

June 26, 2009

Mr. Jerry Wickham
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

RECEIVED

11:12 am, Jul 06, 2009

Alameda County
Environmental Health

SUBJECT: SUBSURFACE INVESTIGATION REPORT CERTIFICATION
County File # RO 504
William Wurzbach Company
1200 20th Avenue
Oakland, CA 94606

Dear Mr. Wickham:

You will find enclosed one copy of the following document prepared by P&D Environmental, Inc.

- Subsurface Investigation Report (B3 through B9, SG-1, Geophysical Transect E-E') dated June 19, 2009(document 0405.R4).

I declare under penalty of perjury, that the information and/or recommendations contained in the above-mentioned report for the subject site is true and correct to the best of my knowledge.

Should you have any questions, please do not hesitate to contact us at (510) 834-9811.

Sincerely,

J.W. Silveira Realty

J.W. Silveira

0405.R12

P&D ENVIRONMENTAL, INC.

55 Santa Clara Ave, Suite 240
Oakland, CA 94610
(510) 658-6916

June 19, 2009
Report 0405.R4

Mr. J.W. Silveira
J.W. Silveira Realty
499 Embarcadero
Oakland, CA 94606

SUBJECT: SUBSURFACE INVESTIGATION REPORT
(B3 THROUGH B9, SG-1, GEOPHYSICAL TRANSECT E-E')
County File # RO 504
William Wurzbach Company
1200 20th Avenue
Oakland, CA

Dear Mr. Silveira:

P&D Environmental (P&D) is pleased to present this report on the drilling of soil borings at locations B3 through B9, at one soil gas sampling location designated as SG1, and collection of geophysical soil resistivity profile data to further characterize subsurface conditions at and near the subject site. The soil borings were drilled for the collection of soil and groundwater samples to evaluate the extent of petroleum hydrocarbons detected in soil at the former underground storage tank (UST) pit and in groundwater in the vicinity of 20th Avenue. The soil gas sampling was performed in an effort to evaluate the risk posed by petroleum hydrocarbon vapor intrusion to occupants of the building located adjacent to the former UST pit. However, soil gas samples were not collected because of high vacuum conditions encountered beneath the building. The geophysical soil resistivity profile was obtained to evaluate the presence of buried stream channel deposits in the vicinity of the subject site.

All work was performed in accordance with P&D's Subsurface Investigation Work Plan dated January 7, 2009 (document 0405.W1) and Subsurface Investigation Work Plan Addendum dated February 3, 2009 (document 0405.W1A), and subsequent e-mail correspondence with the Alameda County Department of Environmental Health (ACDEH) regarding the addition of boring B9. The work plan and work plan addendum were approved in a letter from the ACDEH in a letter dated February 6, 2009.

A Site Location Map is attached as Figure 1, and a site vicinity map showing the sample collection and geophysical profile locations is attached as Figure 3. Figure 4 shows the correlation of Site Vicinity Map features and drilling locations with an aerial photograph. All work was performed under the direct supervision of an appropriately registered professional. This work plan is prepared in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

BACKGROUND

The subject site is located in an industrially zoned area, at the northeastern corner of the intersection of 20th Avenue and Solano Way (Figure 1). A detailed discussion of the site history is provided in P&D's Subsurface Investigation Work Plan dated January 7, 2009 (document 0405.W1).

FIELD ACTIVITIES

Prior to drilling, excavation permits # X0900275 and X0900276 were obtained from the City of Oakland for the geophysical transect and the soil borings located in the public right-of-way, Alameda County Public Works Agency (ACPWA) drilling permit # W2009-0261 was obtained for borehole drilling, the drilling locations were marked with white paint, Underground Safety Alert was notified for buried utility location, and a health and safety plan was prepared.

The geophysical resistivity survey was performed on March 18, 2009 by California Geophysicist James Rezowali of JR Associates of San Jose, California. Following review of the geophysical survey results, P&D personnel oversaw the drilling of soil borings at locations B3 through B9 on April 6 through April 9, 2009.

An effort was made to collect a total of two soil gas samples designated as SG1-5 and SG1-10 on April 8, 2009 at depths of 5 and 10 feet bgs, respectively. However, because of high vacuum conditions, it was not possible to collect a soil gas sample at either depth.

A description of field procedures and conditions encountered during data collection are provided below.

Geophysical Survey

The geophysical survey was performed by State-licensed geophysicist James Rezowali of JR Associates, Inc. of San Jose, California. The survey was performed using a four-point method for dipole-dipole resistivity profiling. A DC power supply was used to inject a current into the ground. The electrical potential field developed by the injected current was measured along the length of the transect. The electrode spacing was approximately 20 feet, with an effective depth of investigation of approximately 80 feet. A copy of the JR Associates, Inc. report is attached with this report as Appendix A. The geophysical transect location E-E' is shown in Figure 3, and a copy of the geophysical transect cross section provided by JR Associates that has been modified to include borings B8 and B9 and the projected location of well MW2 is attached as Figure 6.

Continuous Coring and Soil Sample Collection

Drilling for collection of soil and groundwater samples was performed after review of the geophysical survey results. On April 6 through April 9, 2009, P&D personnel oversaw drilling at locations B3 through B9 shown on Figures 3 and 5. Drilling was performed by Vironex, Inc. of Pacheco, California using GeoProbe direct push technology.

Boreholes B3 through B7 were continuously cored to a total depth of 25.0 feet below the ground surface (bgs) and boreholes B8 and B9 were continuously cored to a total depth of 30.0 feet bgs. Additionally, one borehole designated as B4a was continuously cored to a total depth of 70 feet at a location approximately 3 feet north of B4. Borings B3 through B9 were continuously cored using Geoprobe Macrocore barrel samplers lined with transparent PVC sleeves. The soil from the boreholes was logged in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. The soil from the boreholes was evaluated with a Photoionization Detector (PID) equipped with a 10.6 eV bulb and calibrated with a 100 ppm isobutylene standard. The soil was also evaluated for other evidence of petroleum hydrocarbon contamination such as odors, staining, and discoloration. Elevated PID values, odors, staining, or discoloration were detected in borehole B3, B4, and B5 (adjacent to the former UST pit). Copies of the boring logs are attached with this report as Appendix B.

A total of six soil samples were collected from each of boreholes B3 and B4, seven soil samples were collected from borehole B5, and five soil samples were collected from borehole B6 for laboratory analysis. The soil samples were retained from the transparent PVC sleeves in the following manner. Following removal of the liner from the sampler, the liner was evaluated for the amount of sample recovery, and a 6-inch long section of the liner was then cut at the depth corresponding to the desired sample collection depth. The ends of the liner sections were sequentially covered with aluminum foil and plastic end caps. The samples were then stored in a cooler with ice, pending delivery to the laboratory. Chain of custody procedures were observed for all sample handling.

All drilling and sampling equipment was either previously unused clean material, or was cleaned with an Alconox solution followed by a clean water rinse prior to use in each borehole. Following groundwater sample collection (see below) the boreholes were filled with neat cement grout using a tremie pipe. Mr. John Shouldice of the ACPWA was on site to observe grouting procedures on April 6, 2009.

Groundwater Sample Collection

One groundwater grab sample was collected from each of continuously cored boreholes B3, B6, B7, B8, and B9. Groundwater grab samples were not collected from continuously cored boreholes B4, B4a and B5 because groundwater quality data has been historically obtained from nearby well MW1.

Groundwater was encountered while drilling in borehole B6 and B9 at depths of 23.5 and 24.4 feet bgs, respectively. Despite expectation that groundwater would be encountered at a depth of approximately 25.0 feet bgs, groundwater was not encountered during drilling in boreholes B3, B7, and B8 until the day after they had been drilled, at which time groundwater was encountered in these boreholes prior to sampling at depths of 15.8, 16.0 and 28.5 feet bgs, respectively. After drilling, the tops of the boreholes were secured over night by temporarily plugging the top of the boreholes with bentonite clay pending groundwater grab sample collection the following day.

The groundwater grab samples were collected from the continuously cored boreholes using a temporary slotted PVC pipe and a polyethylene tube with a stainless steel check valve. The samples were placed into 40-milliliter VOAs and 1-liter amber glass bottles preserved with hydrochloric acid and capped with Teflon-lined screw caps. All sample containers were clean and provided by the laboratory. The VOAs were overturned and tapped to ensure that no air bubbles were present. The samples were then stored in a cooler with ice, pending delivery to the laboratory. Chain of custody procedures were observed for all sample handling.

Depth-discrete groundwater samples were collected for vertical delineation of the extent of petroleum hydrocarbons in groundwater using a Geoprobe Hydropunch at locations adjacent to borings B4, B7, and B8 where the bottom of the Hydropunch screen was placed at depths of 64.0, 64.0, and 59.0 feet bgs, respectively. The Hydropunch screen interval at locations B4, B7 and B8 was 3, 4 and 4 feet long, respectively. Prior to retracting the Hydropunch rods to expose the Hydropunch screen, the interior of the rods were evaluated with an electric water level indicator for the presence of water inside the rods. No water was detected inside the Hydropunch rods prior to retracting the rods for sample collection. Following retraction of the drilling rods to expose a section of the Hydropunch screen in boreholes B4, B7, and B8, water was measured inside the drilling rods prior to sample collection at a depth of 64.7, 59.7, and 55.2 feet bgs, respectively.

The groundwater grab samples were collected from the Hydropunch drilling rods using a polyethylene tube with a stainless steel check valve. The samples were placed into 40-milliliter VOAs and 1-liter amber glass bottles preserved with hydrochloric acid and capped with Teflon-lined screw caps using procedures described above for groundwater sample collection from the continuously cored boreholes. Chain of custody procedures were observed for all sample handling.

All drilling and sampling equipment was either previously unused clean material, or was cleaned with an Alconox solution followed by a clean water rinse prior to use in each borehole.

Soil Conductivity Logging

A soil conductivity probe was also pushed at locations adjacent to the B4, B7, and B8 continuously cored locations to a depth of 70.0 feet bgs for lithologic logging purposes. Soil conductivity values were continuously measured and recorded and printed as a log. Copies of the soil conductivity logs are attached with this report as Appendix C. Please note that the vertical and horizontal scales for the different soil conductivity logs are different. Review of the soil conductivity logs shows that the log for borehole B8 is defective and should not be used for interpretation of subsurface conditions.

Increased conductivity values are generally correlated with finer grained materials. Correlation of the soil conductivity log values with actual earth materials at the subject site is performed by comparison of the soil conductivity logs with the lithology visually recorded during the completion of continuously cored borehole B4a and the continuously cored portions of boreholes B7 and B8. GeoProbe has suggested the following correlation between soil type and soil conductivity.

Coarse Sand = 75 ms/m (Milli-Siemens per meter)

Silty Sand = 76-150 ms/m (Milli-Siemens per meter)

Silty Clay = 151-200 ms/m (Milli-Siemens per meter)

Clay = 200 and greater ms/m (Milli-Siemens per meter)

Comparison of the soil conductivity logs with the drilled soil cores of boreholes B4a, and B7 shows reasonable correlation of the decreased conductivity log values with the observed depths at which coarse-grained materials were encountered in B4 at depths ranging between 17.0 to 25.0 and 42.0 to 59.0 feet bgs, and in B7 between 11.0 to 14.0 feet bgs.

Soil Gas Sample Collection

Borehole SG1 was drilled inside the building office at 1200 20th Avenue (see Figures 3 and 5). An attempt was made to sequentially collect soil gas samples SG1-5 and SG1-10 from the same borehole at depths of 5.0 and 10.0 feet bgs, respectively. However, because of high vacuum conditions encountered at both depths in the borehole, it was not possible to collect either of the soil gas samples. All soil gas sample collection activities were performed in accordance with Department of Toxic Substances Control (DTSC) January 13, 2003 Advisory – Active Soil Gas Investigations which was developed as a coordinated effort with the Los Angeles Regional Water Quality Control Board.

All of the soil gas sample collection efforts were performed using temporary soil gas sampling wells. The temporary well was constructed by penetrating the 4-inch thick floor slab with a rotohammer and driving a hollow 1-inch diameter Geoprobe rod with an expendable tip to a depth of five feet below the top of the floor slab, dislodging the expendable tip, and then inserting a 7-foot length of 0.250-inch outside diameter (0.187-inch inside diameter) Teflon tube to the bottom of the hollow rod. Prior to inserting the Teflon tubing the lowermost 6 inches of the Teflon tube was perforated at several locations by notching the sides of the tube with a clean razor blade. A #2/16 Lonestar sack sand was then added to the annular space between the hollow rod and the Teflon tube as the hollow rod was withdrawn from the ground until the lowermost 8 inches of the hole was filled with sand. Granular bentonite (with grains the size of kitty litter) were placed in the annular space above the sand to the ground surface. The bentonite was hydrated and the 6-liter Summa purge canister and 1-liter Summa sample canister were then connected to the Teflon tubing using the configuration shown in Figure 7. At the time that the sampling manifold was assembled, the vacuum for the sample canister was checked with a vacuum gauge and recorded. The temporary well was then undisturbed for a minimum of 30 minutes prior to purging for sample collection to allow soil gas equilibration.

Following the equilibration period and prior to purging the soil gas from the temporary soil gas well, a 10 minute leak check of the sampling manifold was performed by closing the valve located between the filter and the pressure gauge, opening the purge canister valve, and recording the manifold system vacuum (see Figure 7). Following successful verification of the manifold leak check, the purge volume was calculated. No purge testing was done because no mobile laboratory was at the site. A default of three purge volumes was extracted prior to sample collection. The purge time was calculated using a nominal flow rate provided by the flow controller of 200 milliliters per minute. Purge volume calculations are provided in Appendix B of this report.

Following completion of purging three purge volumes, the valve to the purge canister was closed and a tracer gas (2-Propanol) was placed in a dish adjacent to the purge canister and a clear Rubbermaid bin was placed over the top of the temporary well, the sampling manifold, and the 1-liter Summa sample canister. The vapor concentration of the 2-Propanol was monitored with a PID until 2-Propanol vapor concentrations appeared to have equilibrated. The Rubbermaid bin was then temporarily and partially lifted long enough to open the sample canister valve and the bin was then replaced over the sampling equipment and the 2-Propanol vapor concentrations were then again monitored with the PID. After one hour and 24 minutes the vacuum for the sampling manifold had dropped from 29 to 27 inches of mercury, and sampling was discontinued based on the conclusion that high vacuum conditions were encountered at the 5 foot depth.

The Teflon tubing was removed from the temporary well and a hollow 1-inch diameter Geoprobe rod with an expendable tip was driven through the temporary well materials and the underlying native materials to a depth of 10 feet below the top of the floor slab. A temporary soil gas well was constructed in the borehole using a 12 foot length of Teflon tubing using the procedures described above. The sampling manifold was attached to the tubing and allowed to equilibrate for 30 minutes followed by a 10 minute leak check following the procedures described above. Similarly, the Rubbermaid bin was used with 2-Propanol as a tracer gas for sample collection using procedures described above. After 48 minutes the vacuum for the sampling manifold had dropped from 29 to 27 inches of mercury, and sampling was discontinued based on the conclusion that high vacuum conditions were encountered at the 10 foot depth.

Following attempts for soil gas sample collection, a PID was connected to the Teflon tubing to obtain a preliminary field value for the sample collection location. No organic vapors were detected with the PID. A precipitation event did not occur on the day before or during the day of the efforts for soil gas sample collection. Measurements of vacuums, purging and equilibration time intervals, and PID readings were recorded on Soil Gas Sampling Data Sheets that are provided in Appendix D of this report.

All drilling rods and associated drilling fittings were cleaned with an Alconox solution wash and clean water rinse followed by a clean water rinse. New Teflon tubing was used at each sample collection location. Clean, unused vacuum gages and stainless steel tee and valve assemblies were used at each sample collection location. Following the soil gas sample collection attempt at the 10 foot depth, the Teflon tubing was pulled from the temporary soil gas sampling well and a 1-inch diameter solid steel rod was driven through the bentonite and sand to the total depth of temporary soil gas well construction. The solid steel rod was then removed, and the borehole filled with neat cement.

Drummed Waste Disposal

Soil generated during drilling was stored in a drum at the site pending characterization and disposal. A copy of the uniform non-hazardous waste manifest documenting disposal of the soil is attached with this report as Appendix E.

Wellhead Repair

Exploration Geoservices, Inc. of San Jose, Inc. California, a C57-licensed water well drilling company, replaced the wellheads for the three wells on April 2, 2009.

GEOLOGY AND HYDROGEOLOGY

Review of Figure 1 shows that the Brooklyn Basin (connected to San Francisco Bay by way of a Tidal Canal to the south and the Oakland Inner Harbor to the north) is located approximately 1,100 feet to the southwest of the subject site, and Sausal Creek is located approximately 4,300 feet to the east of the subject site. Review of Figure 2 shows that the site is located on a hillside that slopes to the southwest.

Review of groundwater flow direction information for nearby sites that have groundwater monitoring wells (see Figure 2) shows that the groundwater flow direction at 2200 East 12th Street (located approximately 685 feet southeast of the subject site) has historically been to the west-southwest, and the groundwater flow direction at 2345 International Boulevard (located approximately 1,600 feet southeast of the subject site) has historically been to the southwest. Additionally, the groundwater flow direction at 2301 East 12th Street (located approximately 1,440 feet southeast of the subject site) has historically been calculated to be to the northwest. However, the calculated groundwater flow direction at the site on June 4, 2007 was to the west-southwest.

Prior to 2002, the calculated groundwater elevations in wells MW-1 and MW-3 ranged from approximately 0.4 to -4.9 feet, and in well MW-2 ranged from approximately -2.0 to -7.7 feet. Review of the water level data from prior to 2002 shows that in 1995 the calculated groundwater elevations in wells MW-1 and MW-3 were approximately -5 feet, and in well MW-2 was approximately -7.5 feet. In 2007 and 2009, the calculated groundwater elevations in the wells were approximately 5 to 6 feet in wells MW-1 and MW-3, and approximately 4 to 5 feet in well MW-2. Since 1995, the water levels in wells MW-1 and MW-3 have increased by approximately 10 to 11 feet, and in well MW-2 have increased by approximately 6.5 to 7.5 feet. Historic water level data are summarized in Table 3 of P&D's Subsurface Investigation Work Plan dated January 7, 2009 (document 0405.W1). In 2007 and 2009 the measured depth to groundwater in well MW3 ranged from approximately 10 to 11 feet.

The groundwater flow direction at the subject site has historically been calculated to be to the north-northeast based on the measured depth to groundwater in the three groundwater monitoring wells that are located in 20th Avenue near the site. However, the calculated groundwater flow direction is uphill, and is questionable based on the calculated groundwater elevations in well MW-2. Following confirmation of the surveyed wellhead elevations, the cause for the lower groundwater surface elevation at well MW-2 was previously interpreted to be related to the site geology, but was unknown with the available subsurface information.

Review of the cross section for geophysical transect E-E' in Figure 6 shows that coarse-grained deposits were identified during the geophysical survey to depths of approximately 30 feet bgs at

locations MW3, B8 and B9, and that these coarse-grained deposits are underlain or bordered by fine-grained zones that range in depth from approximately 20 to 60 feet bgs. These coarse-grained deposits are interpreted to be shallow buried stream channels. The coarse-grained shallow buried stream channel deposits are absent in the northeastern third of the geophysical transect. However, in the northeastern half of the geophysical transect, a substantial body of coarse-grained materials is identified below a depth of 60 feet bgs, with the coarse-grained zone extending upwards to approximately 50 feet bgs between two shallower fine-grained zones in the northeastern third of the transect in the vicinity of the projected location of well MW2.

Review of the subsurface materials encountered in the borehole for well MW2 are shown in geologic cross section F-F' (Figure 8), and consist of coarse-grained materials (silty sand and sand) beginning at a depth of approximately 10 feet bgs and extending to the total depth explored of approximately 35 feet bgs. The coarse grained materials identified in geophysical transect E-E' below a depth of 50 feet bgs in the northeastern third of the geophysical transect are interpreted to become shallower in the vicinity of MW2. The consistently lower groundwater elevations encountered in well MW2 are interpreted to be the result of vertical gradients associated with movement of groundwater into the coarse-grained materials identified below a depth of 50 feet bgs on the geophysical transect.

