analyzed

ppm = parts per million


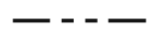
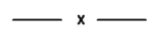



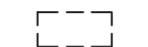
mg/kg = milligrams per kilogram

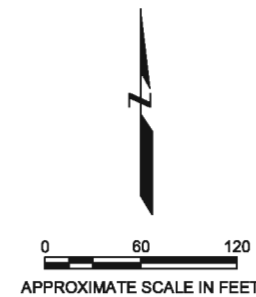
FIGURES


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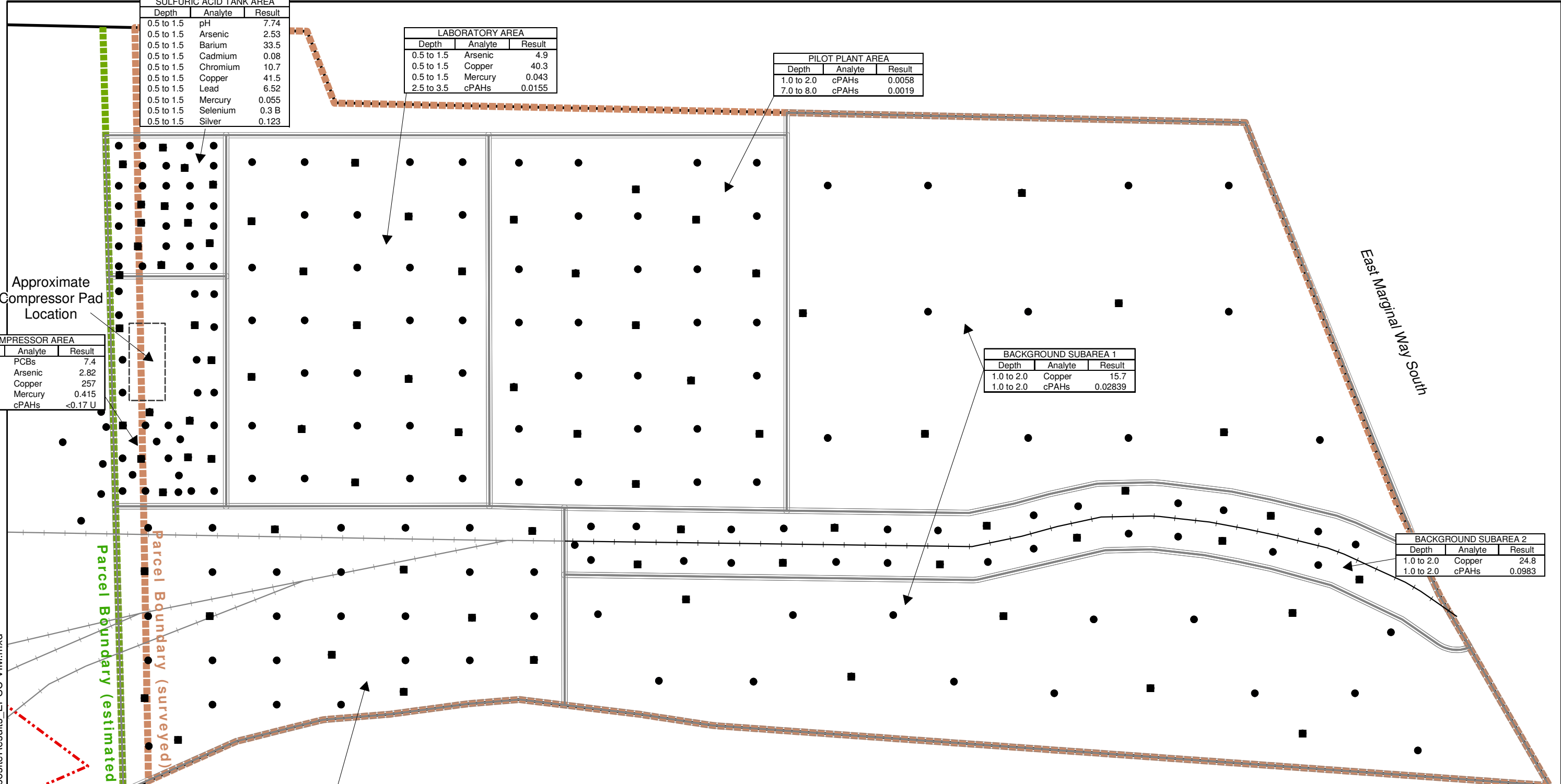


Explanation

-  Barrier Wall
-  Parcel Boundary
-  Fence
-  Surveyed Location of Parcel Boundary
-  GPS Estimated Field Location of Parcel Boundary
-  Investigation Area
-  Former Compressor Pad



SITE MAP East Parcel Soil Characterization and Voluntary Interim Measure Report Former Rhone-Poulenc Site Tukwila, Washington		
By: APS	Date: 09/29/06	Project No. 8769.006/2
		Figure 1



SULFURIC ACID TANK AREA		
Depth	Analyte	Result
0.5 to 1.5	pH	7.74
0.5 to 1.5	Arsenic	2.53
0.5 to 1.5	Barium	33.5
0.5 to 1.5	Cadmium	0.08
0.5 to 1.5	Chromium	10.7
0.5 to 1.5	Copper	41.5
0.5 to 1.5	Lead	6.52
0.5 to 1.5	Mercury	0.055
0.5 to 1.5	Selenium	0.3 B
0.5 to 1.5	Silver	0.123

LABORATORY AREA		
Depth	Analyte	Result
0.5 to 1.5	Arsenic	4.9
0.5 to 1.5	Copper	40.3
0.5 to 1.5	Mercury	0.043
2.5 to 3.5	cPAHs	0.0155

PILOT PLANT AREA		
Depth	Analyte	Result
1.0 to 2.0	cPAHs	0.0058
7.0 to 8.0	cPAHs	0.0019

COMPRESSOR AREA		
Depth	Analyte	Result
1.5 to 2.5	PCBs	7.4
1.5 to 2.5	Arsenic	2.82
1.5 to 2.5	Copper	257
1.5 to 2.5	Mercury	0.415
7.0 to 8.0	cPAHs	<0.17 U

BACKGROUND SUBAREA 1		
Depth	Analyte	Result
1.0 to 2.0	Copper	15.7
1.0 to 2.0	cPAHs	0.02839

BACKGROUND SUBAREA 2		
Depth	Analyte	Result
1.0 to 2.0	Copper	24.8
1.0 to 2.0	cPAHs	0.0983

MAINTENANCE AREA		
Depth	Analyte	Result
0.5 to 1.5	Arsenic	4.76
0.5 to 1.5	Copper	110
0.5 to 1.5	Mercury	0.450
7.0 to 8.0	cPAHs	0.0018

Explanation

- Non-Archived Soil Sample Location
- Archived Soil Sample Location
- Barrier Wall
- Shoreline
- Existing Railroad Below Surface
- Removed Railroad
- Surveied Location of Parcel Boundary
- GPS Estimated Field Location of Parcel Boundary
- Investigation Area

Approximate Compressor Pad Location

Parcel Boundary (estimated)

Parcel Boundary (surveied)

East Marginal Way South

Slip No. 6

Notes:
 Concentrations in mg/kg.
 cPAHs expressed as benzo(a)pyrene equivalent.
 U = The compound was analyzed for, but was not detected at or above the reporting limit.

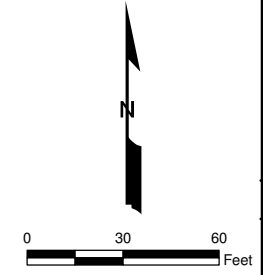
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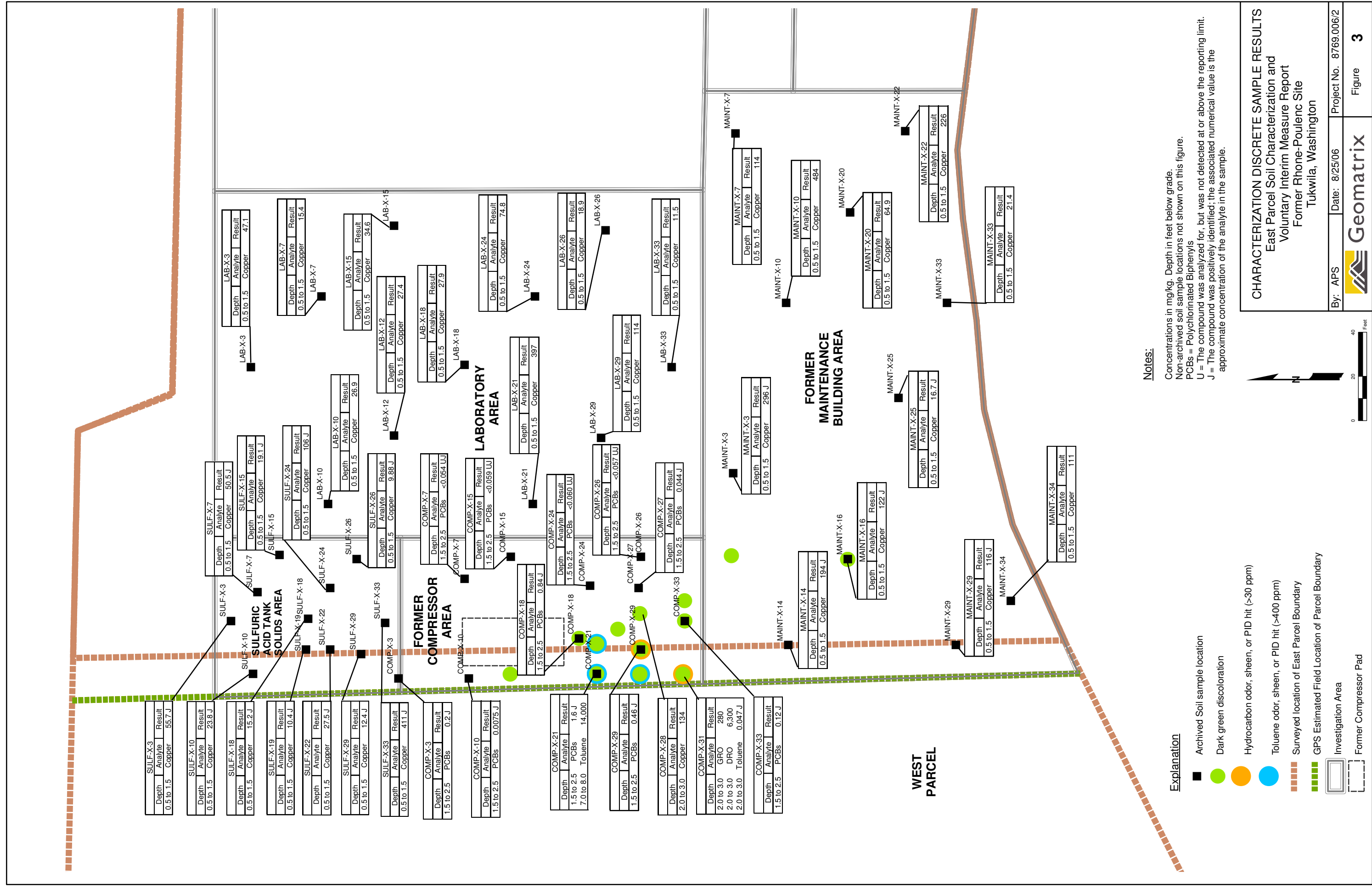
CHARACTERIZATION COMPOSITE SAMPLE RESULTS
 East Parcel Soil Characterization and
 Voluntary Interim Measure Report
 Former Rhone-Poulenc Site
 Tukwila, Washington

By: APS Date: 8/25/2006 Project No. 8769.006/2



Figure **2**





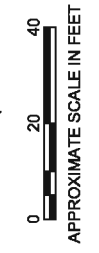
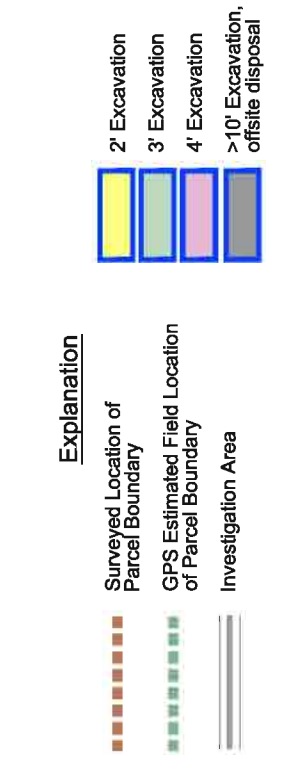
Notes:

- Concentrations in mg/kg. Depth in feet below grade.
- Non-archived soil sample locations not shown on this figure.
- PCBs = Polychlorinated Biphenyls
- U = The compound was analyzed for, but was not detected at or above the reporting limit.
- J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

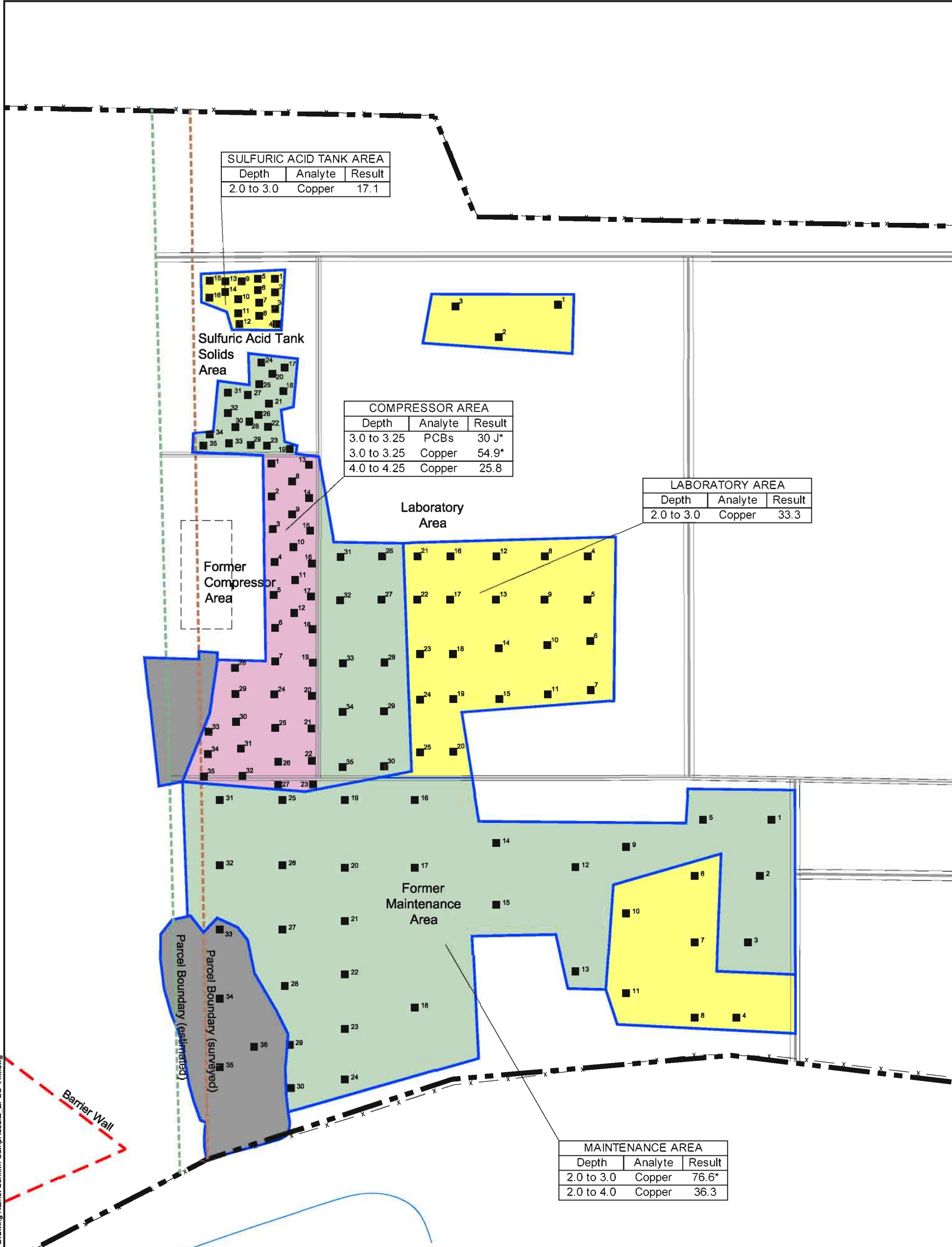
Explanation

- Archived Soil sample location
- Dark green discoloration
- Hydrocarbon odor, sheen, or PID hit (>30 ppm)
- Toluene odor, sheen, or PID hit (>400 ppm)
- Surveyed location of East Parcel Boundary
- GPS Estimated Field Location of Parcel Boundary
- Investigation Area
- Former Compressor Pad





Plot Date: 09/29/06 - 10:19am, Plotted by: astenberg
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SULFURIC ACID TANK AREA		
Depth	Analyte	Result
2.0 to 3.0	Copper	17.1

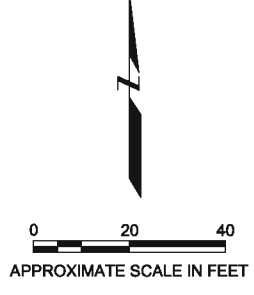
COMPRESSOR AREA		
Depth	Analyte	Result
3.0 to 3.25	PCBs	30 J*
3.0 to 3.25	Copper	54.9*
4.0 to 4.25	Copper	25.8

LABORATORY AREA		
Depth	Analyte	Result
2.0 to 3.0	Copper	33.3

MAINTENANCE AREA		
Depth	Analyte	Result
2.0 to 3.0	Copper	76.6*
2.0 to 4.0	Copper	36.3

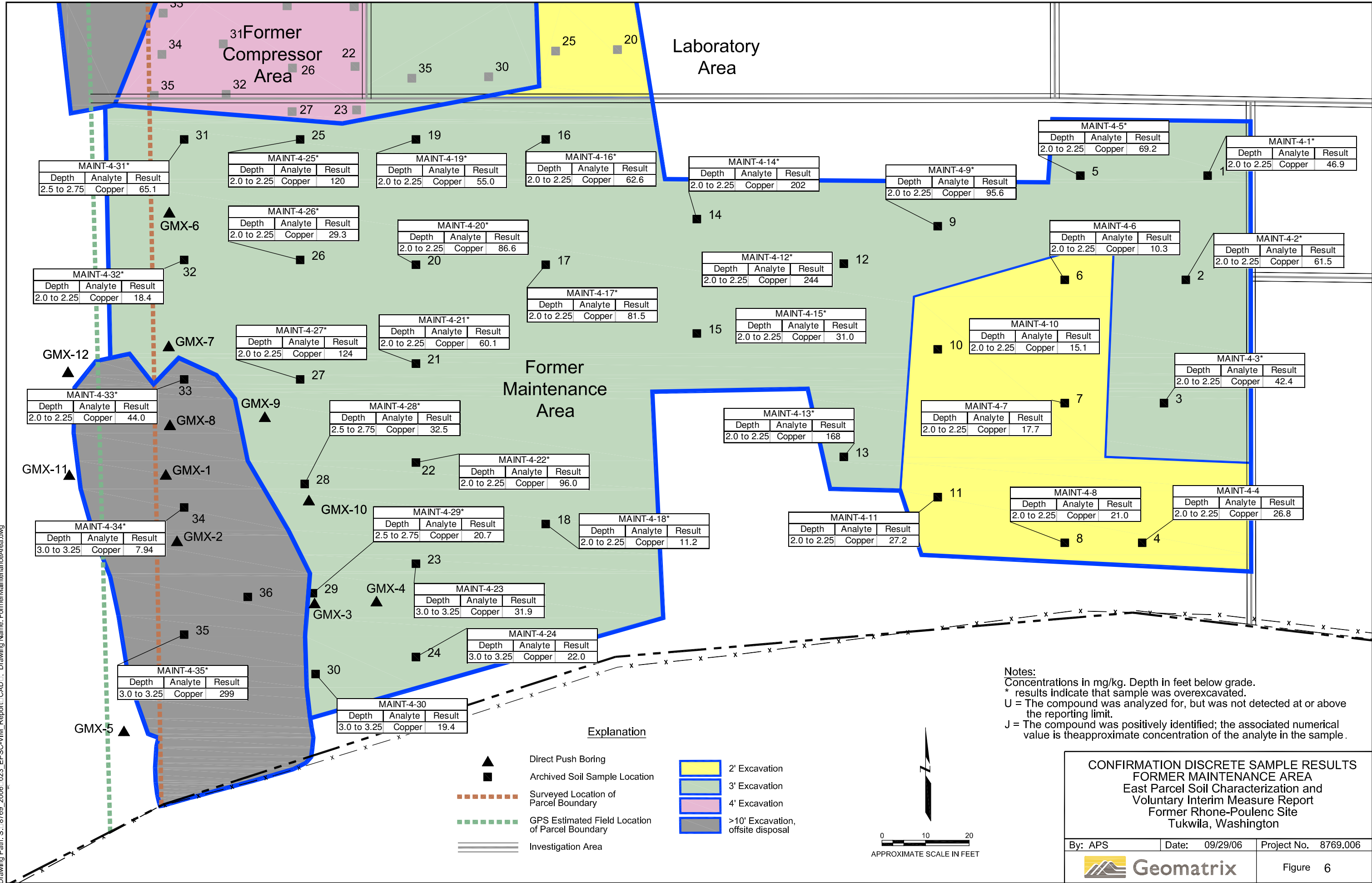
Notes:
 Concentrations in mg/kg. Depth in feet below grade.
 * results indicate that the sample was excavated.
 PCBs = Polychlorinated Biphenyls
 J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Explanation	
■	Archived Soil Sample Location
—	Investigation Area
—	Surveyed Location of Parcel Boundary
—	GPS Estimated Field Location of Parcel Boundary
■	2' Excavation
■	3' Excavation
■	4' Excavation
■	>10' Excavation, offsite disposal

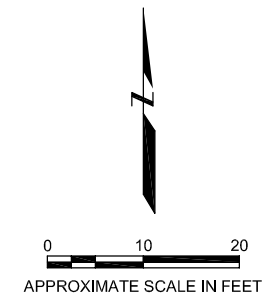


CONFIRMATION COMPOSITE SAMPLE RESULTS East Parcel Soil Characterization and Voluntary Interim Measure Report Former Rhone-Poulenc Site Tukwila, Washington		
By: APS	Date: 09/29/06	Project No. 8769.006/2
		Figure 5

Plot Date: 09/29/06 - 11:25am. Plotted by: astenberg
 Drawing Path: S:\8769_2006\023_EPSC-VIM_Report\CAD\ Drawing Name: FormerMaintenanceArea.dwg



Notes:
 Concentrations in mg/kg. Depth in feet below grade.
 * results indicate that sample was overexcavated.
 U = The compound was analyzed for, but was not detected at or above the reporting limit.
 J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

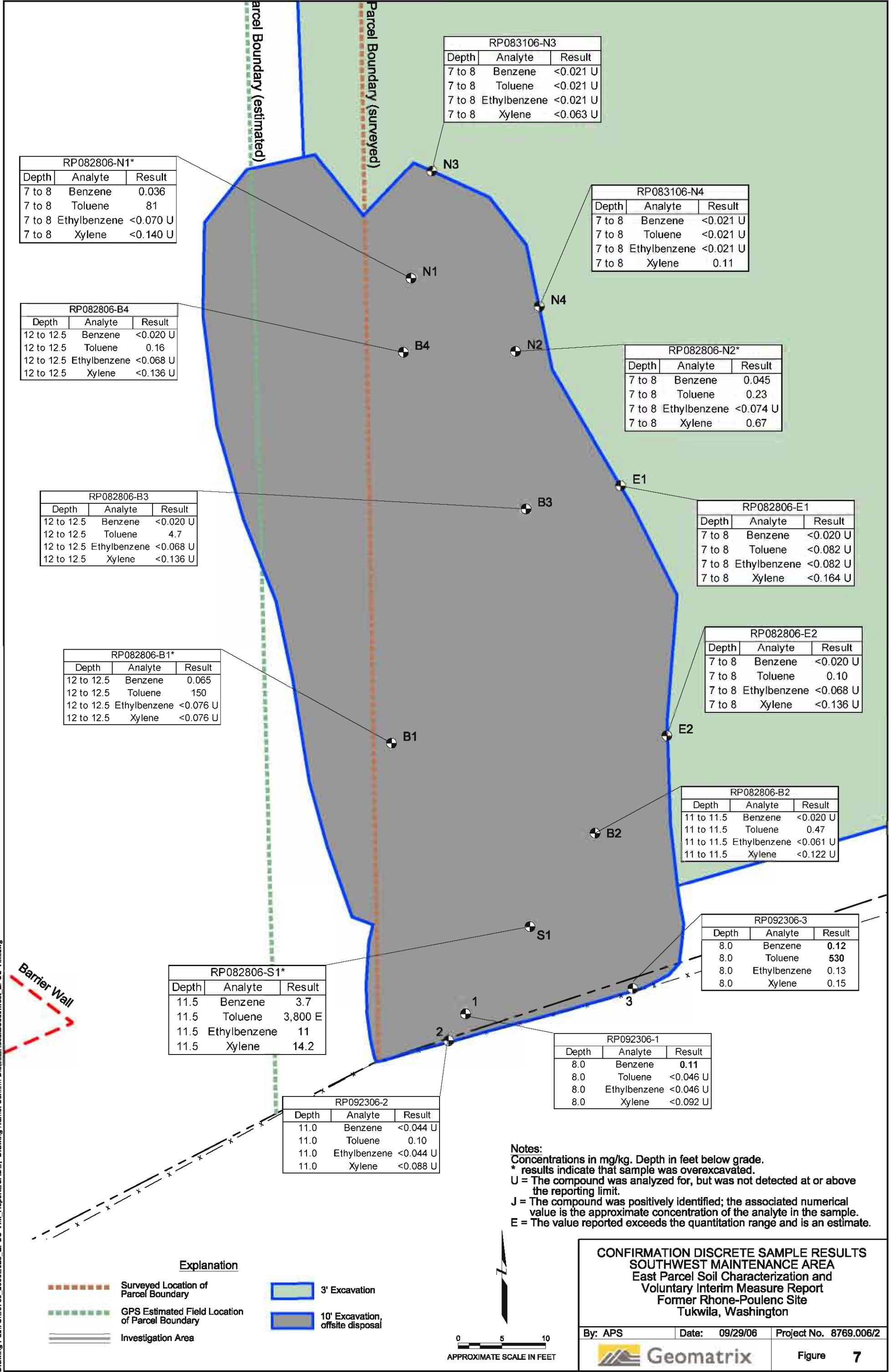


**CONFIRMATION DISCRETE SAMPLE RESULTS
 FORMER MAINTENANCE AREA
 East Parcel Soil Characterization and
 Voluntary Interim Measure Report
 Former Rhone-Poulenc Site
 Tukwila, Washington**

By: APS	Date: 09/29/06	Project No. 8769.006
		Figure 6

Sample ID	Depth (ft)	Analyte	Result (mg/kg)
MAINT-4-1*	2.0 to 2.25	Copper	46.9
MAINT-4-2*	2.0 to 2.25	Copper	61.5
MAINT-4-3*	2.0 to 2.25	Copper	42.4
MAINT-4-4	2.0 to 2.25	Copper	26.8
MAINT-4-5*	2.0 to 2.25	Copper	69.2
MAINT-4-6	2.0 to 2.25	Copper	10.3
MAINT-4-7	2.0 to 2.25	Copper	17.7
MAINT-4-8	2.0 to 2.25	Copper	21.0
MAINT-4-9*	2.0 to 2.25	Copper	95.6
MAINT-4-10	2.0 to 2.25	Copper	15.1
MAINT-4-11	2.0 to 2.25	Copper	27.2
MAINT-4-12*	2.0 to 2.25	Copper	244
MAINT-4-13*	2.0 to 2.25	Copper	168
MAINT-4-14*	2.0 to 2.25	Copper	202
MAINT-4-15*	2.0 to 2.25	Copper	31.0
MAINT-4-16*	2.0 to 2.25	Copper	62.6
MAINT-4-17*	2.0 to 2.25	Copper	81.5
MAINT-4-18*	2.0 to 2.25	Copper	11.2
MAINT-4-19*	2.0 to 2.25	Copper	55.0
MAINT-4-20*	2.0 to 2.25	Copper	86.6
MAINT-4-21*	2.0 to 2.25	Copper	60.1
MAINT-4-22*	2.0 to 2.25	Copper	96.0
MAINT-4-23	3.0 to 3.25	Copper	31.9
MAINT-4-24	3.0 to 3.25	Copper	22.0
MAINT-4-25*	2.0 to 2.25	Copper	120
MAINT-4-26*	2.0 to 2.25	Copper	29.3
MAINT-4-27*	2.0 to 2.25	Copper	124
MAINT-4-28*	2.5 to 2.75	Copper	32.5
MAINT-4-29*	2.5 to 2.75	Copper	20.7
MAINT-4-30	3.0 to 3.25	Copper	19.4
MAINT-4-31*	2.5 to 2.75	Copper	65.1
MAINT-4-32*	2.0 to 2.25	Copper	18.4
MAINT-4-33*	2.0 to 2.25	Copper	44.0
MAINT-4-34*	3.0 to 3.25	Copper	7.94
MAINT-4-35*	3.0 to 3.25	Copper	299

Plot Date: 09/29/06 - 9:55am, Plotted by: asienberg
 Drawing Path: S:\8769_2006\023 EPSC-VIM_Report\CAD\, Drawing Name: Confirm-DiscreteResultsSouthwest_EPSC-VIM.dwg



RP082806-N1*

Depth	Analyte	Result
7 to 8	Benzene	0.036
7 to 8	Toluene	81
7 to 8	Ethylbenzene	<0.070 U
7 to 8	Xylene	<0.140 U

RP083106-N3

Depth	Analyte	Result
7 to 8	Benzene	<0.021 U
7 to 8	Toluene	<0.021 U
7 to 8	Ethylbenzene	<0.021 U
7 to 8	Xylene	<0.063 U

RP083106-N4

Depth	Analyte	Result
7 to 8	Benzene	<0.021 U
7 to 8	Toluene	<0.021 U
7 to 8	Ethylbenzene	<0.021 U
7 to 8	Xylene	0.11

RP082806-B4

Depth	Analyte	Result
12 to 12.5	Benzene	<0.020 U
12 to 12.5	Toluene	0.16
12 to 12.5	Ethylbenzene	<0.068 U
12 to 12.5	Xylene	<0.136 U

RP082806-N2*

Depth	Analyte	Result
7 to 8	Benzene	0.045
7 to 8	Toluene	0.23
7 to 8	Ethylbenzene	<0.074 U
7 to 8	Xylene	0.67

RP082806-B3

Depth	Analyte	Result
12 to 12.5	Benzene	<0.020 U
12 to 12.5	Toluene	4.7
12 to 12.5	Ethylbenzene	<0.068 U
12 to 12.5	Xylene	<0.136 U

RP082806-E1

Depth	Analyte	Result
7 to 8	Benzene	<0.020 U
7 to 8	Toluene	<0.082 U
7 to 8	Ethylbenzene	<0.082 U
7 to 8	Xylene	<0.164 U

RP082806-B1*

Depth	Analyte	Result
12 to 12.5	Benzene	0.065
12 to 12.5	Toluene	150
12 to 12.5	Ethylbenzene	<0.076 U
12 to 12.5	Xylene	<0.076 U

RP082806-E2

Depth	Analyte	Result
7 to 8	Benzene	<0.020 U
7 to 8	Toluene	0.10
7 to 8	Ethylbenzene	<0.068 U
7 to 8	Xylene	<0.136 U

RP082806-B2

Depth	Analyte	Result
11 to 11.5	Benzene	<0.020 U
11 to 11.5	Toluene	0.47
11 to 11.5	Ethylbenzene	<0.061 U
11 to 11.5	Xylene	<0.122 U

RP092306-3

Depth	Analyte	Result
8.0	Benzene	0.12
8.0	Toluene	530
8.0	Ethylbenzene	0.13
8.0	Xylene	0.15

RP082806-S1*

Depth	Analyte	Result
11.5	Benzene	3.7
11.5	Toluene	3,800 E
11.5	Ethylbenzene	11
11.5	Xylene	14.2

RP092306-1

Depth	Analyte	Result
8.0	Benzene	0.11
8.0	Toluene	<0.046 U
8.0	Ethylbenzene	<0.046 U
8.0	Xylene	<0.092 U

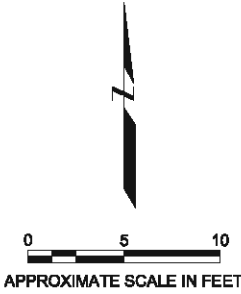
RP092306-2

Depth	Analyte	Result
11.0	Benzene	<0.044 U
11.0	Toluene	0.10
11.0	Ethylbenzene	<0.044 U
11.0	Xylene	<0.088 U

Notes:
 Concentrations in mg/kg. Depth in feet below grade.
 * results indicate that sample was overexcavated.
 U = The compound was analyzed for, but was not detected at or above the reporting limit.
 J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 E = The value reported exceeds the quantitation range and is an estimate.

Explanation

	Surveyed Location of Parcel Boundary		3' Excavation
	GPS Estimated Field Location of Parcel Boundary		10' Excavation, offsite disposal
	Investigation Area		



**CONFIRMATION DISCRETE SAMPLE RESULTS
 SOUTHWEST MAINTENANCE AREA
 East Parcel Soil Characterization and
 Voluntary Interim Measure Report
 Former Rhone-Poulenc Site
 Tukwila, Washington**

By: APS	Date: 09/29/06	Project No. 8769.006/2
		Figure 7

Former Compressor Area

FRP080906 N1		
Depth	Analyte	Result
4 to 5	GRO	<9.5 U
4 to 5	DRO	<32 U
4 to 5	RRO	<63 U
4 to 5	PCBs	<0.063 U
4 to 5	Benzene	<0.024 U
4 to 5	Toluene	0.19
4 to 5	Ethylbenzene	<0.024 U
4 to 5	Xylene	<0.072 U

FRP080906 N2		
Depth	Analyte	Result
11 to 12	GRO	<8.6 U
11 to 12	DRO	<33 U
11 to 12	RRO	<67 U
11 to 12	PCBs	<0.067 U
11 to 12	Benzene	<0.021 U
11 to 12	Toluene	0.098
11 to 12	Ethylbenzene	<0.021 U
11 to 12	Xylene	<0.064 U

FRP080706 E1		
Depth	Analyte	Result
8 to 9	GRO	<7.8 U
8 to 9	DRO	<32 U
8 to 9	RRO	<63 U
8 to 9	PCBs	<0.063 U
8 to 9	Benzene	<0.039 U
8 to 9	Toluene	0.054
8 to 9	Ethylbenzene	<0.039 U
8 to 9	Xylene	<0.160 U

FRP080906 B3		
Depth	Analyte	Result
13 to 14	GRO	<8.6 U
13 to 14	DRO	<33 U
13 to 14	RRO	<67 U
13 to 14	PCBs	<0.067 U
13 to 14	Benzene	0.030
13 to 14	Toluene	<0.022 U
13 to 14	Ethylbenzene	<0.022 U
13 to 14	Xylene	<0.065 U

FRP080706 W2/FRP080806 W2		
Depth	Analyte	Result
6 to 7	GRO	<8.8 U
6 to 7	DRO	<32 U
6 to 7	RRO	<63 U
6 to 7	PCBs	<0.063 U
7 to 8	Benzene	<0.023 U
7 to 8	Toluene	<0.023 U
7 to 8	Ethylbenzene	<0.023 U
7 to 8	Xylene	<0.069 U

FRP080706 E2/FRP080806 E2		
Depth	Analyte	Result
8 to 9	GRO	<8.4 U
8 to 9	DRO	<31 U
8 to 9	RRO	<62 U
8 to 9	PCBs	<0.062 U
6 to 7	Benzene	<0.031 U
6 to 7	Toluene	<0.031 U
6 to 7	Ethylbenzene	<0.031 U
6 to 7	Xylene	<0.092 U

FRP080906 B4*/FRP081506 B5		
Depth	Analyte	Result
15 to 16	GRO	<8.6 U
15 to 16	DRO	<35 U
15 to 16	RRO	<69 U
15 to 16	PCBs	<0.069 U
15 to 16	Benzene	0.054
15 to 16	Toluene	<0.022 U
15 to 16	Ethylbenzene	<0.022 U
15 to 16	Xylene	<0.065 U
16 to 17	Benzene	<0.020 U
16 to 17	Toluene	0.220
16 to 17	Ethylbenzene	<0.020 U
16 to 17	Xylene	<0.060 U

FRP080906 B2		
Depth	Analyte	Result
11 to 12	GRO	<8.0 U
11 to 12	DRO	<35 U
11 to 12	RRO	<70 U
11 to 12	PCBs	<0.070 U
11 to 12	Benzene	<0.020 U
11 to 12	Toluene	0.045
11 to 12	Ethylbenzene	<0.020 U
11 to 12	Xylene	0.040

FRP080706 E3		
Depth	Analyte	Result
7 to 8	GRO	<8.2 U
7 to 8	DRO	<29 U
7 to 8	RRO	<59 U
7 to 8	PCBs	<0.059 U
7 to 8	Benzene	<0.041 U
7 to 8	Toluene	<0.041 U
7 to 8	Ethylbenzene	<0.041 U
7 to 8	Xylene	<0.160 U

FRP080706 W1/FRP080806 W1		
Depth	Analyte	Result
7 to 8	GRO	<9.5 U
7 to 8	DRO	<33 U
7 to 8	RRO	<67 U
7 to 8	PCBs	<0.067 U
6 to 7	Benzene	<0.023 U
6 to 7	Toluene	<0.023 U
6 to 7	Ethylbenzene	<0.023 U
6 to 7	Xylene	<0.069 U








FRP080906 B1		
Depth	Analyte	Result
10 to 11	GRO	<8.3 U
10 to 11	DRO	<33 U
10 to 11	RRO	<67 U
10 to 11	PCBs	<0.067 U
10 to 11	Benzene	0.028
10 to 11	Toluene	0.200
10 to 11	Ethylbenzene	0.044
10 to 11	Xylene	0.219

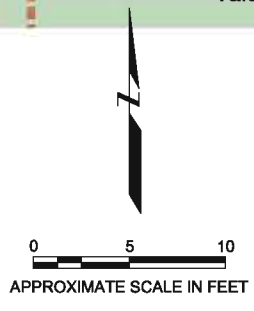
FRP080706 S1		
Depth	Analyte	Result
8 to 9	GRO	<7.4 U
8 to 9	DRO	<33 U
8 to 9	RRO	<67 U
8 to 9	PCBs	<0.061 U
8 to 9	Benzene	<0.037 U
8 to 9	Toluene	<0.037 U
8 to 9	Ethylbenzene	<0.037 U
8 to 9	Xylene	<0.150 U

FRP080706 E4		
Depth	Analyte	Result
8 to 9	GRO	<8.0 U
8 to 9	DRO	<31 U
8 to 9	RRO	<63 U
8 to 9	PCBs	<0.063 U
8 to 9	Benzene	<0.040 U
8 to 9	Toluene	<0.040 U
8 to 9	Ethylbenzene	<0.040 U
8 to 9	Xylene	<0.160 U

Notes:
 Concentrations in mg/kg. Depth in feet below grade.
 * results indicate that sample was overexcavated.
 PCBs = Polychlorinated Biphenyls
 GRO = gasoline range organics
 DRO = diesel range organics
 RRO = residual range organics
 U = The compound was analyzed for, but was not detected at or above the reporting limit.
 J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Explanation

-  Surveied Location of Parcel Boundary
-  GPS Estimated Field Location of Parcel Boundary
-  Investigation Area
-  2' Excavation
-  3' Excavation
-  4' Excavation
-  10' Excavation, offsite disposal



CONFIRMATION DISCRETE SAMPLE RESULTS
 SOUTHWEST COMPRESSOR AREA
 East Parcel Soil Characterization and
 Voluntary Interim Measure Report
 Former Rhone-Poulenc Site
 Tukwila, Washington

APPENDIX A

Site Photographs - Characterization



6/5/06 Characterization sampling in Maintenance Area, looking east.



6/7/06 Characterization sampling in Pilot Area, looking north.



6/5/06 Closeup of Maintenance Area sample MAINT-1-16. Note green discoloration of soil.



6/7/06 Pre-labeled characterization sample jars.





6/7/06 Closeup of Pilot Area boring PILOT-X-29.



6/8/06 Closeup of Compressor Area sample COMP-1-21. Note green soil horizon.



6/8/06 Closeup of Compressor Area sample COMP-2-21.



6/9/06 Characterization sampling in Laboratory Area.





6/9/06 Characterization sampling in Laboratory Area, looking east.



6/9/06 Characterization sampling in Compressor Area, looking east. Note concrete compressor pad.



6/9/06 Characterization sampling in Sulfuric Acid Area, looking northeast. Note concrete compressor pad in right foreground.



6/13/06 Characterization sampling in Background Area.



APPENDIX A – SITE PHOTOGRAPHS – CHARACTERIZATION
Former Rhone Poulenc East Marginal Way Facility
Tukwila, Washington



6/13/06 Compressor Area (left foreground);
Maintenance Area (left background), looking south.

APPENDIX B

Manifests and Disposal Tickets

MANIFEST INDEX

Description	Document Title	Date Received	Prepared By:
Transformer A Soil	Bill of Lading Cert 06-1207	8/16/2006	Rabanco Recycling Co.
Transformer A Soil	Loading Ticket #2377210	7/20/06	Rabanco Recycling Co.
Transformer A Soil	Loading Ticket #2377275	7/20/06	Rabanco Recycling Co.
Characterization Sample Soil Cuttings	Work Order #71010	7/27/06	Envirotech Systems, Inc.
Characterization Sample Soil Cuttings	Manifest #71013 11c	8/28/06	Envirotech Systems, Inc.
Characterization Sample Soil Cuttings	Certificate of Disposal #71013 11c	8/29/06	Waste Management
Oil/Water Separator Contents	Work Order #73470	8/24/06	Envirotech Systems, Inc.
Oil/Water Separator Contents	Non-Hazardous Waste Manifest #73470	8/24/06	Envirotech Systems, Inc.
Oil/Water Separator Contents	Waste Product Questionnaire 06-229-18-02	8/24/06	Envirotech Systems, Inc.

Job# 06-024

TO Phil
Leaf Back to
206-332-7611

Certification No. 06-1207
Billing Acct. No. 10249
Product Code 34

**BILL OF LADING
CONTAMINATED SOIL**
RCS
REGIONAL DISPOSAL COMPANY

54 S. Dawson Street
Seattle, WA 98134
Telephone: (206) 332-7700 / Fax: (206) 332-7600

This Bill of Lading augments the Master Service Agreement ("Agreement") entered into by Glacier Envoys ("Generator") and Regional Disposal Company ("RDC") on 6/5/06 (date). The terms herein are made a part of the Agreement. In the event of conflict between this Bill of Lading and the Agreement, the terms of the Agreement prevail.

RDC hereby authorizes the Wastes ("Waste") described in Certification No. 06-1207, signed by Generator on 6/5/06 (date), for disposal at Roosevelt Regional Landfill. Generator shall present a copy of this Bill of Lading with each shipment delivered.

Location of Waste: 9229 E Marginal Way S. Tukwila

Method of Shipment: Customer Truck

Additional Fees (e.g., laboratory fees, transportation fees, special handling fees, etc. If none, so state):

PERFORMANCE DATE

FOR RDC TRANSPORTATION: Generator shall make the Waste available for shipment no later than _____ (date). RDC shall transport the Waste no later than _____ (date), unless RDC notifies the Generator in writing that Waste transport shall be suspended or canceled due to RDC's exercise of its right to inspect or analyze the Waste (as provided in the Agreement).

FOR GENERATOR TRANSPORTATION: Generator shall begin delivery of the Waste at [check one]:

Roosevelt Regional Landfill.

Seattle Transfer Station located at Third and Lander.

Waste delivery shall begin no later than 6/5/06 (date), and shall complete delivery of the Waste no later than 6/21/06 (date), unless RDC notifies Generator in writing to suspend or cancel the waste delivery due to RDC's exercise of its right to inspect or analyze the Waste (As provided in the Agreement).

GENERATOR

REGIONAL DISPOSAL COMPANY

Phil Stoffflug
Signature

Teresa Dillashaw
Signature

Phil Stoffflug
Printed Name and Title

Teresa Dillashaw
Printed Name and Title

6/5/06
Date

6/5/06
Date

ALL TRUCKS MUST HAVE A COPY OF THIS BILL OF LADING WHEN DELIVERING WASTE TO THE TRANSFER STATION OR TO THE LANDFILL.



* Includes applicable city, county, and state fees.

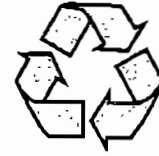
Job #
06-024



RABANCO RECYCLING CO.

A DIVISION OF RABANCO COMPANIES

2733 3rd Avenue South
Seattle, Washington 98134
(206) 623-4080



TICKET NUMBER 2377210

DATE: 07/20/06
TIME: 09:53

10249 - GLACIER ENVIRONMENTAL SVC Job:06-1207
PGH
TRUCK #: 675 DUMP TRUCK PLACE: TUKWILA
PRODUCT: PCS

	WEIGHT	TIME	DATE	SCALE		
GROSS:	93120 LBS	09:36	07/20/06	IN		
TARE:	41640 LBS	09:53	07/20/06	OUT	NET LBS:	51480
					NET TONS:	25.740
					RATE PER TON: \$	0.00
					AMOUNT: \$	0.00
					REFUSE TAX 3.50%:	0.00
					TOTAL AMOUNT: \$	0.00



We [Signature]
CUSTOMER SIGNATURE
I HAVE READ AND AGREE TO THE CONDITIONS ON THE REVERSE SIDE.

Job #
06-024



RABANCO RECYCLING CO.

A DIVISION OF RABANCO COMPANIES

2733 3rd Avenue South
Seattle, Washington 98134
(206) 623-4080



TICKET NUMBER 2377275

DATE: 07/20/06
TIME: 11:19

10249 - GLACIER ENVIRONMENTAL SVC Job:06-1207
PGH
TRUCK #: 675 DUMP TRUCK PLACE: TUKWILA
PRODUCT: PCS

	WEIGHT	TIME	DATE	SCALE		
GROSS:	52220 LBS	11:07	07/20/06	IN		
TARE:	28280 LBS	11:19	07/20/06	OUT	NET LBS:	23940
					NET TONS:	11.970
					RATE PER TON: \$	0.00
					AMOUNT: \$	0.00
					REFUSE TAX 3.50%:	0.00
					TOTAL AMOUNT: \$	0.00



We [Signature]
CUSTOMER SIGNATURE
I HAVE READ AND AGREE TO THE CONDITIONS ON THE REVERSE SIDE.

ENVIROTECH SYSTEMS, INC.
 3601 121st STREET SW
 LYNNWOOD, WA 98087
 (206) 363-9000

WORK ORDER

FOR ACCOUNT

WORK ORDER NUMBER:
71010

WORK ORDER DATE:
Jul 27, 2006

Page: 1

SOLD TO:
 GEOMATRIX CONSULTANTS INC.
 ONE UNION SQUARE
 600 UNIVERSITY ST, STE. 1020
 SEATTLE, WA 98101

SITE:
 FORMER BASF RHONE POULENC
 9229 EAST MARGINAL WAY
 SEATTLE, WA 98108

PHONE: 206-342-1772

SITE PHONE: 206-550-3781

CUSTOMER GEOCONSWA	PO NUMBER	ESI JOB # 06-152-15	ACCOUNT REP ROGER
CUSTOMER CONTACT JOE MORRICE	EPA ID #	DATE ORDERED 7/27/06	DATE COMPLETED 7/28/06

DESCRIPTION	MANIFEST #	QUANTITY	SIZE	TAX	UNIT PRICE	EXTENSION
REMOVE, TRANSPORT AND REUSE/RECYCLE/DISPOSE OF:						
DM WASTE FILTERS & WATER FROM TREATMENT SYSTEM / 71010		1.00	55 GAL	N*		
DM CHEVRON 60T OIL 150 68 FOR RECYCLE / 64890 A		1.00	55 GAL	N		
BOX SPENT CARBON / 71012		1.00	BOXES	N		
DM OIL CONTAM. DEBRIS/PPE / 71013A		1.00	55 GAL	N**		
DM DRILL CUTTINGS FROM NW CORNER / 71013B		1.00	50 GAL	N		
DM S SOIL CUTTINGS / 71013C (E. PARCEL, EASTERN PARCEL DRUM #1,2,3,4, W.PARCEL #6)		5.00	55 GAL	N		
DM SOIL CUTTINGS - DRUM #5 / 71013D (WESTERN PARCEL)		1.00	55 GAL	N***		
UN1A2 NEW DRUM		1.00	50 GAL	Y		
5.2% FUEL & INSUR SURCHARGE		1.00	EA	N		
5gal Drum Hydraulic oil / 64890-B 112 30-1		1.00	5gal	N		

ON ACCOUNT

CUSTOMER CHANGES

* not a un container need 4610 Box to pack into
 ** Drum not trans bent lid and ring will not fit
 *** DRUM #6 soil with liquid Full ± 5gal

XXXX DRUM SOIL HAZ/LIQUID WORK AUTHORIZATION

The undersigned hereby authorizes and acknowledges receipt of the materials and for commencement of services described above on behalf of the party indicated as "SOLD TO" above (Generator). On behalf of Generator, I hereby make and appoint Envirotech Systems, Inc. Generator's true and lawful agent for the purpose of managing the above waste responsibilities. I understand that this does not relieve Generator of its responsibilities as a generator even though title of the waste transfers to Envirotech Systems, Inc. Offices listed herein are subject to the waste's inspection and acceptance at the destination waste management facility.

BY: _____ DATE: _____

385563

VLP

Emergency Contact Telephone Number
(206) 363-9000

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. WA0000282302	Manifest Document No. 71013	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address CONTAINER PROPERTIES LLC PO BOX 1043 KENT, WA 98035		SITE ADDRESS: FORMER BASF RHONE POULENC 9229 EAST MARGINAL WAY S. TUKWILA, WA 98108 ATTN:		A. State Manifest Document Number	
4. Generator's Phone ()				B. State Generator's ID	
5. Transporter 1 Company Name ENVIROTECH SYSTEMS, INC.		6. US EPA ID Number WAH000012450		D. State Transporter's ID	
7. Transporter 2 Company Name TRI STATE MOTOR TRANSIT		8. US EPA ID Number M.O.D. 09.5.038.998		E. Transporter's Phone () 206-363-9000	
9. Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT OF THE NW 17629 CEDAR SPRINGS LANE ARLINGTON, OR 97012		10. US EPA ID Number OR0089452353		F. State Facility ID	
				G. Facility's Phone () (541) 454-2643	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			12. Containers	13. Total Quantity	14. Unil Wt/Vol
a. HM MATERIAL NOT REGULATED BY D.O.T. (OIL CONTAMINATED DEBRIS)			No. Type		Waste No.
b. MATERIAL NOT REGULATED BY D.O.T. (DRILL CUTTINGS)			001 DM003.25 P		X004
c. MATERIAL NOT REGULATED BY D.O.T. (SOIL CUTTINGS)			004 DM02.100 P		X004
d. HAZARDOUS WASTE SOLID, N.I.S. 9 NA3077 PG III (TOLUENE)			000	0-0-0-0-0	X020
13. Additional Descriptions for Materials Listed Above			K. Handling Codes for Wastes Listed Above		
A. CWMHC1584 ESN# 0615215 PPF			CERTIFICATE OF DISPOSAL REQUIRED		
B. CWMHC2225 ESN# 0818715 CUTTINGS - NW CORNER					
C. CWMHC2225 ESN# 0815215 EASTERN PARCEL DRUM #12346					
D. CWMHC2225 ESN# 0815215 WESTERN PARCEL DRUM #12347					
15. Special Handling Instructions and Additional Information					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations					
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford					
Printed/Typed Name <i>on behalf of container properties</i>		Signature <i>Steve A. La France</i>		Month Day Year <i>17 28 06</i>	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name <i>Steve A. La France</i>		Signature <i>Steve A. La France</i>		Month Day Year <i>10 7 28 06</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name <i>NOVA HARTER</i>		Signature <i>Nova Harter</i>		Month Day Year <i>07 31 06</i>	
19. Discrepancy Indication Space					
<i>11A. none Shipped 11D. none Shipped</i>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name <i>Tamra Strand</i>		Signature <i>Tamra Strand</i>		Month Day Year <i>08 11 06</i>	



CHEMICAL WASTE MANAGEMENT OF THE NW
 17629 Cedar Springs Lane
 Arlington, OR 97812
 (541) 454-2030
 (541) 454-3279 Fax

CONTAINER PROPERTIES LLC
 WAD009282302
 9229 E MARGINAL WAY S
 TUKWILA WA 98108-4031

CERTIFICATE OF DISPOSAL

Chemical Waste Management of the Northwest, Inc. has received the following waste material:

GENERATOR:	CONTAINER PROPERTIES LLC
MANIFEST #:	71013
CWM TRACKING ID:	385563-02
PROFILE #:	C22256
LINE ITEM:	11c
QUANTITY:	4 DM
RECEIVED DATE:	08/11/06

DISPOSAL PROCESS(ES):	LANDFILL
FINAL DISPOSAL LOCATION:	LANDFILL 14
DISPOSAL DATE:	08/15/06

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste material was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Becky Dunne

CWMNW RECORDS DEPARTMENT

Date: 08/21/06

From everyday collection to environmental protection, Think Green® Think Waste Management.

ENVIROTECH SYSTEMS, INC.
 3601 121st STREET SW
 LYNNWOOD, WA 98087
 (206) 383-9000

WORK ORDER

FOR ACCOUNT

WORK ORDER NUMBER:
 73470

WORK ORDER DATE:
 Aug 21, 2006

Page:
 1

SOLD TO:

GEOMATRIX CONSULTANTS INC.
 ONE UNION SQUARE
 600 UNIVERSITY ST, STE. 1020
 SEATTLE, WA 98101

SITE:

FORMER BASF RHONE POULENC
 9229 E. MARGINAL WAY SOUTH
 SEATTLE, WA 98108
 103119

PHONE: 206-342-1772

SITE PHONE: 206-550-3781

CUSTOMER	PO NUMBER	ESI JOB #	ACCOUNT REP
GEOCONSWA		06-229-18	ROGER
CUSTOMER CONTACT	EPA ID #	DATE ORDERED	DATE COMPLETED
JOE MORRICE		8/21/06	8/22/06

DESCRIPTION	MANIFEST #	QUANTITY	SIZE	TAX	UNIT PRICE	EXTENSION
REMOVE, TRANSPORT AND REUSE/RECYCLE/DISPOSE OF: TOTE OIL & WATER / 73470		100	GAL	N		ON ACCOUNT
DMS SOLIDIFIED OIL AND TANK RESIDUE / 73470 > 90% FULL		6.00	55 GAL	N		
5.2% FUEL & INSUR. SURCHARGE		1.00	EA	N		

CUSTOMER CHANGES

Note - 4 Drums w/liquid 1-Soil 60% 1-Soil 70%
 (OK) TO Pick up 'Fix Drums' at Envirotech
 Per Jennifer

WORK AUTHORIZATION

The undersigned hereby authorizes and acknowledges receipt of the materials and /or commencement of services described above on behalf of the party indicated as 'SOLD TO' above (Generator). On behalf of Generator, I hereby make and appoint Envirotech Systems, Inc. Generator's true and lawful agent for the purpose of managing the above waste responsibilities. I understand that this does not relieve Generator of its responsibilities as a generator even though title of the waste transfers to Envirotech Systems, Inc. Prices quoted herein are subject to the waste's inspection and acceptance at the destination waste management facility.

BY: On Behalf of Container Properties / Geomatrix
 DATE: 8-22-06

385911

2 163 164 39
5487892

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. W A D O D 8 2 8 2 3 0 2	Manifest Doc. No. 73470	2. Page 1 of 1
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3. Generator's Name and Mailing Address CONTAINER PROPERTIES LLC PO BOX 1043 KENT, WA 98035		SITE ADDRESS: FORMER BASF RHONE POULENC 9229 EAST MARGINAL WAY S. TUKWILA, WA 98108		
4. Generator's Phone #Error #Error		ATTN:		

5. Transporter 1 Company Name ENVIROTECH SYSTEMS, INC.	6. US EPA ID Number W A H O D O D 1 2 4 5 0	A. Transporter's Phone (206) 383-9000
---	--	--

7. Transporter 2 Company Name TRISTATE MOTOR TRANSIT	8. US EPA ID Number M O D O 9 5 0 3 8 9 9 8	B. Transporter's Phone (800) 234-8768
---	--	--

9. Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT OF THE NW 17529 CEDAR SPRINGS LANE ARLINGTON, OR 97812		10. US EPA ID Number O R D O 8 9 4 5 2 3 5 3	C. Facility's Phone (541) 454-2643
--	--	---	---------------------------------------

11. Waste Shipping Name and Description	12. Containers		13. Total	14. Unit
	No.	Type	Quantity	Wt/Vol
a. MATERIAL NOT REGULATED BY DOT (OIL AND WATER)			001TP	00100 G
b. MATERIAL NOT REGULATED BY DOT (SOLIDIFIED OIL AND WATER)	2		1400	
c. Material Not Regulated by DOT (oil and water)	4	dm	2800	P
d.				



