FINAL

SUPPLEMENTAL SITE CHARACTERIZATION REPORT

BISHOP TUBE SITE

EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

PADEP CONTRACT NO. SAP4000006380
WORK REQUISITION NO. 4-1-154

Prepared For:

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Prepared by:

MICHAEL BAKER JR., INC.

FEBRUARY 2008

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NOTICE

The Pennsylvania Department of Environmental Protection (PADEP) has funded the information in this document under Contract No. SAP4000006380 to Michael Baker Jr., Inc. This document has been formally released by Baker to the PADEP.

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EXECUTIVE SUMMARY

The Bishop Tube Site is located along the east side of Malin Road approximately ¼ of a mile south of U.S. Route 30, in Frazer, East Whiteland Township, Chester County, Pennsylvania. The Bishop Tube Site is situated within a southwest-northeast trending valley locally referred to as the Chester Valley area. The Bishop Tube facility formerly was used to process precious metals and to fabricate stainless-steel specialty items, namely tubing and piping products.

Previous environmental investigations conducted at the Site have identified impacts to soils and groundwater related to the past manufacturing operations. There are three response actions ongoing at the site to address source areas for contamination in soils.

The primary objective of the Supplemental Site Characterization was to investigate four additional areas of potential concern that were identified to the Pennsylvania Department of Environmental Protection (Department) by former employees of the facility. The additional areas of potential concern included the Potential Vault/Seepage Pit Area, Former Pickle Rinse Water Disposal Tanks and Lagoon Area, Plant #5 Large Degreaser Area, and Plant #8 Degreaser Discharge Pipe and Drainage Swale Area. Additional activities included in the scope of work included repairs to existing groundwater monitoring wells. Also, a Pump Pit and floor vault were sampled at the request of the Department.

Soil and groundwater grab samples were collected at each of the areas of potential concern and analyzed for selected analytical parameters including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Also, geophysical surveys were conducted at each area in an attempt to identify buried items of potential concern [e.g., underground storage tanks (USTs), buried drums, discharge pipes].

The results of laboratory analysis of these samples indicated the presence of contaminants, primarily solvents and petroleum compounds, in soil and groundwater at the site. The analytical results were compared to the Pennsylvania Act 2 Statewide Health Standards. The results of this evaluation indicated that several VOCs, SVOCs and metals exceeded the screening criteria at several areas.

Area-specific conclusions and recommendations include:

Potential Vault/Seepage Pit Area: The geophysical survey indicated the presence of a concrete vault measuring approximately three feet by four feet and eight feet deep. The Potential Vault/Seepage Pit Area does not appear to be a source of VOC or SVOC contamination. Chromium exceeded the screening criteria in two samples. There is minimal potential for direct contact exposure to the chromium due to its depth and the ground surface is paved. Additionally, groundwater screening samples collected from this area did not detect chromium in water. Therefore, the chromium does not appear to be contributing to groundwater contamination. There are no specific recommendations for this area other than continue routine groundwater monitoring.

Former Pickle Rinse Water Disposal Tanks and Lagoon Area: The geophysical survey detected anomalies on the eastern side of the Plant #8 building, but they were not interpreted as having characteristics typical of USTs due to their rectangular or flat-topped reflections (steel or fiberglass USTs typically present a parabolic reflection). Attempts to drill into the suspected tank areas met refusal on concrete at two feet bgs (these borings could not be shown on the figure due to their proximity to completed borings and the scale of the figure). Therefore, the presence/existence of buried tanks in this area could not be confirmed. The consistent PID readings and contamination detected from six to eight feet bgs in this same area probably

correspond to the bottom of the former lagoon. Samples LAG-05, LAG-06, LAG-07 and LAG-09 consistently showed the highest concentrations of VOC and metal contamination and probably mark the location of the former lagoon. Chloroethene, cis-1,2-dichloroethene, boron, chromium and nickel exceeded the screening criteria in soil samples. Therefore, this area, primarily the lagoon area, appears to be a source for VOCs and metals contamination. However, the contaminants were detected at depth and the area is paved, so there is minimal potential for direct contact exposure. VOC contamination measured in groundwater samples was generally higher in the upgradient sample (LAG-08). This may indicate that VOCs in groundwater primarily originate from an upgradient source (where there are active remedial actions ongoing), but there may also be contribution from the former lagoon. SVOCs (benzo(a)pyrene, benzo(g,h,i)perylene and BEHP) exceeded the screening criteria in water samples collected from this area. SVOCs, including benzo(a)pyrene, benzo(g,h,i)perylene and BEHP, were also detected in soil samples collected at this area. Even though the SVOCs in soil did not exceed the screening criteria, the soil in this area could be contributing to SVOC contamination in groundwater. Manganese was the only metal to exceed the screening criteria for groundwater samples. Therefore, metals contamination detected in soil does not appear to be impacting local groundwater. Since the VOC contaminants appear localized, the SVOC contaminants in soil did not exceed screening criteria, and the metals contamination in soil does not appear to be impacting groundwater, there are no specific recommendations for this area other than continue routine groundwater monitoring for these compounds.

Plant #5 Large Degreaser Area: TCE was detected but did not exceed the screening criteria. Therefore, this area does not seem to be a source area for VOC contamination. There are no specific recommendations for this area.

Plant #8 Degreaser Discharge Pipe and Drainage Swale Area: This area lies outside the fence line and is a grassy, partially wooded area. The GPR survey identified three anomalies perpendicular to Plant #8 that were interpreted to be potential sewer or drain pipes. Samples collected at these locations appeared to confirm that solvents were discharged to this swale. TCE exceeded the screening criteria in all but the westernmost sample. The soil appears to be a source area for TCE contamination. Samples were not collected from surface soil at this area, so a direct contact risk cannot be evaluated. Seven compounds, including 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, chloroethene, tetrachloroethene, TCE and cis-1,2-dichloroethene, exceeded the screening criteria in both groundwater samples. This appears to be the result of discharges to the swale area. It is recommended that additional soil samples be collected to further delineate the extent of TCE contamination in soil in this area. Soil samples should also be collected from the ground surface to evaluate the direct contact risk. Further recommendations should be developed upon review of that data.

Pump Pit: Chloroethene, cis-1,2-dichloroethene, antimony and chromium exceeded the screening criteria in the sediment sample. 1,1-Dichloroethene, chloroethene, TCE, cis-1,2-dichloroethene and BEHP exceeded the screening criteria in the water sample. The water and sediment in the Pump Pit may be contributing to groundwater contamination. It is recommended that the standing water and sediment be pumped from the pit and disposed properly at an off-site treatment facility. The pit should be power-washed and the wash waters handled in the same method.

Plant #8 Floor Vault: The water in the vault appears to be rainwater and shows no sign of VOC contamination. There are no recommendations for the vault.

1.0 INTRODUCTION

The Bishop Tube Site is located along the east side of Malin Road approximately ¼ of a mile south of U.S. Route 30, in Frazer, East Whiteland Township, Chester County, Pennsylvania. The Bishop Tube Site is situated within a southwest-northeast trending valley locally referred to as the Chester Valley area. The Bishop Tube facility formerly was used to process precious metals and to fabricate stainless-steel specialty items, namely tubing and piping products.

Previous environmental investigations conducted at the Site have identified impacts to soils and groundwater related to the past manufacturing operations. Elevated concentrations of chlorinated solvents (i.e., trichloroethene [TCE], 1,1,1-trichloroethane [1,1,1-TCA], and tetrachloroethylene [PCE]) and fluoride have been detected in the soils and groundwater at the Site that exceed the PADEP Statewide Health-based Standards. In addition, surface water and sediment samples collected from Little Valley Creek also have been found to contain elevated concentrations of chlorinated solvents and fluoride that exceed the established regulatory standards. Remedial actions, including soil vapor extraction, are ongoing at the site to address source areas for contamination in soils.

At a public hearing held March 16, 2007, former employees of Bishop Tube provided additional information to the Department on four other potential contaminant source areas. The additional areas of potential concern included the Potential Vault/Seepage Pit Area, Former Pickle Rinse Water Disposal Tanks and Lagoon Area, Plant #5 Large Degreaser Area, and Plant #8 Degreaser Discharge Pipe and Drainage Swale Area (see Figure 1).

A work plan to investigate these areas was submitted to the Pennsylvania Department of Environmental Protection (PADEP or Department) as part of Change Order No. 6 (Baker, May 11, 2007). Additional tasks in the work plan included repairs to damaged monitoring wells identified during a March 13, 2007 site inspection, and evaluation of two former on-site production wells for use in the characterization of the bedrock aquifer(s). However, the evaluation of the two former productions wells was not implemented during this Supplemental Site Characterization because the wells were found to be inaccessible.

This Supplemental Site Characterization Report presents a description of each area of concern (AOC), a summary of the investigation methods, the findings of the geophysical survey, the results of analysis of soil and groundwater samples, descriptions of well repairs, and conclusions derived from the characterization results and recommendations for further action, if any.

2.0 AREAS OF CONCERN

The approximate locations of the four areas of concern (AOCs) included in the Supplemental Site Characterization are shown on Figure 1.

2.1 Potential Vault/Seepage Pit Area

While conducting utility locating efforts around the Drum Storage Area (DSA) related to interim remedial response activities, a magnetic anomaly was identified on the north side of the DSA. Further investigation of the area revealed the presence of a large underground vault. The structure is approximately 25 ft. x 17 ft. x 14 ft. deep constructed of concrete block. Interviews with former employees indicate that the vault was used in the acid rinse water operation. This vault has been sampled by the Department's interim response contractor (Weston Solutions) and will be addressed as part of the formerly identified DSA hotspot currently being addressed by interim response activities. However, former Bishop Tube employees have revealed that a second pit and "waste aeration tower" existed just west of the DSA, near the entrance to the former boiler room, which is located between Plants #5 and #8. Department field staff located a concrete block structure containing pumping equipment and a smaller sub-grade pit or tank at the base of the embankment, directly adjacent to the Plant #8 building (the Pump Pit). Water within the sub-grade portion of the structure can be accessed via the metal lid. A sludge-like material appears to be present within the pit at a depth of approximately six feet bgs. Piping from this pumping structure leads to a surface depression in the paved Plant #5 loading area near the entrance to the boiler.

2.2 Former Pickle Rinse Water Disposal Tanks and Lagoon Area

During the early phases of the site investigation, Baker and the Department attempted to locate a reported lagoon on the eastern side of the site, near Little Valley Creek. The efforts centered around an area east of the Plant #8 receiving building (an addition to Plant #8). Interviews with several former employees indicated that the lagoon was located north of the area that was the focus of the original investigation. These employees indicated that the addition to Plant #8 was built over the former on-site lagoon. The employees also stated that two underground storage tanks (USTs) in the same area were used for disposal of acid rinse water (and potentially other waste liquids). A suspected third UST was also identified by a former employee and possibly being located inside the existing Plant #8 eastern wall (the building addition section). Boring LAG-10 was advanced to investigate the presence of this suspected UST.

During a previous utility location effort, two suspected USTs were identified within the paved area along the northeast side of the Plant #8 receiving area. It had not been confirmed if these potential USTs were the waste tanks because the former employees indicated that the USTs were located beneath the addition to Plant #8. It should be noted that floating free product [i.e., light non-aqueous phase liquid (LNAPL)] has been observed in a shallow monitoring well in this area during routine monitoring.

2.3 Plant #5 Large Degreaser Area

This potential AOC is located within the Plant #5 building where a large degreaser was reportedly located prior to construction of the Plant #8 building. A concrete patch roughly corresponding to the size and location of the degreaser was identified approximately 100 feet southwest of the former specialty (small) degreaser previously identified as a TCE source area.

2.4 Plant #8 Degreaser Discharge Pipe and Drainage Swale Area

A number of former Bishop Tube employees have indicated that a floor drain within the Plant #8 building was used to dispose of liquid wastes. This drain reportedly led to a pipe which was routed beneath the access road located along the north side of Plant #8, ultimately discharging to the drainage swale between the access road and the Norfolk Southern railroad right-of-way. This drain was reportedly used for disposal of spilled TCE and a substance (Zyglow) used as a dye in the inspection of welds.

3.0 SUPPLEMENTAL SITE CHARACTERIZATION

The Supplemental Site Characterization was conducted from May 23 through June 6, 2007. Michael Baker Jr., Inc. supervised the work activities and provided a professional geologist to log the boreholes and collect the samples. The work included collection of soil and groundwater grab samples at each of the AOCs, geophysical survey of the AOCs and repair of damaged groundwater monitoring wells. Sample locations are presented on Figure 2. The designated borings shown on the figure were located through the use of a globally positioning system (GPS) for the borings advanced outside of the building and through measurement triangulation for the borings advanced inside of the building. Some borings were not able to be completed to the desired depth due to the presence of bedrock. In these cases, the borings were re-located nearby in an attempt to extend to the desired depth. Due to the scale of Figure 2, and the proximity of the original and final borings, only one location (the final boring location) was presented on Figure 2 for each sample location.

3.1 Geophysical Survey

ARM Geophysics (ARM) of Hershey, PA conducted the geophysical survey on the four AOCs shown on Figure 1 of this report and Figures 1 through 6 of ARM's report provided in Appendix A. For the geophysical survey, ARM labeled the AOCs 'Area A' through 'Area E' splitting the Potential Vault/Seepage Area into two areas creating five areas instead of four. However, Baker will continue to refer to four AOCs throughout this report, as originally planned and discussed above. The areas (except the Drainage Swale) were surveyed on May 23, 2007. ARM returned on May 30, 2007 to survey the drainage swale (after the swale had been cleared of vegetation).

ARM performed a three-phase survey at each of the areas. The first phase utilized an electromagnetic (EM) survey using an EM61 MKII high sensitivity metal detector, and was performed over traverses spaced ten feet apart and oriented in two directions approximately north-south and east-west. The second phase utilized ground-penetrating radar (GPR) over the same traverses as the EM survey. The third phase utilized pipe and cable locators to perform inductive and conductive tracing to locate buried utilities. Details of the geophysical survey are included in the Geophysical Investigation Report (ARM, June 7, 2007) presented in Appendix A and summarized below. The geophysical report includes figures showing the results of each survey. Anomalies and utilities identified by ARM have also been incorporated onto Figure 1 of this Site Investigation report with one exception. Because of the number and complexity of utilities/anomalies in the Former Pickle Rise Water Disposal Tank and Lagoon Area, these utilities/anomalies have not been incorporated onto Figure 1, but are shown on the figure in the Geophysical Assessment Report included as Appendix A.

3.1.1 Potential Vault/Seepage Pit Area

The geophysical survey indicated the presence of a potential vault measuring approximately three feet by four feet in this area. This anomaly coincides with the depression noted at the surface of the asphalt in this area. The vault did not present as a metal source would, so is not interpreted as a UST.

The portion of the geophysical survey conducted inside the building, north of the potential vault, identified a utility trench running under the concrete parallel to the wall.

3.1.2 Former Pickle Rinse Water Disposal Tanks and Lagoon Area

The geophysical survey detected anomalies on the eastern side of the Plant #8 building, but they were not interpreted as having characteristics typical of USTs due to their rectangular or flat-topped reflections (steel or fiberglass USTs typically present a parabolic reflection). Figure 4 of Appendix A (ARM's geophysical report) presents the anomalies detected at this area.

3.1.3 Plant #5 Large Degreaser Area

The geophysical survey indicated the presence of several utilities and utility trenches in this area. Because of the linearity of the survey performed in this area (275 feet long by 10 feet wide), and the identified utilities/drainage pipes traversing the linear survey area at approximate right angles, the terminal ends (i.e., potential discharge locations) of the utilities/drainage pipes were unable to be identified.

3.1.4 Plant #8 Degreaser Discharge Pipe and Drainage Swale Area

Although the EM61 survey produced poor quality data due to the presence of overhead power lines, the GPR survey identified three anomalies perpendicular to Plant #8 that were interpreted to be potential sewer or drain pipes. Because of the linearity of the survey performed in this area (275 feet long by 10 feet wide), and the identified utilities/drainage pipes traversing the linear survey area at approximate right angles, the terminal ends (i.e., potential discharge locations) of the utilities/drainage pipes were unable to be identified.

3.2 Characterization of Areas of Concern

Allprobe Environmental, Inc. of Wexford, PA completed boreholes at each of the AOCs from May 24 to June 5, 2007. The boreholes were completed using direct-push technology to collect continuous soil cores. Each soil core was screened for the presence of organic vapors using a photo ionization detector (PID). Boring logs are provided in Appendix B. Groundwater grab samples were also collected from each AOC using either a peristaltic pump or bailer. Additional samples were collected at the request of the PADEP from other AOCs identified during the Supplemental Site Characterization field activities. Table 1 summarizes the sampling program conducted during the Supplemental Site Characterization. Copies of the Sample Tracking Forms are provided in Appendix C.

3.2.1 Potential Vault/Seepage Pit Area

A total of ten soil samples (includes one duplicate sample) were collected from six boreholes advanced at the Potential Vault/Seepage Pit Area. Additionally, three groundwater grab samples were collected from three of the boreholes.

The soil and groundwater samples were analyzed for VOCs, SVOCs, and metals.

The boring advanced in the center of the depression (VSP-01) encountered a concrete slab buried eight feet bgs. One soil sample, collected from a depth of 10 to 12 feet below ground surface (bgs) in borehole VSP-01, was not analyzed for SVOCs due to a lack of recovered soil.

In addition, at the request of the PADEP, a water sample and sediment sample were collected from the pump pit located south of the Plant #8 building west of the Potential Vault/Seepage Pit

Area (Figure 2). The soil and groundwater samples collected from the pit were analyzed for VOCs, SVOCs, and metals. A sample also was collected from water pooled in a shallow vault located near the northwest corner of the Plant #8 building (Figure 2). This water sample was analyzed for VOCs.

3.2.2 Former Pickle Rinse Water Disposal Tanks and Lagoon Area

A total of 11 soil samples were collected from ten boreholes advanced at the Former Pickle Rinse Water Disposal Tanks and Lagoon Area. Additionally, four groundwater grab samples (includes one duplicate sample) were collected from three of the boreholes. Also, Baker attempted to advance two borings directly through the anomalies identified by the geophysical survey, and encountered refusal (concrete) at two feet bgs in both borings. One of the borings that encountered refusal was advanced in the middle of the northern UST area and the other was advanced north of the northern UST area, near the concrete wall. The off-set distance between the original borings and the final, successful borings was too small to present on Figure 2 at the existing scale. Borings LAG-01 through LAG-04 were then advanced at the perimeter of the anomalies to assess the condition of the soil and groundwater surrounding the suspected former USTs.

The soil and groundwater samples were analyzed for VOCs, SVOCs, and metals.

Attempts to drill into the suspected tank areas met refusal on concrete at two feet bgs.

3.2.3 Plant #5 Large Degreaser Area

A total of four soil samples were collected from six boreholes advanced at the Plant #5 Large Degreaser Area. Additionally, three groundwater grab samples were collected from three of the boreholes.

The soil and groundwater samples were analyzed for VOCs.

Two of the boreholes advanced within the concrete patch area met refusal on concrete at approximately six feet bgs and no samples were collected.

3.2.4 Plant #8 Degreaser Discharge Pipe and Drainage Swale Area

A total of four soil samples were collected from four boreholes advanced at the Plant #8 Degreaser Discharge Pipe and Drainage Swale Area. Three of the boreholes were located at the three anomalies (potential pipes/trenches) identified during the geophysical survey, and one was located farther upstream from the anomalies. Additionally, two groundwater grab samples were collected from two of the boreholes. No other boreholes made water.

The soil and groundwater samples were analyzed for VOCs, SVOCs, and metals.

3.3 Well Repairs

Repairs were conducted on damaged wells as follows:

- Wells MW01, MW08 and MW20R had their locks replaced.
- Wells MW04, MW05, MW06, MW07 and MW18 had their flush-mount concrete pads removed and replaced.

- Wells MW23 and MW 27 had their caps replaced.

4.0 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The soil and groundwater grab samples were analyzed at the Pennsylvania Bureau of Laboratories facility located in Harrisburg, Pennsylvania. The samples collected are summarized in Table 1. The analytical parameters tested by the laboratory are summarized in Table 2.

The analytical results were compared to selected criteria. The soil analytical results were compared to the Pennsylvania Act 2 Statewide Health Standards Medium-Specific Criteria (MSCs) for non-residential soil. The soil criteria value selected was the lowest of the Direct Contact value versus the Soil-to-Groundwater value (highest of the Generic or the 100X the groundwater MSC for non-residential settings with total dissolved solids less than or equal to [TDS $\leq$] 2,500 mg/L). The soil analytical data are summarized on Tables 3, 4 and 5, and Figure 3.

The groundwater grab sample analytical results were compared to the Pennsylvania Act 2 Statewide Health Standards MSCs for Non-residential, Used Aquifers with TDS $\leq$ 2,500 mg/L. The metals samples were filtered in the field using a 0.45 micron filter; thus the analytical data represents the dissolved metals fraction. The groundwater analytical results are summarized on Tables 6, 7 and 8, and Figure 4.

4.1 Potential Vault/Seepage Pit Area

4.1.1 Soil

Fill material consisting of reworked local soil, was encountered to depths up to approximately nine feet bgs. Bedrock, consisting of weathered schist, was encountered at approximately 20 feet bgs.

4.1.1.1 PID Screening

The PID indicated elevated organic vapor concentrations in boreholes VSP-02, VSP-03, VSP-04, and VSP-05. However, no organic/chemical odors were noticed by the geologist on these cores. It was later determined that the PID was malfunctioning and was replaced. Screening of soil collected from VSP-06 using the replacement PID did not detect organic vapors.

4.1.1.2 VOCs

Tetrachloroethene (PCE) was detected in one sample (VSP-02) at a depth of three to four feet bgs. This concentration did not exceed the comparison criteria, and PCE was not detected in the deeper sample collected from VSP-02 or in any other samples collected in this area. No other VOCs were detected in this area. The lack of VOCs confirms the PID was malfunctioning.

4.1.1.3 SVOCs

1,4-Dichlorobenzene, di-n-butylphthalate, bis(2-ethylhexyl)phthalate and 2-methylnaphthalene were detected in several of the soil samples collected in this area. However, none of the concentrations of any SVOC exceeded the screening criteria. Di-n-butylphthalate and bis(2-ethylhexyl)phthalate are common laboratory contaminants and, therefore, may not be site contaminants. An SVOC sample could not be collected at 10 to 12 feet bgs at VSP-01 due to a lack of soil recovery.

4.1.1.4 Metals

Chromium was detected in two samples at concentrations exceeding the screening criteria. The chromium concentration at VSP-01 (10 to 11 feet bgs) was 259 mg/kg and at VSP-03 (three to four feet bgs) was 542 mg/kg, versus a criteria value of 190 mg/kg. No other metal concentration exceeded the screening criteria.

4.1.2 Groundwater

Groundwater was encountered at approximately 16 feet bgs while drilling, and then rose to approximately 12 feet bgs when the borehole was left open. At VSP-06 (inside the Plant #8 building at a lower elevation), groundwater was encountered at seven feet bgs.

Groundwater grab samples were collected from VSP-02, VSP-05 and VSP-06 (VSP-06 was located within the Plant #8 building. Based on the local groundwater flow direction, VSP-05 was considered up gradient of the Potential Vault/Seepage Pit Area, while VSP-02 and VSP-06 were considered downgradient of the area.

4.1.2.1 VOCs

VOCs (primarily solvents and petroleum compounds) were detected in each of the three samples collected at this area. Two compounds, TCE and chloroethene, exceeded the screening criteria. TCE exceeded the criteria in all three samples.

The TCE concentrations in VSP-02, VSP-05 and VSP-06 were 14.4 ug/L, 57.1 Q ug/L and 14.6 ug/L, respectively, versus a criteria value of 5.0 ug/L. The highest concentration was in the sample collected from VSP-05, considered to be the up gradient location. This probably results from the TCE source area located within the Plant #5 building (and up gradient of this area).

Chloroethene exceeded the criteria in the sample collected from VSP-06. The concentration was 5.2 ug/L versus a criteria value of 2 ug/L.

4.1.2.2 SVOCs

Several SVOCs were detected in groundwater grab samples collected at this area. Benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and bis(2-ethylhexyl)phthalate (BEHP) exceeded the screening criteria in the sample collected from VSP-06. BEHP also exceeded the criteria value in the sample collected from VSP-02. No SVOC exceeded the criteria in the sample collected from VSP-05. This would seem to indicate that the potential vault is a source area for SVOC contamination in groundwater. Although BEHP is a common laboratory contaminant, and was flagged as a blank contaminant in the VSP-05 sample, the concentrations of BEHP in VSP-02 and VSP-06 (25.9 E ug/L and 10,200 E ug/L, respectively) seem too high to not be considered a contaminant in these samples.

4.1.2.3 Metals

No metals exceeded the screening criteria in the three samples collected from this area.

4.1.3. Sediment

At the request of PADEP, samples were collected of the standing water and sediment found in the pit located at the base of the embankment within the Potential Vault/Seepage Pit Area. The sediment sample was collected by attaching a jar to the end of a stick and scraping the sediment from the bottom of the pit. It took multiple attempts to gather enough sediment for a sample. The sediment was greasy and had a strong petroleum-like odor. The sediment sample analytical results were compared to the soil criteria used for the other AOCs, and the standing water sample analytical results were compared to the groundwater criteria used for the other AOCs.

4.1.3.1 VOCs

Chloroethene, cis-1,2-dichloroethene and xylenes were detected in the sediment sample, and chloroethene and cis-1,2-dichloroethene exceeded the screening criteria. The concentration of chloroethene was 21,400 ug/kg, versus a criteria value of 200 ug/kg. The concentration of cis-1,2-dichloroethene was 14,900 ug/kg, versus a criteria value of 7,000 ug/kg.