Review of the subsurface materials encountered in boreholes B4, B4a and MW1 are shown in geologic cross section F-F' (Figure 8) and are highly variable over short distances below a depth of approximately 18 feet. This area is interpreted to be a transition zone from coarse-grained buried stream channel deposits in the vicinity of well MW1 to fine-grained deposits in the vicinity of SB-1 and SB-2 (see Figure 5).

The surface elevations for cross section F-F' was approximated based on surveyed well head elevations. The sand layer located beneath the water table at all three of the wells was previously interpreted to be continuous between the locations of all three wells based on the historic presence of gasoline in all of the wells. However, Figure 8 shows that a substantial amount of clay was encountered at B6 (located between MW1 and MW2), which could result in isolation of shallow buried stream channels from one another as is suggested by the shallow clayey materials shown on the geophysical transect cross section between MW3 and B8.

At boreholes SB-1 and SB-2, the almost complete absence of sand layers and the absence of detected groundwater in the boreholes suggests that the shallow buried stream channel deposits detected in boreholes MW-1, MW-2 and MW-3 do not extend to the south of 20th Avenue and are limited in extent to the south in the vicinity of the subject site by clayey materials. The absence of petroleum hydrocarbons in wells MW-2 and MW-3 since 1998 also suggests that petroleum hydrocarbons detected in MW-1 may be generally limited in the shallow buried channel deposits to the south side of 20th Avenue. The absence of coarse-grained materials in

borehole B7 (other than clayey sand between the depths of 11.0 and 14.0 feet bgs indicates that the buried stream channel deposits trend towards the northwest and do not extend in a southwesterly direction following the slope of the topography in the vicinity of the subject site.

LABORATORY ANALYSIS

The soil and groundwater samples collected from the boreholes were analyzed at McCampbell Analytical, Inc. (McCampbell) in Pittsburg, California. McCampbell is a State-accredited hazardous waste testing facility.

All of the soil and groundwater samples were analyzed for TPH-G using EPA Method 5030B in conjunction with Modified EPA Method 8015 and Volatile Organic Compounds (VOCs), including methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene, and total xylenes (BTEX), 1,2-Dibromoethane (EDB), and 1,2-Dichloroethane (1,2-DCA) using EPA Method 5030B in conjunction with EPA Method 8260B. The soil sample results are summarized in Table 1, and the groundwater sample results are summarized in Table 2. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report as Appendix F.

Analytical results were compared to San Francisco Bay–Regional Water Quality Control Board (SF-RWQCB) Environmental Screening Levels (ESLs) that were last updated May 2008. Review of the soil sample results in Table 1 shows that the only detected TPH-G or BTEX results that exceeded their respective ESL values were soil samples from depths of 4.5 and 9.5 feet in each of boreholes B4 and B5. MTBE, EDB and 1,2-DCA were not detected in any of the samples with the exception of 0.019 mg/kg 1,2-DCA in B14 at a depth of 14.5 feet.

Review of the groundwater sample results in Table 2 shows that the only detected compounds that exceeded their respective ESL values in shallow groundwater were from borehole B3, where TPH-G, benzene, ethylbenzene, total xylenes, and 1,2-DCA were detected at concentrations of 1,200, 110, 56, 92 and 11 ug/L, respectively. In the depth discrete Hydropunch samples collected at drilling locations B4, B7 and B8, the only detected compounds that exceeded their respective ESL values were TPH-G and benzene in the sample collected at a depth of 65 feet at drilling location B4 (100 and 11 ug/L, respectively) and benzene at a depth of 64 feet at drilling location B7 (1.0 ug/L).

DISCUSSION AND RECOMMENDATIONS

Site Vicinity Map details showing TPH-G and benzene concentrations in soil for all of the soil samples are attached as Figures 9 and 10, respectively. TPH-G and benzene concentrations in soil are also shown on geologic cross section F-F' as Figures 11 and 12, respectively. TPH-G isoconcentration contours in soil at depths of 4.5 and 9.5 feet are shown in Figures 13 and 14, respectively, and benzene isoconcentration contours in soil at a depth of 9.5 feet are shown in

Figure 15. TPH-G and benzene concentrations in groundwater, including isoconcentration contours are shown in Figures 16 and 17, respectively.

Review of Figures 9 and 10 shows that the vertical extent of TPH-G and benzene concentrations exceeding their respective ESL values in soil appear to be limited to depths of 20 feet or less and that the horizontal extent is less than 20 feet in the vicinity of cross section F-F'. Similarly, Figures 13, 14 and 15 show that the horizontal extent of petroleum hydrocarbons in soil exceeding their respective ESL values is limited in extent to the area between well MW1 and the former UST pit. The extent of petroleum hydrocarbons in soil to the west of well MW1 is unknown, but is presumed to be limited based on the decrease in TPH-G concentrations at a depth of approximately 9.0 feet from pit sidewall sample S-6 (2,300 mg/kg) to borings B4 and B5 (250 and 180 mg/kg, respectively) and historic boring MW1 (1.3 mg/kg).

Figures 16 and 17 show that the extent of petroleum hydrocarbons in groundwater exceeding their respective ESL values are encountered in shallow groundwater at locations B3 and MW1, however, the horizontal extent of petroleum hydrocarbons in groundwater has been defined by boreholes SB-1 and SB-2, B7, B8, B6, and wells MW2 and MW3. Based on interpretation of lithology groundwater with petroleum hydrocarbon concentrations exceeding ESL values appears to be confined to a segment of a shallow buried stream channel. Review of Figure 6 shows that well MW3 and borings B8 and B9 were located in shallow buried stream channels that are interpreted to be connected to shallow buried stream channel deposits encountered at the former UST pit. The absence of petroleum hydrocarbons at well MW3 and borings B8 and B9 shows that the petroleum hydrocarbons are not presently preferentially migrating from the site in the shallow buried stream channels. However, the historic presence of low concentrations of petroleum hydrocarbons in wells MW2 and MW3 (see Table 4 water quality data for 1995 through 1997 in P&D's January 7, 2009 Subsurface Investigation Work Plan) indicates that the coarse-grained deposits in the vicinity of well MW1 are in communication with the coarse-grained deposits in the vicinity of wells MW2 and MW3.

Although the calculated groundwater flow direction appears to be northerly, as discussed above, the calculated northerly groundwater flow direction is the result of calculations using consistently lower water surface elevations in well MW2 which is interpreted to be the result of vertical gradients associated with a coarse-grained zone identified below depths of 50 feet in geophysical transect E-E', and which are interpreted to be present at shallower depths in the vicinity of well MW2. The present absence of petroleum hydrocarbons in groundwater samples from well MW2 indicates that groundwater moving vertically downward in the immediate vicinity of well MW2 is not presently resulting in degradation of water quality at greater depths. Additional investigation of shallow groundwater to the north of well MW1 and the former UST pit is not recommended based on the absence of coarse-grained materials in the northeastern third of the geophysical transect.

The vertical extent of petroleum hydrocarbons in groundwater exceeding ESL values appears to be limited to the immediate vicinity of borehole B4 adjacent to the former UST pit coinciding with the area where shallow groundwater concentrations exceed ESL values (see Figures 16 and 17).

Although efforts were made to collect soil gas samples at depths of 5 and 10 feet, high vacuum conditions prevented the collection of the samples.

P&D recommends that one additional soil boring (B10, see Figures 16 and 17) be drilled to the east of the former UST pit to complete the horizontal delineation of petroleum-impacted shallow groundwater. In addition, P&D recommends that a sub-slab soil gas sample be collected at location SG1 using procedures and analytical methods intended for soil gas samples at the same location at depths of 5 and 10 feet.

DISTRIBUTION

A copy of this report should be uploaded to the Alameda County Environmental Health Department ftp website with a letter on company letterhead identifying the contact information for the responsible party. In addition, a copy of this report should also be uploaded to the GeoTracker website.

LIMITATIONS

This report was prepared solely for the use of J.W. Silveira Realty. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with the site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgment based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly revealed conditions must be evaluated and may invalidate the findings of this report.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

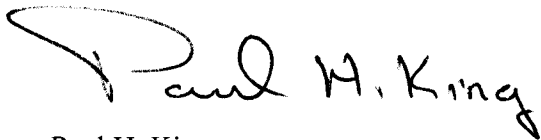
June 19, 2009
Report 0405.R4

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgment based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

Sincerely,

P&D Environmental, Inc.

A handwritten signature in black ink that reads "Paul H. King". The signature is fluid and cursive, with the first name "Paul" being more prominent than the last name "King".

Paul H. King
President
California Professional Geologist #5901
Expires: 12/31/09



June 19, 2009
Report 0405.R4

Attachments:

Table 1 - Summary of Soil Analytical Results

Table 2 - Summary of Groundwater Analytical Results

Figure 1 - Site Location Map

Figure 2 - Site Location Map Detail

Figure 3 - Site Vicinity Map Showing Drilling Locations, and Locations of Cross Sections and Resistivity Transect

Figure 4 - Aerial Photograph of Site Vicinity Showing Drilling Locations, and Locations of Cross Sections and Resistivity Transect

Figure 5 - Site Vicinity Map Detail Showing Well, Borehole, Soil Gas Sampling, and Cross Section Locations

Figure 6 - Dipole Resistivity Investigation Along 20th Avenue

Figure 7 - Typical Soil Gas Sample Collection Manifold

Figure 8 - Geologic Cross Section F-F'

Figure 9 - Site Vicinity Map Detail Showing TPH-G in Soil

Figure 10 - Site Vicinity Map Detail Showing Benzene in Soil

Figure 11 - Geologic Cross Section F-F' Showing TPH-G in Soil

Figure 12 - Geologic Cross Section F-F' Showing Benzene in Soil

Figure 13 - Site Vicinity Map Detail Showing TPH-G Isoconcentration Contours in Soil at 4.5 Feet

Figure 14 - Site Vicinity Map Detail Showing TPH-G Isoconcentration Contours in Soil at 9.5 Feet

Figure 15 - Site Vicinity Map Detail Showing Benzene Isoconcentration Contours in Soil at 9.5 Feet

Figure 16 - Site Vicinity Map Detail Showing TPH-G Concentrations in Groundwater

Figure 17 - Site Vicinity Map Detail Showing Benzene Concentrations in Groundwater

Appendix A - Geophysical Survey Report

Appendix B - Soil Boring Logs

Appendix C - Soil Conductivity Logs

Appendix D - Soil Gas Field Data Sheets

Appendix E - Soil Disposal Manifest

Appendix F - Laboratory Analytical Reports and Chain of Custody Documentation

PHK/sjc
0405.R4

TABLES

Table 1. Summary of Borehole Soil Laboratory Analytical Results										
Sample ID	Sample Date	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDB	1,2-DCA	Total Lead
B3-4.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B3-9.5	4/6/2009	21, a,b	ND<0.005	0.017	ND<0.005	0.021	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B3-14.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	5.7
B3-17.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B3-19.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0077	ND< <u>0.004</u>	ND<0.004	NA
B3-24.5	4/6/2009	ND<1.0	ND<0.005	0.011	ND<0.005	ND<0.005	0.018	ND< <u>0.004</u>	ND<0.004	NA
B4-2.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B4-4.5	4/6/2009	250, c,b	ND< <u>0.10</u>	ND< <u>0.10</u>	ND<0.10	0.74	2.3	ND< <u>0.080</u>	ND< <u>0.080</u>	NA
B4-9.5	4/6/2009	46, c,b	ND< <u>0.10</u>	0.28	0.25	0.76	4.1	ND< <u>0.080</u>	ND< <u>0.080</u>	5.3
B4-14.5	4/6/2009	3.7	ND<0.005	ND<0.005	0.023	0.045	0.15	ND< <u>0.004</u>	0.019	NA
B4-19.5	4/6/2009	36, c,b	ND<0.010	0.018	ND<0.010	0.078	0.40	ND< <u>0.0080</u>	ND< <u>0.0080</u>	NA
B4-24.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B5-2.0	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B5-4.5	4/6/2009	180, c,b	ND< <u>0.10</u>	ND< <u>0.10</u>	ND<0.10	1.3	6.1	ND< <u>0.080</u>	ND< <u>0.080</u>	NA
B5-9.5	4/6/2009	270, c,b	ND< <u>0.20</u>	0.22	ND<0.20	3.6	14	ND< <u>0.16</u>	ND< <u>0.16</u>	ND<5.0
B5-14.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B5-19.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B5-22.0	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B5-24.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B6-4.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B6-9.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	5.2
B6-14.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B6-19.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
B6-24.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND< <u>0.004</u>	ND<0.004	NA
ESL ¹		83	0.023	0.044	2.9	2.3	2.3	0.00033	0.0045	200
ESL ²		83	0.023	0.044	2.9	3.3	2.3	0.00033	0.0045	750
ESL ³		83	0.023	0.044	2.9	3.3	2.3	0.00033	0.0045	750
ESL ⁴		83	0.023	0.044	2.9	3.3	2.3	0.00033	0.0045	750
Abbreviations and Notes: TPH-G = Total Petroleum Hydrocarbons as Gasoline MTBE = Methyl tertiary-butyl ether EDB = Ethylene Dibromide 1,2-DCA = 1,2-Dichloroethane ND = Not detected. NA = Not Analyzed. a = Laboratory note: strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram. b = Laboratory note: no recognizable pattern. c = Laboratory note: heavier gasoline range compounds are significant (aged gasoline?) ESL ¹ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential Land Use. ESL ² = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Commercial/Industrial Land Use. ESL ³ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table C – Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential Land Use. ESL ⁴ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table C – Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water. Commercial/Industrial Land Use. Results in bold exceed their respective ESL values for Residential Land Use. <u>Underlined results exceed their respective ESL values for Commercial/Industrial Land Use.</u> Results in micrograms per liter (µg/L) unless otherwise specified.										

Table 2. Summary of Borehole Groundwater Laboratory Analytical Results

Sample ID	Sample Date	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDB	1,2-DCA
B3-W	4/8/2009	1,200	ND<2.5	110	ND<2.5	56	92	ND< 2.5	11
B4W-65	4/9/2009	100	ND<0.5	11	1.5	1.3	5.3	ND< 0.5	ND< 0.5
B6-W	4/6/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.55	ND< 0.5	ND< 0.5
B7-W	4/7/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.53	ND< 0.5	ND< 0.5
B7W-64	4/9/2009	ND < 50	ND<0.5	1.0	0.99	ND<0.5	1.0	ND< 0.5	ND< 0.5
B8-W	4/9/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	1.3	3.2	ND< 0.5	ND< 0.5
B8W-59	4/9/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.6	ND< 0.5	ND< 0.5
B9-W	4/9/2009	ND < 50	ND<0.5	ND<0.5	1.0	1.6	7.1	ND< 0.5	ND< 0.5
<i>ESL</i>		<i>100</i>	<i>5.0</i>	<i>1.0</i>	<i>40</i>	<i>30</i>	<i>20</i>	<i>0.05</i>	<i>0.5</i>
<u>Abbreviations and Notes:</u> TPH-G = Total Petroleum Hydrocarbons as Gasoline MTBE = Methyl tertiary-butyl ether EDB = Ethylene Dibromide 1,2-DCA = 1,2-Dichloroethane ND = Not detected. ESL = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Results in micrograms per liter (µg/L) unless otherwise specified.									

FIGURES

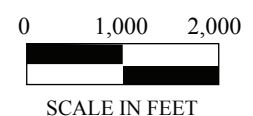


Figure 1
 Site Location Map
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 U.S. Geological Survey
 Oakland East and
 Oakland West, California
 7.5 Minute Quadrangles
 Photorevised 1980

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610



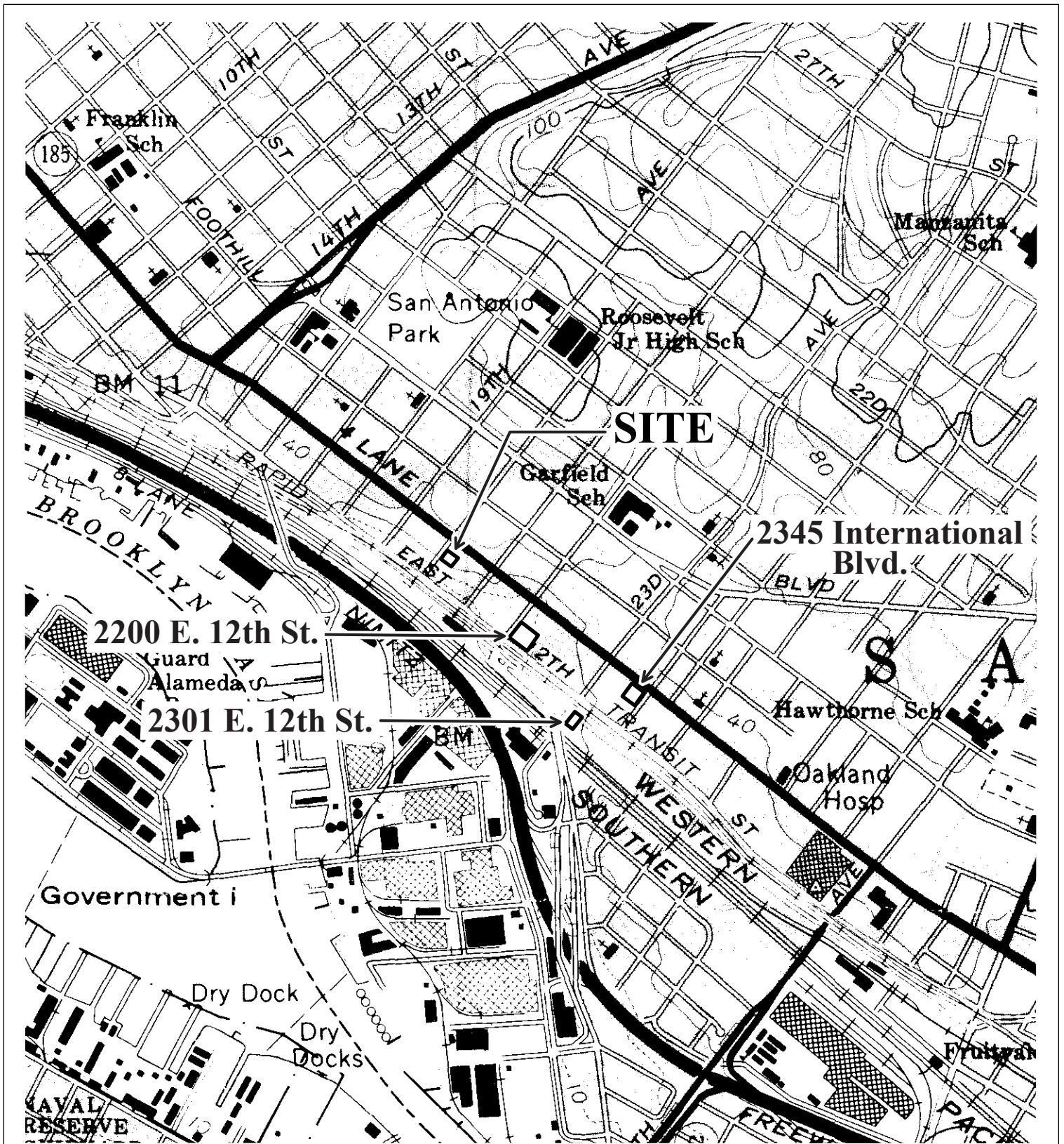


Figure 2
 Site Location Map Detail
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California