D. Additional Descriptions for Materials Listed Above A. CWM#V22307, ESI# 06-228-18, X004 B. CWM#V22308, ESI# 06-228-18-02, X004 C. V22307, X004	E. Handling Codes for Wastes Listed Above CERTIFICATE OF DISPOSAL REQUIRED
---	---

15. Special Handling Instructions and Additional Information
EMERGENCY INFORMATION CONTACT (206) 383-9000.
"Shippers Certification per 49CFR 172.204 - This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Signature in box 16 of this manifest constitutes certification of this statement by the shipper."

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name On behalf of Container Properties/Geomatrix Robert E Mann	Signature <i>[Signature]</i>	Month Day Year 08/22/06
--	---------------------------------	----------------------------

17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Robert E Mann	Signature <i>[Signature]</i>	Month Day Year 08/22/06
--	---------------------------------	----------------------------

18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name NONA HARTER	Signature Nona Harter	Month Day Year 08/25/06
--	--------------------------	----------------------------

19. Discrepancy Indication, Space 110. correct count from 6 to 2. 11C. profiled drums 2, 3, 4, 86 to V2-2307 from V22. due to oil and water in waste. / per stue thomson / envirotech 9-14-06 m/s

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name Francie Bailey	Signature Francie Bailey	Month Day Year 08/30/06
--------------------------------------	-----------------------------	----------------------------

GENERATOR
TRANSPORTER
FACILITY

ENVIROTECH SYSTEMS, INC.

3601 - 121st STREET SW
 LYNNWOOD, WA 98037
 TELEPHONE: (206) 363-9000 FAX: (425) 613-5839

WASTE PRODUCT QUESTIONNAIRE

PROFILE

ESI WPQ

06-229-18-02

GENERATOR NAME: FORMER BASF RHONE POULENC
 SITE ADDRESS: 9229 EAST MARGINAL WAY S.
TUKWILA, WA 98108

INVOICE TO: GEOMATRIX CONSULTANTS INC.
 ADDRESS: 600 UNIVERSITY ST, STE 1020
SEATTLE, WA 98101

DATE: 8/21/2006
 SIC CODE:
 GEN EPA ID: WAD009282302
 CONTACT: ZANNA SATTERWHITE
 PHONE: 206-342-1772

WASTE PRODUCT DESCRIPTION AND CHARACTERISTICS

WASTE PRODUCT NAME: SOLIDIFIED OIL AND TANK RESIDUE SOURCE:
 PROCESS GENERATING WASTE: REMOVAL OF OIL WATER SEPARATOR FORM:

<p><u>ODOR</u></p> <p><input type="radio"/> NONE <input checked="" type="radio"/> MILD <input type="radio"/> STRONG</p> <p>DESCRIBE:</p>	<p><u>COLOR AND CLARITY</u></p> <p>COLOR: <u>BROWN</u></p> <p>CLARITY:</p>	<p><u>PHYSICAL STATE AT 70F</u></p> <p><input checked="" type="radio"/> SOLID <input type="radio"/> SLUDGE <input type="radio"/> LIQUID <input type="radio"/> POWDER</p> <p>AVERAGE CONSISTENCY:</p>	<p><u>TOXIC CATEGORIES PRESENT</u></p> <p>WDOECONC: WEIGHT: TOXICCAT:</p>
<p><u>LAYERS</u></p> <p><input type="radio"/> MULTI-LAYERED <input type="radio"/> BI-LAYERED <input checked="" type="radio"/> HOMOGENOUS</p> <p>FREE LIQUIDS: <u>0</u></p>	<p><u>pH</u></p> <p><input type="radio"/> <= 2 <input type="radio"/> 10.1 - 12.4 <input type="radio"/> 2 - 4 <input type="radio"/> >= 12.5 <input checked="" type="radio"/> 4.1 - 10 <input type="radio"/> EXACT:</p>	<p><u>DENSITY OR SPECIFIC GRAVITY</u></p> <p><input type="radio"/> LIQUID lbs/gal <input checked="" type="radio"/> SOLID lbs/ft3</p>	<p><u>FLASH POINT</u></p> <p><input type="radio"/> < 73 F <input type="radio"/> > 200 F <input checked="" type="checkbox"/> CC <input checked="" type="checkbox"/> EPA <input type="radio"/> 73 - 141 F <input checked="" type="radio"/> NO FLASH <input checked="" type="checkbox"/> OC <input checked="" type="checkbox"/> DOT <input type="radio"/> 142 - 199 F <input type="radio"/> EXACT:</p>

CONSTITUENTS

CHEMICAL COMPOSITION (ACCOUNT FOR 100% OF TOTAL) %

SOLIDIFIED OIL AND WATER RESIDUE 100

SEE ANALYTICAL DATED 8/10/06

CHEMICAL NATURE

- I
 O
 I/O

METALS (PPM)

TOTAL EPA TCLP

GEN KNOWLEDGE

- ARSENIC (As) _____
- BARIUM (Ba) _____
- CADMIUM (Cd) _____
- CHROMIUM (Cr) _____
- COPPER (Cu) _____
- LEAD (Pb) _____
- MERCURY (Hg) _____
- NICKEL (Ni) _____
- SELENIUM (Se) _____
- SILVER (Ag) _____
- ZINC (Zn) _____
- HEXCHROME _____
- OTHER _____

GENERATOR HAS PROVIDED THE FOLLOWING

- SAMPLE MSDS WASTE ANALYSIS

SHIPPING INSTRUCTIONS

IS THIS A DOT HAZARDOUS MATERIAL
 YES NO

DOT RQ
 BULK LIQUID:
 BULK SOLID:
 DRUM/CONTAINER TYPE: UN1A2 55 GAL DM
 VOLUME:

RCRA HAZ WASTE EXEMPT WASTE
 STATE ONLY WASTE TSCA

WASHINGTON STATE DESIGNATION

- EHW EXEMPT DW

WASTE CODES

US EPA WASTE CODE _____
 WA DOE WASTE CODES _____
 CA WASTE CODES _____
 OR WASTE CODES X004
 SUBJECT TO LAND DISPOSAL RESTRICTIONS

US DOT DESCRIPTION

PROPER SHIPPING NAME: _____, MATERIAL NOT REGULATED BY DOT
 ADDITIONAL DESCRIPTION: (SOLIDIFIED OIL AND WATER)
 HAZARD CLASS: _____ DOT ID NUMBER: _____ PACKING GROUP NUMBER: _____

GENERATOR CERTIFICATION STATEMENT

I HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS DOCUMENT AND THOSE ATTACHED HERETO ARE TRUE AND CORRECT. ALL WASTE TENDERED UNDER THIS WASTE PROFILE SHALL CONFORM TO THE SPECIFICATIONS ABOVE. TO THE BEST OF MY KNOWLEDGE, ALL KNOWN AND SUSPECTED HAZARDOUS COMPONENTS (40 CFR 261 - 268) OF THIS WASTE STREAM HAVE BEEN IDENTIFIED ABOVE.

SIGNATURE X TITLE DATE

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED ABOVE, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT.

SAMPLING METHOD: _____ SAMPLE QUANTITY: _____ NAME: _____
 SOURCE OF MATERIAL SAMPLED: _____ DATE: _____

ENVIROTECH SYSTEMS, INC.
 3601 - 121st STREET SW
 LYNNWOOD, WA 98037
 TELEPHONE: (206) 363-9000 FAX: (425) 513-5839

WASTE PRODUCT QUESTIONNAIRE

PROFILE ESI WPK 06-229-18

GENERATOR NAME: FORMER BASF RHONE POULENC INVOICE TO: GEOMATRIX CONSULTANTS INC. DATE: 8/21/2006
 SITE ADDRESS: 9229 EAST MARGINAL WAY S. ADDRESS: 600 UNIVERSITY ST, STE 1020 SIC CODE:
 TUKWILA, WA 98108 SEATTLE, WA 98101 GEN EPA ID: WAD009282302
 CONTACT: ZANNA SATTERWHITE
 PHONE: 206-342-1772

WASTE PRODUCT DESCRIPTION AND CHARACTERISTICS

WASTE PRODUCT NAME: OIL AND WATER SOURCE:
 PROCESS GENERATING WASTE: REMOVAL OF OIL WATER SEPARATOR FORM:

ODOR <input type="radio"/> NONE <input checked="" type="radio"/> MILD <input type="radio"/> STRONG DESCRIBE: OIL	COLOR AND CLARITY COLOR: BROWN/BLACK CLARITY:	PHYSICAL STATE AT 70F <input type="radio"/> SOLID <input type="radio"/> SLUDGE <input checked="" type="radio"/> LIQUID <input type="radio"/> POWDER AVERAGE CONSISTENCY:	TOXIC CATEGORIES PRESENT WDOECONC: WEIGHT: TOXICCAT:
LAYERS <input checked="" type="radio"/> MULTI-LAYERED <input type="radio"/> BI-LAYERED <input type="radio"/> HOMOGENOUS FREE LIQUIDS: 95-100	pH <input type="radio"/> <= 2 <input type="radio"/> >= 12.5 <input type="radio"/> 2 - 4 <input type="radio"/> EXACT: <input checked="" type="radio"/> 4.1 - 10	DENSITY OR SPECIFIC GRAVITY <input checked="" type="radio"/> LIQUID lbs/gal <input type="radio"/> SOLID lbs/ft3	FLASH POINT <input type="radio"/> < 73 F <input checked="" type="radio"/> > 200 F <input type="checkbox"/> CC <input type="checkbox"/> EPA <input type="radio"/> 73 - 141 F <input type="radio"/> NO FLASH <input type="checkbox"/> OC <input type="checkbox"/> DOT <input type="radio"/> 142 - 199 F <input type="radio"/> EXACT:

CONSTITUENTS

CHEMICAL COMPOSITION (ACCOUNT FOR 100% OF TOTAL) %

USED OIL	10-50
WATER	50-90
SEDIMENT	1-5
PCB	<<1 PPM
SEE ANALYTICAL DATED 8/10/06	

CHEMICAL NATURE
 I
 O
 I/O

METALS (PPM)

TOTAL EPA TCLP
 GEN KNOWLEDGE

ARSENIC (As)	
BARIIUM (Ba)	
CADMIUM (Cd)	
CHROMIUM (Cr)	
COPPER (Cu)	
LEAD (Pb)	
MERCURY (Hg)	
NICKEL (Ni)	
SELENIUM (Se)	
SILVER (Ag)	
ZINC (Zn)	
HEXCHROME	
OTHER	

GENERATOR HAS PROVIDED THE FOLLOWING

SAMPLE MSDS WASTE ANALYSIS

SHIPPING INSTRUCTIONS

IS THIS A DOT HAZARDOUS MATERIAL
 YES
 NO
 DOT NO
 BULK LIQUID:
 BULK SOLID:
 DRUM/CONTAINER TYPE:
 TANKS PORTABLE
 VOLUME:

RCRA HAZ WASTE EXEMPT WASTE
 STATE ONLY WASTE TSCA

WASHINGTON STATE DESIGNATION

EHW EXEMPT DW

WASTE CODES

US EPA WASTE CODE _____
 WA DOE WASTE CODES _____
 CA WASTE CODES _____
 OR WASTE CODES X004
 SUBJECT TO LAND DISPOSAL RESTRICTIONS

US DOT DESCRIPTION

PROPER SHIPPING NAME: MATERIAL NOT REGULATED BY DOT
 ADDITIONAL DESCRIPTION: (OIL AND WATER)
 HAZARD CLASS: DOT ID NUMBER: PACKING GROUP NUMBER:

GENERATOR CERTIFICATION STATEMENT

I HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS DOCUMENT AND THOSE ATTACHED HERETO ARE TRUE AND CORRECT. ALL WASTE TENDERED UNDER THIS WASTE PROFILE SHALL CONFORM TO THE SPECIFICATIONS ABOVE. TO THE BEST OF MY KNOWLEDGE, ALL KNOWN AND SUSPECTED HAZARDOUS COMPONENTS (40 CFR 261 268) OF THIS WASTE STREAM HAVE BEEN IDENTIFIED ABOVE.

SIGNATURE X TITLE DATE

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED ABOVE, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT.

SAMPLING METHOD: SOURCE OF MATERIAL SAMPLED: SAMPLE QUANTITY: NAME: DATE:

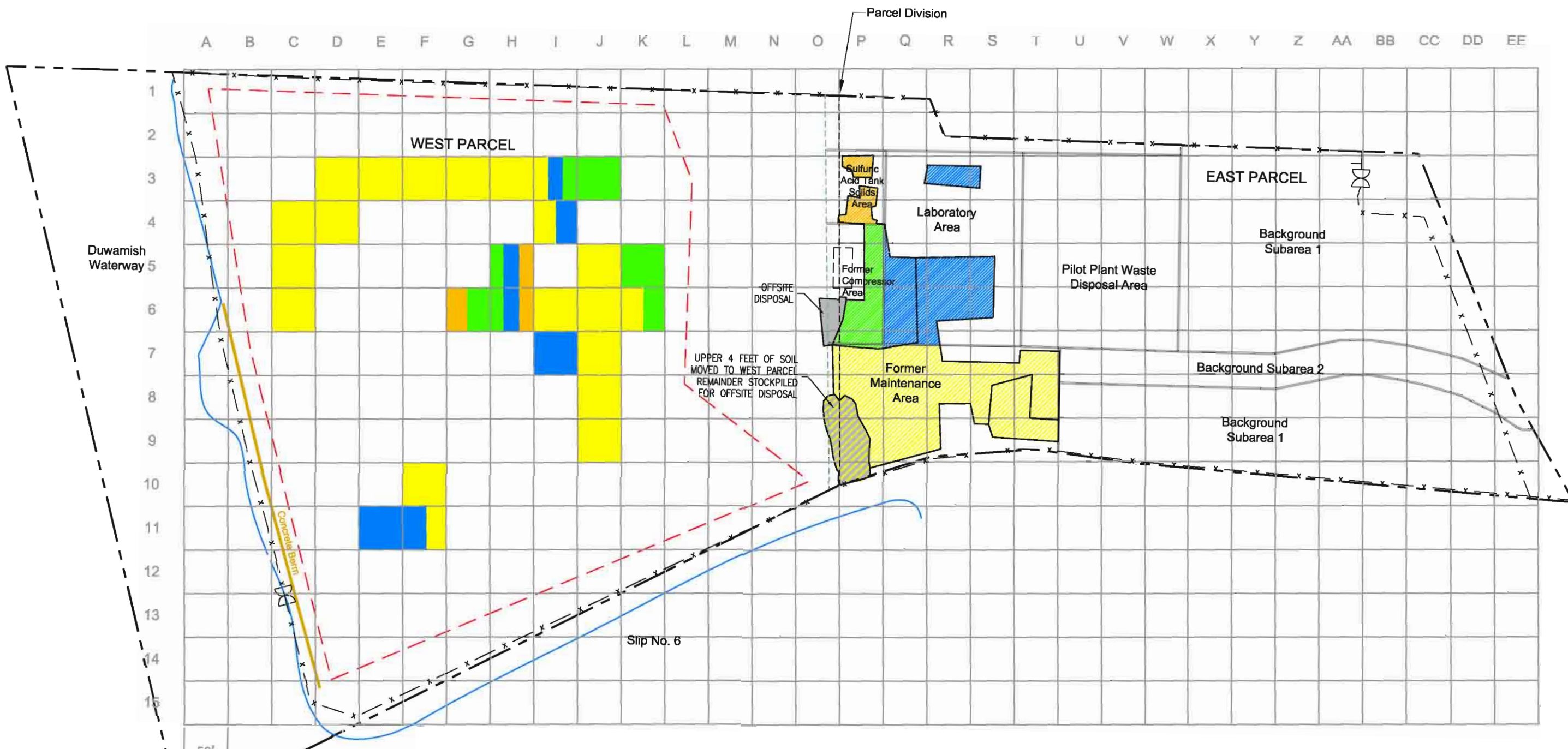
APPENDIX C

Site Photographs - Excavation

APPENDIX D

Origin and Placement of Excavated East Parcel Soil

Plot Date: 09/29/06 - 2:03pm, Plotted by: asienberg
 Drawing Path: S:\8769_2006\023_EPSC-VIM_Report\CAD\, Drawing Name: ExcavSoilPlacement_EPSC-VIM.dwg



SOIL EXCAVATION PLACEMENT

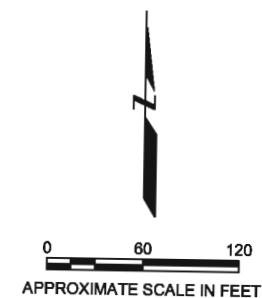
- Sulfuric Acid Tank Solids Area
- Former Compressor Area
- Laboratory Area
- Former Maintenance Area

SOIL EXCAVATION ORIGIN

- Sulfuric Acid Tank Solids Area
- Former Compressor Area
- Laboratory Area
- Former Maintenance Area
- Soil for offsite disposal

EXPLANATION

- Barrier Wall
- Parcel Boundary
- Surveyed Location of Parcel Boundary
- GPS Estimated Field Location of Parcel Boundary
- Investigation Area
- x Fence



ORIGIN AND PLACEMENT OF EXCAVATED EAST PARCEL SOIL
 East Parcel Soil Characterization and Voluntary Interim Measure Report
 Former Rhone-Poulenc Site
 Tukwila, Washington

By: APS	Date: 09/29/06	Project No. 8769.006/2
---------	----------------	------------------------

Geomatrix Figure **D-1**

APPENDIX E

Confirmation Sample Analytical Results and Data Validation Memoranda

Memorandum

TO: Larry McGaughey **DATE:** September 7, 2006
FROM: Tasya Gray **PROJ. NO.:** 8769.006
CC: Project File **PROJ. NAME:** Former Rhone-Poulenc Site
SUBJECT: **East Parcel Redevelopment Soil Sampling**
Summary Data Quality Review – SDGs K0606703, K0606709, K0606713,
K0606717, K0606980, K0607044

This memorandum presents a summary data quality review of 41 primary soil samples, two field duplicate samples, and one equipment blank sample collected between August 9 and 19, 2006. The samples were submitted to Columbia Analytical Services (CAS), a Washington State Department of Ecology (Ecology)-accredited laboratory, located in Kelso, Washington. The samples were analyzed for the following analyses:

- Polychlorinated Biphenyls (PCBs) by EPA Method 8082
- Copper by EPA Method 6020

The analyses were performed in general accordance with methods specified in U.S. Environmental Protection Agency's (EPA) Test Methods for Evaluating Solid Waste (SW-846), January 1995 and associated revisions.

Laboratory sample delivery groups (SDGs) associated with the August 2006 sampling events are listed below. The samples associated with each SDG are presented in the table at the end of this memorandum.

<u>Laboratory SDG</u>	<u>Date(s) Collected</u>
K0606703	August 9, 2006
K0606709	August 9, 2006
K0606713	August 10, 2006
K0606717	August 10, 2006
K0606980	August 17, 2006
K0607044	August 19, 2006

Upon receipt by CAS, the sample jar information was compared to the chain-of-custody form. Discrepancies were noted by the laboratory and addressed with Geomatrix personnel prior to sample analyses. The temperatures of the coolers were recorded as part of the check-in

Memorandum
September 7, 2006
Page 2 of 7

procedure. The coolers were within the acceptable range of 4 +/- 2 °C, with the exception of a cooler associated with SDG K0606703, which was -0.5°C, a cooler associated with SDG K0606709 which was 0.7°C, and a cooler associated with SDG K0607044 which was 8.17°C. Samples were all shipped to the laboratory in ice-filled coolers and results were not qualified due to the temperature exceedances.

Data review is based on method performance criteria and QC criteria as documented in the May 2006 Soil Sampling Quality Assurance Project Plan (QAPP). The laboratory provided validatable packages containing summarized sample results and associated QA/QC data as well as instrument printouts and sample preparation and injection log pages as required by the QAPP. The data review conducted on these SDGs included a review of summarized results and QA/QC data per the requirements set forth in Section D1 of the QAPP. The control limits provided in the QAPP are advisory limits; therefore, the most current control limits provided by the laboratory were used to evaluate the quality control data. In cases where the laboratory did not track limits for an analyte, the limits in the QAPP were used. Hold times, calibration verification, method blanks, surrogate recoveries, laboratory control samples (LCS), matrix spike/matrix spike duplicate (MS/MSD) results, laboratory duplicate results, field QC results, and reporting limits were reviewed to assess compliance with applicable methods and the QAPP. If data qualification was required, data were qualified in general accordance with the definitions and use of qualifying flags outlined in the following EPA documents: USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, October 1999, and USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review, October 2004.

The following qualifiers may be added to the data:

- U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ORGANIC ANALYSES

Samples were analyzed for PCBs by the methods identified in the introduction to this report, and were evaluated for the following criteria.

1. Holding Times – Acceptable
2. Initial Calibration – Acceptable
3. Calibration Verification – Acceptable
4. Blanks – Acceptable
5. Surrogates – Acceptable
6. Laboratory Control Samples (LCS) – Acceptable
7. Laboratory Duplicates – Acceptable except as noted:

Lab duplicates were not included in SDG K0606717, but the LCS duplicates showed good RPDs.

8. Matrix Spike/Matrix Spike Duplicates (MS/MSD) – Acceptable
9. Field Duplicates – Acceptable

Field duplicates were not collected in the field. They were collected in the laboratory after the composite samples were ground and homogenized. A field duplicate was collected by the laboratory for this sampling event for composite sample COMP-4 and was given the sample ID COMP-4-DUP. The relative percent differences (RPDs) for all duplicates were below the project specific control limit of 30%, as shown in the table below.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (mg/kg)	Duplicate Result mg/kg)	RPD (%)
COMP-4/COMP-4-UP	Aroclor 1254	0.26	0.30	14

10. Reporting Limits – Acceptable except as noted:

The reporting limits for PCBs in SDG K0606717 were elevated due to relatively high levels of non-target background components, requiring dilution of the samples prior to analysis. According to the case narrative, non-target background components that showed in the chromatogram also prevented adequate resolution of the target compounds at the reporting limit, resulting in the flagging of results as estimated, "J".

INORGANIC ANALYSES

The sample was analyzed for copper by the method identified in the introduction to this report, and was evaluated for the following criteria.

1. Holding Times – Acceptable
2. Initial Calibration – Acceptable
3. Calibration Verification – Acceptable except as noted:

The laboratory noted in the case narrative that the CRDL standard analyzed in association with SDG K0606709 was above the upper control limit (200%) at 221%. Since the CRDL standard is a measure of accuracy and at the method reporting limit (MRL) and associated concentrations are at least 20 times the MRL, no data required qualification.

4. Blanks – Acceptable except as noted:

Copper was detected in the equipment blank sample, ER-1 (SDG K0606717), at a concentration of 0.19 µg/L. The copper concentration in the associated sample was at least five times greater than the blank concentrations; therefore, the sample result was not qualified.

Copper was detected in the method blank associated with SDG K0607044 at 0.07 mg/kg. Since the associated sample concentration was greater than 5 times the blank concentration results are not qualified.

5. Laboratory Control Samples (LCS) – Acceptable
6. Laboratory Duplicates – Acceptable except as noted:

The RPD for the laboratory duplicate analyzed for SDG 0606709 sample MAINT-4-2A was above the control limit at 147%. The laboratory concluded that the RPD exceedance is attributable to the heterogeneous character of the sample. The sample

contained relatively large amounts of rocks, which created difficulties during the homogenization process. Standard mixing techniques were used, but were not sufficient for complete homogenization (as was carefully done for the composite samples). The MAINT-4-2A result was consequently flagged “J” as estimated.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable except as noted:

MS/MSD for copper analyses were not included in SDGs K0606703, K0606709, K0606713, K0606717, K0607044, or K0606980; however, spike sample results were included. Results were evaluated based on the spike samples and LCS.

8. Field Duplicates – Acceptable

Field duplicates were not collected in the field. They were collected in the laboratory after the composite samples were ground and homogenized. A field duplicate was collected by the laboratory for this sampling event for SDG K0606709 composite sample MAINT-4 and was given the sample ID MAINT-4-DUP. The relative percent differences (RPDs) for the duplicates were below the project specific control limit of 30%, as shown in the table below.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (mg/kg)	Duplicate Result mg/kg)	RPD (%)
MAINT-4/MAINT-4-DUP	Copper	74.6	76.6	3

9. Reporting Limits – Acceptable

OVERALL ASSESSMENT OF DATA

The SDGs K0606703, K0606709, K0606713, K0606717, K0606980, and K0607044 are 100 percent complete. The data usability is based on EPA’s guidance documents and the QAPP referenced in the introduction to this report. Few problems were identified and analytical performance was generally within specified limits. The data are acceptable and meet the project’s data quality objectives.

Sample ID	SDG	Laboratory ID	Qualified Analyte	Qualified Result	Units	Qualifier Reason
LAB-4	K0606703	K0606703-036	none			
MAINT-4-1A	K0606709	K0606709-001	none			

Memorandum
 September 7, 2006
 Page 6 of 7

Sample ID	SDG	Laboratory ID	Qualified Analyte	Qualified Result	Units	Qualifier Reason
MAINT-4-2A	K0606709	K0606709-002	copper	61.5 J	mg/kg	elevated lab duplicate RPD
MAINT-4-3A	K0606709	K0606709-003	none			
MAINT-4-4A	K0606709	K0606709-004	none			
MAINT-4-5A	K0606709	K0606709-005	none			
MAINT-4-6A	K0606709	K0606709-006	none			
MAINT-4-7A	K0606709	K0606709-007	none			
MAINT-4-8A	K0606709	K0606709-008	none			
MAINT-4-9A	K0606709	K0606709-009	none			
MAINT-4-10A	K0606709	K0606709-010	none			
MAINT-4-11A	K0606709	K0606709-011	none			
MAINT-4-12A	K0606709	K0606709-012	none			
MAINT-4-13A	K0606709	K0606709-013	none			
MAINT-4-14A	K0606709	K0606709-014	none			
MAINT-4-15A	K0606709	K0606709-015	none			
MAINT-4-16A	K0606709	K0606709-016	none			
MAINT-4-17A	K0606709	K0606709-017	none			
MAINT-4-18A	K0606709	K0606709-018	none			
MAINT-4-19A	K0606709	K0606709-019	none			
MAINT-4-20A	K0606709	K0606709-020	none			
MAINT-4-21A	K0606709	K0606709-021	none			
MAINT-4-22A	K0606709	K0606709-022	none			
MAINT-4-23A	K0606709	K0606709-023	none			
MAINT-4-24A	K0606709	K0606709-024	none			
MAINT-4-25A	K0606709	K0606709-025	none			
MAINT-4-26A	K0606709	K0606709-026	none			
MAINT-4-27A	K0606709	K0606709-027	none			
MAINT-4-28A	K0606709	K0606709-028	none			
MAINT-4-29A	K0606709	K0606709-029	none			
MAINT-4-30A	K0606709	K0606709-030	none			
MAINT-4-31A	K0606709	K0606709-031	none			
MAINT-4-32A	K0606709	K0606709-032	none			
MAINT-4-33A	K0606709	K0606709-033	none			
MAINT-4-34A	K0606709	K0606709-034	none			
MAINT-4-35A	K0606709	K0606709-035	none			
MAINT-4	K0606709	K0606709-036	none			
MAINT-4-DUP	K0606709	K0606709-037	none			
SULF-4	K0606713	K0606713-036	none			
COMP-4	K0606717	K0606717-036	Aroclor 1254	0.26 J	mg/kg	non-target background components in chromatogram
COMP-4-DUP	K0606717	K0606717-037	Aroclor 1254	0.30 J	mg/kg	non-target background components in chromatogram



Memorandum
September 7, 2006
Page 7 of 7

Sample ID	SDG	Laboratory ID	Qualified Analyte	Qualified Result	Units	Qualifier Reason
ER-1 (equipment blank)	K0606717	K0606717-038	none			
COMP-5	K0606980	K0606980-036	none			
MAINT-5	K0607044	K0607044-036	none			



August 15, 2006

Service Request No: K0606703

John Long
Geomatrix Consultants, Incorporated
One Union Square
600 University Street, Suite 1020
Seattle, WA 98101

RE: Former RP site/8769.006

Dear John:

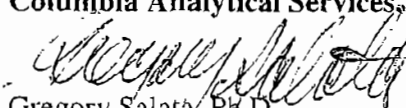
Enclosed are the results of the rush sample(s) submitted to our laboratory on August 10, 2006. For your reference, these analyses have been assigned our service request number K0606703.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Gregory Salata, Ph.D.
Project Chemist

GS/jm

Page 1 of 2

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Geomatrix Consultants, Inc.
Project: Former RP Site/8769.006
Sample Matrix: Soil

Service Request No.: K0606703
Date Received: 08/10/06

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

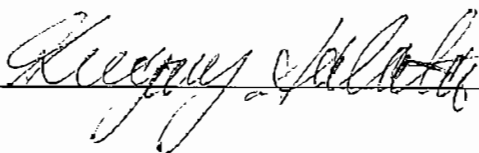
Sample Receipt

Thirty-six soil samples were received for analysis at Columbia Analytical Services on 08/10/06. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory. As instructed, the composite sample was subjected to grinding per the project QAPP prior to analysis.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Approved by



Date

8/18/06

Chain of Custody Documentation

CHAIN-OF-CUSTODY RECORD

K0606703

SEA 10125

PROJECT NAME: Former Rhone Poolenc - East Parcel		DATE: 8/9/06	PAGE 1 OF 3
PROJECT NUMBER: 8769.006	LABORATORY NAME: CAS	CLIENT INFORMATION: Container Properties	REPORTING REQUIREMENTS:
RESULTS TO: Larry McLaughney	LABORATORY ADDRESS: 1317 S 13th Ave Kelso WA 98626		
TURNAROUND TIME: 2 day	LABORATORY CONTACT: Greg Salata		
SAMPLE SHIPMENT METHOD: FedEx	LABORATORY PHONE NUMBER: 360-577-7222	GEOTRACKER REQUIRED: YES	NO
SITE SPECIFIC GLOBAL ID NO			

SAMPLERS (SIGNATURE): <i>Natasha M Gray</i>			ANALYSES										CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
DATE	TIME	SAMPLE NUMBER	EPA 8082 PCBs	8TEX EPA 8021	TPH-Dx	TPH-Gtx	Copper													
8/9/06	1443	LAB-4-1A											1 x 2oz jar	S				1		
	1446	LAB-4-2A																		
	1447	LAB-4-3A																		
	1451	LAB-4-4A																		
	1453	LAB-4-5A																		
	1454	LAB-4-6A																		
	1456	LAB-4-7A																		
	1459	LAB-4-8A																		
	1500	LAB-4-9A																		
	1502	LAB-4-10A																		
	1506	LAB-4-11A																		
	1507	LAB-4-12A																		
	1508	LAB-4-13A																		
	1509	LAB-4-14A																		
	1510	LAB-4-15A																		

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS:	36
SIGNATURE: <i>Natasha M Gray</i>			SIGNATURE: <i>K. Jewell</i>	8/10/06	1500	SAMPLING COMMENTS: Hold all "A" sample volume	
PRINTED NAME: Natasha Gray	8/9/06	1715	PRINTED NAME: K. Jewell				
COMPANY: Geomatrix			COMPANY: CAS				
SIGNATURE:			SIGNATURE:				
PRINTED NAME:			PRINTED NAME:				
COMPANY:			COMPANY:				
SIGNATURE:			SIGNATURE:				
PRINTED NAME:			PRINTED NAME:				
COMPANY:			COMPANY:				

One Union Square, 600 University Street, Suite 1020
Seattle, Washington 98101-4107
Tel 206.342.1760 Fax 206.342.1761



E. U. U. U.

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Former Rhone Rouleuc - East Parcel
 PROJECT NUMBER: 87109.006
 RESULTS TO: Larry McLaughlin
 TURNAROUND TIME: 2-day
 SAMPLE SHIPMENT METHOD: Fed Ex

LABORATORY NAME: CAS
 LABORATORY ADDRESS: see pg-1
 LABORATORY CONTACT: (continuation reports)
 LABORATORY PHONE NUMBER:
 GEOTRACKER REQUIRED: YES
 SITE SPECIFIC GLOBAL ID NO.:

SAMPLERS (SIGNATURE): *Nancy Adams Gray*

DATE	TIME	SAMPLE NUMBER	ANALYSES	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
8/9/06	1515	LAB-4-16A	ECBS EPA 8082 BIEX EPA 8021 TPH-Dx Copper	1x20z jar	S					1	
	1516	LAB-4-17A									
	1517	LAB-4-18A									
	1519	LAB-4-19A									
	1528	LAB-4-20A									
	1522	LAB-4-21A									
	1523	LAB-4-22A									
	1524	LAB-4-23A									
	1526	LAB-4-24A									
	1529	LAB-4-25A									
	1532	LAB-4-26A									
	1534	LAB-4-27A									
	1535	LAB-4-28A									
	1537	LAB-4-29A									
	1540	LAB-4-30A									

RETINQUISHED BY: RECEIVED BY: DATE TIME

SIGNATURE: *Nancy Adams Gray*
 PRINTED NAME: Nancy Adams Gray
 COMPANY: Geomatix
 SIGNATURE: *D. Smith*
 PRINTED NAME: D. Smith
 COMPANY: CAS
 DATE: 8/9/06
 TIME: 17:15

SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____
 SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____

SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____
 SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____
 One Union Square, 600 University Street, Suite 1020
 Seattle, Washington 98101-4107
 Tel 206.342.1760 Fax 206.342.1761
 Geomatix

3.000

SAMPLING COMMENTS: see page 1

Handwritten notes

CHAIN-OF-CUSTODY RECORD

Handwritten: 1/10/06 703

SEA 10127

PROJECT NAME: Former Rhone Poulenc - East Parcel		DATE: 8/9/06	PAGE 3 OF 3
PROJECT NUMBER: 8769.006	LABORATORY NAME: CAS	CLIENT INFORMATION: Container Properties	
RESULTS TO: Larry McGaughey	LABORATORY ADDRESS: see p. 1	REPORTING REQUIREMENTS:	
TURNAROUND TIME: 2 day	LABORATORY CONTACT:	GEOTRACKER REQUIRED: YES NO	
SAMPLE SHIPMENT METHOD: Fed Ex	LABORATORY PHONE NUMBER:	SITE SPECIFIC GLOBAL ID NO:	

SAMPLERS (SIGNATURE):			ANALYSES										CONTAINER TYPE AND SIZE	Soil (S), Water (W), vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS	
DATE	TIME	SAMPLE NUMBER	PCBs	BTEX	TPH-Dx	TPH-Gx	Copper														
8/9/06	1551	LAB-4-31A																	1		
	1550	LAB-4-32A																			
	1541	LAB-4-33A																			
	1544	LAB-4-34A																			
	1545	LAB-4-35A																			
	1551	LAB-4				X															grind in accordance with QAPP/AP

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS:
SIGNATURE: <i>Natasha Gray</i>			SIGNATURE: <i>T. J. Jell</i>	8/10/06	1100	
PRINTED NAME: Natasha Gray	8/9/06	1715	PRINTED NAME: T. J. Jell			SAMPLING COMMENTS: see p. 1
COMPANY: Geomatrix			COMPANY: CAS			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			

One Union Square, 600 University Street, Suite 1020
 Seattle, Washington 98101-4107
 Tel 206.342.1760 Fax 206.342.1761



UUU

Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form

PC Shay

Project/Client FORMER RHINE POLLING Service Request K06 06703

Cooler received on 8/10/06 and opened on 8/10/06 by DR

1. Were custody seals on outside of coolers? Y N
If yes, how many and where? _____
2. Were custody seals intact? ~~Y~~ N
3. Were signature and date present on the custody seals? ~~Y~~ N
4. Is the shipper's airbill available and filed? If no, record airbill number: _____ N
5. COC# _____
Temperature of cooler(s) upon receipt: (°C) -5 _____
Temperature Blank: (°C) _____
- Were samples hand delivered on the same day as collection? Y N
6. Were custody papers properly filled out (ink, signed, etc.)? N
7. Type of packing material present ICE, BUBBLE WRAP
8. Did all bottles arrive in good condition (unbroken)? N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? Y N
10. Did all bottle labels and tags agree with custody papers? ^{GR} N
11. Were the correct types of bottles used for the tests indicated? N
12. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Were the 163 l Mercury bottles checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
15. Did the bottles originate from CAS/K or a branch laboratory?
16. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
17. Was C12/Res negative? ~~Y~~ N

Explain any discrepancies: Sample ID's on hds

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

Total Solids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006
Sample Matrix: Soil

Service Request: K0606703

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
LAB-4	K0606703-036	08/09/2006	08/10/2006	08/11/2006	99.3	

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006
Sample Matrix: Soil

Service Request: K0606703
Date Collected: 08/09/2006
Date Received: 08/10/2006
Date Analyzed: 08/11/2006

Duplicate Sample Summary
Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
LAB-4	K0606703-036	99.3	99.3	99.3	<1	

000:3

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

Group ID:	KWG0613078					Reviewed By:	<i>John Costello</i>
Analyst:	RMcKee					Date Reviewed:	<i>8/14/06</i>
Date Acquired:	08/11/2006 15:25	Oven TempStart:	104 DEG C				
Date Completed:	08/12/2006 12:03	Oven TempEnd:	104 DEG C				

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0606699-001	Mix-Composite Sample #1	SOLID FUEL	10.30g	64.10g	37.36g	50.3		
2	K0606703-036	LAB-4	SOIL	1.21g	8.75g	8.70g	99.3		Air Dried & Shatterboxed
3	K0606709-036	MAINT-4	SOIL	1.22g	4.60g	4.57g	99.1		Air Dried & Shatterboxed
4	K0606713-036	SULF-4	SOIL	1.20g	7.53g	7.51g	99.7		Air Dried & Shatterboxed
5	K0606717-036	COMP-4	SOIL	1.22g	7.33g	7.27g	99.0		Air Dried & Shatterboxed
6	K0606757-001	TDF 9A Boiler 6/30	SOLID FUEL	10.36g	61.99g	60.67g	97.4		
7	K0606757-002	TDF 10A Boiler 6/30	SOLID FUEL	10.39g	65.45g	64.51g	98.3		
8	K0606757-003	RDF 10A Boiler 6/30	SOLID FUEL	10.61g	58.27g	55.24g	93.6		
9	K0606757-004	Biomass 9A Boiler	SOLID FUEL	10.40g	66.83g	44.51g	60.4		
10	K0606757-005	Biomass 10A Boiler	SOLID FUEL	10.18g	69.53g	48.65g	64.8		
11	K0606757-006	TDF 9A Boiler 8/4	SOLID FUEL	10.45g	63.45g	61.51g	96.3		
12	K0606757-007	RDF 10A Boiler 8/10	SOLID FUEL	10.11g	57.28g	55.19g	95.6		
13	KWG0613078-1	Duplicate Client Sample	SOIL	1.21g	3.92g	3.90g	99.3	K0606703-036	Air Dried & Shatterboxed
14	KWG0613078-2	Duplicate Client Sample	SOLID FUEL	10.16g	61.13g	59.83g	97.4	K0606757-001	

0000

Metals

METALS

- Cover Page -

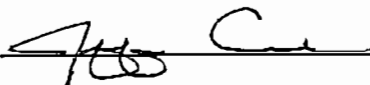
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated Service Request: K0606703
Project No.: 8769.006
Project Name: Former RP site

<u>Sample No.</u>	<u>Lab Sample ID.</u>
LAB-4	K0606703-036
Method Blank	K0606703-MB
Batch QCD	K0606717-036D
Batch QCS	K0606717-036S

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before
application of background corrections? Yes/No NO

Comments: _____

Signature: 

Date: 2/15/06

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606703
 Project No.: 8769.006 Date Collected: 08/09/06
 Project Name: Former RP site Date Received: 08/10/06
 Matrix: SOIL Units: MG/KG
 Basis: Dry

Sample Name: LAB-4

Lab Code: K0606703-036

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.4	0.2	20	8/14/06	8/15/06	33.3		

% Solids: 99.3

Comments:

000.7

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Date Collected:

Project Name: Former RP site

Date Received:

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: Method Blank

Lab Code: K0606703-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.4	0.2	20	8/14/06	8/15/06	0.2	U	

% Solids: 100.0

Comments:

000:8

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Copper	12.5	13.5	108	25.0	25.2	101	24.6	98	6020

00019

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Project Name: Former RP site

ICV Source:

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration				Method	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Copper				25.0	24.8	99			6020

00020

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Project Name: Former RP site

Concentration Units: ug/l

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Copper				0.20	0.34	170		

METALS

- 3 -

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank C	Method
	C	U	1	C	2	C	3	C		
Copper	0.1	U	0.1	U	0.1	U	0.1	U		6020

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.3	22.9	115			

METALS

- 5a -

SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606703
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 99.0

Sample Name: Batch QCS

Lab Code: K0606717-036S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	122		54.9		50.0	134		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

00004

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Units: ug/L

Project Name: Former RP site

Matrix: SOIL

Sample Name:

Batch QCA

Lab Code: K0606717-036A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	48.0	27.5	20.0	103		MS

Comments:

METALS
- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606703
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 99.0

Sample Name: Batch QCD

Lab Code: K0606717-036D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	54.9		53.9		2		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated Service Request: K0606703

Project No.: 8769.006

Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source: ERA Lot #D045540

Analyte	Aqueous mg/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Copper				67.0	70.0		53.8 80.2	104

METALS

- 9 -

ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606703
 Project No.: 8769.006 Units: ug/L
 Project Name: Former RP site

Sample Name: Batch QCL

Lab Code: K0606717-036L

Analyte	Initial Sample Result (I) c	Serial Dilution Result (S) c	% Differ- Q	Method
Copper	27.5	27.5	0	6020

METALS

-10-

METHOD DETECTION LIMITS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606703

Project No.: 8769.006

Project Name: Former RP site

ICP/ICP-MS ID #: X Series

GFAA ID #:

AA ID #:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	Method
Copper	65		0.2	0.1	6020

Comments

METALS

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Geomatrix Consultants, Incorporated Service Request: K0606703
Project No.: 8769.006
Project Name: Former RP site

ICP ID Number: X Series

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Copper	15.00	400.0	6020

Comments: _____



August 15, 2006

Service Request No: K0606709

John Long
 Geomatrix Consultants, Incorporated
 One Union Square
 600 University Street, Suite 1020
 Seattle, WA 98101

RE: Former RP site/8769.006

Dear John:

Enclosed are the results of the rush sample(s) submitted to our laboratory on August 10, 2006. For your reference, these analyses have been assigned our service request number K0606709.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Gregory Salata
 Gregory Salata, Ph.D.
 Project Chemist

GS/jm

Page 1 of 201

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL, but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Geomatrix Consultants, Inc.
Project: Former RP Site/8769.006
Sample Matrix: Soil

Service Request No.: K0606709
Date Received: 08/10/06

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Thirty-six soil samples were received for analysis at Columbia Analytical Services on 08/10/06. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory. As instructed, the composite sample was subjected to grinding per the project QAPP. The ground sample was also divided into two discreet samples, with the second designated as "MAINT-4-DUP". After analysis of the composite samples, the client requested that all thirty-five discreet samples be analyzed as well for Copper.

Total Metals

Continuing Calibration Verification Exceptions:

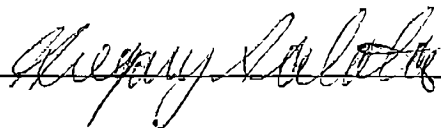
The CRDL standard for Copper analyzed on 08/17/06 was outside the normal CAS control criteria (221% versus an upper control limit of 200%). Since the CRDL standard is a measure of accuracy at the Method Reporting Limit (MRL) and concentrations found in the associated samples were 20 to 1000 times greater than the MRL the CRDL outlier does not adversely impact the data quality. No further corrective action was taken.

Relative Percent Difference Exceptions:

The Relative Percent Difference (RPD) for the replicate analysis of Copper in sample MAINT-4-2A was outside the normal CAS control limits. The variability in the results is attributed to the heterogeneous character of the sample. The sample contained relatively large amounts of rocks, which created difficulties during the homogenization process. Standard mixing techniques were used, but were not sufficient for complete homogenization of this sample.

No other anomalies associated with the analysis of these samples were observed.

Approved by



Date

8/18/06

Chain of Custody Documentation


CHAIN-OF-CUSTODY RECORD

K0606709

SEA 10122

PROJECT NAME: <u>Former Rhona Paulenc - East Paral.</u>		DATE: <u>8/9/06</u>	PAGE <u>1</u> OF <u>3</u>
PROJECT NUMBER <u>8769.006</u>	LABORATORY NAME <u>CAS</u>	CLIENT INFORMATION:	REPORTING REQUIREMENTS:
RESULTS TO <u>Larry Mc Goughy</u>	LABORATORY ADDRESS <u>1317 S 13th Ave</u>	<u>Container Properties</u>	
TURNAROUND TIME <u>2 day</u>	<u>Kelso, WA 98626</u>		
SAMPLE SHIPMENT METHOD: <u>FedEx</u>	LABORATORY CONTACT <u>Greg Salata</u>	GEOTRACKER REQUIRED	YES NO
	LABORATORY PHONE NUMBER <u>360 571 7222</u>	SITF SPECIFIC GLOBAL ID NO	

SAMPLERS (SIGNATURE):			ANALYSES										CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O) Filtered	Preservative Type	Cooled	MS/MSD	No of Containers	ADDITIONAL COMMENTS	
DATE	TIME	SAMPLE NUMBER	EPA 8082 (PCBs)	BTEX (EPA 8021)	TPH-Dx	TPH-G	Copper													
8/9/06	1314	MAINT-4-1A												1x2oz jar	S				1	
	1316	MAINT-4-2A																		
	1318	MAINT-4-3A																		
	1321	MAINT-4-4A																		
	1325	MAINT-4-5A																		
	1323	MAINT-4-6A																		
	1328	MAINT-4-7A																		
	1329	MAINT-4-8A																		
	1330	MAINT-4-9A																		
	1331	MAINT-4-10A																		
	1332	MAINT-4-11A																		
	1333	MAINT-4-12A																		
	1334	MAINT-4-13A																		
	1335	MAINT-4-14A																		
	1336	MAINT-4-15A																		

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS:	30
SIGNATURE: <u>[Signature]</u>			SIGNATURE: <u>[Signature]</u>			SAMPLING COMMENTS: Please conduct "field duplicate" for Copper analysis on sample ^{plus} CAS MAINT-4.	
PRINTED NAME: <u>Zanna Satterwhite</u>	<u>8/9/06</u>	<u>175</u>	PRINTED NAME: <u>[Signature]</u>	<u>8/9/06</u>	<u>1500</u>	[after grinding in accordance with QAPP/SOP]. Hold all "A" sample volume.	
COMPANY: <u>Geomatrix</u>			COMPANY: <u>CAS</u>				
SIGNATURE:			SIGNATURE:				
PRINTED NAME:			PRINTED NAME:				
COMPANY:			COMPANY:				
SIGNATURE:			SIGNATURE:				
PRINTED NAME:			PRINTED NAME:				
COMPANY:			COMPANY:				
						One Union Square, 600 University Street, Suite 1020 Seattle, Washington 98101-4107 Tel 206.342.1760 Fax 206.342.1761	
						 Geomatrix	

CHAIN-OF-CUSTODY RECORD

K0006709

SEA 10123

PROJECT NAME: <i>Former Rhano Parcel - East Parcel</i>		DATE: <i>8/9/06</i>	PAGE <i>2</i> OF <i>3</i>
PROJECT NUMBER: <i>8769.006</i>	LABORATORY NAME: <i>CAS</i>	CLIENT INFORMATION	REPORTING REQUIREMENTS
RESULTS TO: <i>Larry Mc Gaughy</i>	LABORATORY ADDRESS: <i>1317 S 13th Ave</i>	<i>Container Properties</i>	
TURNAROUND TIME: <i>2 day</i>	<i>kelso, WA 98626</i>		
SAMPLE SHIPMENT METHOD: <i>Fed Ex</i>	LABORATORY CONTACT: <i>Greg Salata</i>	GEOTRACKER REQUIRED	YES NO
	LABORATORY PHONE NUMBER: <i>360 577 7222</i>	SITE SPECIFIC GLOBAL ID NO.	

SAMPLERS (SIGNATURE):

[Signature]

ANALYSES

Copper

DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
<i>8/9/06</i>	<i>1337</i>	<i>MAINT-4-16A</i>	<i>2oz jar</i>	<i>S</i>					<i>1</i>	
	<i>1338</i>	<i>MAINT-4-17A</i>								
	<i>1339</i>	<i>MAINT-4-18A</i>								
	<i>1340</i>	<i>MAINT-4-19A</i>								
	<i>1340</i>	<i>MAINT-4-20A</i>								
	<i>1341</i>	<i>MAINT-4-21A</i>								
	<i>1342</i>	<i>MAINT-4-22A</i>								
	<i>1344</i>	<i>MAINT-4-23A</i>								
	<i>1345</i>	<i>MAINT-4-24A</i>								
	<i>1346</i>	<i>MAINT-4-25A</i>								
	<i>1347</i>	<i>MAINT-4-26A</i>								
	<i>1348</i>	<i>MAINT-4-27A</i>								
	<i>1350</i>	<i>MAINT-4-28A</i>								
	<i>1351</i>	<i>MAINT-4-29A</i>								
	<i>1354</i>	<i>MAINT-4-30A</i>								

8

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS:
SIGNATURE: <i>[Signature]</i>			SIGNATURE: <i>[Signature]</i>	<i>8/10/06</i>	<i>1000</i>	
PRINTED NAME: <i>Larry Sattelmuth</i>	<i>8/10/06</i>	<i>175</i>	PRINTED NAME: <i>[Signature]</i>			SAMPLING COMMENTS: <i>See p. 1</i>
COMPANY: <i>Geomatrix</i>			COMPANY: <i>CAS</i>			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			

One Union Square, 600 University Street, Suite 1020
Seattle, Washington 98101-4107
Tel 206.342.1760 Fax 206.342.1761



CHAIN-OF-CUSTODY RECORD

SEA 10124
 DATE: 8/7/06
 PAGE 3 OF 3

W8106709

PROJECT NAME: Former Rhona - Paulenc - East Parcel
 PROJECT NUMBER: 8769.006
 LABORATORY NAME: CTS
 CLIENT INFORMATION: Container Properties

RESULTS TO: Lacy Mc Gayghway
 TURNAROUND TIME: 2 day
 LABORATORY ADDRESS: 1317 S 134th Ave
 Kelsey, WA 98626
 LABORATORY CONTACT: Greg Salata
 LABORATORY PHONE NUMBER: 360 577 7222

SAMPLE SHIPMENT METHOD: FedEx

GEOTRACKER REQUIRED: YES
 SITE SPECIFIC GLOBAL ID NO.:

DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
8/7/06	1356	MAINT-4-31A	202 jar	S					1	
	1357	MAINT-4-32A								
	1358	MAINT-5-33A								
	1359	MAINT-4-34A								
	1401	MAINT-4-35A								
	1401	MAINT-4	1 gallon bucket	S						

SAMPLERS (SIGNATURE):

28

copy

~~CTS 8/9/06~~

RELINQUISHED BY: [Signature] DATE TIME: 8/9/06 175
 RECEIVED BY: [Signature] DATE TIME: 8/10/06 1000

SIGNATURE: Lana Sattlemire
 PRINTED NAME: Lana Sattlemire
 COMPANY: Geomatrix

SIGNATURE: [Signature]
 PRINTED NAME: [Signature]
 COMPANY: [Signature]

TOTAL NUMBER OF CONTAINERS: 1
 SAMPLING COMMENTS: Seep. 1.