4.1.3.2 SVOCs

Multiple SVOCs, primarily polycyclic aromatic hydrocarbons (PAHs) were detected in the sediment, but the concentrations did not exceed the screening criteria for soils.

4.1.3.3 Metals

Antimony and chromium exceeded the screening criteria in the sediment sample. The concentration of antimony was 102 mg/kg, versus a criteria value of 27 mg/kg. The concentration of chromium was 377 mg/kg, versus a criteria value of 190 mg/kg.

4.1.4 Standing Water

The water sample was collected by lowering a disposable bailer to the bottom of the pit and withdrawing a water sample.

4.1.4.1 VOCs

VOCs (primarily solvents and petroleum compounds) were detected in the standing water sample. Four compounds, 1,1-dichloroethene, chloroethene, TCE and cis-1,2-dichloroethene, exceeded the screening criteria.

The concentration of 1,1-dichloroethene was 23.6 Q ug/L, versus a criteria value of 7 ug/L. The concentration of chloroethene was 1,270 ug/L, versus a criteria value of 2 ug/L. The concentration of TCE was 212 Q ug/ L, versus a criteria value of 5 ug/L. The concentration of cis-1,2-dichloroethene was 4,010 ug/L, versus a criteria value of 70 ug/L.

4.1.4.2 SVOCs

BEHP was the only SVOC detected in the standing water and the concentration exceeded the screening criteria. The concentration was 18.6 ug/L versus a criteria value of 6 ug/L.

4.1.4.3 Metals

No metals exceeded the screening criteria in the standing water sample.

4.1.5 Conclusions and Recommendations

The geophysical survey indicated the presence of a concrete vault measuring approximately three feet by four feet and eight feet deep. This anomaly coincides with the depression noted at the surface of the asphalt in this area. The vault did not present as a metal source would, so is not interpreted as a UST. The vault has been filled with soil.

The Potential Vault/Seepage Pit Area does not appear to be a source of VOC or SVOC contamination.

Chromium exceeded the screening criteria in two samples collected at three to four feet bgs and 10 to 11 feet bgs. There is minimal potential for direct contact exposure to the chromium due to its depth and the presence of covering asphalt. Additionally, groundwater screening samples collected from this area did not indicate detectable concentrations of chromium. Therefore, the chromium in the soil does not appear to be contributing to groundwater contamination.

There are no specific recommendations for this area other than to continue routine groundwater monitoring.

With respect to the Pump Pit, chloroethene, cis-1,2-dichloroethene, antimony and chromium exceeded the screening criteria in the sediment sample. 1,1-Dichloroethene, chloroethene, TCE, cis-1,2-dichloroethene and BEHP exceeded the screening criteria in the water sample. The water and sediment in the Pump Pit may be contributing to groundwater contamination.

It is recommended that the standing water and sediment be pumped from the pit and disposed properly at an off-site treatment facility. The pit should be power-washed and the wash waters handled in the same method.

4.2 Former Pickle Rinse Water Disposal Tanks and Lagoon Area

4.2.1 Soil

Borings LAG-01 through LAG-04 were advanced to determine the presence of suspected pickle liquor rinse water USTs, and the condition of the soil and groundwater in the area. Borings LAG-05 through LAG-09 were advanced to investigate the suspected former pickle liquor rinse water lagoon area. Boring LAG-10 was advanced to investigate a suspected UST reportedly located outside the former Plant #8 building eastern wall, which is now inside the Plant #8 addition eastern wall.

In these borings, fill material, consisting of reworked local soil, was encountered at depths up to approximately 15 feet bgs. A vegetative layer indicating the location/depth of the former ground surface, was encountered at approximately 15 feet bgs. Bedrock, consisting of weathered schist, was encountered at approximately 19 feet bgs.

4.2.1.1 PID Screening

The PID detected organic vapor concentrations in boreholes LAG-02, LAG-03, LAG-05, LAG-06, LAG-07 and LAG-09. The PID detections in these boreholes (except LAG-09) were generally encountered between three to eight feet bgs, in concentrations ranging from approximately 2 to 40 parts per million (ppm). However, no organic/chemical odors were noticed by the geologist on these cores. The PID readings in LAG-09 (35 ppm) corresponded to a piece of wood encountered at approximately eight feet bgs, which had a creosote odor.

4.2.1.2 VOCs

VOCs (primarily solvents and petroleum compounds) were detected in all but two of the samples collected from this area. Two compounds, chloroethene and cis-1,2-dichloroethene, exceeded the screening criteria. Chloroethene exceeded the criteria in one sample (LAG-05) collected at six to seven feet bgs. The concentration was 365 ug/kg versus a criteria value of 200 ug/kg. Cis-1,2-Dichloroethene exceeded the criteria in one sample (LAG-07) collected at six to seven feet bgs. The concentration was 8,260 ug/kg versus a criteria value of 7,000 ug/kg.

4.2.1.3 SVOCs

Several SVOCs were detected in several of the samples collected from this area, but none of the concentrations exceeded the screening criteria.

4.2.1.4 Metals

Boron, chromium and nickel were detected at concentrations exceeding the screening criteria. Boron exceeded the criteria value in every sample except LAG-10, with concentrations ranging from 76.8 mg/kg to 147 mg/kg versus a criteria value of 60 mg/kg. The chromium concentration at LAG-05 (six to seven feet bgs) was 617 mg/kg, at LAG-06 (six to seven feet bgs) was 2,747 mg/kg, at LAG-07 (six to seven feet bgs) was 2,145 mg/kg, and at LAG-09 (eight to nine feet bgs) was 803 mg/kg, versus a criteria value of 190 mg/kg. The nickel concentration at LAG-06 (six to seven feet bgs) was 2,564 mg/kg, at LAG-07 (six to seven feet bgs) was 2,014 mg/kg, and at LAG-09 (eight to nine feet bgs) was 736 mg/kg, versus a criteria value of 650 mg/kg. No other metal concentration exceeded the screening criteria.

4.2.2 Groundwater

Groundwater was encountered at approximately 16 feet bgs while drilling, although there were perched layers noted at four feet and seven feet bgs in a couple boreholes (possibly related to the bottom of the former lagoon).

Groundwater grab samples were collected from LAG-02, LAG-03 and LAG-08 (a duplicate sample was also collected at LAG-03). Based on the local groundwater flow direction, LAG-08 was considered up gradient of the Former Pickle Rinse Water Disposal Tanks and Lagoon Area, while LAG-02 and LAG-03 were considered downgradient of the area.

4.2.2.1 VOCs

VOCs (primarily solvents and petroleum compounds) were detected in each of the three samples (plus the duplicate) collected at this area. Four compounds, TCE, cis-1,2-dichloroethene, chloroethene and methyl tert-butyl ether (MTBE), exceeded the screening criteria.

The TCE concentrations in LAG-02, LAG-03 and LAG-08 were 168 ug/L, 19.3 ug/L and 272 ug/L, respectively, versus a criteria value of 5.0 ug/L. The highest concentration was in the sample collected from LAG-08, considered to be the up gradient location. This likely is a result of the VOC source being located within the Plant #8 building.

The compound cis-1,2-Dichloroethene was detected at a concentration of 120 ug/L in LAG-02 and 232 ug/L in LAG-08, versus a criteria value of 70 ug/L.

Chloroethene was detected at a concentration of 7.8 Q ug/L in LAG-02, 5.4 ug/L in LAG-03 and 5.5 ug/L in LAG-08, versus a criteria value of 2 ug/L.

MTBE was detected at a concentration of 21.6 Q ug/L in LAG-02, versus a criteria value of 20 ug/L.

4.2.2.2 SVOCs

Benzo(a)pyrene, benzo(g,h,i)perylene and BEHP exceeded the screening criteria in the sample collected from LAG-02. BEHP also exceeded the criteria value in the sample collected from LAG-08. No SVOC exceeded the criteria in the sample collected from LAG-03. Although BEHP is a common laboratory contaminant and was flagged as a blank contaminant in the LAG-02 and LAG-03 samples, the concentrations of BEHP in LAG-02 and LAG-08 appear too high to be considered a laboratory contaminant in these samples.

4.2.2.3 Metals

Manganese exceeded the screening criteria in the samples collected from LAG-02 and LAG-08. No other metals exceeded the screening criteria in samples collected from this area.

4.2.3 Conclusions and Recommendations

The geophysical survey detected anomalies on the eastern side of the Plant #8 building, but they were not interpreted as having characteristics typical of USTs due to their rectangular or flat-topped reflections (steel or fiberglass USTs typically present a parabolic reflection). Two attempts to drill into the suspected tank areas (the two geophysical anomalies) met with refusal on concrete at two feet bgs. Therefore, the presence/existence of buried tanks in this area could not be confirmed. Soil samples collected nearer the suspected tanks appeared less impacted by VOCs and metals than samples collected farther away (in the suspected lagoon area).

The consistent PID readings and contamination detected from six to eight feet bgs may correspond to the bottom of the former lagoon. Samples LAG-05, LAG-06, LAG-07 and LAG-09 consistently showed the highest concentrations of VOC and metal contamination and probably mark the location of the former lagoon.

Chloroethene and cis-1,2-dichloroethene, exceeded the screening criteria in two samples collected from the former lagoon. So although the VOC contaminants do not appear to be widespread throughout the Former Pickle Rinse Water Disposal Tanks and Lagoon Area, the lagoon may be a source of VOC contamination.

Boron, chromium and nickel were detected in soil at concentrations exceeding the screening criteria. Therefore, this area, primarily the lagoon area, appears to be a source for metals contamination. However, the contaminants were detected at depth and the area is paved, so there is minimal potential for direct contact exposure.

VOC contamination measured in groundwater samples was generally higher in the up gradient sample (LAG-08). This may indicate that VOCs in groundwater primarily originate from an up gradient source (the vapor degreaser area in the Plant #8 building where there are active remedial actions ongoing), but there may also be contribution from the former lagoon.

SVOCs (benzo(a)pyrene, benzo(g,h,i)perylene and BEHP) exceeded the screening criteria in water samples collected from this area. SVOCs, including benzo(a)pyrene, benzo(g,h,i)perylene and BEHP, were also detected in soil samples collected at this area. Even though the SVOCs in soil did not exceed the screening criteria, the soil in this area could be contributing to SVOC contamination in groundwater.

Manganese was the only metal to exceed the screening criteria for groundwater samples. Therefore, metals contamination detected in soil does not appear to be impacting localized groundwater.

Considering that the VOCs appear localized, the SVOCs in soil did not exceed screening criteria, and the metals in soil do not appear to be impacting groundwater, there are no specific recommendations for this area other than to continue routine groundwater monitoring for these compounds.

4.3 Plant #5 Large Degreaser Area

4.3.1 Soil

Fill material consisting of reworked local soil, was encountered to depths up to approximately 11 to 15 feet bgs. Decomposed bedrock was encountered below approximately 11 feet bgs.

Boring LDA-01 was advanced in the center of the rectangular concrete patch identified as the former location of the Large Degreaser, and LDA-02 was advanced directly outside of the patch on the south edge. Both borings encountered a void space beneath the floor, partially backfilled with soil, and then met refusal on another concrete slab about 6 feet beneath the floor. No samples were collected from these borings.

Soil samples collected at the Plant #5 Large Degreaser Area were analyzed for VOCs only.

4.3.1.1 PID Screening

The PID detected organic vapors in the open borehole up to 20 ppm underneath the concrete (down hole), but only detected vapors up to 1.4 ppm on one soil sample in LDA-05. This indicates that soil in this area does not seem to be the source of the organic vapors.

4.3.1.2 VOCs

TCE was detected in two soil samples collected in this area, but the concentrations did not exceed the screening criteria. No other VOCs were detected in soil.

4.3.2 Groundwater

Groundwater was encountered at approximately 16.5 feet bgs while drilling.

Groundwater grab samples were collected from LDA-03, LDA-04 and LDA-06. Based on the local groundwater flow direction, LDA-04 appears to be up gradient of the Plant #5 Large Degreaser Area, while LDA-03 and LDA-06 appear to be downgradient of the area. Groundwater samples collected from this area were analyzed for VOCs only.

4.3.2.1 VOCs

TCE, MTBE and toluene were detected in samples collected at this area, but only TCE exceeded the screening criteria. The TCE concentration in LDA-03 was 23.6 ug/L and in LDA-06 was 122 ug/L, versus a screening value of 5 ug/L.

4.3.3 Conclusions and Recommendations

TCE was detected in soil samples but did not exceed the screening criteria. Therefore, this area does not seem to be a source area for VOC contamination.

There are no specific recommendations for this area.

4.4 Plant #8 Degreaser Discharge Pipe and Drainage Swale Area

4.4.1 Soil

Alluvium was encountered above bedrock. The top of bedrock rose from 9.4 feet bgs at DDP-01 (easternmost borehole) to 5.5 feet bgs at DDP-04 (westernmost borehole). Bedrock consisted of schist.

4.4.1.1 PID Screening

The PID detected organic vapors in soil samples collected from DDP-01, DDP-02 and DDP-03. The vapors were significantly higher at DDP-03. No vapors were detected at DDP-04.

4.4.1.2 VOCs

Solvents were detected in DDP-01, DDP-02 and DDP-03, but only TCE exceeded the screening criteria. The concentration of TCE in DDP-01, DDP-02 and DDP-03 was 793 ug/kg, 1000 ug/kg and 11,800 ug/kg, respectively, versus a criteria value of 500 ug/kg. In addition to the TCE concentration being significantly higher at DDP-03, the other detected VOCs were also higher at this location. Additionally, no VOCs were detected in soil in the sample (DDP-04) collected upstream from DDP-03. This indicates that the discharge pipe was located in the vicinity of DDP-03.

4.4.1.3 SVOCs

Fluoranthene and pyrene were detected in two of the four soil samples, but the concentrations did not exceed the screening criteria.

4.4.1.4 Metals

No metals exceeded the screening criteria in soil samples collected at this area.

4.4.2 Groundwater

Only borings DDP-01 and DDP-02 encountered water. Water was at 3.3 feet bgs in DDP-01 and 4.6 feet bgs in DDP-02.

4.4.2.1 VOCs

VOCs (mostly solvents) were detected in both of the samples collected at this area. Seven compounds, 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, chloroethene, tetrachloroethene, TCE and cis-1,2-dichloroethene, exceeded the screening criteria.

The concentrations of 1,1,1-trichloroethane in DDP-01 and DDP-02 were 19,200 ug/L and 23,200 ug/L, respectively, versus a criteria value of 200 ug/L.
The concentrations of 1,1-dichloroethane in DDP-01 and DDP-02 were 163 ug/L and 112 ug/L, respectively, versus a criteria value of 27 ug/L.

The concentrations of 1,1-dichloroethene in DDP-01 and DDP-02 were 227 ug/L and 282 ug/L, respectively, versus a criteria value of 7 ug/L.

The concentrations of chloroethene in DDP-01 and DDP-02 were 6.8 ug/L and 7.3 ug/L, respectively, versus a criteria value of 2 ug/L.

The concentration of tetrachloroethene in DDP-02 was 5.2 ug/L, versus a criteria value of 5 ug/L.

The concentrations of TCE in DDP-01 and DDP-02 were 5,200 ug/L and 7,160 ug/L, respectively, versus a criteria value of 5 ug/L.

The concentrations of cis-1,2-dichloroethene in DDP-01 and DDP-02 were 1,650 Q ug/L and 1,760 Q ug/L, respectively, versus a criteria value of 70 ug/L.

The concentrations of the VOCs, except 1,1-dichloroethane, increased in the upstream direction (toward the suspected pipe location).

4.4.2.2 SVOCs

Multiple SVOCs were detected in each sample. BEHP and pentachlorophenol exceeded the screening criteria in each sample. The concentrations of BEHP in DDP-01 and DDP-02 were 8.87 B ug/L and 30.1 E ug/L, respectively, versus a criteria value of 6 ug/L. The concentrations of pentachlorophenol in DDP-01 and DDP-02 were 4.53 ug/L and 4.43 ug/L, respectively, versus a criteria value of 1 ug/L.

4.4.2.3 Metals

Manganese exceeded the screening criteria in each sample. The concentrations of manganese in DDP-01 and DDP-02 were 2,150 ug/L and 2,010 ug/L, respectively, versus a criteria value of 300 ug/L.

4.4.3 Conclusions and Recommendations

This area lies outside the north fence line and is a grassy, partially wooded area.

The GPR survey identified three anomalies perpendicular to Plant #8 that were interpreted to be potential sewer or drain pipes. Samples collected at these locations appeared to confirm that solvents were discharged to this swale. TCE exceeded the screening criteria in all but the westernmost sample. The soil appears to be a source area for TCE contamination. Samples were not collected from surface soil at this area, so a direct contact risk cannot be evaluated.

Seven compounds, including 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, chloroethene, tetrachloroethene, TCE and cis-1,2-dichloroethene, exceeded the screening criteria in both groundwater samples. This appears to be the result of discharges to the swale area.

It is recommended that additional soil samples be collected to further delineate the extent of TCE contamination in soil in this area. Soil samples should also be collected from the ground surface to evaluate the direct contact risk. Further recommendations should be developed after this recommended further delineation is completed.

4.5 Plant #8 Floor Vault

4.5.1 Standing Water

Also at the request of the PADEP, a sample was collected from water pooled in a shallow vault located near the northwest corner of the Plant #8 building. This water sample was analyzed for VOCs.

4.5.1.2 VOCs

No VOCs were detected in the standing water collected from the vault.

4.5.2 Conclusions and Recommendations

The water in the vault appears to be rainwater and shows no sign of VOC contamination. There are no recommendations for further action regarding the vault.

TABLES

TABLE 1
SUMMARY OF SUPPLEMENTAL SAMPLING PROGRAM
BISHOP TUBE
CHESTER COUNTY, PA

Boring ID	Area	Total Depth (ft bgs)	Soil Sample Depths	Groundwater Sample	Comments
VSP-01	Potential Vault/Seepage Pit Area	12	7 - 8' & 10 - 12'	No	No SVOA sample at 10 - 12'. PID = Bgnd.
VSP-02		20	3 - 4' & 11 - 12'	Yes	Plus soil duplicate @ 3 - 4'. PID = 211 (suspected to be erroneous)
VSP-03		20	3 - 4' & 11 - 12'	No	PID = 1349 @ 2' (suspected to be erroneous)
VSP-04		4	3 - 4'	No	PID = 12.3 (suspected to be erroneous)
VSP-05		20	15 - 16'	Yes	PID = 300 + (suspected to be erroneous)
VSP-06		8.2	6 - 7'	Yes	PID = Bgnd
Pump Pit		--	--	--	Sample of water in Pump Pit
Pump Pit		--	--	--	Sample of sediment in Pump Pit
LAG-01	Former Pickle Rinse Water Disposal and Lagoon Area	20	5 - 6'	No	PID = Bgnd
LAG-02		24	5 - 6' & 16 - 17'	Yes	PID = 39 @ 5'
LAG-03		20	16 - 17'	Yes	Plus groundwater duplicate. PID = 2.3 @ 5'; 2.1 @17'
LAG-04		19	11 - 12'	No	PID = Bgnd
LAG-05		19.5	6 - 7'	No	PID = 17.9 @ 6'
LAG-06		8	6 - 7'	No	PID = 19.5 @ 6'
LAG-07		8	6 - 7'	No	PID = 25.1 @ 6'
LAG-08		20	8 - 9'	Yes	PID = 1.1 @ 8'
LAG-09		20	8 - 9'	No	PID = 35.1 @ 8'
LAG-10		20	5 - 6'	No	PID = Bgnd
LDA-01	Plant #5 Large Degreaser Area	6.2	None	No	Refusal on concrete, no samples
LDA-02		6.1	None	No	Refusal on concrete, no samples
LDA-03		20	16 - 16.5'	Yes	PID = 15 just below floor slab; Bgnd on soil
LDA-04		20	2 - 3'	Yes	PID = Bgnd
LDA-05		20	3 - 4'	No	PID = 1.4 @ 3'
LDA-06		20	6 - 7'	Yes	PID = Bgnd
DDP-01	Discharge Pipe and Drainage Swale	9.4	7 - 8'	Yes	PID = 28 @ 7'
DDP-02		8.6	7 - 8'	Yes	PID = 9.8 @ 7'
DDP-03		6.8	5 - 6'	No	No water encountered. PID = 358 @ 5'
DDP-04		5.5	4.5 - 5.5'	No	No water encountered. PID = Bgnd
Vault	Plant #8	--	--	–	Vault near western edge of Plant #8

PID = Photo Ionization Detector (Value shown is in parts per million at designated depth below ground surface)
Bgnd = Background

TABLE 2

ANALYTICAL PARAMETER LIST FOR SOIL AND GROUNDWATER
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION

SOIL ANALYTES				
VOLATILES				
1,1,1,2-Tetrachloroethane	1,2-Dichloroethane	Bromomethane	Ethylbenzene	Vinyl Acetate
1,1,1-Trichloroethane	1,2-Dichloropropane	Carbon Disulfide	Isopropylbenzene	cis-1,2-Dichloroethene
1,1,2,2-Tetrachloroethane	1,3,5-Trimethylbenzene	Carbon Tetrachloride	MEK	cis-1,3-Dichloropropene
1,1,2-Trichloroethane	1,3-Dichloropropane	Chlorobenzene	MIBK	m/p-Xylene
1,1-Dichloroethane	2,2-Dichloropropane	Chloroethane	Methyl Tert-Butyl Ether	n-Butylbenzene
1,1-Dichloroethene	2-Hexanone	Chloroethene	Methylene Chloride	n-Propylbenzene
1,1-Dichloropropene	4-Isopropyltoluene	Chloroform	Sec-Butylbenzene	o-Chlorotoluene
1,2,3-Trichlorobenzene	Acetone	Chloromethane	Styrene	o-Xylene
1,2,3-Trichloropropane	Benzene	Diallate (Cis or Trans)	Tert-Butylbenzene	p-Chlorotoluene
1,2,4-Trimethylbenzene	Bromobenzene	Dibromochloromethane	Tetrachloroethene	tert-Butyl Acetate
1,2-Dibromo-3-chloropropane	Bromodichloromethane	Dibromomethane	Toluene	trans-1,2-Dichloroethene
1,2-Dibromoethane	Bromoform	Dichlorodifluoromethane	Trichlorofluoromethane	trans-1,3-Dichloropropene
SEMIVOLATILES				
1,2,4,5-Tetrachlorobenzene	2-Picoline (2-Methylpyridine)	Di-n-butylphthalate	N-Nitrosodipropylamine	bis(2-Ethylhexyl)phthalate
1,2,4-Trichlorobenzene	3&4-Methylphenol	Di-n-octylphthalate	N-Nitrosomethylethylamine	o-Toluidine
1,2-Dichlorobenzene	3,3'-Dichlorobenzidine	Diethylphthalate	N-Nitrosomorpholine	t-Butyl alcohol
1,3-Dichlorobenzene	3-Methylcholanthrene	Dimethoate	N-nitrosopiperidine	2-Methylnaphthalene
1,4-Dichlorobenzene	3-Nitroaniline	Dimethylaminoazobenzene	N-Nitrosodimethylamine	Acenaphthene
1,4-Dioxane	4,6-Dinitro-2-methylphenol	Dimethylphthalate	Naphthalene	Acenaphthylene
1,4-Naphthoquinone	4-Aminobiphenyl	Diphenylamine	Nitrobenzene	Anthracene
2,3,4,6-Tetrachlorophenol	4-Bromophenyl-phenyl ether	Ethyl Parathion	O,O,O-Triethylphosphorothioate	Benzo(g,h,i)perylene
2,4,5-Trichlorophenol	4-Chloro-3-methylphenol	Ethyl methanesulfonate	PCTFB	Dibenzofuran
2,4,6-Trichlorophenol	4-Chloroaniline	Fluorene	Pentachlorethane	Fluoranthene
2,4-Dichlorophenol	4-Chlorophenyl-phenyl ether	Hexachlorobenzene	Pentachlorobenzene	Phenanthrene
2,4-Dimethylphenol	4-Nitroaniline	Hexachlorobutadiene	Pentachloronitrobenzene	Pyrene
2,4-Dinitrophenol	4-Nitrophenol	Hexachlorocyclopentadiene	Phenol	Benz(a)anthracene
2,4-Dinitrotoluene	5-Nitro-o-toluidine	Hexachloroethane	Pronamide	Benzo(a)pyrene
2,6-Dichlorophenol	7,12-Dimethylbenz(a)-anthracen	Hexachloropropene	Pyridine	Benzo(b)fluoranthene
2-Acetylaminofluorene	Acetophenone	Indeno-1,2,3-cd-pyrene	Safrole	Benzo(k)fluoranthene
2-Chloronaphthalene	Aniline	Isophorone	Tetrahydrofuran	Chrysene
2-Chlorophenol	Aramite	Methyl Methanesulfonate	Thionazine	Dibenzo(a,h)anthracene
2-Methylphenol	Benzyl alcohol	N-Nitrosodibutylamine	bis(2-Chloroethoxy)methane	
2-Nitroaniline	Butylbenzylphthalate	N-Nitrosodiethylamine	bis(2-Chloroethyl)ether	
2-Nitrophenol	Chlorobenzilate	N-Nitrosodimethylamine	bis(2-Chloroisopropyl)ether	

TABLE 2

ANALYTICAL PARAMETER LIST FOR SOIL AND GROUNDWATER
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION

SOIL ANALYTES (Continued)				
SEMIVOLATILES (Continued)				
Explosives	***Pesticides***			***Herbicides***
1,3-Dinitrobenzene	4,4'-DDD	Endosulfan II	Lindane	Dinoseb
2,6-Dinitrotoluene	4,4'-DDE	Endrin	alpha-BHC	Disulfoton
	4,4'-DDT	Heptachlor	beta-BHC	Phorate
	Aldrin	Heptachlor Epoxide	delta-BHC	Sulfotep
	Dieldrin	Isodrin	Methoxychlor	
	Endosulfan I	Isosafrole	Pentachlorophenol	
INORGANICS				
Aluminum	Cadmium	Lead	Selenium	***Conventionals***
Antimony	Calcium	Magnesium	Silver	Acidity
Arsenic	Chromium	Manganese	Sodium	Moisture
Barium	Cobalt Compounds	Mercury	Thallium	Solids
Beryllium	Copper	Nickel	Vanadium	
Boron	Iron	Potassium	Zinc	