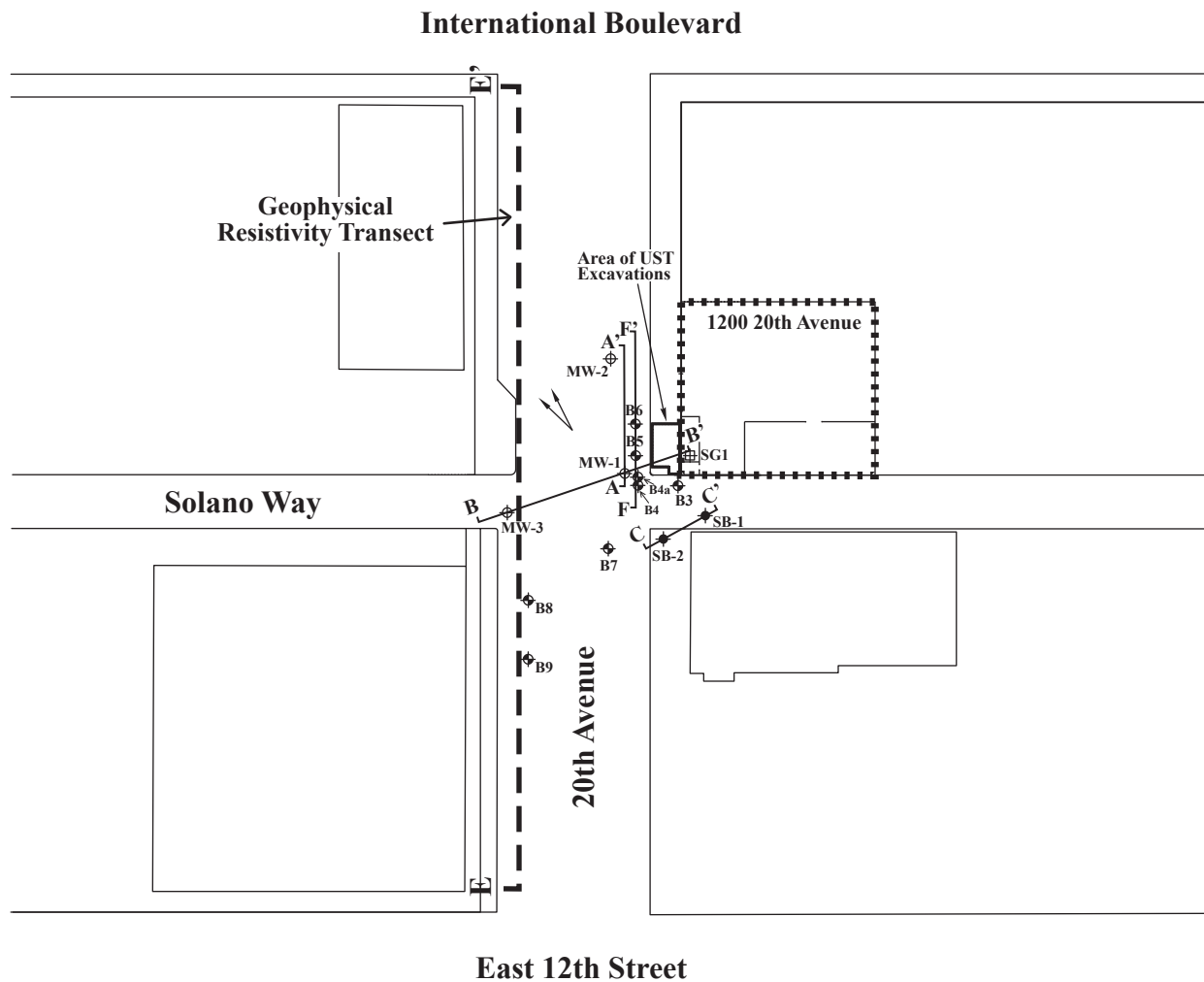


Base Map From:
 U.S. Geological Survey
 Oakland East, California
 7.5 Minute Quadrangle
 Photorevised 1980

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610

0 500 1,000

 SCALE IN FEET



LEGEND









-  **MW-3** Monitoring Well
-  **SB-2** Borehole (By Others)
-  **B9** Borehole (By P&D)
-  **SG1** Soil Gas Sample Collection Location (By P&D)
-  **F**, **F'**, **E**, **E'** Geologic Cross Section Location
-  Geophysical Transect Location
-  Historical Range of Groundwater Flow Direction

Figure 3
Site Vicinity Map Showing Drilling Locations,
and Locations of Cross Sections and Resistivity Transect
William Wurzbach Company
1200 20th Avenue
Oakland, California



Base Map from
Google Earth

P&D Environmental, Inc.
55 Santa Clara Ave., Suite 240
Oakland, CA 94610

0 35 70

 Scale In Feet



LEGEND

- MW-3 Monitoring Well
- SB-2 Borehole (By Others)
- B8 Borehole (By P&D)
- SG1 Soil Gas Sample Collection Location (By P&D)
- F F' Geologic Cross Section Location
- E E' Geophysical Transect Location
- Historical Range of Groundwater Flow Direction

Figure 4
Aerial Photograph of Site Vicinity Showing Drilling Locations,
and Locations of Cross Sections and Resistivity Transect
William Wurzbach Company
1200 20th Avenue
Oakland, California



Base Map from
Google Earth

P&D Environmental, Inc.
55 Santa Clara Ave., Suite 240
Oakland, CA 94610

0 35 70

Scale In Feet

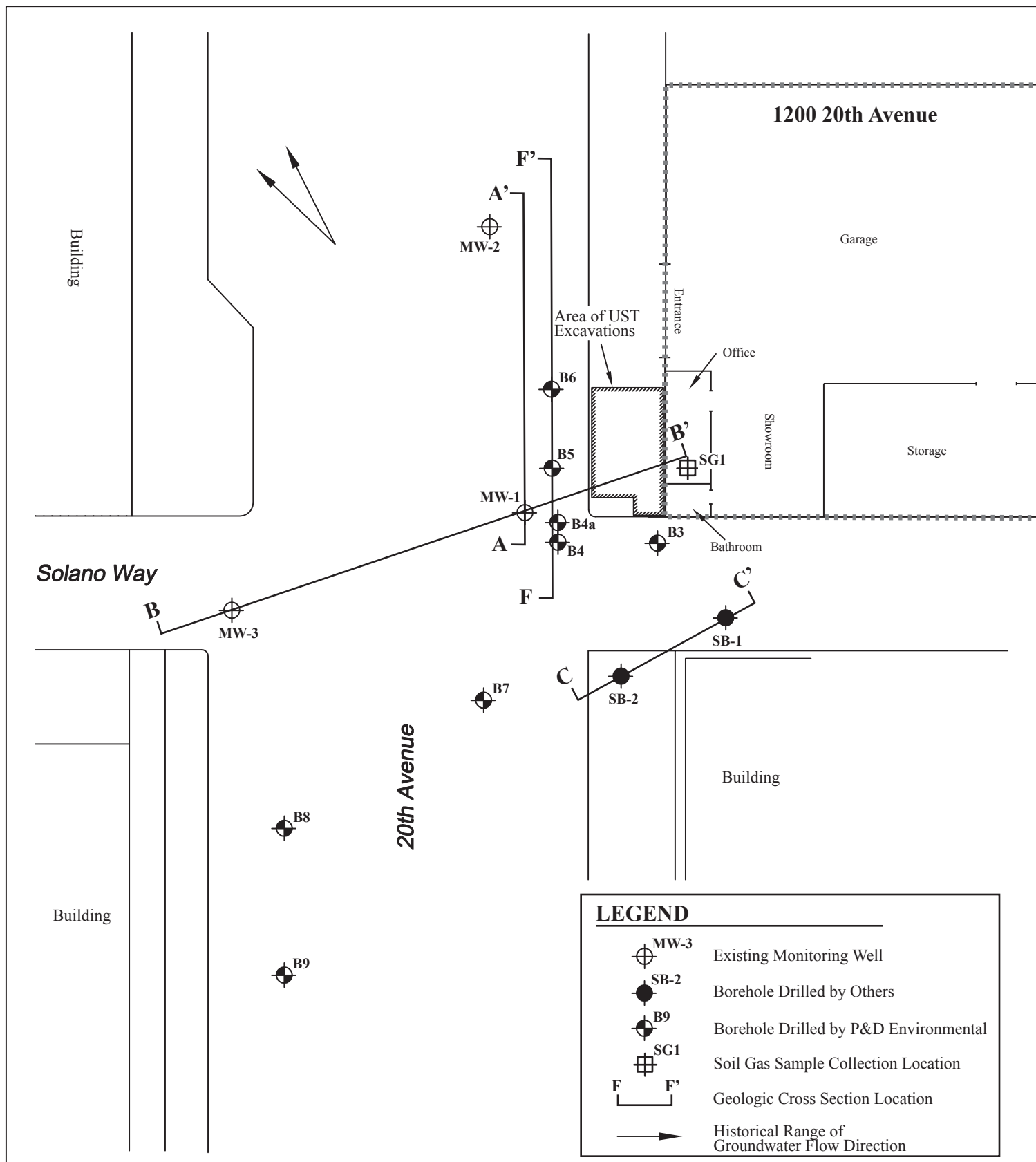


Figure 5
 Site Vicinity Map Detail Showing Well, Borehole,
 Soil Gas Sampling, and Cross Section Locations
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California

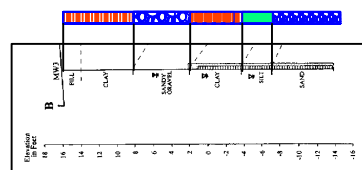
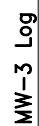
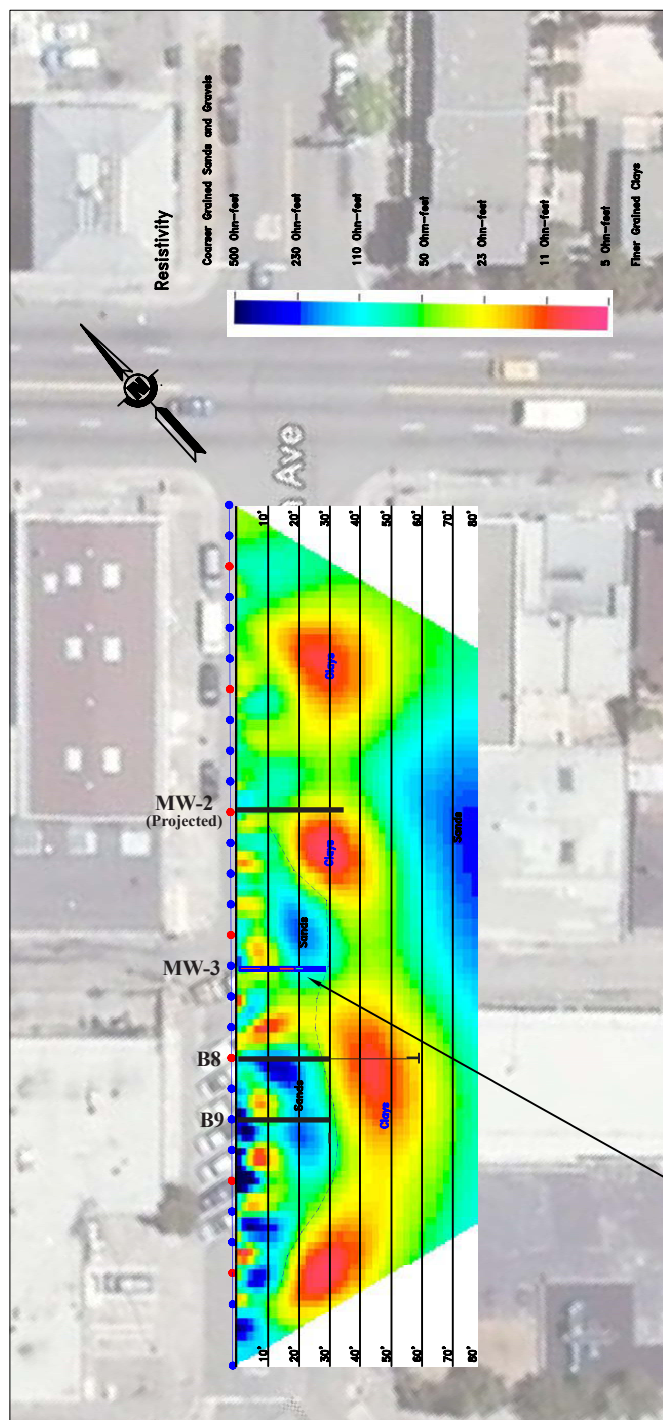


Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610

0 10 20

 SCALE IN FEET



Results Dipole Resitivity Investigation
1200 20th Avenue
Oakland, California

DRAWN BY: J.J.R.

REVISÉ:

109-261-09

JOB NUMBER:

DATE: 3-26-09

JJR Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 4

Figure 6
Dipole Resistivity Investigation Along 20th Avenue
William Wurzbach Company
1200 20th Avenue
Oakland, California



Base Map From:
J R Associates
Civil and Engineering Geophysics

P&D Environmental, Inc.
55 Santa Clara Avenue, Suite 240
Oakland CA 94610





Figure 7
Typical Soil Gas Sample Collection Manifold
William Wurzbach Company
1200 20th Avenue
Oakland, California

P&D Environmental, Inc.
55 Santa Clara Ave., Suite 240
Oakland, CA 94610

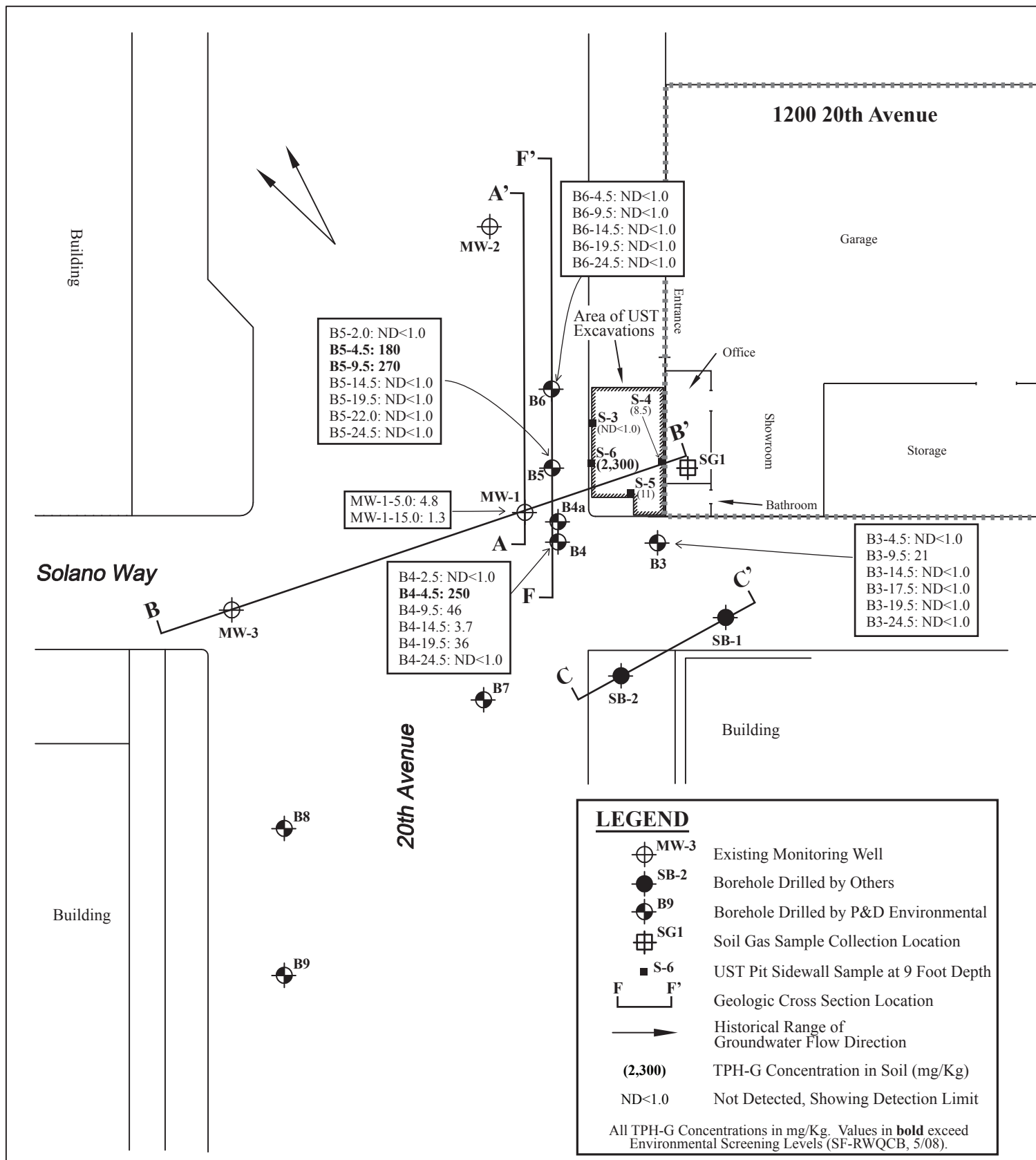


Figure 9
 Site Vicinity Map Detail Showing TPH-G in Soil
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610

0 10 20

 SCALE IN FEET

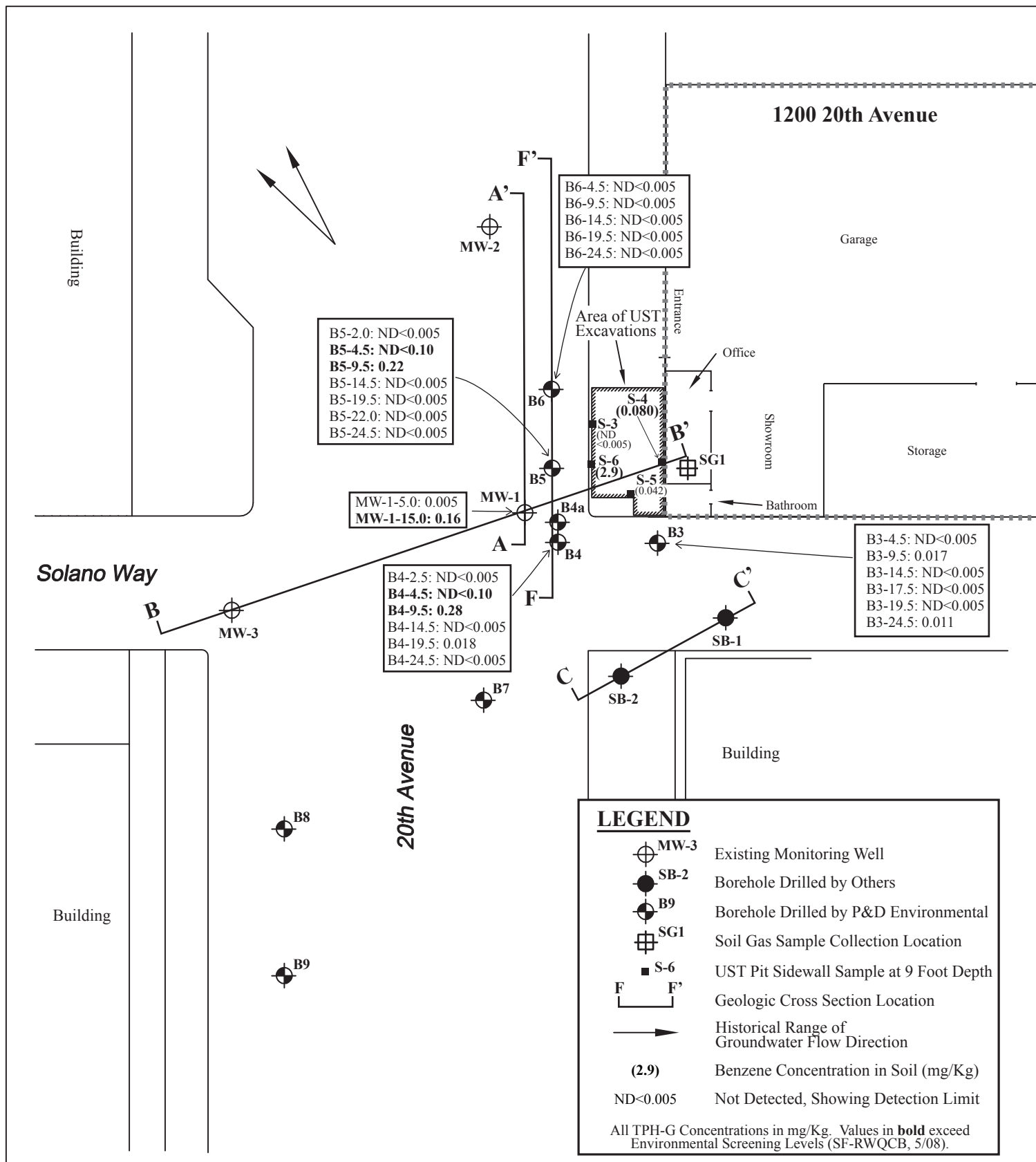


Figure 10
 Site Vicinity Map Detail Showing Benzene in Soil
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610