One Union Square, 600 University Street, Suite 1020
 Seattle, Washington 98101-4107
 Tel 206.342.1760 Fax 206.342.1761



Geomatrix

Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form

PC Shey

Project/Client FORMER Phure. Poulinc Service Request K06 06709

Cooler received on 8/10/06 and opened on 8/10/06 by AB

1. Were custody seals on outside of coolers? Y N
If yes, how many and where? _____
2. Were custody seals intact? ~~Y~~ N
3. Were signature and date present on the custody seals? ~~Y~~ N
4. Is the shipper's airbill available and filed? If no, record airbill number: _____ Y N
5. COC# _____
Temperature of cooler(s) upon receipt: (°C) .7 _____
Temperature Blank: (°C) _____
- Were samples hand delivered on the same day as collection? Y N
6. Were custody papers properly filled out (ink, signed, etc.)? Y N
7. Type of packing material present ICE, BUBBLE WRAP
8. Did all bottles arrive in good condition (unbroken)? Y N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? Y N
10. Did all bottle labels and tags agree with custody papers? Y N
11. Were the correct types of bottles used for the tests indicated? Y N
12. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Were the 1631 Mercury bottles checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
15. Did the bottles originate from CAS/K or a branch laboratory? Y N
16. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
17. Was C12/Res negative? Y N

Explain any discrepancies: _____

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

Total Solids

Analytical Results

Client: Geomatrix Consultants, Incorporated
 Project: Former RP site/8769.006
 Sample Matrix: Soil

Service Request: K0606709

Total Solids

Prep Method: NONE
 Analysis Method: 160.3M
 Test Notes:

Units: PERCENT
 Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
MAINT-4-1A	K0606709-001	08/09/2006	08/10/2006	08/16/2006	99.2	
MAINT-4-2A	K0606709-002	08/09/2006	08/10/2006	08/16/2006	97.9	
MAINT-4-3A	K0606709-003	08/09/2006	08/10/2006	08/16/2006	93.2	
MAINT-4-4A	K0606709-004	08/09/2006	08/10/2006	08/16/2006	96.3	
MAINT-4-5A	K0606709-005	08/09/2006	08/10/2006	08/16/2006	93.7	
MAINT-4-6A	K0606709-006	08/09/2006	08/10/2006	08/16/2006	98.3	
MAINT-4-7A	K0606709-007	08/09/2006	08/10/2006	08/16/2006	95.8	
MAINT-4-8A	K0606709-008	08/09/2006	08/10/2006	08/16/2006	88.1	
MAINT-4-9A	K0606709-009	08/09/2006	08/10/2006	08/16/2006	96.4	
MAINT-4-10A	K0606709-010	08/09/2006	08/10/2006	08/16/2006	93.5	
MAINT-4-11A	K0606709-011	08/09/2006	08/10/2006	08/16/2006	80.7	
MAINT-4-12A	K0606709-012	08/09/2006	08/10/2006	08/16/2006	95.9	
MAINT-4-13A	K0606709-013	08/09/2006	08/10/2006	08/16/2006	96.7	
MAINT-4-14A	K0606709-014	08/09/2006	08/10/2006	08/16/2006	97.2	
MAINT-4-15A	K0606709-015	08/09/2006	08/10/2006	08/16/2006	97.5	
MAINT-4-16A	K0606709-016	08/09/2006	08/10/2006	08/16/2006	92.8	
MAINT-4-17A	K0606709-017	08/09/2006	08/10/2006	08/16/2006	94.1	
MAINT-4-18A	K0606709-018	08/09/2006	08/10/2006	08/16/2006	92.3	
MAINT-4-19A	K0606709-019	08/09/2006	08/10/2006	08/16/2006	92.6	
MAINT-4-20A	K0606709-020	08/09/2006	08/10/2006	08/16/2006	94.3	
MAINT-4-21A	K0606709-021	08/09/2006	08/10/2006	08/16/2006	92.1	
MAINT-4-22A	K0606709-022	08/09/2006	08/10/2006	08/16/2006	91.2	
MAINT-4-23A	K0606709-023	08/09/2006	08/10/2006	08/16/2006	83.2	
MAINT-4-24A	K0606709-024	08/09/2006	08/10/2006	08/16/2006	95.7	
MAINT-4-25A	K0606709-025	08/09/2006	08/10/2006	08/16/2006	93.3	
MAINT-4-26A	K0606709-026	08/09/2006	08/10/2006	08/16/2006	87.7	
MAINT-4-27A	K0606709-027	08/09/2006	08/10/2006	08/16/2006	81.2	
MAINT-4-28A	K0606709-028	08/09/2006	08/10/2006	08/16/2006	90.8	
MAINT-4-29A	K0606709-029	08/09/2006	08/10/2006	08/16/2006	82.8	
MAINT-4-30A	K0606709-030	08/09/2006	08/10/2006	08/16/2006	97.3	
MAINT-4-31A	K0606709-031	08/09/2006	08/10/2006	08/16/2006	92.4	
MAINT-4-32A	K0606709-032	08/09/2006	08/10/2006	08/16/2006	84.7	
MAINT-4-33A	K0606709-033	08/09/2006	08/10/2006	08/16/2006	91.2	
MAINT-4-34A	K0606709-034	08/09/2006	08/10/2006	08/16/2006	94.5	
MAINT-4-35A	K0606709-035	08/09/2006	08/10/2006	08/16/2006	93.4	

QA/QC Report

Client: Geomatrix Consultants, Incorporated
 Project: Former RP site/8769.006
 Sample Matrix: Soil

Service Request: K0606709
 Date Collected: 08/09/2006
 Date Received: 08/10/2006
 Date Analyzed: 08/16/2006

Duplicate Sample Summary
 Total Solids

Prep Method: NONE
 Analysis Method: 160.3M
 Test Notes:

Units: PERCENT
 Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MAINT-4-1A	K0606709-001	99.2	99.4	99.3	<1	

Client: Geomatrix Consultants, Incorporated
 Project: Former RP site/8769.006
 Sample Matrix: Soil

Service Request: K0606709
 Date Collected: 08/09/2006
 Date Received: 08/10/2006
 Date Analyzed: 08/16/2006

Duplicate Sample Summary
 Total Solids

Prep Method: NONE
 Analysis Method: 160.3M
 Test Notes:

Units: PERCENT
 Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MAINT-4-10A	K0606709-010	93.5	93.1	93.3	<1	

QA/QC Report

Client: Geomatrix Consultants, Incorporated
 Project: Former RP site/8769.006
 Sample Matrix: Soil

Service Request: K0606709
 Date Collected: 08/09/2006
 Date Received: 08/10/2006
 Date Analyzed: 08/16/2006

Duplicate Sample Summary
 Total Solids

Prep Method: NONE
 Analysis Method: 160.3M
 Test Notes:

Units: PERCENT
 Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MAINT-4-20A	K0606709-020	94.3	94.4	94.4	<1	

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006
Sample Matrix: Sediment

Service Request: K0606709
Date Collected: 08/09/2006
Date Received: 08/10/2006
Date Analyzed: 08/16/2006

Duplicate Sample Summary
Total Solids

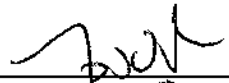
Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MAINT-4-30A	K0606709-030	97.3	97.7	97.5	<1	

Group ID: KWG0613452
Analyst: RMcKee
Date Acquired: 08/16/2006 16:48
Date Completed: 08/17/2006 09:10
Oven TempStart: 104 DEG C
Oven TempEnd: 103 DEG C
Reviewed By: 
Date Reviewed: 8/17/06

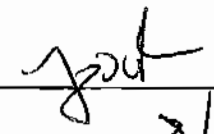
#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
27	K0606709-001	MAINT-4-1A	SOIL	1.25g	11.65g	11.57g	99.2		
28	K0606709-002	MAINT-4-2A	SOIL	1.24g	12.69g	12.45g	97.9		
29	K0606709-003	MAINT-4-3A	SOIL	1.26g	7.30g	6.89g	93.2		
30	K0606709-004	MAINT-4-4A	SOIL	1.27g	7.45g	7.22g	96.3		
31	K0606709-005	MAINT-4-5A	SOIL	1.26g	10.11g	9.55g	93.7		
32	K0606709-006	MAINT-4-6A	SOIL	1.26g	10.06g	9.91g	98.3		
33	K0606709-007	MAINT-4-7A	SOIL	1.26g	10.65g	10.26g	95.8		
34	K0606709-008	MAINT-4-8A	SOIL	1.26g	8.57g	7.70g	88.1		
35	K0606709-009	MAINT-4-9A	SOIL	1.26g	13.50g	13.06g	96.4		
36	K0606709-010	MAINT-4-10A	SOIL	1.26g	11.44g	10.78g	93.5		
37	K0606709-011	MAINT-4-11A	SOIL	1.25g	9.44g	7.86g	80.7		
38	K0606709-012	MAINT-4-12A	SOIL	1.25g	14.70g	14.15g	95.9		
39	K0606709-013	MAINT-4-13A	SOIL	1.25g	12.65g	12.27g	96.7		
40	K0606709-014	MAINT-4-14A	SOIL	1.25g	13.30g	12.96g	97.2		
41	K0606709-015	MAINT-4-15A	SOIL	1.25g	12.52g	12.24g	97.5		
42	K0606709-016	MAINT-4-16A	SOIL	1.26g	12.83g	12.00g	92.8		
43	K0606709-017	MAINT-4-17A	SOIL	1.24g	12.97g	12.28g	94.1		
44	K0606709-018	MAINT-4-18A	SOIL	1.25g	11.16g	10.40g	92.3		
45	K0606709-019	MAINT-4-19A	SOIL	1.25g	11.67g	10.90g	92.6		
46	K0606709-020	MAINT-4-20A	SOIL	1.26g	10.43g	9.91g	94.3		
47	K0606709-021	MAINT-4-21A	SOIL	1.26g	12.73g	11.82g	92.1		
48	K0606709-022	MAINT-4-22A	SOIL	1.24g	12.93g	11.90g	91.2		
49	K0606709-023	MAINT-4-23A	SOIL	1.25g	13.13g	11.13g	83.2		
50	K0606709-024	MAINT-4-24A	SOIL	1.25g	13.63g	13.10g	95.7		
51	K0606709-025	MAINT-4-25A	SOIL	1.25g	10.66g	10.03g	93.3		
52	K0606709-026	MAINT-4-26A	SOIL	1.26g	13.66g	12.14g	87.7		
53	K0606709-027	MAINT-4-27A	SOIL	1.26g	13.59g	11.27g	81.2		
54	K0606709-028	MAINT-4-28A	SOIL	1.25g	14.46g	13.25g	90.8		
55	K0606709-029	MAINT-4-29A	SOIL	1.26g	13.06g	11.03g	82.8		
56	K0606709-030	MAINT-4-30A	SOIL	1.26g	13.64g	13.31g	97.3		
57	K0606709-031	MAINT-4-31A	SOIL	1.26g	17.01g	15.81g	92.4		

Group ID:	KWG0613452		Reviewed By:	
Analyst:	RMcKee		Date Reviewed:	<u>8/17/06</u>
Date Acquired:	08/16/2006 16:48	Oven TempStart:	104 DEG C	
Date Completed:	08/17/2006 09:10	Oven TempEnd:	103 DEG C	

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
58	K0606709-032	MAINT-4-32A	SOIL	1.27g	12.56g	10.83g	84.7		
59	K0606709-033	MAINT-4-33A	SOIL	1.26g	15.73g	14.45g	91.2		
60	K0606709-034	MAINT-4-34A	SOIL	1.26g	11.03g	10.49g	94.5		
61	K0606709-035	MAINT-4-35A	SOIL	1.27g	12.70g	11.94g	93.4		
62	K0606807-001	City of Klawock Landfill Site	SOIL	1.21g	8.92g	6.63g	70.3		
63	K0606807-002	City of Klawock Shop Site	SOIL	1.19g	7.89g	7.13g	88.7		
64	K0606853-001	Packrock Green Soil	SOIL	1.21g	6.62g	6.14g	91.1		
65	K0606867-001	Feed Belt	SOLID FUEL	11.95g	67.49g	40.05g	50.6		As Received
66	K0606867-002	Dewatered Sludge	SOLID FUEL	11.91g	90.99g	42.86g	39.1		As Received
67	KWG0613452-1	Duplicate Client Sample	SOIL	1.24g	12.67g	12.60g	99.4	K0606709-001	
68	KWG0613452-2	Duplicate Client Sample	SOIL	1.25g	12.09g	11.34g	93.1	K0606709-010	
69	KWG0613452-3	Duplicate Client Sample	SOIL	1.25g	11.61g	11.03g	94.4	K0606709-020	
70	KWG0613452-4	Duplicate Client Sample	SEDIMENT	1.27g	2.14g	2.12g	97.7	K0605942-002	
71	KWG0613452-5	Duplicate Client Sample	SEDIMENT	1.23g	3.14g	3.11g	98.4	K0605942-011	
72	KWG0613452-6	Duplicate Client Sample	SEDIMENT	1.26g	12.41g	12.15g	97.7	K0606709-030	
73	KWG0613452-7	Duplicate Client Sample	SEDIMENT	1.25g	3.38g	3.37g	99.5	K0605942-020	
74	KWG0613452-8	Duplicate Client Sample	SOIL	1.23g	10.21g	9.33g	90.2	K0606807-002	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

Group ID:	KWG0613452		Reviewed By:	
Analyst:	RMcKee		Date Reviewed:	2/17/06
Date Acquired:	08/16/2006 16:48	Oven TempStart:	104 DEG C	
Date Completed:	08/17/2006 09:10	Oven TempEnd:	103 DEG C	

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0605942-001	Repub-WR1-S1	SOIL	1.2490g	1.4719g	1.4604g	94.8		
2	K0605942-002	Repub-WR1-S2	SOIL	1.25g	2.04g	2.03g	98.7		
3	K0605942-003	Repub-WR1-S3	SOIL	1.25g	2.15g	2.14g	98.9		
4	K0605942-004	Repub-WR1-S4	SOIL	1.27g	2.72g	2.71g	99.3		
5	K0605942-005	Repub-WR3-S1	SOIL	1.27g	1.78g	1.77g	98.0		
6	K0605942-006	Rick-WR1-S1	SOIL	1.27g	2.77g	2.75g	98.7		
7	K0605942-007	Maude-WR1-S1	SOIL	1.27g	3.51g	3.48g	98.7		
8	K0605942-008	Maude-WR1-S2	SOIL	1.28g	3.54g	3.52g	99.1		
9	K0605942-009	Maude-WR2-S1	SOIL	1.24g	2.77g	2.76g	99.3		
10	K0605942-010	Maude-WR2-S2	SOIL	1.25g	2.27g	2.25g	98.0		
11	K0605942-011	Maude-WR3-S1	SOIL	1.23g	3.42g	3.39g	98.6		
12	K0605942-012	Butte-WR1-S2	SOIL	1.27g	3.49g	3.47g	99.1		
13	K0605942-013	Trust-WR2-S1	SOIL	1.23g	3.73g	3.73g	100		
14	K0605942-014	Advance-WR2-S1	SOIL	1.24g	2.98g	2.98g	100		
15	K0605942-015	Advance-SR2-S2	SOIL	1.25g	3.20g	3.20g	100		
16	K0605942-016	Advance-WR2-S3	SOIL	1.25g	4.18g	4.17g	99.7		
17	K0605942-017	Hort-WR1-S1	SOIL	1.26g	3.76g	3.75g	99.6		
18	K0605942-018	Hort-WR2-S1	SOIL	1.24g	4.23g	4.22g	99.7		
19	K0605942-019	Hort-WR3-S1	SOIL	1.25g	4.37g	4.37g	100		
20	K0605942-020	Hort-WR4-S1	SOIL	1.25g	3.54g	3.53g	99.6		
21	K0605942-021	Hort-SR5-S1	SOIL	1.24g	2.03g	2.03g	100		
22	K0605942-023	Repub-Sed 2	SEDIMENT	1.26g	1.88g	1.85g	95.2		
23	K0605942-024	Hort-WR3-S2	SEDIMENT	1.25g	3.34g	3.34g	100		
24	K0605942-025	Advance-Sed 1	SEDIMENT	1.25g	2.89g	2.87g	98.8		
25	K0605942-026	Hort-Sed 1	SEDIMENT	1.24g	3.23g	3.21g	99.0		
26	K0605942-027	Hort-Sed 3	SEDIMENT	1.23g	4.18g	4.17g	99.7		

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006
Sample Matrix: Soil

Service Request: K0606709

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
MAINT-4	K0606709-036	08/09/2006	08/10/2006	08/11/2006	99.1	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

Group ID:	KWG0613078	Reviewed By:	<i>Ch. Curtis L. Rupp</i>
Analyst:	RMcKee	Date Reviewed:	<i>8/14/06</i>
Date Acquired:	08/11/2006 15:25	Oven TempStart:	104 DEG C
Date Completed:	08/12/2006 12:03	Oven TempEnd:	104 DEG C

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0606699-001	Mix-Composite Sample #1	SOLID FUEL	10.30g	64.10g	37.36g	50.3		
2	K0606703-036	LAB-4	SOIL	1.21g	8.75g	8.70g	99.3		Air Dried & Shatterboxed
3	K0606709-036	MAINT-4	SOIL	1.22g	4.60g	4.57g	99.1		Air Dried & Shatterboxed
4	K0606713-036	SULF-4	SOIL	1.20g	7.53g	7.51g	99.7		Air Dried & Shatterboxed
5	K0606717-036	COMP-4	SOIL	1.22g	7.33g	7.27g	99.0		Air Dried & Shatterboxed
6	K0606757-001	TDF 9A Boiler 6/30	SOLID FUEL	10.36g	61.99g	60.67g	97.4		
7	K0606757-002	TDF 10A Boiler 6/30	SOLID FUEL	10.39g	65.45g	64.51g	98.3		
8	K0606757-003	RDF 10A Boiler 6/30	SOLID FUEL	10.61g	58.27g	55.24g	93.6		
9	K0606757-004	Biomass 9A Boiler	SOLID FUEL	10.40g	66.83g	44.51g	60.4		
10	K0606757-005	Biomass 10A Boiler	SOLID FUEL	10.18g	69.53g	48.65g	64.8		
11	K0606757-006	TDF 9A Boiler 8/4	SOLID FUEL	10.45g	63.45g	61.51g	96.3		
12	K0606757-007	RDF 10A Boiler 8/10	SOLID FUEL	10.11g	57.28g	55.19g	95.6		
13	KWG0613078-1	Duplicate Client Sample	SOIL	1.21g	3.92g	3.90g	99.3	K0606703-036	Air Dried & Shatterboxed
14	KWG0613078-2	Duplicate Client Sample	SOLID FUEL	10.16g	61.13g	59.83g	97.4	K0606757-001	

Metals

METALS

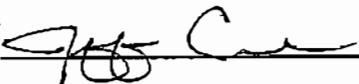
- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
Project No.: 8769.006
Project Name: Former RP site

Sample No.	Lab Sample ID.
MAINT-4-1A	K0606709-001
MAINT-4-2A	K0606709-002
MAINT-4-2AD	K0606709-002D
MAINT-4-2AS	K0606709-002S
MAINT-4-3A	K0606709-003
MAINT-4-4A	K0606709-004
MAINT-4-5A	K0606709-005
MAINT-4-6A	K0606709-006
MAINT-4-7A	K0606709-007
MAINT-4-8A	K0606709-008
MAINT-4-9A	K0606709-009
MAINT-4-10A	K0606709-010
MAINT-4-11A	K0606709-011
MAINT-4-12A	K0606709-012
MAINT-4-13A	K0606709-013
MAINT-4-14A	K0606709-014
MAINT-4-15A	K0606709-015
MAINT-4-16A	K0606709-016
MAINT-4-17A	K0606709-017
MAINT-4-18A	K0606709-018
MAINT-4-19A	K0606709-019
MAINT-4-20A	K0606709-020
MAINT-4-21A	K0606709-021

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: _____

Signature: 

Date: 8/17/06

METALS

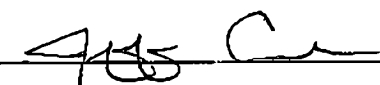
- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006
 Project Name: Former RP site

Sample No.	Lab Sample ID.
MAINT-4-21AD	K0606709-021D
MAINT-4-21AS	K0606709-021S
MAINT-4-22A	K0606709-022
MAINT-4-23A	K0606709-023
MAINT-4-24A	K0606709-024
MAINT-4-25A	K0606709-025
MAINT-4-26A	K0606709-026
MAINT-4-27A	K0606709-027
MAINT-4-28A	K0606709-028
MAINT-4-29A	K0606709-029
MAINT-4-30A	K0606709-030
MAINT-4-31A	K0606709-031
MAINT-4-32A	K0606709-032
MAINT-4-33A	K0606709-033
MAINT-4-34A	K0606709-034
MAINT-4-35A	K0606709-035
MAINT-4	K0606709-036
MAINT-4-DUP	K0606709-037
Method Blank	K0606709-MB
Method Blank 2	K0606709-MB2
Method Blank 3	K0606709-MB3
Batch QCD	K0606717-036D
Batch QCS	K0606717-036S

Were ICP interelement corrections applied? Yes/No YES
 Were ICP background corrections applied? Yes/No YES
 If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: _____

Signature: 

Date: 8/17/06

METALS
-1-
INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated
Project No.: 8769.006
Project Name: Former RP site
Matrix: SOIL

Service Request: K0606709
Date Collected: 08/09/06
Date Received: 08/10/06
Units: MG/KG
Basis: Dry

Sample Name: MAINT-4-1A

Lab Code: K0606709-001

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.39	0.24	20	8/16/06	8/17/06	46.9		*

* Solids: 99.2

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-2A

Lab Code: K0606709-002

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.41	0.25	20	8/16/06	8/17/06	61.5		*

J

% Solids: 97.9

Comments:

TGA
9/5/06

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-3A

Lab Code: K0606709-003

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.43	0.26	20	8/16/06	8/17/06	42.4		*

% Solids: 93.2

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-4A

Lab Code: K0606709-004

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	26.8		*

% Solids: 96.3

Comments:

METALS
-1-
INORGANIC ANALYSIS DATA SHEET

Client:	Geomatrix Consultants, Incorporated	Service Request:	K0606709
Project No.:	8769.006	Date Collected:	08/09/06
Project Name:	Former RP site	Date Received:	08/10/06
Matrix:	SOIL	Units:	MG/KG
		Basis:	Dry

Sample Name: MAINT-4-5A

Lab Code: K0606709-005

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.41	0.25	20	8/16/06	8/17/06	69.2		*

* Solids: 93.7

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-6A

Lab Code: K0606709-006

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/16/06	8/17/06	10.3		*

% Solids: 98.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-7A

Lab Code: K0606709-007

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.41	0.25	20	8/16/06	8/17/06	17.7		*

% Solids: 95.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Geomatrix Consultants, Incorporated	Service Request:	K0606709
Project No.:	8769.006	Date Collected:	08/09/06
Project Name:	Former RP site	Date Received:	08/10/06
Matrix:	SOIL	Units:	MG/KG
		Basis:	Dry

Sample Name: MAINT-4-8A

Lab Code: K0606709-008

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.45	0.27	20	8/16/06	8/17/06	21.0		*

* Solids: 88.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
Project No.: 8769.006 Date Collected: 08/09/06
Project Name: Former RP site Date Received: 08/10/06
Matrix: SOIL Units: MG/KG
Basis: Dry

Sample Name: MAINT-4-9A

Lab Code: K0606709-009

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.41	0.25	20	8/16/06	8/17/06	95.6		*

* Solids: 95.4

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-10A

Lab Code: K0606709-010

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	15.1		*

% Solids: 93.5

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-11A

Lab Code: K0606709-011

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.49	0.29	20	8/16/06	8/17/06	27.2		*

% Solids: 80.7

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-12A

Lab Code: K0606709-012

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.41	0.25	20	8/16/06	8/17/06	244		*

% Solids: 95.9

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-13A

Lab Code: K0606709-013

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/16/06	8/17/06	168		*

% Solids: 96.7

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-14A

Lab Code: K0606709-014

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.41	0.24	20	8/16/06	8/17/06	202		*

% Solids: 97.2

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-15A

Lab Code: K0606709-015

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/16/06	8/17/06	31.0		*

% Solids: 97.5

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-16A

Lab Code: K0606709-016

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	62.6		*

% Solids: 92.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-17A

Lab Code: K0606709-017

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	81.5		*

% Solids: 94.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-18A

Lab Code: K0606709-018

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.43	0.26	20	8/16/06	8/17/06	11.2		*

‡ Solids: 92.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-19A

Lab Code: K0606709-019

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	55.0		*

% Solids: 92.6

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Date Collected: 08/09/06
 Project Name: Former RP site Date Received: 08/10/06
 Matrix: SOIL Units: MG/KG
 Basis: Dry

Sample Name: MAINT-4-20A

Lab Code: K0606709-020

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.26	20	8/16/06	8/17/06	86.6		*

% Solids: 94.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-21A

Lab Code: K0606709-021

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.43	0.26	20	8/16/06	8/17/06	60.1		

% Solids: 92.1

Comments:

METALS
-1-
INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
Project No.: 8769.006 Date Collected: 08/09/06
Project Name: Former RP site Date Received: 08/10/06
Matrix: SOIL Units: MG/KG
Basis: Dry

Sample Name: MAINT-4-22A

Lab Code: K0606709-022

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.43	0.26	20	8/16/06	8/17/06	96.0		

% Solids: 91.2

Comments:

METALS

-I-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-23A

Lab Code: K0606709-023

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.48	0.29	20	8/16/06	8/17/06	31.9		

% Solids: 83.2

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-24A

Lab Code: K0606709-024

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	22.0		

% Solids: 95.7

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-25A

Lab Code: K0606709-025

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.26	20	8/16/06	8/17/06	120		

% Solids: 93.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Date Collected: 08/09/06
 Project Name: Former RP site Date Received: 08/10/06
 Matrix: SOIL Units: MG/KG
 Basis: Dry

Sample Name: MAINT-4-26A

Lab Code: K0606709-026

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.45	0.27	20	8/16/06	8/17/06	29.3		

* Solids: 87.7

Comments:

METALS
-1-
INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
Project No.: 8769.006 Date Collected: 08/09/06
Project Name: Former RF site Date Received: 08/10/06
Matrix: SOIL Units: MG/KG
Basis: Dry

Sample Name: MAINT-4-27A

Lab Code: K0606709-027

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.48	0.29	20	8/16/06	8/17/06	124		

% Solids: 81.2

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated
Project No.: 8769.006
Project Name: Former RP site
Matrix: SOIL

Service Request: K0606709
Date Collected: 08/09/06
Date Received: 08/10/06
Units: MG/KG
Basis: Dry

Sample Name: MAINT-4-28A

Lab Code: K0606709-028

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.44	0.26	20	8/16/06	8/17/06	32.5		

% Solids: 90.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-29A

Lab Code: K0606709-029

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.48	0.29	20	8/16/06	8/17/06	20.7		

% Solids: 82.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-30A

Lab Code: K0606709-030

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/16/06	8/17/06	19.4		

% Solids: 97.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated
 Project No.: 8769.006
 Project Name: Former RP site
 Matrix: SOIL

Service Request: K0606709
 Date Collected: 08/09/06
 Date Received: 08/10/06
 Units: MG/KG
 Basis: Dry

Sample Name: MAINT-4-31A

Lab Code: K0606709-031

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.43	0.26	20	8/16/06	8/17/06	65.1		

% Solids: 92.4

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Date Collected: 08/09/06
 Project Name: Former RP site Date Received: 08/10/06
 Matrix: SOIL Units: MG/KG
 Basis: Dry

Sample Name: MAINT-4-32A

Lab Code: K0606709-032

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.47	0.28	20	8/16/06	8/17/06	18.4		

% Solids: 84.7

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-33A

Lab Code: K0606709-033

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.44	0.26	20	8/16/06	8/17/06	44.0		

% Solids: 91.2

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4-34A

Lab Code: K0606709-034

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	7.94		

% Solids: 94.5

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Date Collected: 08/09/06
 Project Name: Former RP site Date Received: 08/10/06
 Matrix: SOIL Units: MG/KG
 Basis: Dry

Sample Name: MAINT-4-35A

Lab Code: K0606709-035

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.42	0.25	20	8/16/06	8/17/06	299		

% Solids: 93.4

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected: 08/09/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-4

Lab Code: K0606709-036

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/14/06	8/15/06	74.6		

Solids: 99.1

Comments:

METALS
-1-
INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
Project No.: 8769.006 Date Collected: 08/09/06
Project Name: Former RP site Date Received: 08/10/06
Matrix: SOIL Units: MG/KG
Basis: Dry

Sample Name: MAINT-4-DUP

Lab Code: K0606709-037

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/14/06	8/15/06	76.6		

* Solids: 99.1

Comments:

METALS
-I-
INORGANIC ANALYSIS DATA SHEET

Client:	Geomatrix Consultants, Incorporated	Service Request:	K0606709
Project No.:	8769.006	Date Collected:	
Project Name:	Former RP site	Date Received:	
Matrix:	SOIL	Units:	MG/KG
		Basis:	Dry

Sample Name: Method Blank

Lab Code: K0606709-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/14/06	8/15/06	0.24	U	

% Solids: 100.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected:

Project Name: Former RP site

Date Received:

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: Method Blank 2

Lab Code: K0606709-MB2

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/16/06	8/17/06	0.24	U	*

% Solids: 100.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Date Collected:

Project Name: Former RP site

Date Received:

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: Method Blank 3

Lab Code: K0606709-MB3

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.40	0.24	20	8/16/06	8/17/06	0.24	U	

% Solids: 100.0

Comments:

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration				Method	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Copper	12.5	13.5	108	25.0	25.2	101	24.6	98	6020

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICV Source:

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration				Method	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Copper				25.0	24.8	99			6020

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration				Method	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Copper	12.5	13.0	104	25.0	24.8	99	24.6	98	6020

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICV Source:

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Copper				25.0	24.3	97	24.6	98	6020

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICV Source:

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration				Method	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Copper				25.0	24.7	99	25.2	101	6020

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

Concentration Units: ug/l

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Copper				0.20	0.34	170		

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

Concentration Units: ug/l

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Copper				0.20	0.44	221		

METALS

- 3 -

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank	Method
	C		1	C	2	C	3	C		
Copper	0.12	U	0.12	U	0.12	U	0.12	U		6020

METALS

-3-

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank C	Method
	C		1	C	2	C	3	C		
Copper	0.12	U	0.12	U	0.12	U	0.12	U		6020

METALS

-3-

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank C	Method
			1	C	2	C	3	C		
Copper			0.12	U	0.12	U	0.12	U		6020

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.32	22.9	115			

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.17	22.0	110			

METALS
 - 5a -
 SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 99.0

Sample Name: Batch QCS

Lab Code: K0606717-036S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	122		54.9		50.0	134		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 5a -

SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 92.1

Sample Name: MAINT-4-21AS

Lab Code: K0606709-021S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	115		60.1		53.2	103		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS
 - 5a -
 SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 97.9

Sample Name: MAINT-4-2AS

Lab Code: K0606709-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	127		61.5		51.1	128		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Units: ug/L

Project Name: Former RP site

Matrix: SOIL

Sample Name:

Batch QCA

Lab Code: K0606717-036A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	48.0	27.5	20.0	103		MS

Comments:

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: ug/L
 Project Name: Former RP site
 Matrix: SOIL

Sample Name: MAINT-4-21AA

Lab Code: K0606709-021A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	51.9	27.7	20.0	121		MS

Comments: _____

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: ug/L
 Project Name: Former RP site
 Matrix: SOIL

Sample Name: MAINT-4-2AA Lab Code: K0606709-002A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	53.8	30.1	20.0	118		MS

Comments: _____

METALS
-6-
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 99.0

Sample Name: Batch QCD

Lab Code: K0606717-036D

Analyte	Control Limit(%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	54.9		53.9		2		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS
- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 92.1

Sample Name: MAINT-4-21AD

Lab Code: K0606709-021D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	60.1		73.7		20		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS
- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 97.9

Sample Name: MAINT-4-2AD

Lab Code: K0606709-002D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	61.5		407		147	*	6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006
 Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures Solid LCS Source: ERA Lot #D045540

Analyte	Aqueous mg/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Copper				67.0	70.0		53.8	80.2	104

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006
 Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures Solid LCS Source: ERA Lot #D045540

Analyte	Aqueous mg/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Copper				67.0	80.1		53.8	80.2	120

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006
 Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures Solid LCS Source: ERA Lot #D045540

Analyte	Aqueous mg/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Copper				67.0	70.1		53.8 80.2	105

METALS

- 9 -

ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: ug/L
 Project Name: Former RP site

Sample Name: Batch QCL

Lab Code: K0606717-036L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ-	Q	Method
Copper	27.5	27.5	0		6020

METALS

- 9 -

ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: ug/L
 Project Name: Former RP site

Sample Name: MAINT-4-21AL

Lab Code: K0606709-021L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ-	Q	Method
Copper	27.7	28.4	3		6020

METALS

- 9 -

ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
 Project No.: 8769.006 Units: ug/L
 Project Name: Former RP site

Sample Name: MAINT-4-2AL

Lab Code: K0606709-002L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ-	Q	Method
Copper	30.1	31.6	5		6020

METALS

-10-

METHOD DETECTION LIMITS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606709

Project No.: 8769.006

Project Name: Former RP site

ICP/ICP-MS ID #: X Series

GFAA ID #:

AA ID #:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	Method
Copper	65		0.20	0.12	6020

Comments

METALS

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Geomatrix Consultants, Incorporated Service Request: K0606709
Project No.: 8769.006
Project Name: Former RP site

ICP ID Number: X Series

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Copper	15.00	400.0	6020

Comments: _____



August 15, 2006

Service Request No: K0606713

John Long
 Geomatrix Consultants, Incorporated
 One Union Square
 600 University Street, Suite 1020
 Seattle, WA 98101

RE: Former RP site/8769.006/2

Dear John:

Enclosed are the results of the rush sample(s) submitted to our laboratory on August 10, 2006. For your reference, these analyses have been assigned our service request number K0606713.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@kelso.caslab.com.

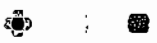
Respectfully submitted,

Columbia Analytical Services, Inc.

Gregory Salata
 Gregory Salata, Ph.D.
 Project Chemist

GS/jm

Page 1 of 10



Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Geomatrix Consultants, Inc.
Project: Former RP Site/8769.006
Sample Matrix: Soil

Service Request No.: K0606713
Date Received: 08/10/06

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

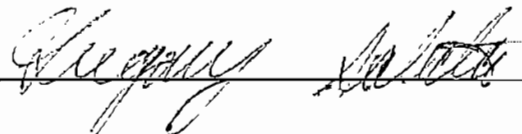
Sample Receipt

Thirty-six soil samples were received for analysis at Columbia Analytical Services on 08/10/06. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory. As instructed, the composite sample was subjected to grinding per the project QAPP prior to analysis.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Approved by



Date

8/18/06

00015

Chain of Custody Documentation

CHAIN-OF-CUSTODY RECORD

Koleo (671)

SEA 10091

PROJECT NAME: <i>Former Rhone Paulenc - East Panel</i>		DATE: <i>8/10/06</i>	PAGE <i>1</i> OF <i>3</i>
PROJECT NUMBER: <i>8769.006/2</i>	LABORATORY NAME: <i>Columbia Analytical</i>	CLIENT INFORMATION: <i>Container Properties</i>	
RESULTS TO: <i>Larry McGaughey</i>	LABORATORY ADDRESS: <i>1317 S. 13th Ave Kelso, WA 98626</i>	REPORTING REQUIREMENTS:	
TURNAROUND TIME: <i>2-day</i>	LABORATORY CONTACT: <i>Greg Salata</i>	GEOTRACKER REQUIRED: YES NO	
SAMPLE SHIPMENT METHOD: <i>Courier</i>	LABORATORY PHONE NUMBER: <i>(360) 577-7222</i>	SITE SPECIFIC GLOBAL ID NO	

SAMPLERS (SIGNATURE):

[Signature]

ANALYSES

DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
<i>8/10/06</i>	<i>0758</i>	<i>SULF-4-1A</i>	<i>x 2oz jar</i>	<i>S</i>					<i>1</i>	
	<i>0759</i>	<i>SULF-4-2A</i>								
	<i>0746</i>	<i>SULF-4-3A</i>								
	<i>0745</i>	<i>SULF-4-4A</i>								
	<i>0755</i>	<i>SULF-4-5A</i>								
	<i>0756</i>	<i>SULF-4-6A</i>								
	<i>0757</i>	<i>SULF-4-7A</i>								
	<i>0747</i>	<i>SULF-4-8A</i>								
	<i>0754</i>	<i>SULF-4-9A</i>								
	<i>0751</i>	<i>SULF-4-10A</i>								
	<i>0746</i>	<i>SULF-4-11A</i>								
	<i>0744</i>	<i>SULF-4-12A</i>								
	<i>0753</i>	<i>SULF-4-13A</i>								
	<i>0750</i>	<i>SULF-4-14A</i>								
	<i>0752</i>	<i>SULF-4-15A</i>								

RELINQUISHED BY: <i>[Signature]</i>	DATE: <i>8/10/06</i>	TIME: <i>0901</i>	RECEIVED BY: <i>[Signature]</i>	DATE: <i>8/10/06</i>	TIME: <i>0902</i>	TOTAL NUMBER OF CONTAINERS:
PRINTED NAME: <i>Laura Sattenberke</i>			PRINTED NAME: <i>Stacie Hays</i>			SAMPLING COMMENTS: <i>Please grind sample SULF-4 in accordance w/ OAPP SOP prior to analysis. Hold all "A" sample volume.</i>
COMPANY: <i>Geomatrix</i>			COMPANY: <i>McDelivery</i>			
SIGNATURE: <i>[Signature]</i>			SIGNATURE: <i>[Signature]</i>			
PRINTED NAME:			PRINTED NAME: <i>J. Juell</i>			
COMPANY:			COMPANY: <i>CAS</i>			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			

One Union Square, 600 University Street, Suite 1020
Seattle, Washington 98101-4107
Tel 206.342.1760 Fax 206.342.1761



L 10091

CHAIN-OF-CUSTODY RECORD

8/10/06

SFA 10090

PROJECT NAME: Former Airone Padonc - East Parcel DATE: 8/10/06 PAGE 2 OF 3

PROJECT NUMBER: 8169.006/2 REPORTING REQUIREMENTS:

RESULTS TO: Lamy McGuffey CLIENT INFORMATION: Container Properties

TURNAROUND TIME: 2-day

SAMPLE SHIPMENT METHOD: Covered

LABORATORY NAME: Cellulose Analyt

LABORATORY ADDRESS: 1317 S. 13th Ave

LABORATORY CONTACT: Kelso WA 98626

LABORATORY PHONE NUMBER: Greg Seabata

(360) 577-7222

GEOTRACKER REQUIRED: YES NO

SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE): Z S

DATE	TIME	SAMPLE NUMBER	ANALYSES	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
8/10/06	0749	SULF-4-16A	Copper	1 x 2oz jar	S						
	0742	SULF-4-17A									
	0738	SULF-4-18A									
	0728	SULF-4-19A									
	0740	SULF-4-20A									
	0737	SULF-4-21A									
	0731	SULF-4-22A									
	0727	SULF-4-23A									
	0743	SULF-4-24A									
	0739	SULF-4-25A									
	0736	SULF-4-26A									
	0735	SULF-4-27A									
	0732	SULF-4-28A									
	0725	SULF-4-29A									
	0730	SULF-4-30A									

RELINQUISHED BY: [Signature] DATE: 8/10/06 TIME: 0901

SIGNATURE: [Signature] RECEIVED BY: [Signature] DATE: 8/10/06 TIME: 0902

PRINTED NAME: Lamy McGuffey PRINTED NAME: Stacie Hays

COMPANY: Geomatrix COMPANY: WCC Delivery

SIGNATURE: [Signature] PRINTED NAME: [Signature] DATE: 8/10/06 TIME: 1400

COMPANY: CHS

SIGNATURE: [Signature] PRINTED NAME: [Signature]

COMPANY: [Signature]

SIGNATURE: [Signature] PRINTED NAME: [Signature]

COMPANY: [Signature]

TOTAL NUMBER OF CONTAINERS: 1

SAMPLING COMMENTS: See p-1

CHAIN-OF-CUSTODY RECORD

SEA 10089

8/10/06

DATE: 8/10/06

PAGE 3 OF 3

PROJECT NAME: Fomer Phone Pavilion - East Park

PROJECT NUMBER: 8769.006/2

RESULTS TO: Cary Mc Garvey

TURNAROUND TIME: 2-day

SAMPLE SHIPMENT METHOD: Courier

LABORATORY NAME: CA

LABORATORY ADDRESS: 1317 S. 13th Ave.

LABORATORY CITY: Bellevue, WA 98006

LABORATORY CONTACT: Chris Salnik

LABORATORY PHONE NUMBER: (360) 577-7222

CLIENT INFORMATION: Container Properties

REPORTING REQUIREMENTS:

GEOTRACKER REQUIRED: YES NO

SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):		ANALYSES		CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
DATE	TIME	SAMPLE NUMBER									
8/10/06	0734	SULF-4-31A		1 x 202 gal	S					1	
	0733	SULF-4-32A									
	0724	SULF-4-33A									
	0729	SULF-4-34A									
	0723	SULF-4-35A									
	0759	SULF-4	X	1 gallon bucket							

Za S

capex

245 8/10/06

RELINQUISHED BY: SIGNATURE: [Signature] DATE: 8/10/06 TIME: 0901

PRINTED NAME: Laura Satterwhite

COMPANY: Geomatrix

SIGNATURE: [Signature] DATE: 8/10/06 TIME: 1400

PRINTED NAME: [Name]

COMPANY: CAS

TOTAL NUMBER OF CONTAINERS: See p. 1

SAMPLING COMMENTS: See p. 1

One Union Square, 600 University Street, Suite 1020
Seattle, Washington 98101-4107
Tel 206.342.1760 Fax 206.342.1761



Geomatrix

Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form

PC Greg

Project/Client Geometrix Service Request K06 06713

Cooler received on 8-10-06 and opened on 8-10-06 by BW

1. Were custody seals on outside of coolers? NP Y N
- If yes, how many and where? _____
2. Were custody seals intact? ~~Y~~ N
3. Were signature and date present on the custody seals? mc Delivery ~~Y~~ N
4. Is the shipper's airbill available and filed? If no, record airbill number: _____ ~~Y~~ N
5. COC# _____
- Temperature of cooler(s) upon receipt: (°C) 1.2 1.4 _____
- Temperature Blank: (°C) NP NP _____
- Were samples hand delivered on the same day as collection? ~~Y~~ N
6. Were custody papers properly filled out (ink, signed, etc.)? Y N
7. Type of packing material present ICE, DUX
8. Did all bottles arrive in good condition (unbroken)? N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? N
10. Did all bottle labels and tags agree with custody papers? N
11. Were the correct types of bottles used for the tests indicated? N
12. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Were the 1631 Mercury bottles checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
15. Did the bottles originate from CAS/K or a branch laboratory? N
16. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
17. Was C12/Res negative? ~~Y~~ N

Explain any discrepancies: NO sign off on relinquish

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

Total Solids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606713

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
SULF-4	K0606713-036	08/10/2006	08/10/2006	08/11/2006	99.7	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

Group ID:	KWG0613078				
Analyst:	RMcKee				Reviewed By: <i>John Curtis Repp</i>
Date Acquired:	08/11/2006 15:25	Oven TempStart:	104 DEG C		Date Reviewed: <i>8/14/06</i>
Date Completed:	08/12/2006 12:03	Oven TempEnd:	104 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0606699-001	Mix-Composite Sample #1	SOLID FUEL	10.30g	64.10g	37.36g	50.3		
2	K0606703-036	LAB-4	SOIL	1.21g	8.75g	8.70g	99.3		Air Dried & Shatterboxed
3	K0606709-036	MAINT-4	SOIL	1.22g	4.60g	4.57g	99.1		Air Dried & Shatterboxed
4	K0606713-036	SULF-4	SOIL	1.20g	7.53g	7.51g	99.7		Air Dried & Shatterboxed
5	K0606717-036	COMP-4	SOIL	1.22g	7.33g	7.27g	99.0		Air Dried & Shatterboxed
6	K0606757-001	TDF 9A Boiler 6/30	SOLID FUEL	10.36g	61.99g	60.67g	97.4		
7	K0606757-002	TDF 10A Boiler 6/30	SOLID FUEL	10.39g	65.45g	64.51g	98.3		
8	K0606757-003	RDF 10A Boiler 6/30	SOLID FUEL	10.61g	58.27g	55.24g	93.6		
9	K0606757-004	Biomass 9A Boiler	SOLID FUEL	10.40g	66.83g	44.51g	60.4		
10	K0606757-005	Biomass 10A Boiler	SOLID FUEL	10.18g	69.53g	48.65g	64.8		
11	K0606757-006	TDF 9A Boiler 8/4	SOLID FUEL	10.45g	63.45g	61.51g	96.3		
12	K0606757-007	RDF 10A Boiler 8/10	SOLID FUEL	10.11g	57.28g	55.19g	95.6		
13	KWG0613078-1	Duplicate Client Sample	SOIL	1.21g	3.92g	3.90g	99.3	K0606703-036	Air Dried & Shatterboxed
14	KWG0613078-2	Duplicate Client Sample	SOLID FUEL	10.16g	61.13g	59.83g	97.4	K0606757-001	

8/14/06

Metals

METALS

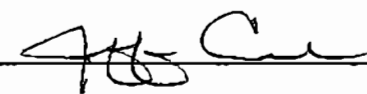
- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated Service Request: K0606713
Project No.: 8769.006/2
Project Name: Former RP site

<u>Sample No.</u>	<u>Lab Sample ID.</u>
SULF-4	K0606713-036
Method Blank	K0606713-MB
Batch QCD	K0606717-036D
Batch QCS	K0606717-036S

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: _____

Signature: 

Date: 8/15/06

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606713

Project No.: 8769.006/2

Date Collected: 08/10/06

Project Name: Former RP site

Date Received: 08/10/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: SULF-4

Lab Code: K0606713-036

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.4	0.2	20	8/14/06	8/15/06	17.1		

% Solids: 99.7

Comments:

000:5

METALS
-1-
INORGANIC ANALYSIS DATA SHEET

Client:	Geomatrix Consultants, Incorporated	Service Request:	K0606713
Project No.:	8769.006/2	Date Collected:	
Project Name:	Former RP site	Date Received:	
Matrix:	SOIL	Units:	MG/KG
		Basis:	Dry

Sample Name: Method Blank

Lab Code: K0606713-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.4	0.2	20	8/14/06	8/15/06	0.2	U	

% Solids: 100.0

Comments:

000:6

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606713

Project No.: 8769.006/2

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Copper	12.5	13.5	108	25.0	25.2	101	24.6	98	6020

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606713

Project No.: 8769.006/2

Project Name: Former RP site

ICV Source:

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration				Method	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Copper				25.0	24.8	99			6020

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0606713

Project No.: 8769.006/2

Project Name: Former RP site

Concentration Units: ug/l

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Copper				0.20	0.34	170		

METALS

- 3 -

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606713

Project No.: 8769.006/2

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank	Method
	C	U	1	C	2	C	3	C		
Copper	0.1	U	0.1	U	0.1	U	0.1	U		6020

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606713

Project No.: 8769.006/2

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.3	22.9	115			

METALS
 - 5a -
 SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606713
 Project No.: 8769.006/2 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 99.0

Sample Name: Batch QCS

Lab Code: K0606717-036S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	122		54.9		50.0	134		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606713
 Project No.: 8769.006/2 Units: ug/L
 Project Name: Former RP site
 Matrix: SOIL

Sample Name: Batch QCA Lab Code: K0606717-036A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	48.0	27.5	20.0	103		MS

Comments: _____

METALS
- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606713
 Project No.: 8769.006/2 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 99.0

Sample Name: Batch QCD

Lab Code: K0606717-036D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	54.9		53.9		2		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

-7-

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated Service Request: K0606713
 Project No.: 8769.006/2
 Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures Solid LCS Source: ERA Lot #D045540

Analyte	Aqueous mg/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Copper				67.0	70.0		53.8 80.2	104

METALS

- 9 -

ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606713
 Project No.: B769.006/2 Units: ug/L
 Project Name: Former RP site

Sample Name: Batch QCL

Lab Code: K0606717-036L

Analyte	Initial Sample Result (I) c	Serial Dilution Result (S) c	% Differ-	Q	Method
Copper	27.5	27.5	0		6020

00026

METALS

-10-

METHOD DETECTION LIMITS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606713

Project No.: 8769.006/2

Project Name: Former RP site

ICP/ICP-MS ID #: X Series

GFAA ID #:

AA ID #:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	Method
Copper	65		0.2	0.1	6020

Comments

METALS

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Geomatrix Consultants, Incorporated Service Request: K0606713

Project No.: 8769.006/2

Project Name: Former RP site

ICP ID Number: X Series

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Copper	15.00	400.0	6020

Comments: _____



August 17, 2006

Service Request No: K0606717

John Long
Geomatrix Consultants, Incorporated
One Union Square
600 University Street, Suite 1020
Seattle, WA 98101

RE: Former RP site/8769.006/2

Dear John:

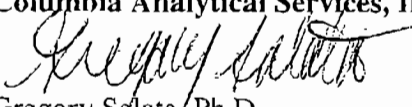
Enclosed are the results of the rush sample(s) submitted to our laboratory on August 10, 2006. For your reference, these analyses have been assigned our service request number K0606717.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Gregory Salata, Ph.D.
Project Chemist

GS/jm

Page 1 of 513

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Geomatrix Consultants, Inc.
Project: Former RP Site/8769.006
Sample Matrix: Soil

Service Request No.: K0606717
Date Received: 08/10/06

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Thirty-six soil samples were received for analysis at Columbia Analytical Services on 08/10/06. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory. As instructed, the composite sample was subjected to grinding per the project QAPP prior to analysis. The ground sample was also divided into two discreet samples, with the second designated as "COMP-4-DUP". Additionally, an equipment rinse sample (ER-1) was generated by rinsing the shatterbox rings with deionized water.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Polychlorinated Biphenyls by EPA Method 8082

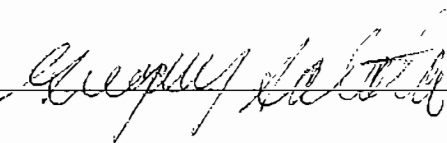
Elevated Method Reporting Limits:

The reporting limit is elevated for all analytes in samples COMP-4 and COMP-4-DUP. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. A semi-quantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution. The extract was highly colored and viscous; clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. The results are flagged to indicate the matrix interference.

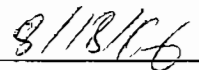
The reporting limit is elevated for Aroclor 1260 in samples COMP-4 and COMP-4-DUP. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the reporting limit. The result is flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

Approved by



Date



Chain of Custody Documentation

CHAIN-OF-CUSTODY RECORD

W0000717

SEA 10088

PROJECT NAME: <i>Former Rhone Poulenc - East Parcel</i>		DATE: <i>8/10/06</i>	PAGE <i>1</i> OF <i>3</i>
PROJECT NUMBER: <i>8769.006/2</i>	LABORATORY NAME: <i>Columina Analytical</i>	CLIENT INFORMATION: <i>Container Properties</i>	
RESULTS TO: <i>Larry McLaughrey</i>	LABORATORY ADDRESS: <i>1317 S. 13th Ave.</i>	REPORTING REQUIREMENTS:	
TURNAROUND TIME: <i>2-day</i>	LABORATORY CONTACT: <i>Greg Salata</i>	GEOTRACKER REQUIRED: YES <input type="checkbox"/> NO <input type="checkbox"/>	
SAMPLE SHIPMENT METHOD: <i>Carrier</i>	LABORATORY PHONE NUMBER: <i>360 571 7222</i>	SITE SPECIFIC GLOBAL ID NO.:	

SAMPLERS (SIGNATURE):

[Signature]

ANALYSES

Copper
PCBs (EPA 816)

DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
<i>8/10/06</i>	<i>0756</i>	<i>COMP-4-1A</i>	<i>1x4oz jar</i>	<i>S</i>					<i>1</i>	
	<i>0758</i>	<i>COMP-4-2A</i>								
	<i>0759</i>	<i>COMP-4-3A</i>								
	<i>0800</i>	<i>COMP-4-4A</i>								
	<i>0801</i>	<i>COMP-4-5A</i>								
	<i>0802</i>	<i>COMP-4-6A</i>								
	<i>0803</i>	<i>COMP-4-7A</i>								
	<i>0804</i>	<i>COMP-4-8A</i>								
	<i>0805</i>	<i>COMP-4-9A</i>								
	<i>0806</i>	<i>COMP-4-10A</i>								
	<i>0808</i>	<i>COMP-4-11A</i>								
	<i>0809</i>	<i>COMP-4-12A</i>								
	<i>0810</i>	<i>COMP-4-13A</i>								
	<i>0811</i>	<i>COMP-4-14A</i>								
	<i>0812</i>	<i>COMP-4-15A</i>								

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS:
SIGNATURE:			SIGNATURE: <i>[Signature]</i>	<i>8/10</i>	<i>900</i>	SAMPLING COMMENTS: <i>Please conduct "field dup" on sample COMP-4 for PCBs only, after grinding composite sample in accordance w/ QAPP SOP. Hold all "A" samples. * Please remember to run equipment blank as per QAPP!! *</i>
PRINTED NAME:	<i>8/10/06</i>		PRINTED NAME: <i>Stacie May's</i>	<i>00</i>	<i>mm</i>	
COMPANY: <i>Geomatrix</i>			COMPANY: <i>Inc Delivery</i>			
SIGNATURE:			SIGNATURE: <i>[Signature]</i>	<i>8/10/06</i>	<i>1400</i>	
PRINTED NAME:			PRINTED NAME: <i>[Signature]</i>			
COMPANY:			COMPANY: <i>CMS</i>			
SIGNATURE:			SIGNATURE:			One Union Square, 600 University Street, Suite 1020
PRINTED NAME:			PRINTED NAME:			Seattle, Washington 98101-4107
COMPANY:			COMPANY:			Tel 206.342.1760 Fax 206.342.1761



CHAIN-OF-CUSTODY RECORD

W56010217

SEA 10087

PROJECT NAME: <u>Former Rhone Poulenc - East Parcel</u>		DATE: <u>8/10/06</u>	PAGE <u>2</u> OF <u>3</u>
PROJECT NUMBER: <u>8769.006/2</u>	LABORATORY NAME: <u>Columbia Analytical</u>	CLIENT INFORMATION: <u>Container Properties</u>	REPORTING REQUIREMENTS
RESULTS TO: <u>Vinny McGahey</u>	LABORATORY ADDRESS: <u>1317 S. 13th Ave Kelso, WA 98626</u>		
TURNAROUND TIME: <u>2-day</u>	LABORATORY CONTACT: <u>Greg Salata</u>		
SAMPLE SHIPMENT METHOD: <u>Courier</u>	LABORATORY PHONE NUMBER: <u>(360) 577-7222</u>	GEOTRACKER REQUIRED	YES NO
SITE SPECIFIC GLOBAL ID NO.			