TABLE 2

ANALYTICAL PARAMETER LIST FOR SOIL AND GROUNDWATER
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION

GROUNDWATER ANALYTES				
VOLATILES				
1,1,1,2-Tetrachloroethane	1,2-Dichloropropane	Carbon Tetrachloride	MEK	cis-1,2-Dichloroethene
1,1,1-Trichloroethane	1,3,5-Trimethylbenzene	Chlorobenzene	MIBK	cis-1,3-Dichloropropene
1,1,2,2-Tetrachloroethane	1,3-Dichloropropane	Chloroethane	Methane	m/p-Xylene
1,1,2-Trichloroethane	2,2-Dichloropropane	Chloroethene	Methyl Tert-Butyl Ether	n-Butylbenzene
1,1-Dichloroethane	2-Hexanone	Chloroform	Methylene Chloride	n-Propylbenzene
1,1-Dichloroethene	4-Isopropyltoluene	Chloromethane	Sec-Butylbenzene	o-Chlorotoluene
1,1-Dichloropropene	Acetone	Diallate (Cis or Trans)	Styrene	o-Xylene
1,2,3-Trichlorobenzene	Benzene	Dibromochloromethane	Tert-Butylbenzene	p-Chlorotoluene
1,2,3-Trichloropropane	Bromobenzene	Dibromomethane	Tetrachloroethene	tert-Butyl Acetate
1,2,4-Trimethylbenzene	Bromodichloromethane	Dichlorodifluoromethane	Toluene	trans-1,2-Dichloroethene
1,2-Dibromo-3-chloropropane	Bromoform	Ethane	Trichloroethene	trans-1,3-Dichloropropene
1,2-Dibromoethane	Bromomethane	Ethylbenzene	Trichlorofluoromethane	
1,2-Dichloroethane	Carbon Disulfide	Isopropylbenzene	Vinyl Acetate	
SEMIVOLATILES				
1,2,4,5-Tetrachlorobenzene	2-Picoline (2-Methylpyridine)	Chlorobenzilate	N-Nitrosodiethylamine	bis(2-Chloroethyl)ether
1,2,4-Trichlorobenzene	3&4-Methylphenol	Di-n-butylphthalate	N-Nitrosodimethylamine	bis(2-Chloroisopropyl)ether
1,2-Dichlorobenzene	3,3'-Dichlorobenzidine	Di-n-octylphthalate	N-Nitrosodipropylamine	bis(2-Ethylhexyl)phthalate
1,3-Dichlorobenzene	3-Methylcholanthrene	Diethylphthalate	N-Nitrosomethylethylamine	o-Toluidine
1,4-Dichlorobenzene	3-Nitroaniline	Dimethoate	N-Nitrosomorpholine	t-Butyl alcohol
1,4-Dioxane	4,6-Dinitro-2-methylphenol	Dimethylaminoazobenzene	N-nitrosopiperidine	Benz(a)anthracene
1,4-Naphthoquinone	4-Aminobiphenyl	Dimethylphthalate	Naphthalene	Benzo(a)pyrene
2,3,4,6-Tetrachlorophenol	4-Bromophenyl-phenyl ether	Diphenylamine	Nitrobenzene	Benzo(b)fluoranthene
2,4,5-Trichlorophenol	4-Chloro-3-methylphenol	Ethyl Parathion	O,O,O-Triethylphosphorothioate	Benzo(k)fluoranthene
2,4,6-Trichlorophenol	4-Chloroaniline	Ethyl methanesulfonate	PCTFB	Chrysene
2,4-Dichlorophenol	4-Chlorophenyl-phenyl ether	Fluorene	Pentachlorethane	Dibenzo(a,h)anthracene
2,4-Dimethylphenol	4-Nitroaniline	Hexachlorobenzene	Pentachlorobenzene	2-Methylnaphthalene
2,4-Dinitrophenol	4-Nitrophenol	Hexachlorobutadiene	Pentachloronitrobenzene	Acenaphthene
2,4-Dinitrotoluene	5-Nitro-o-toluidine	Hexachlorocyclopentadiene	Phenol	Acenaphthylene
2,6-Dichlorophenol	7,12-Dimethylbenz(a)-anthracen	Hexachloroethane	Pronamide	Anthracene
2-Acetylaminofluorene	Acetophenone	Hexachloropropene	Pyridine	Benzo(g,h,i)perylene
2-Chloronaphthalene	Aniline	Indeno-1,2,3-cd-pyrene	Safrole	Dibenzofuran
2-Chlorophenol	Aramite	Isophorone	Tetrahydrofuran	Fluoranthene
2-Methylphenol	Benzyl alcohol	Methyl Methanesulfonate	Thionazine	Phenanthrene
2-Nitroaniline	Butylbenzylphthalate	N-Nitrosodibutylamine	bis(2-Chloroethoxy)methane	Pyrene
2-Nitrophenol				

TABLE 2

ANALYTICAL PARAMETER LIST FOR SOIL AND GROUNDWATER
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION

GROUNDWATER ANALYTES (Continued)				
SEMIVOLATILES (Continued)				
Explosives	***Pesticides / PCBs***			***Herbicides***
1,3-Dinitrobenzene	4,4'-DDD	Endosulfan II	Lindane	Dinoseb
2,6-Dinitrotoluene	4,4'-DDE	Endrin	alpha-BHC	Disulfoton
	4,4'-DDT	Heptachlor	beta-BHC	Phorate
	Aldrin	Heptachlor Epoxide	delta-BHC	Sulfotep
	Dieldrin	Isodrin	Methoxychlor	
	Endosulfan I	Isosafrole	Pentachlorophenol	
DISSOLVED INORGANICS				
Aluminum	Boron	Copper	Mercury	Sodium
Antimony	Cadmium	Iron	Nickel	Thallium
Arsenic	Calcium	Lead	Potassium	Vanadium
Barium	Chromium Compounds	Magnesium	Selenium	Zinc
Beryllium Compounds	Cobalt Compounds	Manganese	Silver	
TOTAL INORGANICS				
Aluminum	Boron	Copper	Mercury	Sodium
Antimony	Cadmium	Iron	Nickel	Thallium
Arsenic	Calcium	Lead	Potassium	Vanadium
Barium	Chromium Compounds	Magnesium	Selenium	Zinc
Beryllium Compounds	Cobalt Compounds	Manganese	Silver	
Conventionals (mg/L)				
Alkalinity	Nitrate (No3)			
C	Nitrite			
Chloride	S			
Fluoride	Sulfate			

TABLE 3
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
VOCs IN SOILS

Sample ID	PA ACT 2	VSP-01-07	VSP-01-10	VSP-02-03	VSP-02-11	VSP-03-03	VSP-03-03DUP	VSP-03-11	VSP-04-03
Sequence Number	Soil	140	143	145	148	151	154	157	160
Sample Date	Criteria [1]	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007
	(ug/kg)								
Volatiles (ug/kg)									
1,1,1-Trichloroethane	20,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
1,1-Dichloroethane	11,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
1,1-Dichloroethene	700	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
1,2,4-Trimethylbenzene	20,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
1,3,5-Trimethylbenzene	6,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
4-Isopropyltoluene	NE	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
Chloroethene	200	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
Ethylbenzene	70,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
Tetrachloroethene	500	51.6 U	57.7 U	**53.4**	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
Toluene	100,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
Trichloroethene	500	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
cis-1,2-Dichloroethene	7,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
m/p-Xylene[2]	1,000,000	103 U	115 U	95.7 U	106 U	97.6 U	102 U	101 U	104 U
n-Propylbenzene	780,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
o-Xylene[2]	1,000,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U
trans-1,2-Dichloroethene	10,000	51.6 U	57.7 U	47.8 U	53.1 U	48.8 U	50.9 U	50.6 U	51.8 U

Notes:

(1) Non-Residential Soil, Lowest-Direst Contact vs S-GW (highest of 100X & Generic), Used Aquifer, TDS≤2,500 mg/L
(2) Screening value for xylenes (total) used as a surrogate.

NA- Not Analyzed
NE - Not Established
J - Indicates an estimated value, below the quantification limit, but above the method detection limit.
Q - This flag identifies the average of multiple results from multiple analysis, or the average of the averages of dual column analysis methods.
U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

Bolded value indicates that the detected concentration is greater than the method detection limit.
Bolded and shaded value indicates that the detected concentration is greater than the method detection limit and PA ACT 2 screening criteria.

TABLE 3
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
VOCs IN SOILS

Sample ID	PA ACT 2	VSP-05-15	VSP-06-06	LAG-01-05	LAG-02-05	LAG-02-16	LAG-03-16	LAG-04-11	LAG-05-06
Sequence Number	Soil	163	176	184	187	190	198	209	212
Sample Date	Criteria [1]	05-29-2007	05-29-2007	05-29-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007
	(ug/kg)								
Volatiles (ug/kg)									
1,1,1-Trichloroethane	20,000	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	56.6 U
1,1-Dichloroethane	11,000	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	56.6 U
1,1-Dichloroethene	700	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	56.6 U
1,2,4-Trimethylbenzene	20,000	47.6 U	47.1 U	51.7 U	47.8 U	**76.7**	44.3 U	49.7 U	56.6 U
1,3,5-Trimethylbenzene	6,000	47.6 U	47.1 U	51.7 U	47.8 U	**33.8 J**	44.3 U	49.7 U	**58.1**
4-Isopropyltoluene	NE	47.6 U	47.1 U	51.7 U	47.8 U	**167**	44.3 U	49.7 U	56.6 U
Chloroethene	200	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	**365**
Ethylbenzene	70,000	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	56.6 U
Tetrachloroethene	500	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	56.6 U
Toluene	100,000	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	**21.6 J**	43.5 J
Trichloroethene	500	47.6 U	47.1 U	**337**	**135**	56.1 U	**40.4 J**	**53.7**	**164**
cis-1,2-Dichloroethene	7,000	47.6 U	47.1 U	**126**	47.8 U	**283**	44.3 U	**878**	**3990**
m/p-Xylene[2]	1,000,000	95.1 U	94.2 U	103 U	95.6 U	112 U	88.6 U	99.4 U	113 U
n-Propylbenzene	780,000	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	**36.2 J**
o-Xylene[2]	1,000,000	47.6 U	47.1 U	51.7 U	47.8 U	56.1 U	44.3 U	49.7 U	56.6 U
trans-1,2-Dichloroethene	10,000	47.6 U	47.1 U	51.7 U	47.8 U	**77.4**	44.3 U	**56**	**322**

TABLE 3
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
VOCs IN SOILS

Sample ID	PA ACT 2	LAG-05-12	LAG-06-06	LAG-07-06	LAG-08-08	LAG-09-08	LAG-10-05	LDA-03-16	LDA-04-02
Sequence Number	Soil	215	218	221	224	231	267	234	236
Sample Date	Criteria [1]	05-30-2007	05-31-2007	05-31-2007	05-31-2007	05-31-2007	06-05-2007	05-31-2007	05-31-2007
	(ug/kg)								
Volatiles (ug/kg)									
1,1,1-Trichloroethane	20,000	49.4 U	54.6 U	59.4 U	52.3 U	55.2 U	50.6 U	55.5 U	57.3 U
1,1-Dichloroethane	11,000	49.4 U	54.6 U	59.4 U	52.3 U	55.2 U	50.6 U	55.5 U	57.3 U
1,1-Dichloroethene	700	49.4 U	54.6 U	59.4 U	52.3 U	55.2 U	50.6 U	55.5 U	57.3 U
1,2,4-Trimethylbenzene	20,000	49.4 U	**2720**	**1420 Q**	52.3 U	**3660 Q**	50.6 U	55.5 U	57.3 U
1,3,5-Trimethylbenzene	6,000	49.4 U	1490	**734 Q**	52.3 U	**1710 Q**	50.6 U	55.5 U	57.3 U
4-Isopropyltoluene	NE	49.4 U	54.6 U	59.4 U	52.3 U	**1510 Q**	50.6 U	55.5 U	57.3 U
Chloroethene	200	49.4 U	54.6 U	59.4 U	52.3 U	55.2 U	50.6 U	55.5 U	57.3 U
Ethylbenzene	70,000	49.4 U	**30.4 J**	59.4 U	52.3 U	55.2 U	50.6 U	55.5 U	57.3 U
Tetrachloroethene	500	49.4 U	54.6 U	59.4 U	52.3 U	55.2 U	50.6 U	55.5 U	57.3 U
Toluene	100,000	49.4 U	**404**	**513**	52.3 U	**561 Q**	50.6 U	55.5 U	57.3 U
Trichloroethene	500	49.4 U	54.6 U	59.4 U	52.3 U	**166**	**488**	55.5 U	57.3 U
cis-1,2-Dichloroethene	7,000	**98.2**	**4320**	**8260**	52.3 U	**26600**	**128**	55.5 U	57.3 U
m/p-Xylene[2]	1,000,000	98.8 U	**117**	**84.8 J**	105 U	**160**	101 U	111 U	115 U
n-Propylbenzene	780,000	49.4 U	**246**	**138**	52.3 U	**346**	50.6 U	55.5 U	57.3 U
o-Xylene[2]	1,000,000	49.4 U	**196**	**121**	52.3 U	**233**	50.6 U	55.5 U	57.3 U
trans-1,2-Dichloroethene	10,000	49.4 U	**121**	**63.1**	52.3 U	**323**	50.6 U	55.5 U	57.3 U

TABLE 3
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
VOCs IN SOILS

Sample ID	PA ACT 2	LDA-05-03	LDA-06-06	DDP-01-07	DDP-02-07	DDP-03-06	DDP-04-05	Pump Pit Sed
Sequence Number	Soil	239	240	247	254	261	264	242
Sample Date	Criteria [1]	06-04-2007	06-04-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-04-2007
	(ug/kg)							
Volatiles (ug/kg)								
1,1,1-Trichloroethane	20,000	50.1 U	50.5 U	**1720**	**3650**	**3420 Q**	46.7 U	1840 U
1,1-Dichloroethane	11,000	50.1 U	50.5 U	**48.3 J**	54.3 U	**125**	46.7 U	1840 U
1,1-Dichloroethene	700	50.1 U	50.5 U	**56.2**	54.3 U	**630 Q**	46.7 U	1840 U
1,2,4-Trimethylbenzene	20,000	50.1 U	50.5 U	52.8 U	54.3 U	**38.7 J**	46.7 U	1840 U
1,3,5-Trimethylbenzene	6,000	50.1 U	50.5 U	52.8 U	54.3 U	49.9 U	46.7 U	1840 U
4-Isopropyltoluene	NE	50.1 U	50.5 U	52.8 U	54.3 U	49.9 U	46.7 U	1840 U
Chloroethene	200	50.1 U	50.5 U	52.8 U	54.3 U	49.9 U	46.7 U	**21400**
Ethylbenzene	70,000	50.1 U	50.5 U	52.8 U	54.3 U	49.9 U	46.7 U	1840 U
Tetrachloroethene	500	50.1 U	50.5 U	52.8 U	54.3 U	**55.7**	46.7 U	1840 U
Toluene	100,000	50.1 U	50.5 U	52.8 U	54.3 U	**362**	46.7 U	1840 U
Trichloroethene	500	**68.2**	**268**	**793**	**1000**	**11800**	46.7 U	1840 U
cis-1,2-Dichloroethene	7,000	50.1 U	50.5 U	**282**	**305**	**953 Q**	46.7 U	**14900**
m/p-Xylene[2]	1,000,000	100 U	101 U	106 U	109 U	99.8 U	93.4 U	**1500 J**
n-Propylbenzene	780,000	50.1 U	50.5 U	52.8 U	54.3 U	49.9 U	46.7 U	1840 U
o-Xylene[2]	1,000,000	50.1 U	50.5 U	52.8 U	54.3 U	49.9 U	46.7 U	**698 J**
trans-1,2-Dichloroethene	10,000	50.1 U	50.5 U	52.8 U	54.3 U	49.9 U	46.7 U	1840 U

TABLE 4
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SOILS

Sample ID	PA ACT 2	VSP-01-07		VSP-01-10	VSP-02-03		VSP-02-11		VSP-03-03	
Sequence Number	Soil	140	141	143	145	146	148	149	151	152
Sample Date	Criteria [1]	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007
	(ug/kg)									
Semivolatiles (ug/kg)										
1,2-Dichlorobenzene*	60,000	51.6 U	846 U	57.7 U	47.8 U	836 U	53.1 U	755 U	48.8 U	797 U
1,3-Dichlorobenzene*	61,000	51.6 U	846 U	57.7 U	47.8 U	836 U	53.1 U	755 U	48.8 U	797 U
1,4-Dichlorobenzene*	10,000	51.6 U	846 U	**556**	47.8 U	836 U	53.1 U	755 U	48.8 U	797 U
3&4-Methylphenol	51,000	NA	3390 U	NA	NA	3340 U	NA	3020 U	NA	3190 U
Di-n-butylphthalate	4,100,000	NA	**241 J**	NA	NA	**276 J**	NA	**109 J**	NA	**64.3 J**
Hexachlorobenzene	960	NA	846 U	NA	NA	836 U	NA	755 U	NA	797 U
Indeno-1,2,3-cd-pyrene	360	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Naphthalene*	25,000	51.6 U	423 U	**1750**	47.8 U	418 U	53.1 U	377 U	48.8 U	398 U
Pentachlorobenzene	660,000	NA	846 U	NA	NA	836 U	NA	755 U	NA	797 U
bis(2-Ethylhexyl)phthalate	130,000	NA	**54.5 J**	NA	NA	836 U	NA	**41.8 J**	NA	797 U
2-Methylnaphthalene	8,000,000	NA	846 U	NA	NA	**26.3 J**	NA	755 U	NA	797 U
Acenaphthene	4,700,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Anthracene	350,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Benzo(g,h,i)perylene	180,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Fluoranthene	3,200,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Phenanthrene	10,000,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Pyrene	2,200,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Benzo(a)pyrene	11,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Benzo(k)fluoranthene	610,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Chrysene	230,000	NA	423 U	NA	NA	418 U	NA	377 U	NA	398 U
Explosives (ug/kg)										
2,6-Dinitrotoluene	10,000	NA	846 U	NA	NA	836 U	NA	755 U	NA	797 U

Notes:

(1) Non-Residential Soil, Lowest-Direst Contact vs S-GW (highest of 100X & Generic), Used Aquifer, TDS<2500
* - Analyzed under both the VOC and SVOC methods. Both results reported with the SVOCs.

NA- Not Analyzed
J - Indicates an estimated value, below the quantification limit, but above the method detection limit.
Q - This flag identifies the average of multiple results from multiple analysis, or the average of the averages of dual column analysis methods.
U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

Bolded value indicates that the detected concentration is greater than the method detection limit.

TABLE 4
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SOILS

Sample ID	PA ACT 2	VSP-03-03DUP		VSP-03-11		VSP-04-03		VSP-05-15	
Sequence Number	Soil	154	155	157	158	160	161	163	164
Sample Date	Criteria [1]	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-29-2007	05-29-2007
	(ug/kg)								
Semivolatiles (ug/kg)									
1,2-Dichlorobenzene*	60,000	50.9 U	831 U	50.6 U	746 U	51.8 U	746 U	47.6 U	762 U
1,3-Dichlorobenzene*	61,000	50.9 U	831 U	50.6 U	746 U	51.8 U	746 U	47.6 U	762 U
1,4-Dichlorobenzene*	10,000	50.9 U	831 U	50.6 U	746 U	51.8 U	746 U	47.6 U	762 U
3&4-Methylphenol	51,000	NA	3320 U	NA	2980 U	NA	2980 U	NA	3050 U
Di-n-butylphthalate	4,100,000	NA	831 U	NA	**204 J**	NA	746 U	NA	762 U
Hexachlorobenzene	960	NA	831 U	NA	746 U	NA	746 U	NA	762 U
Indeno-1,2,3-cd-pyrene	360	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Naphthalene*	25,000	50.9 U	416 U	50.6 U	373 U	51.8 U	373 U	47.6 U	381 U
Pentachlorobenzene	660,000	NA	831 U	NA	746 U	NA	746 U	NA	762 U
bis(2-Ethylhexyl)phthalate	130,000	NA	831 U	NA	746 U	NA	746 U	NA	762 U
2-Methylnaphthalene	8,000,000	NA	831 U	NA	746 U	NA	746 U	NA	762 U
Acenaphthene	4,700,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Anthracene	350,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Benzo(g,h,i)perylene	180,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Fluoranthene	3,200,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Phenanthrene	10,000,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Pyrene	2,200,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Benzo(a)pyrene	11,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Benzo(k)fluoranthene	610,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Chrysene	230,000	NA	416 U	NA	373 U	NA	373 U	NA	381 U
Explosives (ug/kg)									
2,6-Dinitrotoluene	10,000	NA	831 U	NA	746 U	NA	746 U	NA	762 U

TABLE 4
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SOILS

Sample ID	PA ACT 2	VSP-06-06		LAG-01-05		LAG-02-05		LAG-02-16	
Sequence Number	Soil	176	177	184	185	187	188	190	191
Sample Date	Criteria [1]	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007
	(ug/kg)								
Semivolatiles (ug/kg)									
1,2-Dichlorobenzene*	60,000	47.1 U	843 U	51.7 U	802 U	47.8 U	794 U	56.1 U	754 U
1,3-Dichlorobenzene*	61,000	47.1 U	843 U	51.7 U	802 U	47.8 U	794 U	56.1 U	754 U
1,4-Dichlorobenzene*	10,000	47.1 U	843 U	51.7 U	802 U	47.8 U	794 U	56.1 U	754 U
3&4-Methylphenol	51,000	NA	3370 U	NA	3210 U	NA	3180 U	NA	**73.9 J**
Di-n-butylphthalate	4,100,000	NA	843 U	NA	802 U	NA	794 U	NA	754 U
Hexachlorobenzene	960	NA	843 U	NA	802 U	NA	794 U	NA	754 U
Indeno-1,2,3-cd-pyrene	360	NA	422 U	NA	401 U	NA	**199 J**	NA	377 U
Naphthalene*	25,000	47.1 U	422 U	51.7 U	401 U	47.8 U	397 U	56.1 U	377 U
Pentachlorobenzene	660,000	NA	843 U	NA	802 U	NA	794 U	NA	754 U
bis(2-Ethylhexyl)phthalate	130,000	NA	**384 J**	NA	802 U	NA	794 U	NA	**616 J**
2-Methylnaphthalene	8,000,000	NA	843 U	NA	802 U	NA	794 U	NA	**71 J**
Acenaphthene	4,700,000	NA	422 U	NA	401 U	NA	397 U	NA	377 U
Anthracene	350,000	NA	422 U	NA	401 U	NA	113 J	NA	377 U
Benzo(g,h,i)perylene	180,000	NA	422 U	NA	401 U	NA	**216 J**	NA	377 U
Fluoranthene	3,200,000	NA	422 U	NA	401 U	NA	**566**	NA	377 U
Phenanthrene	10,000,000	NA	422 U	NA	401 U	NA	**395 J**	NA	377 U
Pyrene	2,200,000	NA	422 U	NA	401 U	NA	**746**	NA	377 U
Benzo(a)pyrene	11,000	NA	422 U	NA	401 U	NA	**295 J**	NA	377 U
Benzo(k)fluoranthene	610,000	NA	422 U	NA	401 U	NA	397 U	NA	377 U
Chrysene	230,000	NA	422 U	NA	401 U	NA	**401**	NA	377 U
Explosives (ug/kg)									
2,6-Dinitrotoluene	10,000	NA	843 U	NA	802 U	NA	794 U	NA	754 U

TABLE 4
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SOILS

Sample ID	PA ACT 2	LAG-03-16		LAG-04-11		LAG-05-06		LAG-05-12	
Sequence Number	Soil	198	199	209	210	212	213	215	216
Sample Date	Criteria [1]	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007
	(ug/kg)								
Semivolatiles (ug/kg)									
1,2-Dichlorobenzene*	60,000	44.3 U	838 U	49.7 U	817 U	56.6 U	**44 J**	49.4 U	807 U
1,3-Dichlorobenzene*	61,000	44.3 U	838 U	49.7 U	817 U	**140**	735 U	49.4 U	807 U
1,4-Dichlorobenzene*	10,000	44.3 U	838 U	49.7 U	817 U	56.6 U	735 U	49.4 U	807 U
3&4-Methylphenol	51,000	NA	3350 U	NA	3270 U	NA	2940 U	NA	3230 U
Di-n-butylphthalate	4,100,000	NA	838 U	NA	817 U	NA	735 U	NA	807 U
Hexachlorobenzene	960	NA	838 U	NA	817 U	NA	**284 J**	NA	807 U
Indeno-1,2,3-cd-pyrene	360	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Naphthalene*	25,000	44.3 U	419 U	49.7 U	408 U	56.6 U	**75.5 J**	49.4 U	403 U
Pentachlorobenzene	660,000	NA	838 U	NA	817 U	NA	**436 J**	NA	807 U
bis(2-Ethylhexyl)phthalate	130,000	NA	**13500**	NA	817 U	NA	735 U	NA	807 U
2-Methylnaphthalene	8,000,000	NA	838 U	NA	**306 J**	NA	**214 J**	NA	807 U
Acenaphthene	4,700,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Anthracene	350,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Benzo(g,h,i)perylene	180,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Fluoranthene	3,200,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Phenanthrene	10,000,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Pyrene	2,200,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Benzo(a)pyrene	11,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Benzo(k)fluoranthene	610,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Chrysene	230,000	NA	419 U	NA	408 U	NA	367 U	NA	403 U
Explosives (ug/kg)									
2,6-Dinitrotoluene	10,000	NA	838 U	NA	817 U	NA	735 U	NA	807 U