0 10 20
 SCALE IN FEET

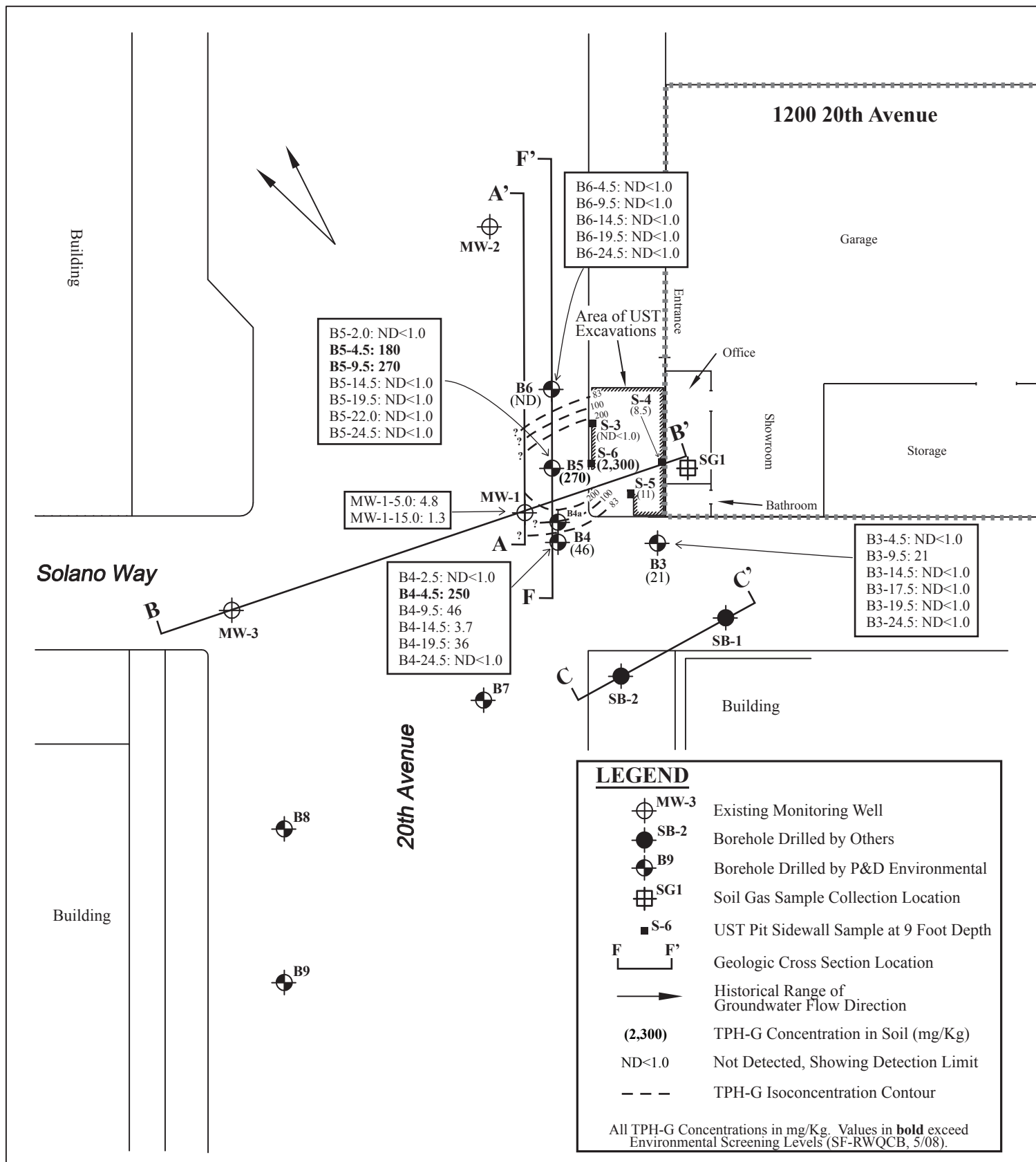


Figure 14
Site Vicinity Map Detail Showing TPH-G
Isoconcentration Contours in Soil at 9.5 Feet
William Wurzbach Company
1200 20th Avenue
Oakland, California



Base Map From:
Tetra Tech EM Inc.
Site Location Map

P&D Environmental, Inc.
55 Santa Clara Avenue, Suite 240
Oakland CA 94610

0 10 20
SCALE IN FEET

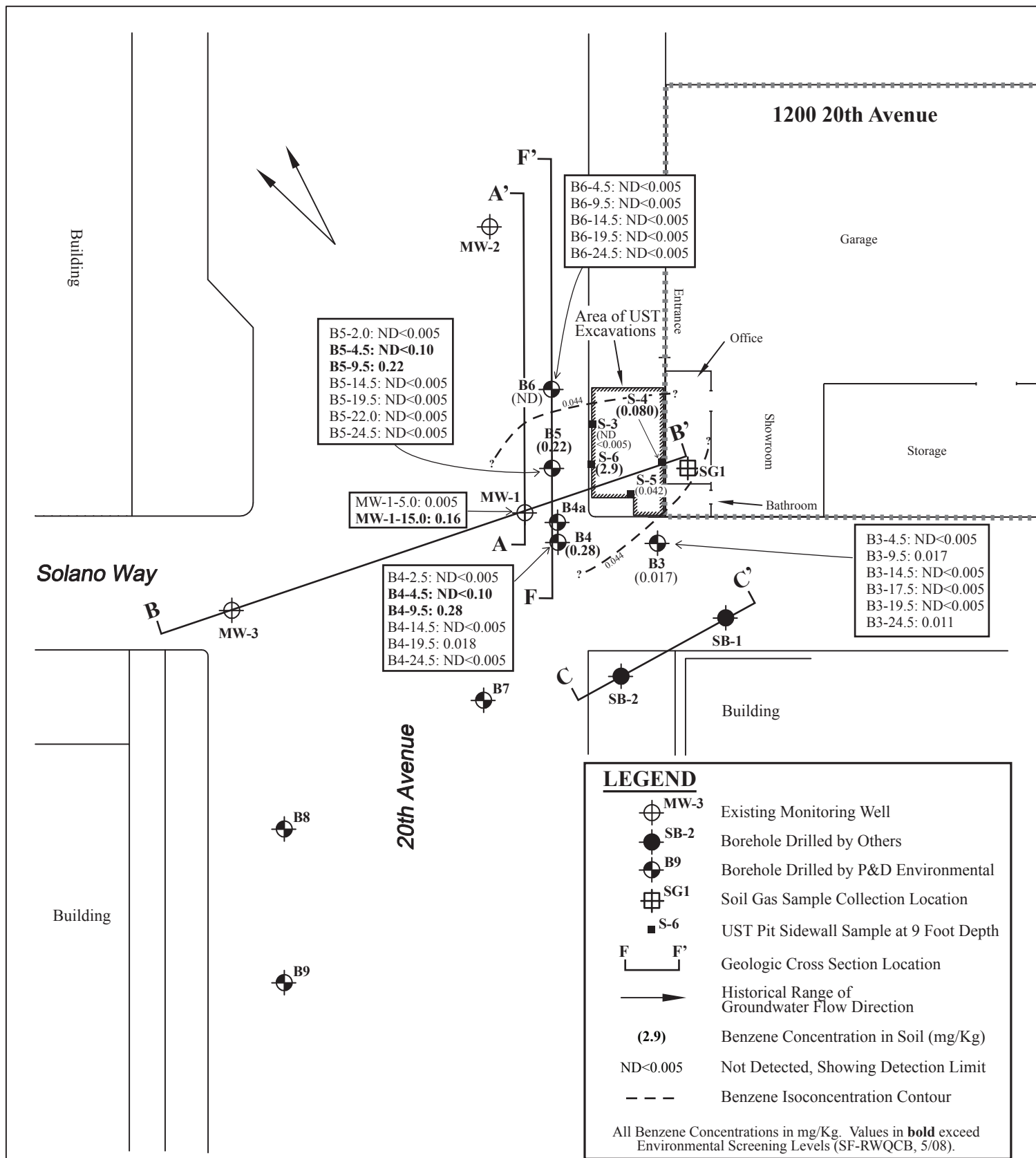


Figure 15
 Site Vicinity Map Detail Showing Benzene
 Isoconcentration Contours in Soil at 9.5 Feet
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610

0 10 20

 SCALE IN FEET

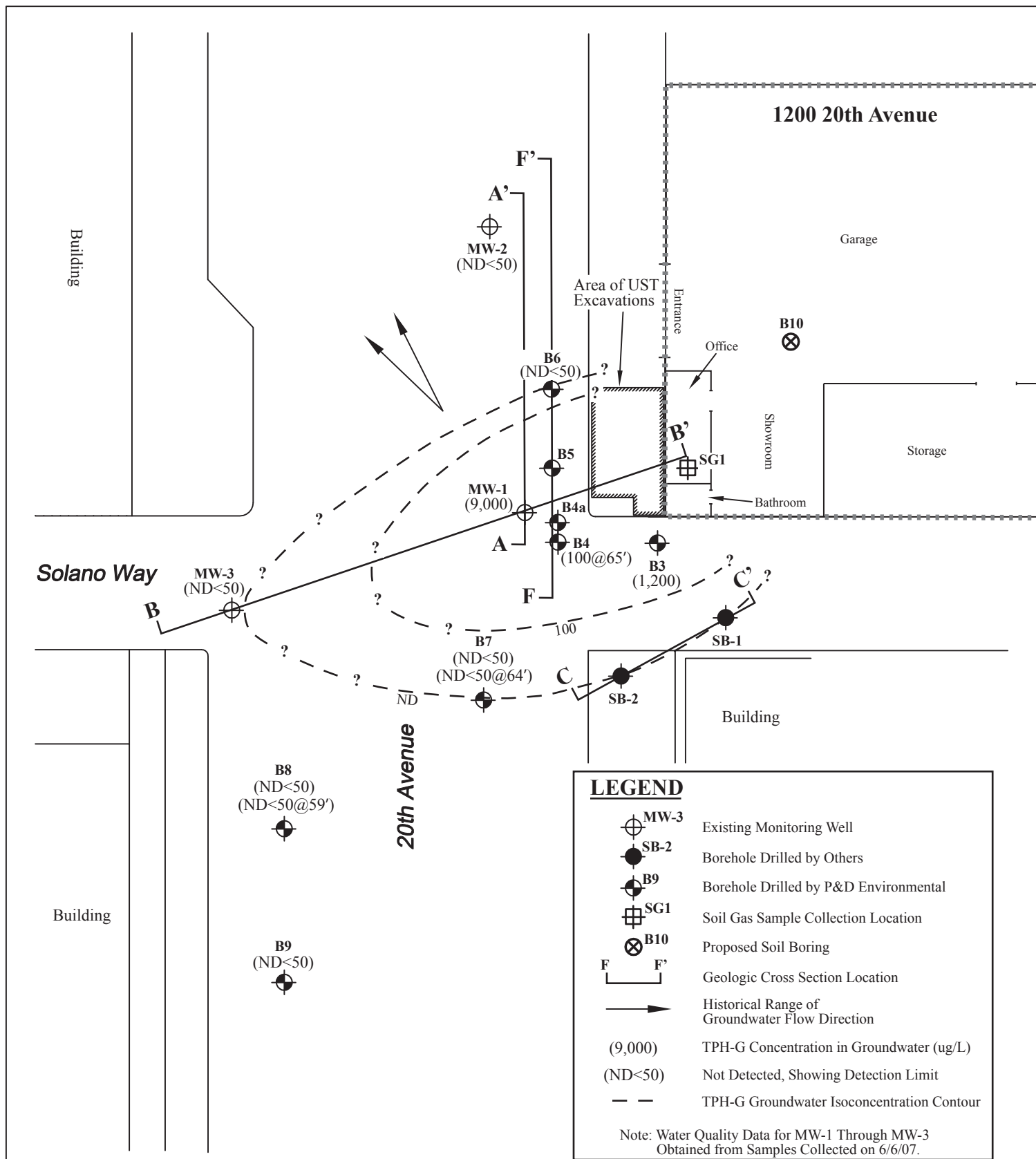


Figure 16
 Site Vicinity Map Detail Showing TPH-G Concentrations in Groundwater
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610



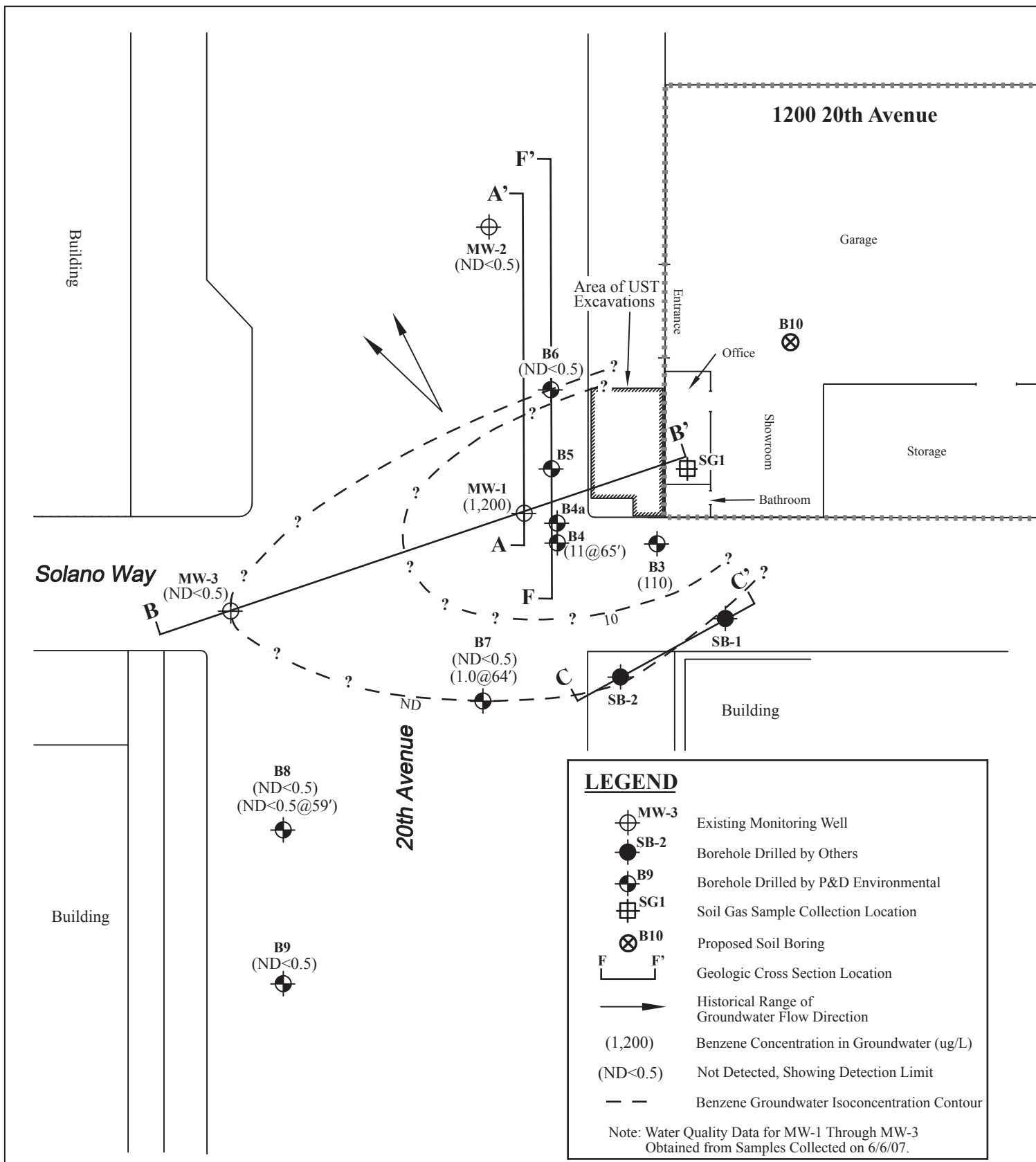


Figure 17
Site Vicinity Map Detail Showing Benzene Concentrations in Groundwater
William Wurzbach Company
1200 20th Avenue
Oakland, California



Base Map From:
Tetra Tech EM Inc.
Site Location Map

P&D Environmental, Inc.
55 Santa Clara Avenue, Suite 240
Oakland CA 94610

0 10 20
SCALE IN FEET

APPENDIX A

Geophysical Survey Report

Engineering Geophysics
1886 Emory Street
San Jose, CA 95126
(408) 293-7390

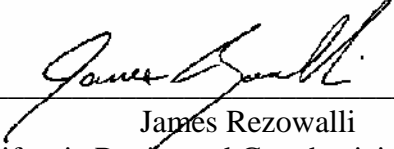
GEOPHYSICAL INVESTIGATION ALONG 20TH AVENUE
1200 20TH AVENUE
OAKLAND, CALIFORNIA

March 27, 2009

for

P&D Environmental, Incorporated
55 Santa Clara Avenue, Suite 240
Oakland, CA 95126

by



James Rezowalli
California Registered Geophysicist, GP-921

TABLE OF CONTENTS

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A. Site Conditions	1
II METHODOLOGY	2
A. Instrumentation.....	2
B. Field Procedures	3
C. Resistivity Inversion	3
III RESULTS	4
A. Resistivity Profiles	4
B. Limitations	4
IV DRAWINGS	

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- Drawing 1 Vicinity Map
- Drawing 2 Site Map
- Drawing 3 Dipole-Dipole Array
- Drawing 4 Results

I INTRODUCTION

This report presents the results of a dipole-dipole resistivity geophysical investigation performed near 1200 20th Avenue in Oakland, California. The investigation was performed for P&D Environmental, by J R Associates. The purpose of the investigation was to look for geophysical evidence of buried coarse grained channels and to help determine the geology under 20th Avenue. James Rezowalli, Principal Geophysicist, and Ericka Alecia, Technician, of J R Associates performed the field work in March 2009.

A. Site Conditions

The area of interest was along the west side of 20th Avenue between E 12th Street and International Boulevard (Drawing 1). P&D Environmental is investigating a former underground storage tank that was formerly buried in front of 1200 20th Street. Several soil borings in the area suggested there might be a sand channel crossing diagonally under the street (Drawing 2). The purpose of our investigation was to look for geophysical evidence of a possible channel and to help determine the geology beneath the street.

II METHODOLOGY

We performed a geophysical method called dipole-dipole resistivity profiling. Resistivity is a measurement of the soil's ability to conduct electricity. Resistivity profiling measures vertical and lateral changes in resistivity within the ground. Different soil types have different electrical resistivities. At the two extremes are well sorted gravels that have high electrical resistivity values and fat clays that have very low electrical resistivities. A resistivity profile can be thought of as a profile of the clay content of the soil. The lower the resistivity, the greater the clay content. Zones of high resistivity are indications of soils with little clay such as well sorted sand and gravel deposits and are indications of permeable stream channels. Along with clay content, a soil's resistivity is dependent on the saturation and the conductivity of the pore fluid. In this case we are assuming the conductivity of the pore fluid is constant throughout the site.

A. Instrumentation

The resistivity equipment consisted of a Sorensen DCR 600-3B DC power supply, a Fluke 45 digital multimeter and a Keithley KPCI-3116 data acquisition system. The DC power supply was used to inject a current into the ground. The amount of current, typically around 0.5 amps, was measured with the multimeter. The electrical potential field developed by the injected current was measured with the Keithley data acquisition system. The potential field typically ranged from 1 to 500 millivolts. This type of resistivity measurement is sometimes referred to as a four-point method.

B. Field Procedures

Resistivity data were collected along a 280-foot profile along the west side of 20th Avenue (Drawing 2). The electrodes were planted a few inches into the soil at 10-foot intervals. A measurement began by injecting current between the first and second electrodes of the line (Drawing 3). The potential field was simultaneously measured between the next eight consecutive electrodes. This process was repeated several times while alternating the current direction between readings. The current and potential readings were averaged and noted along with the current and potential electrode locations. For the next readings the current was injected into the second and third, then between the third and forth, and so on until the end of the line was reached. The process was then repeated with the electrodes space 20 feet apart. The depth of investigation was approximately 80 feet below the surface of the street.

C. Resistivity Inversion

The averaged current and potential readings along with the location of the current and potential electrodes for each reading were entered into a dipole-dipole resistivity inversion program. The program allows us to inspect the raw data for erroneous readings and invert the raw data into a profile showing changes in resistivity with depth. To do the inversion the program creates an initial two-dimensional model of the true electrical resistivity of the soil beneath the line based on the observed data. Next, the program predicts what the field data would look like based on the model. The program then adjusts the model iteratively until the predicted data closely matches the observed data.