SAMPLERS (SIGNATURE):

La S

ANALYSES

Copper
PbS (EPA 8982)

DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
8/10/06	0813	COMP-4-16A	1X 4oz jar	S					1	
	0814	COMP-4-17A								
	0815	COMP-4-18A								
	0816	COMP-4-19A								
	0817	COMP-4-20A								
	0818	COMP-4-21A								
	0819	COMP-4-22A								
	0820	COMP-4-23A								
	0821	COMP-4-24A								
	0822	COMP-4-25A								
	0823	COMP-4-26A								
	0824	COMP-4-27A								
	0825	COMP-4-28A								
	0826	COMP-4-29A								
	0827	COMP-4-30A								

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS:
SIGNATURE:			SIGNATURE: <u>Stacie Hays</u>	8/10/06	9:00 AM	
PRINTED NAME:	8/10/06		PRINTED NAME: <u>Stacie Hays</u>			SAMPLING COMMENTS: <u>See p.1</u>
COMPANY: <u>Geomatrix</u>			COMPANY: <u>McDelivery</u>			
SIGNATURE:			SIGNATURE: <u>J. Juell</u>	8/10/06	1400	
PRINTED NAME:			PRINTED NAME: <u>Juell</u>			
COMPANY:			COMPANY: <u>CIS</u>			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			

One Union Square, 600 University Street, Suite 1020
Seattle, Washington 98101-4107
Tel 206.342.1760 Fax 206.342.1761



CHAIN-OF-CUSTODY RECORD

10/10/06
SEA 10086

PROJECT NAME: Fomer Rhone Pond - East Parcel
 PROJECT NUMBER: 8769006/2
 RESULTS TO: Larry McGeahy
 TURNAROUND TIME: 7-day
 SAMPLE SHIPMENT METHOD: common


LABORATORY NAME: Container Properties
 LABORATORY ADDRESS: 1375 13th Ave
 LABORATORY CONTACT: Kelso, WA 98626
 LABORATORY PHONE NUMBER: 360 511-1222

DATE: 8/10/06 PAGE 3 OF 3
 REPORTING REQUIREMENTS

CLIENT INFORMATION:
Container Properties

GEOTRACKER REQUIRED: YES NO
 SITE SPECIFIC GLOBAL ID NO

DATE	TIME	SAMPLE NUMBER	ANALYSES	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
8/10/06	0828	COMP-4-31A	PCBS	1 x 4oz jar	S						
8/10/06	0829	COMP-4-32A									
8/10/06	0830	COMP-4-33A									
8/10/06	0831	COMP-4-34A									
8/10/06	0832	COMP-4-35A									
8/10/06	0832	COMP-4		1 gallon bucket							

SAMPLERS (SIGNATURE):


RECEIVED BY: J. Acie-Harris
 SIGNATURE: J. Acie-Harris
 PRINTED NAME: J. Acie-Harris
 COMPANY: STACI-HARRIS

RECEIVED BY: mc Delaney
 SIGNATURE: mc Delaney
 PRINTED NAME: mc Delaney
 COMPANY: mc Delaney

RECEIVED BY: J. Acie-Harris
 SIGNATURE: J. Acie-Harris
 PRINTED NAME: J. Acie-Harris
 COMPANY: STACI-HARRIS

RECEIVED BY: CHS
 SIGNATURE: CHS
 PRINTED NAME: CHS
 COMPANY: CHS

DATE: 8/10/06 TIME: 9:00
 TOTAL NUMBER OF CONTAINERS: See p.1

DATE: 8/10/06 TIME: 1400

**Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form**

PC Step

Project/Client Geometrix Service Request K06 06717

Cooler received on 8/10/06 and opened on 8/10/06 by BW

1. Were custody seals on outside of coolers? NP Y N
If yes, how many and where? _____
2. Were custody seals intact? ~~Y~~ N
3. Were signature and date present on the custody seals? ~~Y~~ N
4. Is the shipper's airbill available and filed? If no, record airbill number: mc Delivery 347896 ~~Y~~ N
5. COC# _____

Temperature of cooler(s) upon receipt: (°C)	<u>1.2</u>	<u>1.4</u>		
Temperature Blank: (°C)	<u>NP</u>	<u>NP</u>		
- Were samples hand delivered on the same day as collection? ~~Y~~ N
6. Were custody papers properly filled out (ink, signed, etc.)? Y N
7. Type of packing material present ICE, BOX
8. Did all bottles arrive in good condition (unbroken)? N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? N
10. Did all bottle labels and tags agree with custody papers? N
11. Were the correct types of bottles used for the tests indicated? N
12. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Were the 1631 Mercury bottles checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
15. Did the bottles originate from CAS/K or a branch laboratory? N
16. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
17. Was C12/Res negative? ~~Y~~ N

Explain any discrepancies: NO sign off on relinquish

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

Total Solids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
COMP-4	K0606717-036	08/10/2006	08/10/2006	08/11/2006	99.0	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

Group ID:	KWG0613078	Reviewed By:	<i>che Curtis L. Rupp</i>
Analyst:	RMcKee	Date Reviewed:	<i>8/14/06</i>
Date Acquired:	08/11/2006 15:25	Oven TempStart:	104 DEG C
Date Completed:	08/12/2006 12:03	Oven TempEnd:	104 DEG C

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0606699-001	Mix-Composite Sample #1	SOLID FUEL	10.30g	64.10g	37.36g	50.3		
2	K0606703-036	LAB-4	SOIL	1.21g	8.75g	8.70g	99.3		Air Dried & Shatterboxed
3	K0606709-036	MAINT-4	SOIL	1.22g	4.60g	4.57g	99.1		Air Dried & Shatterboxed
4	K0606713-036	SULF-4	SOIL	1.20g	7.53g	7.51g	99.7		Air Dried & Shatterboxed
5	K0606717-036	COMP-4	SOIL	1.22g	7.33g	7.27g	99.0		Air Dried & Shatterboxed
6	K0606757-001	TDF 9A Boiler 6/30	SOLID FUEL	10.36g	61.99g	60.67g	97.4		
7	K0606757-002	TDF 10A Boiler 6/30	SOLID FUEL	10.39g	65.45g	64.51g	98.3		
8	K0606757-003	RDF 10A Boiler 6/30	SOLID FUEL	10.61g	58.27g	55.24g	93.6		
9	K0606757-004	Biomass 9A Boiler	SOLID FUEL	10.40g	66.83g	44.51g	60.4		
10	K0606757-005	Biomass 10A Boiler	SOLID FUEL	10.18g	69.53g	48.65g	64.8		
11	K0606757-006	TDF 9A Boiler 8/4	SOLID FUEL	10.45g	63.45g	61.51g	96.3		
12	K0606757-007	RDF 10A Boiler 8/10	SOLID FUEL	10.11g	57.28g	55.19g	95.6		
13	KWG0613078-1	Duplicate Client Sample	SOIL	1.21g	3.92g	3.90g	99.3	K0606703-036	Air Dried & Shatterboxed
14	KWG0613078-2	Duplicate Client Sample	SOLID FUEL	10.16g	61.13g	59.83g	97.4	K0606757-001	

Metals

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

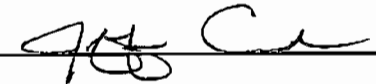
<u>Sample No.</u>	<u>Lab Sample ID.</u>
<u>ER-1</u>	<u>K0606717-038</u>
<u>ER-1D</u>	<u>K0606717-038D</u>
<u>ER-1S</u>	<u>K0606717-038S</u>
<u>Method Blank</u>	<u>K0606717-MB</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: _____

Signature: 

Date: 8/15/06

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Date Collected: 08/10/06

Project Name: Former RP site

Date Received: 08/12/06

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: ER-1

Lab Code: K0606717-038

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.10	0.04	1	8/14/06	8/15/06	0.19		

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Date Collected:

Project Name: Former RP site

Date Received:

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: Method Blank

Lab Code: K0606717-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.10	0.04	1	8/14/06	8/15/06	0.04	U	

% Solids: 0.0

Comments:

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Copper	12.5	13.2	106	25.0	24.9	100	24.7	99	6020

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

Concentration Units: ug/l

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
				True	Found	%R	Found	%R
Copper				0.10	0.10	96		

METALS

- 3 -

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		Method
		C	1	C	2	C	3	C	C		
Copper	0.04	U	0.04	U	0.04	U					6020

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.47	21.7	108			

METALS

-5a-

SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
 Project No.: 8769.006/2 Units: µg/L
 Project Name: Former RP site Basis: NA
 Matrix: WATER % Solids: 0.0

Sample Name: ER-1S

Lab Code: K0606717-038S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	70 - 116	20.8		0.19		20.0	103		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
 Project No.: 8769.006/2 Units: ug/L
 Project Name: Former RP site
 Matrix: WATER

Sample Name: ER-1A Lab Code: K0606717-038A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	19.9	0.19	20.0	99		MS

Comments: _____

METALS
- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
Project No.: 8769.006/2 Units: µg/L
Project Name: Former RP site Basis: NA
Matrix: WATER % Solids: 0.0

Sample Name: ER-1D

Lab Code: K0606717-038D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper		0.19		0.19		4		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous ug/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Copper	20.0	20.1	101					

METALS
- 9 -
ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
Project No.: 8769.006/2 Units: ug/L
Project Name: Former RP site

Sample Name: ER-1L

Lab Code: K0606717-038L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- Q	Method
Copper	0.19	0.20	U	6020

METALS

-10-

METHOD DETECTION LIMITS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

ICP/ICP-MS ID #: X Series

GFAA ID #:

AA ID #:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	Method
Copper	65		0.10	0.04	6020

Comments

METALS

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
Project No.: 8769.006/2
Project Name: Former RP site

ICP ID Number: X Series

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Copper	15.00	400.0	6020

Comments: _____

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
Project No.: 8769.006/2
Project Name: Former RP site


<u>Sample No.</u>	<u>Lab Sample ID.</u>
COMP-4	K0606717-036
COMP-4D	K0606717-036D
COMP-4S	K0606717-036S
Method Blank	K0606717-MB

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: _____

Signature: 

Date: 8/15/10

METALS
-1-
INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated
Project No.: 8769.006/2
Project Name: Former RP site
Matrix: SOIL

Service Request: K0606717
Date Collected: 08/10/06
Date Received: 08/10/06
Units: MG/KG
Basis: Dry

Sample Name: COMP-4

Lab Code: K0606717-036

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.4	0.2	20	8/14/06	8/15/06	54.9		

% Solids: 99.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Date Collected:

Project Name: Former RP site

Date Received:

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: Method Blank

Lab Code: K0606717-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.4	0.2	20	8/14/06	8/15/06	0.2	U	

% Solids: 100.0

Comments:

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/l

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Copper	12.5	13.5	108	25.0	25.2	101	24.6	98	6020

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

Concentration Units: ug/l

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
				True	Found	%R	Found	%R
Copper				0.20	0.34	170		

METALS

-3-

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank	Method
	C	U	1	C	2	C	3	C		
Copper	0.1	U	0.1	U	0.1	U				6020

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.3	22.9	115			

METALS
 - 5a -
 SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
 Project No.: 8769.006/2 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 99.0

Sample Name: COMP-4S

Lab Code: K0606717-036S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	122		54.9		50.0	134		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Units: ug/L

Project Name: Former RP site

Matrix: SOIL

Sample Name: COMP-4A

Lab Code: K0606717-036A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	48.0	27.5	20.0	103		MS

Comments:

METALS
- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
Project No.: 8769.006/2 Units: mg/kg
Project Name: Former RP site Basis: Dry
Matrix: SOIL % Solids: 99.0

Sample Name: COMP-4D

Lab Code: K0606717-036D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	54.9		53.9		2		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

-7-

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source: ERA Lot #D045540

Analyte	Aqueous mg/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Copper				67.0	70.0		53.8 80.2	104

METALS
 - 9 -
 ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
 Project No.: 8769.006/2 Units: ug/L
 Project Name: Former RP site

Sample Name: COMP-4L

Lab Code: K0606717-036L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ-	Q	Method
Copper	27.5	27.5	0		6020

METALS

-10-

METHOD DETECTION LIMITS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606717

Project No.: 8769.006/2

Project Name: Former RP site

ICP/ICP-MS ID #: X Series

GFAA ID #:

AA ID #:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	Method
Copper	65		0.2	0.1	6020

Comments

METALS

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Geomatrix Consultants, Incorporated Service Request: K0606717
Project No.: 8769.006/2
Project Name: Former RP site

ICP ID Number: X Series

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Copper	15.00	400.0	6020

Comments: _____

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Summary Package

Sample and QC Results

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2

Service Request: K0606717

Cover Page - Organic Analysis Data Package
Polychlorinated Biphenyls (PCBs)

Sample Name	Lab Code	Date Collected	Date Received
COMP-4	K0606717-036	08/10/2006	08/10/2006
COMP-4-DUP	K0606717-037	08/10/2006	08/10/2006
ER-1	K0606717-038	08/10/2006	08/12/2006
COMP-4MS	KWG0613272-1	08/10/2006	08/10/2006
COMP-4DMS	KWG0613272-2	08/10/2006	08/10/2006

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: 
Date: 8/17/06

Name: Lisa Jones
Title:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769,006/2
Sample Matrix: Water

Service Request: K0606717
Date Collected: 08/10/2006
Date Received: 08/12/2006

Polychlorinated Biphenyls (PCBs)

Sample Name: ER-1
Lab Code: K0606717-038
Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.21	0.0093	1	08/16/06	08/17/06	KWG0613450	
Aroclor 1221	ND	U	0.42	0.025	1	08/16/06	08/17/06	KWG0613450	
Aroclor 1232	ND	U	0.21	0.0075	1	08/16/06	08/17/06	KWG0613450	
Aroclor 1242	ND	U	0.21	0.021	1	08/16/06	08/17/06	KWG0613450	
Aroclor 1248	ND	U	0.21	0.017	1	08/16/06	08/17/06	KWG0613450	
Aroclor 1254	ND	U	0.21	0.0075	1	08/16/06	08/17/06	KWG0613450	
Aroclor 1260	ND	U	0.21	0.0066	1	08/16/06	08/17/06	KWG0613450	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	81	10-144	08/17/06	Acceptable

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Water

Service Request: K0606717
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG0613450-3
Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.20	0.0089	1	08/16/06	08/16/06	KWG0613450	
Aroclor 1221	ND	U	0.40	0.024	1	08/16/06	08/16/06	KWG0613450	
Aroclor 1232	ND	U	0.20	0.0072	1	08/16/06	08/16/06	KWG0613450	
Aroclor 1242	ND	U	0.20	0.020	1	08/16/06	08/16/06	KWG0613450	
Aroclor 1248	ND	U	0.20	0.016	1	08/16/06	08/16/06	KWG0613450	
Aroclor 1254	ND	U	0.20	0.0072	1	08/16/06	08/16/06	KWG0613450	
Aroclor 1260	ND	U	0.20	0.0063	1	08/16/06	08/16/06	KWG0613450	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	72	10-144	08/16/06	Acceptable

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717
Date Collected: 08/10/2006
Date Received: 08/10/2006

Polychlorinated Biphenyls (PCBs)

Sample Name: COMP-4
Lab Code: K0606717-036
Extraction Method: EPA 3540C
Analysis Method: 8082

Units: mg/Kg
Basis: Dry
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1221	ND U	0.85	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1232	ND U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1242	ND U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1248	ND U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1254	0.26 JD	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1260	ND U _i	0.43	0.16	5	08/11/06	08/15/06	KWG0613272	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	33-153	08/15/06	Acceptable

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717
Date Collected: 08/10/2006
Date Received: 08/10/2006

Polychlorinated Biphenyls (PCBs)

Sample Name: COMP-4-DUP
Lab Code: K0606717-037
Extraction Method: EPA 3540C
Analysis Method: 8082

Units: mg/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1221	ND	U	0.85	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1232	ND	U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1242	ND	U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1248	ND	U	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1254	0.30	JD	0.43	0.056	5	08/11/06	08/15/06	KWG0613272	
Aroclor 1260	ND	Ui	0.43	0.14	5	08/11/06	08/15/06	KWG0613272	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	112	33-153	08/15/06	Acceptable

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG0613272-4
Extraction Method: EPA 3540C
Analysis Method: 8082

Units: mg/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.084	0.011	1	08/11/06	08/15/06	KWG0613272	
Aroclor 1221	ND	U	0.17	0.011	1	08/11/06	08/15/06	KWG0613272	
Aroclor 1232	ND	U	0.084	0.011	1	08/11/06	08/15/06	KWG0613272	
Aroclor 1242	ND	U	0.084	0.011	1	08/11/06	08/15/06	KWG0613272	
Aroclor 1248	ND	U	0.084	0.011	1	08/11/06	08/15/06	KWG0613272	
Aroclor 1254	ND	U	0.084	0.011	1	08/11/06	08/15/06	KWG0613272	
Aroclor 1260	ND	U	0.084	0.011	1	08/11/06	08/15/06	KWG0613272	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	33-153	08/15/06	Acceptable

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Water

Service Request: K0606717

**Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)**

Extraction Method: EPA 3535
Analysis Method: 8082

Units: PERCENT
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>
ER-1	K0606717-038	81
Method Blank	KWG0613450-3	72
Lab Control Sample	KWG0613450-1	71
Duplicate Lab Control Sample	KWG0613450-2	70

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 10-144

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3540C
Analysis Method: 8082

Units: PERCENT
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>
COMP-4	K0606717-036	92 D
COMP-4-DUP	K0606717-037	112 D
Method Blank	KWG0613272-4	89
COMP-4MS	KWG0613272-1	111 D
COMP-4DMS	KWG0613272-2	113 D
Lab Control Sample	KWG0613272-3	91

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 33-153

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
 Project: Former RP site/8769.006/2
 Sample Matrix: Soil

Service Request: K0606717
 Date Extracted: 08/11/2006
 Date Analyzed: 08/15/2006

Matrix Spike/Duplicate Matrix Spike Summary
 Polychlorinated Biphenyls (PCBs)

Sample Name: COMP-4
 Lab Code: K0606717-036
 Extraction Method: EPA 3540C
 Analysis Method: 8082

Units: mg/Kg
 Basis: Dry
 Level: Low
 Extraction Lot: KWG0613272

Analyte Name	Sample Result	COMP-4MS KWG0613272-1 Matrix Spike			COMP-4DMS KWG0613272-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	0.908	0.841	108	0.891	0.841	106	26-163	2	50
Aroclor 1260	ND	1.14	0.841	136	1.17	0.841	140	24-171	3	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Water

Service Request: K0606717
Date Extracted: 08/16/2006
Date Analyzed: 08/16/2006

**Lab Control Spike/Duplicate Lab Control Spike Summary
 Polychlorinated Biphenyls (PCBs)**

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0613450

Analyte Name	Lab Control Sample KWG0613450-1 Lab Control Spike			Duplicate Lab Control Sample KWG0613450-2 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	1.30	2.00	65	1.19	2.00	60	50-125	9	30
Aroclor 1260	1.56	2.00	78	1.45	2.00	73	56-122	7	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717
Date Extracted: 08/11/2006
Date Analyzed: 08/15/2006

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3540C
Analysis Method: 8082

Units: mg/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG0613272

Analyte Name	Lab Control Sample KWG0613272-3 Lab Control Spike			%Rec Limits
	Result	Expected	%Rec	
Aroclor 1016	0.849	1.00	85	39-145
Aroclor 1260	0.963	1.00	96	51-146

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Water

Service Request: K0606717
Date Extracted: 08/16/2006
Date Analyzed: 08/16/2006
Time Analyzed: 23:04

**Method Blank Summary
 Polychlorinated Biphenyls (PCBs)**

Sample Name: Method Blank
Lab Code: KWG0613450-3
Extraction Method: EPA 3535
Analysis Method: 8082

File ID: J:\GC09\DATA\081606.B\0816F015.D
Instrument ID: GC09.i
Level: Low
Extraction Lot: KWG0613450

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0613450-1	JAGC09\DATA\081606.B\0816F016.D	08/16/06	23:30
Duplicate Lab Control Sample	KWG0613450-2	JAGC09\DATA\081606.B\0816F017.D	08/16/06	23:57
ER-1	K0606717-038	JAGC09\DATA\081606.B\0816F018.D	08/17/06	00:24

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717
Date Extracted: 08/11/2006
Date Analyzed: 08/15/2006
Time Analyzed: 09:44

**Method Blank Summary
 Polychlorinated Biphenyls (PCBs)**

Sample Name: Method Blank
Lab Code: KWG0613272-4
Extraction Method: EPA 3540C
Analysis Method: 8082

File ID: J:\GC09\DATA\081406A.B\0814F071.D
Instrument ID: GC09.i
Level: Low
Extraction Lot: KWG0613272

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0613272-3	J\GC09\DATA\081406A.B\0814F072.D	08/15/06	10:10
COMP-4	K0606717-036	J\GC09\DATA\081506.B\0815F006.D	08/15/06	18:29
COMP-4MS	KWG0613272-1	J\GC09\DATA\081506.B\0815F007.D	08/15/06	18:56
COMP-4DMS	KWG0613272-2	J\GC09\DATA\081506.B\0815F008.D	08/15/06	19:23
COMP-4-DUP	K0606717-037	J\GC09\DATA\081506.B\0815F009.D	08/15/06	19:49

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Water

Service Request: K0606717

**Lab Control Sample/Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)**

Sample Name: Lab Control Sample
Lab Code: KWG0613450-1
File ID: J:\GC09\DATA\081606.B\0816F016.D
Instrument ID: GC09.i
Date Extracted: 08/16/2006
Date Analyzed: 08/16/2006
Time Analyzed: 23:30

Sample Name: Duplicate Lab Control Sample
Lab Code: KWG0613450-2
File ID: J:\GC09\DATA\081606.B\0816F017.D
Instrument ID: GC09.i
Date Extracted: 08/16/2006
Date Analyzed: 08/16/2006
Time Analyzed: 23:57

Extraction Method: EPA 3535
Analysis Method: 8082

Level: Low
Extraction Lot: KWG0613450

These Lab Control Samples apply to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0613450-3	J:\GC09\DATA\081606.B\0816F015.D	08/16/06	23:04
ER-1	K0606717-038	J:\GC09\DATA\081606.B\0816F018.D	08/17/06	00:24

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0606717
Date Extracted: 08/11/2006
Date Analyzed: 08/15/2006
Time Analyzed: 10:10

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Control Sample
Lab Code: KWG0613272-3
Extraction Method: EPA 3540C
Analysis Method: 8082

File ID: J:\GC09\DATA\081406A.B\0814F072.D
Instrument ID: GC09.i
Level: Low
Extraction Lot: KWG0613272

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0613272-4	J:\GC09\DATA\081406A.B\0814F071.D	08/15/06	09:44
COMP-4	K0606717-036	J:\GC09\DATA\081506.B\0815F006.D	08/15/06	18:29
COMP-4MS	KWG0613272-1	J:\GC09\DATA\081506.B\0815F007.D	08/15/06	18:56
COMP-4DMS	KWG0613272-2	J:\GC09\DATA\081506.B\0815F008.D	08/15/06	19:23
COMP-4-DUP	K0606717-037	J:\GC09\DATA\081506.B\0815F009.D	08/15/06	19:49

August 22, 2006



Service Request No: K0606980

John Long
Geomatrix Consultants, Incorporated
One Union Square
600 University Street, Suite 1020
Seattle, WA 98101

RE: Former RP site

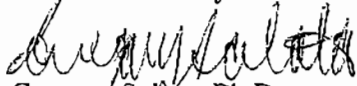
Dear John:

Enclosed are the results of the sample(s) submitted to our laboratory on August 18, 2006. For your reference, these analyses have been assigned our service request number K0606980.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Gregory Salata, Ph.D.
Project Chemist

GS/jm

Page 1 of 69

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Geomatrix Consultants, Inc.
Project: Former RP Site
Sample Matrix: Soil

Service Request No.: K0606980
Date Received: 08/18/06

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

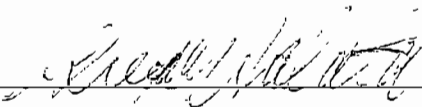
Sample Receipt

Thirty-six soil samples were received for analysis at Columbia Analytical Services on 08/18/06. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory. As instructed, the composite sample was processed using a shatter box per the QAPP prior to analysis.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Approved by



Date

8/24/06

00005

**Chain of Custody
Documentation**

CHAIN-OF-CUSTODY RECORD

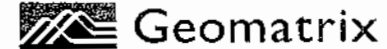
hole 98D

SEA 10192

PROJECT NAME: <i>Former Rhone Poulenc - East Parcel</i>		DATE: <i>8/17/06</i>	PAGE <i>1</i> OF <i>3</i>
PROJECT NUMBER: <i>8769.006/2</i>	LABORATORY NAME: <i>Columbus Analytical</i>	CLIENT INFORMATION: <i>Container Properties</i>	
RESULTS TO: <i>Larry Mc Gaughy</i>	LABORATORY ADDRESS: <i>1317 S. 15th Ave Kelso, WA 98626</i>	REPORTING REQUIREMENTS:	
TURNAROUND TIME: <i>2-day</i>	LABORATORY CONTACT: <i>Greg Salata</i>	GEOTRACKER REQUIRED: YES NO	
SAMPLE SHIPMENT METHOD: <i>Courier</i>	LABORATORY PHONE NUMBER: <i>(360) 577-7222</i>	SITE SPECIFIC GLOBAL ID NO.	

SAMPLERS (SIGNATURE):			ANALYSES										CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No of Containers	ADDITIONAL COMMENTS		
DATE	TIME	SAMPLE NUMBER																				
<i>8/17/06</i>	<i>1526</i>	<i>COMP-S-1A</i>	<i>Copper</i>												<i>1 x 202 jar</i>	<i>S</i>						
	<i>1531</i>	<i>COMP-S-2A</i>																				
	<i>1535</i>	<i>COMP-S-3A</i>																				
	<i>1540</i>	<i>COMP-S-4A</i>																				
	<i>1638</i>	<i>COMP-S-5A</i>																				
	<i>1637</i>	<i>COMP-S-6A</i>																				
	<i>1636</i>	<i>COMP-S-7A</i>																				
	<i>1529</i>	<i>COMP-S-8A</i>																				
	<i>1533</i>	<i>COMP-S-9A</i>																				
	<i>1537</i>	<i>COMP-S-10A</i>																				
	<i>1541</i>	<i>COMP-S-11A</i>																				
	<i>1639</i>	<i>COMP-S-12A</i>																				
	<i>1528</i>	<i>COMP-S-13A</i>																				
	<i>1532</i>	<i>COMP-S-14A</i>																				
	<i>1536</i>	<i>COMP-S-15A</i>																				

RELINQUISHED BY: SIGNATURE: <i>[Signature]</i>	DATE: <i>8/17/06</i>	TIME: <i>1652</i>	RECEIVED BY: SIGNATURE: <i>A. Juell</i>	DATE: <i>8/18/06</i>	TIME: <i>1000</i>	TOTAL NUMBER OF CONTAINERS:
PRINTED NAME: <i>Courina Marsolo</i>			PRINTED NAME: <i>A. Juell</i>			SAMPLING COMMENTS: <i>Please grind sample COMP-S in accordance w/ QAPP/SOP prior to analysis. Add all "A" sample volume.</i>
COMPANY: <i>Geomatrix</i>			COMPANY: <i>CITS</i>			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			
SIGNATURE:			SIGNATURE:			One Union Square, 600 University Street, Suite 1020 Seattle, Washington 98101-4107 Tel 206.342.1760 Fax 206.342.1761
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			



2006

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: *Foster Home Pending - East Parcel*
 PROJECT NUMBER: *8769.006/2*
 RESULTS TO: *Jamy McGahey*
 TURNAROUND TIME: *2-day*
 SAMPLE SHIPMENT METHOD: *carrier*

LABORATORY NAME: *California Analytical*
 LABORATORY ADDRESS: *1517 S. 13th Ave*
 LABORATORY CONTACT: *Kelso, WA 98626*
 LABORATORY PHONE NUMBER: *360 577 7222*

CLIENT INFORMATION: *Container Properties*

GEOTRACKER REQUIRED: YES NO
 SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):		DATE	TIME	SAMPLE NUMBER	ANALYSES	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
		8/17/06	1539	COMP-S-16A	<i>copied</i>	<i>2 oz jar</i>	<i>S</i>						
			1542	COMP-S-17A									
			1543	COMP-S-18A									
			1544	COMP-S-19A									
			1635	COMP-S-20A									
			1634	COMP-S-21A									
			1633	COMP-S-22A									
			1622	COMP-S-23A									
			1630	COMP-S-24A									
			1628	COMP-S-25A									
			1627	COMP-S-26A									
			1626	COMP-S-27A									
			1624	COMP-S-28A									
			1623	COMP-S-29A									
			1622	COMP-S-30A									

RECEIVED BY: *P. J. Jell*
 SIGNATURE: *P. J. Jell*
 PRINTED NAME: *P. Jell*
 COMPANY: *CAS*

DATE: *8/18/06* TIME: *1000*

TOTAL NUMBER OF CONTAINERS: *See p. 1*

SAMPLING COMMENTS:

SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____

SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____

SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____

SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____

One Union Square, 600 University Street, Suite 1020
 Seattle, Washington 98101-4107
 Tel 206.342.1760 Fax 206.342.1761

Geomatrix

CHAIN-OF-CUSTODY RECORD

SEA 10194

PROJECT NAME: <i>Fomer Rhone Paulenc - East Parcel</i>		DATE: <i>8/17/06</i>	PAGE <i>3</i> OF <i>3</i>
PROJECT NUMBER: <i>8769.006/2</i>	LABORATORY NAME: <i>Columbia Analytical</i>	CLIENT INFORMATION: <i>Container Properties</i>	
RESULTS TO: <i>Larry McLaughlin</i>	LABORATORY ADDRESS: <i>1317 S. 13th Ave Kelso, WA 98626</i>	REPORTING REQUIREMENTS:	
TURNAROUND TIME: <i>2-day</i>	LABORATORY CONTACT: <i>Greg Salata</i>	GEOTRACKER REQUIRED: YES NO	
SAMPLE SHIPMENT METHOD: <i>Carrier</i>	LABORATORY PHONE NUMBER: <i>(360) 577-7222</i>	SITE SPECIFIC GLOBAL ID NO.:	

SAMPLERS (SIGNATURE):			ANALYSES																
DATE	TIME	SAMPLE NUMBER										CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
<i>8/17/06</i>	<i>1621</i>	<i>COMP-S-31A</i>	<i>Copper</i>									<i>202 jar</i>	<i>S</i>					<i>1</i>	
	<i>1619</i>	<i>COMP-S-32A</i>																	
	<i>1614</i>	<i>COMP-S-33A</i>																	
	<i>1615</i>	<i>COMP-S-34A</i>																	
	<i>1617</i>	<i>COMP-S-35A</i>																	
<i>v</i>	<i>1639</i>	<i>COMP-S</i>	<i>X</i>									<i>1 gal bucket</i>	<i>v</i>					<i>1</i>	
<i>2AS 8/17/06</i>																			

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS:
SIGNATURE: <i>Juanita Marsden</i>			SIGNATURE: <i>G. Jewell</i>	<i>8/18/06</i>	<i>1000</i>	
PRINTED NAME: <i>Juanita Marsden</i>	<i>8/17/06</i>	<i>1652</i>	PRINTED NAME: <i>G. Jewell</i>			SAMPLING COMMENTS: <i>see p. 1</i>
COMPANY: <i>Geomatrix</i>			COMPANY: <i>CAS</i>			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			

One Union Square, 600 University Street, Suite 1020
Seattle, Washington 98101-4107
Tel 206.342.1760 Fax 206.342.1761



61009

**Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form**

PC Greg

Project/Client Geomatny Service Request K06 06980

Cooler received on 8/18/02 and opened on 8/18/02 by PK Hall

1. Were custody seals on outside of coolers? Y
If yes, how many and where? _____
2. Were custody seals intact? Y
3. Were signature and date present on the custody seals? Y
4. Is the shipper's airbill available and filed? If no, record airbill number: _____ N
5. COC# _____
 Temperature of cooler(s) upon receipt: (°C) 2.7
 Temperature Blank: (°C) Ma
- Were samples hand delivered on the same day as collection? Y
6. Were custody papers properly filled out (ink, signed, etc.)? N
7. Type of packing material present ice-cardboard - bwrap
8. Did all bottles arrive in good condition (unbroken)? N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? N
10. Did all bottle labels and tags agree with custody papers? N
11. Were the correct types of bottles used for the tests indicated? N
12. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Were the 1631 Mercury bottles checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
15. Did the bottles originate from CAS/K or a branch laboratory? N
16. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
17. Was C12/Res negative? ~~Y~~ N

Explain any discrepancies: _____

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

Total Solids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site
Sample Matrix: Soil

Service Request: K0606980

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
COMP-5	K0606980-036	08/17/2006	08/18/2006	08/18/2006	79.1	

00012

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site
Sample Matrix: Soil

Service Request: K0606980
Date Collected: 08/17/2006
Date Received: 08/18/2006
Date Analyzed: 08/18/2006

Duplicate Sample Summary
Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
COMP-5	K0606980-036	79.1	77.4	78.3	2	

00013

Metals

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.:

Project Name: Former RP site

<u>Sample No.</u>	<u>Lab Sample ID.</u>
<u>COMP-5</u>	<u>K0606980-036</u>
<u>COMP-5D</u>	<u>K0606980-036D</u>
<u>COMP-5S</u>	<u>K0606980-036S</u>
<u>Method Blank</u>	<u>K0606980-MB</u>

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes-were raw data generated before application of background corrections?

Yes/No NO

Comments:

Signature:



Date:

8/22/06

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.: NA

Date Collected: 08/17/06

Project Name: Former RP site

Date Received: 08/18/06

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: COMP-5

Lab Code: K0606980-036

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.11	0.06	5	08/21/06	08/22/06	25.8		

% Solids: 79.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Geomatrix Consultants, Incorporated	Service Request:	K0606980
Project No.:	NA	Date Collected:	NA
Project Name:	Former RP site	Date Received:	NA
Matrix:	SOIL	Units:	mg/kg
		Basis:	Dry

Sample Name: Method Blank

Lab Code: K0606980-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.10	0.06	5	08/21/06	08/22/06	0.06	U	

% Solids: 100.0

Comments:

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.:

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Copper	12.5	13.3	106	25.0	25.2	101	25.5	102	6020

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.:

Project Name: Former RP site

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Copper				0.20	0.25	123		

00033

METALS

- 3 -

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.:

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank	Method
	C	U	1	C	2	C	3	C		
Copper	0.12	U	0.12	U	0.12	U				6020

00034

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.:

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.35	22.3	112			

00035

METALS

- 5a -

SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0606980
 Project No.: Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 79.1

Sample Name: COMP-5S

Lab Code: K0606980-036S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	79.7		25.8		52.7	102		6020

An empty field in the Control Limit column indicates the control limit is not applicable

00036

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.:

Units: ug/L

Project Name: Former RP site

Matrix: SOIL

Sample Name: COMP-5A

Lab Code: K0606980-036A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	72.0	49.0	20.0	115		MS

Comments:

METALS
- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0606980
Project No.: Units: mg/kg
Project Name: Former RP site Basis: Dry
Matrix: SOIL % Solids: 79.1

Sample Name: COMP-5D

Lab Code: K0606980-036D

Analyte	Control Limit(%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	25.8		26.5		3		6020

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0606980

Project No.:

Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source: ERA Lot #246

Analyte	Aqueous mg/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Copper				67.0	69.0		53.8	80.2	103

METALS
 - 9 -
 ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0606980
 Project No.: Units: ug/L
 Project Name: Former RP site

Sample Name: COMP-5L

Lab Code: K0606980-036L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	Method
Copper	49.0	50.7	3		6020

00040



August 24, 2006

Service Request No: K0607044

John Long
Geomatrix Consultants, Incorporated
One Union Square
600 University Street, Suite 1020
Seattle, WA 98101

RE: Former RP site/8769.006/2

Dear John:


Enclosed are the results of the rush sample(s) submitted to our laboratory on August 21, 2006. For your reference, these analyses have been assigned our service request number K0607044.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.


Gregory Salata, Ph.D.
Project Chemist

GS/jm

Page 1 of 606

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Geomatrix Consultants, Inc.
Project: Former RP Site/8769.006/2
Sample Matrix: Soil

Service Request No.: K0607044
Date Received: 08/21/06

CASE NARRATIVE

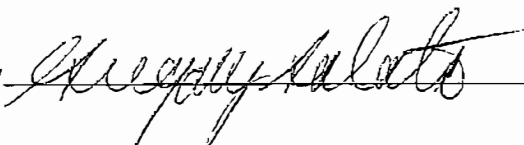
All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Thirty-six soil samples were received for analysis at Columbia Analytical Services on 08/21/06. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory. The composite sample was processed with a shatter box per the project QAPP prior to digestion for metals analysis.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Approved by  Date 8/25/06

00015

**Chain of Custody
Documentation**

CHAIN-OF-CUSTODY RECORD

SEA 10275

PROJECT NAME: Fenner Rhone-Toulenc - East Parcel DATE: 8/19/06 PAGE 1 OF 3

LABORATORY NAME: Colony Analytical CLIENT INFORMATION: Container Properties

LABORATORY ADDRESS: 1317 S. 13th Ave Kelso, WA 98626

LABORATORY CONTACT: Greg Salata

LABORATORY PHONE NUMBER: (360) 577-7222

TURNAROUND TIME: 2-day

SAMPLE SHIPMENT METHOD: Cowier

GEOTRACKER REQUIRED: YES NO

SITE SPECIFIC GLOBAL ID NO.

DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MSMSD	No of Containers	ADDITIONAL COMMENTS
8/19/06	1408	MAINT-S-1A	4 oz. jar	S						
1405	MAINT-S-2A									
1405	MAINT-S-3A									
1400	MAINT-S-4A									
1411	MAINT-S-SA									
1015	MAINT-S-6A									
1012	MAINT-S-7A									
1008	MAINT-S-8A									
1339	MAINT-S-9A									
1024	MAINT-S-10A									
1016	MAINT-S-11A									
1335	MAINT-S-12A									
1029	MAINT-S-13A									
1109	MAINT-S-14A									
1109	MAINT-S-15A									
RELINQUISHED BY: <u>Pat Hsieh</u> RECEIVED BY: <u>Greg Salata</u>										
SIGNATURE: <u>Pat Hsieh</u> SIGNATURE: <u>Greg Salata</u>										
PRINTED NAME: <u>Pat Hsieh</u> PRINTED NAME: <u>Black</u>										
COMPANY: <u>Geomatrix</u> COMPANY: <u>MAI</u>										
SIGNATURE: _____										
PRINTED NAME: _____										
COMPANY: _____										
SIGNATURE: _____										
PRINTED NAME: _____										
COMPANY: _____										

SAMPLERS (SIGNATURE): copy

TOTAL NUMBER OF CONTAINERS: 4

SAMPLING COMMENTS: Please grind sample MAINT-S prior to analysis in accordance with OATT + Sop. Please hold all "A" sample volume until otherwise asked to do so.



One Union Square, 600 University Street, Suite 1020
 Seattle, Washington 98101-4107
 Tel 206.342.1760 Fax 206.342.1761

SIGNATURE: _____
 PRINTED NAME: _____
 COMPANY: _____

10000

CHAIN-OF-CUSTODY RECORD

SEA 10276

PROJECT NAME: *Fomer Rhove - Paulane - East Parcel*
 PROJECT NUMBER: *8769.006/2*
 RESULTS TO: *Lamy Mc Gaughney*
 TURNAROUND TIME: *2-day*
 SAMPLE SHIPMENT METHOD: *Courier*

LABORATORY NAME: *Chromate Analytical*
 LABORATORY ADDRESS: *1317 S. 134th Ave*
 LABORATORY CONTACT: *Kelso, WA 98626*
 LABORATORY PHONE NUMBER: *Grey Salata*
 CONTACT: *(360) 577-7220*

CLIENT INFORMATION: *Container Properties*

DATE: *8/19/06* PAGE: *2 OF 3*
 REPORTING REQUIREMENTS

GEOTRACKER REQUIRED: YES NO
 SITE SPECIFIC GLOBAL ID NO

SAMPLERS (SIGNATURE):

DATE	TIME	SAMPLE NUMBER	ANALYSES	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
<i>8/19/06</i>	<i>1231</i>	<i>MAINT-S-16A</i>	<i>Copper</i>	<i>9 oz. jar</i>	<i>S</i>						
	<i>1115</i>	<i>MAINT-S-17A</i>									
	<i>1118</i>	<i>MAINT-S-18A</i>									
	<i>1121</i>	<i>MAINT-S-19A</i>									
	<i>1123</i>	<i>MAINT-S-20A</i>									
	<i>1126</i>	<i>MAINT-S-21A</i>									
	<i>1129</i>	<i>MAINT-S-22A</i>									
	<i>1132</i>	<i>MAINT-S-23A</i>									
	<i>1135</i>	<i>MAINT-S-24A</i>									
	<i>1138</i>	<i>MAINT-S-25A</i>									
	<i>1140</i>	<i>MAINT-S-26A</i>									
	<i>1143</i>	<i>MAINT-S-27A</i>									
	<i>1145</i>	<i>MAINT-S-28A</i>									
	<i>1148</i>	<i>MAINT-S-29A</i>									
	<i>1151</i>	<i>MAINT-S-30A</i>									

RELINQUISHED BY: *Pat Hsieh* DATE TIME: *8/19/06 1645*

SIGNATURE: *Pat Hsieh*

PRINTED NAME: *Pat Hsieh*

COMPANY: *Geomatrix*

RECEIVED BY: *Fanny Black* DATE TIME: *8/19/06 1000*

SIGNATURE: *Fanny Black*

PRINTED NAME: *F Black*

COMPANY: *ATS*

SIGNATURE: *ATS*

PRINTED NAME:

COMPANY:

TOTAL NUMBER OF CONTAINERS:

SAMPLING COMMENTS: *See p. 1*

One Union Square, 600 University Street, Suite 1020
 Seattle, Washington 98101-4107
 Tel 206.342.1760 Fax 206.342.1761

Geomatrix

810008

CHAIN-OF-CUSTODY RECORD

SEA 10277

PROJECT NAME: *Finner Rhone - Palene East Parcel* DATE: *8/1/06* PAGE *3* OF *3*

PROJECT NUMBER: *8769.006/2* REPORTING REQUIREMENTS:

RESULTS TO: *Larry McGaughey* CLIENT INFORMATION: *Container Properties*

LABORATORY NAME: *Combia Analytical*

LABORATORY ADDRESS: *1317 S. 13th Ave*

TURNAROUND TIME: *2-day* LABORATORY CONTACT: *Keiser, WA 98026*

SAMPLE SHIPMENT METHOD: *Courier* LABORATORY PHONE NUMBER: *(360) 577-1222*

GEOTRACKER REQUIRED: YES NO

SITE SPECIFIC GLOBAL ID NO.

DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
<i>8/14/06</i>	<i>1155</i>	<i>MAINT-S-31A</i>	<i>02 jar</i>	<i>S</i>						
	<i>1157</i>	<i>MAINT-S-32A</i>								
	<i>1218</i>	<i>MAINT-S-33A</i>								
	<i>1221</i>	<i>MAINT-S-34A</i>								
	<i>1450</i>	<i>MAINT-S-35A</i>								
	<i>1451</i>	<i>MAINT-S</i>	<i>1-gal bucket</i>							
<i>8/1/06 ZAS</i>										

SAMPLERS (SIGNATURE):

sdp

REINQUISHED BY: DATE TIME RECEIVED BY: DATE TIME

SIGNATURE: *[Signature]* SIGNATURE: *[Signature]*

PRINTED NAME: *Pat Hsieh* PRINTED NAME: *Blair Black*

COMPANY: *Geomatrix* COMPANY: *CBP*

SIGNATURE: PRINTED NAME: COMPANY:

SIGNATURE: PRINTED NAME: COMPANY:

SIGNATURE: PRINTED NAME: COMPANY:

SIGNATURE: PRINTED NAME: COMPANY:

TOTAL NUMBER OF CONTAINERS: SAMPLING COMMENTS: *See p. 1*

One Union Square, 600 University Street, Suite 1020
Seattle, Washington 98101-4107
Tel 206.342.1760 Fax 206.342.1761



Geomatrix

**Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form**

PC Greg

Project/Client GEOMATRIX Service Request K06 07044

Cooler received on 8/21/06 and opened on 8/21/06 by Ag

1. Were custody seals on outside of coolers?
If yes, how many and where? 1F Y N
 2. Were custody seals intact? Y N
 3. Were signature and date present on the custody seals? Y N
 4. Is the shipper's airbill available and filed? If no, record airbill number: _____ Y N
 5. COC# _____
Temperature of cooler(s) upon receipt: (°C) 8.1 _____
Temperature Blank: (°C) air _____
Were samples hand delivered on the same day as collection? Y N
 6. Were custody papers properly filled out (ink, signed, etc.)? Y N
 7. Type of packing material present Bubble wrap, Citeoboard
 8. Did all bottles arrive in good condition (unbroken)? Y N
 9. Were all bottle labels complete (i.e analysis, preservation, etc.)? Y N
 10. Did all bottle labels and tags agree with custody papers? Y N
 11. Were the correct types of bottles used for the tests indicated? Y N
 12. Were all of the preserved bottles received at the lab with the appropriate pH? Y N
 13. Were VOA vials checked for absence of air bubbles, and if present, noted below? Y N
 14. Were the 1631 Mercury bottles checked for absence of air bubbles, and if present, noted below? Y N
 15. Did the bottles originate from CAS/K or a branch laboratory? Y N
 16. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? Y N
 17. Was C12/Res negative? Y N
- Explain any discrepancies: NO ID ON BUCKET

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

Total Solids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0607044

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
MAINT-5	K0607044-036	08/19/2006	08/21/2006	08/22/2006	88.6	

00012

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Geomatrix Consultants, Incorporated
Project: Former RP site/8769.006/2
Sample Matrix: Soil

Service Request: K0607044
Date Collected: 08/19/2006
Date Received: 08/21/2006
Date Analyzed: 08/22/2006

Duplicate Sample Summary
Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MAINT-5	K0607044-036	88.6	87.9	88.3	<1	

00013

Metals

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geomatrix Consultants, Incorporated Service Request: K0607044
Project No.: 8769.006/2
Project Name: Former RP site

<u>Sample No.</u>	<u>Lab Sample ID.</u>
MAINT-5	K0607044-036
MAINT-5D	K0607044-036D
MAINT-5S	K0607044-036S
Method Blank	K0607044-MB

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

Signature: BZ

Date: 8/24/06

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0607044

Project No.: 8769.006/2

Date Collected: 08/19/06

Project Name: Former RP site

Date Received: 08/21/06

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: MAINT-5

Lab Code: K0607044-036

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.11	0.07	5	8/23/06	8/24/06	36.3		

% Solids: 88.6

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Geomatrix Consultants, Incorporated

Service Request: K0607044

Project No.: 8769.006/2

Date Collected:

Project Name: Former RP site

Date Received:

Matrix: SOIL

Units: MG/KG

Basis: Dry

Sample Name: Method Blank

Lab Code: K0607044-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Copper	6020	0.10	0.06	5	8/23/06	8/24/06	0.07	B	

% Solids: 100.0

Comments:

00028

METALS

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Geomatrix Consultants, Incorporated

Service Request: K0607044

Project No.: 8769.006/2

Project Name: Former RP site

ICV Source: Inorganic Ventures

CCV Source: Various

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Copper	12.5	13.1	105	25.0	25.1	100	24.6	98	6020

00029

METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Geomatrix Consultants, Incorporated

Service Request: K0607044

Project No.: 8769.006/2

Project Name: Former RP site

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Copper				0.20	0.27	135		

METALS

- 3 -

BLANKS

Client: Geomatrix Consultants, Incorporated

Service Request: K0607044

Project No.: 8769.006/2

Project Name: Former RP site

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank	Method
	C	U	1	C	2	C	3	C		
Copper	0.12	U	0.12	U	0.12	U				6020

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Geomatrix Consultants, Incorporated

Service Request: K0607044

Project No.: 8769.006/2

Project Name: Former RP site

ICP ID Number: X Series

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Copper		20	0.80	21.8	109			

METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

METALS
 - 5a -
 SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0607044
 Project No.: 8769.006/2 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 88.6

Sample Name: MAINT-5S

Lab Code: K0607044-036S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Copper	52 - 153	89.0		36.3		55.9	94		6020

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

- 5b -

POST DIGEST SPIKE SAMPLE RECOVERY

Client: Geomatrix Consultants, Incorporated Service Request: K0607044
 Project No.: 8769.006/2 Units: ug/L
 Project Name: Former RP site
 Matrix: SOIL

Sample Name: MAINT-5A Lab Code: K0607044-036A

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Copper	75-125	85.3	65.6	20.0	99		MS

Comments:

METALS

- 6 -
DUPLICATES

Client: Geomatrix Consultants, Incorporated Service Request: K0607044
 Project No.: 8769.006/2 Units: mg/kg
 Project Name: Former RP site Basis: Dry
 Matrix: SOIL % Solids: 88.6

Sample Name: MAINT-5D

Lab Code: K0607044-036D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Copper	30	36.3		33.2		9		6020

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geomatrix Consultants, Incorporated Service Request: K0607044
 Project No.: 8769.006/2
 Project Name: Former RP site

Aqueous LCS Source: Inorganic Ventures Solid LCS Source: ERA Lot No. D045540

Analyte	Aqueous mg/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Copper				67.0	61.2		53.8	80.2	91

METALS
 - 9 -
 ICP SERIAL DILUTIONS

Client: Geomatrix Consultants, Incorporated Service Request: K0607044
 Project No.: 8769.006/2 Units: ug/L
 Project Name: Former RP site

Sample Name: MAINT-5L

Lab Code: K0607044-036L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	Method
Copper	65.6	75.4	15	E	6020

00038

Memorandum

TO: Larry McGaughey **DATE:** September 7, 2006
FROM: Tasya Gray **PROJ. NO.:** 8769.006
CC: Project File **PROJ. NAME:** Former Rhone-Poulenc Site
SUBJECT: **East Parcel Redevelopment Soil Sampling
Summary Data Quality Review – SDGs JS23, JS39, JT13**

This memorandum presents a summary data quality review of 17 primary soil samples, one field duplicate sample, and two trip blanks collected between August 7 and 15, 2006. The samples were submitted to Analytical Resources, Incorporated (ARI), a Washington State Department of Ecology (Ecology)-accredited laboratory, located in Tukwila, Washington. ARI subcontracted some of the samples to OnSite Environmental, Incorporated (OnSite), located in Redmond, Washington. The samples were analyzed for the following analyses:

- Polychlorinated Biphenyls (PCBs) by EPA Method 8082
- Total Petroleum Hydrocarbons (TPH) as diesel by NWTPH-Dx including acid wash and silica gel cleanup sample preparation
- TPH as gasoline by NWTPH-Gx
- Benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8021

The analyses were performed in general accordance with methods specified in U.S. Environmental Protection Agency's (EPA) Test Methods for Evaluating Solid Waste (SW-846), January 1995 and associated revisions.

Laboratory sample delivery groups (SDGs) associated with the August 2006 sampling event are listed below. The samples associated with each SDG are presented in the table at the end of this memorandum.

<u>Laboratory SDG</u>	<u>Date(s) Collected</u>
JS23	August 7 and 8, 2006
JS39	August 9, 2006
JT13	August 15, 2006

Memorandum
September 7, 2006
Page 2 of 5

Upon receipt by ARI and OnSite, the sample jar information was compared to the chain-of-custody form. Discrepancies were noted by the laboratory and addressed with Geomatrix personnel prior to sample analyses. The temperatures of the coolers were recorded as part of the check-in procedure. The coolers were within the acceptable range of 4 +/- 2 °C.

Data review is based on method performance criteria and QC criteria as documented in the May 2006 Soil Sampling Quality Assurance Project Plan (QAPP). The laboratory provided validatable packages containing summarized sample results and associated QA/QC data as well as instrument printouts and sample preparation and injection log pages as required by the QAPP. The data review conducted on these SDGs included a review of summarized results and QA/QC data per the requirements set forth in Section D1 of the QAPP. The control limits provided in the QAPP are advisory limits; therefore, the most current control limits provided by the laboratory were used to evaluate the quality control data. In cases where the laboratory did not track limits for an analyte, the limits in the QAPP were used. Hold times, calibration verification, method blanks, surrogate recoveries, laboratory control samples (LCS), matrix spike/matrix spike duplicate (MS/MSD) results, laboratory duplicate results, field QC results, and reporting limits were reviewed to assess compliance with applicable methods and the QAPP. If data qualification was required, data were qualified in general accordance with the definitions and use of qualifying flags outlined in the following EPA documents: USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, October 1999, and USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review, October 2004.

The following qualifiers may be added to the data:

- U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ORGANIC ANALYSES

Samples were analyzed for PCBs, TPH-Dx, TPH-gasoline, and BTEX by the methods identified in the introduction to this report, and were evaluated for the following criteria.

1. Holding Times – Acceptable
2. Initial Calibration – Not included in the OnSite data packages, otherwise good.
3. Calibration Verification – Not included in the OnSite data packages, otherwise good.
4. Blanks – Acceptable except as noted:
No equipment blanks were collected during this sampling event. All sampling equipment used to collect BTEX samples was dedicated (EPA Method 5035).
5. Surrogates – Acceptable
6. Laboratory Control Samples (LCS) – Acceptable except as noted:

A LCS was not included in the data packages from OnSite for the TPH-Dx and PCB analysis of JS23 or JS39. In SDG JT13, the LCS recovery for o-xylene was 112%, above the 110% limit, and the m,p-xylene recovery was 110%, above the 103% limit. Since xylenes were not detected in any of the associated data and the LCSD results were within control limits, no data was qualified.

7. Laboratory Duplicates – Acceptable except as noted:

Laboratory duplicates were not included in the data packages from OnSite for the PCB analysis of JS23 or JS39; however the laboratory duplicate analysis of TPH-diesel for both packages was reported by OnSite with good relative percent differences (RPDs). Lab duplicates were not included in the data packages from ARI for the BTEX and TPH-gasoline analysis of JS23, JS39, or JT13, but the LCS duplicates showed good RPDs.

8. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable except as noted:

MS/MSDs were not included in the data packages from OnSite for the TPH-diesel analysis of JS23 or JS39. MS/MSDs were not included in the ARI data package JT13. Results were evaluated based on the LCS where available.

Memorandum
 September 7, 2006
 Page 4 of 5

The project frequency requirement of one MS/MSD for every 20 samples was achieved with MS/MSD volume collected at additional sites included in this sampling event.

9. Field Duplicates – Acceptable

One field duplicate was submitted for 17 samples during this sampling event, not meeting the project frequency requirement of 10% or 1 for every 10 samples per batch. The field duplicate RPD is elevated, most likely due to the heterogeneity of the soil samples. Field duplicate results should be taken into account in determining usability of data; however, soil field duplicate RPDs are frequently observed to be elevated, so data were not qualified.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (µg/L)	Duplicate Result (µg/L)	RPD (%)
FRP081506 B5/ FRP081506 B5A	toluene	70	220	103

10. Reporting Limits – Acceptable

11. Other

Several 40-mL vial sample containers broke during transport of samples FRP080706 E2, FRP080706 W1, and FRP080706 W2; therefore TPH-gasoline was analyzed from a 2-oz. jar sample rather than the 40-mL vial specified for EPA 5035A method collection. Gasoline results are qualified as estimated and flagged “J”.

OVERALL ASSESSMENT OF DATA

The ARI/OnSite SDGs JS23, JS39, and JT13 are 100 percent complete. The data usability is based on EPA’s guidance documents and the QAPP referenced in the introduction to this report. Few problems were identified and analytical performance was generally within specified limits. The data are acceptable and meet the project’s data quality objectives.

Sample ID	SDG	Laboratory ID	OnSite “Client ID”	Qualified Analyte	Qualified Result	Units	Qualifier Reason
FRP080706 E1	JS23	JS23A/08-083-01	FRP080706 E1	none			

Memorandum
 September 7, 2006
 Page 5 of 5

Sample ID	SDG	Laboratory ID	OnSite "Client ID"	Qualified Analyte	Qualified Result	Units	Qualifier Reason
FRP080706 E2	JS23	JS23B/08-083-02	FRP080706 E2	gasoline	< 8.4 UJ	mg/kg	analyzed from 2-oz. jar
FRP080806 E2	JS23	JS23C	--	none			
FRP080706 E3	JS23	JS23D/08-083-03	FRP080706 E3	none			
FRP080706 E4	JS23	JS23E/08-083-04	FRP080706 E4	none			
FRP080706 S1	JS23	JS23F/08-083-05	FRP080706 S1	none			
FRP080706 W1	JS23	JS23G/08-083-06	FRP080706 W1	gasoline	< 9.5 UJ	mg/kg	analyzed from 2-oz. jar
FRP080806 W1	JS23	JS23H	--	none			
FRP080706 W2	JS23	JS23I/08-083-07	FRP080706 W2	gasoline	< 8.8 UJ	mg/kg	analyzed from 2-oz. jar
FRP080806 W2	JS23	JS23J	--	none			
Trip Blank	JS23	JS23K	--	none			
FRP080906 B1	JS39	JS39A/08-100-06	06-14277-JS39A	none			
FRP080906 B2	JS39	JS39B/08-100-01	06-14278-JS39B	none			
FRP080906 B3	JS39	JS39C/08-100-02	06-14279-JS39C	none			
FRP080906 B4	JS39	JS39D/08-100-03	06-14280-JS39D	none			
FRP080906 N1	JS39	JS39E/08-100-04	06-14281-JS39E	none			
FRP080906 N2	JS39	JS39F/08-100-05	06-14282-JS39F	none			
Trip Blank	JS39	JS39G	--	none			
FRP081506 B5	JT13	JT13A	--	none			
FRP081506 B5A	JT13	JT13B	--	none			



Analytical Resources, Incorporated
Analytical Chemists and Consultants

August 17, 2006

Zanna Satterwhite
Geomatrix Consultants
600 University Street, Suite 1020
Seattle, WA 98101



Project: 8769.006/2, FRP
ARI Job: JS23

Dear Zanna:

Please find enclosed the original chain of custody (COC) record and the final results for the samples from the project referenced above. Analytical Resources, Inc. accepted ten soil samples and a trip blank on August 8, 2006. ARI received the samples intact and there were no discrepancies in the paperwork. Due to current capacity at ARI, analyses for Aroclor-PCBs and NWTPH-Dx were subcontracted to Onsite in Redmond, WA. The report from Onsite is included in this report.

Samples were analyzed for NWTPH-G/BTEX at Analytical Resources, Inc. Samples **FRP080806 E2**, **FRP080806 W1** and **FRP080806 W2** had no 2 oz. container to determine total solids, and other containers had been submitted to the subcontractor, so results are reported on an 'as-received' basis for these three samples. Samples **FRP080706 E2**, **FRP080706 W1** and **FRP080706 W2** did not have 5035 vials and samples were analyzed out of the 2 oz. container.

A copy of this report and all raw data will be kept on file with ARI. If you have any questions or require additional information, please contact your project manager.

Sincerely,
ANALYTICAL RESOURCES, INC.

Eric Branson
Client Services Representative
-for-

Mark D. Harris
Project Manager
206/695-6210
mark@arilabs.com

Enclosures

Cc: file JS23

MDH/eb

**Chain of Custody
Documentation**

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006/2

ARI Job No. JS23

Prepared By

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Assigned Number: 0523	Turn-around Requested: 24-hr	Page: 1 of 2
ARI Client Company: Geomatrix	Phone: 206 342 1788	Date: 8/8/06 Ice Present? NO
Client Contact: Larry McLaughrey	No. of Coolers: 1	Cooler Temps: AMB

Client Project Name: FRP - East Parcel	Analysis Requested				Notes/Comments
Client Project #: 8769.006/2	Samplers: Pat Hsieh	BTEX- EPA 8021	PCBs- EPA 8082	TPH-G	TPH-DX

Sample ID	Date	Time	Matrix	No. Containers	BTEX- EPA 8021	PCBs- EPA 8082	TPH-G	TPH-DX					
FRP080706 E1	8/7/06	1909	S	4	X	X	X	X					
FRP080706 E2	8/7/06	1916		2		X	X	X					
FRP080806 E2	8/8/06	1757		2	X								
FRP080706 E3	8/7/06	1925		4	X	X	X	X					
FRP080706 E4	8/7/06	1934		4	X	X	X	X					
FRP080706 S1	8/7/06	1946		4	X	X	X	X					
FRP080706 W1	8/7/06	1959		2		X	X	X					
FRP080806 W1	8/8/06	1742		2	X								
FRP080706 W2	8/7/06	2013		2		X	X	X					
FRP080806 W2	8/8/06	1750	↓	2	X								

Comments/Special Instructions TPH = acid wash/silica gel cleanup	Relinquished by: (Signature) Za S	Received by: (Signature) Bob Conley	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Zanna Sattelmuth	Printed Name: Bob Conley	Printed Name:	Printed Name:
	Company: Geomatrix	Company: ARS	Company:	Company:
	Date & Time: 8/8/06	Date & Time: 8/8/06 1830	Date & Time:	Date & Time:

0002

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Assigned Number: J523	Turn-around Requested: 24 hr	Page: 2 of 2
ARI Client Company: Geomatrix	Phone: 206 342 1788	Date: 8/8/06
Client Contact: Larry McGarvey		Ice Present? NO
Client Project Name: ERP - East Parcel		No. of Coolers: 1
Client Project #: 8769.006/2	Samplers: Pat Hsieh	Cooler Temps: AMB

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					BTEX	SO2						
Trip Blank	8/8/06	—	W	2	X							
245 8/8/06												

Comments/Special Instructions	Relinquished by (Signature): [Signature]	Received by (Signature): Bob Congeton	Relinquished by (Signature):	Received by (Signature):
	Printed Name: Zanna Sitterwile	Printed Name: BOB CONGETON	Printed Name:	Printed Name:
	Company: Geomatrix	Company: ARI	Company:	Company:
	Date & Time: 8/8/06	Date & Time: 8/8/06 1830	Date & Time:	Date & Time:

0005

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Cooler Receipt Form



ARI Client: GMX Project Name: FRP - E. PARCEL
COC NO.: _____ Delivered By: HAND
Tracking NO.: _____ Date: 8/8/06
ARI Job No.: JS13 Lims NO.: _____

Preliminary Examination Phase:

- 1. Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
- 2. Were custody papers included with the cooler YES NO
- 3. Were custody papers properly filled out (ink, signed etc.)? YES NO
- 4. Complete custody forms and attach all shipping documents OK NA

Cooler Accepted BY: Bob Conley Date: 8/8/06 Time: 1830

Log-IN Phase:

- 5. Was a temperature blank include in the cooler? YES NO
- 6. Record Cooler Temperature AMB °C
- 7. What kind of packing material was used?
- 8. Was sufficient ice used (if appropriate)? YES NO
- 9. Were all bottles sealed in separate plastic bags? YES NO
- 10. Did all bottles arrive in good condition (unbroken)? YES NO
- 11. Were all bottle labels complete and legible? YES NO
- 12. Did all bottle labels and tags agree with custody papers? YES NO
- 13. Were all bottles used correct for the requested analyses? YES NO
- 14. Do any of the analyses (bottles) require preservative?
(If so, Preservation checklist must be attached) YES NO
- 15. Were all VOA vials free of air bubbles? YES NO
- 16. Was sufficient amount of sample sent in each bottle? YES NO
- 17. Notify Project Manager of any discrepancies or concerns OK NA

Cooler Opened By: Bob Date: 8/8/06 Time: 1830

Explain any discrepancies or negative responses:

Data Summary Package

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006/2

ARI Job No. JS23

Prepared By

Analytical Resources, Inc.



Data Reporting Qualifiers

Effective 12/28/04

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for



- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Total Solids

BETX/TPHG Total Solids-betxts
Data By: Paul K. Campbell
Created: 8/10/06

Worklist: 9879
Analyst: PKC
Comments:


ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JS23A 06-14155	1.12	12.37	10.07	79.6
2. JS23B 06-14156	1.07	12.45	10.16	79.9
3. JS23D 06-14158	1.11	11.97	9.57	77.9
4. JS23E 06-14159	1.07	12.43	9.93	78.0
5. JS23F 06-14160	1.16	11.19	9.11	79.3
6. JS23G 06-14161	1.08	10.95	8.54	75.6
7. JS23I 06-14163	1.10	13.91	11.14	78.4

Worklist ID: 9879 Page: 1
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
\$ - BETX TS Copied From Extraction TS

NWTPH-G/BETX

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Soil

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: 08/07/06
Date Received: 08/08/06

Data Release Authorized: 
Reported: 08/10/06

ARI ID	Client ID	Analysis Date	Basis	Range	Result
JS23B 06-14156	FRP080706 E2	08/09/06 PID2	Dry	Gasoline HC ID Trifluorotoluene Bromobenzene	< 8.4 U --- 98.5% 101%
JS23G 06-14161	FRP080706 W1	08/09/06 PID2	Dry	Gasoline HC ID Trifluorotoluene Bromobenzene	< 9.5 U --- 104% 115%
JS23I 06-14163	FRP080706 W2	08/09/06 PID2	Dry	Gasoline HC ID Trifluorotoluene Bromobenzene	< 8.8 U --- 112% 116%

Gasoline values reported in mg/kg (ppm)


Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: FRP080706 E1
SAMPLE

Lab Sample ID: JS23A
LIMS ID: 06-14155
Matrix: Soil
Data Release Authorized: 
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: 08/07/06
Date Received: 08/08/06

Date Analyzed: 08/09/06 14:57
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 64 mg-dry-wt
Percent Moisture: 20.4%

CAS Number	Analyte	RL	Result	
71-43-2	Benzene	39	< 39 U	
108-88-3	Toluene	39	54	
100-41-4	Ethylbenzene	39	< 39 U	
	m,p-Xylene	78	< 78 U	
95-47-6	o-Xylene	39	< 39 U	
1330-20-7	Xylenes, Total	160	< 160 U	
	Gasoline Range Hydrocarbons	7.8	< 7.8 U	GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene	83.1%
Bromobenzene	100%

Gasoline Surrogate Recovery

Trifluorotoluene	102%
Bromobenzene	102%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: FRP080806 E2

SAMPLE

Lab Sample ID: JS23C

LIMS ID: 06-14157

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.