TABLE 4
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SOILS

Sample ID	PA ACT 2	LAG-06-06		LAG-07-06		LAG-08-08		LAG-09-08	
Sequence Number	Soil	218	219	221	222	224	225	231	232
Sample Date	Criteria [1]	05-31-2007	05-31-2007	05-31-2007	05-31-2007	05-31-2007	05-31-2007	05-31-2007	05-31-2007
	(ug/kg)								
Semivolatiles (ug/kg)									
1,2-Dichlorobenzene*	60,000	54.6 U	795 U	59.4 U	762 U	52.3 U	776 U	55.2 U	772 U
1,3-Dichlorobenzene*	61,000	54.6 U	795 U	59.4 U	762 U	52.3 U	776 U	55.2 U	772 U
1,4-Dichlorobenzene*	10,000	54.6 U	795 U	59.4 U	762 U	52.3 U	776 U	55.2 U	772 U
3&4-Methylphenol	51,000	NA	3180 U	NA	3050 U	NA	3100 U	NA	3090 U
Di-n-butylphthalate	4,100,000	NA	795 U	NA	762 U	NA	776 U	NA	772 U
Hexachlorobenzene	960	NA	**148 J**	NA	**135 J**	NA	776 U	NA	772 U
Indeno-1,2,3-cd-pyrene	360	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Naphthalene*	25,000	**602**	398 U	59.4 U	381 U	52.3 U	388 U	**787**	386 U
Pentachlorobenzene	660,000	NA	**147 J**	NA	762 U	NA	776 U	NA	772 U
bis(2-Ethylhexyl)phthalate	130,000	NA	795 U	NA	762 U	NA	**2580**	NA	772 U
2-Methylnaphthalene	8,000,000	NA	**723 J**	NA	**1060**	NA	776 U	NA	**1290**
Acenaphthene	4,700,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Anthracene	350,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Benzo(g,h,i)perylene	180,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Fluoranthene	3,200,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Phenanthrene	10,000,000	NA	**168 J**	NA	381 U	NA	388 U	NA	386 U
Pyrene	2,200,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Benzo(a)pyrene	11,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Benzo(k)fluoranthene	610,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Chrysene	230,000	NA	398 U	NA	381 U	NA	388 U	NA	386 U
Explosives (ug/kg)									
2,6-Dinitrotoluene	10,000	NA	795 U	NA	762 U	NA	776 U	NA	772 U

TABLE 4
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SOILS

Sample ID	PA ACT 2	LAG-10-05		DDP-01-07		DDP-02-07	
Sequence Number	Soil	267	268	247	248	254	255
Sample Date	Criteria [1]	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007
	(ug/kg)						
Semivolatiles (ug/kg)							
1,2-Dichlorobenzene*	60,000	50.6 U	710 U	52.8 U	770 U	54.3 U	610 U
1,3-Dichlorobenzene*	61,000	50.6 U	710 U	52.8 U	770 U	54.3 U	610 U
1,4-Dichlorobenzene*	10,000	50.6 U	710 U	52.8 U	770 U	54.3 U	610 U
3&4-Methylphenol	51,000	NA	2840 U	NA	3080 U	NA	2440 U
Di-n-butylphthalate	4,100,000	NA	**783**	NA	770 U	NA	610 U
Hexachlorobenzene	960	NA	710 U	NA	770 U	NA	610 U
Indeno-1,2,3-cd-pyrene	360	NA	355 U	NA	385 U	NA	305 U
Naphthalene*	25,000	50.6 U	355 U	52.8 U	385 U	54.3 U	305 U
Pentachlorobenzene	660,000	NA	710 U	NA	770 U	NA	610 U
bis(2-Ethylhexyl)phthalate	130,000	NA	710 U	NA	770 U	NA	610 U
2-Methylnaphthalene	8,000,000	NA	710 U	NA	770 U	NA	610 U
Acenaphthene	4,700,000	NA	355 U	NA	385 U	NA	305 U
Anthracene	350,000	NA	355 U	NA	385 U	NA	305 U
Benzo(g,h,i)perylene	180,000	NA	355 U	NA	385 U	NA	305 U
Fluoranthene	3,200,000	NA	**82 J**	NA	**269 J**	NA	305 U
Phenanthrene	10,000,000	NA	355 U	NA	385 U	NA	305 U
Pyrene	2,200,000	NA	**65.3 J**	NA	**254 J**	NA	305 U
Benzo(a)pyrene	11,000	NA	355 U	NA	385 U	NA	305 U
Benzo(k)fluoranthene	610,000	NA	355 U	NA	385 U	NA	305 U
Chrysene	230,000	NA	355 U	NA	385 U	NA	305 U
Explosives (ug/kg)							
2,6-Dinitrotoluene	10,000	NA	710 U	NA	770 U	NA	610 U

TABLE 4
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SOILS

Sample ID	PA ACT 2	DDP-03-06		DDP-04-05		Pump Pit Sed	
Sequence Number	Soil	261	262	264	265	242	243
Sample Date	Criteria [1]	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-04-2007	06-04-2007
	(ug/kg)						
Semivolatiles (ug/kg)							
1,2-Dichlorobenzene*	60,000	49.9 U	618 U	46.7 U	814 U	1840 U	318 U
1,3-Dichlorobenzene*	61,000	49.9 U	618 U	46.7 U	814 U	1840 U	318 U
1,4-Dichlorobenzene*	10,000	49.9 U	618 U	46.7 U	814 U	1840 U	318 U
3&4-Methylphenol	51,000	NA	2470 U	NA	3260 U	NA	1270 U
Di-n-butylphthalate	4,100,000	NA	618 U	NA	814 U	NA	318 U
Hexachlorobenzene	960	NA	618 U	NA	814 U	NA	318 U
Indeno-1,2,3-cd-pyrene	360	NA	309 U	NA	407 U	NA	**176**
Naphthalene*	25,000	49.9 U	309 U	46.7 U	407 U	1840 U	159 U
Pentachlorobenzene	660,000	NA	618 U	NA	814 U	NA	318 U
bis(2-Ethylhexyl)phthalate	130,000	NA	618 U	NA	814 U	NA	**554 Q**
2-Methylnaphthalene	8,000,000	NA	618 U	NA	814 U	NA	**751 Q**
Acenaphthene	4,700,000	NA	309 U	NA	407 U	NA	**324**
Anthracene	350,000	NA	309 U	NA	407 U	NA	**543**
Benzo(g,h,i)perylene	180,000	NA	309 U	NA	407 U	NA	**181**
Fluoranthene	3,200,000	NA	**102 J**	NA	407 U	NA	**1160 Q**
Phenanthrene	10,000,000	NA	309 U	NA	407 U	NA	**1460 Q**
Pyrene	2,200,000	NA	**92.8 J**	NA	407 U	NA	**1310 Q**
Benzo(a)pyrene	11,000	NA	309 U	NA	407 U	NA	**122 J**
Benzo(k)fluoranthene	610,000	NA	309 U	NA	407 U	NA	**99 J**
Chrysene	230,000	NA	309 U	NA	407 U	NA	**420 Q**
Explosives (ug/kg)							
2,6-Dinitrotoluene	10,000	NA	618 U	NA	814 U	NA	368

TABLE 5
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
INORGANICS IN SOIL

Sample ID	PA ACT 2	VSP-01-07	VSP-01-10	VSP-02-03	VSP-02-11	VSP-03-03	VSP-03-03DUP	VSP-03-11	VSP-04-03	VSP-05-15
Sequence Number	Soil	142	144	147	148	153	156	159	162	165
Sample Date	Criteria [1]	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-24-2007	05-29-2007
	(mg/kg)									
Inorganics (mg/kg)										
Aluminum	NE	**22951**	**19427**	**22023**	**20715**	**26203**	**32380**	**21362**	**33973**	**14420**
Antimony	27	1.16 U	1.23 U	1.16 U	1.18 U	1.17 U	1.17 U	1.16 U	1.16 U	1.1 U
Arsenic	53	**2.84**	**4.85**	**11**	**11.9**	**35.3**	**25.8**	**13.2**	**10.2**	**24**
Barium	8,200	**46**	**86.1**	**71.7**	**51.7**	**78.9**	**89**	**66.8**	**117**	**54.2**
Beryllium	320	0.579 U	**1.72**	0.578 U	0.589 U	0.587 U	**0.586**	0.582 U	**0.756**	**0.771**
Boron	60	**23.1**	24.5 U	**23.1**	23.6 U	23.5 U	23.4 U	**87.1**	**90.5**	**115**
Cadmium	38	**0.752**	0.613 U	**0.694**	0.589 U	**0.822**	**0.821**	0.582 U	0.582 U	**1.54**
Calcium	NE	**2056**	**30585**	**28682**	**838**	**7314**	**17673**	**675**	**1261**	**769**
Chromium	190	**29.7**	**259**	**164**	**29.2**	**542**	**441**	**24.1**	**25.2**	**24.1**
Cobalt	200	**34.4**	**13.1**	**14.4**	**17**	**23.3**	**19.8**	**13.4**	**20.7**	**68.8**
Copper	36,000	**41.5**	**46.6**	**38.3**	**28.6**	**81**	**44.1**	**33**	**23.8**	**45**
Iron	NE	**50689**	**27690**	**37168**	**40647**	**53669**	**43869**	**43463**	**46214**	**60951**
Lead	450	**11**	**280**	**179**	**13.4**	**53.3**	**31.8**	**18**	**36.3**	**13.7**
Magnesium	NE	**6314**	**16256**	**14006**	**3589**	**6334**	**9672**	**2710**	**3951**	**3344**
Manganese	NE	**1233**	**600**	**439**	**447**	**734**	**605**	**407**	**1101**	**720**
Mercury	10	0.116 U	0.123 U	0.116 U	0.118 U	0.117 U	0.117 U	0.116 U	0.116 U	0.11 U
Nickel	650	**41.8**	**119**	**157**	**20**	**610**	**355**	**18.3**	**22.9**	**41.6**
Potassium	NE									
Silver	84	0.579 U	0.613 U	0.578 U	0.589 U	0.587 U	0.586 U	0.582 U	0.582 U	0.551 U
Sodium	NE	**304**	**205**	**97.2**	**85.9**	**149**	**288**	**90.8**	**266**	**57.4**
Vanadium	20,000	**40.2**	**35.6**	**33.8**	**36.2**	**52.5**	**45.2**	**24.7**	**26.8**	**9.91**
Zinc	12,000	**82.9**	**112**	**124**	**44.9**	**82**	**60.4**	**43.5**	**84.7**	**94.7**
Conventionals (%)										
Moisture	NE	13.6	18.49	13.5	15.16	14.82	14.7	14.03	14.02	9.19
Solids	NE	86.4	81.51	86.5	84.84	85.18	85.3	85.97	85.98	90.81

Notes:

(1) Non-Residential Soil, Lowest-Direst Contact vs S-GW (highest of 100X & Generic), Used Aquifer, TDS<2500

NE - Not Established
U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

Bolded value indicates that the detected concentration is greater than the method detection limit.
Bolded and shaded value indicates that the detected concentration is greater than the method detection limit and PA ACT 2 screening criteria.

TABLE 5
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
INORGANICS IN SOIL

Sample ID	PA ACT 2	VSP-06-06	LAG-01-05	LAG-02-05	LAG-02-16	LAG-03-16	LAG-04-11	LAG-05-06	LAG-05-12	LAG-06-06
Sequence Number	Soil	178	186	189	192	200	211	214	217	220
Sample Date	Criteria [1]	05-29-2007	05-29-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-31-2007
	(mg/kg)									
Inorganics (mg/kg)										
Aluminum	NE	**15432**	**20134**	**34374**	**35300**	**27168**	**38281**	**25472**	**21931**	**30988**
Antimony	27	1.16 U	1.18 U	1.18 U	1.22 U	1.14 U	1.16 U	**10.2**	1.2 U	**9.17**
Arsenic	53	**5.71**	**9.99**	**8.39**	**7.65**	**10.3**	**20**	**16**	**9.56**	**13.9**
Barium	8,200	**56.2**	**60.5**	**107**	**131**	**85.4**	**118**	**101**	**62.3**	**171**
Beryllium	320	0.582 U	0.591 U	**0.768**	**0.796**	**0.571**	**0.698**	0.613 U	0.601 U	**3.22**
Boron	60	**70**	**98**	**96**	**83.2**	**114**	**112**	**110**	**76.8**	**139**
Cadmium	38	**1.11**	**0.591**	**0.709**	**0.796**	**0.685**	**0.698**	**0.735**	0.601 U	0.62 U
Calcium	NE	**814**	**4131**	**5579**	**7118**	**1422**	**6043**	**3965**	**5144**	**9850**
Chromium	190	**20**	**31.6**	**38.7**	**59**	**33.2**	**82.9**	**617**	**26.6**	**2747**
Cobalt	200	**16.6**	**13.1**	**12.7**	**11.8**	**16.1**	**16.2**	**16.7**	**11.2**	**26.3**
Copper	36,000	**22.2**	**27.6**	**23.8**	**23.7**	**29.5**	**34.8**	**247**	**18.6**	**649**
Iron	NE	**37988**	**49799**	**40567**	**32748**	**51440**	**49482**	**49706**	**35391**	**56050**
Lead	450	**15.4**	**19.3**	**18.9**	**21.3**	**14.1**	**16.8**	**295**	**21.3**	**205**
Magnesium	NE	**4030**	**3574**	**5916**	**5410**	**5350**	**4986**	**3807**	**4133**	**5648**
Manganese	NE	**358**	**450**	**720**	**679**	**1010**	**850**	**404**	**390**	**700**
Mercury	10	0.116 U	0.118 U	0.118 U	0.122 U	0.114 U	0.116 U	**0.127**	0.12 U	**0.2**
Nickel	650	**24**	**25.5**	**30.7**	**67.4**	**34.2**	**64.3**	**589**	**18.6**	**2564**
Potassium	NE									**2617**
Silver	84	0.582 U	0.591 U	0.591 U	0.612 U	0.571 U	0.582 U	**0.981**	0.601 U	**2.67**
Sodium	NE	**79.9**	**118**	**395**	**483**	**433**	**528**	**163**	**148**	**413**
Vanadium	20,000	**12.5**	**25.5**	**38.1**	**40.1**	**28.3**	**37.2**	**31.8**	**28.1**	**41.7**
Zinc	12,000	**53.5**	**46.8**	**66.4**	**65.7**	**78.9**	**58.3**	**247**	**46**	**448**
Conventionals (%)										
Moisture	NE	14.17	15.44	15.4	18.3	12.47	14.03	18.42	16.83	19.34
Solids	NE	85.83	84.56	84.6	81.7	87.53	85.97	81.58	83.17	80.66

TABLE 5
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
INORGANICS IN SOIL

Sample ID	PA ACT 2	LAG-07-06	LAG-08-08	LAG-09-08	LAG-10-05	DDP-01-07	DDP-02-07	DDP-03-06	DDP-04-05	Pump Pit Sed
Sequence Number	Soil	223	226	233	269	249	256	263	266	244
Sample Date	Criteria [1]	05-31-2007	05-31-2007	05-31-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-04-2007
	(mg/kg)									
Inorganics (mg/kg)										
Aluminum	NE	**22238**	**33522**	**37128**	**29704**	**20253**	**17114**	**24563**	**22517**	**10408**
Antimony	27	**6.39**	1.21 U	**3.26**	1.16 U	1.18 U	1.29 U	1.22 U	1.18 U	**102**
Arsenic	53	**12.3**	**9.53**	**13.6**	**10.8**	**9.51**	**10.5**	**6.66**	**23.5**	4.2 U
Barium	8,200	**154**	**99.6**	**144**	**264**	**56.9**	**68.5**	**57**	**42.4**	**192**
Beryllium	320	**2.35**	**3.08**	**3.38**	**1.86**	0.59 U	**1.29**	**1.16**	**1.3**	1 U
Boron	60	**147**	**99.1**	**142**	**29.1**	**27.2**	25.8 U	24.4 U	**27.6**	42.1 U
Cadmium	38	**0.905**	**0.724**	**0.738**	**0.581**	**0.827**	**1.55**	0.611 U	0.59 U	**34.7**
Calcium	NE	**5566**	**2406**	**7653**	**3768**	**1005**	**1653**	**1428**	**1290**	**116835**
Chromium	190	**2145**	**54.4**	**803**	**44.7**	**18.5**	**14.4**	**24.7**	**30.4**	**377**
Cobalt	200	**25**	**15.5**	**20.5**	**15.9**	**15.2**	**14.9**	**15.6**	**13.8**	**12.4**
Copper	36,000	**435**	**23.3**	**250**	**31.7**	**25.6**	**30**	**28.8**	**25.6**	**89.8**
Iron	NE	**56924**	**42549**	**56430**	**43498**	**49120**	**40498**	**39036**	**49545**	**33502**
Lead	450	**188**	**22.3**	**97.7**	**18.4**	**14.8**	**12.1**	**14.9**	**14.4**	**265**
Magnesium	NE	**3721**	**4146**	**4147**	**3159**	**3920**	**6331**	**6013**	**3088**	**69269**
Manganese	NE	**896**	**656**	**782**	**439**	**308**	**584**	**345**	**358**	**345**
Mercury	10	**0.219**	0.121 U	0.123 U	0.116 U	0.118 U	0.129 U	0.122 U	0.118 U	0.211 U
Nickel	650	**2014**	**87.3**	**736**	**36.5**	**27.3**	**31.4**	**28.8**	**20.3**	**238**
Potassium	NE	**1486**	**1870**	**2774**	**2203**	**1618**	**3076**	**1293**	**1244**	**1164**
Silver	84	**2.17**	0.603 U	**1.04**	0.581 U	0.59 U	0.645 U	0.611 U	0.59 U	1 U
Sodium	NE	**257**	**184**	**521**	**254**	**86**	**166**	**176**	**165**	**156**
Vanadium	20,000	**45.4**	**35.8**	**46.4**	**39**	**22.3**	**13.1**	**23.9**	**29**	**29.5**
Zinc	12,000	**463**	**79.6**	**332**	**53.7**	**44.5**	**49.1**	**63.1**	**42.6**	**253**
Conventionals (%)										
Moisture	NE	17.1	17.13	18.66	13.95	15.32	22.49	18.19	15.33	52.54
Solids	NE	82.9	82.87	81.34	86.05	84.68	77.51	81.81	84.67	47.46

TABLE 6
BISHOP TUBE SITE
VOCs IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2	VSP-02-GW	VSP-05-GW	VSP-06-GW	LAG-02-GW	LAG-03-GW	LAG-03-GWD	LAG-08-GW	LDA-03-GW
Sequence Number	Groundwater	171	166	179	193	201	205	227	235
Sample Date	Criteria [1]	05-29-2007	05-29-2007	05-29-2007	05-30-2007	05-30-2007	05-30-2007	05-31-2007	05-31-2007
	(ug/L)								
Volatiles (ug/L)									
1,1,1-Trichloroethane	200	0.5 U	2.5 U	**1.2**	**22.8 Q**	0.5 U	0.5 U	**1.7**	0.5 U
1,1-Dichloroethane	27	**1.2**	2.5 U	**5.5**	**3.5**	0.5 U	0.5 U	**3.3**	0.5 U
1,1-Dichloroethene	7	0.5 U	2.5 U	0.5 U	**1.5**	0.5 U	0.5 U	**1.8**	0.5 U
1,2,4-Trimethylbenzene	16	0.5 U	2.5 U	**0.23 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	3,700	**22.7**	12.5 U	**5.8**	2.5 U	2.5 U	**5.2**	2.5 U	2.5 U
Benzene	5	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.9**	0.5 U
Carbon Disulfide	1,900	0.5 U	2.5 U	0.5 U	**0.28 J**	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	100	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethene	2	0.5 U	2.5 U	**5.2**	**7.8 Q**	**5.2**	**5.4**	**5.5**	0.5 U
Chloroform	80	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	0.5 U	2.5 U	**0.12 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Tert-Butyl Ether	20	0.5 U	2.5 U	0.5 U	**21.6 Q**	0.5 U	0.5 U	**4.9**	**6.1**
Methylene Chloride	5	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Sec-Butylbenzene	1,500	0.5 U	2.5 U	**1.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tert-Butylbenzene	1,500	0.5 U	2.5 U	**0.27 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	5	**3.4**	2.5 U	0.5 U	**0.44 J**	0.5 U	**0.21 J**	**0.92**	0.5 U
Toluene	1,000	**1**	**60.3 Q**	**27**	**2.7**	**1.5**	**1.4**	**63.3**	**13.1**
Trichloroethene	5	**14.4**	**57.1 Q**	**14.6**	**168**	**19.3**	**18.3**	**272**	**23.6**
cis-1,2-Dichloroethene	70	**5.5**	**5 Q**	**15.1**	**120**	**8.2**	**8**	**232**	0.5 U
m/p-Xylene[2]	10,000	1 U	5 U	**0.43 J**	1 U	1 U	1 U	1 U	1 U
o-Xylene[2]	10,000	0.5 U	2.5 U	**0.17 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	100	**0.92**	2.5 U	**0.4 J**	**2.1**	**1.5**	**1.4**	**4.3**	0.5 U

Notes:

(1) Residential Groundwater. Used Aquifer, TDS<2500
(2) Screening value for xylenes (total) used as a surrogate.

J - Indicates an estimated value, below the quantification limit, but above the method detection limit.
Q - This flag identifies the average of multiple results from multiple analysis, or the average of the averages of dual column analysis methods.
U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

Bolded value indicates that the detected concentration is greater than the method detection limit.
Bolded and shaded value indicates that the detected concentration is greater than the method detection limit and PA ACT 2 screening criteria.

TABLE 6
BISHOP TUBE SITE
VOCs IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2 Groundwater Criteria [1] (ug/L)	LDA-04-GW	LDA-06-GW	DDP-01-GW	DDP-02-GW	Pump Pit-W	Vault Water	ER-01
Sequence Number		237	241	250	257	238	270	271
Sample Date		05-31-2007	06-04-2007	06-05-2007	06-05-2007	06-04-2007	06-05-2007	06-05-2007
Volatiles (ug/L)								
1,1,1-Trichloroethane	200	0.5 U	5 U	**19200**	**23200**	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	27	0.5 U	5 U	**163**	**112**	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	7	0.5 U	5 U	**227**	**282**	**23.6 Q**	0.5 U	0.5 U
1,2,4-Trimethylbenzene	16	0.5 U	5 U	0.5 U	0.5 U	**0.1 J**	0.5 U	0.5 U
Acetone	3,700	2.5 U	25 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzene	5	0.5 U	5 U	**0.62**	**0.63**	0.5 U	0.5 U	0.5 U
Carbon Disulfide	1,900	0.5 U	5 U	0.5 U	0.5 U	**1.9**	0.5 U	0.5 U
Chlorobenzene	100	0.5 U	5 U	0.5 U	0.5 U	**0.24 J**	0.5 U	0.5 U
Chloroethene	2	0.5 U	5 U	**6.8**	**7.3**	**1270**	0.5 U	0.5 U
Chloroform	80	0.5 U	5 U	0.5 U	**1.7**	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	0.5 U	5 U	0.5 U	0.5 U	**0.24 J**	0.5 U	0.5 U
Methyl Tert-Butyl Ether	20	**14.7**	5 U	**2.1**	**2.2**	0.5 U	0.5 U	0.5 U
Methylene Chloride	5	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.73**
Sec-Butylbenzene	1,500	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tert-Butylbenzene	1,500	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	5	0.5 U	5 U	**4.2**	**5.2**	**1.5**	0.5 U	0.5 U
Toluene	1,000	**9**	**4.9 J**	**1.6**	**8.6**	**0.86**	0.5 U	0.5 U
Trichloroethene	5	**1.2**	**122**	**5200**	**7160**	**212 Q**	0.5 U	0.5 U
cis-1,2-Dichloroethene	70	0.5 U	5 U	**1650 Q**	**1760 Q**	**4010**	0.5 U	0.5 U
m/p-Xylene[2]	10,000	1 U	10 U	1 U	1 U	**0.91 J**	1 U	1 U
o-Xylene[2]	10,000	0.5 U	5 U	0.5 U	0.5 U	**0.82**	0.5 U	0.5 U
trans-1,2-Dichloroethene	100	0.5 U	5 U	**21.6**	**21.4**	**22.8 Q**	0.5 U	0.5 U

TABLE 7
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2	VSP-02-GW		VSP-05-GW		VSP-06-GW		LAG-02-GW	
Sequence Number	Groundwater	171	172	166	167	179	180	193	194
Sample Date	Criteria [1]	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-30-2007	05-30-2007
	(ug/L)								
Semivolatiles (ug/L)									
2,3,4,6-Tetrachlorophenol	290	NA	2 U	NA	1.94 U	NA	9.43 U	NA	2.22 U
3&4-Methylphenol	180	NA	4 U	NA	3.88 U	NA	18.9 U	NA	4.44 U
Acetophenone	3,700	NA	1 U	NA	**2.42**	NA	4.72 U	NA	1.11 U
Butylbenzylphthalate	2,700	NA	1 U	NA	0.971 U	NA	4.72 U	NA	1.11 U
Di-n-butylphthalate	3,700	NA	1 U	NA	0.971 U	NA	4.72 U	NA	1.11 U
Fluorene	1,500	NA	0.5 U	NA	**2.37**	NA	2.36 U	NA	0.556 U
Naphthalene*	100	0.5 U	0.5 U	2.5 U	**4.82**	0.5 U	**2.41**	0.5 U	0.556 U
bis(2-Ethylhexyl)phthalate	6	NA	**25.9 E**	NA	**2.08 B**	NA	**10200 E**	NA	**12.6 B**
Benz(a)anthracene	0.9	NA	0.5 U	NA	0.485 U	NA	**9.94**	NA	**0.51 J**
Benzo(a)pyrene	0.2	NA	0.5 U	NA	0.485 U	NA	**7.39**	NA	**0.377 J**
Benzo(b)fluoranthene	0.9	NA	0.5 U	NA	0.485 U	NA	**7.79**	NA	0.556 U
Benzo(k)fluoranthene	0.55	NA	0.5 U	NA	0.485 U	NA	**7.79**	NA	**0.396 J**
Chrysene	1.9	NA	0.5 U	NA	**0.0367 J**	NA	**9.42**	NA	**0.409 J**
2-Methylnaphthalene	730	NA	1 U	NA	**8.82**	NA	**4.74**	NA	1.11 U
Acenaphthene	2,200	NA	0.5 U	NA	**2.04**	NA	**2.63**	NA	0.556 U
Anthracene	66	NA	0.5 U	NA	0.485 U	NA	**5.23**	NA	0.556 U
Benzo(g,h,i)perylene	0.26	NA	0.5 U	NA	0.485 U	NA	2.36 U	NA	**0.294 J**
Fluoranthene	260	NA	0.5 U	NA	0.485 U	NA	**22.2**	NA	**0.854**
Phenanthrene	1,100	NA	0.5 U	NA	**2**	NA	**29.2**	NA	**0.576**
Pyrene	130	NA	0.5 U	NA	**0.253 J**	NA	**25.2**	NA	**0.844**
Pentachlorophenol	1	NA	2 U	NA	1.94 U	NA	9.43 U	NA	2.22 U

Notes:

(1) Non-Residential Soil, Lowest-Direst Contact vs S-GW (highest of 100X & Generic), Used Aquifer, TDS<2500
* - Analyzed under both the VOC and SVOC methods. Both results reported with the SVOCs.