III RESULTS

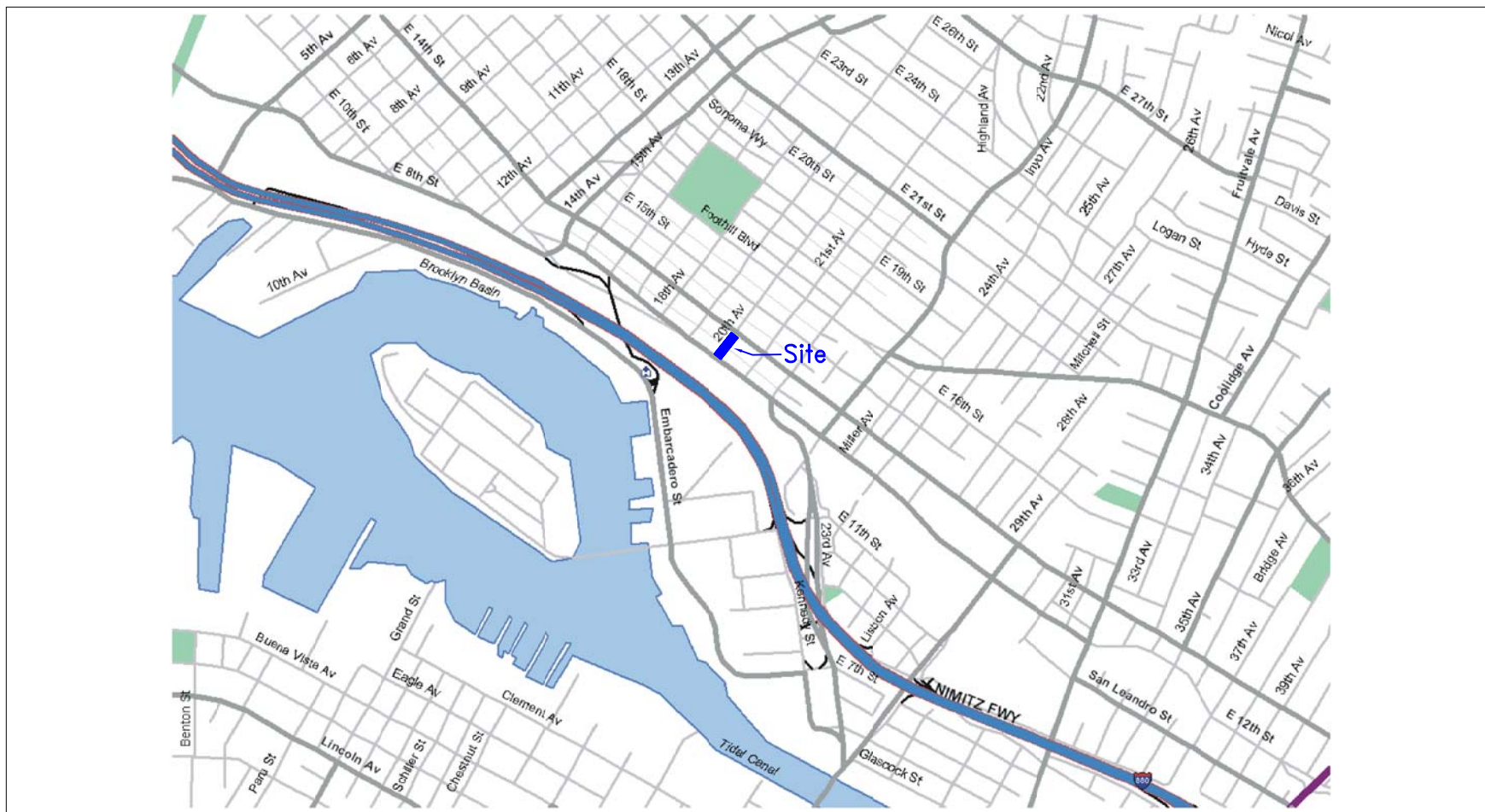
A. Resistivity Profile

The results of the dipole-dipole resistivity profile are shown in Drawing 4. Drawing 4 illustrates changes in soil resistivity with depth along the resistivity profile. The resistivity data indicates a conductive layer with a resistive layer above and a resistive layer below. The resistive layers shown in blue are indicative of coarser grained materials and are more likely to contain sands and gravels. The conductive layers shown in red are indicative of clays. The intermediate resistivity values shown in green and yellow are indicative of finer grained materials or materials mixed or interbedded with clays. P&D Environmental provided us a geologic log from well MW-3 located approximately in the middle of the profile. On Drawing 4 we included a simplified diagram of the well log where the fine grained materials are shown in red and the coarse grained materials are shown in blue. The resistivity data suggest there might be a channel crossing the street as suspected from the initial soil boring data.

B. Limitations

Many factors contribute to soil resistivity. Each soil type, sand, silt, or clay has a range of resistivity associated with it and there is overlap between the ranges. Trends in the resistivity data should be correlated to other data regarding the site's geology, hydrology, and history before conclusions are made.

IV DRAWINGS



Vicinity Map Dipole Resistivity Investigation
1200 20th Avenue
Oakland, California

SCALE: No Scale

DATE: 3-27-09

JOB NUMBER: 109-261-09

DRAWN BY: J.J.R.

REVISED:

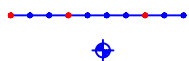
J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER:

1



EXPLANATION:



RESISTIVITY ARRAY

P&D WELL MW-3

Site Map Dipole Resistivity Investigation
1200 20th Avenue
Oakland, California

SCALE: 1" = 50'

DATE: 3-26-09

JOB NUMBER:

109-261-09

DRAWN BY: J.J.R.

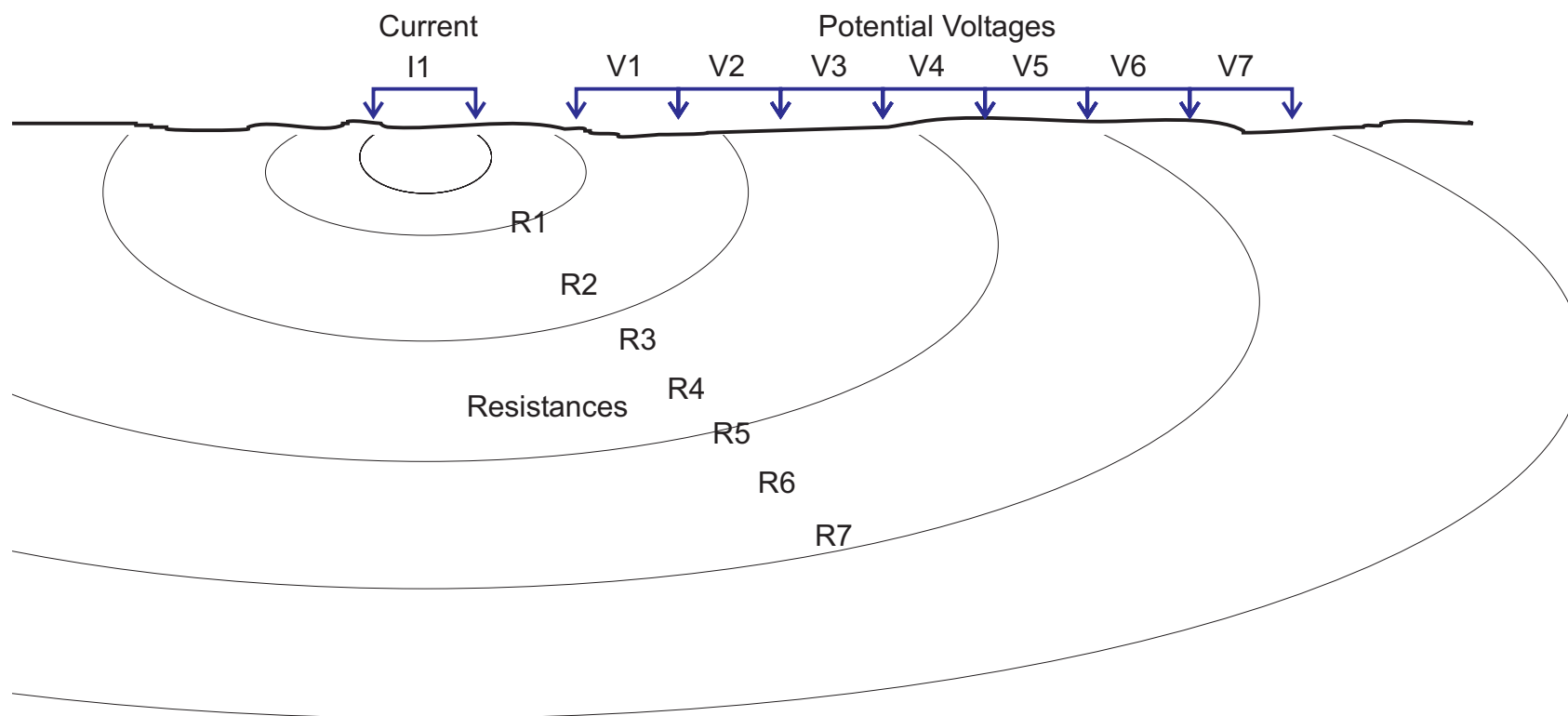
REVISED:

J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER:

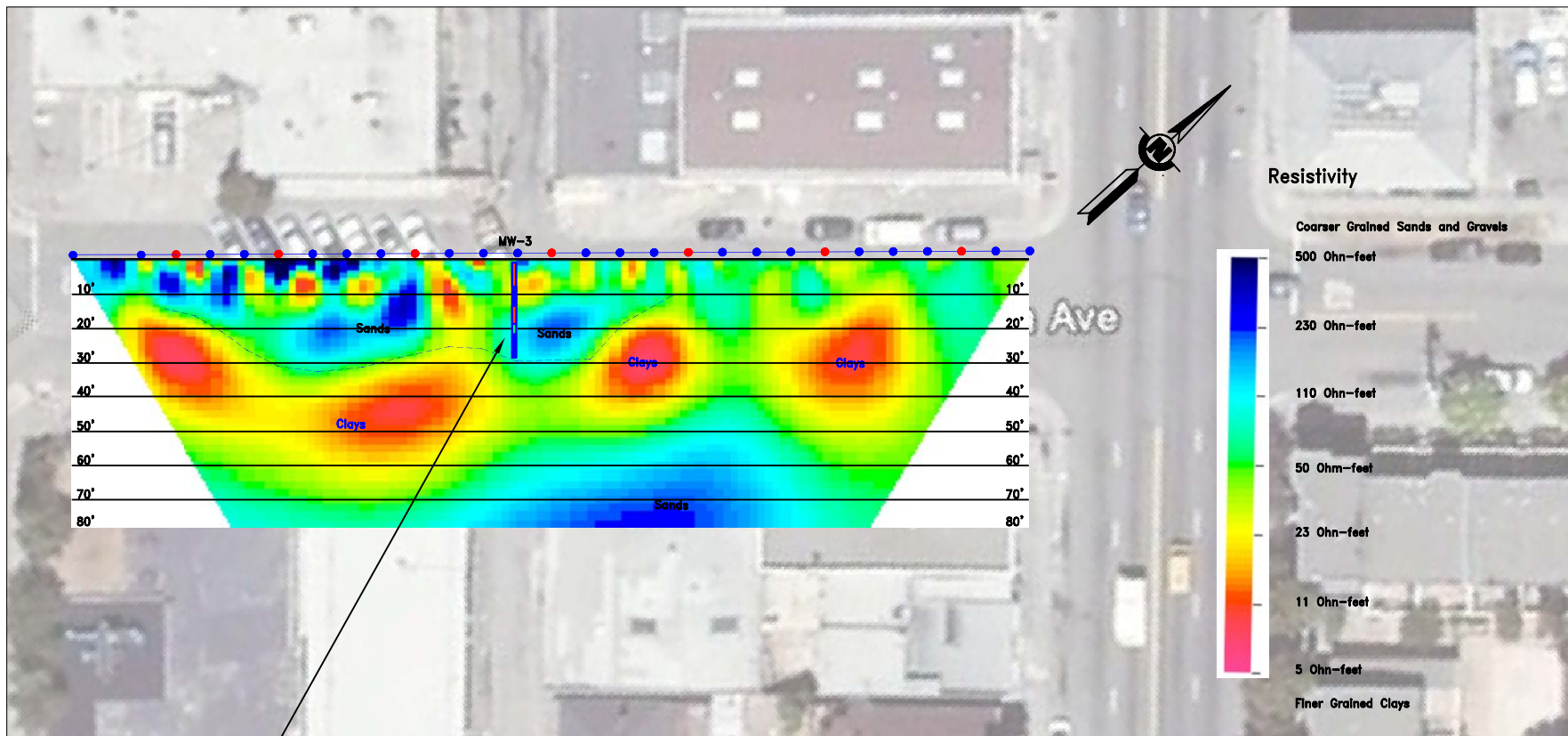
2

Dipole-Dipole Array

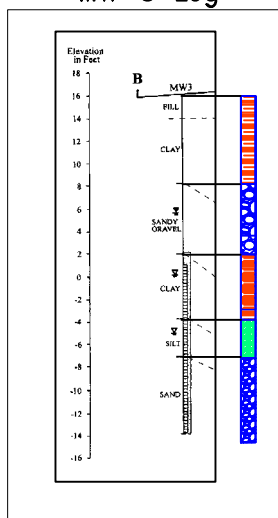


Material	Resistivity (Ohm-ft)
Fresh Bedrock:	> 1000
Weathered Bedrock:	100 to 1000
Coarse Grained:	100 to 1000
Finer Grained:	25 to 250
Clays:	<25

Dipole-Dipole Array Dipole Resistivity Investigation 1200 20th Avenue Oakland, California		
SCALE:	No Scale	DRAWN BY: J.J.R.
DATE:	3-26-2009	JOB NUMBER: 109-261-09 REVISED:
J R ASSOCIATES Civil and Environmental Geophysics 1886 Emory Street, San Jose, CA (408) 293-7390		
		DRAWING NUMBER: 3



MW-3 Log



Results Dipole Resistivity Investigation
1200 20th Avenue
Oakland, California

SCALE: 1" = 50'

DATE: 3-26-09

JOB NUMBER:

109-261-09

DRAWN BY: J.J.R.

REVISED:

J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER:

4

APPENDIX B

Soil Boring Logs

P&D ENVIRONMENTAL, INC.

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BORING NO.: B3		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: 20 feet south of eastern corner of 20th Avenue and Solano Way				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin		DATE & TIME STARTED: 4/6/09 1330		DATE & TIME FINISHED: 4/6/09 1410	
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:	
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered					
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 6 Soil, 1 Water					
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
5	0.0 to 0.5 ft. Asphalt and base rock.		No Well Constructed		0	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.	
	0.5 to 2.0 ft. Brown silt (ML); medium stiff, moist, with orange mottling, and roots. No Petroleum Hydrocarbon (PHC) odor.	ML					
	2.0 to 4.0 ft. Brown sandy clay (CL); medium stiff, moist, with black mottling. No PHC odor.	CL					
	4.0 to 5.0 ft. Grayish brown silt (ML); medium stiff, dry. No PHC odor.	ML					
	5.0 to 6.0 ft. Brown gravelly clayey sand (SC); medium dense, dry, with angular gravel to 0.25-in. diameter. No PHC odor.	SC					
10	6.0 to 10.0 ft. Grayish brown silty clay (CL); stiff, moist. No PHC odor.	CL	B3-4.5		0	0 to 5 ft. 4.6 ft. recovery	
							5 to 10 ft. 4.5 ft. recovery
							10 to 15 ft. 4.2 ft. recovery
15	10.0 to 17.0 ft. Grayish brown clayey sand (SC); medium stiff, moist, with angular gravel to 0.5-in. diameter. No PHC odor.		B3-9.5		0	15 to 20 ft. 4.6 ft. recovery	
	12.0 to 15.0 ft. Soil stained bluish green; strong PHC odor.	SC				20 to 25 ft. 4.6 ft. recovery	
15			B3-14.5		109	Water not encountered during drilling.	
20	17.0 to 25.0 ft. Orange-brown silty clay (CL); stiff, moist, with black mottling. No PHC odor.	CL	B3-17.5		3	Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Temporary well capped with Latex glove and bentonite plug to allow for recharge. Water level measured at 15.8 ft. at 1340 on 4/8/09. Water sample B3-W collected at 1345; slight odor but no sheen on sample. Collected 5 VOA and 1 1-liter amber containers, very slow recharge. Temporary well again capped to allow for further recharge. Water level measured at 15.1 ft. at 1000 on 4/9/09. One additional 1-liter amber container for sample B3-W collected at 1005; slight odor but no sheen on sample.	
			B3-19.5		0		
						0	
25	22.0 to 25.0 ft. Medium stiff.		B3-24.5		0		
30						Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.	

P&D ENVIRONMENTAL, INC.

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BORING NO.: B4		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland		
BORING LOCATION: 20th Avenue southeast side parking lane, at northeast corner with Solano Way				ELEVATION AND DATUM: None		
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED: 4/6/09 1130		DATE & TIME FINISHED: 4/6/09 1300
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered				
FIRST WATER DEPTH: 21.0 Feet		NO. OF SAMPLES: 6 Soil				
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
5	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed		0	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.
	0.5 to 6.0 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	x	B4-2.5		0	
	3.5 to 6.0 ft. Bluish green staining and strong PHC odor.	x	B4-4.5		101	0 to 5 ft. 4.5 ft. recovery 5 to 10 ft. 4.4 ft. recovery 10 to 15 ft. 4.6 ft. recovery 15 to 20 ft. 4.6 ft. recovery 20 to 25 ft. 4.2 ft. recovery
	6.0 to 10.5 ft. Bluish green and brown silty clay (CL); stiff, moist. Strong PHC odor.		CL			
10	9.0 to 10.5 ft. With gravel to 0.25-in. diameter.	x	B4-9.5		345	Water encountered during drilling at 21.0 ft.
	10.5 to 11.0 ft. Bluish green gravelly clayey sand (SC); medium dense, moist. Strong PHC odor.		SC			
15	11.0 to 13.0 ft. Olive-green silty clay (CL); stiff, moist, with bluish green staining, and orange mottling. Slight PHC odor.		CL		3	Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diameter well not placed in borehole, and no water sample collected.
	13.0 to 14.0 ft. Brown gravelly clayey sand (SC); medium dense, moist, with gravel to 0.25-in. diameter. Strong PHC odor.		SC		77	Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.
	14.0 to 21.0 ft. Brown silty clay (CL); stiff, moist, with bluish green staining, trace angular gravel to 0.25-in. diameter, and black mottling. Strong PHC odor.	x	B4-14.5		4	
20		x	B4-19.5		8	
			▽			
25	21.0 to 25.0 ft. Grayish brown gravelly silty sand (SM); loose, wet to saturated, with angular gravel to 0.5-in. diameter. Moderate PHC odor.		SM		65	
	24.0 to 25.0 ft. No PHC odor.	x	B4-24.5		3 0	
30						

BORING NO.: B4a		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland								
BORING LOCATION: 3 feet north of borehole B4				ELEVATION AND DATUM: None								
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED: 4/7/09 1000		DATE & TIME FINISHED: 4/7/09 1430						
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:						
COMPLETION DEPTH: 70.0 Feet		BEDROCK DEPTH: Not Encountered										
FIRST WATER DEPTH: 21.0 Feet		NO. OF SAMPLES: None										
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS						
5	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed		119	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves. 0 to 5 ft. 4.2 ft. recovery						
	0.5 to 5.5 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	SM										
	3.5 to 5.5 ft. Bluish green staining and strong PHC odor.											
10	5.5 to 10.5 ft. Bluish green and brown silty clay (CL); stiff, moist, with some angular gravel to 0.25-in. diameter. Strong PHC odor.	CL					94	25	5 to 10 ft. 4.6 ft. recovery			
	10.5 to 11.0 ft. Bluish green gravelly clayey sand (SC); medium dense, moist. Strong PHC odor.	SC										
	11.0 to 16.0 ft. Olive-green silty clay (CL); stiff, moist, with bluish green staining. Slight PHC odor.	CL										
15	16.0 to 16.5 ft. Brown clayey sand (SC); medium dense, moist, with bluish green staining. Strong PHC odor.	SC								77	251	10 to 15 ft. 4.6 ft. recovery
	16.5 to 19.0 ft. Brown silty sand (SM); medium dense, moist, with bluish green staining. Strong PHC odor.	SM										
	19.0 to 24.5 ft. Reddish brown gravelly clayey sand (SC); loose, moist, with bluish green staining, and angular gravel to 0.5-in. diameter. Strong PHC odor.	SC										
20	21.0 ft. Wet to saturated.	SC	251	0	15 to 20 ft. 4.7 ft. recovery							
25	24.5 to 32.5 ft. Brown silty clay (CL); stiff, moist, with orange mottling. No PHC odor.	CL				251	0	20 to 25 ft. 3.6 ft. recovery				
	27.0 to 30.0 ft. With angular gravel to 0.5-in. diameter.											
30												