Project: FRP-EAST PARCEL

Event: 8769.006/2

Date Sampled: 08/08/06

Date Received: 08/08/06

Date Analyzed: 08/09/06 15:56

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 82 mg-as-rec

CAS Number	Analyte	RL	Result
71-43-2	Benzene	31	< 31 U
108-88-3	Toluene	31	< 31 U
100-41-4	Ethylbenzene	31	< 31 U
	m,p-Xylene	61	< 61 U
95-47-6	o-Xylene	31	< 31 U

BETX Surrogate Recovery

Trifluorotoluene	87.1%
Bromobenzene	93.2%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: FRP080706 E3
SAMPLE

Lab Sample ID: JS23D
LIMS ID: 06-14158
Matrix: Soil
Data Release Authorized:
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: 08/07/06
Date Received: 08/08/06

Date Analyzed: 08/09/06 17:54
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 61 mg-dry-wt
Percent Moisture: 22.1%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	41	< 41 U
108-88-3	Toluene	41	< 41 U
100-41-4	Ethylbenzene	41	< 41 U
	m,p-Xylene	82	< 82 U
95-47-6	o-Xylene	41	< 41 U
1330-20-7	Xylenes, Total	160	< 160 U

Gasoline Range Hydrocarbons 8.2 < 8.2 U GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene	86.6%
Bromobenzene	99.4%

Gasoline Surrogate Recovery

Trifluorotoluene	106%
Bromobenzene	101%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

TPHG by Method NWTPHG

Page 1 of 1

Sample ID: FRP080706 E4

SAMPLE

Lab Sample ID: JS23E

LIMS ID: 06-14159

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.

Project: FRP-EAST PARCEL

Event: 8769.006/2

Date Sampled: 08/07/06

Date Received: 08/08/06

Date Analyzed: 08/09/06 18:23

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 62 mg-dry-wt

Percent Moisture: 22.0%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	40	< 40 U
108-88-3	Toluene	40	< 40 U
100-41-4	Ethylbenzene	40	< 40 U
	m,p-Xylene	80	< 80 U
95-47-6	o-Xylene	40	< 40 U
1330-20-7	Xylenes, Total	160	< 160 U

	RL	Result	GAS ID
Gasoline Range Hydrocarbons	8.0	< 8.0 U	---

BETX Surrogate Recovery

Trifluorotoluene	88.1%
Bromobenzene	102%

Gasoline Surrogate Recovery

Trifluorotoluene	106%
Bromobenzene	101%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)


GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: FRP080706 S1
SAMPLE

Lab Sample ID: JS23F
LIMS ID: 06-14160
Matrix: Soil
Data Release Authorized: 
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: 08/07/06
Date Received: 08/08/06

Date Analyzed: 08/09/06 18:52
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 67 mg-dry-wt
Percent Moisture: 20.7%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	37	< 37 U
108-88-3	Toluene	37	< 37 U
100-41-4	Ethylbenzene	37	< 37 U
	m,p-Xylene	74	< 74 U
95-47-6	o-Xylene	37	< 37 U
1330-20-7	Xylenes, Total	150	< 150 U

Gasoline Range Hydrocarbons 7.4 < 7.4 U GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene	91.8%
Bromobenzene	105%

Gasoline Surrogate Recovery

Trifluorotoluene	109%
Bromobenzene	103%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)


GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: FRP080806 W1
SAMPLE

Lab Sample ID: JS23H
LIMS ID: 06-14162
Matrix: Soil
Data Release Authorized: 
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: 08/08/06
Date Received: 08/08/06

Date Analyzed: 08/09/06 19:51
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 110 mg-as-rec

CAS Number	Analyte	RL	Result
71-43-2	Benzene	23	< 23 U
108-88-3	Toluene	23	< 23 U
100-41-4	Ethylbenzene	23	< 23 U
	m,p-Xylene	46	< 46 U
95-47-6	o-Xylene	23	< 23 U

BETX Surrogate Recovery

Trifluorotoluene	81.8%
Bromobenzene	91.1%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: FRP080806 W2
SAMPLE

Lab Sample ID: JS23J
LIMS ID: 06-14164
Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: 08/08/06
Date Received: 08/08/06

Date Analyzed: 08/09/06 20:50
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 110 mg-as-rec

CAS Number	Analyte	RL	Result
71-43-2	Benzene	23	< 23 U
108-88-3	Toluene	23	< 23 U
100-41-4	Ethylbenzene	23	< 23 U
	m,p-Xylene	46	< 46 U
95-47-6	o-Xylene	23	< 23 U

BETX Surrogate Recovery

Trifluorotoluene	76.8%
Bromobenzene	88.9%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: TRIP BLANK
SAMPLE

Lab Sample ID: JS23K
LIMS ID: 06-14165
Matrix: Water
Data Release Authorized: *MB*
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: 08/07/06
Date Received: 08/08/06

Date Analyzed: 08/09/06 13:29
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	106%
Bromobenzene	106%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JS23
Matrix: Water

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2

Client ID	TFT	BBZ	TOT OUT
TRIP BLANK	106%	106%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-14165 to 06-14165

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS23
Matrix: Soil

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2

Client ID	TFT	BBZ	TOT OUT
MB-080906	83.7%	97.2%	0
LCS-080906	108%	101%	0
LCSD-080906	109%	102%	0
FRP080706 E1	83.1%	100%	0
FRP080806 E2	87.1%	93.2%	0
FRP080706 E3	86.6%	99.4%	0
FRP080706 E4	88.1%	102%	0
FRP080706 S1	91.8%	105%	0
FRP080806 W1	81.8%	91.1%	0
FRP080806 W2	76.8%	88.9%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-14155 to 06-14164

TPHG SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS23
Matrix: Soil

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2

Client ID	TFT	BBZ	TOT OUT
MB-080906	101%	97.5%	0
LCS-080906	108%	103%	0
LCSD-080906	109%	101%	0
FRP080706 E1	102%	102%	0
FRP080706 E2	98.5%	101%	0
FRP080706 E3	106%	101%	0
FRP080706 E4	106%	101%	0
FRP080706 S1	109%	103%	0
FRP080706 W1	104%	115%	0
FRP080706 W2	112%	116%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(86-121)	(49-158)
(BBZ) = Bromobenzene	(78-123)	(48-162)

Log Number Range: 06-14155 to 06-14163

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: LCS-080906

LAB CONTROL SAMPLE

Lab Sample ID: LCS-080906

LIMS ID: 06-14155

Matrix: Soil

Data Release Authorized:

Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.

Project: FRP-EAST PARCEL

Event: 8769.006/2

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 08/09/06 11:23

LCSD: 08/09/06 11:52

Instrument/Analyst LCS: PID2/PKC

LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt

LCSD: 100 mg-dry-wt

Analyte	LCS	Spike	LCS	LCSD	Spike	LCS	RPD
		Added-LCS	Recovery		Added-LCSD	Recovery	
Benzene	394	410	96.1%	406	410	99.0%	3.0%
Toluene	3230	3340	96.7%	3280	3340	98.2%	1.5%
Ethylbenzene	614	610	101%	603	610	98.9%	1.8%
m,p-Xylene	2250	2290	98.3%	2310	2290	101%	2.6%
o-Xylene	816	795	103%	833	795	105%	2.1%

Reported in $\mu\text{g}/\text{kg}$ (ppb)


RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	108%	109%
Bromobenzene	101%	102%

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: LCS-080906
LAB CONTROL SAMPLE

Lab Sample ID: LCS-080906
LIMS ID: 06-14155
Matrix: Soil
Data Release Authorized: 
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/09/06 11:23
LCSD: 08/09/06 11:52
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	50.5	50.0	101%	48.0	50.0	96.0%	5.1%

Reported in mg/kg (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	108%	109%
Bromobenzene	103%	101%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB080906S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JS23

Project No.: FRP-EAST PARCEL

Date Analyzed : 08/09/06

Matrix: SOIL

Time Analyzed : 1222

Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	LCS080906S1	LCS080906S1	08/09/06
02	LCSD080906S1	LCSD080906S1	08/09/06
03	TRIP BLANK	JS23K	08/09/06
04	FRP080706 E1	JS23A	08/09/06
05	FRP080706 E2	JS23B	08/09/06
06	FRP080806 E2	JS23C	08/09/06
07	FRP080706 E3	JS23D	08/09/06
08	FRP080706 E4	JS23E	08/09/06
09	FRP080706 S1	JS23F	08/09/06
10	FRP080706 W1	JS23G	08/09/06
11	FRP080806 W1	JS23H	08/09/06
12	FRP080706 W2	JS23I	08/09/06
13	FRP080806 W2	JS23J	08/09/06
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ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021EMod
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: MB-080906
METHOD BLANK

Lab Sample ID: MB-080906
LIMS ID: 06-14155
Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: NA
Date Received: NA

Date Analyzed: 08/09/06 12:22
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	25	< 25 U
108-88-3	Toluene	25	< 25 U
100-41-4	Ethylbenzene	25	< 25 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	25	< 25 U
1330-20-7	Xylenes, Total	100	< 100 U

Gasoline Range Hydrocarbons 5.0 < 5.0 U GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene	83.7%
Bromobenzene	97.2%

Gasoline Surrogate Recovery

Trifluorotoluene	101%
Bromobenzene	97.5%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

Laboratory Data Package

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006/2

ARI Job No. JS23

Prepared By

Analytical Resources, Inc.

**NWTPH-G/BTEX Analysis
QC Summary Data**

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006/2

ARI Job No. JS23

Prepared By

Analytical Resources, Inc.

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JS23
Matrix: Water

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2

<u>Client ID</u>	<u>TFT</u>	<u>BBZ</u>	<u>TOT OUT</u>
TRIP BLANK	106%	106%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-14165 to 06-14165

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS23
Matrix: Soil

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2

Client ID	TFT	BBZ	TOT	OUT
MB-080906	83.7%	97.2%		0
LCS-080906	108%	101%		0
LCSD-080906	109%	102%		0
FRP080706 E1	83.1%	100%		0
FRP080806 E2	87.1%	93.2%		0
FRP080706 E3	86.6%	99.4%		0
FRP080706 E4	88.1%	102%		0
FRP080706 S1	91.8%	105%		0
FRP080806 W1	81.8%	91.1%		0
FRP080806 W2	76.8%	88.9%		0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-14155 to 06-14164

TPHG SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS23
Matrix: Soil

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2

Client ID	TFT	BBZ	TOT OUT
MB-080906	101%	97.5%	0
LCS-080906	108%	103%	0
LCS-080906	109%	101%	0
FRP080706 E1	102%	102%	0
FRP080706 E2	98.5%	101%	0
FRP080706 E3	106%	101%	0
FRP080706 E4	106%	101%	0
FRP080706 S1	109%	103%	0
FRP080706 W1	104%	115%	0
FRP080706 W2	112%	116%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(86-121)	(49-158)
(BBZ) = Bromobenzene	(78-123)	(48-162)

Log Number Range: 06-14155 to 06-14163

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-080906
LAB CONTROL SAMPLE

Lab Sample ID: LCS-080906
LIMS ID: 06-14155
Matrix: Soil
Data Release Authorized:
Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.
Project: FRP-EAST PARCEL
Event: 8769.006/2
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/09/06 11:23
LCSD: 08/09/06 11:52
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	394	410	96.1%	406	410	99.0%	3.0%
Toluene	3230	3340	96.7%	3280	3340	98.2%	1.5%
Ethylbenzene	614	610	101%	603	610	98.9%	1.8%
m,p-Xylene	2250	2290	98.3%	2310	2290	101%	2.6%
o-Xylene	816	795	103%	833	795	105%	2.1%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	108%	109%
Bromobenzene	101%	102%

ORGANICS ANALYSIS DATA SHEET

TPHG by Method NWTPHG

Page 1 of 1

Sample ID: LCS-080906

LAB CONTROL SAMPLE

Lab Sample ID: LCS-080906

LIMS ID: 06-14155

Matrix: Soil

Data Release Authorized:

Reported: 08/10/06

QC Report No: JS23-Geomatrix Consultants, Inc.

Project: FRP-EAST PARCEL

Event: 8769.006/2

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 08/09/06 11:23

Purge Volume: 5.0 mL

LCSD: 08/09/06 11:52

Instrument/Analyst LCS: PID2/PKC

Sample Amount LCS: 100 mg-dry-wt

LCSD: PID2/PKC

LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	50.5	50.0	101%	48.0	50.0	96.0%	5.1%

Reported in mg/kg (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	108%	109%
Bromobenzene	103%	101%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB080906S1

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JS23 Project No.: FRP-EAST PARCEL
 Date Analyzed : 08/09/06 Matrix: SOIL
 Time Analyzed : 1222 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS080906S1	LCS080906S1	08/09/06
02	LCSD080906S1	LCSD080906S1	08/09/06
03	TRIP BLANK	JS23K	08/09/06
04	FRP080706 E1	JS23A	08/09/06
05	FRP080706 E2	JS23B	08/09/06
06	FRP080806 E2	JS23C	08/09/06
07	FRP080706 E3	JS23D	08/09/06
08	FRP080706 E4	JS23E	08/09/06
09	FRP080706 S1	JS23F	08/09/06
10	FRP080706 W1	JS23G	08/09/06
11	FRP080806 W1	JS23H	08/09/06
12	FRP080706 W2	JS23I	08/09/06
13	FRP080806 W2	JS23J	08/09/06
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JS23

Project: FRP-EAST PARCEL

Instrument ID: PID2

GC Detector: RTX 502-2 PID

Run Date: 06/29/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT					
S1 : 6.44		S2 : 14.56			
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	BTEX .25	BTEX .25	06/29/06	1136	6.42 14.55
02	BTEX .5	BTEX .5	06/29/06	1206	6.42 14.55
03	BTEX 5	BTEX 5	06/29/06	1235	6.43 14.55
04	BTEX 25	BTEX 25	06/29/06	1304	6.43 14.55
05	BTEX 100	BTEX 100	06/29/06	1334	6.43 14.55
06	BTEX 200	BTEX 200	06/29/06	1403	6.44 14.56
07	BTEX ICV	BTEX ICV	06/29/06	1433	6.43 14.55
08	RT0629+BCAL	RT0629+BCAL	06/29/06	1502	6.44 14.56
09	BTEX 25 RE	BTEX 25 RE	06/29/06	1610	6.45 14.56
10	BTEX 100 RE	BTEX 100 RE	06/29/06	1639	6.45 14.56
11	BTEX 200 RE	BTEX 200 RE	06/29/06	1708	6.44 14.56
12	RINSE	RINSE	06/29/06	1738	14.55
13	GAS .1	GAS .1	06/29/06	1807	6.43 14.56
14	GAS .25	GAS .25	06/29/06	1836	6.44 14.56
15	GAS 1	GAS 1	06/29/06	1906	6.44 14.55
16	GAS 2.5	GAS 2.5	06/29/06	1935	6.44 14.55
17	GAS 5	GAS 5	06/29/06	2005	6.44 14.55
18	GAS 20	GAS 20	06/29/06	2034	6.46 14.56
19	RINSE	RINSE	06/29/06	2103	14.55
20	GAS ICV	GAS ICV	06/29/06	2133	6.44 14.55

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)
S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JS23 Project: FRP-EAST PARCEL
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 07/27/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
 IS GIVEN BELOW:

METHOD SURROGATE RT							
S1 : 6.44		S2 : 14.56					
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #		
=====	=====	=====	=====	=====	=====		
01 ZZZZZ	ZZZZZ	07/27/06	0953	6.47	14.56		
02 ZZZZZ	ZZZZZ	07/27/06	1022				
03 ZZZZZ	ZZZZZ	07/27/06	1051				
04 BTEX .25	BTEX .25	07/27/06	1121	6.41	14.55		
05 BTEX .5	BTEX .5	07/27/06	1150	6.41	14.54		
06 BTEX 5	BTEX 5	07/27/06	1220	6.42	14.55		
07 BTEX 25	BTEX 25	07/27/06	1249	6.43	14.55		
08 BTEX 100	BTEX 100	07/27/06	1319	6.44	14.55		
09 BTEX 200	BTEX 200	07/27/06	1348	6.44	14.56		
10 BTEX ICV	BTEX ICV	07/27/06	1417	6.43	14.56		

QC LIMITS
 S1 = TFT(Surr) (+/- 0.07 MINUTES)
 S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JS23 Project: FRP-EAST PARCEL
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 08/09/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
 IS GIVEN BELOW:

METHOD SURROGATE RT							
				S1 : 6.43		S2 : 14.56	
	CLIENT	LAB	DATE	TIME	S1	S2	
	SAMPLE NO.	SAMPLE ID	ANALYZED	ANALYZED	RT	#	RT #
=====							
01	ZZZZZ	ZZZZZ	08/09/06	0935	6.42		14.56
02	RT0809+BCAL	RT0809+BCAL	08/09/06	1004	6.43		14.56
03	GCAL 1	GCAL 1	08/09/06	1034	6.45		14.56
04	LCS080906S1	LCS080906S1	08/09/06	1123	6.45		14.55
05	LCSD080906S1	LCSD080906S1	08/09/06	1152	6.44		14.56
06	MB080906S1	MB080906S1	08/09/06	1222	6.42		14.55
07	TRIP BLANK	JS23K	08/09/06	1329	6.42		14.55
08	ZZZZZ	ZZZZZ	08/09/06	1359	6.42		14.55
09	ZZZZZ	ZZZZZ	08/09/06	1428	6.42		14.55
10	FRP080706 E1	JS23A	08/09/06	1457	6.42		14.55
11	FRP080706 E2	JS23B	08/09/06	1527	6.43		14.55
12	FRP080806 E2	JS23C	08/09/06	1556	6.42		14.54
13	ZZZZZ	ZZZZZ	08/09/06	1626			14.55
14	BCAL 2	BCAL 2	08/09/06	1655	6.43		14.54
15	GCAL 2	GCAL 2	08/09/06	1724	6.44		14.55
16	FRP080706 E3	JS23D	08/09/06	1754	6.47		14.56
17	FRP080706 E4	JS23E	08/09/06	1823	6.42		14.55
18	FRP080706 S1	JS23F	08/09/06	1852	6.42		14.55
19	FRP080706 W1	JS23G	08/09/06	1922	6.42		14.55
20	FRP080806 W1	JS23H	08/09/06	1951	6.42		14.54
21	FRP080706 W2	JS23I	08/09/06	2021	6.47		14.56
22	FRP080806 W2	JS23J	08/09/06	2050	6.42		14.55
23	ZZZZZ	ZZZZZ	08/09/06	2119	6.42		14.55
24	ZZZZZ	ZZZZZ	08/09/06	2149	6.43		14.55
25	ZZZZZ	ZZZZZ	08/09/06	2218			14.55
26	BCAL 3	BCAL 3	08/09/06	2247	6.43		14.56
27	GCAL 3	GCAL 3	08/09/06	2317	6.45		14.55

QC LIMITS
 S1 = TFT(Surr) (+/- 0.07 MINUTES)
 S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.



August 11, 2006

Mark Harris
Analytical Resources, Inc.
4611 South 134th Place, Suite 100
Tukwila, WA 98168

Re: Analytical Data for Project JS23
Laboratory Reference No. 0608-083


Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on August 9, 2006.

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

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

Sincerely,



David Baumeister
Project Manager

Enclosures

0174

Date of Report: August 11, 2006
Samples Submitted: August 9, 2006
Laboratory Reference: 0608-083
Project: JS23

Case Narrative

Samples were collected on August 7, 2006 and received by the laboratory on August 9, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

Chain of Custody Record & Laboratory Analysis Request

08-083



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Assigned Number: JSZ3	Turn-around Requested: 24-48 HR	Page: 1 of 1
ARI Client Company: ARL	Phone: 206/695-6210	Date: 8/9/06 Ice Present?
Client Contact: Mark Harris	No. of Coolers:	Cooler Temps:

Sample ID	Date	Time	Matrix	No Containers	Analysis Requested						Notes/Comments	
					PCBs	MULTI-META LI ACID B SILICA GEL	ORGANICS					
1 FRP080706 E1	8/7/06	1909	S	1	✓	✓						2008020012 ↓
2 FRP080706 E2	8/7/06	1916	S	1	✓	✓						
3 FRP080706 E3	8/7/06	1925	S	1	✓	✓						
4 FRP080706 E4	8/7/06	1934	S	1	✓	✓						
5 FRP080706 S1	8/7/06	1946	S	1	✓	✓						
6 FRP080706 W1	8/7/06	1959	S	1	✓	✓						
7 FRP080706 W2	8/7/06	2013	S	1	✓	✓						

Comments/Special Instructions E-MAIL RESULTS: MARKH@ARILABS.COM	Relinquished by: (Signature) <i>Emily Odachowski</i>	Received by: (Signature) <i>CM</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Emily ODACHOWSKI	Printed Name: M VOVN	Printed Name:	Printed Name:
	Company: ARI	Company: OSE	Company:	Company:
	Date & Time: 8/9/06 10:22	Date & Time: 8/9/06 10:22	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

0176

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

PCBs by EPA 8082

Date Extracted: 8-9-06
 Date Analyzed: 8-10-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-083-01
 Client ID: **FRP080706 E1**

	Result	PQL
Aroclor 1016:	ND	0.063
Aroclor 1221:	ND	0.063
Aroclor 1232:	ND	0.063
Aroclor 1242:	ND	0.063
Aroclor 1248:	ND	0.063
Aroclor 1254:	ND	0.063
Aroclor 1260:	ND	0.063

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	84	41-128

Flags:

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

PCBs by EPA 8082

Date Extracted: 8-9-06
 Date Analyzed: 8-10-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-083-02
 Client ID: **FRP080706 E2**

	Result	PQL
Aroclor 1016:	ND	0.062
Aroclor 1221:	ND	0.062
Aroclor 1232:	ND	0.062
Aroclor 1242:	ND	0.062
Aroclor 1248:	ND	0.062
Aroclor 1254:	ND	0.062
Aroclor 1260:	ND	0.062

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	86	41-128

Flags:

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

PCBs by EPA 8082

Date Extracted: 8-9-06
 Date Analyzed: 8-10-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-083-03
 Client ID: **FRP080706 E3**

	Result	PQL
Aroclor 1016:	ND	0.059
Aroclor 1221:	ND	0.059
Aroclor 1232:	ND	0.059
Aroclor 1242:	ND	0.059
Aroclor 1248:	ND	0.059
Aroclor 1254:	ND	0.059
Aroclor 1260:	ND	0.059

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	80	41-128

Flags:

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

PCBs by EPA 8082

Date Extracted: 8-9-06
 Date Analyzed: 8-10-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-083-04
 Client ID: **FRP080706 E4**

	Result	PQL
Aroclor 1016:	ND	0.063
Aroclor 1221:	ND	0.063
Aroclor 1232:	ND	0.063
Aroclor 1242:	ND	0.063
Aroclor 1248:	ND	0.063
Aroclor 1254:	ND	0.063
Aroclor 1260:	ND	0.063

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	78	41-128

Flags:

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

PCBs by EPA 8082

Date Extracted: 8-9-06
 Date Analyzed: 8-10-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-083-05
 Client ID: **FRP080706 S1**

	Result	PQL
Aroclor 1016:	ND	0.061
Aroclor 1221:	ND	0.061
Aroclor 1232:	ND	0.061
Aroclor 1242:	ND	0.061
Aroclor 1248:	ND	0.061
Aroclor 1254:	ND	0.061
Aroclor 1260:	ND	0.061

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	93	41-128

Flags:

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

PCBs by EPA 8082

Date Extracted: 8-9-06
 Date Analyzed: 8-10-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-083-06
 Client ID: FRP080706 W1

	Result	PQL
Aroclor 1016:	ND	0.067
Aroclor 1221:	ND	0.067
Aroclor 1232:	ND	0.067
Aroclor 1242:	ND	0.067
Aroclor 1248:	ND	0.067
Aroclor 1254:	ND	0.067
Aroclor 1260:	ND	0.067

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	95	41-128

Flags:

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

PCBs by EPA 8082

Date Extracted: 8-9-06

Date Analyzed: 8-11-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 08-083-07

Client ID: FRP080706 W2

	Result	PQL
Aroclor 1016:	ND	0.063
Aroclor 1221:	ND	0.063
Aroclor 1232:	ND	0.063
Aroclor 1242:	ND	0.063
Aroclor 1248:	ND	0.063
Aroclor 1254:	ND	0.063
Aroclor 1260:	ND	0.063

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	84	41-128

Flags: Z

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

**PCBs by EPA 8082
 METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-9-06
 Date Analyzed: 8-10-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: MB0809S1

	Result	PQL
Aroclor 1016:	ND	0.050
Aroclor 1221:	ND	0.050
Aroclor 1232:	ND	0.050
Aroclor 1242:	ND	0.050
Aroclor 1248:	ND	0.050
Aroclor 1254:	ND	0.050
Aroclor 1260:	ND	0.050

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	101	41-128

Flags: Z

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

**PCBs by EPA 8082
 MS/MSD QUALITY CONTROL**

Date Extracted: 8-9-06
 Date Analyzed: 8-11-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-083-07

Spike Level: 0.500

	MS	Percent Recovery	MSD	Percent Recovery	RPD
Aroclor 1260:	0.371	74	0.347	69	7
PQL	0.050		0.050		
Surrogate	Percent Recovery		Percent Recovery	Control Limits	
Decachlorobiphenyl	77		71	41-128	
Flags:	Z		Z		

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

NWTPH-Dx

Date Extracted: 8-9-06
 Date Analyzed: 8-9-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID:	FRP080706 E1	FRP080706 E2	FRP080706 E3
Lab ID:	08-083-01	08-083-02	08-083-03
Diesel Range:	ND	ND	ND
PQL:	32	31	29
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	63	62	59
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	92%	99%	95%
Flags:	Y	Y	Y

Date of Report: August 11, 2006
 Samples Submitted: August 9, 2006
 Laboratory Reference: 0608-083
 Project: JS23

NWTPH-Dx

Date Extracted: 8-9-06
 Date Analyzed: 8-9-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID:	FRP080706 E4	FRP080706 S1	FRP080706 W1
Lab ID:	08-083-04	08-083-05	08-083-06
Diesel Range:	ND	ND	ND
PQL:	31	31	33
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	63	61	67
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	101%	95%	109%
Flags:	Y	Y	Y

Date of Report: August 11, 2006
Samples Submitted: August 9, 2006
Laboratory Reference: 0608-083
Project: JS23

NWTPH-Dx

Date Extracted: 8-9-06
Date Analyzed: 8-9-06

Matrix: Soil
Units: mg/kg (ppm)

Client ID: FRP080706 W2
Lab ID: 08-083-07

Diesel Range: **ND**
PQL: 32
Identification: ---

Lube Oil Range: **ND**
PQL: 63
Identification: ---

Surrogate Recovery
o-Terphenyl: 100%

Flags: Y

Date of Report: August 11, 2006
Samples Submitted: August 9, 2006
Laboratory Reference: 0608-083
Project: JS23

**NWTPH-Dx
METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-9-06
Date Analyzed: 8-9-06

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0809S1

Diesel Range: **ND**

PQL: 25

Identification: ---

Lube Oil Range: **ND**

PQL: 50

Identification: ---

Surrogate Recovery

o-Terphenyl: 101%

Flags: Y

Date of Report: August 11, 2006
Samples Submitted: August 9, 2006
Laboratory Reference: 0608-083
Project: JS23

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 8-9-06
Date Analyzed: 8-9-06

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-083-01 08-083-01 DUP

Diesel Range: **ND** **ND**
PQL: 25 25

RPD: N/A

Surrogate Recovery
o-Terphenyl: 98% 92%

Flags: Y Y



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - G - Insufficient sample quantity for duplicate analysis.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - O - Hydrocarbons indicative of diesel fuel are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a silica gel cleanup procedure.
 - Y - Sample extract treated with an acid/silica gel cleanup procedure.
 - Z - Sample treated with a Mercury cleanup procedure.
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference

Date of Report: August 11, 2006
Samples Submitted: August 9, 2006
Laboratory Reference: 0608-083
Project: JS23

% MOISTURE

Date Analyzed: 8-9-06

Client ID	Lab ID	% Moisture
FRP080706 E1	08-083-01	21
FRP080706 E2	08-083-02	19
FRP080706 E3	08-083-03	15
FRP080706 E4	08-083-04	20
FRP080706 S1	08-083-05	18
FRP080706 W1	08-083-06	25
FRP080706 W2	08-083-07	21



Analytical Resources, Incorporated
Analytical Chemists and Consultants

August 17, 2006

Zanna Satterwhite
Geomatrix Consultants
600 University Street, Suite 1020
Seattle, WA 98101



Project: 8769.006, FRP – East Parcel
ARI Job: JS39

Dear Zanna:

Please find enclosed the original chain of custody (COC) record and the final results for the samples from the project referenced above. Analytical Resources, Inc. accepted six soil samples and a trip blank on August 10, 2006. ARI received the samples intact and there were no discrepancies in the paperwork. Due to current capacity at ARI, analyses for Aroclor-PCBs and NWTPHDx were subcontracted to Onsite in Redmond, WA. Results have been included in this report.

The samples were analyzed for NWTPH-G/BTEX at Analytical Resources, Inc. Sample analyses were completed with no incidents of note.

A copy of this report and all raw data will be kept on file with ARI. If you have any questions or require additional information, please contact your project manager.

Sincerely,
ANALYTICAL RESOURCES, INC.

Eric Branson
Client Services Representative
-for-

Mark D. Harris
Project Manager
206/695-6210
mark@arilabs.com

Enclosures

Cc: file JS39

MDH/eb

**Chain of Custody
Documentation**

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006

ARI Job No. JS39

Prepared By

Analytical Resources, Inc.

CHAIN-OF-CUSTODY RECORD 5539 O. 52 Ice - yls SEA 10093

PROJECT NAME: Former Rhone-Poulenc - East Parcel
 PROJECT NUMBER: 4769-006
 RESULTS TO: Larry McNaughten
 TURNAROUND TIME: 24 hr
 SAMPLE SHIPMENT METHOD: Courier

LABORATORY NAME: ARI
 LABORATORY ADDRESS:
 LABORATORY CONTACT:
 LABORATORY PHONE NUMBER:
 CLIENT INFORMATION: Geomatrix
 DATE: 8/9/06
 REPORTING REQUIREMENTS:
 GEOTRACKER REQUIRED: YES NO
 SITE SPECIFIC GLOBAL ID NO.:

DATE	TIME	SAMPLE NUMBER	ANALYSES						CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
			BTEX 8021	PCBs 8082	NMTPH-DX w/ silica gel	NMTPH-GX										
8/9/06	1855	FRP080906 B1	X	X	X	X	X	2x40ml, 1x262, 1x82	S					4		
	1901	FRP080906 B2	X	X	X	X	X									
	1906	FRP080906 B3	X	X	X	X	X									
	1913	FRP080906 B4	X	X	X	X	X									
	1919	FRP080906 N1	X	X	X	X	X									
	1924	FRP080906 N2	X	X	X	X	X									
		Trip Blank	X					2x40ml	W		HCl			2		

RELINQUISHED BY: [Signature] DATE: 8/10/06 TIME: 0741
 RECEIVED BY: [Signature] DATE: 8/10/06 TIME: 0941
 TOTAL NUMBER OF CONTAINERS: 26
 SIGNATURE: [Signature] PRINTED NAME: BRIAN KEACE
 COMPANY: Geomatrix
 SIGNATURE: [Signature] PRINTED NAME: [Blank]
 COMPANY: [Blank]
 SIGNATURE: [Signature] PRINTED NAME: [Blank]
 COMPANY: [Blank]
 SIGNATURE: [Signature] PRINTED NAME: [Blank]
 COMPANY: [Blank]

Cooler Receipt Form



ARI Client: Bering GMX Project Name: FRP - East Parcel
COC NO.: SEA 10093 Delivered By: ALI
Tracking NO.: _____ Date: 8/10/02
ARI Job No.: SS39 Lims NO.: _____

Preliminary Examination Phase:

1. Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
2. Were custody papers included with the cooler YES NO
3. Were custody papers properly filled out (ink, signed etc.)? YES NO
4. Complete custody forms and attach all shipping documents OK NA

Cooler Accepted By: B. R. [Signature] Date: 8/10/02 Time: 0741

Log-IN Phase:

5. Was a temperature blank include in the cooler? YES NO
6. Record Cooler Temperature 0.5 °C
7. What kind of packing material was used? SB
8. Was sufficient ice used (if appropriate)? YES NO
9. Were all bottles sealed in separate plastic bags? YES NO
10. Did all bottles arrive in good condition (unbroken)? YES NO
11. Were all bottle labels complete and legible? YES NO
12. Did all bottle labels and tags agree with custody papers? YES NO
13. Were all bottles used correct for the requested analyses? YES NO
14. Do any of the analyses (bottles) require preservative?
(If so, Preservation checklist must be attached) YES NO
15. Were all VOA vials free of air bubbles? YES NO
16. Was sufficient amount of sample sent in each bottle? YES NO
17. Notify Project Manager of any discrepancies or concerns OK NA

Cooler Opened By: _____ Date: _____ Time: _____

Explain any discrepancies or negative responses:

Data Summary Package

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006

ARI Job No. JS39

Prepared By

Analytical Resources, Inc.



Data Reporting Qualifiers

Effective 12/28/04

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for



- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Total Solids

BETX/TPHG Total Solids-betxrs
Data By: Paul K. Campbell
Created: 8/14/06

Worklist: 445
Analyst: PKC
Comments:

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JS39A 06-14277	1.21	13.69	10.52	74.6
2. JS39B 06-14278	1.14	12.84	10.00	75.7
3. JS39C 06-14279	1.13	11.45	8.48	71.2
4. JS39D 06-14280	1.18	13.64	10.12	71.7
5. JS39E 06-14281	1.11	11.53	8.58	71.7
6. JS39F 06-14282	1.10	13.03	9.93	74.0


Worklist ID: 445 Page: 1
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
\$ - BETX TS Copied From Extraction TS

NWTPH-G/BETX

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: FRP080906-B1
SAMPLE

Page 1 of 1

Lab Sample ID: JS39A
LIMS ID: 06-14277
Matrix: Soil
Data Release Authorized: 
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: 08/09/06
Date Received: 08/10/06

Date Analyzed: 08/10/06 20:00
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 60 mg-dry-wt
Percent Moisture: 25.4%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	21	28
108-88-3	Toluene	21	200
100-41-4	Ethylbenzene	21	44
	m,p-Xylene	42	160
95-47-6	o-Xylene	21	59

Gasoline Range Hydrocarbons 8.3 < 8.3 U GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene	86.0%
Bromobenzene	98.4%

Gasoline Surrogate Recovery

Trifluorotoluene	104%
Bromobenzene	112%


BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: FRP080906-B2
SAMPLE

Page 1 of 1

Lab Sample ID: JS39B
LIMS ID: 06-14278
Matrix: Soil
Data Release Authorized: 
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: 08/09/06
Date Received: 08/10/06

Date Analyzed: 08/10/06 20:30
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 63 mg-dry-wt
Percent Moisture: 24.3%

CAS Number	Analyte	RL	Result	GAS ID
71-43-2	Benzene	20	< 20 U	
108-88-3	Toluene	20	45	
100-41-4	Ethylbenzene	20	< 20 U	
	m,p-Xylene	40	40	
95-47-6	o-Xylene	20	< 20 U	
	Gasoline Range Hydrocarbons	8.0	< 8.0 U	---

BETX Surrogate Recovery

Trifluorotoluene	93.3%
Bromobenzene	105%

Gasoline Surrogate Recovery

Trifluorotoluene	110%
Bromobenzene	105%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: FRP080906-B3
SAMPLE

Page 1 of 1

Lab Sample ID: JS39C
LIMS ID: 06-14279
Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: 08/09/06
Date Received: 08/10/06

Date Analyzed: 08/10/06 20:59
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 58 mg-dry-wt
Percent Moisture: 28.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	22	30
108-88-3	Toluene	22	< 22 U
100-41-4	Ethylbenzene	22	< 22 U
95-47-6	m,p-Xylene	43	< 43 U
	o-Xylene	22	< 22 U

Gasoline Range Hydrocarbons 8.6 < 8.6 U GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene 85.7%
Bromobenzene 98.2%

Gasoline Surrogate Recovery

Trifluorotoluene 106%
Bromobenzene 106%

BETX values reported in µg/kg (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: FRP080906-B4
SAMPLE

Page 1 of 1

Lab Sample ID: JS39D
LIMS ID: 06-14280
Matrix: Soil
Data Release Authorized:
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: 08/09/06
Date Received: 08/10/06

Date Analyzed: 08/10/06 21:29
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 58 mg-dry-wt
Percent Moisture: 28.3%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	22	54
108-88-3	Toluene	22	< 22 U
100-41-4	Ethylbenzene	22	< 22 U
	m,p-Xylene	43	< 43 U
95-47-6	o-Xylene	22	< 22 U

Gasoline Range Hydrocarbons 8.6 < 8.6 U GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene 84.6%
Bromobenzene 99.7%

Gasoline Surrogate Recovery

Trifluorotoluene 103%
Bromobenzene 95.9%


BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: FRP080906-NI
SAMPLE

Page 1 of 1

Lab Sample ID: JS39E
LIMS ID: 06-14281
Matrix: Soil
Data Release Authorized: 
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: 08/09/06
Date Received: 08/10/06

Date Analyzed: 08/10/06 23:26
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 52 mg-dry-wt
Percent Moisture: 28.3%

CAS Number	Analyte	RL	Result	GAS ID
71-43-2	Benzene	24	< 24 U	
108-88-3	Toluene	24	190	
100-41-4	Ethylbenzene	24	< 24 U	
	m,p-Xylene	48	< 48 U	
95-47-6	o-Xylene	24	< 24 U	
	Gasoline Range Hydrocarbons	9.5	< 9.5 U	---

BETX Surrogate Recovery

Trifluorotoluene	87.5%
Bromobenzene	104%

Gasoline Surrogate Recovery

Trifluorotoluene	110%
Bromobenzene	103%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: FRP080906-N2
SAMPLE

Page 1 of 1

Lab Sample ID: JS39F
LIMS ID: 06-14282
Matrix: Soil
Data Release Authorized:
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: 08/09/06
Date Received: 08/10/06

Date Analyzed: 08/10/06 23:56
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 58 mg-dry-wt
Percent Moisture: 26.0%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	21	< 21 U
108-88-3	Toluene	21	98
100-41-4	Ethylbenzene	21	< 21 U
	m,p-Xylene	43	< 43 U
95-47-6	o-Xylene	21	< 21 U

	RL	Result	GAS ID
Gasoline Range Hydrocarbons	8.6	< 8.6 U	---

BETX Surrogate Recovery

Trifluorotoluene	89.2%
Bromobenzene	102%

Gasoline Surrogate Recovery

Trifluorotoluene	102%
Bromobenzene	96.4%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: TRIP BLANK
SAMPLE

Page 1 of 1

Lab Sample ID: JS39G
LIMS ID: 06-14283
Matrix: Water
Data Release Authorized:
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: 08/02/06
Date Received: 08/10/06

Date Analyzed: 08/10/06 19:02
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result	GAS ID
71-43-2	Benzene	0.25	< 0.25 U	
108-88-3	Toluene	0.25	< 0.25 U	
100-41-4	Ethylbenzene	0.25	< 0.25 U	
	m,p-Xylene	0.50	< 0.50 U	
95-47-6	o-Xylene	0.25	< 0.25 U	
	Gasoline Range Hydrocarbons	0.25	< 0.25 U	---
BETX Surrogate Recovery				
	Trifluorotoluene	80.7%		
	Bromobenzene	82.6%		
Gasoline Surrogate Recovery				
	Trifluorotoluene	85.7%		
	Bromobenzene	83.3%		

BETX values reported in $\mu\text{g/L}$ (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

TPHG SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Soil

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-081006	102%	98.4%	0
LCS-081006	109%	106%	0
LCSD-081006	110%	106%	0
FRP080906-B1	104%	112%	0
FRP080906-B2	110%	105%	0
FRP080906-B3	106%	106%	0
FRP080906-B4	103%	95.9%	0
FRP080906-N1	110%	103%	0
FRP080906-N2	102%	96.4%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(86-121)	(49-158)
(BBZ) = Bromobenzene	(78-123)	(48-162)

Log Number Range: 06-14277 to 06-14282

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Water

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

<u>Client ID</u>	<u>TFT</u>	<u>BBZ</u>	<u>TOT OUT</u>
TRIP BLANK	85.7%	83.3%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(TFT) = Trifluorotoluene	(82-121)	(75-127)
(BBZ) = Bromobenzene	(76-122)	(76-126)

Log Number Range: 06-14283 to 06-14283

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Soil

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-081006	87.2%	98.0%	0
LCS-081006	109%	104%	0
LCSD-081006	99.6%	99.5%	0
FRP080906-B1	86.0%	98.4%	0
FRP080906-B2	93.3%	105%	0
FRP080906-B3	85.7%	98.2%	0
FRP080906-B4	84.6%	99.7%	0
FRP080906-N1	87.5%	104%	0
FRP080906-N2	89.2%	102%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-14277 to 06-14282

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Water

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
TRIP BLANK	80.7%	82.6%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-14283 to 06-14283

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-081006
LAB CONTROL SAMPLE

Lab Sample ID: LCS-081006
LIMS ID: 06-14277
Matrix: Soil
Data Release Authorized:
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/10/06 15:44
LCSD: 08/10/06 16:13
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS		LCS		LCSD		RPD
	LCS	Spike Added-LCS	Recovery	LCSD	Spike Added-LCSD	Recovery	
Benzene	400	410	97.6%	384	410	93.7%	4.1%
Toluene	3260	3340	97.6%	3070	3340	91.9%	6.0%
Ethylbenzene	628	610	103%	588	610	96.4%	6.6%
m,p-Xylene	2290	2290	100%	2120	2290	92.6%	7.7%
o-Xylene	834	795	105%	778	795	97.9%	6.9%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	109%	99.6%
Bromobenzene	104%	99.5%

ORGANICS ANALYSIS DATA SHEET

TPHG by Method NWTPHG

Page 1 of 1

Sample ID: LCS-081006


LAB CONTROL SAMPLE

Lab Sample ID: LCS-081006

LIMS ID: 06-14277

Matrix: Soil

Data Release Authorized:

Reported: 08/14/06 

QC Report No: JS39-Geomatrix Consultants, Inc.

Project: Former Rhone Poulenc-East Parcel

Event: 8769.006

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 08/10/06 15:44

LCSD: 08/10/06 16:13

Instrument/Analyst LCS: PID2/PKC

LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt

LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	52.5	50.0	105%	52.5	50.0	105%	0.0%

Reported in mg/kg (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	109%	110%
Bromobenzene	106%	106%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB081006S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JS39

Project No.: FRP-EAST PARCEL

Date Analyzed : 08/10/06

Matrix: SOIL

Time Analyzed : 1643

Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	LCS081006S1	LCS081006S1	08/10/06
02	LCSD081006S1	LCSD081006S1	08/10/06
03	TRIP BLANK	JS39G	08/10/06
04	FRP080906-B1	JS39A	08/10/06
05	FRP080906-B2	JS39B	08/10/06
06	FRP080906-B3	JS39C	08/10/06
07	FRP080906-B4	JS39D	08/10/06
08	FRP080906-N1	JS39E	08/10/06
09	FRP080906-N2	JS39F	08/10/06
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ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod

Sample ID: MB-081006
METHOD BLANK

Page 1 of 1

Lab Sample ID: MB-081006
LIMS ID: 06-14277
Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 08/10/06 16:43
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	12	< 12 U
108-88-3	Toluene	12	< 12 U
100-41-4	Ethylbenzene	12	< 12 U
	m,p-Xylene	25	< 25 U
95-47-6	o-Xylene	12	< 12 U

Gasoline Range Hydrocarbons 5.0 < 5.0 U GAS ID ---

BETX Surrogate Recovery

Trifluorotoluene	87.2%
Bromobenzene	98.0%

Gasoline Surrogate Recovery

Trifluorotoluene	102%
Bromobenzene	98.4%

BETX values reported in µg/kg (ppb)
Gasoline values reported in mg/kg (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.



August 14, 2006

Mark Harris
Analytical Resources, Inc.
4611 South 134th Place, Suite 100
Tukwila, WA 98168

Re: Analytical Data for Project JS39
Laboratory Reference No. 0608-100

Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on August 10, 2006.

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

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

Sincerely,



David Baumeister
Project Manager

Enclosures

0160

Date of Report: August 14, 2006
Samples Submitted: August 10, 2006
Laboratory Reference: 0608-100
Project: JS39

Case Narrative

Samples were collected on August 9, 2006 and received by the laboratory on August 10, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

NWTPH-Dx

Date Extracted: 8-10-06
 Date Analyzed: 8-10-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID:	06-14278-JS39B	06-14279-JS39C	06-14280-JS39D
Lab ID:	08-100-01	08-100-02	08-100-03
Diesel Range:	ND	ND	ND
PQL:	35	33	35
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	70	67	69
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	94%	92%	100%
Flags:	Y	Y	Y

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

NWTPH-Dx

Date Extracted: 8-10-06
 Date Analyzed: 8-10-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID:	06-14281-JS39E	06-14282-JS39F	06-14277-JS39A
Lab ID:	08-100-04	08-100-05	08-100-06
Diesel Range:	ND	ND	ND
PQL:	32	33	33
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	63	67	67
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	100%	90%	100%
Flags:	Y	Y	Y

Date of Report: August 14, 2006
Samples Submitted: August 10, 2006
Laboratory Reference: 0608-100
Project: JS39

**NWTPH-Dx
METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-10-06
Date Analyzed: 8-10-06

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0810S2

Diesel Range: ND

PQL: 25

Identification: ---

Lube Oil Range: ND

PQL: 50

Identification: ---

Surrogate Recovery

o-Terphenyl: 109%

Flags: Y

Date of Report: August 14, 2006
Samples Submitted: August 10, 2006
Laboratory Reference: 0608-100
Project: JS39

**NWTPH-Dx
DUPLICATE QUALITY CONTROL**

Date Extracted: 8-10-06
Date Analyzed: 8-10-06

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-100-04 08-100-04 DUP

Diesel Range: **ND** **ND**
PQL: 25 25

RPD: N/A

Surrogate Recovery
o-Terphenyl: 100% 95%

Flags: Y Y

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

PCBs by EPA 8082

Date Extracted: 8-10-06
 Date Analyzed: 8-11-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-100-01
 Client ID: **06-14278-JS39B**

	Result	PQL
Aroclor 1016:	ND	0.070
Aroclor 1221:	ND	0.070
Aroclor 1232:	ND	0.070
Aroclor 1242:	ND	0.070
Aroclor 1248:	ND	0.070
Aroclor 1254:	ND	0.070
Aroclor 1260:	ND	0.070

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	74	41-128

Flags:

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

PCBs by EPA 8082

Date Extracted: 8-10-06
 Date Analyzed: 8-11-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-100-02
 Client ID: 06-14279-JS39C

	Result	PQL
Aroclor 1016:	ND	0.067
Aroclor 1221:	ND	0.067
Aroclor 1232:	ND	0.067
Aroclor 1242:	ND	0.067
Aroclor 1248:	ND	0.067
Aroclor 1254:	ND	0.067
Aroclor 1260:	ND	0.067

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	60	41-128

Flags:

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

PCBs by EPA 8082

Date Extracted: 8-10-06
 Date Analyzed: 8-11-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-100-03
 Client ID: 06-14280-JS39D

	Result	PQL
Aroclor 1016:	ND	0.069
Aroclor 1221:	ND	0.069
Aroclor 1232:	ND	0.069
Aroclor 1242:	ND	0.069
Aroclor 1248:	ND	0.069
Aroclor 1254:	ND	0.069
Aroclor 1260:	ND	0.069

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	75	41-128

Flags:

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

PCBs by EPA 8082

Date Extracted: 8-10-06
 Date Analyzed: 8-11-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-100-04
 Client ID: 06-14281-JS39E

	Result	PQL
Aroclor 1016:	ND	0.063
Aroclor 1221:	ND	0.063
Aroclor 1232:	ND	0.063
Aroclor 1242:	ND	0.063
Aroclor 1248:	ND	0.063
Aroclor 1254:	ND	0.063
Aroclor 1260:	ND	0.063

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	61	41-128

Flags:

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

PCBs by EPA 8082

Date Extracted: 8-10-06
 Date Analyzed: 8-11-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-100-05
 Client ID: 06-14282-JS39F

	Result	PQL
Aroclor 1016:	ND	0.067
Aroclor 1221:	ND	0.067
Aroclor 1232:	ND	0.067
Aroclor 1242:	ND	0.067
Aroclor 1248:	ND	0.067
Aroclor 1254:	ND	0.067
Aroclor 1260:	ND	0.067

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	70	41-128

Flags:

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

PCBs by EPA 8082

Date Extracted: 8-10-06
 Date Analyzed: 8-11-06
 Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 08-100-06
 Client ID: 06-14277-JS39A

	Result	PQL
Aroclor 1016:	ND	0.067
Aroclor 1221:	ND	0.067
Aroclor 1232:	ND	0.067
Aroclor 1242:	ND	0.067
Aroclor 1248:	ND	0.067
Aroclor 1254:	ND	0.067
Aroclor 1260:	ND	0.067

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	65	41-128

Flags:

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

**PCBs by EPA 8082
 METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-10-06
 Date Analyzed: 8-11-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: MB0810S1

	Result	PQL
Aroclor 1016:	ND	0.050
Aroclor 1221:	ND	0.050
Aroclor 1232:	ND	0.050
Aroclor 1242:	ND	0.050
Aroclor 1248:	ND	0.050
Aroclor 1254:	ND	0.050
Aroclor 1260:	ND	0.050

	Percent Recovery	Control Limits
Surrogate Decachlorobiphenyl	97	41-128

Flags:

Date of Report: August 14, 2006
 Samples Submitted: August 10, 2006
 Laboratory Reference: 0608-100
 Project: JS39

**PCBs by EPA 8082
 MS/MSD QUALITY CONTROL**

Date Extracted: 8-10-06

Date Analyzed: 8-11-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 08-100-02

Spike Level: 0.500

	MS	Percent Recovery	MSD	Percent Recovery	RPD
Aroclor 1260:	0.432	86	0.367	73	16
PQL	0.050		0.050		

Surrogate	Percent Recovery	Percent Recovery	Control Limits
Decachlorobiphenyl	94	85	41-128

Flags:

Date of Report: August 14, 2006
Samples Submitted: August 10, 2006
Laboratory Reference: 0608-100
Project: JS39

% MOISTURE

Date Analyzed: 8-10-06

Client ID	Lab ID	% Moisture
06-14278-JS39B	08-100-01	29
06-14279-JS39C	08-100-02	25
06-14280-JS39D	08-100-03	28
06-14281-JS39E	08-100-04	21
06-14282-JS39F	08-100-05	25
06-14277-JS39A	08-100-06	25



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - G - Insufficient sample quantity for duplicate analysis.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - O - Hydrocarbons indicative of diesel fuel are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a silica gel cleanup procedure.
 - Y - Sample extract treated with an acid/silica gel cleanup procedure.
 - Z -
- ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Laboratory Data Package

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006

ARI Job No. JS39

Prepared By

Analytical Resources, Inc.

**NWTPH-G/BTEX Analysis
QC Summary Data**

Prepared For

Geomatrix

Project Name: FRP - EAST PARCEL 8769.006

ARI Job No. JS39

Prepared By

Analytical Resources, Inc.

TPHG SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Soil

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-081006	102%	98.4%	0
LCS-081006	109%	106%	0
LCSD-081006	110%	106%	0
FRP080906-B1	104%	112%	0
FRP080906-B2	110%	105%	0
FRP080906-B3	106%	106%	0
FRP080906-B4	103%	95.9%	0
FRP080906-N1	110%	103%	0
FRP080906-N2	102%	96.4%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(86-121)	(49-158)
(BBZ) = Bromobenzene	(78-123)	(48-162)

Log Number Range: 06-14277 to 06-14282

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Water

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
TRIP BLANK	85.7%	83.3%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-121)	(75-127)
(BBZ) = Bromobenzene	(76-122)	(76-126)

Log Number Range: 06-14283 to 06-14283

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Soil

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-081006	87.2%	98.0%	0
LCS-081006	109%	104%	0
LCSD-081006	99.6%	99.5%	0
FRP080906-B1	86.0%	98.4%	0
FRP080906-B2	93.3%	105%	0
FRP080906-B3	85.7%	98.2%	0
FRP080906-B4	84.6%	99.7%	0
FRP080906-N1	87.5%	104%	0
FRP080906-N2	89.2%	102%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-14277 to 06-14282

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JS39
Matrix: Water

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
TRIP BLANK	80.7%	82.6%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-14283 to 06-14283

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-081006
LAB CONTROL SAMPLE

Lab Sample ID: LCS-081006
LIMS ID: 06-14277
Matrix: Soil
Data Release Authorized:
Reported: 08/14/06

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/10/06 15:44
LCSD: 08/10/06 16:13
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	400	410	97.6%	384	410	93.7%	4.1%
Toluene	3260	3340	97.6%	3070	3340	91.9%	6.0%
Ethylbenzene	628	610	103%	588	610	96.4%	6.6%
m,p-Xylene	2290	2290	100%	2120	2290	92.6%	7.7%
o-Xylene	834	795	105%	778	795	97.9%	6.9%

Reported in $\mu\text{g}/\text{kg}$ (ppb)


RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	109%	99.6%
Bromobenzene	104%	99.5%

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: LCS-081006
LAB CONTROL SAMPLE

Lab Sample ID: LCS-081006
LIMS ID: 06-14277
Matrix: Soil
Data Release Authorized:
Reported: 08/14/06 

QC Report No: JS39-Geomatrix Consultants, Inc.
Project: Former Rhone Poulenc-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/10/06 15:44
LCSD: 08/10/06 16:13
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS		LCSD		RPD	
	Concentration	Recovery	Concentration	Recovery	Calculated	Reported
Gasoline Range Hydrocarbons	52.5	105%	52.5	105%	0.0%	0.0%

Reported in mg/kg (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

Surrogate	LCS Recovery	LCSD Recovery
Trifluorotoluene	109%	110%
Bromobenzene	106%	106%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB081006S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JS39

Project No.: FRP-EAST PARCEL

Date Analyzed : 08/10/06

Matrix: SOIL

Time Analyzed : 1643

Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS081006S1	LCS081006S1	08/10/06
02	LCSD081006S1	LCSD081006S1	08/10/06
03	TRIP BLANK	JS39G	08/10/06
04	FRP080906-B1	JS39A	08/10/06
05	FRP080906-B2	JS39B	08/10/06
06	FRP080906-B3	JS39C	08/10/06
07	FRP080906-B4	JS39D	08/10/06
08	FRP080906-N1	JS39E	08/10/06
09	FRP080906-N2	JS39F	08/10/06
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8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JS39 Project: FRP-EAST PARCEL
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 06/29/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
 IS GIVEN BELOW:

METHOD SURROGATE RT					
		S1 : 6.44		S2 : 14.56	
CLIENT	LAB	DATE	TIME	S1	S2
SAMPLE NO.	SAMPLE ID	ANALYZED	ANALYZED	RT	#
				RT	#
01	BTEX .25	06/29/06	1136	6.42	14.55
02	BTEX .5	06/29/06	1206	6.42	14.55
03	BTEX 5	06/29/06	1235	6.43	14.55
04	BTEX 25	06/29/06	1304	6.43	14.55
05	BTEX 100	06/29/06	1334	6.43	14.55
06	BTEX 200	06/29/06	1403	6.44	14.56
07	BTEX ICV	06/29/06	1433	6.43	14.55
08	RT0629+BCAL	06/29/06	1502	6.44	14.56
09	BTEX 25 RE	06/29/06	1610	6.45	14.56
10	BTEX 100 RE	06/29/06	1639	6.45	14.56
11	BTEX 200 RE	06/29/06	1708	6.44	14.56
12	RINSE	06/29/06	1738		14.55
13	GAS .1	06/29/06	1807	6.43	14.56
14	GAS .25	06/29/06	1836	6.44	14.56
15	GAS 1	06/29/06	1906	6.44	14.55
16	GAS 2.5	06/29/06	1935	6.44	14.55
17	GAS 5	06/29/06	2005	6.44	14.55
18	GAS 20	06/29/06	2034	6.46	14.56
19	RINSE	06/29/06	2103		14.55
20	GAS ICV	06/29/06	2133	6.44	14.55

QC LIMITS
 (+/- 0.07 MINUTES)
 (+/- 0.07 MINUTES)

S1 = TFT(Surr)
 S2 = BB(Surr)

* Values outside of QC limits.