NA- Not Analyzed
B - This flag is used when the analyte is found in the associated blank as well as in the sample.
E - Original concentrations exceeds the upper calibration range.
J - Indicates an estimated value, below the quantification limit, but above the method detection limit.
U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

Bolded value indicates that the detected concentration is greater than the method detection limit.
Bolded and shaded value indicates that the detected concentration is greater than the method detection limit and PA ACT 2 screening criteria.

TABLE 7
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2	LAG-03-GW		LAG-03-GWD		LAG-08-GW		DDP-01-GW	
Sequence Number	Groundwater	201	202	205	206	227	228	250	251
Sample Date	Criteria [1]	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-31-2007	05-31-2007	06-05-2007	06-05-2007
	(ug/L)								
Semivolatiles (ug/L)									
2,3,4,6-Tetrachlorophenol	290	NA	2 U	NA	2 U	NA	2 U	NA	**1.14 J**
3&4-Methylphenol	180	NA	4 U	NA	4 U	NA	4 U	NA	**0.0982 J**
Acetophenone	3,700	NA	1 U	NA	1 U	NA	1 U	NA	1 U
Butylbenzylphthalate	2,700	NA	1 U	NA	1 U	NA	1 U	NA	**0.912 J**
Di-n-butylphthalate	3,700	NA	1 U	NA	1 U	NA	1 U	NA	1 U
Fluorene	1,500	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Naphthalene*	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.194 J**
bis(2-Ethylhexyl)phthalate	6	NA	**3.44 B**	NA	**2.74 B**	NA	**815**	NA	**8.87 B**
Benz(a)anthracene	0.9	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Benzo(a)pyrene	0.2	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Benzo(b)fluoranthene	0.9	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Benzo(k)fluoranthene	0.55	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Chrysene	1.9	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
2-Methylnaphthalene	730	NA	1 U	NA	1 U	NA	1 U	NA	**0.378 J**
Acenaphthene	2,200	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Anthracene	66	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Benzo(g,h,i)perylene	0.26	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Fluoranthene	260	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	**0.218 J**
Phenanthrene	1,100	NA	0.5 U	NA	0.5 U	NA	**0.587**	NA	**0.195 J**
Pyrene	130	NA	**0.0785 J**	NA	0.5 U	NA	0.5 U	NA	0.5 U
Pentachlorophenol	1	NA	2 U	NA	2 U	NA	2 U	NA	**4.53**

TABLE 7
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
SVOCs IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2 Groundwater Criteria [1] (ug/L)	DDP-02-GW		Pump Pit-W	Vault Water	ER-01	
Sequence Number		257	258	245	270	271	272
Sample Date		06-05-2007	06-05-2007	06-04-2007	06-05-2007	06-05-2007	06-05-2007
Semivolatiles (ug/L)							
2,3,4,6-Tetrachlorophenol	290	NA	**1.19 J**	2 U	NA	NA	2 U
3&4-Methylphenol	180	NA	**0.124 J**	4 U	NA	NA	4 U
Acetophenone	3,700	NA	1 U	1 U	NA	NA	1 U
Butylbenzylphthalate	2,700	NA	1 U	1 U	NA	NA	1 U
Di-n-butylphthalate	3,700	NA	**0.77 J**	1 U	NA	NA	1 U
Fluorene	1,500	NA	0.5 U	0.5 U	NA	NA	0.5 U
Naphthalene*	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bis(2-Ethylhexyl)phthalate	6	NA	**30.1 E**	**18.6**	NA	NA	**3.77 B**
Benz(a)anthracene	0.9	NA	0.5 U	0.5 U	NA	NA	0.5 U
Benzo(a)pyrene	0.2	NA	0.5 U	0.5 U	NA	NA	0.5 U
Benzo(b)fluoranthene	0.9	NA	0.5 U	0.5 U	NA	NA	0.5 U
Benzo(k)fluoranthene	0.55	NA	0.5 U	0.5 U	NA	NA	0.5 U
Chrysene	1.9	NA	0.5 U	0.5 U	NA	NA	0.5 U
2-Methylnaphthalene	730	NA	1 U	1 U	NA	NA	1 U
Acenaphthene	2,200	NA	0.5 U	0.5 U	NA	NA	0.5 U
Anthracene	66	NA	0.5 U	0.5 U	NA	NA	0.5 U
Benzo(g,h,i)perylene	0.26	NA	0.5 U	0.5 U	NA	NA	0.5 U
Fluoranthene	260	NA	**0.173 J**	0.5 U	NA	NA	0.5 U
Phenanthrene	1,100	NA	**0.0526 J**	0.5 U	NA	NA	0.5 U
Pyrene	130	NA	0.5 U	0.5 U	NA	NA	0.5 U
Pentachlorophenol	1	NA	**4.43**	2 U	NA	NA	2 U

TABLE 8
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
INORGANICS IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2	VSP-02-GW			VSP-05-GW			VSP-06-GW		
Sequence Number	Groundwater	174	174	175	169	169	170	182	182	183
Sample Date	Criteria [1]	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-29-2007	05-29-2007
	(ug/L)									
Dissolved Inorganics (ug/L)										
Aluminum	NE	NA	NA	NA	NA	NA	NA	200 U	NA	NA
Arsenic	10	**4.3**	NA	NA	NA	3 U	NA	3 U	NA	NA
Barium	2,000	**17**	NA	NA	NA	**27**	NA	**30**	NA	NA
Calcium	NE	NA	**63600**	NA	**64900**	NA	NA	NA	**77900**	NA
Iron	NE	**5790**	NA	NA	NA	**5510**	NA	**121**	NA	NA
Lead	5	NA	NA	NA	NA	NA	NA	1 U	NA	NA
Magnesium	NE	NA	**9680**	NA	**10900**	**1820**	NA	NA	**12900**	NA
Manganese	300	**1540**	NA	NA	NA	NA	NA	**2520**	NA	NA
Potassium	NE	NA	**1820**	NA	**3730**	NA	NA	NA	**1910**	NA
Sodium	NE	NA	**4940**	NA	**6810**	NA	NA	NA	**11500**	NA
Zinc	2,000	NA	NA	NA	NA	NA	NA	10 U	NA	NA
Conventionals (ug/L)										
Fluoride	NE	NA	NA	**4780**	NA	NA	**3500**	NA	NA	**9780**

Notes:

(1) Residential Groundwater, Used Aquifer, TDS<2500

NA- Not Analyzed
NE - Not Established
U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

Bolded value indicates that the detected concentration is greater than the method detection limit.
Bolded and shaded value indicates that the detected concentration is greater than the method detection limit and PA ACT 2 screening criteria.

TABLE 8
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
INORGANICS IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2	LAG-02-GW			LAG-03-GW			LAG-03-GWD		
Sequence Number	Groundwater	196	196	197	203	203	204	207	207	208
Sample Date	Criteria [1]	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007	05-30-2007
	(ug/L)									
Dissolved Inorganics (ug/L)										
Aluminum	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	10	3 U	NA	NA	**3.4**	NA	NA	**3.8**	NA	NA
Barium	2,000	**47**	NA	NA	**36**	NA	NA	**36**	NA	NA
Calcium	NE	NA	**55200**	NA	NA	**54300**	NA	NA	**54200**	NA
Iron	NE	**419**	NA	NA	**60**	NA	NA	**129**	NA	NA
Lead	5	NA	**14300**	NA	NA	**24700**	NA	NA	**24800**	NA
Magnesium	NE	**3280**	NA	NA	**222**	NA	NA	**225**	NA	NA
Manganese	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	**5130**	NA	NA	**6710**	NA	NA	**6630**	NA
Sodium	NE	NA	**17700**	NA	NA	**20500**	NA	NA	**20700**	NA
Zinc	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conventionals (ug/L)										
Fluoride	NE	NA	NA	**3400**	NA	NA	**2190**	NA	NA	**2160**

TABLE 8
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
INORGANICS IN SHALLOW GROUNDWATER

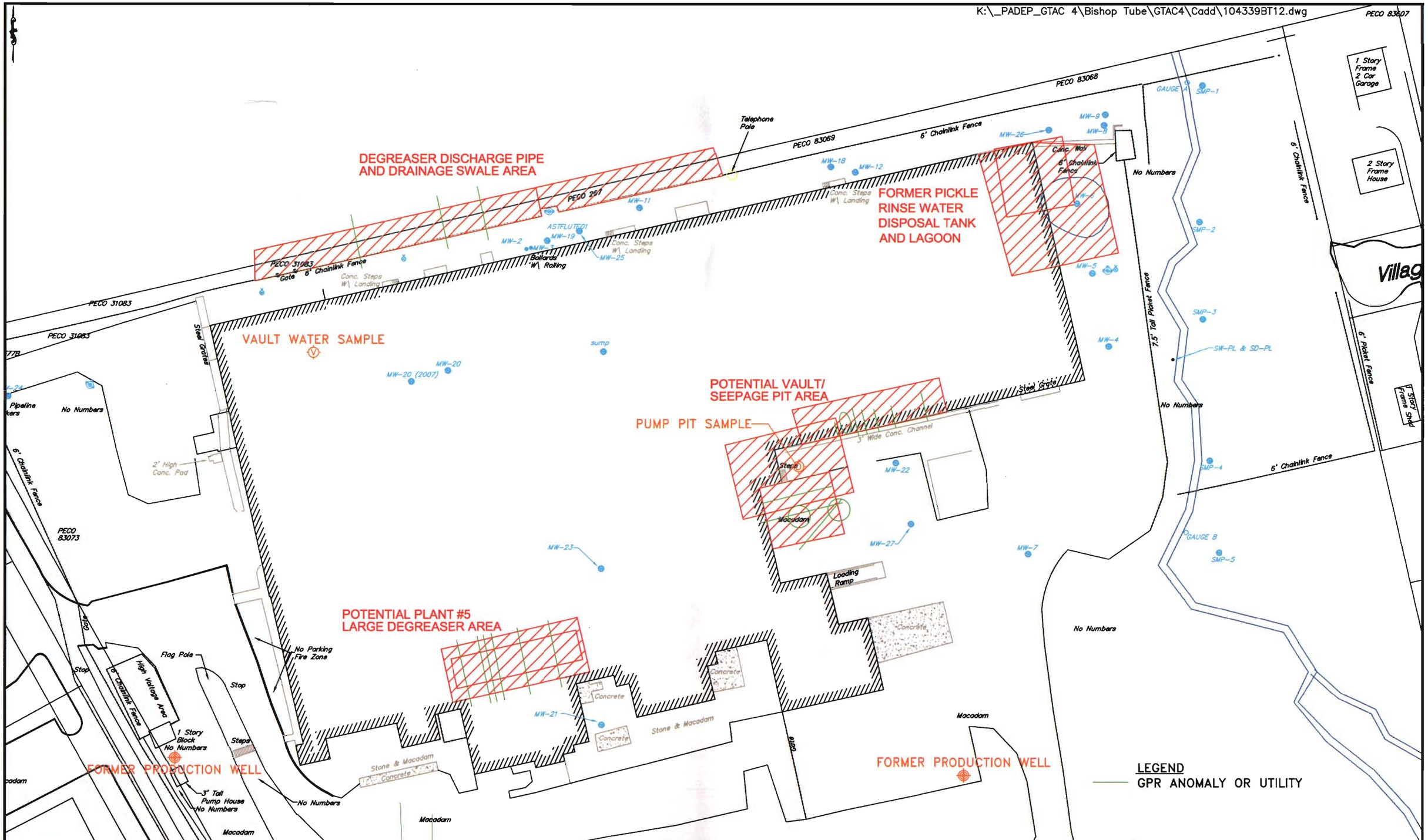
Sample ID	PA ACT 2	LAG-08-GW			DDP-01-GW			DDP-02-GW		
Sequence Number	Groundwater	229	229	230	252	252	253	259	259	260
Sample Date	Criteria [1]	05-31-2007	05-31-2007	05-31-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007	06-05-2007
	(ug/L)									
Dissolved Inorganics (ug/L)										
Aluminum	NE	200 U	NA	NA	200 U	NA	NA	200 U	NA	NA
Arsenic	10	**4.2**	NA	NA	3 U	NA	NA	3 U	NA	NA
Barium	2,000	**25**	NA	NA	**30**	NA	NA	**46**	NA	NA
Calcium	NE	NA	**88100**	NA	NA	**92100**	NA	NA	**98400**	NA
Iron	NE	**184**	NA	NA	**340**	NA	NA	**24**	NA	NA
Lead	5	1 U	NA	NA	1 U	NA	NA	1 U	NA	NA
Magnesium	NE	NA	**20900**	NA	NA	**14900**	NA	NA	**13600**	NA
Manganese	300	**605**	NA	NA	**2150**	NA	NA	**2010**	NA	NA
Potassium	NE	NA	**4670**	NA	NA	**2770**	NA	NA	**1450**	NA
Sodium	NE	NA	**18300**	NA	NA	**14500**	NA	NA	**15300**	NA
Zinc	2,000	10 U	NA	NA	10 U	NA	NA	10 U	NA	NA
Conventionals (ug/L)										
Fluoride	NE	NA	NA	**1460**	NA	NA	**550**	NA	NA	200 U

TABLE 8
BISHOP TUBE SITE
SUPPLEMENTAL INVESTIGATION
INORGANICS IN SHALLOW GROUNDWATER

Sample ID	PA ACT 2	Pump Pit-W		ER-01		
Sequence Number	Groundwater	246	246	273	273	274
Sample Date	Criteria [1]	06-04-2007	06-04-2007	06-05-2007	06-05-2007	06-05-2007
	(ug/L)					
Dissolved Inorganics (ug/L)						
Aluminum	NE	**412**	NA	NA	NA	NA
Arsenic	10	3 U	NA	3 U	NA	NA
Barium	2,000	**54**	NA	10 U	NA	NA
Calcium	NE	NA	**66900**	NA	**337**	NA
Iron	NE	**1951**	NA	**100**	NA	NA
Lead	5	**3**	NA	NA	**50**	NA
Magnesium	NE	NA	**7700**	10 U	NA	NA
Manganese	300	**45**	NA	NA	NA	NA
Potassium	NE	NA	**1995**	NA	1000 U	NA
Sodium	NE	NA	**2356**	NA	200 U	NA
Zinc	2,000	**14**	NA	NA	NA	NA
Conventionals (ug/L)						
Fluoride	NE	NA	NA	NA	NA	200 U

FIGURES

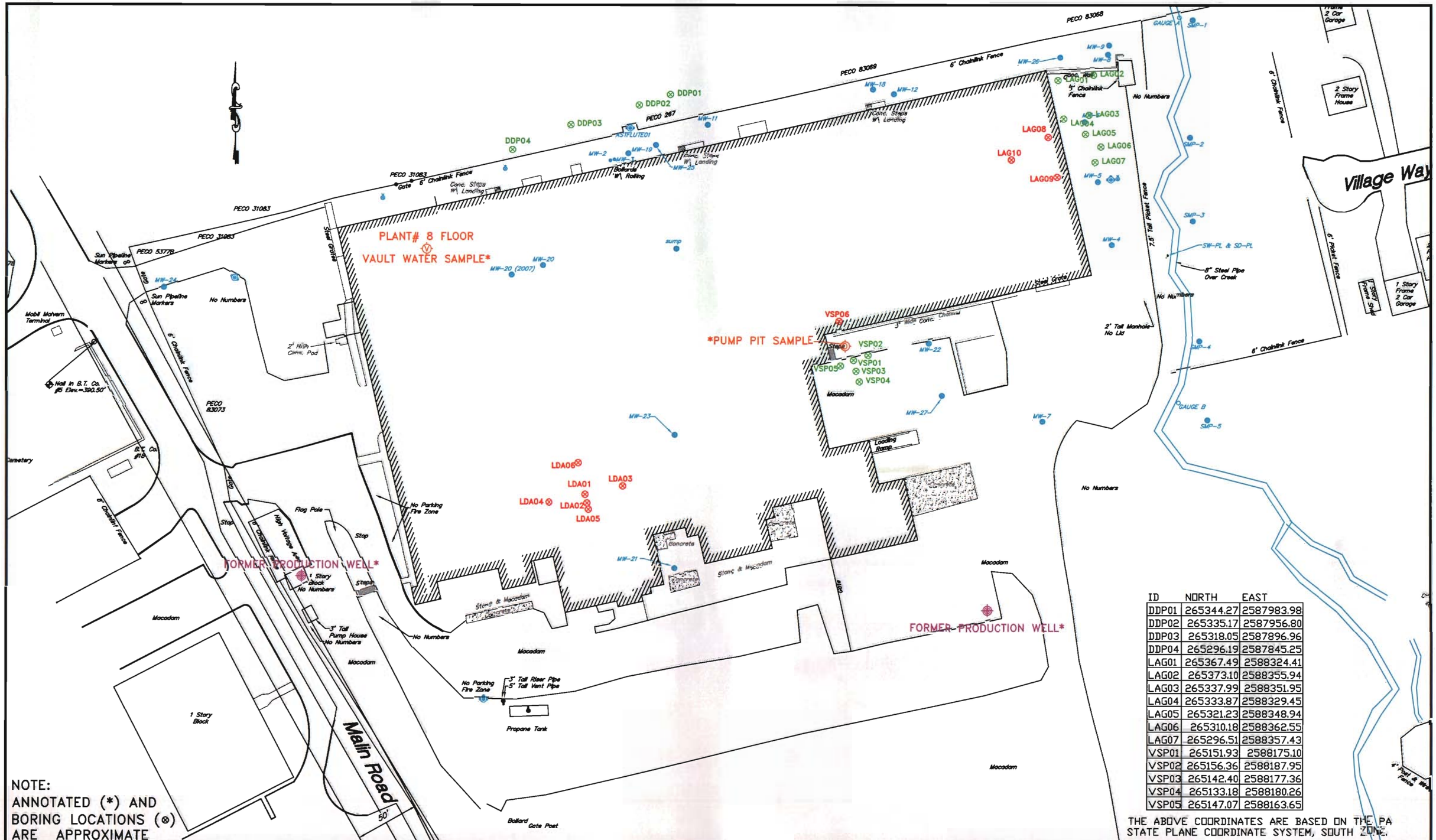
K:_PADEP_GTAC 4\Bishop Tube\GTAC4\Cadd\104339BT12.dwg



SCALE:	1"=60'	DATE:	DECEMBER 2007
S.O. NO.:	104339	FILE:	104339BT12
DSN/DWN:	BES/RRR	CHK:	BES\

Baker MICHAEL BAKER Jr., Inc.
Moon Township, Pennsylvania

FIGURE 1
SUPPLEMENTAL SITE INVESTIGATION
AREAS OF POTENTIAL CONCERN
BISHOP TUBE FACILITY
MALVERN, PENNSYLVANIA



ID	NORTH	EAST
DDP01	265344.27	2587983.98
DDP02	265335.17	2587956.80
DDP03	265318.05	2587896.96
DDP04	265296.19	2587845.25
LAG01	265367.49	2588324.41
LAG02	265373.10	2588355.94
LAG03	265337.99	2588351.95
LAG04	265333.87	2588329.45
LAG05	265321.23	2588348.94
LAG06	265310.18	2588362.55
LAG07	265296.51	2588357.43
VSP01	265151.93	2588175.10
VSP02	265156.36	2588187.95
VSP03	265142.40	2588177.36
VSP04	265133.18	2588180.26
VSP05	265147.07	2588163.65

THE ABOVE COORDINATES ARE BASED ON THE PA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE.

NOTE:
ANNOTATED (*) AND BORING LOCATIONS (⊗) ARE APPROXIMATE

SCALE:	1"=70'	DATE:	SEPTEMBER 2007
S.O. NO.:	104339	FILE:	104339BT06
DSN/DWN:	CLH/RRR	CHK:	CLH/MJM

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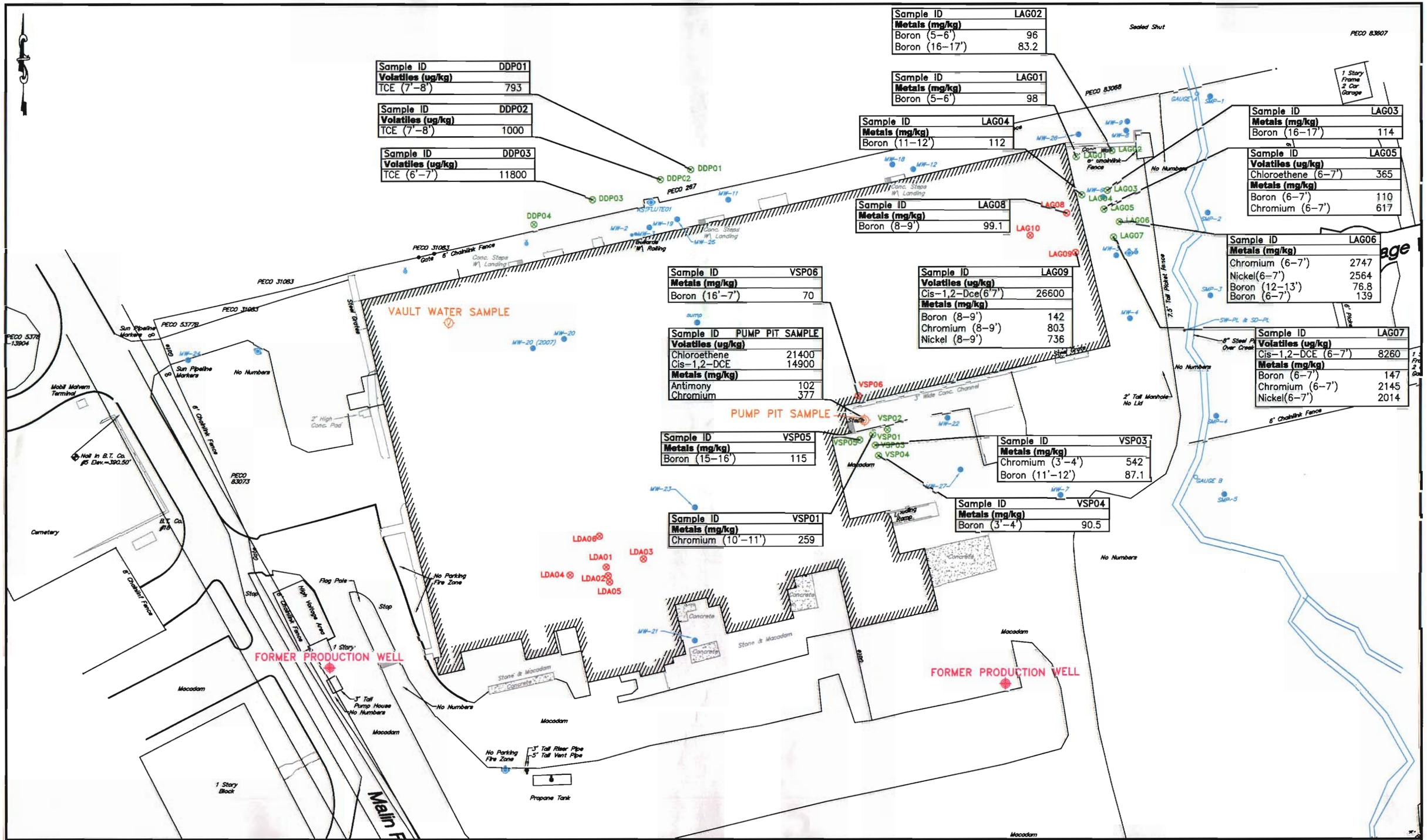
Moon Township, Pennsylvania