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PAGE 2 OF 3

BORING NO.: B4a		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland				
BORING LOCATION: 3 feet north of borehole B4				ELEVATION AND DATUM: None				
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED:		DATE & TIME FINISHED:		
DRILLING EQUIPMENT: Geoprobe 6600				4/7/09 1000		4/7/09 1430		
COMPLETION DEPTH: 70.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:		CHECKED BY:		
FIRST WATER DEPTH: 21.0 Feet		NO. OF SAMPLES: None		MLD				
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS		
35	24.5 to 32.5 ft. Brown silty clay (CL); stiff, moist, with orange mottling. With blue-green staining and strong PHC odor 30.0 to 32.5 ft.	CL	No Well Constructed		268	30 to 35 ft. 4.2 ft. recovery		
	32.5 to 33.5 ft. Olive-brown clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. Slight PHC odor.	SC			8			
	33.5 to 34.5 ft. Brown fine sand (SP); loose, moist. Slight PHC odor.	SP			0	35 to 40 ft. 2.8 ft. recovery		
40	34.5 to 42.0 ft. Brown silty clay (CL); stiff, moist, with black mottling. NoPHC odor.	CL				30	40 to 45 ft. 3.2 ft. recovery	
45	42.0 to 44.5 ft. Brown fine sand (SP); loose, saturated. Slight PHC odor.	SP				3	45 to 50 ft. 4.2 ft. recovery	
50	44.5 to 49.5 ft. Brown clayey sand (SC); loose, saturated, with interbeds of fine sand (SP). Slight PHC odor.	SC/SP				7	50 to 55 ft. 3.6 ft. recovery	
55	49.5 to 51.5 ft. Orange-brown gravelly clayey sand (SC); dense, moist, with angular gravel to 0.5-in. diameter. Slight PHC odor.	SC		0	55 to 60 ft. 4.2 ft. recovery			
	51.5 to 53.0 ft. Brown fine sand (SP); loose, saturated. Slight PHC odor.	SP						
	53.0 to 55.0 ft. Orange-brown gravelly clayey sand (SC); dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	SC						
60	55.0 to 59.0 ft. Light grayish brown clayey sand (SC); loose, saturated, with interbeds of fine sand (SP). No PHC odor.	SC/SP		0				
	59.0 to 60.0 ft. Light grayish brown sandy clay (CL); stiff, moist. No PHC odor.	CL						

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PAGE 3 OF 3

BORING NO.: B4a		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland		
BORING LOCATION: 3 feet north of borehole B4				ELEVATION AND DATUM: None		
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED: 4/7/09 1000		DATE & TIME FINISHED: 4/7/09 1430
DRILLING EQUIPMENT: Geoprobe 6600						
COMPLETION DEPTH: 70.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY: MLD		CHECKED BY:
FIRST WATER DEPTH: 21.0 Feet		NO. OF SAMPLES: None				
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
65	60.0 to 64.5 ft. Brown fine sand (SP); loose, saturated. No PHC odor.	SP	No Well Constructed		0	60 to 65 ft. 4.2 ft. recovery
	64.5 to 65.5 ft. Grayish brown clay (CL); stiff, moist. No PHC odor.	CL			0	65 to 70 ft. 2.8 ft. recovery
	65.5 to 67.0 ft. Brown clayey sand (SC); loose, saturated, with interbeds of fine sand (SP). No PHC odor.	SC			0	
	67.0 to 70.0 ft. Olive-green clay (CL); stiff, moist. No PHC odor.	CL			0	
70						<p>Water encountered during drilling at 21.0 ft.</p> <p>Borehole terminated at 70.0 ft. on 4/7/09.</p> <p>Borehole grouted on 4/7/09 using a tremie pipe and neat cement grout.</p> <p>At a location approximately 3 ft. east of borehole B4, a soil conductivity probe was pushed to 70 ft. on 4/8/09 for electrical conductivity logging. Borehole grouted on 4/8/09 using a tremie pipe and neat cement grout.</p> <p>At a location approximately 4 ft. northeast of borehole B4, a Hydropunch was pushed to 65.0 ft. on 4/9/09. Hydropunch seal integrity was confirmed using electrical water level indicator. The Hydropunch drilling rods were then retracted to 61.0 ft. The water level in the Hydropunch rods was measured at 64.7 ft. at 1330, and at 63.5 ft. at 1340. Water sample B4W-65 collected at 1345; no odor or sheen on sample. Water level subsequently measured in Hydropunch rods at 61.8 ft. at 1529. Hydropunch borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.</p>

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BORING NO.: B5		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland							
BORING LOCATION: 8 feet northeast of borehole B4				ELEVATION AND DATUM: None							
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin		DATE & TIME STARTED: 4/6/09 0955		DATE & TIME FINISHED: 4/6/09 1300					
DRILLING EQUIPMENT: Geoprobe 6600											
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY: MLD		CHECKED BY:					
FIRST WATER DEPTH: 20.0 Feet		NO. OF SAMPLES: 7 Soil									
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS					
5	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.					
	0.5 to 5.0 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	x						SM	B5-2.0	0	
	2.5 to 5.0 ft. Soil stained bluish green; strong PHC odor.								2	0 to 5 ft. 4.2 ft. recovery	
	5.0 to 7.0 ft. Bluish green silty clay (CL); medium stiff, moist. Strong PHC odor.	x						CL	B5-4.5	47	5 to 10 ft. 4.6 ft. recovery
	7.0 to 8.0 ft. Bluish green gravelly clayey sand (SC); medium dense, moist. Strong PHC odor.							SC			
10	8.0 to 9.5 ft. Bluish green silty clay (CL); medium stiff, moist. Strong PHC odor.		CL								
	9.5 to 14.5 ft. Bluish green silty sand (SM); medium dense, moist, with trace angular gravel to 0.25-in. diameter. Strong PHC odor.	x	SM	B5-9.5	113	10 to 15 ft. 4.6 ft. recovery					
	14.5 to 16.0 ft. Bluish green to orange-brown gravelly clayey sand (SC); medium dense, moist, with gravel to 0.5-in. diameter. Slight PHC odor.	x	SC	B5-14.5	28	15 to 20 ft. 4.5 ft. recovery					
20	16.0 to 23.0 ft. Bluish green fine sand lenses (SP), loose, moist; interbedded with gravelly sand (SW), loose, moist. Slight PHC odor.		SP/ SW ▽	B5-19.5	0	20 to 25 ft. 4.6 ft. recovery					
	19.5 to 25.0 ft. Color change to orange-brown, with no PHC odor, and gravel to 0.5-in. diameter. 20.0 ft. Wet.	x									
	23.0 to 25.0 ft. Orange-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	x						SC	B5-22.5	0	
25			B5-24.5	0	Water first encountered during drilling at 20.0 ft.						
					Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diameter well not placed in borehole and no water sample collected.						
30						Borehole grouted on 4/6/09 using a tremie pipe and neat cement grout.					

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BORING NO.: B6		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland				
BORING LOCATION: 12 feet northeast of borehole B5				ELEVATION AND DATUM: None				
DRILLING AGENCY: Vironex, Inc.			DRILLER: Justin		DATE & TIME STARTED:		DATE & TIME FINISHED:	
DRILLING EQUIPMENT: Geoprobe 6600					4/6/09 0830		4/6/09 0920	
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:		CHECKED BY:		
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 5 Soil, 1 Water		MLD				
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS		
5	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed		0	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.		
	0.5 to 4.5 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	SM				0 to 5 ft. 4.4 ft. recovery		
	4.5 to 5.5 ft. Brown silty clay (CL), stiff, moist; with interbeds of gravelly clayey sand (SC), medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	x CL/SC	5 to 10 ft. 4.6 ft. recovery					
	5.5 to 7.5 ft. Olive-green silty clay (CL); stiff, moist, with trace angular gravel to 0.25-in. diameter. No PHC odor.	CL						
	7.5 to 10.0 ft. Olive-green sandy clayey gravel (GC); moist, with angular gravel to 0.75-in. diameter. No PHC odor.	GC						
10	10.0 to 21.5 ft. Olive-green and brown clay (CL); medium stiff, moist. No PHC odor.	x	B6-9.5		0	10 to 15 ft. 4.5 ft. recovery		
15			B6-14.5		0	15 to 20 ft. 4.6 ft. recovery		
		x				20 to 25 ft. 4.7 ft. recovery		
			B6-19.5			Water not encountered during drilling.		
		x				Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Water level measured at 23.5 ft. at 0940, and at 23.0 ft. at 0950. Water sample B6-W collected at 1040; 5 VOA and 1 1-liter amber containers, very slow recharge; no odor or sheen on sample. Temporary well capped to allow for further recharge. One additional 1-liter amber container for sample B6-W collected at 1510 on 4/7/09; no odor or sheen on sample.		
		21.5 to 22.0 ft. Brown gravelly clayey sand (SC); loose, moist, with angular gravel to 0.25-in. diameter. No PHC odor.	SC			0	Borehole grouted on 4/7/09 using a tremie pipe and neat cement grout.	
25	22.0 to 25.0 ft. Olive-green and brown clay silty (CL); medium stiff, moist. No PHC odor.	x CL	B6-24.5		0			
30								

P&D ENVIRONMENTAL, INC.

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BORING NO.: B7		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: Approximately 15 ft. west of southeast corner of 20th Avenue and Solano Way						ELEVATION AND DATUM: None	
DRILLING AGENCY: Vironex, Inc.				DRILLER: Justin/Jeremy		DATE & TIME STARTED: 4/6/09 1445	DATE & TIME FINISHED: 4/6/09 1525
DRILLING EQUIPMENT: Geoprobe 6600							
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY: MLD		CHECKED BY:	
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 2 Water					
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
5	0.0 to 0.5 ft. Asphalt and base rock.		No Well Constructed		0	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.	
	0.5 to 7.0 ft. Grayish brown clayey silt (ML); medium stiff, moist, with orange mottling. No Petroleum Hydrocarbon (PHC) odor.	ML			0	0 to 5 ft. 4.5 ft. recovery 5 to 10 ft. 4.4 ft. recovery 10 to 15 ft. 4.6 ft. recovery	
	7.0 to 11.0 ft. Light gray silty clay (CL); medium stiff, moist, with black mottling. No PHC odor.	CL			0	15 to 20 ft. 4.8 ft. recovery 20 to 25 ft. 4.8 ft. recovery Water not encountered during drilling.	
10	11.0 to 14.0 ft. Orange-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	SC			0	Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Borehole dry at 1530.	
15	14.0 to 25.0 ft. Light gray silty clay (CL); stiff, moist, with orange mottling. No PHC odor.	CL			0	Temporary well capped with Latex glove and bentonite plug to allow for recharge. On 4/7/09, water level measured at 16.0 ft. at 1335. Water sample B7W collected at 1445; no odor or sheen on sample. Borehole grouted on 4/7/09 using a tremie pipe and neat cement grout.	
	16.0 to 17.5 ft. With some gravel to 0.25-in. diameter.						
20	21.0 to 21.3 ft. 3-in. thick interbed of gravelly sand with angular gravel to 0.5-in. diameter.				0	At a location approximately 3 ft. north of the borehole that was continuously cored to 25.0 ft., a soil conductivity probe was pushed to 70 ft. on 4/6/09 for electrical conductivity logging. Borehole grouted on 4/6/09 using a tremie pipe and neat cement grout.	
25						At a location approximately 4 ft. south of the borehole that was continuously cored to 25.0 ft. on 4/6/09, a Hydropunch was pushed to 64.0 ft. on 4/9/09. Hydropunch seal integrity was confirmed using electrical water level indicator. The Hydropunch drilling rods were then retracted to 60.0 ft. The water level in the Hydropunch rods was measured at 59.7 ft. at 1514, and at 56.3 ft. at 1524. Water sample B7W-64 collected at 1545; no odor or sheen on sample. Borehole grouted on 4/6/09 using a tremie pipe and neat cement grout.	
30							

P&D ENVIRONMENTAL, INC.

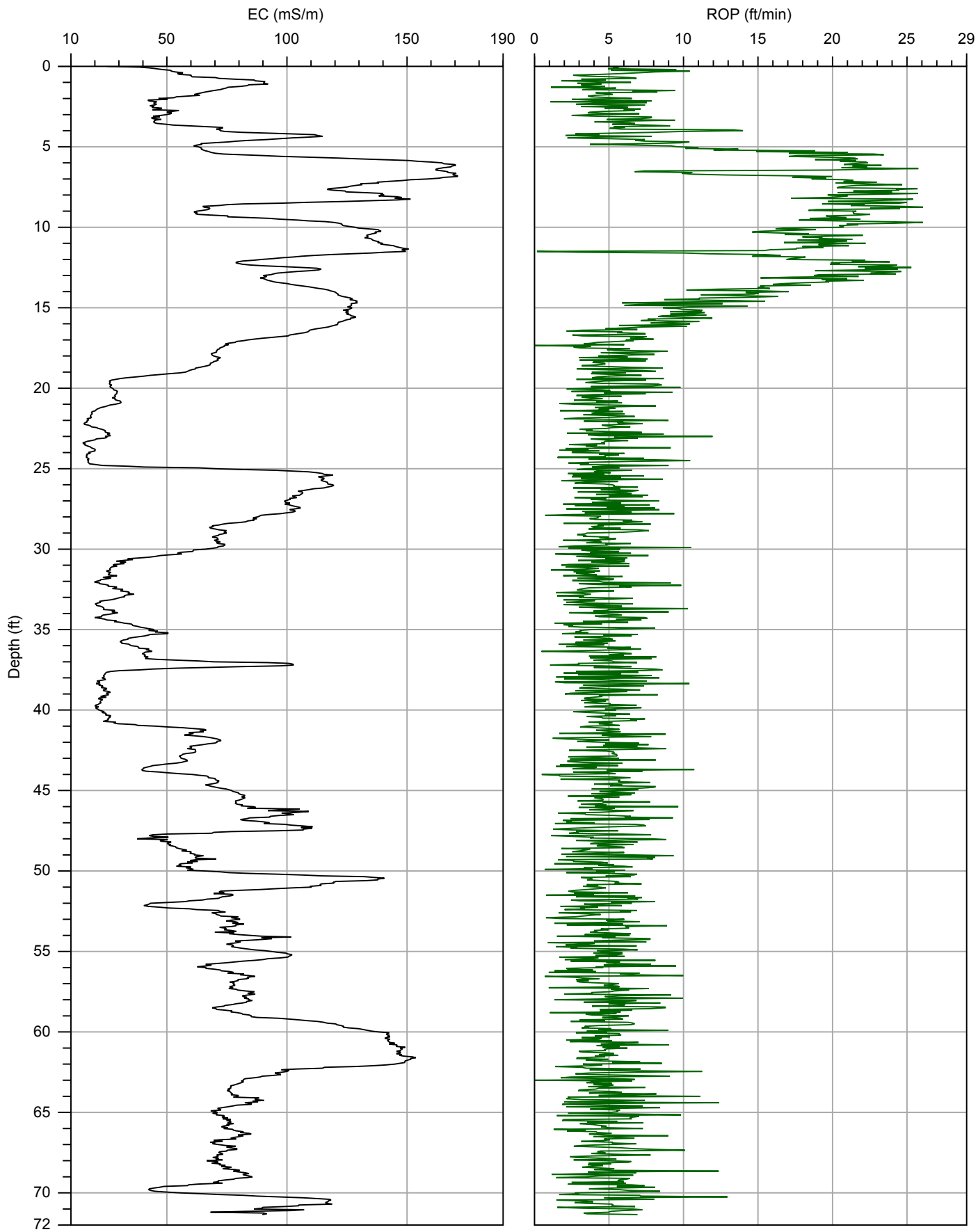
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BORING NO.: B8		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: 27 feet southwest of Solano Way on southwest side of 20th Avenue				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED: 4/8/09 0830		DATE & TIME FINISHED: 4/8/09 0930	
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:	
COMPLETION DEPTH: 30.0 Feet		BEDROCK DEPTH: Not Encountered					
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 2 Water					
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
	0.0 to 0.5 ft. Asphalt and base rock.		No Well Constructed		0	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves. 0 to 5 ft. 4.5 ft. recovery 5 to 10 ft. 4.2 ft. recovery 10 to 15 ft. 4.5 ft. recovery 15 to 20 ft. 4.0 ft. recovery 20 to 25 ft. 3.2 ft. recovery 25 to 30 ft. 4.6 ft. recovery Water not encountered during continuous core drilling. Borehole terminated at 30.0 ft. on 4/8/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Borehole dry at 1150. Temporary well capped with Latex glove and bentonite plug to allow for recharge. On 4/9/09, water level measured at 28.8 ft. at 0936, and at 28.5 ft. at 1258. Water sample B8W collected at 1300; no odor or sheen on sample. Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout. At a location approximately 4 ft. west of the borehole that was continuously cored to 30 ft., a soil conductivity probe was pushed to 70 ft. on 4/8/09 for electrical conductivity logging. Borehole grouted on 4/8/09 using a tremie pipe and neat cement grout. At a location approximately 4 ft. south of the continuously cored borehole, a Hydropunch was pushed to 59.0 ft. on 4/9/09. Hydropunch seal integrity was confirmed using electrical water level indicator. The Hydropunch drilling rods were then retracted to 55.0 ft. The water level in the Hydropunch rods was measured at 55.2 ft. at 1045, and at 53.1 ft. at 1055. Water sample B8W-59 collected at 1100; no odor or sheen on sample. Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.	
	0.5 to 4.0 ft. Light grayish brown silt (ML); medium stiff, moist, with black and orange mottling. No Petroleum Hydrocarbon (PHC) odor.	ML		0			
	3.5 to 4.0 ft. With angular gravel to 0.25-in. diameter.			0			
5	4.0 to 5.5 ft. Orange-brown silty sand (SM); loose, moist, with abundant angular gravel to 0.25-in. diameter. No PHC odor.	SM		0			
	5.5 to 8.5 ft. Light grayish brown silt (ML); medium stiff, moist, with black mottling. No PHC odor.	ML		0			
10	8.5 to 11.0 ft. Orange-brown silty sand (SM); medium dense, moist, with abundant angular gravel to 0.5-in. diameter. No PHC odor.	SM		0			
	11.0 to 12.0 ft. Olive-brown clay (CL); medium stiff, moist, with some angular gravel to 0.25-in. diameter. No PHC odor.	CL		0			
	12.0 to 14.5 ft. Orange-brown clayey sand (SC); medium dense, moist, with some angular gravel to 0.5-in. diameter, and orange mottling. No PHC odor.	SC		0			
15	14.5 to 30.0 ft. Orange-brown silty clay (CL); stiff, moist. No PHC odor.			0			
20		CL		0			
25	24.0 to 25.5 ft. With angular gravel to 0.25-in. diameter.		0				
	26.0 to 30.0 ft. Brown, with trace gravel to 0.25-in. diameter. No PHC odor.		0				
30							

BORING NO.: B9		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland		
BORING LOCATION: On west side of 20th Avenue 95 feet northeast of E. 12th St.				ELEVATION AND DATUM: None		
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED: 4/9/09 0830		DATE & TIME FINISHED: 4/9/09 0935
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:
COMPLETION DEPTH: 30.0 Feet		BEDROCK DEPTH: Not Encountered				
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 1 Water				
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
5	0.0 to 1.0 ft. Asphalt and base rock.		No Well Constructed		0	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.
	1.0 to 5.0 ft. Light gray silt (ML); medium stiff, moist, with trace gravel to 0.25-in. diameter, and black mottling. No Petroleum Hydrocarbon (PHC) odor.	ML				
	5.0 to 10.5 ft. Light olive-gray silty clay (CL); stiff, moist, with black and orange mottling. No PHC odor.	CL				
6.5 to 8.0 ft. With angular gravel to 0.25-in. diameter.						
10					0	0 to 5 ft. 4.6 ft. recovery
					0	5 to 10 ft. 4.8 ft. recovery
					0	10 to 15 ft. 4.6 ft. recovery
15					0	15 to 20 ft. 4.4 ft. recovery
					0	20 to 25 ft. 4.6 ft. recovery
					0	25 to 30 ft. 4.5 ft. recovery
20	10.5 to 11.0 ft. Orange-brown clayey sand (SC); medium dense, moist, with gravel to 0.5-in. diameter. No PHC odor.	SC			0	Water not encountered during drilling.
	11.5 to 16.5 ft. Light olive-gray clay (CL); stiff, moist, with trace angular gravel to 0.5-in. diameter, and black mottling. No PHC odor.	CL			0	Borehole terminated at 30.0 ft. on 4/9/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Water level measured at 24.4 ft. at 1405, and at 24.2 ft. at 1415. Water sample B9W collected at 1420; soap suds on sample, but no odor or sheen. Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.
	16.5 to 17.0 ft. Olive-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	SC			0	
25	17.0 to 22.0 ft. Olive-gray clay (CL); stiff, moist, with minor angular gravel to 0.5-in. diameter. No PHC odor.	CL			0	
	22.0 to 23.0 ft. Olive-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.25-in. diameter. No PHC odor.	SC			0	
	23.0 to 26.5 ft. Olive-brown clay (CL); stiff, moist. No PHC odor.	CL			0	
30	26.5 to 27.0 ft. Olive-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.25-in. diameter. No PHC odor.	SC			0	
	27.0 to 30.0 ft. Olive-brown silty clay (CL); stiff, moist. No PHC odor.	CL			0	