8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JS39 Project: FRP-EAST PARCEL
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 07/27/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT					
		S1 : 6.44		S2 : 14.56	
CLIENT	LAB	DATE	TIME	S1	S2
SAMPLE NO.	SAMPLE ID	ANALYZED	ANALYZED	RT	RT
=====					
01	ZZZZZ	07/27/06	0953	6.47	14.56
02	ZZZZZ	07/27/06	1022		
03	ZZZZZ	07/27/06	1051		
04	BTEX .25	07/27/06	1121	6.41	14.55
05	BTEX .5	07/27/06	1150	6.41	14.54
06	BTEX 5	07/27/06	1220	6.42	14.55
07	BTEX 25	07/27/06	1249	6.43	14.55
08	BTEX 100	07/27/06	1319	6.44	14.55
09	BTEX 200	07/27/06	1348	6.44	14.56
10	BTEX ICV	07/27/06	1417	6.43	14.56

QC LIMITS
 S1 = TFT(Surr) (+/- 0.07 MINUTES)
 S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JS39 Project: FRP-EAST PARCEL
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 08/10/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
 IS GIVEN BELOW:

METHOD SURROGATE RT					
		S1 : 6.43 S2 : 14.56			
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	ZZZZZ	08/10/06	1349	6.44	14.57
02	RT0810+BCAL	08/10/06	1418	6.43	14.56
03	GCAL 1	08/10/06	1448	6.44	14.55
04	LCS081006S1	08/10/06	1544	6.45	14.56
05	LCSD081006S1	08/10/06	1613	6.44	14.56
06	MB081006S1	08/10/06	1643	6.42	14.55
07	TRIP BLANK	08/10/06	1902	6.48	14.57
08	ZZZZZ	08/10/06	1931	6.43	14.56
09	FRP080906-B1	08/10/06	2000	6.42	14.55
10	FRP080906-B2	08/10/06	2030	6.42	14.54
11	FRP080906-B3	08/10/06	2059	6.42	14.55
12	FRP080906-B4	08/10/06	2129	6.47	14.56
13	ZZZZZ	08/10/06	2158		14.54
14	BCAL 2	08/10/06	2227	6.42	14.54
15	GCAL 2	08/10/06	2257	6.44	14.55
16	FRP080906-N1	08/10/06	2326	6.42	14.54
17	FRP080906-N2	08/10/06	2356	6.41	14.54
18	ZZZZZ	08/11/06	0025	6.44	14.55
19	ZZZZZ	08/11/06	0055	6.47	14.56
20	ZZZZZ	08/11/06	0124	6.43	14.55
21	ZZZZZ	08/11/06	0153	6.47	14.56
22	ZZZZZ	08/11/06	0223	6.41	14.54
23	ZZZZZ	08/11/06	0252	6.44	14.55
24	ZZZZZ	08/11/06	0322	6.43	14.55
25	ZZZZZ	08/11/06	0351		14.54
26	BCAL 3	08/11/06	0421	6.41	14.53
27	GCAL 3	08/11/06	0450	6.44	14.54

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)
 S2 = BB(Surr) (+/- 0.07 MINUTES)

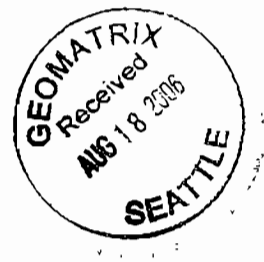
* Values outside of QC limits.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

16 August 2006

Zanna Satterwhite
Geomatrix
600 University, Suite 1020
Seattle, WA 98101



RE: Project No: 8769.006, FRP
ARI Job No: JT13

Dear Zanna:

Please find enclosed the original chain of custody documentation (COC) and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) accepted two soil samples and one trip blank on August 15, 2006. ARI received the samples intact and there were no discrepancies in the paperwork. The samples were analyzed for BETX as requested.

No analytical complications were noted.

A copy of these reports and all raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Mark D. Harris
Project Manager
206/695-6210
mark@arilabs.com

Enclosures

cc: file JT13

MDH/mdh

**Chain of Custody
Documentation**

Prepared For

Geomatrix

Project Name: FRP 8769.006

ARI Job No. JT13

Prepared By

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: JT13	Turn-around Requested: 24hr	Page: 1 of 1
ARI Client Company: Geomatrix	Phone: 2063421760	Date: 8/15/06 Ice Present? YES
Client Contact: John Long	No. of Coolers: 1	Cooler Temps: 6°C



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Client Project Name: FRP	Analysis Requested	Notes/Comments
Client Project #: 8769.006 Samplers: Pat Hsieh		

Sample ID	Date	Time	Matrix	No. Containers	BETX by 8/15/06															
FRP081506 B5	8/15/06	1335	S	4	X															No strong odor
FRP081506 B5A	8/15/06	1336	S	4	X															No strong odor

Comments/Special Instructions Sub out if necessary.	Relinquished by: Pat Hsieh	Received by: S. DUNNHOOD	Relinquished by:	Received by:
	(Signature)	(Signature)	(Signature)	(Signature)
	Printed Name: Pat Hsieh	Printed Name: S. DUNNHOOD	Printed Name:	Printed Name:
	Company: Geomatrix	Company: ARI	Company:	Company:
	Date & Time: 8/15/06 15:50	Date & Time: 08/15/06 15:50	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Data Summary Package

Prepared For

Geomatrix

Project Name: FRP 8769.006

ARI Job No. JT13

Prepared By

Analytical Resources, Inc.

ARI Data Reporting Qualifiers

Effective 11/22/04

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte reporting limit is raised due to a positive chromatographic interference. The compound is not detected above the raised limit but may be present at or below the limit
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

Total Solids

BETX/TPHG Total Solids-betxts
Data By: Paul K. Campbell
Created: 8/16/06

Worklist: 1395
Analyst: PKC
Comments:

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JT13A 06-14805	1.12	11.50	9.00	75.9
2. JT13B 06-14806	1.14	12.04	9.23	74.2

Worklist ID: 1395 Page: 1
* - BETX TS Copied From VOA TS
§ - BETX TS Copied From Metals TS
\$ - BETX TS Copied From Extraction TS

BETX

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: FRP081506 B5
SAMPLE

Lab Sample ID: JT13A
LIMS ID: 06-14805
Matrix: Soil
Data Release Authorized:
Reported: 08/16/06

QC Report No: JT13-Geomatrix
Project: FRP
Event: 8769.006
Date Sampled: 08/15/06
Date Received: 08/15/06

Date Analyzed: 08/15/06 17:50
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 62 mg-dry-wt
Percent Moisture: 24.1%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	20	< 20 U
108-88-3	Toluene	20	70
100-41-4	Ethylbenzene	20	< 20 U
	m,p-Xylene	40	< 40 U
95-47-6	o-Xylene	20	< 20 U

BETX Surrogate Recovery

Trifluorotoluene	89.1%
Bromobenzene	104%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: FRP081506 B5A

SAMPLE

Lab Sample ID: JT13B

LIMS ID: 06-14806

Matrix: Soil

Data Release Authorized: 

Reported: 08/16/06

QC Report No: JT13-Geomatrix

Project: FRP

Event: 8769.006

Date Sampled: 08/15/06

Date Received: 08/15/06

Date Analyzed: 08/15/06 18:20

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 62 mg-dry-wt

Percent Moisture: 25.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	20	< 20 U
108-88-3	Toluene	20	220
100-41-4	Ethylbenzene	20	< 20 U
	m,p-Xylene	40	< 40 U
95-47-6	o-Xylene	20	< 20 U

BETX Surrogate Recovery

Trifluorotoluene	99.0%
Bromobenzene	107%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: Trip Blank

SAMPLE

Lab Sample ID: JT13C

LIMS ID: 06-14807

Matrix: Water

Data Release Authorized: 

Reported: 08/16/06

QC Report No: JT13-Geomatrix

Project: FRP

Event: 8769-006

Date Sampled: 08/15/06

Date Received: 08/15/06

Date Analyzed: 08/15/06 17:21

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	0.25	< 0.25 U
108-88-3	Toluene	0.25	< 0.25 U
100-41-4	Ethylbenzene	0.25	< 0.25 U
	m,p-Xylene	0.50	< 0.50 U
95-47-6	o-Xylene	0.25	< 0.25 U

BETX Surrogate Recovery

Trifluorotoluene	102%
Bromobenzene	107%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JT13
Matrix: Soil

QC Report No: JT13-Geomatrix
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-081506	97.4%	104%	0
LCS-081506	114%	107%	0
LCSD-081506	102%	104%	0
FRP081506 B5	89.1%	104%	0
FRP081506 B5A	99.0%	107%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-14805 to 06-14806

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JT13
Matrix: Water

QC Report No: JT13-Geomatrix
Project: FRP
Event: 8769-006

Client ID	TFT	BBZ	TOT OUT
Trip Blank	102%	107%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-14807 to 06-14807

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: LCS-081506

LAB CONTROL SAMPLE

Lab Sample ID: LCS-081506

LIMS ID: 06-14805

Matrix: Soil

Data Release Authorized: *AS*

Reported: 08/16/06

QC Report No: JT13-Geomatrix

Project: FRP

Event: 8769.006

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 08/15/06 12:18

LCSD: 08/15/06 12:47

Instrument/Analyst LCS: PID2/PKC

LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt

LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	427	410	104%	404	410	98.5%	5.5%
Toluene	3560	3340	107%	3230	3340	96.7%	9.7%
Ethylbenzene	677	610	111%	621	610	102%	8.6%
m,p-Xylene	2510	2290	110%	2300	2290	100%	8.7%
o-Xylene	892	795	112%	828	795	104%	7.4%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	114%	102%
Bromobenzene	107%	104%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB081506S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JT13

Project No.: FRP

Date Analyzed : 08/15/06

Matrix: SOIL

Time Analyzed : 1317

Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS081506S1	LCS081506S1	08/15/06
02	LCSD081506S1	LCSD081506S1	08/15/06
03	TRIP BLANK	JT13C	08/15/06
04	FRP081506 B5	JT13A	08/15/06
05	FRP081506 B5	JT13B	08/15/06
06			
07			
08			
09			
10			
11			
12			
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ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: MB-081506

METHOD BLANK

Lab Sample ID: MB-081506

LIMS ID: 06-14805

Matrix: Soil

Data Release Authorized: 

Reported: 08/16/06

QC Report No: JT13-Geomatrix

Project: FRP

Event: 8769.006

Date Sampled: NA

Date Received: NA

Date Analyzed: 08/15/06 13:17

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	12	< 12 U
108-88-3	Toluene	12	< 12 U
100-41-4	Ethylbenzene	12	< 12 U
	m,p-Xylene	25	< 25 U
95-47-6	o-Xylene	12	< 12 U

BETX Surrogate Recovery

Trifluorotoluene	97.4%
Bromobenzene	104%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

Laboratory Data Package

Prepared For

Geomatrix

Project Name: FRP 8769.006

ARI Job No. JT13

Prepared By

Analytical Resources, Inc.

**BTEX Analysis
QC Summary Data**

Prepared For

Geomatrix

Project Name: FRP 8769.006

ARI Job No. JT13

Prepared By

Analytical Resources, Inc.

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JT13
Matrix: Soil

QC Report No: JT13-Geomatrix
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-081506	97.4%	104%	0
LCS-081506	114%	107%	0
LCSD-081506	102%	104%	0
FRP081506 B5	89.1%	104%	0
FRP081506 B5A	99.0%	107%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-14805 to 06-14806

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JT13
Matrix: Water

QC Report No: JT13-Geomatrix
Project: FRP
Event: 8769-006

<u>Client ID</u>	<u>TFT</u>	<u>BBZ</u>	<u>TOT OUT</u>
Trip Blank	102%	107%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-14807 to 06-14807

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-081506
LAB CONTROL SAMPLE

Lab Sample ID: LCS-081506
LIMS ID: 06-14805
Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/16/06

QC Report No: JT13-Geomatrix
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/15/06 12:18
LCSD: 08/15/06 12:47
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS			LCSD			RPD
	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	
Benzene	427	410	104%	404	410	98.5%	5.5%
Toluene	3560	3340	107%	3230	3340	96.7%	9.7%
Ethylbenzene	677	610	111%	621	610	102%	8.6%
m,p-Xylene	2510	2290	110%	2300	2290	100%	8.7%
o-Xylene	892	795	112%	828	795	104%	7.4%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	114%	102%
Bromobenzene	107%	104%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB081506S1

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JT13 Project No.: FRP
 Date Analyzed : 08/15/06 Matrix: SOIL
 Time Analyzed : 1317 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS081506S1	LCS081506S1	08/15/06
02	LCSD081506S1	LCSD081506S1	08/15/06
03	TRIP BLANK	JT13C	08/15/06
04	FRP081506 B5	JT13A	08/15/06
05	FRP081506 B5	JT13B	08/15/06
06			
07			
08			
09			
10			
11			
12			
13			
14			
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27			
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29			
30			

8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JT13 Project: FRP
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 07/27/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
 IS GIVEN BELOW:

METHOD SURROGATE RT					
		S1 : 6.44		S2 : 14.56	
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
=====	=====	=====	=====	=====	=====
01 ZZZZZ	ZZZZZ	07/27/06	0953	6.47	14.56
02 ZZZZZ	ZZZZZ	07/27/06	1022		
03 ZZZZZ	ZZZZZ	07/27/06	1051		
04 BTEX .25	BTEX .25	07/27/06	1121	6.41	14.55
05 BTEX .5	BTEX .5	07/27/06	1150	6.41	14.54
06 BTEX 5	BTEX 5	07/27/06	1220	6.42	14.55
07 BTEX 25	BTEX 25	07/27/06	1249	6.43	14.55
08 BTEX 100	BTEX 100	07/27/06	1319	6.44	14.55
09 BTEX 200	BTEX 200	07/27/06	1348	6.44	14.56
10 BTEX ICV	BTEX ICV	07/27/06	1417	6.43	14.56

QC LIMITS
 (+/- 0.07 MINUTES)
 (+/- 0.07 MINUTES)

S1 = TFT(Surr)
 S2 = BB(Surr)

* Values outside of QC limits.

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JT13

Project: FRP

Instrument ID: PID2

GC Detector: RTX 502-2 PID

Run Date: 08/15/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT							
S1 : 6.44		S2 : 14.57					
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
=====	=====	=====	=====	=====	=====	=====	=====
01 ZZZZZ	ZZZZZ	08/15/06	1019	6.45		14.56	
02 RT0815+BCAL	RT0815+BCAL	08/15/06	1048	6.44		14.57	
03 ZZZZZ	ZZZZZ	08/15/06	1118	6.44		14.55	
04 LCS081506S1	LCS081506S1	08/15/06	1218	6.45		14.56	
05 LCSD081506S1	LCSD081506S1	08/15/06	1247	6.43		14.56	
06 MB081506S1	MB081506S1	08/15/06	1317	6.42		14.55	
07 TRIP BLANK	JT13C	08/15/06	1721	6.47		14.57	
08 FRP081506 B5	JT13A	08/15/06	1750	6.43		14.56	
09 FRP081506 B5	JT13B	08/15/06	1820	6.42		14.55	
10 ZZZZZ	ZZZZZ	08/15/06	1849	6.43		14.56	
11 ZZZZZ	ZZZZZ	08/15/06	1919	6.46		14.56	
12 ZZZZZ	ZZZZZ	08/15/06	1948	6.44		14.56	
13 ZZZZZ	ZZZZZ	08/15/06	2017			14.55	
14 BCAL 2	BCAL 2	08/15/06	2047	6.43		14.55	

S1 = TFT(Surr) (+/- 0.07 MINUTES)
S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

Memorandum
September 7, 2006
Page 2 of 5

Data review is based on method performance criteria and QC criteria as documented in the May 2006 Soil Sampling Quality Assurance Project Plan (QAPP). The laboratory provided validatable packages containing summarized sample results and associated QA/QC data as well as instrument printouts and sample preparation and injection log pages as required by the QAPP. The data review conducted on these SDGs included a review of summarized results and QA/QC data per the requirements set forth in Section D1 of the QAPP. The control limits provided in the QAPP are advisory limits; therefore, the most current control limits provided by the laboratory were used to evaluate the quality control data. In cases where the laboratory did not track limits for an analyte, the limits in the QAPP were used. Hold times, calibration verification, method blanks, surrogate recoveries, laboratory control samples (LCS), matrix spike/matrix spike duplicate (MS/MSD) results, laboratory duplicate results, field QC results, and reporting limits were reviewed to assess compliance with applicable methods and the QAPP. If data qualification was required, data were qualified in general accordance with the definitions and use of qualifying flags outlined in the following EPA documents: USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, October 1999.

The following qualifiers may be added to the data:

- U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ORGANIC ANALYSES

Samples were analyzed for BTEX and TOC by the methods identified in the introduction to this report, and were evaluated for the following criteria.

1. Holding Times – Acceptable

Memorandum
September 7, 2006
Page 3 of 5

2. Initial Calibration – Acceptable
3. Calibration Verification – Acceptable
4. Blanks – Acceptable except as noted:

A trip blank was listed on the chain-of-custody but was inadvertently not included with SDG JU19; however, all method blanks were non-detect and there was at least one soil and groundwater sample included in the SDG that were non-detect, indicating there was not a cooler contamination issue. No data was qualified. No equipment blanks were collected during this sampling event, because all sampling equipment used to collect BTEX samples was dedicated (EPA Method 5035).

5. Surrogates – Acceptable
6. Laboratory Control Samples (LCS) – Acceptable
7. Laboratory Duplicates – Acceptable except as noted:

Laboratory duplicates were not included in the data package for SDGs JU16, JU19, JU45, or JU46, but the LCS duplicates showed good RPDs.

8. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable except as noted:

MS/MSDs were not included in data packages JU16, JU19, or JU46. Results were evaluated based on the LCS where available.

The MS/MSD performed on sample RP082606-01 in SDG JU45 showed recoveries in the MS and MSD above the control limits for all analytes except benzene in the MS. The associated sample results were all non-detect though, so no data was qualified.

The project frequency requirement of one MS/MSD for every 20 samples was achieved with MS/MSD volume collected at additional sites included in this sampling event.

9. Field Duplicates – Acceptable except as noted:

During this sampling event, soil field duplicate sample RP082406-15 was collected with primary sample RP082406-13 for SDG JU19. Water field duplicate sample RP082406-04 was collected with primary sample RP082406-03 for SDG JU16. This

meets the project frequency requirement of 10% or 1 for every 10 samples, with the exception of field duplicates for TOC analysis. The relative percent differences (RPDs) for all duplicates were below the project specific control limit of 30%, as shown in the table below.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (ug/kg)	Duplicate Result (ug/kg)	RPD (%)
RP082406-13/ RP082406-15	toluene	18,000	20,000	11
Sample ID/ Field Duplicate ID	Analyte	Primary Result (ug/L)	Duplicate Result (ug/L)	RPD (%)
RP082406-03/RP082406-04	toluene	4.1	3.6	13

10. Reporting Limits – Acceptable

Due to elevated toluene levels in some samples, reporting limits are elevated for other constituents in multiple samples from SDGs JU16, JU19, and JU45.

11. Other –

TOC analysis was not requested on the original chains-of-custody for SDGs JU16 and JU19; this analysis was requested after samples were submitted for samples RP082406-05 and RP082406-16.

OVERALL ASSESSMENT OF DATA

The ARI SDGs JU16, JU19, JU45, and JU46 are 100 percent complete. The data usability is based on EPA's guidance documents and the QAPP referenced in the introduction to this report. Few problems were identified and analytical performance was generally within specified limits. The data are acceptable and meet the project's data quality objectives.

Sample ID	SDG	Laboratory ID	Qualified Analyte	Qualified Result	Units	Qualifier Reason
RP082406-05	JU16	JU16A	none			
RP082406-06	JU16	JU16B	none			
RP082406-07	JU16	JU16C	none			
RP082406-04	JU16	JU16D	none			
RP082406-03	JU16	JU16G	none			

Memorandum
 September 7, 2006
 Page 5 of 5

Sample ID	SDG	Laboratory ID	Qualified Analyte	Qualified Result	Units	Qualifier Reason
RP082406-08 (trip blank)	JU16	JU16H	none			
RP082406-09	JU19	JU19A	none			
RP082406-10	JU19	JU19B	none			
RP082406-11	JU19	JU19C	none			
RP082406-12	JU19	JU19D	none			
RP082406-13	JU19	JU19E	none			
RP082406-14	JU19	JU19F	none			
RP082406-15	JU19	JU19G	none			
RP082406-16	JU19	JU19H	none			
RP082406-17	JU19	JU19I	none			
RP082406-18	JU19	JU19J	none			
RP082606-01	JU45	JU45A	none			
RP082606-02	JU45	JU45B	none			
RP082606-03	JU45	JU45C	none			
RP082606-04	JU45	JU45D	none			
RP082606-05	JU45	JU45E	none			
RP082606-06 (trip blank)	JU45	JU45F	none			
RP082606-07	JU46	JU46A	none			
RP082606-08	JU46	JU46B	none			
RP082606-09 (trip blank)	JU46	JU46C	none			

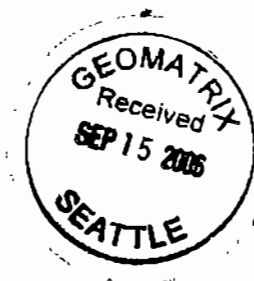


Analytical Resources, Incorporated

Analytical Chemists and Consultants

14 September 2006

Zanna Satterwhite
Geomatrix
600 University Suite 1020
Seattle, WA 98101



RE: Client Project: Former Rhone Poulenc, 8769.006

ARI Job Numbers: JU16, JU19, JU45, JU46

Dear Zanna:

Please find enclosed the final data package for samples for the project referenced above. ARI received eleven soil samples and five water samples on August 24, 2006. Three soil samples, two water samples and one trip blank were received on August 26, 2006. One soil sample, one water sample and one trip blank were received on August 28, 2006. All samples were received intact. It was noted upon sample receipt that the trip blank was not received on August 24, 2006. It was also noted that the time on the vials for sample RP082406-07 was recorded as "1054".

Two soil samples were placed on hold as specified. The remaining samples were analyzed for BETX by method 8021B as requested.

Please refer to the case narrative for anomalies associated with these samples.

A copy of this package will be kept on file at ARI. If you have questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: files JU16, JU19, JU45, JU46

MDH/mdh

Chain of Custody Documentation

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job Nos.:JU16, JU19, JU45 & JU46

**Prepared
By**

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: JUL16	Turn-around Requested: 24-hour (see comments)	Page: 1 of 1
ARI Client Company: Geomatrix	Phone: 206-342-1772	Date: 8/24/06
Client Contact: Zanna Satterwhite	No. of Coolers: 1	Ice Present? Y
Client Project Name: Former Rhine-Poulenc	Sampler: Z. Satterwhite	Cooler Temps: 9.0°



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					DETX							
RP082406-05	8/24/06	1026	S	4x40ml 1x20z								*
RP082406-06		1030	S	4x40ml 1x20z								*
RP082406-07		1055	W	4x40ml 1x20z								*
RP082406-04		0934	W	3x40ml 1								SA **
RP082406-01		0840	S	4x40ml 1x20z								*
RP082406-02		0845	S	4x40ml 1x20z								*
RP082406-03	↓	0934	W	3x40ml 1x20z								*
RP082406-08	↓	1100	W	3x40ml								** (Trip Blank)

Comments/Special Instructions * 24 HR TA ** 48 HR TA	Relinquished by: (Signature) <i>Zanna Satterwhite</i>	Received by: (Signature) <i>Emily Macnowski</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Zanna Satterwhite	Printed Name: Emily Macnowski	Printed Name:	Printed Name:
	Company: Geomatrix	Company: ARI	Company:	Company:
	Date & Time: 8/24/06 1152	Date & Time: 8/24/06 1152	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

0002

Cooler Receipt Form



ARI Client: CEOMATRIX Project Name: _____
COC NO.: _____ Delivered By: EC
Tracking NO.: _____ Date: 8/24/06
ARI Job No.: _____ Lims NO.: _____

Preliminary Examination Phase:

1. Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
2. Were custody papers included with the cooler YES NO
3. Were custody papers properly filled out (ink, signed etc.)? YES NO
4. Complete custody forms and attach all shipping documents OK NA

Cooler Accepted BY: Emily Adachowski Date: 8/24/06 Time: 1156

Log-IN Phase:

5. Was a temperature blank include in the cooler? YES NO
6. Record Cooler Temperature..... 9 °C
7. What kind of packing material was used? -
8. Was sufficient ice used (if appropriate)? YES NO
9. Were all bottles sealed in separate plastic bags? YES NO
10. Did all bottles arrive in good condition (unbroken)? YES NO
11. Were all bottle labels complete and legible? YES NO
12. Did all bottle labels and tags agree with custody papers? YES NO
13. Were all bottles used correct for the requested analyses? YES NO
14. Do any of the analyses (bottles) require preservative?
(If so, Preservation checklist must be attached) YES NO
15. Were all VOA vials free of air bubbles? YES NO
16. Was sufficient amount of sample sent in each bottle? YES NO
17. Notify Project Manager of any discrepancies or concerns OK NA

Cooler Opened By: Emily Adachowski Date: 8/24/06 Time: 1156

Explain any discrepancies or negative responses:

RP 082406-07 time on vials = 1054
RP082406-09 1/3 per-bubble
TB 2/3 w/ per-bubble
8/24/06

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: JUL19	Turn-around Requested: 24-hr (see comments)	Page: 1	of 2
ARI Client Company: Geomatrix	Phone: 206 342 1772	Date: 8/24/06	Ice Present? Y
Client Contact: Zanna Satterwhite		No. of Coolers: 1	Cooler Temps: 10



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Client Project Name: Founer Rhone-Paulenc					Analysis Requested							Notes/Comments	
Client Project #: 8769.006		Samplers: Zanna Satterwhite			BTEX (8021)								
Sample ID	Date	Time	Matrix	No. Containers									
RP082406-09	8/24/06	1136	S	4x40ml 1x2oz	X								*
RP082406-10		1140	S	4x40ml 1x2oz	X								*
RP082406-11		1202	W	3x40ml	X								*
RP082406-12		1240	S	4x40ml 1x2oz	X								*
RP082406-13		1245	S	4x40ml 1x2oz	X								*
RP082406-14		1300	W	3x40ml	X								*
RP082406-15		1245	S	4x40ml 1x2oz	X								** 2A
RP082406-16		1324	S	4x40ml 1x2oz	X								*
RP082406-17		1326	S	4x40ml 1x2oz	X								*
RP082406-18		1351	W	3x40ml	X								*

Comments/Special Instructions * 24 hr TAT ** 48 hr TAT	Relinquished by: (Signature) <i>Zanna S</i>	Received by: (Signature) <i>Bob Conley</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Zanna Satterwhite	Printed Name: BOB CONLEY	Printed Name:	Printed Name:
	Company: Geomatrix	Company: ARX	Company:	Company:
	Date & Time: 8/24/06	Date & Time: 8/24/06 1445	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

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Cooler Receipt Form



ARI Client: BMX Project Name: _____
COC NO.: _____ Delivered By: MTW
Tracking NO.: _____ Date: _____
ARI Job No.: JUL19 Lims NO.: _____

Preliminary Examination Phase:

- Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
- Were custody papers included with the cooler YES NO
- Were custody papers properly filled out (ink, signed etc.)? YES NO
- Complete custody forms and attach all shipping documents OK NA

Cooler Accepted BY: Bob Conner Date: 8/24/06 Time: 1445

Log-IN Phase:

- Was a temperature blank include in the cooler? YES NO
- Record Cooler Temperature 10.0 °C
- What kind of packing material was used? ICE
- Was sufficient ice used (if appropriate)? YES NO *Revised by sample*
- Were all bottles sealed in separate plastic bags? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Were all bottle labels complete and legible? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were all bottles used correct for the requested analyses? YES NO
- Do any of the analyses (bottles) require preservative?
(If so, Preservation checklist must be attached) YES NO
- Were all VOA vials free of air bubbles? YES NO
- Was sufficient amount of sample sent in each bottle? YES NO
- Notify Project Manager of any discrepancies or concerns OK NA

Cooler Opened By: BC Date: 8/24/06 Time: 1445

Explain any discrepancies or negative responses:
AB - DID NOT RECEIVE TRIP BLANK SAMPLE

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: <u>5045</u>	Turn-around Requested: <u>Rush 24 hour if poss</u>	Page: <u>1</u> of
ARI Client Company: <u>Geomatrix</u>	Phone: <u>206-342-1772</u>	Date: <u>8/26/06</u> Ice Present? <u>Y</u>
Client Contact: <u>Zanna Satterwhite</u>	No. of Coolers: <u>1</u>	Cooler Temps: <u>5.6</u>



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Client Project Name: <u>Former Rhone-Poulenc</u>	Analysis Requested	Notes/Comments
Client Project #: <u>8769.006</u>	EPA 8021 BTEX	
Samplers: <u>J. D. Long</u>		

Sample ID	Date	Time	Matrix	No. Containers															
RP082606-01	8/26/06	0845	S	1-202 340mL	X														preserved soil
RP082606-02		0920	W	340mL	X														
RP082606-03		1015	S	1-202 340mL	X														preserved soil
RP082606-04		1025	W	340mL	X														
RP082606-05	↓	1110	S	1-202 340mL	X														
RP082606-06	8/26/06	1140	W	340mL	X														48 HR TA

Comments/Special Instructions <u>24 HR TAT if possible</u>	Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>[Signature]</u>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: <u>John D Long</u>	Printed Name: <u>BRIAN KESEL</u>	Printed Name:	Printed Name:
	Company: <u>GMX</u>	Company: <u>ARI</u>	Company:	Company:
	Date & Time: <u>8/26/06 1200</u>	Date & Time: <u>8/26/06 1200</u>	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Cooler Receipt Form



ARI Client: GAIN Project Name: FRP
COC NO.: Delivered By: Itans
Tracking NO.: Date: 8/26/02
ARI Job No.: 5445 Lims NO.:

Preliminary Examination Phase:

- 1. Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
- 2. Were custody papers included with the cooler YES NO
- 3. Were custody papers properly filled out (ink, signed etc.)? YES NO
- 4. Complete custody forms and attach all shipping documents OK NA

Cooler Accepted BY: R. D. G. L. Date: 8/26/02 Time: 1200

Log-IN Phase:

- 5. Was a temperature blank include in the cooler? YES NO
- 6. Record Cooler Temperature..... 5.6 °C
- 7. What kind of packing material was used? Per
- 8. Was sufficient ice used (if appropriate)? YES NO
- 9. Were all bottles sealed in separate plastic bags? YES NO
- 10. Did all bottles arrive in good condition (unbroken)? YES NO
- 11. Were all bottle labels complete and legible? YES NO
- 12. Did all bottle labels and tags agree with custody papers? YES NO
- 13. Were all bottles used correct for the requested analyses? YES NO
- 14. Do any of the analyses (bottles) require preservative?
(If so, Preservation checklist must be attached) YES NO
- 15. Were all VOA vials free of air bubbles? YES NO
- 16. Was sufficient amount of sample sent in each bottle? YES NO
- 17. Notify Project Manager of any discrepancies or concerns..... OK NA

Cooler Opened By: R. D. G. L. Date: 8/26/02 Time: 1200

Explain any discrepancies or negative responses:

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: JA 46
 Turn-around Requested: 24-hr
 ARI Client Company: Geomatrix Phone: 206 342-1772
 Client Contact: Zanna Satterwhite
 Client Project Name: Former Rhove Poulenc
 Client Project #: 5769.006 Samplers: JD Long

Page: 1 of 1
 Date: 8/26/06 Ice Present? Y
 No. of Coolers: 1 Cooler Temps: 5.9



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					EPA 8021	BTEX						
RP082606-07	8/26/06	1245	S	1 2oz 2 40ml	X							soil preserved - Med (10)
RP082606-08	↓	1300	W	3 40ml	X							water preserved HCl
RP082606-09	↓	1330	W	3 40ml	X							" "
245 8/27/06												

Comments/Special Instructions	Relinquished by (Signature): <u>[Signature]</u>	Received by (Signature): <u>[Signature]</u>	Relinquished by (Signature): <u>[Signature]</u>	Received by (Signature): <u>[Signature]</u>
	Printed Name: <u>John D. Long</u>	Printed Name: <u>Zanna Satterwhite</u>	Printed Name: <u>Zanna Satterwhite</u>	Printed Name: <u>BRIAN KEAR</u>
	Company: <u>Geomatrix</u>	Company: <u>Geomatrix</u>	Company: <u>Geomatrix</u>	Company: <u>ARI</u>
	Date & Time: <u>8/27/2006 1500</u>	Date & Time: <u>8/27/2006 1500</u>	Date & Time: <u>8/27/06 0704</u>	Date & Time: <u>8/27/06 0704</u>

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

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Cooler Receipt Form



ARI Client: GMA Project Name: FRP
COC NO.: _____ Delivered By: Hand
Tracking NO.: _____ Date: 8/28/02
ARI Job No.: JU46 Lims NO.: _____

Preliminary Examination Phase:

- 1. Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
- 2. Were custody papers included with the cooler YES NO
- 3. Were custody papers properly filled out (ink, signed etc.)? YES NO
- 4. Complete custody forms and attach all shipping documents OK NA

Cooler Accepted BY: B-D JP Date: 8/28/02 Time: 0704

Log-IN Phase:

- 5. Was a temperature blank include in the cooler? YES NO
- 6. Record Cooler Temperature..... 5.9 °C
- 7. What kind of packing material was used?
- 8. Was sufficient ice used (if appropriate)? YES NO
- 9. Were all bottles sealed in separate plastic bags? YES NO
- 10. Did all bottles arrive in good condition (unbroken)? YES NO
- 11. Were all bottle labels complete and legible? YES NO
- 12. Did all bottle labels and tags agree with custody papers? YES NO
- 13. Were all bottles used correct for the requested analyses? YES NO
- 14. Do any of the analyses (bottles) require preservative?
(If so, Preservation checklist must be attached) YES NO
- 15. Were all VOA vials free of air bubbles? YES NO
- 16. Was sufficient amount of sample sent in each bottle? YES NO
- 17. Notify Project Manager of any discrepancies or concerns..... OK NA

Cooler Opened By: B-D JP Date: 8/28/02 Time: 0704

Explain any discrepancies or negative responses:

Pea bubbles in

Case Narrative

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job Nos.:JU16, JU19, JU45 & JU46

**Prepared
By**

Analytical Resources, Inc.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Case Narrative

Geomatrix

Client Project: Former Rhone Poulenc; 8769.006

ARI Job Numbers: JU16, JU19, JU45, JU46

Soil/Water

14 September, 2006

BTEX Analysis (8021BMod)

No analytical complications were noted for this analysis.

Data Summary Package

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job Nos.:JU16, JU19, JU45 & JU46

**Prepared
By**

Analytical Resources, Inc.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Case Narrative

Geomatrix

Client Project: Former Rhone Poulenc; 8769.006

ARI Job Numbers: JU16, JU19, JU45, JU46

Soil/Water

14 September, 2006

BTEX Analysis (8021BMod)

No analytical complications were noted for this analysis.

BETX

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: RP082406-05

SAMPLE

Lab Sample ID: JU16A

LIMS ID: 06-15513

Matrix: Soil

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/28/06 22:07

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 59 mg-dry-wt

Percent Moisture: 24.9%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	21	< 21 U
108-88-3	Toluene	21	21
100-41-4	Ethylbenzene	21	< 21 U
	m,p-Xylene	43	< 43 U
95-47-6	o-Xylene	21	< 21 U

BETX Surrogate Recovery

Trifluorotoluene	91.3%
Bromobenzene	103%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: RP082406-06

SAMPLE

Lab Sample ID: JU16B

LIMS ID: 06-15514

Matrix: Soil

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/25/06 05:18

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 63 mg-dry-wt

Percent Moisture: 21.4%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	20	< 20 U
108-88-3	Toluene	20	1,500
100-41-4	Ethylbenzene	20	< 20 U
	m,p-Xylene	40	< 40 U
95-47-6	o-Xylene	20	< 20 U

BETX Surrogate Recovery

Trifluorotoluene	91.4%
Bromobenzene	106%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: RP082406-07


SAMPLE

Lab Sample ID: JU16C

LIMS ID: 06-15515

Matrix: Water

Data Release Authorized:

Reported: 09/01/06 

QC Report No: JU16-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/28/06 18:41

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	3.2
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	85.8%
Bromobenzene	103%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: RP082406-04

SAMPLE

Lab Sample ID: JU16D

LIMS ID: 06-15516

Matrix: Water

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/28/06 20:09

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Dilution Factor: 50.0

CAS Number	Analyte	RL	Result
71-43-2	Benzene	50	< 50 U
108-88-3	Toluene	50	3,600
100-41-4	Ethylbenzene	50	< 50 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	50	< 50 U


BETX Surrogate Recovery

Trifluorotoluene	90.8%
Bromobenzene	103%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-03
SAMPLE

Lab Sample ID: JU16G
LIMS ID: 06-15519
Matrix: Water
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/28/06 17:13
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 50.0

CAS Number	Analyte	RL	Result
71-43-2	Benzene	50	< 50 U
108-88-3	Toluene	50	4,100
100-41-4	Ethylbenzene	50	< 50 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	50	< 50 U


BETX Surrogate Recovery

Trifluorotoluene	90.5%
Bromobenzene	104%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-08
SAMPLE

Lab Sample ID: JU16H
LIMS ID: 06-15520
Matrix: Water
Data Release Authorized:
Reported: 09/01/06 

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/26/06 17:02
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	88.4%
Bromobenzene	98.3%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU16
Matrix: Soil

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082406-05	91.3%	103%	0
MB-082406	91.3%	107%	0
LCS-082406	103%	101%	0
LCSD-082406	101%	103%	0
RP082406-06	91.4%	106%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-15513 to 06-15514

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU16
Matrix: Water

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006


Client ID	TFT	BBZ	TOT	OUT
RP082406-07	85.8%	103%		0
RP082406-04	90.8%	103%		0
RP082406-03	90.5%	104%		0
MB-082606	80.2%	93.2%		0
LCS-082606	105%	102%		0
LCSD-082606	95.6%	94.9%		0
RP082406-08	88.4%	98.3%		0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-15515 to 06-15520

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-09
SAMPLE

Lab Sample ID: JU19A
LIMS ID: 06-15547
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/28/06 21:37
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 57 mg-dry-wt
Percent Moisture: 22.7%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	22	< 22 U
108-88-3	Toluene	22	< 22 U
100-41-4	Ethylbenzene	22	< 22 U
	m,p-Xylene	44	< 44 U
95-47-6	o-Xylene	22	< 22 U

BETX Surrogate Recovery

Trifluorotoluene	84.9%
Bromobenzene	100%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: RP082406-10

SAMPLE

Lab Sample ID: JU19B

LIMS ID: 06-15548

Matrix: Soil

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/28/06 22:36

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 57 mg-dry-wt

Percent Moisture: 24.7%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	22	< 22 U
108-88-3	Toluene	22	< 22 U
100-41-4	Ethylbenzene	22	< 22 U
	m,p-Xylene	44	< 44 U
95-47-6	o-Xylene	22	< 22 U

BETX Surrogate Recovery

Trifluorotoluene	93.8%
Bromobenzene	105%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-11
SAMPLE

Lab Sample ID: JU19C
LIMS ID: 06-15549
Matrix: Water
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/24/06 22:26
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	76.3%
Bromobenzene	83.2%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: RP082406-12


SAMPLE

Lab Sample ID: JU19D

LIMS ID: 06-15550

Matrix: Soil

Data Release Authorized:

Reported: 09/01/06 

QC Report No: JU19-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/28/06 23:06

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 12 mg-dry-wt

Percent Moisture: 25.0%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	100	< 100 U
108-88-3	Toluene	100	43,000
100-41-4	Ethylbenzene	100	< 100 U
	m,p-Xylene	200	< 200 U
95-47-6	o-Xylene	100	< 100 U


BETX Surrogate Recovery

Trifluorotoluene	90.0%
Bromobenzene	104%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-13
SAMPLE

Lab Sample ID: JU19E
LIMS ID: 06-15551
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/28/06 23:35
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 0.028 mg-dry-wt
Percent Moisture: 10.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	44,000	< 44,000 U
108-88-3	Toluene	44,000	20,000,000
100-41-4	Ethylbenzene	44,000	< 44,000 U
	m,p-Xylene	88,000	< 88,000 U
95-47-6	o-Xylene	44,000	< 44,000 U

BETX Surrogate Recovery

Trifluorotoluene	87.1%
Bromobenzene	100%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-14
SAMPLE

Lab Sample ID: JU19F
LIMS ID: 06-15552
Matrix: Water
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/28/06 17:42
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1000

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1,000	< 1,000 U
108-88-3	Toluene	1,000	90,000
100-41-4	Ethylbenzene	1,000	< 1,000 U
	m,p-Xylene	1,000	< 1,000 U
95-47-6	o-Xylene	1,000	< 1,000 U

BETX Surrogate Recovery

Trifluorotoluene	87.3%
Bromobenzene	103%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: RP082406-15

SAMPLE

Lab Sample ID: JU19G

LIMS ID: 06-15553

Matrix: Soil

Data Release Authorized:

Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/29/06 00:05

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 0.027 mg-dry-wt

Percent Moisture: 12.2%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	47,000	< 47,000 U
108-88-3	Toluene	47,000	23,000,000
100-41-4	Ethylbenzene	47,000	< 47,000 U
	m,p-Xylene	94,000	< 94,000 U
95-47-6	o-Xylene	47,000	< 47,000 U


BETX Surrogate Recovery

Trifluorotoluene	88.4%
Bromobenzene	102%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-16
SAMPLE

Lab Sample ID: JU19H
LIMS ID: 06-15554
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/25/06 03:49
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 1.1 mg-dry-wt
Percent Moisture: 22.9%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1,100	< 1,100 U
108-88-3	Toluene	1,100	440,000
100-41-4	Ethylbenzene	1,100	< 1,100 U
	m,p-Xylene	2,200	< 2,200 U
95-47-6	o-Xylene	1,100	< 1,100 U

BETX Surrogate Recovery

Trifluorotoluene	86.8%
Bromobenzene	101%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: RP082406-17

SAMPLE

Lab Sample ID: JU19I

LIMS ID: 06-15555

Matrix: Soil

Data Release Authorized:

Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: 08/24/06

Date Received: 08/24/06

Date Analyzed: 08/29/06 01:33

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 0.12 mg-dry-wt

Percent Moisture: 24.5%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	10,000	< 10,000 U
108-88-3	Toluene	10,000	5,600,000
100-41-4	Ethylbenzene	10,000	< 10,000 U
	m,p-Xylene	21,000	< 21,000 U
95-47-6	o-Xylene	10,000	< 10,000 U


BETX Surrogate Recovery

Trifluorotoluene	82.2%
Bromobenzene	100%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082406-18
SAMPLE

Lab Sample ID: JU19J
LIMS ID: 06-15556
Matrix: Water
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Date Analyzed: 08/28/06 20:39
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 250

CAS Number	Analyte	RL	Result
71-43-2	Benzene	250	< 250 U
108-88-3	Toluene	250	32,000
100-41-4	Ethylbenzene	250	< 250 U
	m,p-Xylene	250	< 250 U
95-47-6	o-Xylene	250	< 250 U

BETX Surrogate Recovery

Trifluorotoluene	95.4%
Bromobenzene	106%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU19
Matrix: Water

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082406	86.9%	101%	0
LCS-082406	91.4%	101%	0
LCSD-082406	102%	105%	0
RP082406-11	76.3%	83.2%	0
RP082406-14	87.3%	103%	0
RP082406-18	95.4%	106%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-15549 to 06-15556

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU19
Matrix: Soil

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082406-09	84.9%	100%	0
RP082406-10	93.8%	105%	0
RP082406-12	90.0%	104%	0
RP082406-13	87.1%	100%	0
RP082406-15	88.4%	102%	0
MB-082406	91.3%	107%	0
LCS-082406	103%	101%	0
LCSD-082406	101%	103%	0
RP082406-16	86.8%	101%	0
RP082406-17	82.2%	100%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-15547 to 06-15555

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: RP082606-01

SAMPLE

Lab Sample ID: JU45A

LIMS ID: 06-15729

Matrix: Soil

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants

Project: Former Phone Poulenc

Event: 8769.006

Date Sampled: 08/26/06

Date Received: 08/26/06

Date Analyzed: 08/26/06 20:28

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 93 mg-dry-wt

Percent Moisture: 20.2%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	14	< 14 U
108-88-3	Toluene	14	< 14 U
100-41-4	Ethylbenzene	14	< 14 U
	m,p-Xylene	27	< 27 U
95-47-6	o-Xylene	14	< 14 U


BETX Surrogate Recovery

Trifluorotoluene	82.6%
Bromobenzene	96.9%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082606-02
SAMPLE

Lab Sample ID: JU45B
LIMS ID: 06-15730
Matrix: Water
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: 08/26/06
Date Received: 08/26/06

Date Analyzed: 08/26/06 19:00
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U


BETX Surrogate Recovery

Trifluorotoluene	77.7%
Bromobenzene	99.1%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082606-03
SAMPLE

Lab Sample ID: JU45C
LIMS ID: 06-15731
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06 

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: 08/26/06
Date Received: 08/26/06

Date Analyzed: 08/26/06 19:59
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 100 mg-dry-wt
Percent Moisture: 27.2%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	12	< 12 U
108-88-3	Toluene	12	< 12 U
100-41-4	Ethylbenzene	12	< 12 U
	m,p-Xylene	25	< 25 U
95-47-6	o-Xylene	12	< 12 U

BETX Surrogate Recovery

Trifluorotoluene	82.3%
Bromobenzene	99.1%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1


Sample ID: RP082606-04

SAMPLE

Lab Sample ID: JU45D

LIMS ID: 06-15732

Matrix: Water

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants

Project: Former Phone-Poulenc

Event: 8769.006

Date Sampled: 08/26/06

Date Received: 08/26/06

Date Analyzed: 08/26/06 19:29

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	90.2%
Bromobenzene	103%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082606-05
SAMPLE

Lab Sample ID: JU45E
LIMS ID: 06-15733
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06 *AB*

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: 08/26/06
Date Received: 08/26/06

Date Analyzed: 08/29/06 02:02
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 0.44 mg-dry-wt
Percent Moisture: 21.1%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	2,800	< 2,800 U
108-88-3	Toluene	2,800	1,600,000
100-41-4	Ethylbenzene	2,800	< 2,800 U
	m,p-Xylene	5,700	< 5,700 U
95-47-6	o-Xylene	2,800	< 2,800 U

BETX Surrogate Recovery

Trifluorotoluene	87.6%
Bromobenzene	103%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082606-06
SAMPLE

Lab Sample ID: JU45F
LIMS ID: 06-15734
Matrix: Water
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: 08/26/06
Date Received: 08/26/06

Date Analyzed: 08/28/06 16:43
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	96.9%
Bromobenzene	104%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU45
Matrix: Water

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082606	80.2%	93.2%	0
LCS-082606	105%	102%	0
LCSD-082606	95.6%	94.9%	0
RP082606-02	77.7%	99.1%	0
RP082606-04	90.2%	103%	0
RP082606-06	96.9%	104%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-15730 to 06-15734

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU45
Matrix: Soil

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006

Client ID	TFT	BBZ	TOT	OUT
MB-082606	86.6%	106%		0
LCS-082606	106%	99.4%		0
LCSD-082606	101%	100%		0
RP082606-01	82.6%	96.9%		0
RP082606-01 MS	84.7%	94.8%		0
RP082606-01 MSD	93.3%	100%		0
RP082606-03	82.3%	99.1%		0
MB-082806	83.0%	94.6%		0
LCS-082806	113%	103%		0
LCSD-082806	109%	102%		0
RP082606-05	87.6%	103%		0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-15729 to 06-15733

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: RP082606-01

MATRIX SPIKE

Lab Sample ID: JU45A

LIMS ID: 06-15729

Matrix: Soil

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants

Project: Former Phone-Poulenc

Event: 8769.006

Date Sampled: 08/26/06

Date Received: 08/26/06

Date Analyzed MS: 08/27/06 00:53

MSD: 08/27/06 01:22

Instrument/Analyst MS: PID2/PKC

MSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount MS: 93 mg-dry-wt

MSD: 93 mg-dry-wt

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Benzene	< 13.5 U	368	339	109%	410	339	121%	10.8%
Toluene	< 13.5 U	3140	2760	114%	3420	2760	124%	8.5%
Ethylbenzene	< 13.5 U	584	504	116%	622	504	123%	6.3%
m,p-Xylene	< 27.0 U	2110	1900	111%	2240	1900	118%	6.0%
o-Xylene	< 13.5 U	780	659	118%	825	659	125%	5.6%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	MS	MSD
Trifluorotoluene	84.7%	93.3%
Bromobenzene	94.8%	100%

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

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
Sample ID: RP082606-07

SAMPLE

Lab Sample ID: JU46A

LIMS ID: 06-15735

Matrix: Soil

Data Release Authorized: 

Reported: 09/01/06

QC Report No: JU46-Geomatrix

Project: Former Rhone Poulenc

Event: 8769.006

Date Sampled: 08/26/06

Date Received: 08/28/06

Date Analyzed: 08/29/06 02:32

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 75 mg-dry-wt

Percent Moisture: 23.9%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	33	< 33 U
108-88-3	Toluene	33	< 33 U
100-41-4	Ethylbenzene	33	< 33 U
	m,p-Xylene	67	< 67 U
95-47-6	o-Xylene	33	< 33 U

BETX Surrogate Recovery

Trifluorotoluene	92.5%
Bromobenzene	107%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET

BETX by Method EPA 602M

Page 1 of 1

Sample ID: RP082606-08


SAMPLE

Lab Sample ID: JU46B

LIMS ID: 06-15736

Matrix: Water

Data Release Authorized:

Reported: 09/01/06 

QC Report No: JU46-Geomatrix

Project: Former Rhone Poulenc

Event: 8769.006

Date Sampled: 08/26/06

Date Received: 08/28/06

Date Analyzed: 08/28/06 21:08

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U


BETX Surrogate Recovery

Trifluorotoluene	88.7%
Bromobenzene	104%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method EPA 602M
Page 1 of 1

Sample ID: RP082606-09
SAMPLE

Lab Sample ID: JU46C
LIMS ID: 06-15737
Matrix: Water
Data Release Authorized:
Reported: 09/01/06 

QC Report No: JU46-Geomatrix
Project: Former Rhone Poulenc
Event: 8769.006
Date Sampled: 08/26/06
Date Received: 08/28/06

Date Analyzed: 08/28/06 16:14
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	110%
Bromobenzene	107%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU46
Matrix: Soil

QC Report No: JU46-Geomatrix
Project: Former Rhone Poulenc
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082606-07	92.5%	107%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-15735 to 06-15735

FORM II BETX

Page 1. for JU46

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU46
Matrix: Water

QC Report No: JU46-Geomatrix
Project: Former Rhone Poulenc
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082606-08	88.7%	104%	0
RP082606-09	110%	107%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)


Log Number Range: 06-15736 to 06-15737

FORM II BETX

Page 1 for JU46

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082406
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082406
LIMS ID: 06-15514
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06 

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/24/06 10:42
LCSD: 08/24/06 11:11
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 200 mg-dry-wt
LCSD: 200 mg-dry-wt

Analyte	LCS	Spike	LCS	LCSD	Spike	LCS	RPD
		Added-LCS	Recovery		Added-LCSD	Recovery	
Benzene	196	205	95.6%	198	205	96.6%	1.0%
Toluene	1600	1670	95.8%	1600	1670	95.8%	0.0%
Ethylbenzene	304	305	99.7%	310	305	102%	2.0%
m,p-Xylene	1130	1140	99.1%	1140	1140	100%	0.9%
o-Xylene	410	398	103%	414	398	104%	1.0%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	103%	101%
Bromobenzene	101%	103%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082606
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082606
LIMS ID: 06-15520
Matrix: Water
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/26/06 14:20
LCSD: 08/26/06 14:49
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor LCS: 1.0 mL
LCSD: 1.0 mL

Analyte	LCS		LCS		LCSD		RPD
	Concentration	Spike Added-LCS	Recovery	Concentration	Spike Added-LCSD	Recovery	
Benzene	7.72	8.20	94.1%	7.22	8.20	88.0%	6.7%
Toluene	67.0	66.8	100%	58.9	66.8	88.2%	12.9%
Ethylbenzene	12.3	12.2	101%	10.7	12.2	87.7%	13.9%
m,p-Xylene	45.3	45.8	98.9%	39.1	45.8	85.4%	14.7%
o-Xylene	16.3	15.9	103%	14.3	15.9	89.9%	13.1%

Reported in $\mu\text{g/L}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	105%	95.6%
Bromobenzene	102%	94.9%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082806
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082806
LIMS ID: 06-15513
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06

QC Report No: JUL6-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/28/06 13:15
LCSD: 08/28/06 13:44
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	383	410	93.4%	390	410	95.1%	1.8%
Toluene	3270	3340	97.9%	3230	3340	96.7%	1.2%
Ethylbenzene	609	610	99.8%	592	610	97.0%	2.8%
m,p-Xylene	2240	2290	97.8%	2190	2290	95.6%	2.3%
o-Xylene	797	795	100%	794	795	99.9%	0.4%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	113%	109%
Bromobenzene	103%	102%

ORGANICS ANALYSIS DATA SHEET
 BETX by Method SW8021BMod
 Page 1 of 1

Sample ID: LCS-082406
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-082406
 LIMS ID: 06-15549
 Matrix: Water
 Data Release Authorized:
 Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
 Project: FRP
 Event: 8769.006
 Date Sampled: NA
 Date Received: NA

Date Analyzed LCS: 08/24/06 12:10
 LCSD: 08/24/06 12:39
 Instrument/Analyst LCS: PID2/PKC
 LCSD: PID2/PKC

Purge Volume: 5.0 mL
 Dilution Factor LCS: 1.0 mL
 LCSD: 1.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	6.40	8.20	78.0%	7.53	8.20	91.8%	16.2%
Toluene	56.4	66.8	84.4%	62.6	66.8	93.7%	10.4%
Ethylbenzene	11.0	12.2	90.2%	12.1	12.2	99.2%	9.5%
m,p-Xylene	40.6	45.8	88.6%	43.0	45.8	93.9%	5.7%
o-Xylene	14.7	15.9	92.5%	15.7	15.9	98.7%	6.6%

Reported in $\mu\text{g/L}$ (ppb)


RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	91.4%	102%
Bromobenzene	101%	105%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082606
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082606
LIMS ID: 06-15729
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/26/06 11:47
LCSD: 08/26/06 12:16
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 200 mg-dry-wt
LCSD: 200 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	197	205	96.1%	191	205	93.2%	3.1%
Toluene	1650	1670	98.8%	1610	1670	96.4%	2.5%
Ethylbenzene	295	305	96.7%	297	305	97.4%	0.7%
m,p-Xylene	1080	1140	94.7%	1060	1140	93.0%	1.9%
o-Xylene	398	398	100%	390	398	98.0%	2.0%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	106%	101%
Bromobenzene	99.4%	100%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB082406W1


Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JU16, JU19 Project No.: FRP
 Date Analyzed : 08/24/06 Matrix: WATER
 Time Analyzed : 1309 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS082406W1	LCS082406W1	08/24/06
02	LCSD082406W1	LCSD082406W1	08/24/06
03	RP082406-11	JU19C	08/24/06
04			
05			
06			
07			
08			
09			
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ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: MB-082406
METHOD BLANK

Lab Sample ID: MB-082406
LIMS ID: 06-15549
Matrix: Water
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 08/24/06 13:09
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	86.9%
Bromobenzene	101%

BETX values reported in $\mu\text{g/L}$ (ppb)

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB082406S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU16, JU19

Project No.: FRP

Date Analyzed : 08/24/06

Matrix: SOIL

Time Analyzed : 1141

Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS082406S1	LCS082406S1	08/24/06
02	LCSD082406S1	LCSD082406S1	08/24/06
03	RP082406-16	JU19H	08/25/06
04	RP082406-06	JU16B	08/25/06
05			
06			
07			
08			
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ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: MB-082406

METHOD BLANK

Lab Sample ID: MB-082406

LIMS ID: 06-15514

Matrix: Soil

Data Release Authorized:

Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: NA

Date Received: NA

Date Analyzed: 08/24/06 11:41

Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount: 200 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	12	< 12 U
108-88-3	Toluene	12	< 12 U
100-41-4	Ethylbenzene	12	< 12 U
	m,p-Xylene	25	< 25 U
95-47-6	o-Xylene	12	< 12 U

BETX Surrogate Recovery

Trifluorotoluene	91.3%
Bromobenzene	107%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0826W1

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JU16, JU45 Project No.: FRP
 Date Analyzed : 08/26/06 Matrix: WATER
 Time Analyzed : 1518 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS0826W1	LCS0826W1	08/26/06
02	LCSD0826W1	LCSD0826W1	08/26/06
03	RP082406-08	JU16H	08/26/06
04	RP082608-02	JU45B	08/26/06
05	RP082608-04	JU45D	08/26/06
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ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: MB-082606
METHOD BLANK

Lab Sample ID: MB-082606
LIMS ID: 06-15520
Matrix: Water
Data Release Authorized: *AB*
Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 08/26/06 15:18
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	80.2%
Bromobenzene	93.2%

BETX values reported in $\mu\text{g/L}$ (ppb)

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB082806S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU16, JU19, JU45, JU46

Project No.: FRP

Date Analyzed : 08/28/06

Matrix: SOIL

Time Analyzed : 1414


Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS082806S1	LCS082806S1	08/28/06
02	LCSD082706S1	LCSD082806S1	08/28/06
03	RP082606-09	JU46C	08/28/06
04	RP082608-06	JU45F	08/28/06
05	RP082406-03	JU16G	08/28/06
06	RP082406-14	JU19F	08/28/06
07	RP082406-11	JU19C	08/28/06
08	RP082406-07	JU16C	08/28/06
09	RP082406-04	JU16D	08/28/06
10	RP082406-18	JU19J	08/28/06
11	RP082606-08	JU46B	08/28/06
12	RP082406-09	JU19A	08/28/06
13	RP082406-05	JU16A	08/28/06
14	RP082406-10	JU19B	08/28/06
15	RP082406-12	JU19D	08/28/06
16	RP082406-13	JU19E	08/28/06
17	RP082406-15	JU19G	08/29/06
18	RP082406-17	JU19I	08/29/06
19	RP082608-05	JU45E	08/29/06
20	RP082606-07	JU46A	08/29/06
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ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: MB-082806
METHOD BLANK

Lab Sample ID: MB-082806
LIMS ID: 06-15513
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 08/28/06 14:14
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	25	< 25 U
108-88-3	Toluene	25	< 25 U
100-41-4	Ethylbenzene	25	< 25 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	25	< 25 U

BETX Surrogate Recovery

Trifluorotoluene	83.0%
Bromobenzene	94.6%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0826S1


Lab Name: ANALYTICAL RESOURCES, INC	Client: GEOMATRIX
SDG No.: JU16, JU45	Project No.: FRP
Date Analyzed : 08/26/06	Matrix: SOIL
Time Analyzed : 1246	Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS0826S1	LCS0826S1	08/26/06
02	JLSD0826S1	LCSD0826S1	08/26/06
03	RP082608-03	JU45C	08/26/06
04	RP082608-01	JU45A	08/26/06
05	RP082608-01	JU45AMS	08/27/06
06	RP082608-01	JU45AMSD	08/27/06
07			
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ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: MB-082606
METHOD BLANK

Lab Sample ID: MB-082606
LIMS ID: 06-15729
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 08/26/06 12:46
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 200 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	12	< 12 U
108-88-3	Toluene	12	< 12 U
100-41-4	Ethylbenzene	12	< 12 U
	m,p-Xylene	25	< 25 U
95-47-6	o-Xylene	12	< 12 U

BETX Surrogate Recovery

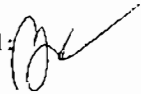
Trifluorotoluene	86.6%
Bromobenzene	106%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

GENERAL CHEMISTRY

SAMPLE RESULTS-CONVENTIONALS
JU16-Geomatrix Consultants



Matrix: Soil
Data Release Authorized: 
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Client ID: RP082406-05
ARI ID: 06-15513 JU16A

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/25/06 082506#1	EPA 160.3	Percent	0.01	75.90
Total Organic Carbon	08/28/06 082806#1	Plumb, 1981	Percent	0.020	0.256

RL Analytical reporting limit
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
JU16-Geomatrix Consultants




Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	08/25/06	Percent	< 0.01 U
Total Organic Carbon	08/28/06	Percent	< 0.020 U

LAB CONTROL RESULTS-CONVENTIONALS
JU16-Geomatrix Consultants



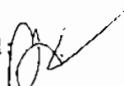
Matrix: Soil
Data Release Authorized: 
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	08/28/06	Percent	0.500	0.500	100.0%

STANDARD REFERENCE RESULTS-CONVENTIONALS
JU16-Geomatrix Consultants




Matrix: Soil
Data Release Authorized: 
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	08/28/06	Percent	3.22	3.35	96.1%

REPLICATE RESULTS-CONVENTIONALS
JU16-Geomatrix Consultants



Matrix: Soil
Data Release Authorized: 
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: JU16A Client ID: RP082406-05					
Total Solids	08/25/06	Percent	75.90	76.30 76.20	0.3%
Total Organic Carbon	08/28/06	Percent	0.256	0.250 0.273	4.6%

MS/MSD RESULTS-CONVENTIONALS
JU16-Geomatrix Consultants



Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: JU16A Client ID: RP082406-05						
Total Organic Carbon	08/28/06	Percent	0.256	0.878	0.590	105.4%

SAMPLE RESULTS-CONVENTIONALS
JU19-Geomatrix Consultants



Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: 08/24/06
Date Received: 08/24/06

Client ID: RP082406-16
ARI ID: 06-15554 JU19H

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/25/06 082506#1	EPA 160.3	Percent	0.01	74.40
Total Organic Carbon	08/28/06 082806#1	Plumb,1981	Percent	0.020	0.358

RL Analytical reporting limit
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
JU19-Geomatrix Consultants



Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	08/25/06	Percent	< 0.01 U
Total Organic Carbon	08/28/06	Percent	< 0.020 U

LAB CONTROL RESULTS-CONVENTIONALS
JU19-Geomatrix Consultants




Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	08/28/06	Percent	0.500	0.500	100.0%

STANDARD REFERENCE RESULTS-CONVENTIONALS
JU19-Geomatrix Consultants



Matrix: Soil
Data Release Authorized: 
Reported: 08/29/06

Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	08/28/06	Percent	3.22	3.35	96.1%

Laboratory Data Package

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job Nos.:JU16, JU19, JU45 & JU46

**Prepared
By**

Analytical Resources, Inc.