FIGURE 2
SUPPLEMENTAL AREAS OF CONCERN SAMPLE LOCATIONS
BISHOP TUBE FACILITY
EAST WHITELAND TOWNSHIP, PENNSYLVANIA

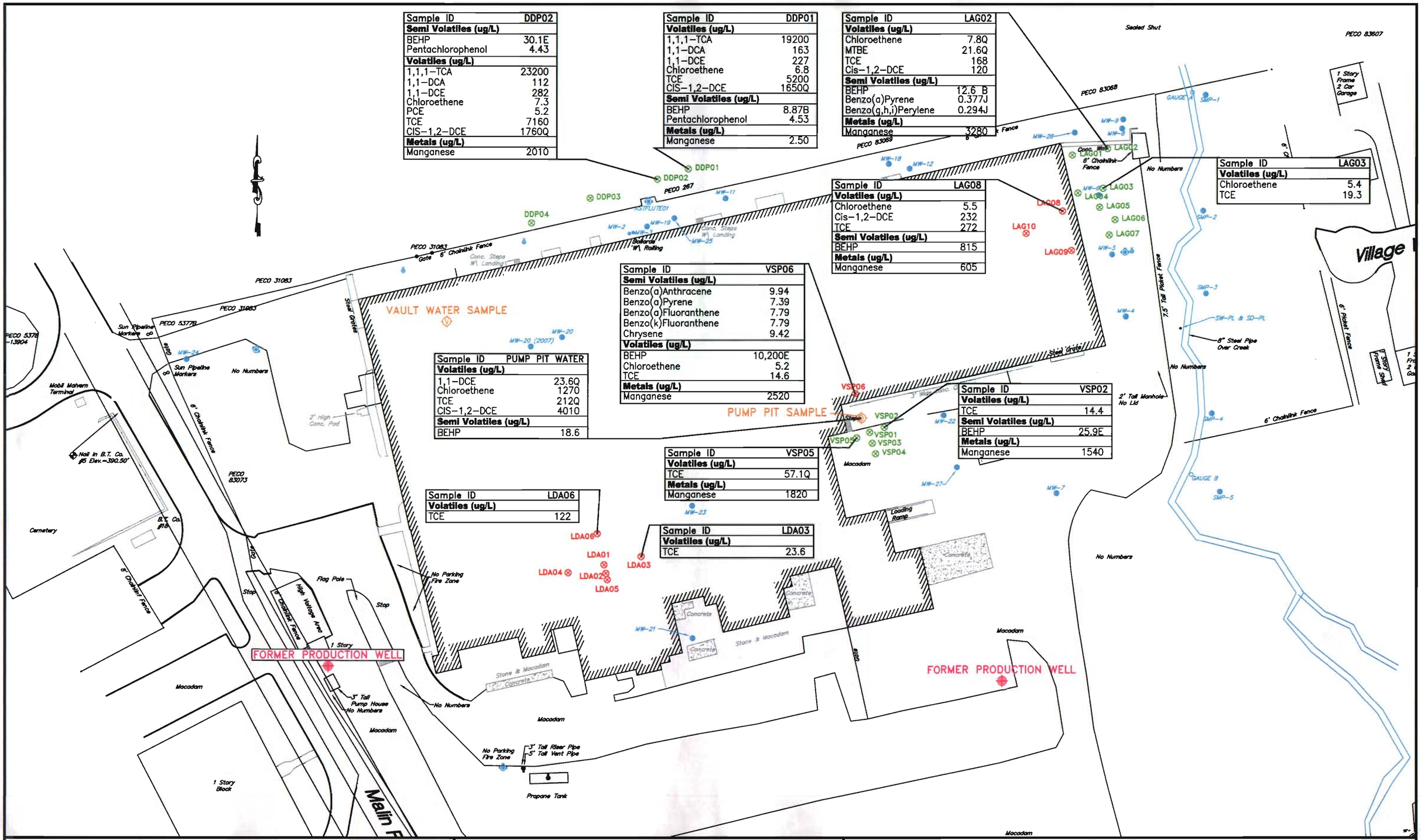


SCALE:	1"=70'	DATE:	SEPTEMBER 2007
S.O. NO.:	104339	FILE:	104339BT08
DSN/DWN:	CLH/RRR	CHK:	CLH/MJM

Baker

MICHAEL BAKER Jr., Inc.
Moon Township, Pennsylvania

FIGURE 3
SUPPLEMENTAL AREAS OF CONCERN COMPOUNDS EXCEEDING SCREENING CRITERIA IN SOIL SAMPLES
BISHOP TUBE FACILITY
EAST WHITELAND TOWNSHIP, PENNSYLVANIA



Sample ID	DDP02
Semi Volatiles (ug/L)	
BEHP	30.1E
Pentachlorophenol	4.43
Volatiles (ug/L)	
1,1,1-TCA	23200
1,1-DCA	112
1,1-DCE	282
Chloroethene	7.3
PCE	5.2
TCE	7160
CIS-1,2-DCE	1760Q
Metals (ug/L)	
Manganese	2010

Sample ID	DDP01
Volatiles (ug/L)	
1,1,1-TCA	19200
1,1-DCA	163
1,1-DCE	227
Chloroethene	6.8
TCE	5200
CIS-1,2-DCE	1650Q
Semi Volatiles (ug/L)	
BEHP	8.87B
Pentachlorophenol	4.53
Metals (ug/L)	
Manganese	2.50

Sample ID	LAG02
Volatiles (ug/L)	
Chloroethene	7.8Q
MTBE	21.6Q
TCE	168
Cis-1,2-DCE	120
Semi Volatiles (ug/L)	
BEHP	12.6 B
Benzo(a)Pyrene	0.377J
Benzo(g,h,i)Perylene	0.294J
Metals (ug/L)	
Manganese	3280

Sample ID	LAG03
Volatiles (ug/L)	
Chloroethene	5.4
TCE	19.3

Sample ID	LAG08
Volatiles (ug/L)	
Chloroethene	5.5
Cis-1,2-DCE	232
TCE	272
Semi Volatiles (ug/L)	
BEHP	815
Metals (ug/L)	
Manganese	605

Sample ID	VSP06
Semi Volatiles (ug/L)	
Benzo(a)Anthracene	9.94
Benzo(a)Pyrene	7.39
Benzo(a)Fluoranthene	7.79
Benzo(k)Fluoranthene	7.79
Chrysene	9.42
Volatiles (ug/L)	
BEHP	10,200E
Chloroethene	5.2
TCE	14.6
Metals (ug/L)	
Manganese	2520

Sample ID	PUMP PIT WATER
Volatiles (ug/L)	
1,1-DCE	23.6Q
Chloroethene	1270
TCE	212Q
CIS-1,2-DCE	4010
Semi Volatiles (ug/L)	
BEHP	18.6

Sample ID	VSP02
Volatiles (ug/L)	
TCE	14.4
Semi Volatiles (ug/L)	
BEHP	25.9E
Metals (ug/L)	
Manganese	1540

Sample ID	VSP05
Volatiles (ug/L)	
TCE	57.1Q
Metals (ug/L)	
Manganese	1820

Sample ID	LDA06
Volatiles (ug/L)	
TCE	122

Sample ID	LDA03
Volatiles (ug/L)	
TCE	23.6

SCALE:	1"=70'	DATE:	SEPTEMBER 2007
S.O. NO.:	104339	FILE:	104339BT07
DSN/DWN:	CLH/RRR	CHK:	CLH/MJM

Baker
MICHAEL BAKER Jr., Inc.
Moon Township, Pennsylvania

FIGURE 4
SUPPLEMENTAL AREAS OF CONCERN COMPOUNDS EXCEEDING SCREENING CRITERIA IN GROUNDWATER GRAB SAMPLES
BISHOP TUBE FACILITY
EAST WHITELAND TOWNSHIP, PENNSYLVANIA

Baker

Michael Baker Jr., Inc.

APPENDIX A

Geophysical Assessment Report

June 7, 2007

Mr. Christopher H. Kupfer, PG
Michael Baker Jr., Inc.
Airport Business Park
100 Airside Drive
Moon Township, PA 17108

Re: Geophysical Investigation Report
Site Characterization
Bishop Tube Site
PADEP Contract No. SAP4000006380
Work Requistion No. 4-2-154
East Whitehall Township
Chester County, PA
ARM Project 07248

Dear Mr. Kupfer:

ARM Geophyiscs, (ARM), a division of ARM Group Inc., has prepared this report for Michael Baker Jr., Inc (Baker) to present the results of a geophysical investigation performed at the Bishop Tube Site located in East Whitehall Township, Chester County, Pennsylvania. The purpose of the investigation was to locate and delineate possible buried utilities in five survey areas of concern (AOC) outlined by Baker. An ARM geophysicist was on-site May 23 and 30, 2007 to conduct the geophysical survey.

The five sites outlined by Baker are:

- AOC A: Potential Vault/Seepage Pit outside Boiler Room
- AOC B: Eastern portion of the Potential Vault area
- AOC C: Former Pickle Rinse water Disposal Tanks and Lagoons
- AOC D: Plant #5 Large Degreaser
- AOC E: Plant #8 Degreaser Area Discharge Pipe and Drainage Swale

FIELD EFFORT

ARM performed a three- phased geophysical survey to locate and delineate possible utilities at the AOCs. In the first phase, an electromagnetic (EM) survey was conducted using an EM61 MKII high sensitivity metal detector manufactured by Geonics Limited. The EM survey was

1129 West Governor Road P.O. Box 797 Hershey, PA 17033-0797
Voice: (717) 533-8600 Fax: (717) 533-8605 Info:www.armgeophysics.net

performed along traverses spaced ten feet apart and oriented in two directions approximately north to south and east to west.

In the second phase of the geophysical investigation, a ground-penetrating radar (GPR) survey was performed. GPR data were collected along the same traverses as the EM61 survey. GPR screening was conducted using a Model SIR-3000 GPR unit manufactured by Geophysical Survey Systems Inc. with a 400-megahertz antenna.

In the third phase of the geophysical survey, ARM utilized pipe and cable locators to perform inductive and conductive tracing to locate buried utilities. As part of the investigation, ARM performed a search with the 50/60 hertz locator. This form of utility locating device screens for loaded (active) underground electrical lines.

RESULTS

AOC A

Figure 1 presents an EM61 contour map. The survey area measured 50 feet by 40 feet. EM61 and GPR data were collected along bidirectional transects (north to south and east to west) at 10-foot spacings. Anomalies outlined along the western boundary are the result of surface metallic debris in the survey area. There is no metal source of the anomaly located in the central portion of the survey area. This anomaly appears to be the result of subsurface metal content. The GPR profiles collected over this EM anomaly are presented on Figure 2. The anomaly has characteristics similar to a potential vault or associated piping. Based on the EM61 data, the dimensions of the anomaly are approximately 4 feet by 3 feet. Other anomalies (shown as blue and gray) in the EM61 data may represent isolated metallic debris within the subsurface.

Several potential utilities were marked within this AOC. These are shown as dashed lines on Figure 1. The utility that is oriented from the southwest to the northeast trends toward a manhole cover that is located approximately 20 feet to the south of the survey grid.

AOC B

Figure 3 presents an EM61 contour map. The survey area measured 100 feet by 20 feet and is located inside of the main building along the south wall. Data were collected along bidirectional transects (north to south and east to west) with spacing of 10 feet between each transect. Anomalies seen in the northern portion of the contour map are most likely the result of reinforcing steel embedded in the concrete. The green areas outlined along 5-8 feet inline distance along the Y-axis correspond to a utility or trench that was detected by the utility locator. Several smaller utilities were also detected trending from south to north and were marked on the ground surface and included on Figure 3. An example of a GPR profile collected over this unknown anomaly has been included on Figure 3.

AOC C

Figure 4 presents an EM61 contour map. The survey area measured 70 feet by 80 feet and includes the inside and outside portion of the northeast corner of the building. Data were collected along bidirectional transects (north to south and east to west) with spacing of 10 feet between each transect. Anomalies seen in the western portion of the contour map are the result

of reinforcing steel embedded in the concrete inside of the building. Several utilities were detected by the utility locator and marked on the ground surface and included on Figure 4. Several anomalies were detected by the EM61 and also recorded on the GPR profiles collected in this area on the outside of the building. These anomalies have been highlighted on the provided GPR profile presented on Figure 4. The anomalies do not have the typical characteristics of possible underground storage tanks. Generally, USTs have a parabolic shaped reflection on GPR profiles. These anomalies appear to rectangular or flat toped.

Several utilities were detected and marked using the utility locator. These utilities have been marked on the ground surface and included on Figure 4.

AOC D

Figure 5 presents an EM61 contour map. The survey area measured 90 feet by 40 feet. Data were collected along bidirectional transects (north to south and east to west) with spacings of 10 feet between each transect. Anomalies seen in the contour map are the result of reinforcing steel embedded in the concrete. The GPR profile provided on Figure 5 shows the characteristic pattern typical for rebar.

Several utilities and trenches were detected with the utility locator and the GPR. These locations were marked on the surface with spray paint and have been included on Figure 5.

AOC E

Figure 6 presents an EM61 contour map. The survey area measured 275 feet by 10 feet. The poor data quality is due to the influence and interference from overhead power lines parallel to the southern boundary of the survey area.

During the GPR survey of this area several anomalies were detected that may represent possible sewer or drain pipes exiting the building area and trending to the north. The locations of these pipes were spray painted on the ground surface and have been included on Figure 6. They are located at the inline distance of approximately 73 feet, 130 feet, and 160 feet.

SURVEY LIMITATIONS

The investigation work scope included standard and/or routinely accepted practices of the geophysical industry. ARM utilized multiple methods in order to locate and delineate potential buried utilities and other subsurface obstructions in the survey areas. The multi-phased investigation was performed to reduce the risk of missing a subsurface feature due to the depth it is buried, the soil type and conditions, the materials, and other site-specific conditions that may interfere with the effectiveness of the geophysical equipment as shown with the data collected in AOC E. This interference can mask the existence of a utility.

However, by its nature, no subsurface survey can completely define subsurface conditions. ARM conducted this survey in accordance with industry standards and cannot accept responsibility for inherent technique limitations, survey limitations or unforeseen site-specific conditions.

SUMMARY

A multi-phase geophysical investigation was conducted at the Bishop Tube Site to locate potential utilities and other underground obstructions in five survey areas. In the five AOCs, several utilities were marked on the ground surface with spray paint. After reviewing the EM61 and GPR data, several other anomalies as well as utilities were detected and have been provided on the figures attached to this report.

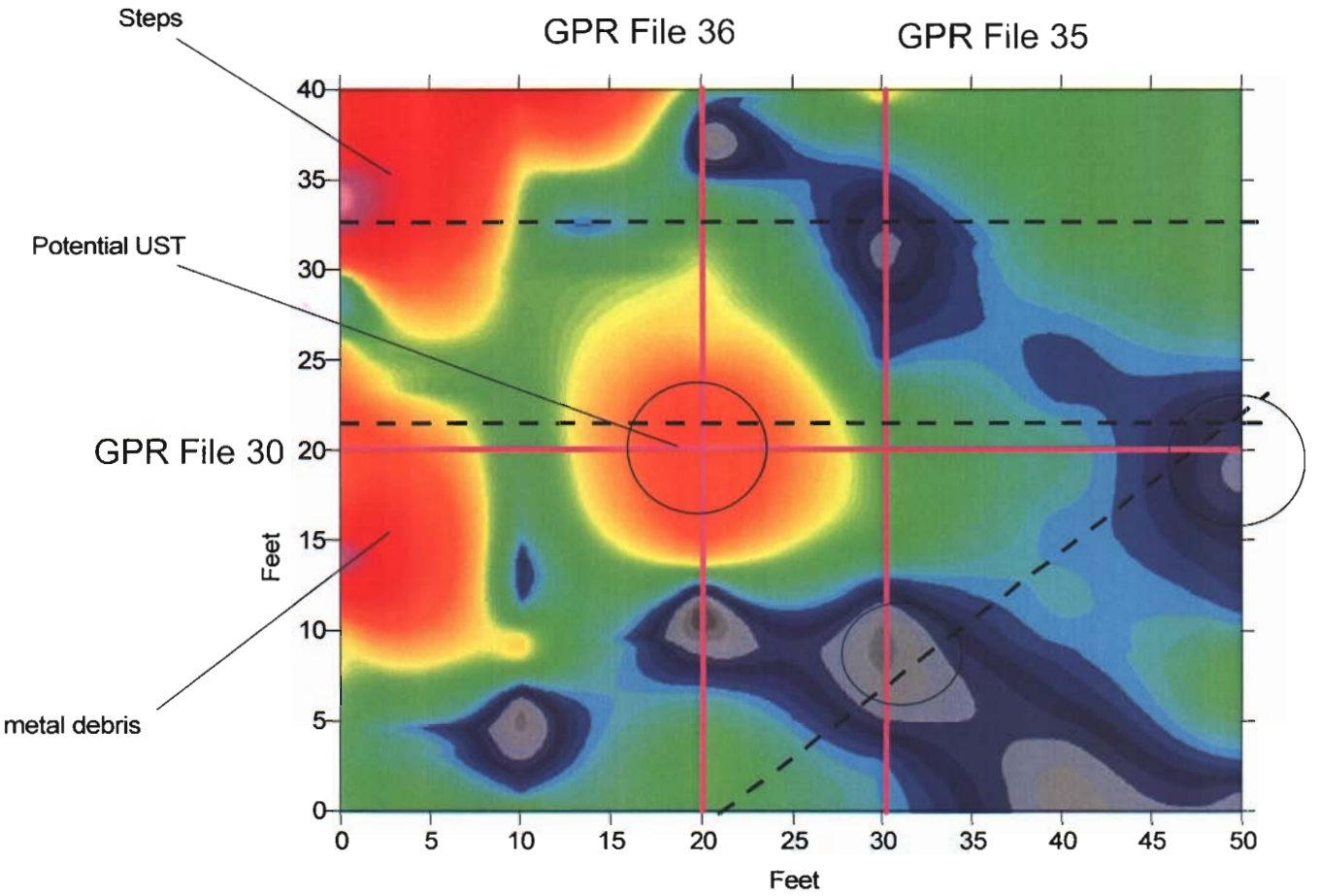
If you have any questions or need additional information, please do not hesitate to contact either of the undersigned at 717-533-8600.

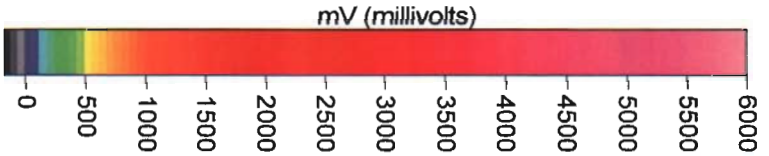
Respectfully submitted,
ARM Group, Inc.

Alexander Mussio
Project Geophysicist

Beth A. Williams, P.G.
Senior Geophysicist

Attachments



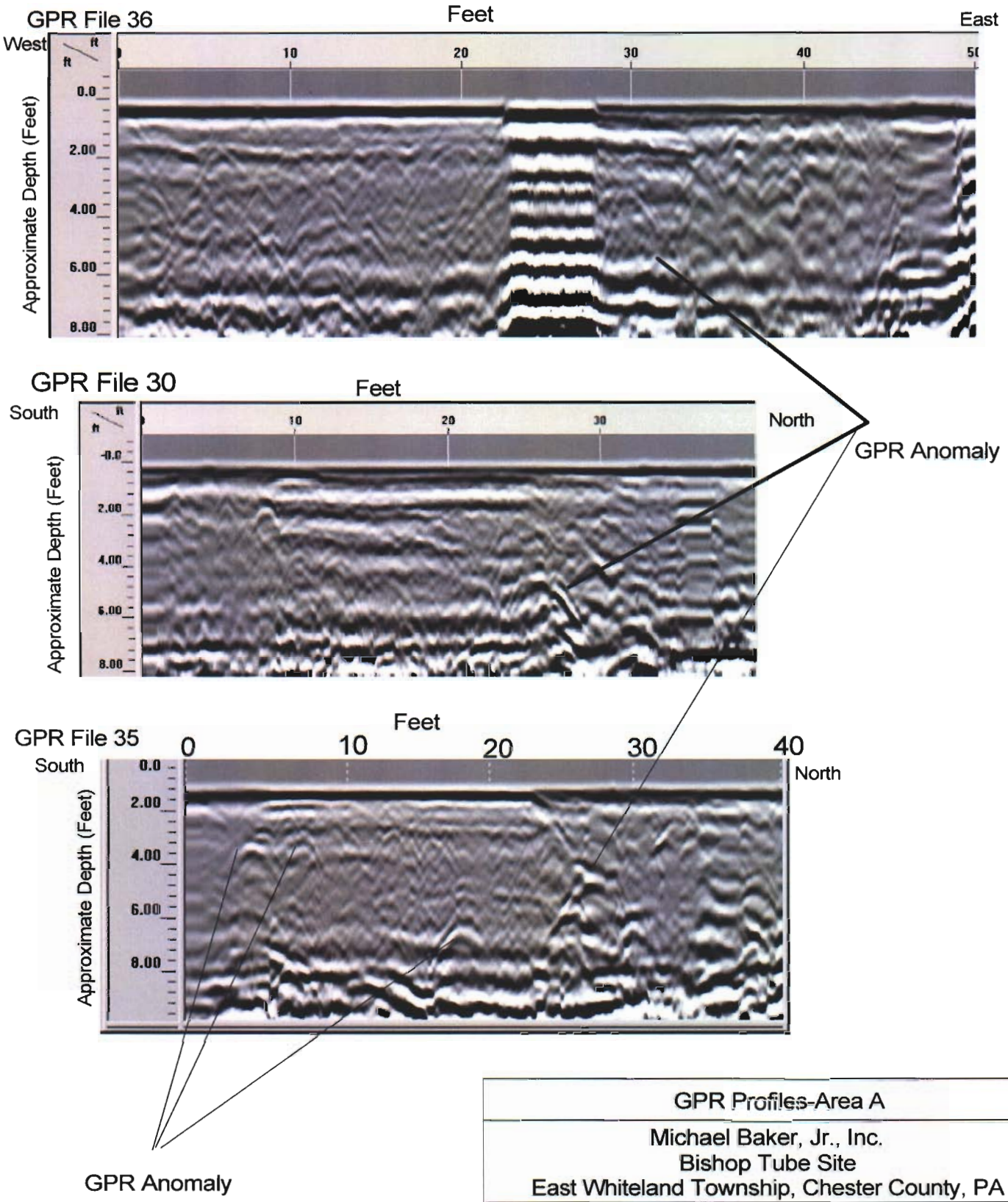


GPR Profile Locations

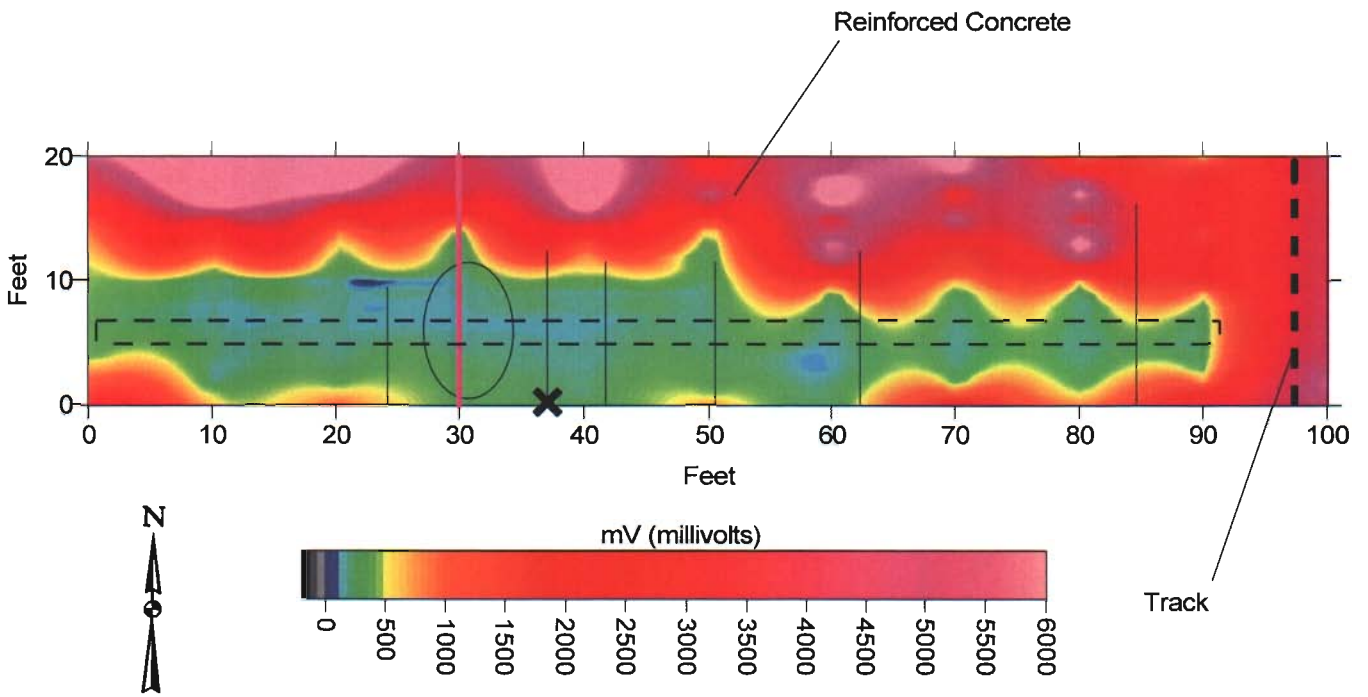
Potential Utility

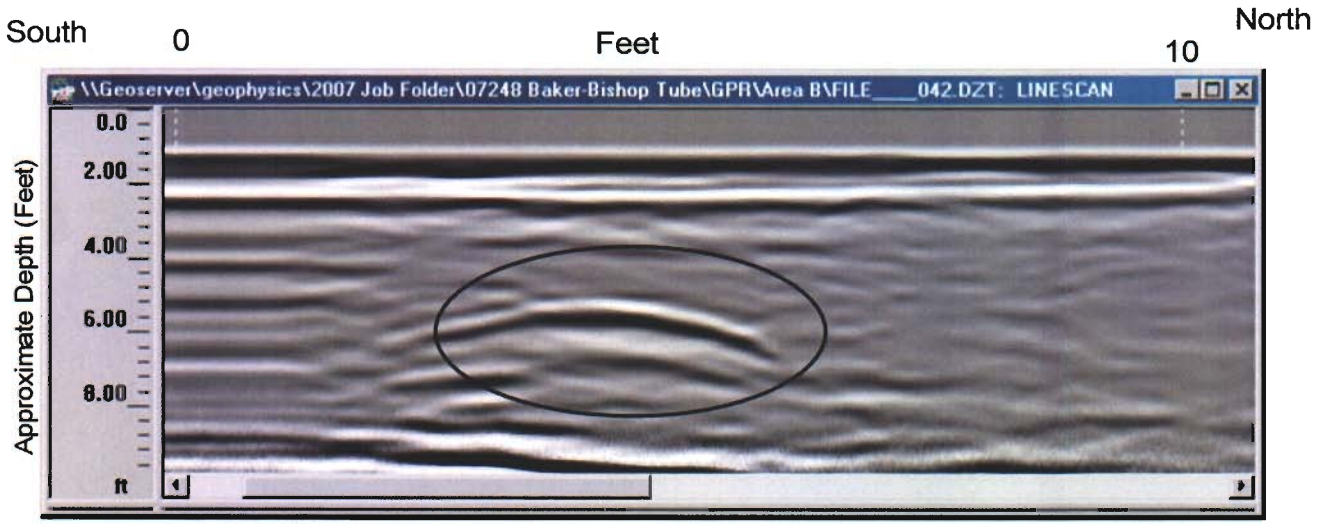
Unknown Anomaly

EM61 Contour Map-Area A		
Michael Baker, Jr., Inc. Bishop Tube Site East Whiteland Township, Chester County, PA		
June 2007		07248
ARM GEOPHYSICS Surface & Borehole Services	*Surface & Borehole Geophysics*	Figure 1