APPENDIX C

Soil Conductivity Logs



Company: Vironex
Project ID: 0405

Operator: Justin Robinson
Client: P & D

File:	B4EC0666.DAT
Date:	4/8/2009
Location:	B4

C:\COND\LOGFILES\B4EC0666.INF

SITE INFORMATION -- DIRECT IMAGE CONDUCTIVITY PROBE

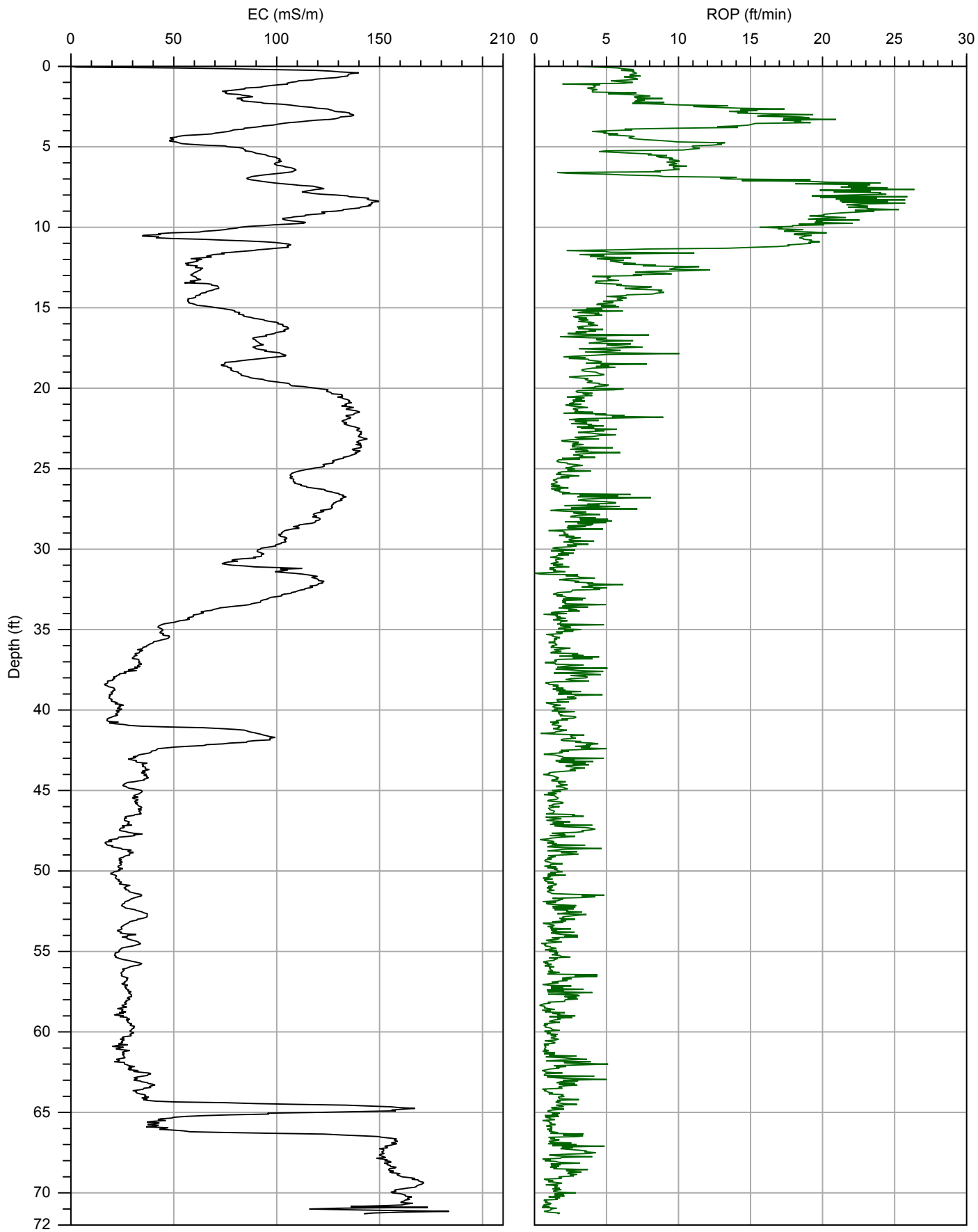
LOG UNITS: ENGLISH

PROBE AND ARRAY: SC-500 WITH WENNER

LOG START TIME: Wed Apr 08 2009 14:00

LOG END DEPTH: 71.350 FEET

LOG END TIME: Wed Apr 08 2009 15:10



Company: Vironex
Project ID: 0405

Operator: Justin Robinson
Client: P & D

File:	B7EC0665.DAT
Date:	4/8/2009
Location:	B7

C:\COND\LOGFILES\B7EC0665.INF

SITE INFORMATION -- DIRECT IMAGE CONDUCTIVITY PROBE

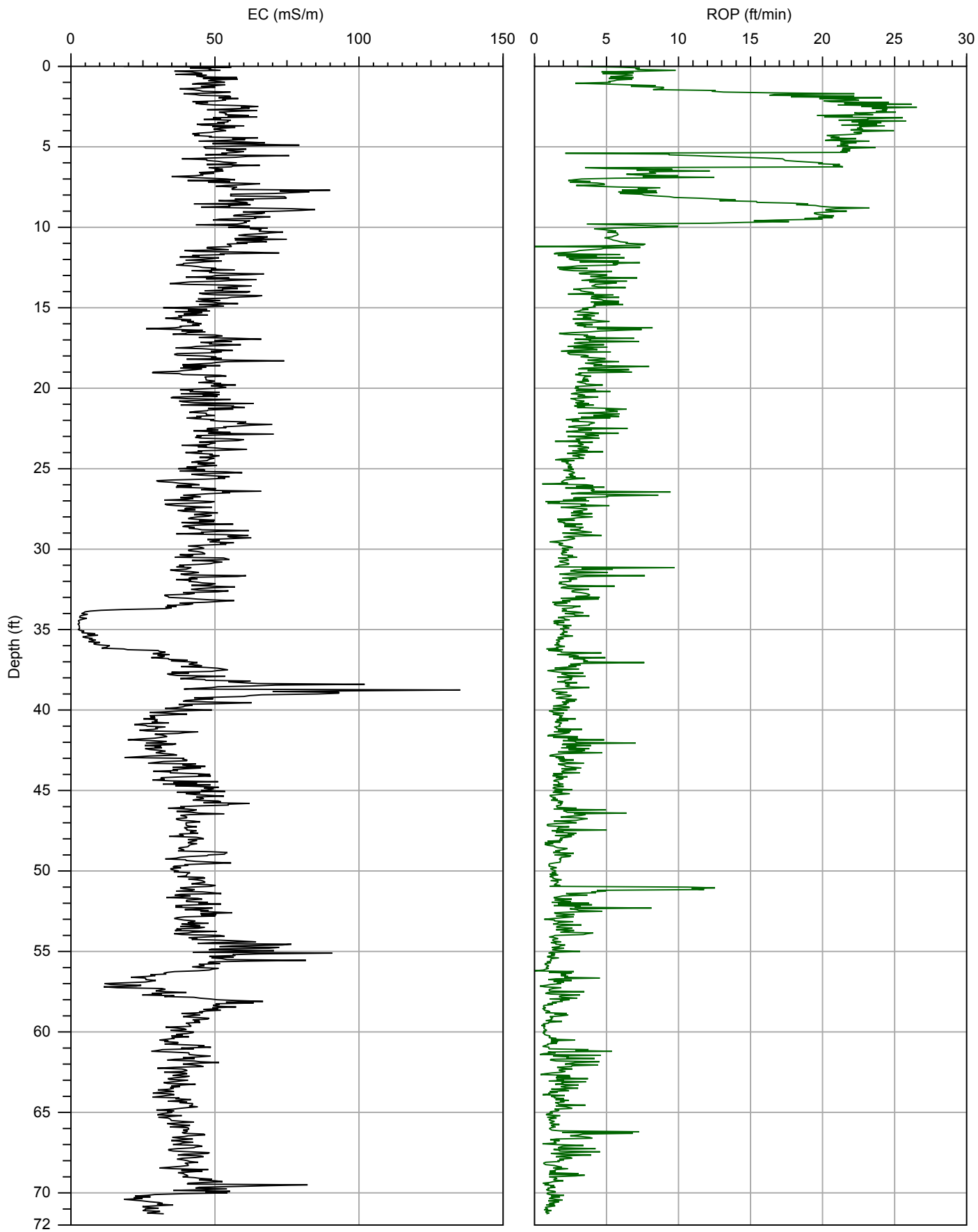
LOG UNITS: ENGLISH

PROBE AND ARRAY: SC-500 WITH WENNER

LOG START TIME: Wed Apr 08 2009 12:05

LOG END DEPTH: 71.300 FEET

LOG END TIME: Wed Apr 08 2009 13:20



Company: Vironex
Project ID: 0405

Operator: Justin Robinson
Client: P & D

File:	B8EC0664.DAT
Date:	4/8/2009
Location:	B8

C:\COND\LOGFILES\B8EC0664.INF

SITE INFORMATION -- DIRECT IMAGE CONDUCTIVITY PROBE

LOG UNITS: ENGLISH

PROBE AND ARRAY: SC-500 WITH WENNER

LOG START TIME: Wed Apr 08 2009 9:50

LOG END DEPTH: 71.300 FEET

LOG END TIME: Wed Apr 08 2009 11:10

APPENDIX D

Soil Gas Field Data Sheets

Address 1700 20th AVE
Job # 0405
Date 4/8/09
P&D Sampler MLD
Drilling Company VIRANEX

Probe Method (check one)

☐ PRT

☒ Temp Well

[illegible]

Soil Gas Purge Volume Calculations

One Purge Volume is calculated as the volume of the tubing interior plus the volume of the sand interval of the borehole.

The tubing interior volume is calculated as follows:

$V_{\text{tubing}} = \pi \times (r \times r) \times h$, where $\pi = 3.14$, $r = 0.187 \text{ in.}/2$, and $h = 7 \text{ ft.}$

$V_{\text{tubing}} = 3.14 \times (0.0935 \times 0.0935) \times (7 \text{ ft.} \times 12 \text{ in./ft.}) = 2.31 \text{ cubic inches.}$

The sand interval volume is calculated as follows:

$V_{\text{sand interval}} = \pi \times (r \times r) \times h \times \text{porosity}$, where $\pi = 3.14$, $r = 1.0 \text{ in.}/2$, $h = 8 \text{ in.}$, and $\text{porosity} = 0.35$

$V_{\text{sand interval}} = 3.14 \times (0.5 \times 0.5) \times 8 \times 0.35 = 2.20 \text{ cubic inches.}$

The total volume for one purge volume is $V_{\text{tubing}} + V_{\text{sand interval}}$, where

$V_{\text{total}} = 2.31 \text{ cubic inches} + 2.20 \text{ cubic inches} = 4.51 \text{ cubic inches.}$

To convert to cubic centimeters:

$V_{\text{total}} = 4.51 \text{ cubic inches} \times 16.39 \text{ cubic centimeters/cubic inches} = 73.9 \text{ cubic centimeters.}$

The total volume to be purged is 3 purge volumes.

$V_{\text{purge total}} = 73.9 \text{ cubic centimeters} \times 3 = 222 \text{ cubic centimeters.}$

The flow controller has a nominal flow rate of 200 cubic centimeters per minute.

The purge time is calculated as follows:

$T_{\text{purge}} = 222 \text{ cubic centimeters} / 200 \text{ cubic centimeters per minute} = 1.11 \text{ minutes.}$

Converting the purge time to seconds, $1.11 \text{ minutes} \times 60 \text{ seconds/minute} = 67 \text{ seconds.}$

Soil Gas Volume Calculations

One Purge Volume is calculated as the volume of the tubing interior plus the volume of the sand interval of the borehole.

The tubing interior volume is calculated as follows:

$V_{\text{tubing}} = \pi \times (r \times r) \times h$, where $\pi = 3.14$, $r = 0.187 \text{ in./2}$, and $h = 12 \text{ ft}$.

$V_{\text{tubing}} = 3.14 \times (0.0935 \times 0.0935) \times (12 \text{ ft.} \times 12 \text{ in./ft.}) =$ 3.95 cubic inches.

The sand interval volume is calculated as follows:

$V_{\text{sand interval}} = \pi \times (r \times r) \times h \times \text{porosity}$, where $\pi = 3.14$, $r = 1.0 \text{ in./2}$, $h = 8 \text{ in.}$, and $\text{porosity} = 0.35$

$V_{\text{sand interval}} = 3.14 \times (0.5 \times 0.5) \times 8 \times 0.35 =$ 2.20 cubic inches.

The total volume for one purge volume is $V_{\text{tubing}} + V_{\text{sand interval}}$, where

$V_{\text{total}} = 2.31 \text{ cubic inches} + 2.20 \text{ cubic inches} =$ 6.15 cubic inches.

To convert to cubic centimeters:

$V_{\text{total}} = 6.15 \text{ cubic inches} \times 16.39 \text{ cubic centimeters/cubic inches} =$ 100.8 cubic centimeters.

The total volume to be purged is 3 purge volumes.

$V_{\text{purge total}} = 100.8 \text{ cubic centimeters} \times 3 =$ 302 cubic centimeters.

The flow controller has a nominal flow rate of 200 cubic centimeters per minute.

The purge time is calculated as follows:

$T_{\text{purge}} = 302 \text{ cubic centimeters} / 200 \text{ cubic centimeters per minute} =$ 1.51 minutes.

Converting the purge time to seconds, $1.51 \text{ minutes} \times 60 \text{ seconds/minute} =$ 91 seconds.

APPENDIX E


Soil Disposal Manifest

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		2. Page 1 of 1		3. Document Number 7364	
GENERATOR	4. Generator's Name and Mailing Address William Wurzbach Company 1200 20 th Ave Oakland, CA 94606-4828 Generator's Phone						
	5. Transporter Company Name CLEARWATER ENVIRONMENTAL		6. US EPA ID Number CAR000007013		7. Transporter Phone (510) 476-1740		
	8. Designated Facility Name and Site Address ALVISO INDEPENDENT OIL 5002 ARCHER STREET ALVISO, CA 95002		9. US EPA ID Number CAL000161743		10. Facility's Phone (510) 476-1740		
	11. Waste Shipping Name and Description a. Non-Hazardous waste - solid			12. Containers		13. Total Quantity	
				No.	Type	14. Unit Wt/Vol	
			001		dm 400		P
b.							
15. Special Handling Instructions and Additional Information Wear PPE Emergency Contact (510) 476-1740 Attn: Kirk Hayward			Handling Codes for Wastes Listed Above				
			11a.		11b.		
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to state or federal regulations for reporting proper disposal of Hazardous Waste.							
Printed/Typed Name Signed on Behalf of Generator			Signature Will Clark Month Day Year 04/24/09				
17. Transporter Acknowledgement of Receipt of Materials							
Printed/Typed Name William Clark			Signature Will Clark Month Day Year 04/24/09				
18. Discrepancy Indication Space							
FACILITY	19. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 18.						
	Printed/Typed Name Charles Seaton			Signature Month Day Year 4/24/09			

APPENDIX F

Laboratory Analytical Reports and Chain of Custody Documentation

- McCampbell Work Order # 0904295 Borehole Soil B3 through B6
- McCampbell Work Order # 0904294 Borehole Groundwater B3, B4, & B6 through B9

 <u>McC Campbell Analytical, Inc.</u> "When Quality Counts"		1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mcccampbell.com E-mail: main@mcccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269	
P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled:	04/06/09
		Date Received:	04/10/09
	Client Contact: Paul King	Date Reported:	04/20/09
	Client P.O.:	Date Completed:	04/15/09

WorkOrder: 0904295

April 20, 2009

Dear Paul:

Enclosed within are:

- 1) The results of the **24** analyzed samples from your project: **#0405; William Wurzbach, Co.,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,



Angela Rydelius
 Laboratory Manager
 McC Campbell Analytical, Inc.

P & D ENVIRONMENTAL, INC.

55 Santa Clara Ave, Suite 240
Oakland, CA 94610
(510) 658-6916

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

0904295

PROJECT NUMBER: 0405		PROJECT NAME: WILLIAM WURZBACH, CO. 1200 20th AVE, OAKLAND			NUMBER OF CONTAINERS	ANALYSIS(ES): TFH-B BY EPA 8015 MBTEX, EDB AND 12-DCA USING EPA 8260-B TOTAL LEAD BY EPA 8008 AND 8010	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) MICHAEL DESCHENES <i>Michael Deschenes</i>								
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION				
B3-4.5	4/6/09	1340	SOIL		1	X	X	ICE NORMAL TURN AROUND
B3-9.5		1345	"		1	X	X	" "
B3-14.5		1350	"		1	X	X	" "
B3-17.5		1358	"		1	X	X	" "
B3-19.5		1355	"		1	X	X	" "
B3-24.5	✓	1405	"		1	X	X	" "
B4-2.5	4/6/09	1135	SOIL		1	X	X	ICE NORMAL TURN AROUND
B4-4.5		1140	"		1	X	X	" "
B4-9.5		1145	"		1	X	X	" "
B4-14.5		1150	"		1	X	X	" "
B4-19.5		1215	"		1	X	X	" "
B4-24.5	✓	1220	"		1	X	X	" "
RELINQUISHED BY: (SIGNATURE) <i>Michael Deschenes</i>					DATE	TIME	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	TOTAL NO. OF SAMPLES (THIS SHIPMENT) 24
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>					DATE	TIME	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 24
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>					DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i>	LABORATORY CONTACT: ANGELA RYDELINS (877) 252-9262
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com					REMARKS: ICE !! 2 GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB PRESERVATION			
					APPROPRIATE CONTAINERS PRESERVED IN LAB YES NO METALS OTHER			

LABORATORY: MCCAMPBELL ANALYTICAL

LABORATORY PHONE NUMBER:
(877) 252-9262

SAMPLE ANALYSIS REQUEST SHEET
ATTACHED: () YES (X) NO

P & D ENVIRONMENTAL, INC.

55 Santa Clara Ave, Suite 240
Oakland, CA 94610
(510) 658-6916

CHAIN OF CUSTODY RECORD

PAGE 2 OF 2

PROJECT NUMBER: 0405		PROJECT NAME: WILLIAM WURZBACH, CO 1200 20TH AVE, OAKLAND		NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-G BY EPA 8015 METEX, ED13 AND 13-DCA USING EPA 8260-13 TOTAL LEAD BY EPA 8200-8 & 6010	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) MICHAEL DESCHENES <i>Michael Deschenes</i>							
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION			
B5-2.0	4/6/09	1005	Soil		1	X X	ICE NORMAL TURN AROUND
B5-4.5		1000	"		1	X X	" "
B5-9.5		1010	"		1	X X	" "
B5-14.5		1008	"		1	X X	" "
B5-19.5		1012	"		1	X X	" "
B5-22.0		1018	"		1	X X	" "
B5-24.5	✓	1015	"		1	X X	" "
B6-4.5	4/6/09	0840	Soil		1	X X	ICE NORMAL TURN AROUND
B6-9.5		0847	"		1	X X	" "
B6-14.5		0855	"		1	X X	" "
B6-19.5		0910	"		1	X X	" "
B6-24.5	✓	0920	"		1	X X	" "
RELINQUISHED BY: (SIGNATURE) MICHAEL DESCHENES <i>Michael Deschenes</i>				DATE 4/6/09	TIME 10:4	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>				DATE 4/6/09	TIME 2:00	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>				DATE 4/6/09	TIME 2:00	RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i>	
Results and billing to: P&D Environmental, Inc. lab@pdenviro.com				REMARKS:			
TOTAL NO. OF SAMPLES (THIS SHEET) 24				LABORATORY: MC CAMPBELL ANALYTICAL			
TOTAL NO. OF CONTAINERS (THIS SHEET) 24				LABORATORY CONTACT: ANGELA RYDELINS			
				LABORATORY PHONE NUMBER: (877) 252-9362			
				SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YES (X) NO			

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0904295

ClientCode: PDEO

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:

Paul King
P & D Environmental
55 Santa Clara, Ste.240
Oakland, CA 94610
(510) 658-6916 FAX 510-834-0152

Email: lab@pdenviro.com
cc:
PO:
ProjectNo: #0405; William Wurzbach, Co.