ARI Data Reporting Qualifiers

Effective 11/22/04

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte reporting limit is raised due to a positive chromatographic interference. The compound is not detected above the raised limit but may be present at or below the limit
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

TOTAL SOLIDS

BETX/TPHG Total Solids-betx-ts
Data By: Joshua G. Rains
Created: 8/25/06

Worklist: 4495
Analyst: JGR
Comments:

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JU16A 06-15513	13.7	19.09	17.74	75.1
2. JU16B 06-15514	13.7	19.30	18.11	78.6
3. JU19A 06-15547	13.8	19.43	18.15	77.3
4. JU19B 06-15548	13.7	19.66	18.20	75.3
5. JU19D 06-15550	13.8	19.96	18.41	75.0
6. JU19E 06-15551	13.7	18.61	18.08	89.2
7. JU19G 06-15553	13.8	20.23	19.44	87.8
8. JU19H 06-15554	13.8	21.21	19.51	77.1
9. JU19I 06-15555	13.7	20.71	19.00	75.5

BETX/TPHG Total Solids-betxts
Data By: Paul K. Campbell
Created: 8/29/06

Worklist: 5882
Analyst: PKC
Comments:

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JU45A 06-15729	1.11	13.10	10.68	79.8
2. JU45C 06-15731	1.08	15.04	11.24	72.8
3. JU45E 06-15733	1.12	8.17	6.68	78.9

Worklist ID: 5882 Page: 1
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
\$ - BETX TS Copied From Extraction TS

BETX/TPHG Total Solids-betxts
Data By: Paul K. Campbell
Created: 8/29/06

Worklist: 5948
Analyst: PKC
Comments:

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JU46A 06-15735	1.10	10.52	8.27	76.1

Worklist ID: 5948 Page: 1
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
\$ - BETX TS Copied From Extraction TS

**BETX Analysis
QC Summary Data**

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job Nos.:JU16, JU19, JU45 & JU46

**Prepared
By**

Analytical Resources, Inc.

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU16
Matrix: Soil

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082406-05	91.3%	103%	0
MB-082406	91.3%	107%	0
LCS-082406	103%	101%	0
LCSD-082406	101%	103%	0
RP082406-06	91.4%	106%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-15513 to 06-15514

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU16
Matrix: Water

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT	OUT
RP082406-07	85.8%	103%	0	
RP082406-04	90.8%	103%	0	
RP082406-03	90.5%	104%	0	
MB-082606	80.2%	93.2%	0	
LCS-082606	105%	102%	0	
LCSD-082606	95.6%	94.9%	0	
RP082406-08	88.4%	98.3%	0	

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-15515 to 06-15520

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU19
Matrix: Water

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082406	86.9%	101%	0
LCS-082406	91.4%	101%	0
LCSD-082406	102%	105%	0
RP082406-11	76.3%	83.2%	0
RP082406-14	87.3%	103%	0
RP082406-18	95.4%	106%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-15549 to 06-15556

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU19
Matrix: Soil

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082406-09	84.9%	100%	0
RP082406-10	93.8%	105%	0
RP082406-12	90.0%	104%	0
RP082406-13	87.1%	100%	0
RP082406-15	88.4%	102%	0
MB-082406	91.3%	107%	0
LCS-082406	103%	101%	0
LCSD-082406	101%	103%	0
RP082406-16	86.8%	101%	0
RP082406-17	82.2%	100%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-15547 to 06-15555

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU45
Matrix: Water

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082606	80.2%	93.2%	0
LCS-082606	105%	102%	0
LCSD-082606	95.6%	94.9%	0
RP082606-02	77.7%	99.1%	0
RP082606-04	90.2%	103%	0
RP082606-06	96.9%	104%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-15730 to 06-15734

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU45
Matrix: Soil

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulienc
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082606	86.6%	106%	0
LCS-082606	106%	99.4%	0
LCSD-082606	101%	100%	0
RP082606-01	82.6%	96.9%	0
RP082606-01 MS	84.7%	94.8%	0
RP082606-01 MSD	93.3%	100%	0
RP082606-03	82.3%	99.1%	0
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082606-05	87.6%	103%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-15729 to 06-15733

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU46
Matrix: Soil

QC Report No: JU46-Geomatrix
Project: Former Rhone Poulenc
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082606-07	92.5%	107%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06 15735 to 06-15735

FORM II BETX

Page 1 for JU46

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU46
Matrix: Water

QC Report No: JU46-Geomatrix
Project: Former Rhone Poulenc
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-082806	83.0%	94.6%	0
LCS-082806	113%	103%	0
LCSD-082806	109%	102%	0
RP082606-08	88.7%	104%	0
RP082606-09	110%	107%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)


Log Number Range: 06-15736 to 06-15737

FORM II BETX

Page 1 for JU46

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP082606-01
MATRIX SPIKE

Lab Sample ID: JU45A
LIMS ID: 06-15729
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: 08/26/06
Date Received: 08/26/06

Date Analyzed MS: 08/27/06 00:53
MSD: 08/27/06 01:22
Instrument/Analyst MS: PID2/PKC
MSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount MS: 93 mg-dry-wt
MSD: 93 mg-dry-wt

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Benzene	< 13.5 U	368	339	109%	410	339	121%	10.8%
Toluene	< 13.5 U	3140	2760	114%	3420	2760	124%	8.5%
Ethylbenzene	< 13.5 U	504	504	116%	622	504	123%	6.3%
m,p-Xylene	< 27.0 U	2110	1900	111%	2240	1900	118%	6.0%
o-Xylene	< 13.5 U	780	659	118%	825	659	125%	5.6%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	MS	MSD
Trifluorotoluene	84.7%	93.3%
Bromobenzene	94.8%	100%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082406
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082406
LIMS ID: 06-15514
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/24/06 10:42
LCSD: 08/24/06 11:11
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 200 mg-dry-wt
LCSD: 200 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	196	205	95.6%	198	205	96.6%	1.0%
Toluene	1600	1670	95.8%	1600	1670	95.8%	0.0%
Ethylbenzene	304	305	99.7%	310	305	102%	2.0%
m,p-Xylene	1130	1140	99.1%	1140	1140	100%	0.9%
o-Xylene	410	398	103%	414	398	104%	1.0%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	103%	101%
Bromobenzene	101%	103%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082406
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082406
LIMS ID: 06-15549
Matrix: Water
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU19-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/24/06 12:10
LCS: 08/24/06 12:39
Instrument/Analyst LCS: PID2/PKC
LCS: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor LCS: 1.0 mL
LCS: 1.0 mL

Analyte	Spike		LCS		Spike		LCS	
	LCS	Added-LCS	Recovery	LCS	Added-LCS	Recovery	RPD	
Benzene	6.40	8.20	78.0%	7.53	8.20	91.8%	16.2%	
Toluene	56.4	66.8	84.4%	62.6	66.8	93.7%	10.4%	
Ethylbenzene	11.0	12.2	90.2%	12.1	12.2	99.2%	9.5%	
m,p-Xylene	40.6	45.8	88.6%	43.0	45.8	93.9%	5.7%	
o-Xylene	14.7	15.9	92.5%	15.7	15.9	98.7%	6.6%	

Reported in $\mu\text{g/L}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCS
Trifluorotoluene	91.4%	102%
Bromobenzene	101%	105%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082606
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082606
LIMS ID: 06-15729
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU45-Geomatrix Consultants
Project: Former Phone-Poulenc
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/26/06 11:47
LCS: 08/26/06 12:16
Instrument/Analyst LCS: PID2/PKC
LCS: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 200 mg-dry-wt
LCS: 200 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCS	LCS	Spike Added-LCS	LCS Recovery	RPD
Benzene	197	205	96.1%	191	205	93.2%	3.1%	
Toluene	1650	1670	98.8%	1610	1670	96.4%	2.5%	
Ethylbenzene	295	305	96.7%	297	305	97.4%	0.7%	
m,p-Xylene	1080	1140	94.7%	1060	1140	93.0%	1.9%	
o-Xylene	398	398	100%	390	398	98.0%	2.0%	

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCS
Trifluorotoluene	106%	101%
Bromobenzene	99.4%	100%

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

Sample ID: LCS-082606

LAB CONTROL SAMPLE

Lab Sample ID: LCS-082606

LIMS ID: 06-15520

Matrix: Water

Data Release Authorized:

Reported: 09/01/06

QC Report No: JU16-Geomatrix Consultants

Project: FRP

Event: 8769.006

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 08/26/06 14:20

LCS D: 08/26/06 14:49

Instrument/Analyst LCS: PID2/PKC

LCS D: PID2/PKC

Purge Volume: 5.0 mL

Dilution Factor LCS: 1.0 mL

LCS D: 1.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCS D	Spike Added-LCS D	LCS D Recovery	RPD
Benzene	7.72	8.20	94.1%	7.22	8.20	88.0%	6.7%
Toluene	67.0	66.8	100%	58.9	66.8	88.2%	12.9%
Ethylbenzene	12.3	12.2	101%	10.7	12.2	87.7%	13.9%
m,p-Xylene	45.3	45.8	98.9%	39.1	45.8	85.4%	14.7%
o-Xylene	16.3	15.9	103%	14.3	15.9	89.9%	13.1%

Reported in $\mu\text{g/L}$ (ppb)


RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCS D
Trifluorotoluene	105%	95.6%
Bromobenzene	102%	94.9%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-082806
LAB CONTROL SAMPLE

Lab Sample ID: LCS-082806
LIMS ID: 06-15513
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06 

QC Report No: JU16-Geomatrix Consultants
Project: FRP
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/28/06 13:15
LCSD: 08/28/06 13:44
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	383	410	93.4%	390	410	95.1%	1.8%
Toluene	3270	3340	97.9%	3230	3340	96.7%	1.2%
Ethylbenzene	609	610	99.8%	592	610	97.0%	2.8%
m,p-Xylene	2240	2290	97.8%	2190	2290	95.6%	2.3%
o-Xylene	797	795	100%	794	795	99.9%	0.4%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	113%	109%
Bromobenzene	103%	102%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB082406W1

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JU16, JU19 Project No.: FRP
 Date Analyzed : 08/24/06 Matrix: WATER
 Time Analyzed : 1309 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS082406W1	LCS082406W1	08/24/06
02	LCSD082406W1	LCSD082406W1	08/24/06
03	RP082406-11	JU19C	08/24/06
04			
05			
06			
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4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB082406S1

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
SDG No.: JU16, JU19 Project No.: FRP
Date Analyzed : 08/24/06 Matrix: SOIL
Time Analyzed : 1141 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	LCS082406S1	LCS082406S1	08/24/06
02	LCSD082406S1	LCSD082406S1	08/24/06
03	RP082406-16	JU19H	08/25/06
04	RP082406-06	JU16B	08/25/06
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4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0826W1

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JU16, JU45 Project No.: FRP
 Date Analyzed : 08/26/06 Matrix: WATER
 Time Analyzed : 1518 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS0826W1	LCS0826W1	08/26/06
02	LCSD0826W1	LCSD0826W1	08/26/06
03	RP082406-08	JU16H	08/26/06
04	RP082608-02	JU45B	08/26/06
05	RP082608-04	JU45D	08/26/06
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4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB082806S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU16, JU19, JU45, JU46

Project No.: FRP

Date Analyzed : 08/28/06

Matrix: SOIL

Time Analyzed : 1414

Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS082806S1	LCS082806S1	08/28/06
02	LCSD082706S1	LCSD082806S1	08/28/06
03	RP082606-09	JU46C	08/28/06
04	RP082608-06	JU45F	08/28/06
05	RP082406-03	JU16G	08/28/06
06	RP082406-14	JU19F	08/28/06
07	RP082406-11	JU19C	08/28/06
08	RP082406-07	JU16C	08/28/06
09	RP082406-04	JU16D	08/28/06
10	RP082406-18	JU19J	08/28/06
11	RP082606-08	JU46B	08/28/06
12	RP082406-09	JU19A	08/28/06
13	RP082406-05	JU16A	08/28/06
14	RP082406-10	JU19B	08/28/06
15	RP082406-12	JU19D	08/28/06
16	RP082406-13	JU19E	08/28/06
17	RP082406-15	JU19G	08/29/06
18	RP082406-17	JU19I	08/29/06
19	RP082608-05	JU45E	08/29/06
20	RP082606-07	JU46A	08/29/06
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4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0826S1

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JUL6, JU45 Project No.: FRP
 Date Analyzed : 08/26/06 Matrix: SOIL
 Time Analyzed : 1246 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	LCS0826S1	LCS0826S1	08/26/06
02	JLSD0826S1	LCSD0826S1	08/26/06
03	RP082608-03	JU45C	08/26/06
04	RP082608-01	JU45A	08/26/06
05	RP082608-01	JU45AMS	08/27/06
06	RP082608-01	JU45AMSD	08/27/06
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BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU16, JU19, JU45, JU46

Project: FRP

Instrument ID: PID2

GC Detector: RTX 502-2 PID

Run Date: 07/27/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT					
S1 : 6.44		S2 : 14.56			
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	ZZZZZ	07/27/06	0953	6.47	14.56
02	ZZZZZ	07/27/06	1022		
03	ZZZZZ	07/27/06	1051		
04	BTEX .25	07/27/06	1121	6.41	14.55
05	BTEX .5	07/27/06	1150	6.41	14.54
06	BTEX 5	07/27/06	1220	6.42	14.55
07	BTEX 25	07/27/06	1249	6.43	14.55
08	BTEX 100	07/27/06	1319	6.44	14.55
09	BTEX 200	07/27/06	1348	6.44	14.56
10	BTEX ICV	07/27/06	1417	6.43	14.56

QC LIMITS
S1 = TFT(Surr) (+/- 0.07 MINUTES)
S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU16, JU19

Project: FRP

Instrument ID: PID2

GC Detector: RTX 502-2 PID

Run Date: 08/24/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT				S1	S2
S1 : 6.43		S2 : 14.54			
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	ZZZZZ	08/24/06	0914	6.43	14.56
02	RT0824+BCAL	08/24/06	0943	6.43	14.56
03	ZZZZZ	08/24/06	1012	6.45	14.56
04	LCS082406S1	08/24/06	1042	6.43	14.55
05	LCSD082406S1	08/24/06	1111	6.43	14.54
06	MB082406S1	08/24/06	1141	6.42	14.55
07	LCS082406W1	08/24/06	1210	6.45	14.56
08	LCSD082406W1	08/24/06	1239	6.43	14.55
09	MB082406W1	08/24/06	1309	6.42	14.55
10	ZZZZZ	08/24/06	1900	6.43	14.56
11	ZZZZZ	08/24/06	1929	6.46	14.57
12	ZZZZZ	08/24/06	1958	6.44	14.55
13	ZZZZZ	08/24/06	2028	6.42	14.55
14	BCAL 2	08/24/06	2057	6.42	14.54
15	ZZZZZ	08/24/06	2127	6.44	14.55
16	ZZZZZ	08/24/06	2156	6.43	14.55
17	RP082406-11	08/24/06	2226	6.41	14.54
18	ZZZZZ	08/24/06	2255	6.44	14.55
19	ZZZZZ	08/24/06	2324	6.48	14.55
20	ZZZZZ	08/24/06	2354	6.42	14.55
21	ZZZZZ	08/25/06	0023	6.42	14.55
22	ZZZZZ	08/25/06	0053	6.42	14.54
23	ZZZZZ	08/25/06	0122	6.47	14.55
24	ZZZZZ	08/25/06	0152	6.45	14.54
25	ZZZZZ	08/25/06	0221	6.43	14.54
26	BCAL 3	08/25/06	0250	6.43	14.55
27	ZZZZZ	08/25/06	0320	6.43	14.55
28	RP082406-16	08/25/06	0349	6.43	14.54
29	ZZZZZ	08/25/06	0419	6.44	14.54
30	ZZZZZ	08/25/06	0448	6.43	14.54
31	RP082406-06	08/25/06	0518	6.41	14.53
32	ZZZZZ	08/25/06	0547	6.42	14.55

S1 = TFT(Surr) (+/- 0.07 MINUTES)
S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JU16, JU19 Project: FRP
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 08/25/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
 IS GIVEN BELOW:

METHOD SURROGATE RT					
		S1 : 6.43 S2 : 14.54			
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01 BCAL 4	BCAL4	08/25/06	0617	6.43	14.54

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)
 S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU16,JU45

Project: FRP

Instrument ID: PID2

GC Detector: RTX 502-2 PID

Run Date: 08/26/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT				S1	S2
S1 : 6.43		S2 : 14.56			
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	ZZZZZ	08/26/06	1019	6.43	14.56
02	RT0826+BCAL	08/26/06	1048	6.43	14.56
03	ZZZZZ	08/26/06	1117	6.44	14.56
04	LCS0826S1	08/26/06	1147	6.43	14.55
05	JLSD0826S1	08/26/06	1216	6.44	14.56
06	MB0826S1	08/26/06	1246	6.42	14.55
07	LCS0826W1	08/26/06	1420	6.46	14.57
08	LCSD0826W1	08/26/06	1449	6.44	14.56
09	MB0826W1	08/26/06	1518	6.42	14.56
10	ZZZZZ	08/26/06	1633		14.56
11	RP082406-08	08/26/06	1702	6.42	14.56
12	ZZZZZ	08/26/06	1732	6.42	14.56
13	BCAL 2	08/26/06	1801	6.44	14.56
14	ZZZZZ	08/26/06	1830	6.44	14.56
15	RP082608-02	08/26/06	1900	6.43	14.56
16	RP082608-04	08/26/06	1929	6.43	14.55
17	RP082608-03	08/26/06	1959	6.42	14.56
18	RP082608-01	08/26/06	2028	6.42	14.55
19	ZZZZZ	08/26/06	2057	6.43	14.56
20	ZZZZZ	08/26/06	2127	6.42	14.56
21	ZZZZZ	08/26/06	2156	6.42	14.56
22	ZZZZZ	08/26/06	2225	6.42	14.54
23	ZZZZZ	08/26/06	2255	6.43	14.55
24	ZZZZZ	08/26/06	2324	6.43	14.55
25	BCAL 3	08/26/06	2354	6.43	14.55
26	ZZZZZ	08/27/06	0023	6.44	14.54
27	RP082608-01	08/27/06	0053	6.44	14.55
28	RP082608-01	08/27/06	0122	6.43	14.54
29	ZZZZZ	08/27/06	0151	6.41	14.54
30	BCAL 4	08/27/06	0221	6.43	14.55
31	GCAL 4	08/27/06	0250	6.45	14.54

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)
S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

8
BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC Client: GEOMATRIX
 SDG No.: JU16, JU19, JU45, JU46 Project: FRP
 Instrument ID: PID2 GC Detector: RTX 502-2 PID
 Run Date: 08/28/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT					
		S1 : 6.43	S2 : 14.56		
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	ZZZZZ	ZZZZZ	08/28/06		14.56
02	RT0828+BCAL	RT0828+BCAL	08/28/06	6.43	14.56
03	ZZZZZ	ZZZZZ	08/28/06	6.44	14.56
04	LCS082806S1	LCS082806S1	08/28/06	6.45	14.56
05	LCSD082706S1	LCSD082806S1	08/28/06	6.44	14.57
06	MB082806S1	MB082806S1	08/28/06	6.42	14.56
07	RP082606-09	JU46C	08/28/06	6.44	14.57
08	RP082608-06	JU45F	08/28/06	6.42	14.56
09	RP082406-03	JU16G	08/28/06	6.44	14.56
10	RP082406-14	JU19F	08/28/06	6.44	14.56
11	RP082406-11	JU19C	08/28/06	6.42	14.56
12	RP082406-07	JU16C	08/28/06	6.43	14.56
13	ZZZZZ	ZZZZZ	08/28/06		14.55
14	BCAL 2	BCAL 2	08/28/06	6.43	14.55
15	RP082406-04	JU16D	08/28/06	6.43	14.56
16	RP082406-18	JU19J	08/28/06	6.43	14.56
17	RP082606-08	JU46B	08/28/06	6.42	14.56
18	RP082406-09	JU19A	08/28/06	6.42	14.55
19	RP082406-05	JU16A	08/28/06	6.42	14.56
20	RP082406-10	JU19B	08/28/06	6.43	14.55
21	RP082406-12	JU19D	08/28/06	6.43	14.54
22	RP082406-13	JU19E	08/28/06	6.43	14.54
23	RP082406-15	JU19G	08/29/06	6.44	14.55
24	ZZZZZ	ZZZZZ	08/29/06		14.54
25	BCAL 3	BCAL 3	08/29/06	6.43	14.54
26	RP082406-17	JU19I	08/29/06	6.43	14.54
27	RP082608-05	JU45E	08/29/06	6.43	14.54
28	RP082606-07	JU46A	08/29/06	6.42	14.55
29	ZZZZZ	ZZZZZ	08/29/06		14.53
30	ZZZZZ	ZZZZZ	08/29/06	6.43	14.54
31	RT0829+BCAL	RT0829+BCAL	08/29/06	6.44	14.57

QC LIMITS
 S1 = TFT(Surr) (+/- 0.07 MINUTES)
 S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

Memorandum

TO: Larry McGaughey **DATE:** September 12, 2006
FROM: Zanna Satterwhite **PROJ. NO.:** 8769.006
CC: Project File **PROJ. NAME:** Former Rhone-Poulenc Site
SUBJECT: **East Parcel Redevelopment Soil Sampling**
Summary Data Quality Review – SDGs JU52, JU97, JV32

This memorandum presents a summary data quality review of 11 primary soil samples and 3 trip blanks collected between August 28 and 31, 2006. The samples were submitted to Analytical Resources, Incorporated (ARI), a Washington State Department of Ecology (Ecology)-accredited laboratory, located in Tukwila, Washington. ARI subcontracted some of the samples to OnSite Environmental, Incorporated (OnSite), located in Redmond, Washington. The samples were analyzed for the following analyses:

- Benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8021

The analyses were performed in general accordance with methods specified in U.S. Environmental Protection Agency's (EPA) Test Methods for Evaluating Solid Waste (SW-846), January 1995 and associated revisions.

Laboratory sample delivery groups (SDGs) associated with the August 2006 sampling events are listed below. The samples associated with each SDG are presented in the table at the end of this memorandum.

<u>Laboratory SDG</u>	<u>Date(s) Collected</u>
JU52	August 28, 2006
JV32	August 28, 2006
JU97	August 31, 2006

Upon receipt by ARI and OnSite, the sample jar information was compared to the chain-of-custody forms. Discrepancies were noted by the laboratory and addressed with Geomatrix personnel prior to sample analyses. The temperatures of the coolers were recorded as part of the check-in procedure. The coolers were within the acceptable range of 4 +/- 2 °C, with the exception of the coolers associated with SDGs JU97 and JU52, which were 13°C and 7°C. Since the samples were dropped off the same day of sampling and ice was present in the coolers, no results were qualified. Cooler temperatures were not recorded for SDG JV32 but samples were delivered to the laboratory in a cooler containing ice.

Memorandum
September 12, 2006
Page 2 of 5

Data review is based on method performance criteria and QC criteria as documented in the May 2006 Soil Sampling Quality Assurance Project Plan (QAPP). The laboratory provided validatable packages containing summarized sample results and associated QA/QC data as well as instrument printouts and sample preparation and injection log pages as required by the QAPP. The data review conducted on these SDGs included a review of summarized results and QA/QC data per the requirements set forth in Section D1 of the QAPP. The control limits provided in the QAPP are advisory limits; therefore, the most current control limits provided by the laboratory were used to evaluate the quality control data. In cases where the laboratory did not track limits for an analyte, the limits in the QAPP were used. Hold times, calibration verification, method blanks, surrogate recoveries, laboratory control samples (LCS), matrix spike/matrix spike duplicate (MS/MSD) results, laboratory duplicate results, field QC results, and reporting limits were reviewed to assess compliance with applicable methods and the QAPP. If data qualification was required, data were qualified in general accordance with the definitions and use of qualifying flags outlined in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, October 1999.

The following qualifiers may be added to the data:

- U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ORGANIC ANALYSES

Samples were analyzed for BTEX by the method identified in the introduction to this report, and were evaluated for the following criteria.

1. Holding Times – Acceptable
2. Initial Calibration – Not included in ARI package JU97, otherwise good.

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September 12, 2006
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3. Calibration Verification – Not included in ARI package JU97. The continuing calibration verification standard for one run in SDG JV32 failed because of an instrument error. According to OnSite, since the spike blank duplicate was made at the same concentration as the continuing calibration verification standard, and the spike blank duplicate brackets all the data, the spike blank duplicate was used as the ending continuing calibration verification standard, and data was acceptable.

The middle BTEX continuing calibration verification standard for instrument run D060830 in SDG JU52 did not meet QC limits. Since the matrix spike duplicate brackets the appropriate data, the matrix spike duplicate was used as the middle continuing calibration verification standard, and data was acceptable.

4. Blanks – Acceptable
No equipment blanks were collected during this sampling event, because all sampling equipment used to collect BTEX samples was dedicated (EPA Method 5035).

5. Surrogates – Acceptable

6. Laboratory Control Samples (LCS) – Acceptable except as noted:

A LCS was not included in the data packages from OnSite for SDG JU52 or JV32. Results were evaluated based on the laboratory duplicates and MS/MSDs where available.

7. Laboratory Duplicates – Acceptable except as noted:

Laboratory duplicates were not included in the data packages from ARI for SDG JU97, but the LCS duplicates showed good relative percent differences (RPDs).

8. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable except as noted:

MS/MSDs were not included in the data packages from ARI for SDG JU97. Results were evaluated based on the LCS.

The project frequency requirement of one MS/MSD for every 20 samples was achieved.

9. Field Duplicates -- Acceptable except as noted below:

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No field duplicate was submitted with any of the SDGs. The field duplicate frequency of 10% was achieved for this sampling event, though field duplicates were not submitted with the samples evaluated in these SDGs.

10. Reporting Limits – Acceptable

11. Other –

For sample RP082806-S1 in SDG JU52, the toluene result was flagged “E” by OnSite, indicating that the value reported exceeds the quantitation range and is an estimate. The laboratory was contacted but they reported that the sample could not be rerun at a higher dilution, because that was the highest dilution possible. Therefore, the result was qualified as estimated and flagged “J”.

Sample RP082806-S1 in SDG JU52 was originally crossed out on the original chain-of-custody; Geomatrix requested the sample to be run for BTEX after sample submittal.

OVERALL ASSESSMENT OF DATA

The ARI/OnSite SDGs JU52, JU97, and JV32 are 100 percent complete. The data usability is based on EPA’s guidance documents and the QAPP referenced in the introduction to this report. Few problems were identified and analytical performance was generally within specified limits. The data are acceptable and meet the project’s data quality objectives.

Sample ID	SDG	Laboratory ID	OnSite “Client ID”	Qualified Analyte	Qualified Result	Units	Qualifier Reason
RP082806-S1	JU52	08-249-01	06-15762-JU52A	toluene	3,800 J	mg/kg	Value reported exceeds quantitation range of lab instrument.
RP082806-B1	JU52	08-249-02	06-15763-JU52B	none			
RP082806-E1	JU52	08-249-03	06-15764-JU52C	none			
RP082806-N2	JU52	08-249-04	06-15765-JU52D	none			
RP082806-E2	JU52	08-249-05	06-15766-JU52E	none			
RP082806-N1	JU52	08-249-06	06-15767-JU52F	none			



Geomatrix

Memorandum
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Sample ID	SDG	Laboratory ID	OnSite "Client ID"	Qualified Analyte	Qualified Result	Units	Qualifier Reason
Trip Blank	JU52	08-249-07	06-15768- JU52G	none			
RP082806-B2	JV32	08-254-01	RP082806-B2	none			
RP082806-B3	JV32	08-254-02	RP082806-B3	none			
RP082806-B4	JV32	08-254-03	RP082806-B4	none			
Trip Blank	JV32	08-254-04	Trip Blank	none			
RP083106-N3	JU97	JU97A	--	none			
RP083106-N4	JU97	JU97B	--	none			
Trip Blank	JU97	JU97C	--	none			



Analytical Resources, Incorporated
Analytical Chemists and Consultants

11 September 2006

Zanna Satterwhite
Geomatrix
600 University, Suite 1020
Seattle, WA 98101



RE: Project No: 8769.006, FRP-East Parcel
ARI Job No: JU52

Dear Zanna:

Please find enclosed the original chain of custody documentation (COC) and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) accepted six soil samples and one trip blank on August 28, 2006. ARI received the samples intact and there were no discrepancies in the paperwork. The samples were analyzed for BETX as requested. The samples were sub-contracted to OnSite Environmental in Redmond, WA as discussed.

If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: file JU52

MDH/mdh

Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Assigned Number: JU52	Turn-around Requested: 48-hour / 24-hour (see comments)	Page: 1 of 1
ARI Client Company: Geomatrix	Phone: 206 342-1772	Date: 8/28/06
Client Contact: Zanna Satterwhite		Ice Present? YES
Client Project Name: Former Rhaw-Paulenc East Parcel		No. of Coolers: 1
Client Project #: 8769.006	Samplers: Zanna Satterwhite	Cooler Temps: 7°C

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested	Notes/Comments
RP082806-S1	8/28/06	0913	S	1x202 2x40ml	X	high suspected toluene
RP082806-B1	8/28/06	1019	S	1x202 2x40ml	X	48-hour TAT.
RP082806-E1	8/28/06	1510		1x202 2x40ml	X	24-hr
RP082806-N2	8/28/06	1523		1x202 2x40ml	X	"
RP082806-E2	8/28/06	1500		1x202 2x40ml	X	"
RP082806-N1	8/28/06	1541	↓	1x202 2x40ml	X	high suspected toluene(?) 24 hr.
RP082806	8/28/06			1x202 2x40ml	X	
RP082806	8/28/06			1x202 2x40ml	X	
RP082806	8/28/06			1x202 2x40ml	X	
Trip Blank	8/28/06				X	48 hr TAT

BTEX (802)
(Methanol preserved)

Comments/Special Instructions	Relinquished by: (Signature) Z S =	Received by: (Signature) Susan D Dunne	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Zanna Satterwhite	Printed Name: Susan D Dunne	Printed Name:	Printed Name:
	Company: Geomatrix	Company: ARI	Company:	Company:
	Date & Time: 8/29/06 1550	Date & Time: 08/28/06 1550	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



**OnSite
Environmental Inc.**
Analytical Testing and Mobile Laboratory Services

September 5, 2006

Mark Harris
Analytical Resources, Inc.
4611 South 134th Place, Suite 100
Tukwila, WA 98168

Re: Analytical Data for Project JU52
Laboratory Reference No. 0608-249

Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on August 28, 2006.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

0002

Date of Report: September 5, 2006
Samples Submitted: August 28, 2006
Laboratory Reference: 0608-249
Project: JU52

Case Narrative

Samples were collected on August 28, 2006 and received by the laboratory on August 28, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

BTEX by EPA 8021B Analysis

Per EPA method 5035A, samples were received by the laboratory in pre-weighed 40 ml VOA vials preserved with either Methanol or Sodium Bisulfate.

The middle BTEX continuing calibration verification standard for instrument run D060830 did not meet QC limits. Since the matrix spike duplicate was made at the same concentration as the continuing calibration verification standard, and the matrix spike duplicate brackets the appropriate data, the matrix spike duplicate was used as the middle continuing calibration verification standard.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B**

Date Extracted: 8-29-06
 Date Analyzed: 8-29&30-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID:	06-15763-JU52B	06-15764-JU52C
Lab ID:	08-249-02	08-249-03

	Result	Flags	PQL	Result	Flags	PQL
Benzene	0.065		0.020	ND		0.020
Toluene	150		1.5	ND		0.082
Ethyl Benzene	ND		0.076	ND		0.082
m,p-Xylene	ND		0.076	ND		0.082
o-Xylene	ND		0.076	ND		0.082
Surrogate Recovery:						
Fluorobenzene	82%			64%		

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B**

Date Extracted: 8-29-06
 Date Analyzed: 8-29-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID: **06-15765-JU52D** **06-15766-JU52E**
 Lab ID: 08-249-04 08-249-05

	Result	Flags	PQL	Result	Flags	PQL
Benzene	0.045		0.020	ND		0.020
Toluene	0.23		0.074	0.10		0.068
Ethyl Benzene	ND		0.074	ND		0.068
m,p-Xylene	0.67		0.074	ND		0.068
o-Xylene	ND		0.074	ND		0.068
Surrogate Recovery: Fluorobenzene	84%			104%		

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B**

Date Extracted: 8-29-06
 Date Analyzed: 8-29-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID: **06-15767-JU52F**
 Lab ID: 08-249-06

	Result	Flags	PQL
Benzene	0.036		0.020
Toluene	81		1.4
Ethyl Benzene	ND		0.070
m,p-Xylene	ND		0.070
o-Xylene	ND		0.070
Surrogate Recovery: Fluorobenzene	78%		

Date of Report: September 5, 2006
Samples Submitted: August 28, 2006
Laboratory Reference: 0608-249
Project: JU52

**BTEX
EPA 8021B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-29-06
Date Analyzed: 8-29-06

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0829S1

	Result	Flags	PQL
Benzene	ND		0.020
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
Surrogate Recovery: Fluorobenzene	110%		

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B
 DUPLICATE QUALITY CONTROL**

Date Extracted: 8-29-06

Date Analyzed: 8-30-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID:	08-249-03 Original	08-249-03 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	64%	87%		

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B
 MS/MSD QUALITY CONTROL**

Date Extracted: 8-29-06

Date Analyzed: 8-29-06

Matrix: Soil
 Units: mg/kg (ppm)

Spike Level (ppm): 3.12

Lab ID:	08-249-03 MS	Percent Recovery	08-249-03 MSD	Percent Recovery	RPD	Flags
Benzene	2.99	96	2.96	95	1	
Toluene	3.15	101	3.08	99	2	
Ethyl Benzene	2.95	95	2.97	95	0	
m,p-Xylene	2.97	95	2.98	96	0	
o-Xylene	2.97	95	2.99	96	1	

Surrogate Recovery:

Fluorobenzene 73% 71%

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX by
 EPA 8021B
 CONTINUING CALIBRATION SUMMARY**

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Benzene	CCVD0829B-1	50.0	45.6	9	+/- 15%
Toluene	CCVD0829B-1	50.0	46.0	8	+/- 15%
Ethyl Benzene	CCVD0829B-1	50.0	45.3	9	+/- 15%
m,p-Xylene	CCVD0829B-1	50.0	46.1	8	+/- 15%
o-Xylene	CCVD0829B-1	50.0	45.5	9	+/- 15%
Benzene	CCVD0829B-2	50.0	49.3	1	+/- 15%
Toluene	CCVD0829B-2	50.0	53.6	-7	+/- 15%
Ethyl Benzene	CCVD0829B-2	50.0	49.1	2	+/- 15%
m,p-Xylene	CCVD0829B-2	50.0	49.7	1	+/- 15%
o-Xylene	CCVD0829B-2	50.0	49.5	1	+/- 15%
Benzene	CCVD0829B-3	50.0	48.8	2	+/- 15%
Toluene	CCVD0829B-3	50.0	49.5	1	+/- 15%
Ethyl Benzene	CCVD0829B-3	50.0	48.4	3	+/- 15%
m,p-Xylene	CCVD0829B-3	50.0	49.1	2	+/- 15%
o-Xylene	CCVD0829B-3	50.0	48.7	3	+/- 15%
Benzene	CCVH0829B-1	50.0	50.5	-1	+/- 15%
Toluene	CCVH0829B-1	50.0	51.2	-2	+/- 15%
Ethyl Benzene	CCVH0829B-1	50.0	50.3	-1	+/- 15%
m,p-Xylene	CCVH0829B-1	50.0	51.1	-2	+/- 15%
o-Xylene	CCVH0829B-1	50.0	50.4	-1	+/- 15%
Benzene	CCVH0829B-2	50.0	51.1	-2	+/- 15%
Toluene	CCVH0829B-2	50.0	52.1	-4	+/- 15%
Ethyl Benzene	CCVH0829B-2	50.0	51.0	-2	+/- 15%
m,p-Xylene	CCVH0829B-2	50.0	51.5	-3	+/- 15%
o-Xylene	CCVH0829B-2	50.0	51.0	-2	+/- 15%
Benzene	CCVD0830B-1	50.0	44.5	11	+/- 15%
Toluene	CCVD0830B-1	50.0	44.9	10	+/- 15%
Ethyl Benzene	CCVD0830B-1	50.0	44.0	12	+/- 15%
m,p-Xylene	CCVD0830B-1	50.0	44.9	10	+/- 15%
o-Xylene	CCVD0830B-1	50.0	44.3	11	+/- 15%

Date of Report: September 5, 2006
Samples Submitted: August 28, 2006
Laboratory Reference: 0608-249
Project: JU52

**BTEX
EPA 8021B**

Date Extracted: 8-29-06
Date Analyzed: 8-29-06

Matrix: Water
Units: ug/L (ppb)

Client ID: 06-15768-JU52G
Lab ID: 08-249-07

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0

Surrogate Recovery:
Fluorobenzene 88%

Date of Report: September 5, 2006
Samples Submitted: August 28, 2006
Laboratory Reference: 0608-249
Project: JU52

**BTEX
EPA 8021B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-29-06
Date Analyzed: 8-29-06

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0829W1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0

Surrogate Recovery:
Fluorobenzene 89%

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B
 DUPLICATE QUALITY CONTROL**

Date Extracted: 8-29-06
 Date Analyzed: 8-29-06

Matrix: Water
 Units: ug/L (ppb)

Lab ID:	08-242-01 Original	08-242-01 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
Surrogate Recovery: Fluorobenzene	88%	91%		

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B
 MS/MSD QUALITY CONTROL**

Date Extracted: 8-29-06
 Date Analyzed: 8-29-06

Matrix: Water
 Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	08-242-01 MS	Percent Recovery	08-242-01 MSD	Percent Recovery	RPD	Flags
Benzene	49.3	99	49.4	99	0	
Toluene	49.0	98	49.0	98	0	
Ethyl Benzene	48.5	97	48.6	97	0	
m,p-Xylene	48.5	97	48.7	97	0	
o-Xylene	48.3	97	48.5	97	0	
Surrogate Recovery: Fluorobenzene	91%		93%			

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX by
 EPA 8021B
 CONTINUING CALIBRATION SUMMARY**

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Benzene	CCVD0829B-1	50.0	45.6	9	+/- 15%
Toluene	CCVD0829B-1	50.0	46.0	8	+/- 15%
Ethyl Benzene	CCVD0829B-1	50.0	45.3	9	+/- 15%
m,p-Xylene	CCVD0829B-1	50.0	46.1	8	+/- 15%
o-Xylene	CCVD0829B-1	50.0	45.5	9	+/- 15%
Benzene	CCVD0829B-2	50.0	49.3	1	+/- 15%
Toluene	CCVD0829B-2	50.0	53.6	-7	+/- 15%
Ethyl Benzene	CCVD0829B-2	50.0	49.1	2	+/- 15%
m,p-Xylene	CCVD0829B-2	50.0	49.7	1	+/- 15%
o-Xylene	CCVD0829B-2	50.0	49.5	1	+/- 15%
Benzene	CCVD0829B-3	50.0	48.8	2	+/- 15%
Toluene	CCVD0829B-3	50.0	49.5	1	+/- 15%
Ethyl Benzene	CCVD0829B-3	50.0	48.4	3	+/- 15%
m,p-Xylene	CCVD0829B-3	50.0	49.1	2	+/- 15%
o-Xylene	CCVD0829B-3	50.0	48.7	3	+/- 15%
Benzene	CCVH0829B-1	50.0	50.5	-1	+/- 15%
Toluene	CCVH0829B-1	50.0	51.2	-2	+/- 15%
Ethyl Benzene	CCVH0829B-1	50.0	50.3	-1	+/- 15%
m,p-Xylene	CCVH0829B-1	50.0	51.1	-2	+/- 15%
o-Xylene	CCVH0829B-1	50.0	50.4	-1	+/- 15%
Benzene	CCVH0829B-2	50.0	51.1	-2	+/- 15%
Toluene	CCVH0829B-2	50.0	52.1	-4	+/- 15%
Ethyl Benzene	CCVH0829B-2	50.0	51.0	-2	+/- 15%
m,p-Xylene	CCVH0829B-2	50.0	51.5	-3	+/- 15%
o-Xylene	CCVH0829B-2	50.0	51.0	-2	+/- 15%
Benzene	CCVD0830B-1	50.0	44.5	11	+/- 15%
Toluene	CCVD0830B-1	50.0	44.9	10	+/- 15%
Ethyl Benzene	CCVD0830B-1	50.0	44.0	12	+/- 15%
m,p-Xylene	CCVD0830B-1	50.0	44.9	10	+/- 15%
o-Xylene	CCVD0830B-1	50.0	44.3	11	+/- 15%

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

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

0015

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B**

Date Extracted: 8-29-06
 Date Analyzed: 8-29-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID: 06-15762-JU52A
 Lab ID: 08-249-01

	Result	Flags	PQL
Benzene	3.7		0.28
Toluene	3800	E	1.4
Ethyl Benzene	11		1.4
m,p-Xylene	12		1.4
o-Xylene	2.2		1.4
Surrogate Recovery: Fluorobenzene	114%		

J

ZAS
 9/12/06

Date of Report: September 5, 2006
Samples Submitted: August 28, 2006
Laboratory Reference: 0608-249
Project: JU52

**BTEX
EPA 8021B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-29-06
Date Analyzed: 8-29-06

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0829S1

	Result	Flags	PQL
Benzene	ND		0.020
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
Surrogate Recovery: Fluorobenzene	110%		

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B
 DUPLICATE QUALITY CONTROL**

Date Extracted: 8-29-06

Date Analyzed: 8-30-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID:	08-249-03 Original	08-249-03 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	64%	87%		

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX
 EPA 8021B
 MS/MSD QUALITY CONTROL**

Date Extracted: 8-29-06

Date Analyzed: 8-29-06

Matrix: Soil
 Units: mg/kg (ppm)

Spike Level (ppm): 3.12

Lab ID:	08-249-03 MS	Percent Recovery	08-249-03 MSD	Percent Recovery	RPD	Flags
Benzene	2.99	96	2.96	95	1	
Toluene	3.15	101	3.08	99	2	
Ethyl Benzene	2.95	95	2.97	95	0	
m,p-Xylene	2.97	95	2.98	96	0	
o-Xylene	2.97	95	2.99	96	1	

Surrogate Recovery:

Fluorobenzene 73% 71%

Date of Report: September 5, 2006
 Samples Submitted: August 28, 2006
 Laboratory Reference: 0608-249
 Project: JU52

**BTEX by
 EPA 8021B
 CONTINUING CALIBRATION SUMMARY**

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Benzene	CCVD0829B-1	50.0	45.6	9	+/- 15%
Toluene	CCVD0829B-1	50.0	46.0	8	+/- 15%
Ethyl Benzene	CCVD0829B-1	50.0	45.3	9	+/- 15%
m,p-Xylene	CCVD0829B-1	50.0	46.1	8	+/- 15%
o-Xylene	CCVD0829B-1	50.0	45.5	9	+/- 15%
Benzene	CCVD0829B-2	50.0	49.3	1	+/- 15%
Toluene	CCVD0829B-2	50.0	53.6	-7	+/- 15%
Ethyl Benzene	CCVD0829B-2	50.0	49.1	2	+/- 15%
m,p-Xylene	CCVD0829B-2	50.0	49.7	1	+/- 15%
o-Xylene	CCVD0829B-2	50.0	49.5	1	+/- 15%
Benzene	CCVH0829B-1	50.0	50.5	-1	+/- 15%
Toluene	CCVH0829B-1	50.0	51.2	-2	+/- 15%
Ethyl Benzene	CCVH0829B-1	50.0	50.3	-1	+/- 15%
m,p-Xylene	CCVH0829B-1	50.0	51.1	-2	+/- 15%
o-Xylene	CCVH0829B-1	50.0	50.4	-1	+/- 15%
Benzene	CCVH0829B-2	50.0	51.1	-2	+/- 15%
Toluene	CCVH0829B-2	50.0	52.1	-4	+/- 15%
Ethyl Benzene	CCVH0829B-2	50.0	51.0	-2	+/- 15%
m,p-Xylene	CCVH0829B-2	50.0	51.5	-3	+/- 15%
o-Xylene	CCVH0829B-2	50.0	51.0	-2	+/- 15%

Date of Report: September 5, 2006
Samples Submitted: August 28, 2006
Laboratory Reference: 0608-249
Project: JU52

% MOISTURE

Date Analyzed: 8-29-06

Client ID	Lab ID	% Moisture
06-15762-JU52A	08-249-01	20
06-15763-JU52B	08-249-02	23
06-15764-JU52C	08-249-03	24
06-15765-JU52D	08-249-04	25
06-15766-JU52E	08-249-05	8
06-15767-JU52F	08-249-06	18



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- G - Insufficient sample quantity for duplicate analysis.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- O - Hydrocarbons indicative of diesel fuel are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a silica gel cleanup procedure.
- Y - Sample extract treated with an acid/silica gel cleanup procedure.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference



08-249

Laboratory: Onsite Environmental, Inc.
Lab Contact: David Baumeister
Lab Address: 14648 N.E. 95th Street
Redmond, WA 98052
Phone: 425-883-3881
Fax: 425-885-4603

ARI Client: Geomatrix Consultants
Project ID: Former Rhone Poulenc East Parcel
ARI PM: Mark Harris
Phone: 206-695-6210
Fax: 206-695-6201

Analytical Protocol: In-house
Special Instructions:

Requested Turn Around: 08/29/06
Fax Results (Y/N): Yes

Limits of Liability. Subcontractor is expected to perform all requested services in accordance with appropriate methodology following Standard Operating Procedures that meet standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the negotiated amount for said services. The agreement by the Subcontractor to perform services requested by ARI releases ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Subcontractor.

ARI ID	Client ID/ Add'l ID	Sampled	Matrix	Bottles	Analyses	Moisture
06-15762-JU52A	RP082806-S1	08/28/06	Soil	1	BETX 8021 NO. DB BETX 8021 ⊗	X NO. DB
Special Instructions: Data ASAP						
06-15763-JU52B	RP082806-B1	08/28/06	Soil	1	BETX 8021	X
Special Instructions: Data ASAP						
06-15764-JU52C	RP082806-E1	08/28/06	Soil	1	BETX 8021	X
Special Instructions: Data ASAP						
06-15765-JU52D	RP082806-N2	08/28/06	Soil	1	BETX 8021	X
Special Instructions: Data ASAP						
06-15766-JU52E	RP082806-E2	08/28/06	Soil	1	BETX 8021	X
Special Instructions: Data ASAP						
06-15767-JU52F	RP082806-N1	08/28/06	Soil	1	BETX 8021	X
Special Instructions: Data ASAP						
06-15768-JU52G	Trip Blank	08/28/06	Soil WATER	1	BETX 8021	
Special Instructions: Data ASAP						

⊗ Added 8/29/06 DB
(1 day TAT)

Carrier		Airbill		Date	
Relinquished by	Company	Date	Time		
<i>Betsy Golden</i>	ARI	8/28/06	1705		
Received by	Company	Date	Time		
<i>Carla E. [Signature]</i>	OSE	8/28/06	1705		



Analytical Resources, Incorporated
Analytical Chemists and Consultants

13 September 2006

Zanna Satterwhite
Geomatrix
600 University Suite 1020
Seattle, WA 98101



RE: Client Project: FRP-East Parcel; 8769.006
ARI Job Number: JU97

Dear Zanna:

Please find enclosed the final data package for samples for the project referenced above. ARI received three soil samples and one trip blank on August 31, 2006. All samples were received intact and there were no discrepancies in the paperwork. One soil sample was placed on hold as specified. The remaining samples were analyzed for BETX by method 8021B as requested.

Please refer to the case narrative for anomalies associated with these samples.

A copy of this package will be kept on file at ARI. If you have questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.


Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: file JU97

MDH/mdh

Chain of Custody Documentation

**Prepared
for**

Geomatrix Consultants

Project: FRP East Parcel, 8769.006

ARI Job No. JU97

**Prepared
By**

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: JU 97	Turn-around Requested: 24-hr (see comments)	Page: 1 of 1
ARI Client Company: Geomatrix Consultants	Phone: 206 342 1772	Date: 8/31/06
Client Contact: Zanna Sattenberlo		Ice Present?: Y
Client Project Name: Former Rhone-Poulenc East Parcel		No. of Coolers: 1
Client Project #: 8769.006	Samplers: 215 200 Joanna Marsolek	Cooler Temps: 13°



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested							Notes/Comments	
					BTEX (SO2)	HOLD							
RP083106-N3	8/31/06	1600	S	2x40ml 1x20z	X								Methanol-preserved
RP083106-N4	8/31/06	1510	S	2x40ml 1x20z	X								" "
Trip Blank	8/31/06	—	W	2x40ml	X								HCl preserved. 48 hr
RP083106-N5	8/31/06	1550	S	2x40ml 1x20z		X							Methanol-preserved
Comments/Special Instructions	Relinquished by: (Signature) <i>[Signature]</i>		Received by: (Signature) <i>[Signature]</i>		Relinquished by: (Signature)			Received by: (Signature)					
	Printed Name: Joanna Marsolek		Printed Name: BOB CONLINGTON		Printed Name:			Printed Name:					
	Company: Geomatrix		Company: ARI		Company:			Company:					
	Date & Time: 8/31/06 1635		Date & Time: 8/31/06 1635		Date & Time:			Date & Time:					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Cooler Receipt Form



ARI Client: Gomx Project Name: _____
COC NO.: _____ Delivered By: HAND
Tracking NO.: _____ Date: _____
ARI Job No.: _____ Lims NO.: _____

Preliminary Examination Phase:

- Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
- Were custody papers included with the cooler YES NO
- Were custody papers properly filled out (ink, signed etc.)? YES NO
- Complete custody forms and attach all shipping documents OK NA

Cooler Accepted BY: Bela Congleton Date: 8/31/06 Time: 1635

Log-IN Phase:

- Was a temperature blank include in the cooler? YES NO
- Record Cooler Temperature 13 °C
- What kind of packing material was used? ICE
- Was sufficient ice used (if appropriate)? YES NO *recently sampled*
- Were all bottles sealed in separate plastic bags? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Were all bottle labels complete and legible? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were all bottles used correct for the requested analyses? YES NO
- Do any of the analyses (bottles) require preservative?
(If so, Preservation checklist must be attached) YES NO
- Were all VOA vials free of air bubbles? YES NO
- Was sufficient amount of sample sent in each bottle? YES NO
- Notify Project Manager of any discrepancies or concerns OK NA

Cooler Opened By: Bela Congleton Date: 8/31/06 Time: 1635

Explain any discrepancies or negative responses:

Case Narrative

**Prepared
for**

Geomatrix Consultants

Project: FRP East Parcel, 8769.006

ARI Job No. JU97

**Prepared
By**

Analytical Resources, Inc.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Geomatrix

Client Project: FRP-East Parcel; 8769.006

ARI Job Number: JU97

Soil

13 September, 2006

BTEX Analysis (8021BMod)

No analytical complications were noted for this analysis.

Data Summary Package

**Prepared
for**

Geomatrix Consultants

Project: FRP East Parcel, 8769.006

ARI Job No. JU97

**Prepared
By**

Analytical Resources, Inc.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Geomatrix

Client Project: FRP-East Parcel; 8769.006

ARI Job Number: JU97

Soil

13 September, 2006

BTEX Analysis (8021BMod)

No analytical complications were noted for this analysis.