GPR Profiles-Area A		
Michael Baker, Jr., Inc. Bishop Tube Site East Whiteland Township, Chester County, PA		
June 2007		07248
ARM GEOPHYSICS *Surface & Borehole Geophysics*		Figure 2





Water Pipe

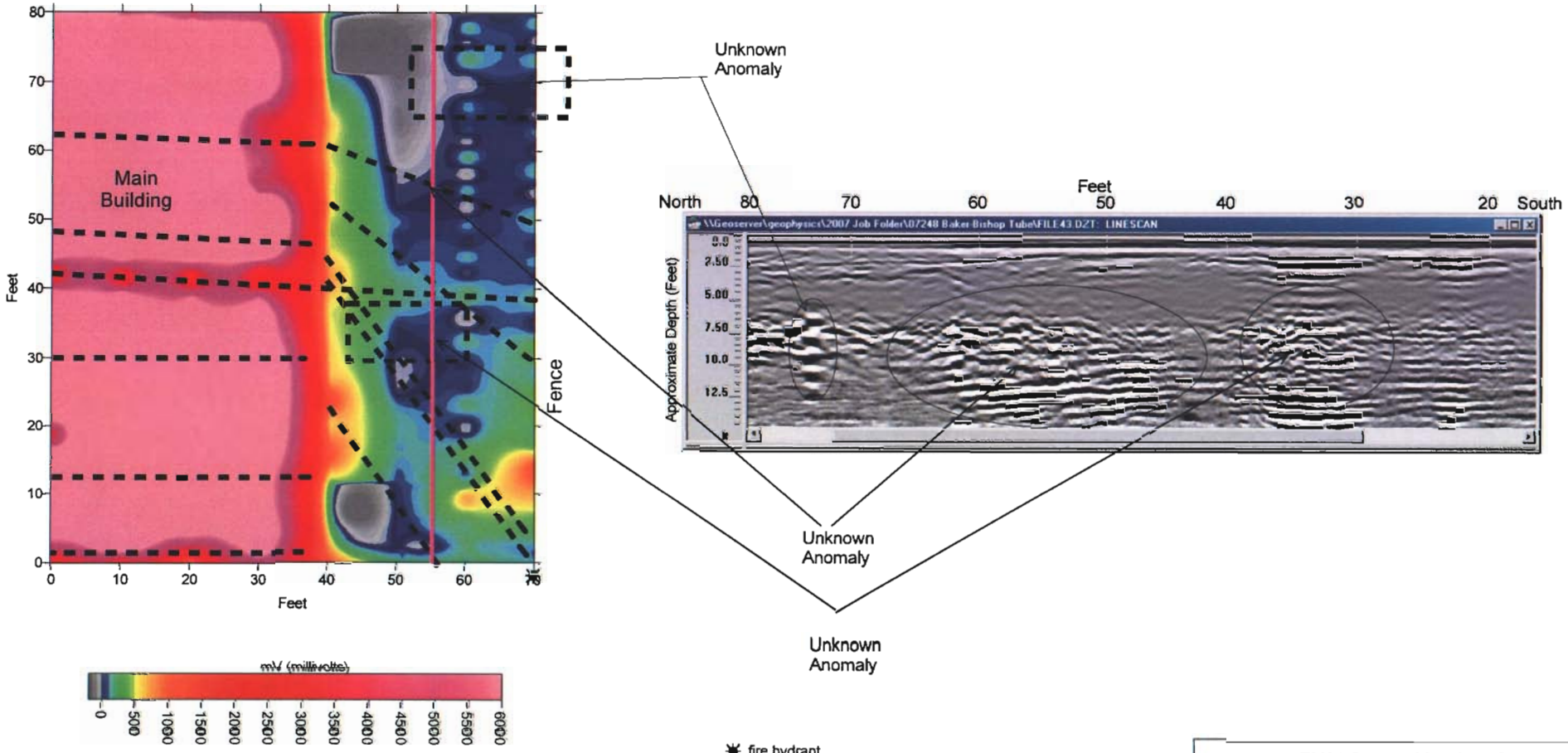
GPR Profile Locations

Potential trench

Unknown Anomaly

Potential utility

EM61 Contour Map-Area B		
Michael Baker, Jr., Inc. Bishop Tube Site East Whiteland Township, Chester County, PA		
June 2007		07248
ARM GEOPHYSICS *Surface & Borehole Geophysics*		Figure 3



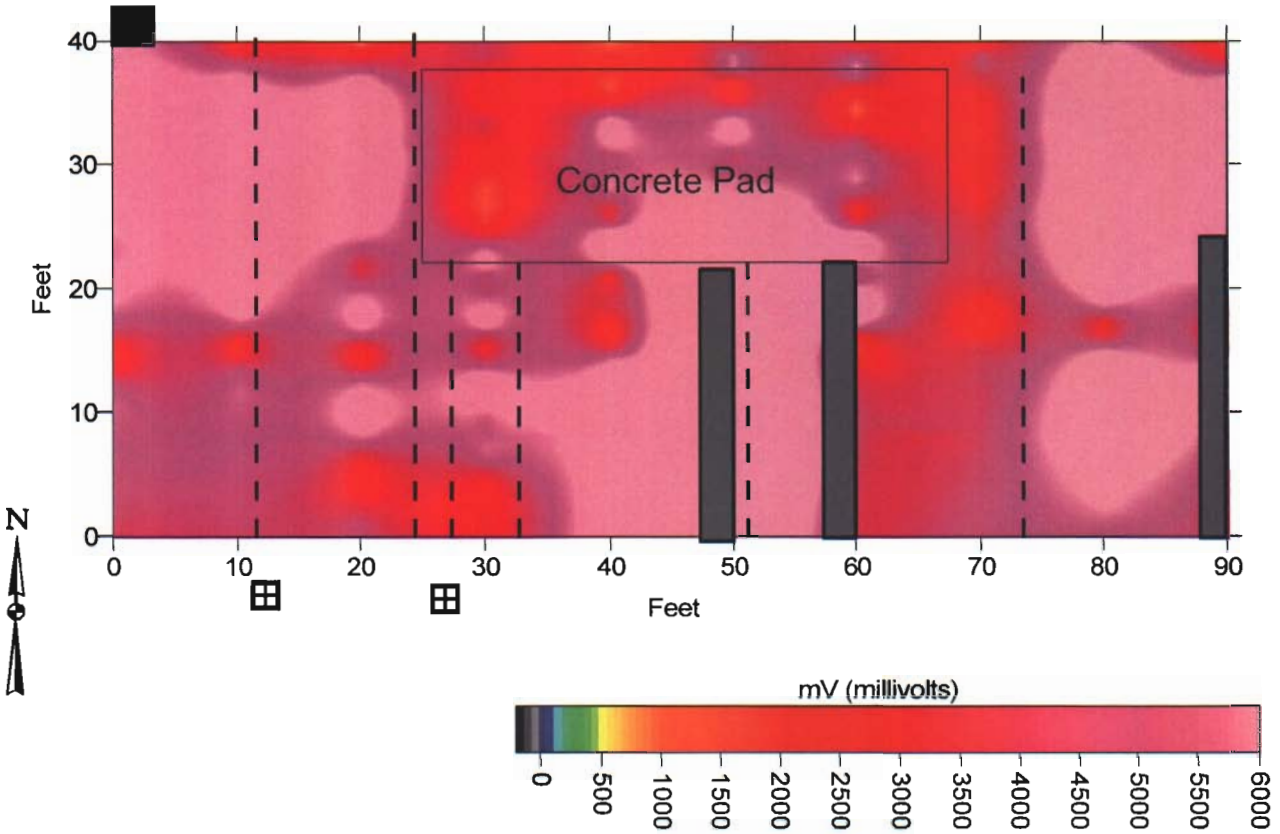
fire hydrant

Unknown anomalies/utilities

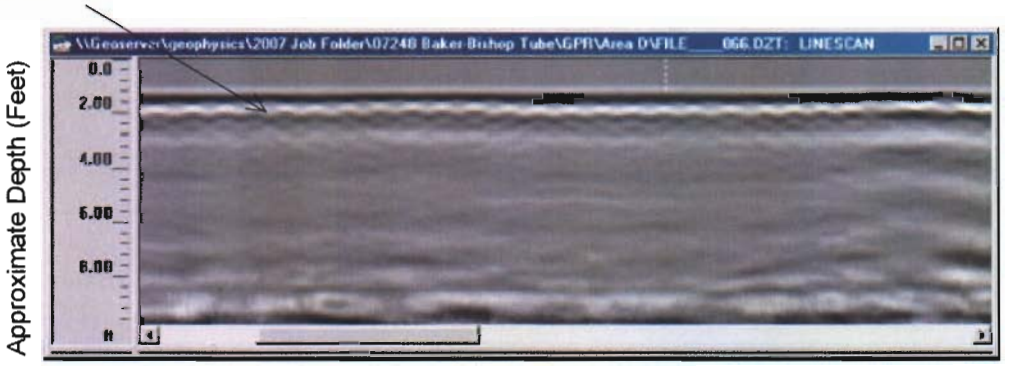
Previously marked anomalies

N

EM61 Contour Map-Area C		
Michael Baker, Jr., Inc. Bishop Tube Site East Whiteland Township, Chester County, PA		
June 2007		07248
ARM GEOPHYSICS Surface & Borehole Geophysics		Figure 4



Typical Rebar pattern



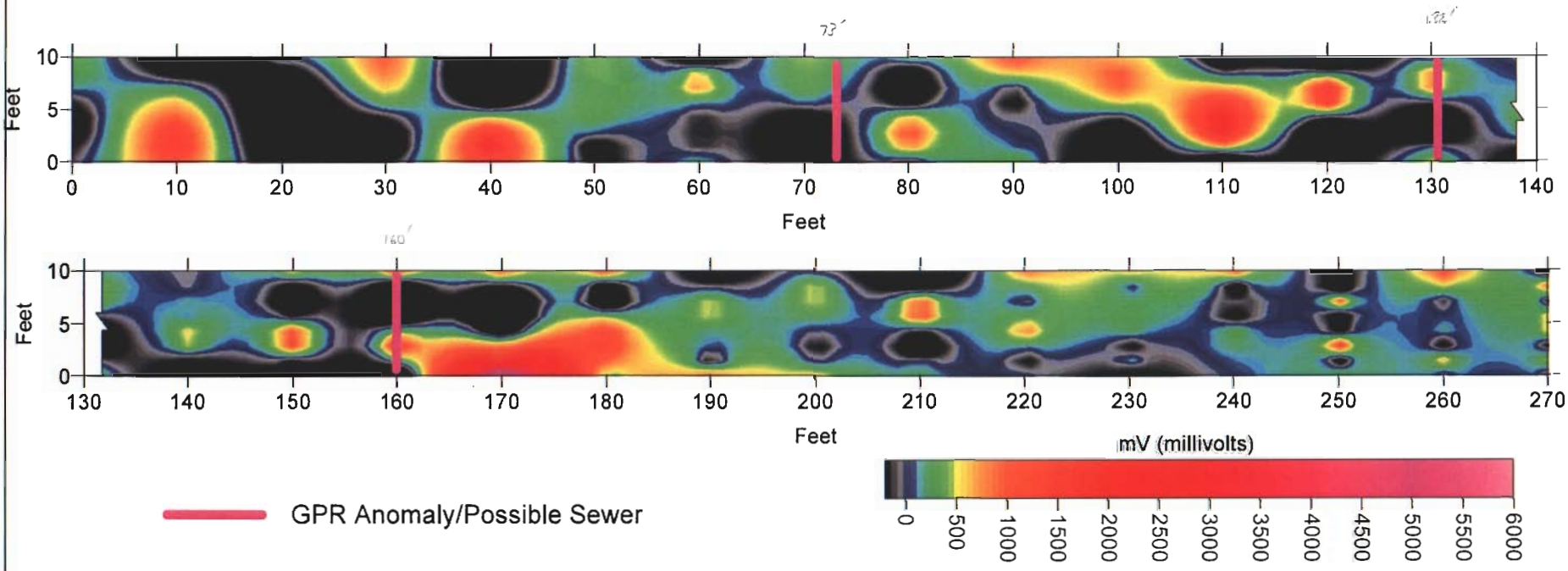
Possible Utility

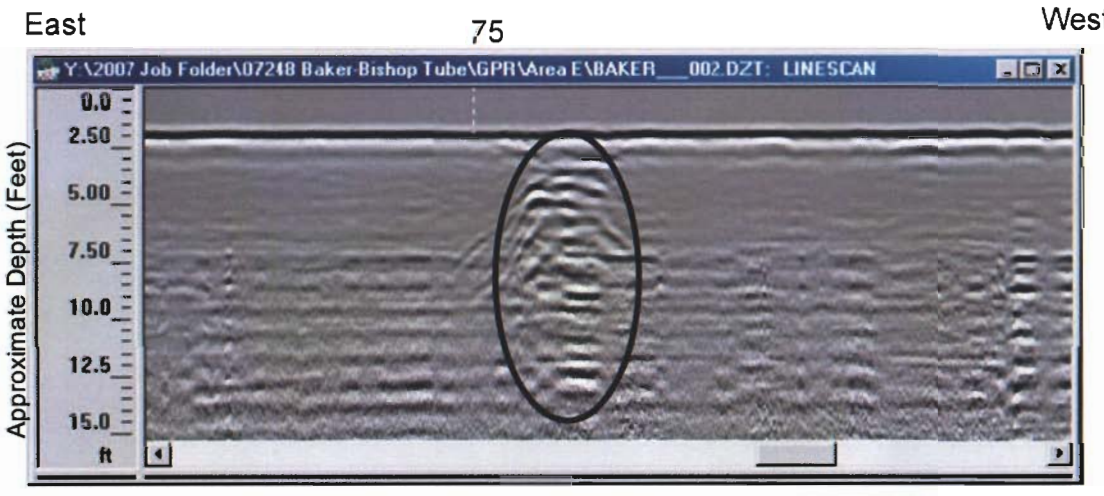
Trench

Concrete Pillar

Electrical Panel

EM61 Contour Map-Area D		
Michael Baker, Jr., Inc. Bishop Tube Site East Whiteland Township, Chester County, PA		
June 2007		07248
ARM GEOPHYSICS *Surface & Borehole Geophysics*		Figure 5





EM61 Contour Map-Area E		
Michael Baker, Jr., Inc. Bishop Tube Site East Whiteland Township, Chester County, PA		
June 2007		07248
ARM GEOPHYSICS *Surface & Borehole Geophysics*		Figure 6

Baker

Michael Baker Jr., Inc.

APPENDIX B

Soil Boring Logs

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: VSP-01
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/24/07	12.0'	sun 75°	10.5
Length	4'							
Type	DP							
Hammer Wt.								
Fall								

Remarks: BKG - Background Center of depression

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							clay & broken schist pieces, micaceous, moist, plastic, brown w/ grey schist very soft. - fill	
2		S-1	1.5			0.0		
3								
4	4.0							
5							as above	
6				2218-140 VOA				
7		S-2	1.6	-141 SVOA -142 metals @ 7-8'		0.0	vy hard @ 7.9'	
8	8.0			VSP-01	-07		Appears to be concrete @ bottom 7.9'	
9							Concrete. 9.5	
10		S-3	2.4				silty, very fine sand, wet @ 10' dark brown, soft.	

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: VSP-01 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: VSP-01

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							Continued from Sheet 1	
12	12.0	S-3		2128-148 VOA ~~[illegible]~~ -148 METS VSP-01-10 @ 10-12'		0.0	sacrificed the SVOA for the metals due to lack of material.	
13							Bottom of hole @ 12.0'	
14							Concrete angled rods off center, so we terminate hole to prevent damage to rods	
15								
16								
17							No SVOA sample @ 10-12'	
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: VSP-01 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: VSP-02
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/24/07	20.0'	Sun 80°	12.0'
Length	4'							upon
Type								completion
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
							2" asphalt	
1							Clay, silty w/ schistic pieces, brown, moist, no odor plastic - fill	
2						2.1		
3		S-1	1.4	2128- 145 VOA 146 SVOA 147 Met				
4	4.0			VSP-02-03 @ 3-4'				
5				+ VSP-02-03 duplicate			as above	
6			1.4			5.0		
7		S-2						
8	8.0							
9						4.1	9.0	
10						2.0 1.0	silty very fine sand, moist, 99 dark brown, cohesive.	

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: VSP-02 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)

SO NO.: 104339 BORING NO.: VSP-02

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		S-3	3.5	2128-	VOA SVOA Met	0.0	Continued from Sheet 1	
12	12.0			VSP-02-11 @ 11-12'		0.0	silty Clay w/ schistic pieces, brown, cohesive, low plastic, moist to wet	
13								
14		S-4	1.7			0.0		
15							degenerated schist	
16	16.0						becomes wet below 16'	
17							17.5	
18			1.8			0.0	silty very fine sand, wet, brown,	
19		S-5						
20	20.0							
21							Bottom of boring @ 20.0	
22								
23							Collected water sample VSP-02-GW on 5/29/07	
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes

DRILLER: Greg Baker BORING NO.: VSP-02 SHEET 2 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: VSP-03
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5-24-07	20.0	Sun 85°	13.2
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							2" Asphalt	
2		S-1	2.4		2128-	1349*	Fill - silty clay w/schist pieces, brown, moist,	
3				VSP-03-03	151 WA 152 SVOA 153 MET 154 VOA 155 SVOA 156 MET		* PID suspected to be erratic due to high humidity.	
4	4.0						Duplicate	
5							as above, less schist, more Clay, plastic, moist.	
6								
7		S-2	2.5			0.0		
8	8.0						7.9	
9							darker brown 9.0	
10		S-3	3.3			0.0		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: VSP-03 SHEET 1 OF

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: VSP-03

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11			2128-157 VOA 158 SVOA 159 Met			Continued from Sheet 1	
12 12.0			VSP-03-11	@ 11-22'		silty clay, brown, low plastic, moist, schist pieces	
13							
14							
15	S-4				0.0		
16 16.0						wet below 16.0' hard to determine exact depth	
17							
18						silty fine sand, wet, dark gray & brown.	
19	S-5				0.0		
20 20.0							
21						Bottom of boring @ 20.0	
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: VSP-03 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: VSP-04
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/24/07	4.0'	Sun 85°	NE
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							2" Asphalt	
2				2128-160 VOA 161 SVOA 162 metals		12-3*	silty Clay w/ schist pieces, brown, moist - fill	
3		S-1	2.5	VSP-04-03 @ 3-4'			* PID readings suspect due to high humidity	
4	4.0							
5							bottom of hole @ 4.0	
6								
7								
8								
9								
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: VSP-04 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: VSP-05
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/29/06	20.01	sun 75°	12.8
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							2" Asphalt	
2			1.6			300+ *	limestone gravel, no soil - fill	
3		S-1						
4	4.0							
5							Clayey silt, micaceous schist pieces & qtz pebbles, brown, moist, non-plastic. - fill	
6			2.3			200+ *		
7		S-2						
8	8.0					100+ *		
9							as above, increasing clay plastic.	
10		S-3	2.6			0.0	* suspect PID due to high humidity * 0.0 ppm with new PID!	

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: VSP-05 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: VSP-05

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						Continued from Sheet 1	
12 (12.0)							
13							
14					0.0		
15	S-4	3.2	2128-163 VOA 164 SVOA 165 SVOA				
16 (16.0)			VSP-05-15 @ 15-16'			16.0 silty very fine sand, wet, green brown - decomposed bedrock	
17							
18		1.7			0.0		
19	S-5					19.3 silty sand, black, wet; 19.7 Broken gray rock (schist?), wet, Bottom of hole @ 20.0'	
20 (20.0)							
21			VSP-05-GW			water sample	
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: VSP-05 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: VSP-06
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/27/09	8.0'	sun 75°	6.8'
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							4" Concrete	
2			2.5			0.0	silty Clay w/ sand & schist pieces, brown, non plastic, moist, fill	
3								
4	4.0							
5				VSP-06-06 @ 6-7'				
6			3.0	8128-176 177 178	VOA SVOA metals	0.0	wet below 7.0'	
7								
8	8.0							
9							Bottom of hole @ 8.0'	
10							VSP-06-GW water sample	

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: VSP-06 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-01
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/29/07	20.0	Sun 80°	NE*
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background * perched zone @ 9.5-45'

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							0.6 Asphalt & base material sand, gravel silt & fine sand, brown, moist, cohesive.	
2			2.3			0.0		
3		S-1					2.5 wet 3.5'-4.5'	
4	4.0						4.3 limestone sand & gravel, white, grey	
5							silt, sand & clay, w/ rocks, brown, moist, low plastic. - fill.	
6			2182-184 VOA 185 SVOA 186 SO3			0.0		
7		S-2	LAG-01-05@ 5-6' 3.0					
8	8.0							
9								
10		S-3	2.7			0.0		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-01 SHEET 1 OF __

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LAG-01

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							Continued from Sheet 1	
12	12.0							
13								
14		S-4	2.5			0.0		
15								
16	16.0						15.4 vegetation, black organic soil @ 15.4-15.7	
17							Decomposed rock, clayey, micaceous moist	
18		S-5	2.7			0.0		
19							19.2	
20	20.0						Broken rock, dry to moist schistic, intact pieces are hard, grey-green	
21							Bottom of hole @ 20.0	
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LAG-01 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-02
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/30/07	24.0	sun 75°	15.5'
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background east of N. UST.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							0.8 Asphalt & granular base material	
2			2.4			4.8	silty clay & vy. fine sand, brown, moist, slight organic odor, low to non plastic. - fill	
3		S-1				19.3		
4	4.0							
5			2128-157 VOA 158 SVOA 159 Met.			39.1	increasing clay, plastic, moist - fill	
6			LAG-02-05 @ 5-6'					
7		S-2	2.0			2.6		
8	8.0							
9						7.1		
10						4.0		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-02 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LAG-02

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	S-3	2.0				Continued from Sheet 1	
12 (12.0)						as above, occaissional asphalt piece, fill	
13	S-4	2.2			3.9		
14							
15					2.4		
16 (16.0)							
17	S-5	3.6	2128-190 VOA 191 SVOA 192 SOS; LAG-02-16 @ 16-17'		1.5	17.1 silt & sand w/ vegetation, dk gray	
18						18.5 silt & sand, micaceous, degenerated rock, moist	
19							
20 (20.0)							
21	S-6	-0-			0.4	lost sample - hand drilling @ 22-24' Bottom 2' of barrel wet upon removal, water came up to 15.5'	
22							
23							
24 (24.0)							
25						Bottom of hole @ 29.0'	
26						LAG-02-GW water sample	
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LAG-02 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-03
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/30/07	20.0	sun 85°	7.75*
Length	4'						*upon removing rods	
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background East of southern UST location.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Asphalt & gravel base material 1.0	
2						0.4	silt & fine sand, w/ gravel & schist pieces, brown, moist - fill	
3		S-1	3.3			0.7		
4	4.0					2.2		
5						2.3	increasing clay, low to med. plastic, moist. - fill	
6								
7		S-2	2.1					
8	8.0					1.7		
9							moist to wet zone 9-10.0'	
10		S-3	2.3			0.1		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-03 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)

SO NO.: 104339 BORING NO.: LAG-03

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Denison P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							Continued from Sheet 1	
12	12.0					0.0	wet zone above 12.0'	
13						0.0	mixed and variable silt, clay and sand w/ qtz gravel & schist pieces throughout, can't determine fill/native contact	
14		S-4	2.8					
15								
16	16.0					0.0		
17			2128-	198 VOA 199 SVOA 200 metals		2.1		
18			2.8					
19		S-5	LAG-03-16 @ 16-17'				harder drilling & rods veering At @ 20.0', so we terminate boring.	
20	20.0					0.5		
21							Bottom of boring @ 20.0	
22							LAG-03-GW & (water sample)	
23							LAG-03 GWD (duplicate)	
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes

DRILLER: Greg Baker BORING NO.: LAG-03 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-04
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/30/07	19.0'	sun 87°	4.5'
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						0.4	1.0 Asphalt & brown gravel	
2			2.7				silty Clay and sand, brick pieces, brown, moist - fill	
3		S-1				0.8		
4	4.0							
5						0.0		
6			2.6					
7		S-2					wet zone @ 7.4-7.6'	
8	8.0					0.0		
9				21/28-209 VOA 210 SVOA 211 Metals		0.0		
10		S-3	2.7	LAG-04-11 @ 11-12'				

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-04 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LAG-04

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11					1.0	Continued from Sheet 1	
12 (12.0)						silty Clay w/ sand & schist pieces, moist, brown, plastic	
13					0.0		
14							
15	5-4	3.2				15.0	
16 (16.0)					0.1	decomposed rock - sandy, silty clayey w/ schist pieces	
17					0.4		
18	5-5	2.8					
19 (19.0)					0.5	refusal on weathered schist	
						Bottoming hole @ 19.0'	
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LAG-04 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-05
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/30/07	19.5	Sun 87°	12.3
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background South of southern UST area

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						1.3	1.0 Asphalt & base material	
2		S-1	3.1			3.4	silt, clay, sand, with rock pieces, hard, moist. -fill	
3								
4	4.0					2.7		
5						3.1		
6			2.5					
7		S-2	2/28-	212 213 214		17.9	layer of broken rock @ 7.4-7.9' wet	
8	8.0		LAG-05	-06 @	6-7	1.1		
9						0.4		
10		S-3	2.8			0.0		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-05 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LAG-05

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						Continued from Sheet 1	
12 12.0							
13					0.0		
14	S-4	3.2					
15					0.0	15.5	
16 16.0						decomposed rock, some laminations, brown & gray, clayey, plastic, hard rock pieces.	
17					0.0		
18	S-5	2.6					
19 19.5					0.0	refusal on weathered schist.	
20						Bottom of hole @ 19.5	
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LAG-05 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-06
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/31/07	8.0	sun 78°	NE
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background
Bgnd = 0.3 ppm 15' south of LAG-05 (step out boring)

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						0.3	1.0 Asphalt & base material	
2			2.7				silty clay w/ sand & rock pieces, brown, moist, plastic, soft.	
3		S-1				0.4		
4	4.0							
5			2128-218 VOA 219 SVOA 220 mets			19.5		
6			2.5	LAG-06-06 @		6-7	grey from 6.5-8.0' slight odor	
7		S-2						
8	8.0					8.5		
9							Bottom of hole @ 8.0'	
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-06 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-07
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				8/31/07	8.0'	Sun 80°	N/A
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background step out 15' south of LAG-06

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							1.0 Asphalt & base material	
2		5-1	1.1				silty Clay & sand w/ rock pieces, glass, moist, brown fill	
3						0.4		
4	40							
5			2128-	221 VOA 222 SVOA 223 SOC		25.1		
6		5-2	2.8 LAG-07-06					
7						6.4		
8	80							
9							Bottom of hole @ 8.0	
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-07 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-08
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/31/08	20.0'	sun 85°	16.8
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background inside bldg.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							0.5 Concrete	
2						0.0	1.8 Sand & gravel base material	
3		S-1	3.9				silt & silty vy. fine sand w/ rock pieces, dry, brown,	
4	4.0					0.0		
5						0.0	increasing clay content, becomes moist, low to non plastic, stiff.	
6								
7		S-2	4.0					
8	8.0					0.0		
9			2128-	224 VOA 225 SVOA 226 metals		1.1		
10		S-3	LAG-08-08 @ 8-9			1 0.0		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-08 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LAG-08

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						Continued from Sheet 1	
12 (12.0)					0.0		
13	S-4	4.0			0.0	13.5	
14						14.0 organic loamy soil (topsoil), vegetation	
15						silty clay w/ small rock pieces (decomposed schist?) moist, brownish greyish low plastic	
16 (16.0)							
17						grades into very fine silty sand wet around 17'	
18	S-5	4.0			0.0		
19							
20 (20.0)							
21						Bottom of hole @ 20.0	
22							
23						LAG-08-GW water	
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LAG-08 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-09
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/21/07	20.0	sun 85°	NE
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							0.5 concrete	
						0.0	1.2 sand & gravel base material	
2		S1	3.5					
3							silty clay with sand & rock pieces, moist, low plastic, brown. - fill	
4	4.0'					0.0		
5						0.0		
6								
7		S2	2.1			0.0		
8	8.0					14.1		
9			2128-231 VOA 232 SVOA 233 Met			35.1	piece of wood, smelled of creosote, @ 8.3-8.5'	
10			LAG-09-08			3.5		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-09 SHEET 1 OF

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)

SO NO.: 104339 BORING NO.: LAG-09

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Denison P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						Continued from Sheet 1	
12	12.0				0.5		
13					0.0	-fill	
14		5-4	3.0			14.5	
15					0.0	15.0 Topsoil, vegetation	
16	16.0				0.0	silty very fine sand w/ schist pieces, (decomposed bedrock	
17					0.0	layered colors, brown, grey,	
18			3.0		0.0	brown, grey	
19		5-5					
20	20.0				0.0		
21						Bottom of boring @ 20.0'	
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes

DRILLER: Greg Baker BORING NO.: LAG-09 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LAG-10
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/5/08	20.0	sun 85° humid	16.5
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background west of LAG-08

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							6" concrete 8" base gravel (wet)	
2			3.3			0.0	clayey silt w/ sand & small rock pieces, moist, brown, stiff non plastic. — fill	
3		S-1						
4	4.0							
5			LAG-10-05 @ 5-6'			0.5		
6			3.2	228-267 -268 -269	VOA SVOA Mats.			
7		S-2				0.0		
8	8.0							
9								
10			3.3			0.0		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LAG-10 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LAG-10

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							Continued from Sheet 1	
12	12.0						11.7 dk brown silty clay, vegetation moist, non plastic.	
13						0.0		
14			3.6			0.0	14.0	
15		S-4				0.0	grades into silty vf. fine sand w/ rock pieces, decomposed bedrock, dry to moist	
16	16.0							
17						0.0		
18							decomposed schist, wet below 18.5' dk gray & brown	
19		S-5	4.0					
20	20.0					0.0		
21							Bottom of hole @ 20.0	
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LAG-10 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-01
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/31/07	6.2'	sun 85°	NE
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background center of large Degreaser Area.

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							concrete, crumbled when drilled, sort of a void beneath floor slab, 10-20 ppm down hole.	
2								
3		S-1	0.3	NO SAMPLES				
4	4.0							
5		S-2	0.8			0.0	clay, sand & gravel, moist	
6	6.2							
7							Refusal on concrete @ 6.2'	
8								
9							PID hits up to 30 just under concrete	
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA-01 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-02
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/31/07	6.1'	sun 85°	NE
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background immediately South of concrete rectangle

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							concrete broke easily and was void below, little recovery.	
2		S-1	0.9					
3						0.0	silt, clay, sand, moist	
4	4.0			NO Samples				
5		S-2	0.9			0.0		
6	6.1						refusal on concrete @ 6.1'	
7								
8								
9								
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA-02 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-03
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/31/07	20.0'	sun 87°	16.5'
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background 10' east of edge of concrete rectangle

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							pushed concrete rem 1.5	
2		S-1	1.8			0.0	sand, clay & silt, moist, brown -fill	
3								
4	4.0							
5						0.0		
6		S-2	2.8				PID readings just under concrete, but not in soil - vapors may be trapped beneath floor slab.	
7								
8	8.0					0.0		
9		S-3	3.0			0.0		
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA-03 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-03

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Denison P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							Continued from Sheet 1	
12	12.0					0.0		
13								
14								
15		S-4						
16	16.0			2125-23	5 VOA		15.5	
				LDA-03-	16 @	16	-16.5'	
17							wet @ 16.5'	
18							silty fine sand, brown & grey	
19		S-5					wet. decomposed rock	
20	20.0							
21							Bottom of hole @ 20.0'	
22								
23							LDA-03-GW	
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA-03 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-04
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				5/3/06	20.0'	Sun 89°	16.5
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1				2128-234				
2				LDA-04-02		@ 2-3'	pulled sample from bottom of concrete bit	
3		S-1	0.8			0.0		
4	4.0						silty clay & sand, w/ schist pieces, brown, moist, non plastic. - fill	
5						0.0		
6		S-2	2.2			0.0		
7						0.0		
8	8.0							
9			2.9			0.0		
10						0.0		

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA 04 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-04

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							Continued from Sheet 1	
							11.5	
12	12.0							
13						0.0	grades into silty very fine sand w/ shist pieces & occ. qtz pebble, brown, cohesive (decomposed rock)	
14		5-4	4.0					
15						0.0		
16	16.0							
17						0.0	wet @ 16.5'	
18		5-5	4.0			0.0		
19								
20	20.0					0.0		
21							Bottom of hole @ 20.0'	
22							LDA-04-GW	
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA-04 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-05
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/4/07	20.0	0-cast 70°	14.4
Length	4'						humid	
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background 0.3 - 0.4 ppm

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							6" concrete	
2							Advanced 1.5' w/ concrete bit. 4.3 ppm under floor slab downhole	
3		S-1	3.3' 2128-239			1.4	silty clay w/ fine sand & rock pieces, brown, mod. plastic, moist	
4	4.0		LDA-05-03 @ 3-4'			0.9		
5							-fill	
6		S-2	2.4			6.0		
7								
8	8.0					0.0		
9		S-3	2.7					
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA-05 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LDA-05

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						Continued from Sheet 1	
12 (12.0)						11.0 grades into silty vy fine sand w/ clay & rock pieces, moist to wet, cohesive, brown	
13							
14	5-4	3.7			0.0	wet zone 14.3'-14.5'	
15							
16 (16.0)							
17						Appears wet @ 16.5'	
18	5-5	4.0			0.0	silty, vy fine sand w/ rock pieces dk brown to gray, wet, cohesive.	
19						19.2	
20 (20.0)						grades into decomposed bedrock schist	
21						Bottom of boring @ 20.0'	
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LDA-05 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: LDA-06
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/4/07	20.0	rain 70°	14.5
Length	4'						humid	
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background 0.3 - 0.4 bgnd

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							concrete	
2		5-1	2.6				Advanced 1.5' w/ concrete borer tool	
3						0.0	silty clay w/ sand & rock pieces brown, moist. fill	
4	4.0							
5				21 28-74 0 VOA				
6		5-2	2.3	LDA-06-06 @ 6-7'		0.0		
7								
8	8.0							
9		5-3	2.6					
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: LDA-06 SHEET 1 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339
BORING NO.: LDA-06

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11						Continued from Sheet 1	
12 (12.0)						11.0 grades into silty fine sand w/ rock pieces, less clay w/ depth, brown moist	
13							
14	S-4	3.0			0.0	decomposed rock	
15							
16 (16.0)							
17						wet @ 16.5'	
18	S-5	2.0			0.0	lost some sample upon retrieval	
19							
20 (20.0)						20.0	
21						Bottom of hole @ 20.0	
22						LDA-06-GW	
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: AllProbe
DRILLER: Greg Baker
BAKER REP.: Brian Steffes
BORING NO.: LDA-06 SHEET 2 OF 2

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: DDP-01
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/5/07	9.4	75° humid	3.3
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background
PID Bgnd = 1.5-2.9 p
@ eastern anomalie (pipe?)
PID erratic due to high humidity

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4 (4.0)	S-1	2.4			2.1	silt & fine sand w/ schist pieces, dry to moist, brown - alluvium?	
5 6 7 8 (8.0)	S-2	4.0	DDP-01-07 @ 7-8' 247 VOA 248 SVOA 249 METS		28.0	7.5 sandy decomposed schist, dk brown wet @ 9.2'	
9 (9.4)	S-3	1.0				Refusal on bedrock @ 9.4	
10			DDP-01-GW			~~Refu~~ Bottom of boring @ 9.4	

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: DDP-01 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: DDP-02
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/5/07	8.6	sun, humid	4.6
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background middle anomaly

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						0.0	silt and clay w/ fine sand & schist pieces, brown, moist non plastic. - Alluvium	
2								
3		S-1	3.7			0.2		
4	4.0					1.3		
5						0.9		
6						5.0		
7		S-2	4.0			9.8	7.0'	
8	8.0		DDP-02-07 @ 7-8' 2128- 254 VOA 255 SVOA 256 metals			1.6	silty fine sandy decomposed bedrock dk brown, moist wet below 8.0'	
9	8.6	S-3	0				Refusal on bedrock @ 8.6' Bottom of hole @ 8.6	
10							DDP-02-GW	

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: DDP-02 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: DDP-03
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/5/07	6.8'	sun 80° humid	NE
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						0.0	silt, clay and sand w/ schist pieces, moist, brown.	
2			2.6			0.6		
3		S-1						
4	4.0					99.1		
5			DDP-03-06 @		S-6'	358	more clay, moist	
6		S-2	1.6	2128-261 NA 262 SVOA 263 Metals		2.2	No transition into sandy, decomposed bedrock noted	
7	6.8						refusal @ 6.8'	
8							No water to sample	
9								
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: DDP-03 SHEET 1 OF 1

Baker
Baker Environmental

TEST BORING RECORD

PROJECT: Bishop Tube (4-1-154)
SO NO.: 104339 BORING NO.: DDP-04
COORDINAT EAST: NORTH:
ELEVATION: SURFACE:

Rig: Powerprobe 9630	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.				6/5/07	5.5	sun, wind, 80° humid	NE
Length	4'							
Type								
Hammer Wt.								
Fall								

Remarks: BKG - Background west and of cleared area by power pole

SAMPLE TYPE
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston
N = No Sample

DEFINITIONS
SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							silty Clay w/ Sand & pieces of schist, brown, dry to moist	
2				DDP-04-05 @ 4.5-5.0		0.0		
3		S-1	2.5					
4	4.0							
5			1.2			0.0		
	5.5						refusal on bedrock @ 5.5	
6							Bottom of hole @ 5.5	
7								
8								
9								
10								

DRILLING CO.: AllProbe BAKER REP.: Brian Steffes
DRILLER: Greg Baker BORING NO.: DDP-04 SHEET 1 OF ___

APPENDIX C

Sample Tracking Forms

BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: Armstrong/Baker-GTAC
Collector ID: 2128

DEP or **Contractor**
Contractor: Baker

Shipping Method: US Cargo
Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
VSP-01-07	soil	140	5-24-07	1030	VOA1	F010362	5-24-07	plus % moisture vial
VSP-01-07	soil	141	5-24-07	1030	SVOA1	F010358	5-24-07	
VSP-01-07	Soil	142	5-24-07	1030	Metals 503	F010360	5-24-07	
VSP-01-10	Soil	143	5-24-07	1045	VOA1	F010359	5-24-07	Plus % moisture vial
VSP-01-10	Soil	144	5-24-07	1045	Met 503	F010361	5-24-07	No SVOA1 sample
VSP-02-03		145		1210	VOA1	F010355		+ % moist.
VSP-02-03		146		1210	SVOA1	F010356		
VSP-02-03		147		1210	503	F010357		
VSP-02-11		148		1230	VOA1	F010363		+ % moist.
VSP-02-11		149		1230	SVOA1	F010364		
VSP-02-11		150		1230	503	F010365		
VSP-03-03		151		1355	VOA1	F010366		
VSP-03-03		152		1355	SVOA1	F010367		
VSP-03-03		153		1355	503	F010368		
VSP-03-03		154		1355	VOA1	F010369		
VSP-03-03		155		1355	SVOA1	F010370		
VSP-03-03		156		1355	503	F010371		
VSP03-11		157		1515	VOA1	F010372		
VSP-03-11		158		1515	SVOA1	F010373		
VSP-03-11		159		1515	503	F010374		
VSP-0403		160		1545	VOA1	F010375		
VSP04-03		161		1545	SVOA1	F010376		
VSP-04-03		162		1545	503	F010377		

BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: Armstrong/Baker-GTAC
Collector ID: 2128

DEP or **Contractor**
Contractor: Baker

Shipping Method: US Cargo
Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
VSP-05-15	soil	163	5-29-07	0900	VOA1	F010378	5-29-07	
VSP-05-15	soil	164	5-29-07	0900	SVOA1	F010379	5-29-07	
VSP-05-15	soil	165	5-29-07	0900	503	F010380	5-29-07	
VSP-05-GW	water	166	5-29-07	0930	VOA1	F010381	5-29-07	
VSP-05-GW	water	167	5-29-07	0930	SVOA1	F010382	5-29-07	
VSP-05-GW	water	168	5-29-07	0930	SVOA1	F010383	5-29-07	
VSP-05-GW	water	169	5-29-07	0930	503	F010384	5-29-07	Filtered in field
VSP-05-GW	water	~~169~~ 170	5-29-07	0930	Fluoride	F010385	5-29-07	Fluoride
VSP-02-GW	water	171	5-29-07	1030	VOA1	F010386	5-29-07	
VSP-02-GW	water	172	5-29-07	1030	SVOA1	F010387	5-29-07	
VSP-02-GW	water	173	5-29-07	1030	SVOA1	F010388	5-29-07	
VSP-02-GW	water	174	5-29-07	1030	503	F010389	5-29-07	Filtered in field
VSP-02-GW	water	175	5-29-07	1030	Fluoride	F010390	5-29-07	Fluoride
VSP-06-06	soil	176	5-29-07	1345	VOA1	F010391	5-29-07	
VSP-06-06	soil	177	5-29-07	1345	SVOA1	F010392	5-29-07	
VSP-06-06	soil	178	5-29-07	1345	503	F010393	5-29-07	
VSP-06-GW	water	179	5-29-07	1400	VOA1	F010394	5-29-07	
VSP-06-GW	water	180	5-29-07	1400	SVOA1	F010395	5-29-07	
VSP-06-GW	water	181	5-29-07	1400	SVOA1	F010396	5-29-07	
VSP-06-GW	water	182	5-29-07	1400	503	F010397	5-29-07	Filtered in field.
VSP-06-GW	water	183	5-29-07	1400	FLUORIDE	F010398	5-29-07	Fluoride
LAG-01-05	soil	184	5-29-07	1515	VOA1	F010399	5-29-07	
LAG-01-05	soil	185	5-29-07	1515	SVOA1	F010400	5-29-07	
LAG-01-05	soil	186	5-29-07	1515	503	F010401	5-29-07	

Page 1 of 2

BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: Armstrong/Baker-GTAC
Collector ID: 2128

DEP or **Contractor**

Contractor: Baker

Shipping Method: US Cargo

Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
LAG-02-05	~~Soil~~ Soil	187	5/30/07	0830	VOA1	F010402	5/30/07	
LAG-02-05	Soil	188		0830	SVOA1	F010403		
LAG-02-05	Soil	189		0830	503	F010404		
LAG-02-16	Soil	190		0900	VOA1	F010405		
LAG-02-16	Soil	191		0900	SVOA1	F010406		
LAG-02-16	Soil	192		0900	503	F010407		
LAG-02-GW	water	193		0915	VOA1	F010408		
LAG-02-GW	water	194		0915	SVOA1	F010409		
LAG-02-GW	water	194		0915	SVOA1	F010410		
LAG-02-GW	water	196		0915	503	F010411		Filtered in field
LAG-02-GW	water	197		0915	Flouride	F010412		Fluoride
LAG-03-16	Soil	198		1130	VOA1	F010413		
LAG-03-16	Soil	199		1130	SVOA1	F010414		
LAG-03-16	Soil	200		1130	503	F010415		
LAG-03-GW	water	201		1200	VOA1	F010416		
LAG-03-GW	water	202		1200	SVOA1	F010417		& F010418
LAG-03-GW	water	203		1200	503	F010419		Filtered in field
LAG-03-GW	water	204		1200	Flouride	F010420		Fluoride
LAG-03-GWD	water	205		1200	VOA1	F010421		
LAG-03-GWD	water	206		1200	SVOA1	F010422		& F010423
LAG-03-GWD	water	207		1200	503	F010424		Filtered in field
LAG-03-GWD	water	208		1200	Flouride	F010425		Fluoride

BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: Armstrong/Baker-GTAC
Collector ID: 2128

DEP or **Contractor**
Contractor: Baker

Shipping Method: US Cargo
Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
LAC-01-11	Soil	209	5/30/07	1445	VOA1	F010426	5/30/07	
LAC-01-11	Soil	210		1445	SVOA1	F010427		
LAC-01-11	Soil	211		1445	SO3	F010428		
LAC-05-06	Soil	212		1545	VOA1	F010429		
LAC-05-06	Soil	213		1545	SVOA1	F010601		
LAC-05-06	Soil	214		1545	SO3	F010602		
LAC-05-12	Soil	215		1600	VOA1	F010603		
LAC-06-12	Soil	216		1600	SVOA1	F010604		
LAC-06-12	Soil	217		1600	SO3	F010605		

BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: Armstrong/Baker-GTAC
Collector ID: 2128

DEP or **Contractor**
Contractor: Baker

Shipping Method: US Cargo
Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
AL-01-06	Soil	218	5/31/07	0815	VOA1	FW10606	5/31/07	
AL-01-06	Soil	219		0815	SVOA1	FW10607		
AL-01-06	Soil	220		0815	SO3	FW10608		
AL-02-06	Soil	221		0845	VOA1	FW10609		
AL-02-06	Soil	222		0845	SVOA1	FW10610		
AL-02-06	Soil	223		0845	SO3	FW10611		
AL-03-08	Soil	224		0950	VOA1	FW10612		
AL-03-08	Soil	225		0950	SVOA1	FW10613		
AL-03-08	Soil	226		0950	SO3	FW10614		
AL-04-GW	Water	227		1015	VOA1	FW10615		
AL-04-GW	Water	228		1015	SVOA1	FW10616		FW10617
AL-04-GW	Water	229		1015	SO2	FW10618		Filtered in field
AL-04-GW	Water	230		1015	100	FW10619		Fluoride
AL-09-08	Soil	231		1115	VOA1	FW10620		
AL-09-08	Soil	232		1115	SVOA1	FW10621		
AL-09-08	Soil	233		1115	SO3	FW10622		
DA-03-16	Soil	234		1415	VOA1	FW10623		DA-03-16
~~DA-03-16~~	~~Soil~~	~~235~~		~~1415~~	~~VOA1~~	~~FW10624~~		~~ES~~
DA-03-GW	Water	235		1430	VOA1	FW10624		
DA-01-02	Soil	236		1500	VOA1	FW10625		
DA-01-GW	Water	237		1530	VOA1	FW10627		

BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: B. Steffas for D. Armstrong2
Collector ID:

DEP or **Contractor**
Contractor: Baker Environmental

Shipping Method: US Cargo from CCHD
Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
[illegible]	[illegible]	236	1/1/07	0900	VOA1	F010628	1/1/07	
[illegible]	[illegible]	237	1/1/07	1030	VOA1	F010629		
[illegible]		[illegible]		1150	VOA1	F010630		
[illegible]	[illegible]	241		1230	VOA1	F010631		
[illegible]	[illegible]	242		1330	VOA1	F010632		Sediment [illegible]
[illegible]	[illegible]	243		1330	SVOA1	F010633		" " " " "
[illegible]	[illegible]	244		1330	SO2	F010634		" " " " "
[illegible]	[illegible]	245		1400	SVOA1	F010635		? F010636
[illegible]	[illegible]	246		1400	SO2	F010636		NOT ENTERED

Page 1 of 2

BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: B. Steffas for D. Armstrong2
Collector ID:

DEP or **Contractor**
Contractor: Baker Environmental

Shipping Method: US Cargo from CCHD
Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
[illegible]	Soil	241	1/5/07	0900	VOA1	F010638	6/5/07	
[illegible]	Soil	242		0900	SVOA1	F010639		
[illegible]	Soil	243		0900	SO3	F010640		
[illegible]	Water	250		0930	VOA1	F010641		
[illegible]	Water	251		0930	SVOA1	F010642		& F010643
[illegible]	Water	252		0930	SO2	F010644		Filtered in field
[illegible]	Water	253		0930	100	F010645		Fluoride
[illegible]	Soil	254		1000	VOA1	F010646		
[illegible]	Soil	255		1000	SVOA	F010647		
[illegible]	Soil	256		1000	SO3	F010648		
[illegible]	Water	257		1015	VOA1	F010649		
[illegible]	Water	258		1015	SVOA1	F010650		+ F010651
[illegible]	Water	259		1015	SO2	F010652		Filtered in field
[illegible]	Water	260		1015	100	F010653		Fluoride
DDI-03-06	Soil	211		1045	VOA1	F010654		
[illegible]	Soil	212		1045	SVOA1	F010655		
[illegible]	Soil	213		1045	SO3	F010656		
~~[illegible]~~	~~Soil~~	~~214~~		~~1100~~	~~VOA1~~	~~F010657~~		
~~[illegible]~~	~~Water~~	~~215~~		~~1100~~	~~SVOA1~~	~~F010658~~		~~+ F010659~~
~~[illegible]~~	~~Water~~	~~216~~		~~1100~~	~~SO2~~	~~F010660~~		~~Filtered in field~~
~~[illegible]~~	~~Water~~	~~217~~		~~1100~~	~~100~~	~~F010661~~		~~Fluoride~~
DDI-04-05	Soil	204		1115	VOA1	F010657		
DDI-04-05	Soil	205		1115	SVOA1	F010658		
DDI-04-05	Soil	206		1115	SO3	F010659		

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BOL -Sample Tracking Form

Site Name: Bishop Tube
Sampler: B. Steffas for D. Armstrong2
Collector ID:

DEP or **Contractor**
Contractor: Baker Environmental

Shipping Method: US Cargo from CCHD
Waybill #

Well/Loc. #	Matrix	Seq. #	Date	Time	Analysis	Legal Seal #	Shp. Date	Comments
LA-W-05	Soil	267	11/5/07	1230	VOA	F010660	11/5/07	
LA-W-05	Soil	268		1230	SVOA	F010661		
LA-W-05	Soil	269		1230	603	F010662		
[illegible]	[illegible]	270		1330	VOA	F010663		
[illegible]	[illegible]	271		1400	VOA	F010664		
[illegible]	[illegible]	272		1400	SVOA	F010665		+ F010666
[illegible]	[illegible]	273		1400	501	F010667		NOT FILTERED
[illegible]	[illegible]	274		1400	100	F010668		Fluoride