0007

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021EMod
Page 1 of 1

Sample ID: RP083106-N3
SAMPLE

Lab Sample ID: JU97A
LIMS ID: 06-16106
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006
Date Sampled: 08/31/06
Date Received: 08/31/06

Date Analyzed: 08/31/06 18:21
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Sample Amount: 59 mg-dry-wt
Percent Moisture: 23.7%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	21	< 21 U
108-88-3	Toluene	21	< 21 U
100-41-4	Ethylbenzene	21	< 21 U
	m,p-Xylene	42	< 42 U
95-47-6	o-Xylene	21	< 21 U

BETX Surrogate Recovery

Trifluorotoluene	92.3%
Bromobenzene	96.8%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP083106-N4
SAMPLE

Lab Sample ID: JU97B
LIMS ID: 06-16107
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006
Date Sampled: 08/31/06
Date Received: 08/31/06

Date Analyzed: 08/31/06 18:50
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Sample Amount: 60 mg-dry-wt
Percent Moisture: 21.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	21	< 21 U
108-88-3	Toluene	21	< 21 U
100-41-4	Ethylbenzene	21	< 21 U
	m,p-Xylene	42	110
95-47-6	o-Xylene	21	< 21 U


BETX Surrogate Recovery

Trifluorotoluene	100%
Bromobenzene	103%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: TRIP BLANK
SAMPLE

Lab Sample ID: JU97C
LIMS ID: 06-16108
Matrix: Water
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006
Date Sampled: 08/31/06
Date Received: 08/31/06

Date Analyzed: 08/31/06 17:53
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	0.25	< 0.25 U
108-88-3	Toluene	0.25	< 0.25 U
100-41-4	Ethylbenzene	0.25	< 0.25 U
	m,p-Xylene	0.50	< 0.50 U
95-47-6	o-Xylene	0.25	< 0.25 U

BETX Surrogate Recovery

Trifluorotoluene	101%
Bromobenzene	102%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU97
Matrix: Soil

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-083106	102%	101%	0
LCS-083106	107%	104%	0
LCSD-083106	103%	103%	0
RP083106-N3	92.3%	96.8%	0
RP083106-N4	100%	103%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-16106 to 06-16107

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU97
Matrix: Water

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006


<u>Client ID</u>	<u>TFT</u>	<u>BBZ</u>	<u>TOT OUT</u>
TRIP BLANK	101%	102%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-16108 to 06-16108

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-083106
LAB CONTROL SAMPLE

Lab Sample ID: LCS-083106
LIMS ID: 06-16106
Matrix: Soil
Data Release Authorized: 
Reported: 09/01/06

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/31/06 15:22
LCSD: 08/31/06 15:51
Instrument/Analyst LCS: PID1/PKC
LCSD: PID1/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	396	410	96.6%	378	410	92.2%	4.7%
Toluene	3280	3340	98.2%	3100	3340	92.8%	5.6%
Ethylbenzene	618	610	101%	585	610	95.9%	5.5%
m,p-Xylene	2350	2290	103%	2220	2290	96.9%	5.7%
o-Xylene	820	795	103%	789	795	99.2%	3.9%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	107%	103%
Bromobenzene	104%	103%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB083106S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU97

Project No.: FRP EAST PARCEL

Date Analyzed : 08/31/06

Matrix: SOIL

Time Analyzed : 1620

Instrument ID : PID1

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS083106S1	LCS083106S1	08/31/06
02	LCSD083106S1	LCSD083106S1	08/31/06
03	TRIP BLANK	JU97C	08/31/06
04	RP083106-N3	JU97A	08/31/06
05	RP083106-N4	JU97B	08/31/06
06			
07			
08			
09			
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11			
12			
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29			
30			

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: MB-083106
METHOD BLANK

Lab Sample ID: MB-083106
LIMS ID: 06-16106
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 08/31/06 16:20
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	12	< 12 U
108-88-3	Toluene	12	< 12 U
100-41-4	Ethylbenzene	12	< 12 U
	m,p-Xylene	25	< 25 U
95-47-6	o-Xylene	12	< 12 U

BETX Surrogate Recovery

Trifluorotoluene	102%
Bromobenzene	101%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

TOTAL SOLIDS

BETX/TPHG Total Solids-betxts
Data By: Paul K. Campbell
Created: 9/ 1/06

Worklist: 6850
Analyst: PKC
Comments:

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JU97A 06-16106	1.06	16.50	12.84	76.3
2. JU97B 06-16107	1.09	10.26	8.26	78.2

Worklist ID: 6850 Page: 1
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
\$ - BETX TS Copied From Extraction TS

Laboratory Data Package

**Prepared
for**

Geomatrix Consultants

Project: FRP East Parcel, 8769.006

ARI Job No. JU97

**Prepared
By**

Analytical Resources, Inc.

ARI Data Reporting Qualifiers

Effective 11/22/04

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte reporting limit is raised due to a positive chromatographic interference. The compound is not detected above the raised limit but may be present at or below the limit
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

**BETX Analysis
QC Summary Data**

**Prepared
for**

Geomatrix Consultants

Project: FRP East Parcel, 8769.006

ARI Job No. JU97

**Prepared
By**

Analytical Resources, Inc.

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JU97
Matrix: Soil

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT	OUT
MB-083106	102%	101%		0
LCS-083106	107%	104%		0
LCSD-083106	103%	103%		0
RP083106-N3	92.3%	96.8%		0
RP083106-N4	100%	103%		0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-16106 to 06-16107

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JU97
Matrix: Water

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006

<u>Client ID</u>	<u>TFT</u>	<u>BBZ</u>	<u>TOT OUT</u>
TRIP BLANK	101%	102%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-16108 to 06-16108

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-083106
LAB CONTROL SAMPLE

Lab Sample ID: LCS-083106
LIMS ID: 06-16106
Matrix: Soil
Data Release Authorized:
Reported: 09/01/06

QC Report No: JU97-Geomatrix Consultants
Project: FRP East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 08/31/06 15:22
LCSD: 08/31/06 15:51
Instrument/Analyst LCS: PID1/PKC
LCSD: PID1/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	396	410	95.6%	378	410	92.2%	4.7%
Toluene	3280	3340	98.2%	3100	3340	92.8%	5.6%
Ethylbenzene	618	610	101%	585	610	95.9%	5.5%
m,p-Xylene	2350	2290	103%	2220	2290	96.9%	5.7%
o-Xylene	820	795	103%	789	795	99.2%	3.9%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	107%	103%
Bromobenzene	104%	103%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB083106S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU97

Project No.: FRP EAST PARCEL

Date Analyzed : 08/31/06

Matrix: SOIL

Time Analyzed : 1620

Instrument ID : PID1

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS083106S1	LCS083106S1	08/31/06
02	LCSD083106S1	LCSD083106S1	08/31/06
03	TRIP BLANK	JU97C	08/31/06
04	RP083106-N3	JU97A	08/31/06
05	RP083106-N4	JU97B	08/31/06
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JU97

Project: FRP EAST PARCEL

Instrument ID: PID1

GC Detector: RTX 502-2 PID

Run Date: 08/31/06

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,
IS GIVEN BELOW:

METHOD SURROGATE RT							
S1 : 7.37		S2 : 14.85					
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
01	ZZZZZ	08/31/06	1313	7.38		14.85	
02	RT0831+BCAL	08/31/06	1342	7.37		14.85	
03	ZZZZZ	08/31/06	1411	7.37		14.85	
04	LCS083106S1	08/31/06	1522	7.37		14.85	
05	ZZZZZ	08/31/06	1551	7.37		14.85	
06	MB083106S1	08/31/06	1620	7.37		14.85	
07	ZZZZZ	08/31/06	1724	7.37		14.85	
08	TRIP BLANK	08/31/06	1753	7.37		14.85	
09	RP083106-N3	08/31/06	1821	7.37		14.85	
10	RP083106-N4	08/31/06	1850	7.37		14.85	
11	ZZZZZ	08/31/06	1919	7.37		14.81	
12	ZZZZZ	08/31/06	1948	7.37		14.85	
13	ZZZZZ	08/31/06	2017				
14	BCAL 2	08/31/06	2046	7.37		14.85	

S1 = TFT(Surr) (+/- 0.07 MINUTES)
S2 = BB(Surr) (+/- 0.07 MINUTES)

QC LIMITS

* Values outside of QC limits.



Analytical Resources, Incorporated
Analytical Chemists and Consultants



5 September 2006

Zanna Satterwhite
Geomatrix
600 University, Suite 1020
Seattle, WA 98101

RE: Project No: 8769.006, FRP
ARI Job No: JV32

Dear Zanna:

Please find enclosed the chain of custody documentation (COC) and the final results for the samples from the project referenced above.

The analysis was performed by OnSite Environmental Inc.

A copy of these reports and all raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
mark@arilabs.com

Enclosures

cc: file JV32

MDH/esj



**OnSite
Environmental Inc.**

Analytical Testing and Mobile Laboratory Services

August 31, 2006

Mark Harris
Analytical Resources, Inc.
4611 South 134th Place, Suite 100
Tukwila, WA 98168

Re: Analytical Data for Project 8769.006
Laboratory Reference No. 0608-254

Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on August 29, 2006.

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

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

Sincerely,



David Baumeister
Project Manager

Enclosures

Date of Report: August 31, 2006
Samples Submitted: August 29, 2006
Laboratory Reference: 0608-254
Project: 8769.006

Case Narrative

Samples were collected on August 28, 2006 and received by the laboratory on August 29, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

BTEX EPA 8021B (soil) Analysis

Per EPA method 5035A, samples were received by the laboratory in pre-weighed 40 ml VOA vials preserved with either Methanol or Sodium Bisulfate.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

BTEX EPA 8021B (water) Analysis

The ending BTEX continuing calibration verification standard for instrument run H060830 failed because of an instrument error. Since the spike blank duplicate was made at the same concentration as the continuing calibration verification standard, and the spike blank duplicate brackets all the data, the spike blank duplicate was used as the ending continuing calibration verification standard.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B**

Date Extracted: 8-29-06
 Date Analyzed: 8-30-06

Matrix: Soil
 Units: mg/kg (ppm)

Client ID:	RP082806-B2	RP082806-B3
Lab ID:	08-254-01	08-254-02

	Result	<i>Flags</i>	PQL	Result	<i>Flags</i>	PQL
Benzene	ND		0.020	ND		0.020
Toluene	0.47		0.061	4.7		0.068
Ethyl Benzene	ND		0.061	ND		0.068
m,p-Xylene	ND		0.061	ND		0.068
o-Xylene	ND		0.061	ND		0.068
Surrogate Recovery:						
Fluorobenzene	91%			97%		

Date of Report: August 31, 2006
Samples Submitted: August 29, 2006
Laboratory Reference: 0608-254
Project: 8769.006

**BTEX
EPA 8021B**

Date Extracted: 8-29-06
Date Analyzed: 8-30-06

Matrix: Soil
Units: mg/kg (ppm)

Client ID: **RP082806-B4**
Lab ID: 08-254-03

	Result	Flags	PQL
Benzene	ND		0.020
Toluene	0.16		0.068
Ethyl Benzene	ND		0.068
m,p-Xylene	ND		0.068
o-Xylene	ND		0.068
Surrogate Recovery: Fluorobenzene	88%		

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B
 METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-29-06
 Date Analyzed: 8-29-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: MB0829S2

	Result	Flags	PQL
Benzene	ND		0.020
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
Surrogate Recovery: Fluorobenzene	89%		

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B
 DUPLICATE QUALITY CONTROL**

Date Extracted: 8-29-06

Date Analyzed: 8-30-06

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID:	08-251-01 Original	08-251-01 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	103%	100%		

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B
 MS/MSD QUALITY CONTROL**

Date Extracted: 8-29-06
 Date Analyzed: 8-29-06

Matrix: Soil
 Units: mg/kg (ppm)

Spike Level (ppm): 3.12

Lab ID:	08-249-03 MS	Percent Recovery	08-249-03 MSD	Percent Recovery	RPD	Flags
Benzene	2.99	96	2.96	95	1	
Toluene	3.15	101	3.08	99	2	
Ethyl Benzene	2.95	95	2.97	95	0	
m,p-Xylene	2.97	95	2.98	96	0	
o-Xylene	2.97	95	2.99	96	1	

Surrogate Recovery:
 Fluorobenzene 73% 71%

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B
 CONTINUING CALIBRATION SUMMARY**

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Benzene	CCVD0829B-1	50.0	45.6	9	+/- 15%
Toluene	CCVD0829B-1	50.0	46.0	8	+/- 15%
Ethyl Benzene	CCVD0829B-1	50.0	45.3	9	+/- 15%
m,p-Xylene	CCVD0829B-1	50.0	46.1	8	+/- 15%
o-Xylene	CCVD0829B-1	50.0	45.5	9	+/- 15%
Benzene	CCVD0829B-2	50.0	49.3	1	+/- 15%
Toluene	CCVD0829B-2	50.0	53.6	-7	+/- 15%
Ethyl Benzene	CCVD0829B-2	50.0	49.1	2	+/- 15%
m,p-Xylene	CCVD0829B-2	50.0	49.7	1	+/- 15%
o-Xylene	CCVD0829B-2	50.0	49.5	1	+/- 15%
Benzene	CCVD0829B-3	50.0	48.8	2	+/- 15%
Toluene	CCVD0829B-3	50.0	49.5	1	+/- 15%
Ethyl Benzene	CCVD0829B-3	50.0	48.4	3	+/- 15%
m,p-Xylene	CCVD0829B-3	50.0	49.1	2	+/- 15%
o-Xylene	CCVD0829B-3	50.0	48.7	3	+/- 15%
Benzene	CCVH0830B-1	50.0	50.1	0	+/- 15%
Toluene	CCVH0830B-1	50.0	50.5	-1	+/- 15%
Ethyl Benzene	CCVH0830B-1	50.0	49.5	1	+/- 15%
m,p-Xylene	CCVH0830B-1	50.0	50.0	0	+/- 15%
o-Xylene	CCVH0830B-1	50.0	49.8	0	+/- 15%
Benzene	CCVH0830B-2	50.0	50.7	-1	+/- 15%
Toluene	CCVH0830B-2	50.0	51.7	-3	+/- 15%
Ethyl Benzene	CCVH0830B-2	50.0	50.5	-1	+/- 15%
m,p-Xylene	CCVH0830B-2	50.0	51.4	-3	+/- 15%
o-Xylene	CCVH0830B-2	50.0	50.9	-2	+/- 15%

Date of Report: August 31, 2006
Samples Submitted: August 29, 2006
Laboratory Reference: 0608-254
Project: 8769.006

**BTEX
EPA 8021B**

Date Extracted: 8-30-06
Date Analyzed: 8-30-06

Matrix: Water
Units: ug/L (ppb)

Client ID: **Trip Blank**
Lab ID: 08-254-04

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
Surrogate Recovery: Fluorobenzene	88%		

Date of Report: August 31, 2006
Samples Submitted: August 29, 2006
Laboratory Reference: 0608-254
Project: 8769.006

**BTEX
EPA 8021B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 8-30-06
Date Analyzed: 8-30-06

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0830W1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
Surrogate Recovery: Fluorobenzene	86%		

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B
 DUPLICATE QUALITY CONTROL**

Date Extracted: 8-30-06
 Date Analyzed: 8-30-06

Matrix: Water
 Units: ug/L (ppb)

Lab ID:	08-254-04 Original	08-254-04 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	88%	86%		

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B
 SB/SBD QUALITY CONTROL**

Date Extracted: 8-30-06
 Date Analyzed: 8-30-06

Matrix: Water
 Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	SB0830W1 SB	Percent Recovery	SBD0830W1 SBD	Percent Recovery	RPD	Flags
Benzene	49.1	98	50.4	101	3	
Toluene	49.2	98	50.0	100	2	
Ethyl Benzene	48.5	97	49.5	99	2	
m,p-Xylene	49.5	99	49.6	99	0	
o-Xylene	48.8	98	49.5	99	1	

Surrogate Recovery:
 Fluorobenzene 100% 102%

Date of Report: August 31, 2006
 Samples Submitted: August 29, 2006
 Laboratory Reference: 0608-254
 Project: 8769.006

**BTEX
 EPA 8021B
 CONTINUING CALIBRATION SUMMARY**

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Benzene	CCVH0830B-1	50.0	50.1	0	+/- 15%
Toluene	CCVH0830B-1	50.0	50.5	-1	+/- 15%
Ethyl Benzene	CCVH0830B-1	50.0	49.5	1	+/- 15%
m,p-Xylene	CCVH0830B-1	50.0	50.0	0	+/- 15%
o-Xylene	CCVH0830B-1	50.0	49.8	0	+/- 15%
Benzene	CCVH0830B-2	50.0	50.7	-1	+/- 15%
Toluene	CCVH0830B-2	50.0	51.7	-3	+/- 15%
Ethyl Benzene	CCVH0830B-2	50.0	50.5	-1	+/- 15%
m,p-Xylene	CCVH0830B-2	50.0	51.4	-3	+/- 15%
o-Xylene	CCVH0830B-2	50.0	50.9	-2	+/- 15%
Benzene	SB0830W1 DUP	50.0	50.4	-1	+/- 15%
Toluene	SB0830W1 DUP	50.0	50.0	0	+/- 15%
Ethyl Benzene	SB0830W1 DUP	50.0	49.5	1	+/- 15%
m,p-Xylene	SB0830W1 DUP	50.0	49.6	1	+/- 15%
o-Xylene	SB0830W1 DUP	50.0	49.5	1	+/- 15%

Date of Report: August 31, 2006
Samples Submitted: August 29, 2006
Laboratory Reference: 0608-254
Project: 8769.006

% MOISTURE

Date Analyzed: 8-29-06

Client ID	Lab ID	% Moisture
RP082806-B2	08-254-01	22
RP082806-B3	08-254-02	26
RP082806-B4	08-254-03	29



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - G - Insufficient sample quantity for duplicate analysis.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - O - Hydrocarbons indicative of diesel fuel are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a silica gel cleanup procedure.
 - Y - Sample extract treated with an acid/silica gel cleanup procedure.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference

Memorandum
September 27, 2006
Page 2 of 4

as instrument printouts and sample preparation and injection log pages as required by the QAPP. The data review conducted on these SDGs included a review of summarized results and QA/QC data per the requirements set forth in Section D.1 of the QAPP. The control limits provided in the QAPP are advisory limits; therefore, the most current control limits provided by the laboratory were used to evaluate the quality control data. In cases where the laboratory did not track limits for an analyte, the limits in the QAPP were used. Hold times, calibration verification, method blanks, surrogate recoveries, laboratory control samples (LCS), matrix spike/matrix spike duplicate (MS/MSD) results, laboratory duplicate results, field QC results, and reporting limits were reviewed to assess compliance with applicable methods and the QAPP. If data qualification was required, data were qualified in general accordance with the definitions and use of qualifying flags outlined in the following EPA documents: USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, October 1999.

The following qualifiers may be added to the data:

- U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ORGANIC ANALYSES

Samples were analyzed for BETX by the method identified in the introduction to this report, and were evaluated for the following criteria.

1. Holding Times – Acceptable
2. Initial Calibration – Acceptable
3. Calibration Verification – Acceptable

Memorandum
September 27, 2006
Page 3 of 4

4. Blanks – Acceptable

A method blank was prepared with each laboratory sample batch. A trip blank was submitted for each cooler containing VOC samples.

5. Surrogates – Acceptable

6. Laboratory Control Samples (LCS) – Acceptable

7. Laboratory Duplicates -- Acceptable

8. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – MS/MSD analyses were not performed with project samples. Sample results are evaluated based on the LCS and LCS duplicates.

9. Field Duplicates – Acceptable

Field duplicates were not collected in the field. They were collected in the laboratory after the composite samples were ground and homogenized. The composite samples are evaluated under separate SDGs, though they are a part of this sampling event. The field duplicate frequency of 10% was achieved for this sampling event, though field duplicates were not submitted with the samples evaluated in this SDG.

10. Reporting Limits – Acceptable except as noted:

In the initial analysis of sample RP092306-3, the toluene concentration was greater than the linear range of the instrument and was flagged by the laboratory with a “S”. The sample was diluted and reanalyzed. The toluene result should be reported from the reanalysis and no additional data qualifiers are necessary.

OVERALL ASSESSMENT OF DATA

The CAS SDG JX78 is 100 percent complete. The data usability is based on EPA’s guidance documents and the QAPP referenced in the introduction to this report. Few problems were identified and analytical performance was generally within specified limits. The data are acceptable and meet the project’s data quality objectives.



Memorandum
September 27, 2006
Page 4 of 4

Sample ID	Qualified Analyte	Qualified Result	Units	Qualifier Reason
RP092306-1	none			
RP092306-2	none			
RP092306-3	none			
Trip Blank	none			



Analytical Resources, Incorporated
Analytical Chemists and Consultants

26 September 2006

Larry McGaughey
Geomatrix
600 University, Suite 1020
Seattle, WA 98101



RE: Project No: 8769.006, FRP-East Parcel
ARI Job No: JX78

Dear Larry:

Please find enclosed the chain of custody documentation (COC) and the final results for the samples from the project referenced above. Three soil samples and one trip blank were received intact on September 25, 2006. The samples were analyzed for BETX as requested.

These analyses proceeded without incident of note.

A copy of these reports and all raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: file JX78

MDH/mdh

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **SX 78** Turn-around Requested: **overnight**

ARI Client Company: **Geomatrix** Phone: **206 342 1788**

Client Contact: **Larry McCaughey**

Client Project Name: **FRP-East Parcel**

Client Project #: **8769.006** Samplers: **J. Marsolek**

Page: **1** of **1**

Date: **9/23/06** Ice Present? **N**

No. of Coolers: **1** Cooler Temps: **-1.7 (Samples frozen)**

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No Contaminants	Analysis Requested				Notes/Comments
RP092306-1	9/23/06	0900		2 x 40mL 1st 1 x 20mL 2nd	X				
RP092306-2	9/23/06	0915		2 x 40mL 1 x 20mL	X				
RP092306-3	9/23/06	1035		2 x 40mL 1 x 20mL	X				
Trip blank				2	X				
SEA 9/23/06									

Comments/Special Instructions

Relinquished by: (Signature) *[Signature]* Received by: (Signature) *[Signature]*

Printed Name: **J. Marsolek** Company: **Geomatrix**

Date & Time: **9/23/06 0900**

Relinquished by: (Signature) _____ Received by: (Signature) _____

Printed Name: _____ Company: _____

Date & Time: _____

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

ARI Data Reporting Qualifiers

Effective 11/22/04

Inorganic Data


- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte reporting limit is raised due to a positive chromatographic interference. The compound is not detected above the raised limit but may be present at or below the limit
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: MB-092506
METHOD BLANK

Lab Sample ID: MB-092506
LIMS ID: 06-17428
Matrix: Soil
Data Release Authorized:
Reported: 09/26/06 

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 09/25/06 17:30
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	25	< 25 U
108-88-3	Toluene	25	< 25 U
100-41-4	Ethylbenzene	25	< 25 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	25	< 25 U

BETX Surrogate Recovery

Trifluorotoluene	91.6%
Bromobenzene	104%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
 BETX by Method SW8021BMod
 Page 1 of 1

Sample ID: MB-092606
 METHOD BLANK

Lab Sample ID: MB-092606
 LIMS ID: 06-17430
 Matrix: Soil
 Data Release Authorized:
 Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
 Project: FRP-East Parcel
 Event: 8769.006
 Date Sampled: NA
 Date Received: NA

Date Analyzed: 09/26/06 12:11
 Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
 Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	25	< 25 U
108-88-3	Toluene	25	< 25 U
100-41-4	Ethylbenzene	25	< 25 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	25	< 25 U

BETX Surrogate Recovery

Trifluorotoluene	100%
Bromobenzene	104%

BETX values reported in µg/kg (ppb)



ORGANICS ANALYSIS DATA SHEET
 BETX by Method SW8021BMod
 Page 1 of 1

Sample ID: RP092306-1
 SAMPLE

Lab Sample ID: JX78A
 LIMS ID: 06-17428
 Matrix: Soil
 Data Release Authorized:
 Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
 Project: FRP-East Parcel
 Event: 8769.006
 Date Sampled: 09/23/06
 Date Received: 09/25/06

Date Analyzed: 09/25/06 19:13
 Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
 Sample Amount: 54 mg-dry-wt
 Percent Moisture: 28.4%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	46	110
108-88-3	Toluene	46	< 46 U
100-41-4	Ethylbenzene	46	< 46 U
	m,p-Xylene	92	< 92 U
95-47-6	o-Xylene	46	< 46 U

BETX Surrogate Recovery

Trifluorotoluene	87.8%
Bromobenzene	102%

BETX values reported in µg/kg (ppb)

ORGANICS ANALYSIS DATA SHEET
 BETX by Method SW8021BMod
 Page 1 of 1

Sample ID: RP092306-2
 SAMPLE

Lab Sample ID: JX78B
 LIMS ID: 06-17429
 Matrix: Soil
 Data Release Authorized:
 Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
 Project: FRP-East Parcel
 Event: 8769.006
 Date Sampled: 09/23/06
 Date Received: 09/25/06

Date Analyzed: 09/25/06 19:42
 Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
 Sample Amount: 57 mg-dry-wt
 Percent Moisture: 27.7%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	44	< 44 U
108-88-3	Toluene	44	100
100-41-4	Ethylbenzene	44	< 44 U
	m,p-Xylene	88	< 88 U
95-47-6	o-Xylene	44	< 44 U

BETX Surrogate Recovery

Trifluorotoluene	89.0%
Bromobenzene	97.0%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
 BETX by Method SW8021BMod
 Page 1 of 1

Sample ID: RP092306-3
 SAMPLE

Lab Sample ID: JX78C
 LIMS ID: 06-17430
 Matrix: Soil
 Data Release Authorized: *[Signature]*
 Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
 Project: FPP-East Parcel
 Event: 8769.006
 Date Sampled: 09/23/06
 Date Received: 09/25/06

Date Analyzed: 09/25/06 20:12
 Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
 Sample Amount: 58 mg-dry-wt
 Percent Moisture: 27.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	43	120
108-88-3	Toluene	43	S
100-41-4	Ethylbenzene	43	130
	m,p-Xylene	86	150
95-47-6	o-Xylene	43	< 43 U


BETX Surrogate Recovery

Trifluorotoluene	124%
Bromobenzene	110%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
 BETX by Method SW8021BMod
 Page 1 of 1

Sample ID: RP092306-3
 REANALYSIS

Lab Sample ID: JX78C
 LIMS ID: 06-17430
 Matrix: Soil
 Data Release Authorized:
 Reported: 09/26/06 

QC Report No: JX78--Geomatrix Consultants, Inc.
 Project: FRP-East Parcel
 Event: 8769.006
 Date Sampled: 09/23/06
 Date Received: 09/25/06

Date Analyzed: 09/26/06 12:57
 Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
 Sample Amount: 0.29 mg-dry-wt
 Percent Moisture: 27.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	8,600	< 8,600 U
108-88-3	Toluene	8,600	530,000
100-41-4	Ethylbenzene	8,600	< 8,600 U
	m,p-Xylene	17,000	< 17,000 U
95-47-6	o-Xylene	8,600	< 8,600 U

BETX Surrogate Recovery

Trifluorotoluene	105%
Bromobenzene	108%

BETX values reported in µg/kg (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: TRIP BLANK
SAMPLE

Lab Sample ID: JX78D
LIMS ID: 06-17431
Matrix: Water
Data Release Authorized:
Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: 09/23/06
Date Received: 09/25/06

Date Analyzed: 09/25/06 18:14
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U


BETX Surrogate Recovery

Trifluorotoluene	109%
Bromobenzene	110%

BETX values reported in $\mu\text{g/L}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-092506
LAB CONTROL SAMPLE

Lab Sample ID: LCS-092506
LIMS ID: 06-17428
Matrix: Soil
Data Release Authorized:
Reported: 09/26/06 

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 09/25/06 16:31
LCSD: 09/25/06 17:00
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	366	410	89.3%	364	410	88.8%	0.5%
Toluene	2970	3340	88.9%	3110	3340	93.1%	4.6%
Ethylbenzene	558	610	91.5%	556	610	91.1%	0.4%
m,p-Xylene	2050	2290	89.5%	2080	2290	90.8%	1.5%
o-Xylene	719	795	90.4%	728	795	91.6%	1.2%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	114%	107%
Bromobenzene	110%	99.8%

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1



Sample ID: LCS-092606

LAB CONTROL SAMPLE

Lab Sample ID: LCS-092606

LIMS ID: 06-17430

Matrix: Soil

Data Release Authorized: *AS*

Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.

Project: FRP-East Parcel

Event: 8769.006

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 09/26/06 11:12

LCSD: 09/26/06 11:42

Instrument/Analyst LCS: PID2/PKC

LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt

LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	374	410	91.2%	368	410	89.8%	1.6%
Toluene	3240	3340	97.0%	3220	3340	96.4%	0.6%
Ethylbenzene	602	610	98.7%	581	610	95.2%	3.6%
m,p-Xylene	2170	2290	94.8%	2100	2290	91.7%	3.3%
o-Xylene	760	795	95.6%	741	795	93.2%	2.5%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	121%	116%
Bromobenzene	114%	107%

Chain of Custody Documentation

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job No: JX78

**Prepared
By**

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: SX 77 Turn-around Requested: overnight

ARI Client Company: Geomatrix Phone: 206 342 1788

Client Contact: Larry McCaughey

Client Project Name: FRP-East Parcel

Client Project #: 8769.006 Samplers: J. Marsolek

Page: 1 of 1

Date: 9/23/06 Ice Present?

No. of Coolers: 1 Cooler Temps: -1.7 (Simplex Freezer)

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Refractometer	GC	GC/MS	Other	
RP092306-1	9/23/06	0900		2 x 40 mL Vials 1 x 2oz jar					
RP092306-2	9/23/06	0915		2 x 40 mL 1 x 2oz					
RP092306-3	9/23/06	1035		2 x 40 mL 1 x 2oz					
Trip blank				2					
SEM 9/23/06									
Comments/Special Instructions	Received by: <u>J. Marsolek</u>				Relinquished by: <u>J. Marsolek</u>				
	Printed Name: <u>J. Marsolek</u>				Printed Name: <u>J. Marsolek</u>				
Date & Time: <u>9/23/06 0900</u>				Date & Time: <u>9/23/06 0900</u>					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Cooler Receipt Form



ARI Client: GMD Project Name: FRP - East Parcel
COC NO.: _____ Delivered By: Hend
Tracking NO.: _____ Date: 9/25/02
ARI Job No.: JK 78 Lims NO.: CB-17428 - 08-17431

Preliminary Examination Phase:

- 1. Were intact, properly signed and dated custody seals attached
To the outside of the cooler? YES NO
- 2. Were custody papers included with the cooler YES NO
- 3. Were custody papers properly filled out (ink, signed etc.)? YES NO
- 4. Complete custody forms and attach all shipping documents OK NA

Cooler Accepted BY: B-Rif Date: 9/25/02 Time: 0900

Log-IN Phase:

- 5. Was a temperature blank include in the cooler? YES NO
- 6. Record Cooler Temperature..... -1.8 °C
- 7. What kind of packing material was used? Bu/SB
- 8. Was sufficient ice used (if appropriate)? YES NO
- 9. Were all bottles sealed in separate plastic bags? YES NO
- 10. Did all bottles arrive in good condition (unbroken)? YES NO
- 11. Were all bottle labels complete and legible? YES NO
- 12. Did all bottle labels and tags agree with custody papers? YES NO
- 13. Were all bottles used correct for the requested analyses? YES NO
- 14. Do any of the analyses (bottles) require preservative?
(if so, Preservation checklist must be attached) YES NO
- 15. Were all VOA vials free of air bubbles? YES NO
- 16. Was sufficient amount of sample sent in each bottle? YES NO
- 17. Notify Project Manager of any discrepancies or concerns..... OK NA

Cooler Opened By: B-Rif Date: 9/25/02 Time: 0900

Explain any discrepancies or negative responses:

Case Narrative

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job No: JX78

**Prepared
By**

Analytical Resources, Inc.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

26 September 2006

Larry McGaughey
Geomatrix
600 University, Suite 1020
Seattle, WA 98101

RE: Project No: 8769.006, FRP-East Parcel
ARI Job No: JX78

Dear Larry:

Please find enclosed the chain of custody documentation (COC) and the final results for the samples from the project referenced above. Three soil samples and one trip blank were received intact on September 25, 2006. The samples were analyzed for BETX as requested.

These analyses proceeded without incident of note.

A copy of these reports and all raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: file JX78

MDH/mdh

Data Summary Package

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006


ARI Job No: JX78

**Prepared
By**

Analytical Resources, Inc.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP092306-1
SAMPLE

Lab Sample ID: JX78A
LIMS ID: 06-17428
Matrix: Soil
Data Release Authorized: 
Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: 09/23/06
Date Received: 09/25/06

Date Analyzed: 09/25/06 19:13
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 54 mg-dry-wt
Percent Moisture: 28.4%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	46	110
108-88-3	Toluene	46	< 46 U
100-41-4	Ethylbenzene	46	< 46 U
	m,p-Xylene	92	< 92 U
95-47-6	o-Xylene	46	< 46 U

BETX Surrogate Recovery

Trifluorotoluene	87.8%
Bromobenzene	102%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP092306-2
SAMPLE

Lab Sample ID: JX78B
LIMS ID: 06-17429
Matrix: Soil
Data Release Authorized: *[Signature]*
Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: 09/23/06
Date Received: 09/25/06

Date Analyzed: 09/25/06 19:42
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 57 mg-dry-wt
Percent Moisture: 27.7%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	44	< 44 U
108-88-3	Toluene	44	100
100-41-4	Ethylbenzene	44	< 44 U
	m,p-Xylene	88	< 88 U
95-47-6	o-Xylene	44	< 44 U

BETX Surrogate Recovery

Trifluorotoluene	89.0%
Bromobenzene	97.0%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021EMod
Page 1 of 1

Sample ID: RP092306-3
SAMPLE

Lab Sample ID: JX78C
LIMS ID: 06-17430
Matrix: Soil
Data Release Authorized: *RB*
Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: 09/23/06
Date Received: 09/25/06

Date Analyzed: 09/25/06 20:12
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 58 mg-dry-wt
Percent Moisture: 27.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	43	120
108-88-3	Toluene	43	S
100-41-4	Ethylbenzene	43	130
	m,p-Xylene	86	150
95-47-6	o-Xylene	43	< 43 U

BETX Surrogate Recovery

Trifluorotoluene	124%
Bromobenzene	110%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: RP092306-3
REANALYSIS

Lab Sample ID: JX78C
LIMS ID: 06-17430
Matrix: Soil
Data Release Authorized:
Reported: 09/28/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: 09/23/06
Date Received: 09/25/06

Date Analyzed: 09/26/06 12:57
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 0.29 mg-dry-wt
Percent Moisture: 27.8%

CAS Number	Analyte	RL	Result
71-43-2	Benzene	8,600	< 8,600 U
108-88-3	Toluene	8,600	530,000
100-41-4	Ethylbenzene	8,600	< 8,600 U
	m,p-Xylene	17,000	< 17,000 U
95-47-6	o-Xylene	8,600	< 8,600 U


BETX Surrogate Recovery

Trifluorotoluene	105%
Bromobenzene	108%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: TRIP BLANK
SAMPLE

Lab Sample ID: JX78D
LIMS ID: 06-17431
Matrix: Water
Data Release Authorized:
Reported: 09/26/06 

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: 09/23/06
Date Received: 09/25/06

Date Analyzed: 09/25/06 18:14
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
71-43-2	Benzene	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U

BETX Surrogate Recovery

Trifluorotoluene	109%
Bromobenzene	110%

BETX values reported in $\mu\text{g/L}$ (ppb)

BETX SOIL SURROGATE RECOVERY SUMMARY

ARI Job: JX78
Matrix: Soil

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
MB-092506	91.6%	104%	0
LCS-092506	114%	110%	0
LCSD-092506	107%	99.8%	0
RP092306-1	87.8%	102%	0
RP092306-2	89.0%	97.0%	0
MB-092606	100%	104%	0
LCS-092606	121%	114%	0
LCSD-092606	116%	107%	0
RP092306-3	124%	110%	0
RP092306-3 DL	105%	108%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-128)	(53-147)
(BBZ) = Bromobenzene	(82-123)	(60-153)

Log Number Range: 06-17428 to 06-17430

FORM II BETX

Page 1 for JX78

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: JX78
Matrix: Water

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006

Client ID	TFT	BBZ	TOT OUT
TRIP BLANK	109%	110%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-126)	(72-124)
(BBZ) = Bromobenzene	(81-119)	(79-119)

Log Number Range: 06-17431 to 06-17431

FORM II BETX

Page 1 for JX78

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-092506
LAB CONTROL SAMPLE

Lab Sample ID: LCS-092506
LIMS ID: 06-17428
Matrix: Soil
Data Release Authorized:
Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 09/25/06 16:31
LCSD: 09/25/06 17:00
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	LCS		LCSD	LCSD		RPD
		Spike Added-LCS	Recovery		Spike Added-LCSD	Recovery	
Benzene	366	410	89.3%	364	410	88.8%	0.5%
Toluene	2970	3340	88.9%	3110	3340	93.1%	4.6%
Ethylbenzene	558	610	91.5%	556	610	91.1%	0.4%
m,p-Xylene	2050	2290	89.5%	2080	2290	90.8%	1.5%
o-Xylene	719	795	90.4%	728	795	91.6%	1.2%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	114%	107%
Bromobenzene	110%	99.8%

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: LCS-092606
LAB CONTROL SAMPLE

Lab Sample ID: LCS-092606
LIMS ID: 06-17430
Matrix: Soil
Data Release Authorized:
Reported: 09/28/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 09/26/06 11:12
LCSD: 09/26/06 11:42
Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike	LCS	LCSD	Spike	LCS	RPD
		Added-LCS	Recovery		Added-LCSD	Recovery	
Benzene	374	410	91.2%	368	410	89.8%	1.6%
Toluene	3240	3340	97.0%	3220	3340	96.4%	0.6%
Ethylbenzene	602	610	98.7%	581	610	95.2%	3.6%
m,p-Xylene	2170	2290	94.8%	2100	2290	91.7%	3.3%
o-Xylene	760	795	95.6%	741	795	93.2%	2.5%

Reported in $\mu\text{g}/\text{kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	121%	116%
Bromobenzene	114%	107%

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB092506S1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GEOMATRIX

SDG No.: JX78

Project No.: FRP-EAST PARCEL

Date Analyzed : 09/25/06

Matrix: SOIL

Time Analyzed : 1730


Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS092506S1	LCS092506S1	09/25/06
02	LCSD092506S1	LCSD092506S1	09/25/06
03	TRIP BLANK	JX78D	09/25/06
04	RP092306-1	JX78A	09/25/06
05	RP092306-2	JX78B	09/25/06
06	RP092306-3	JX78C	09/25/06
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

Sample ID: MB-092506
METHOD BLANK

Lab Sample ID: MB-092506
LIMS ID: 06-17428
Matrix: Soil
Data Release Authorized: 
Reported: 09/26/06

QC Report No: JX78-Geomatrix Consultants, Inc.
Project: FRP-East Parcel
Event: 8769.006
Date Sampled: NA
Date Received: NA

Date Analyzed: 09/25/06 17:30
Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
Sample Amount: 100 mg-dry-wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	25	< 25 U
108-88-3	Toluene	25	< 25 U
100-41-4	Ethylbenzene	25	< 25 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	25	< 25 U

BETX Surrogate Recovery

Trifluorotoluene	91.6%
Bromobenzene	104%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

26 September 2006

Larry McGaughey
Geomatrix
600 University, Suite 1020
Seattle, WA 98101

RE: Project No: 8769.006, FRP-East Parcel
ARI Job No: JX78

Dear Larry:

Please find enclosed the chain of custody documentation (COC) and the final results for the samples from the project referenced above. Three soil samples and one trip blank were received intact on September 25, 2006. The samples were analyzed for BETX as requested.

These analyses proceeded without incident of note.

A copy of these reports and all raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: file JX78

MDH/mdh

4
BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB092606S1

Lab Name: ANALYTICAL RESOURCES, INC
 SDG No.: JX78
 Date Analyzed : 09/26/06
 Time Analyzed : 1211

Client: GEOMATRIX
 Project No.: FRP-EAST PARCEL
 Matrix: SOIL
 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	LCS092606S1	LCS092606S1	09/26/06
02	LCSD092606S1	LCSD092606S1	09/26/06
03	RP092306-3	JX78C	09/26/06
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
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28			
29			
30			



ORGANICS ANALYSIS DATA SHEET
 BETX by Method SW8021BMod
 Page 1 of 1

Sample ID: MB-092606
 METHOD BLANK

Lab Sample ID: MB-092606
 LIMS ID: 06-17430
 Matrix: Soil
 Data Release Authorized: *[Signature]*
 Reported: 09/28/06

QC Report No: JX78-Geomatrix Consultants, Inc.
 Project: FRP-East Parcel
 Event: 8769.006
 Date Sampled: NA
 Date Received: NA

Date Analyzed: 09/26/06 12:11
 Instrument/Analyst: PID2/PKC

Purge Volume: 5.0 mL
 Sample Amount: 100 mg-dry wt

CAS Number	Analyte	RL	Result
71-43-2	Benzene	25	< 25 U
108-88-3	Toluene	25	< 25 U
100-41-4	Ethylbenzene	25	< 25 U
	m,p-Xylene	50	< 50 U
95-47-6	o-Xylene	25	< 25 U

BETX Surrogate Recovery

Trifluorotoluene	100%
Bromobenzene	104%

BETX values reported in $\mu\text{g}/\text{kg}$ (ppb)

Laboratory Data Package

**Prepared
for**

Geomatrix Consultants

Project: FRP , 8769.006

ARI Job No: JX78

**Prepared
By**

Analytical Resources, Inc.

ARI Data Reporting Qualifiers

Effective 11/22/04

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte reporting limit is raised due to a positive chromatographic interference. The compound is not detected above the raised limit but may be present at or below the limit
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

TOTAL SOLIDS

BETX/TPHG Total Solids-betxts
Data By: Paul K. Campbell
Created: 9/26/06

Worklist: 3948
Analyst: PKC
Comments:

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. JX78A 06-17428	1.02	12.08	8.94	71.6
2. JX78B 06-17429	1.11	11.94	8.94	72.3
3. JX78C 06-17430	1.02	15.68	11.61	72.2

Worklist ID: 3948 Page: 1
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
\$ - BETX TS Copied From Extraction TS

APPENDIX F

Characterization and Confirmation Sample Analytical Results Database (CD)

APPENDIX G

Boring Logs

PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-1	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/24/06	DATE FINISHED: 8/24/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 13.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Power Probe 9630 Pro-PTO		DEPTH TO WATER (ft.): ~8.5	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: Z. Satterwhite	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
					Surface Elevation: Not surveyed	
1				5.8	SILTY SAND (SM): very dark gray (10YR 3/1), moist, 80% fine to medium sand, 20% low plasticity fines	OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard.
2					SILT (ML): gray (10YR 5/1), moist, 90% fines, 10% fine sand, firm, low plasticity	
3				10.1		
4						
5				460	SILTY SAND (SM): brown mottled black and beige moist, 80% fine to medium sand, 20% low plasticity fines, odor	
6						
7				884	SANDY SILT (ML): pale brown and black (10YR 6/3), moist, 70% fines, 30% fine to coarse sand, firm, low plasticity, odor; silt and sand layers are intermingled and appear to be reworked native material	Grab groundwater sample GMX-1 collected through 3/4-inch O.D. PVC temporary well casing with 5 feet of stainless steel-wrapped well screen (0.010-inch slot size) pre-packed with 2/20 sand (screen interval 8 to 13 feet bgs).
8						
9				>1129	wet, sheen	
10						
11				49	POORLY GRADED SAND with SILT (SP-SM): brown to black (5Y 2.5/1), wet, 90% fine to coarse sand, 10% low plasticity fines, iron-stained, odor	
12						
13					Bottom of boring at 13.0 feet.	
14						
15						
16						
17						



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-2	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/24/06	DATE FINISHED: 8/24/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 13.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Power Probe 9630 Pro-PTO		DEPTH TO WATER (ft.): ~9.0	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: Z. Satterwhite	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
					Surface Elevation: Not surveyed	
1				339	SILTY SAND (SM): very dark gray (10YR 3/1), moist, 80% fine to medium sand, 20% low plasticity fines SANDY SILT (ML): dark gray mottled pale brown (10YR 4/1), moist, 70% fines, 30% fine to coarse sand, low plasticity, firm	OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard.
2						
3				436		
4						
5					↓ black/pale brown laminations (native?); odor	
6				320		
7						
8					POORLY GRADED SAND with SILT (SP-SM): black (5Y 2.5/1), moist, 90% fine to medium sand, 10% low plasticity fines, odor, sheen	
9				>1063	↓ wet	
10						
11				761		
12						
13					Bottom of boring at 13.0 feet.	
14						
15						
16						
17						



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-3	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/24/06	DATE FINISHED: 8/24/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 15.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Power Probe 9630 Pro-PTO		DEPTH TO WATER (ft.):	FIRST ~7.5
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: Z. Satterwhite	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
					Surface Elevation: Not surveyed	
1	GMX-3-2.0	[Black core]	[X]	1.2	SILTY SAND (SM): very dark gray (10YR 3/1), moist, 65% fine sand, 25% low plasticity fines, 10% fine to coarse gravel	OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard.
2				1.2	SILT with SAND (ML): grayish brown (10YR 5/2), moist, 85% fines, 15% fine sand, firm, low plasticity	
3	GMX-3-5.5	[Black core]	[X]	1.5	SILTY SAND (SM): grayish brown (10YR 5/2), moist, 65% fine sand, 45% low plasticity silt, laminations varving (native?)	
4				1.5	damp/slightly wet	
5				1.5		
6				2.1	SANDY SILT (ML): pale brown (10YR 6/3), wet, 65% fines, 45% fine sand, low plasticity, firm, laminations	
7				1.8		
8				1.1	POORLY GRADED SAND with SILT (SP-SM): black (5Y 2.5/1), wet, 90% fine to coarse sand, 10% low plasticity fines	
9						
10						
11						
12						
13						
14						
15					Bottom of boring at 15.0 feet.	
16						
17						



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-4	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/24/06	DATE FINISHED: 8/24/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 14.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Power Probe 9630 Pro-PTO		DEPTH TO WATER (ft.): ~7.5	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: Z. Satterwhite	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
					Surface Elevation: Not surveyed	
1				0.5	SILTY SAND (SM): very dark gray (10YR 3/1), moist, 65% fine sand, 25% low plasticity fines, 10% fine to coarse gravel	<p>OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard.</p> <p>Grab groundwater sample GMX-4 collected through 3/4-inch O.D. PVC temporary well casing with 5 feet of stainless steel-wrapped well screen (0.010-inch slot size) pre-packed with 2/20 sand (screen interval 7 to 12 feet bgs).</p>
2				0.5	SILT with SAND (ML): grayish brown (10YR 5/2), moist, 85% fines, 15% fine sand, firm, low plasticity	
3					↓ laminations (native?)	
4					SILTY SAND (SM): grayish brown (10YR 5/2), moist, 65% fine sand, 45% low plasticity silt, laminations	
5				0.5		
6				1.0		
7						
8					SANDY SILT (ML): pale brown (10YR 6/3), wet, 65% fines, 45% fine sand, low plasticity, firm, laminations	
9				1.3		
10						
11				1.4	□ iron oxide staining	
12					POORLY GRADED SAND with SILT (SP-SM): black (5Y 2.5/1), wet, 90% fine to coarse sand, 10% low plasticity fines	
13						
14				0.8	Bottom of boring at 14.0 feet.	

PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-5	
BORING LOCATION: West Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/24/06	DATE FINISHED: 8/24/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 20.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Power Probe 9630 Pro-PTO		DEPTH TO WATER (ft.):	FIRST ~13.5
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: Z. Satterwhite	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
1					SILTY SAND with GRAVEL (SM): dark grayish brown mottled dark orange (10YR 4/2), moist, 65% fine to medium sand, 20% low plasticity fines, 15% fine to coarse subangular to angular gravel, trace black coal	OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard.
2				2.0		
3				1.0	↓ SILTY SAND (SM): very dark greenish gray (10Y 3/1), moist, 65% fine to coarse sand, 30% low plasticity fines, 5% fine to coarse gravel	
4						
5				1.0		
6					reddish horizon	
7				1.0		
8				2.0		
9						
10				1.0	SILT (ML): pale brown mottled dark gray (10YR 6/3), wet, 90% fines, 10% fine sand, low plasticity, firm	
11						
12				>1099	SANDY SILT (ML): pale brown mottled dark gray (10YR 6/3), wet, 70% fines, 30% fine to coarse sand, low plasticity, firm, odor	
13						
14				52	↓ saturated wood	
15					POORLY GRADED SAND with SILT (SP-SM): black (5Y 2.5/1), wet, 90% fine to coarse sand, 10% low plasticity fines	
16						
17						

Grab groundwater samples GMX-5 and GMX-5A (field duplicate) collected through 1-inch O.D. PVC temporary well casing with 5 feet of screen (0.010-inch slot size) not pre-packed (screen interval 13 to 18 feet bgs).

PROJECT: Former Rhone-Poulenc Site
Tukwila, Washington

Log of Boring No. GMX-5 (cont'd)

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS	
	Sample No.	Sample	Blows/ Foot				
18				70	POORLY GRADED SAND with SILT (SP-SM): (continued)		
19							
20				13	Bottom of boring at 20.0 feet.		
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-6	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/26/06	DATE FINISHED: 8/26/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 16.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: AMS 9630 PTO Probe		DEPTH TO WATER (ft.): ~13.0	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: J. Long	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
					Surface Elevation: Not surveyed	
1				0	SILT with SAND (ML): very dark gray (2.5Y 3/1), moist, 90% fines, 10% fine sand, low plasticity, firm	OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard.
2				0		
3				0		
4				0		
5				0	↓ very dark grayish brown (2.5Y 3/2); 20% fine sand	
6				0		
7				0		
8				0		
9				0	SILTY SAND (SM): dark olive brown (2.5Y 3/3), moist, 75% fine to medium sand, 15% medium plasticity silt, 10% fine to coarse subrounded gravel	
10				0		
11				0		
12				0		
13				0	POORLY GRADED SAND (SP): black (5Y 2.5/1), wet, 95% fine to medium sand, 5% fines	
14				0		
15				0		
16				0		
17				0	Bottom of boring at 16.0 feet.	

PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-7	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/26/06	DATE FINISHED: 8/26/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 16.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: AMS 9630 PTO Probe		DEPTH TO WATER (ft.): ~10.0	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: J. Long	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
1					SILT (ML): dark gray (5Y 4/1), dry, 95% fines, 5% fine sand, medium plasticity, firm	OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard. Grab groundwater sample GMX-7 collected through 1-inch O.D. PVC temporary well casing with 5 feet of screen (0.010-inch slot size) not pre-packed (screen interval 11 to 16 feet bgs).
2					SILT with SAND (ML): dark grayish brown (2.5Y 4/2), moist, 85% fines, 15% fine sand, medium plasticity, firm	
3						
4				0	SILTY SAND (SM): dark gray (2.5Y 4/1), moist, 70% fine sand, 30% medium plasticity fines	
5						
6						
7						
8				0	SILT with SAND (ML): dark grayish brown (2.5Y 4/2), moist, 85% fines, 15% fine sand, low plasticity, firm	
9						
10						
11						
12				0	SILTY SAND (SM): dark gray (2.5Y 4/1), wet, 70% fine sand, 30% medium plasticity fines	
13					POORLY GRADED SAND (SP): dark gray (2.5Y 4/1), wet, 95% fine to medium sand, 5% fines	
14						
15						
16					Bottom of boring at 16.0 feet.	
17						



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-8	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/26/06	DATE FINISHED: 8/26/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 12.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: AMS 9630 PTO Probe		DEPTH TO WATER (ft.): ~10.0	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: J. Long	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
					Surface Elevation: Not surveyed	
1					SILT (ML): very dark grayish brown (2.5Y 3/2), dry, 95% fines, 5% fine sand, low plasticity, firm	OVM = Thermo Environmental 580B PID calibrated with 100 ppm isobutylene standard.
2						
3						
4				16	POORLY GRADED SAND with SILT (SP-SM): dark grayish brown (2.5Y 4/2), moist, 90% fine sand, 10% low plasticity fines	
5						
6						
7						
8				>3000	↓ strong toluene odor; silt content increasing	
9						
10				120	SILT with SAND (ML): very dark gray (2.5Y 3/1), wet, 75% fines, 25% fine sand, low plasticity, firm, less odor	
11						
12				0.0	POORLY GRADED SAND (SP): very dark gray (2.5Y 3/1), wet, 95% fine to medium sand, 5% fines Bottom of boring at 12.0 feet.	
13						
14						
15						
16						
17						



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-9	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/26/06	DATE FINISHED: 8/26/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 12.2	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: AMS 9630 PTO Probe		DEPTH TO WATER (ft.): ~10.0	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: J. Long	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
					Surface Elevation: Not surveyed	
1				<1.0	SILT (ML): dark grayish brown (2.5Y 4/2), moist, 95% fines, 5% fine sand, medium plasticity, firm	OVM = VX-500 Industrial Scientific PID calibrated with 100 ppm isobutylene standard.
2						
3						
4				0.5	SILTY SAND (SM): dark gray (2.5Y 4/1), moist, 60% fine to medium sand, 40% non-plastic fines, light 1-3mm bedding	
5						
6						
7						
8					SANDY SILT (ML): dark gray (2.5Y 4/1), moist, 75% fines, 25% fine sand, medium plasticity, firm	
9						
10				10	SILTY SAND (SM): dark gray (2.5Y 4/1), moist, 80% fine sand, 20% low plasticity fines ↓ wet	
11						
12					POORLY GRADED SAND (SP): very dark gray (2.5Y 3/1), wet, 95% fine to medium sand, 5% fines Bottom of boring at 12.2 feet.	
13						
14						
15						
16						
17						



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-10	
BORING LOCATION: East Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/26/06	DATE FINISHED: 8/26/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 16.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: AMS 9630 PTO Probe		DEPTH TO WATER (ft.): ~10.0	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: J. Long	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
1				<1.0	SILT (ML): dark grayish brown (2.5Y 4/2), moist, 95% fines, 5% fine sand, low plasticity, firm	OVM = VX-500 Industrial Scientific PID calibrated with 100 ppm isobutylene standard.
2					CLAYEY SILT (ML): dark grayish brown (2.5Y 4/2), moist, 95% fines, 5% fines sand, medium plasticity, firm	
3						
4				0.0	SILT with SAND (ML): dark grayish brown (2.5Y 4/2), moist, 85% fines, 15% fine sand, medium plasticity, firm	
5						
6						
7					some sand to sandy silt	
8						
9						
10	GMX-10-9.0				SILTY SAND (SM): very dark grayish brown (2.5Y 4/2), moist, 60% fine to medium sand, 40% low plasticity fines wet	Grab groundwater sample GMX-7 collected through 1-inch O.D. PVC temporary well casing with 5 feet of screen (0.010-inch slot size) not pre-packed (screen interval 11 to 16 feet bgs).
11						
12				0.0		
13						
14						
15						
16						
17					Bottom of boring at 16.0 feet.	



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-11	
BORING LOCATION: West Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/26/06	DATE FINISHED: 8/26/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 16.0	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Diedrich D-25		DEPTH TO WATER (ft.): ~11.0	FIRST COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: J. Long	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
1					POORLY GRADED SAND (SP): brown (7.5YR 4/3), moist, 95% fine to medium sand, 5% fines	OVM = VX-500 Industrial Scientific PID calibrated with 100 ppm isobutylene standard.
2						
3				0.0	▼ very dark gray (2.5Y 3/1)	
4						
5						
6					□ sand with irregular 1-2" gravel (fill); some silt	
7						
8				0.0	□ SILTY SAND (SM)	
9					SILT (ML): light olive brown (2.5Y 5/3), moist, 95% fines, 5% fine sand, medium plasticity, firm	
10				>4000	SILTY SAND (SM): very dark gray (2.5Y 3/1), moist, 70% fine sand, 30% low plasticity fines	
11						
12						
13					POORLY GRADED SAND (SP): very dark gray (2.5Y 3/1), wet, 95% fine to medium sand, 5% fines, very strong odor	
14						
15				1500		
16					Bottom of boring at 16.0 feet.	
17						



PROJECT: Former Rhone-Poulenc Site Tukwila, Washington		Log of Boring No. GMX-12	
BORING LOCATION: West Parcel		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Cascade Drilling, Inc.		DATE STARTED: 8/26/06	DATE FINISHED: 8/26/06
DRILLING METHOD: Direct push		TOTAL DEPTH (ft.): 12.2	MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Diedrich D-25		DEPTH TO WATER (ft.): NA	FIRST NA COMPL. NA
SAMPLING METHOD: Geoprobe macro-core sampler [4' x 1.5"]		LOGGED BY: J. Long	
HAMMER WEIGHT: NA	DROP: NA	RESPONSIBLE PROFESSIONAL: J. Long	REG. NO. L.Hg. 1354

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
1					No log from 0 to 8 feet bgs, due to liner shortage.	OVM = VX-500 Industrial Scientific PID calibrated with 100 ppm isobutylene standard.
2						
3						
4						
5						
6						
7						
8						
8					SILT (ML): grayish brown (2.5Y 5/2), wet, 95% fines, 5% fine sand, medium plasticity, firm, fine layering, mottled	No PID response at 1 inch above contact.
9						
10						
11				<1.0		
12				>4000	POORLY GRADED SAND (SP): very dark gray (2.5Y 3/1), moist, 95% fine to medium sand, 5% fines, dark rounded grains, very strong toluene odor Bottom of boring at 12.2 feet.	
13						
14						
15						
16						
17						