Bill to:

Accounts Payable
P & D Environmental
55 Santa Clara, Ste.240
Oakland, CA 94610

Requested TAT: 5 days

Date Received: 04/10/2009

Date Printed: 04/10/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0904295-001	B3-4.5	Soil	4/6/2009 13:40	<input type="checkbox"/>	A	A										
0904295-002	B3-9.5	Soil	4/6/2009 13:45	<input type="checkbox"/>	A	A										
0904295-003	B3-14.5	Soil	4/6/2009 13:50	<input type="checkbox"/>	A	A	A									
0904295-004	B3-17.5	Soil	4/6/2009 13:58	<input type="checkbox"/>	A	A										
0904295-005	B3-19.5	Soil	4/6/2009 13:55	<input type="checkbox"/>	A	A										
0904295-006	B3-24.5	Soil	4/6/2009 14:05	<input type="checkbox"/>	A	A										
0904295-007	B4-2.5	Soil	4/6/2009 11:35	<input type="checkbox"/>	A	A										
0904295-008	B4-4.5	Soil	4/6/2009 11:40	<input type="checkbox"/>	A	A										
0904295-009	B4-9.5	Soil	4/6/2009 11:45	<input type="checkbox"/>	A	A	A									
0904295-010	B4-14.5	Soil	4/6/2009 11:50	<input type="checkbox"/>	A	A										
0904295-011	B4-19.5	Soil	4/6/2009 12:15	<input type="checkbox"/>	A	A										
0904295-012	B4-24.5	Soil	4/6/2009 12:20	<input type="checkbox"/>	A	A										
0904295-013	B5-2.0	Soil	4/6/2009 10:05	<input type="checkbox"/>	A	A										
0904295-014	B5-4.5	Soil	4/6/2009 10:00	<input type="checkbox"/>	A	A										

Test Legend:

1	8260VOC_S	2	G-MBTX_S	3	PB_S	4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0904295

ClientCode: PDEO

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☐ Excel

☐ Fax

☒ Email

☐ HardCopy

☐ ThirdParty

☐ J-flag

Report to:

Paul King
P & D Environmental
55 Santa Clara, Ste.240
Oakland, CA 94610
(510) 658-6916 FAX 510-834-0152

Email: lab@pdenviro.com

cc:

PO:

ProjectNo: #0405; William Wurzbach, Co.

Bill to:

Accounts Payable
P & D Environmental
55 Santa Clara, Ste.240
Oakland, CA 94610

Requested TAT: 5 days

Date Received: 04/10/2009

Date Printed: 04/10/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0904295-015	B5-9.5	Soil	4/6/2009 10:10	<input type="checkbox"/>	A	A	A									
0904295-016	B5-14.5	Soil	4/6/2009 10:08	<input type="checkbox"/>	A	A										
0904295-017	B5-19.5	Soil	4/6/2009 10:12	<input type="checkbox"/>	A	A										
0904295-018	B5-22.0	Soil	4/6/2009 10:18	<input type="checkbox"/>	A	A										
0904295-019	B5-24.5	Soil	4/6/2009 10:15	<input type="checkbox"/>	A	A										
0904295-020	B6-4.5	Soil	4/6/2009 8:40	<input type="checkbox"/>	A	A										
0904295-021	B6-9.5	Soil	4/6/2009 8:47	<input type="checkbox"/>	A	A	A									
0904295-022	B6-14.5	Soil	4/6/2009 8:55	<input type="checkbox"/>	A	A										
0904295-023	B6-19.5	Soil	4/6/2009 9:10	<input type="checkbox"/>	A	A										
0904295-024	B6-24.5	Soil	4/6/2009 9:20	<input type="checkbox"/>	A	A										

Test Legend:

1	8260VOC_S	2	G-MBTX_S	3	PB_S	4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



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Sample Receipt Checklist

Client Name: **P & D Environmental**

Date and Time Received: **4/10/2009 6:45:55 PM**

Project Name: **#0405; William Wurzbach, Co.**

Checklist completed and reviewed by: **Ana Venegas**

WorkOrder N°: **0904295** Matrix Soil

Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature	Cooler Temp: 2.8°C		NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE)

* NOTE: If the "No" box is checked, see comments below.

=====

Client contacted:

Date contacted:

Contacted by:

Comments:

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Telephone: 877-252-9262 Fax: 925-252-9269

P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled: 04/06/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09
	Client P.O.:	Date Analyzed 04/13/09-04/14/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0904295

Lab ID	0904295-001A	0904295-002A	0904295-003A	0904295-004A	Reporting Limit for DF =1	
Client ID	B3-4.5	B3-9.5	B3-14.5	B3-17.5		
Matrix	S	S	S	S		
DF	1	1	1	1		

Compound	Concentration				mg/Kg	ug/L
Benzene	ND	0.017	ND	ND	0.005	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.004	NA
Ethylbenzene	ND	0.021	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	0.005	NA
Toluene	ND	ND	ND	ND	0.005	NA
Xylenes	ND	ND	ND	ND	0.005	NA

Surrogate Recoveries (%)


%SS1:	80	77	79	79	
%SS2:	92	93	92	92	
%SS3:	94	94	96	95	

Comments					
----------	--	--	--	--	--

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.			Date Sampled: 04/06/09		
				Date Received: 04/10/09		
	Client Contact: Paul King			Date Extracted: 04/10/09		
	Client P.O.:			Date Analyzed 04/13/09-04/14/09		
Volatile Organics by P&T and GC/MS* Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0904295						
Lab ID	0904295-005A	0904295-006A	0904295-007A	0904295-008A	Reporting Limit for DF =1	
Client ID	B3-19.5	B3-24.5	B4-2.5	B4-4.5		
Matrix	S	S	S	S		
DF	1	1	1	20		
Compound	Concentration				mg/Kg	ug/L
Benzene	ND	0.011	ND	ND<0.10	0.005	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND<0.080	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND<0.080	0.004	NA
Ethylbenzene	ND	ND	ND	0.74	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND<0.10	0.005	NA
Toluene	ND	ND	ND	ND<0.10	0.005	NA
Xylenes	0.0077	0.018	ND	2.3	0.005	NA
Surrogate Recoveries (%)						
%SS1:	79	79	79	79		
%SS2:	93	91	91	89		
%SS3:	97	95	96	110		
Comments						
* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L. ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis. # surrogate diluted out of range or surrogate coelutes with another peak.						

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled: 04/06/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09
	Client P.O.:	Date Analyzed 04/13/09-04/14/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0904295

Lab ID	0904295-009A	0904295-010A	0904295-011A	0904295-012A	Reporting Limit for DF =1	
Client ID	B4-9.5	B4-14.5	B4-19.5	B4-24.5		
Matrix	S	S	S	S		
DF	20	1	2	1		

Compound	Concentration				mg/Kg	ug/L
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Benzene	0.28	ND	0.018	ND	0.005	NA
1,2-Dibromoethane (EDB)	ND<0.080	ND	ND<0.0080	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND<0.080	0.019	ND<0.0080	ND	0.004	NA
Ethylbenzene	0.76	0.045	0.078	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND<0.10	ND	ND<0.010	ND	0.005	NA
Toluene	0.25	0.023	ND<0.010	ND	0.005	NA
Xylenes	4.1	0.15	0.40	ND	0.005	NA

Surrogate Recoveries (%)


%SS1:	78	78	81	81	
%SS2:	90	93	104	91	
%SS3:	98	100	102	97	

Comments					
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* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.			Date Sampled: 04/06/09		
				Date Received: 04/10/09		
	Client Contact: Paul King			Date Extracted: 04/10/09		
	Client P.O.:			Date Analyzed 04/13/09-04/14/09		
Volatile Organics by P&T and GC/MS* Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0904295						
Lab ID	0904295-013A	0904295-014A	0904295-015A	0904295-016A	Reporting Limit for DF =1	
Client ID	B5-2.0	B5-4.5	B5-9.5	B5-14.5		
Matrix	S	S	S	S		
DF	1	20	40	1		
Compound	Concentration				mg/Kg	ug/L
Benzene	ND	ND<0.10	0.22	ND	0.005	NA
1,2-Dibromoethane (EDB)	ND	ND<0.080	ND<0.16	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND<0.080	ND<0.16	ND	0.004	NA
Ethylbenzene	ND	1.3	3.6	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND<0.10	ND<0.20	ND	0.005	NA
Toluene	ND	ND<0.10	ND<0.20	ND	0.005	NA
Xylenes	ND	6.1	14	ND	0.005	NA
Surrogate Recoveries (%)						
%SS1:	80	82	87	81		
%SS2:	91	90	103	90		
%SS3:	95	96	103	96		
Comments						
* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L. ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis. # surrogate diluted out of range or surrogate coelutes with another peak.						

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled: 04/06/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09
	Client P.O.:	Date Analyzed 04/13/09-04/14/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0904295

Lab ID	0904295-017A	0904295-018A	0904295-019A	0904295-020A	Reporting Limit for DF =1	
Client ID	B5-19.5	B5-22.0	B5-24.5	B6-4.5		
Matrix	S	S	S	S		
DF	1	1	1	1		

Compound	Concentration				mg/Kg	ug/L
Benzene	ND	ND	ND	ND	0.005	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.004	NA
Ethylbenzene	ND	ND	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	0.005	NA
Toluene	ND	ND	ND	ND	0.005	NA
Xylenes	ND	ND	ND	ND	0.005	NA

Surrogate Recoveries (%)

%SS1:	80	80	80	79	
%SS2:	92	112	113	113	
%SS3:	96	108	107	104	

Comments					
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* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled: 04/06/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09
	Client P.O.:	Date Analyzed 04/13/09-04/14/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0904295

Lab ID	0904295-021A	0904295-022A	0904295-023A	0904295-024A	Reporting Limit for DF =1	
Client ID	B6-9.5	B6-14.5	B6-19.5	B6-24.5		
Matrix	S	S	S	S		
DF	1	1	1	1		

Compound	Concentration				mg/Kg	ug/L
Benzene	ND	ND	ND	ND	0.005	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.004	NA
Ethylbenzene	ND	ND	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	0.005	NA
Toluene	ND	ND	ND	ND	0.005	NA
Xylenes	ND	ND	ND	ND	0.005	NA

Surrogate Recoveries (%)

%SS1:	85	84	86	85	
%SS2:	106	106	105	105	
%SS3:	81	78	77	79	

Comments					
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* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled: 04/06/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09
	Client P.O.:	Date Analyzed 04/13/09-04/17/09

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method SW5030B

Analytical methods SW8015Bm

Work Order: 0904295

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	B3-4.5	S	ND	1	96
002A	B3-9.5	S	21,d7,d9	1	104
003A	B3-14.5	S	ND	1	101
004A	B3-17.5	S	ND	1	81
005A	B3-19.5	S	ND	1	82
006A	B3-24.5	S	ND	1	86
007A	B4-2.5	S	ND	1	82
008A	B4-4.5	S	250,d2,d9	20	101
009A	B4-9.5	S	46,d2,d9	5	106
010A	B4-14.5	S	3.7,d1	1	83
011A	B4-19.5	S	36,d2,d9	2	96
012A	B4-24.5	S	ND	1	102
013A	B5-2.0	S	ND	1	96
014A	B5-4.5	S	180,d2,d9	10	116
015A	B5-9.5	S	270,d2,d9	20	90
016A	B5-14.5	S	ND	1	90

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

d2) heavier gasoline range compounds are significant (aged gasoline?)

d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram

d9) no recognizable pattern



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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled: 04/06/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09
	Client P.O.:	Date Analyzed 04/13/09-04/17/09

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method SW5030B

Analytical methods SW8015Bm

Work Order: 0904295

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
017A	B5-19.5	S	ND	1	97
018A	B5-22.0	S	ND	1	96
019A	B5-24.5	S	ND	1	90
020A	B6-4.5	S	ND	1	83
021A	B6-9.5	S	ND	1	86
022A	B6-14.5	S	ND	1	82
023A	B6-19.5	S	ND	1	87
024A	B6-24.5	S	ND	1	97

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

- d1) weakly modified or unmodified gasoline is significant
- d2) heavier gasoline range compounds are significant (aged gasoline?)
- d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
- d9) no recognizable pattern

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co.	Date Sampled: 04/06/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09
	Client P.O.:	Date Analyzed 04/13/09

Lead by ICP* Extraction method SW3050B Analytical methods 6010C Work Order: 0904295						
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Lab ID	Client ID	Matrix	Extraction Type	Lead	DF	% SS
0904295-003A	B3-14.5	S	TOTAL	5.7	1	99
0904295-009A	B4-9.5	S	TOTAL	5.3	1	105
0904295-015A	B5-9.5	S	TOTAL	ND	1	101
0904295-021A	B6-9.5	S	TOTAL	5.2	1	111

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TOTAL	NA	µg/L
	S	TOTAL	5.0	mg/Kg

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

TOTAL = acid digestion.
 WET = Waste Extraction Test (STLC).
 DI WET = Waste Extraction Test using de-ionized water.

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Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42600

WorkOrder 0904295

EPA Method SW8260B			Extraction SW5030B						Spiked Sample ID: 0904295-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	0.050	82.7	80.3	3.03	81.3	82.8	1.82	60 - 130	30	60 - 130	30
Benzene	ND	0.050	109	105	3.06	106	110	2.97	60 - 130	30	60 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	80.1	75.1	6.40	78.5	77.8	0.860	60 - 130	30	60 - 130	30
Chlorobenzene	ND	0.050	110	107	1.95	109	112	2.46	60 - 130	30	60 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	107	104	2.56	106	109	2.00	60 - 130	30	60 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	82.8	80.1	3.28	80.6	82.8	2.75	60 - 130	30	60 - 130	30
1,1-Dichloroethene	ND	0.050	86.7	82.5	4.89	85.5	88.3	3.23	60 - 130	30	60 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	97.9	95.4	2.59	96	98.1	2.19	60 - 130	30	60 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	103	100	3.07	101	103	2.12	60 - 130	30	60 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	91.5	88.7	3.13	89.9	91.7	1.95	60 - 130	30	60 - 130	30
Toluene	ND	0.050	127	123	3.07	126	129	2.33	60 - 130	30	60 - 130	30
Trichloroethene	ND	0.050	116	113	3.29	115	118	3.35	60 - 130	30	60 - 130	30
%SS1:	80	0.12	78	78	0	79	78	0.792	70 - 130	30	70 - 130	30
%SS2:	92	0.12	93	93	0	94	94	0	70 - 130	30	70 - 130	30
%SS3:	94	0.012	95	95	0	97	95	1.35	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42600 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904295-001A	04/06/09 1:40 PM	04/10/09	04/13/09 3:34 PM	0904295-002A	04/06/09 1:45 PM	04/10/09	04/13/09 4:18 PM
0904295-003A	04/06/09 1:50 PM	04/10/09	04/13/09 5:01 PM	0904295-004A	04/06/09 1:58 PM	04/10/09	04/13/09 5:45 PM
0904295-005A	04/06/09 1:55 PM	04/10/09	04/13/09 6:28 PM	0904295-006A	04/06/09 2:05 PM	04/10/09	04/13/09 7:12 PM
0904295-007A	04/06/09 11:35 AM	04/10/09	04/14/09 5:21 AM	0904295-008A	04/06/09 11:40 AM	04/10/09	04/13/09 10:06 PM
0904295-009A	04/06/09 11:45 AM	04/10/09	04/13/09 10:49 PM	0904295-010A	04/06/09 11:50 AM	04/10/09	04/13/09 11:33 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42628

WorkOrder 0904295

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0904295-020A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) _f	ND	0.60	94	86.3	8.53	107	112	3.73	70 - 130	20	70 - 130	20
MTBE	ND	0.10	102	106	3.45	84.8	78.2	8.08	70 - 130	20	70 - 130	20
Benzene	ND	0.10	106	102	3.74	85.6	87.3	2.03	70 - 130	20	70 - 130	20
Toluene	ND	0.10	93.7	91.6	2.31	104	105	1.43	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	104	102	2.29	106	110	3.55	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	100	94.9	5.20	118	119	0.562	70 - 130	20	70 - 130	20
%SS:	83	0.10	90	93	3.22	90	94	3.39	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42628 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904295-001A	04/06/09 1:40 PM	04/10/09	04/13/09 10:45 PM	0904295-002A	04/06/09 1:45 PM	04/10/09	04/14/09 5:36 AM
0904295-003A	04/06/09 1:50 PM	04/10/09	04/17/09 4:19 PM	0904295-004A	04/06/09 1:58 PM	04/10/09	04/15/09 5:14 PM
0904295-005A	04/06/09 1:55 PM	04/10/09	04/13/09 7:49 PM	0904295-006A	04/06/09 2:05 PM	04/10/09	04/14/09 12:13 AM
0904295-007A	04/06/09 11:35 AM	04/10/09	04/14/09 4:35 AM	0904295-008A	04/06/09 11:40 AM	04/10/09	04/14/09 3:20 PM
0904295-009A	04/06/09 11:45 AM	04/10/09	04/14/09 3:54 PM	0904295-010A	04/06/09 11:50 AM	04/10/09	04/15/09 9:10 PM
0904295-011A	04/06/09 12:15 PM	04/10/09	04/14/09 1:50 PM	0904295-012A	04/06/09 12:20 PM	04/10/09	04/14/09 5:40 AM
0904295-013A	04/06/09 10:05 AM	04/10/09	04/14/09 6:45 AM	0904295-014A	04/06/09 10:00 AM	04/10/09	04/14/09 2:20 PM
0904295-015A	04/06/09 10:10 AM	04/10/09	04/14/09 2:50 PM	0904295-016A	04/06/09 10:08 AM	04/10/09	04/14/09 7:17 AM
0904295-017A	04/06/09 10:12 AM	04/10/09	04/14/09 7:50 AM	0904295-018A	04/06/09 10:18 AM	04/10/09	04/14/09 8:22 AM
0904295-019A	04/06/09 10:15 AM	04/10/09	04/14/09 8:55 AM	0904295-020A	04/06/09 8:40 AM	04/10/09	04/14/09 10:02 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42629

WorkOrder 0904295

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0904295-024A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	0.60	108	108	0	108	105	2.48	70 - 130	20	70 - 130	20
MTBE	ND	0.10	84.7	86.1	1.58	84.6	78.9	6.95	70 - 130	20	70 - 130	20
Benzene	ND	0.10	80.5	84.6	4.99	90.1	90.7	0.659	70 - 130	20	70 - 130	20
Toluene	ND	0.10	103	107	3.85	109	109	0	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	106	111	4.29	110	110	0	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	119	123	3.08	122	123	0.561	70 - 130	20	70 - 130	20
%SS:	97	0.10	89	93	4.74	94	96	2.38	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42629 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904295-021A	04/06/09 8:47 AM	04/10/09	04/14/09 6:53 PM	0904295-022A	04/06/09 8:55 AM	04/10/09	04/16/09 12:25 PM
0904295-023A	04/06/09 9:10 AM	04/10/09	04/14/09 8:23 PM	0904295-024A	04/06/09 9:20 AM	04/10/09	04/14/09 8:54 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42630

WorkOrder 0904295

EPA Method SW8260B			Extraction SW5030B						Spiked Sample ID: 0904295-024A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	0.050	86.3	86	0.331	80.6	82.1	1.81	60 - 130	30	60 - 130	30
Benzene	ND	0.050	115	115	0	104	106	1.84	60 - 130	30	60 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	89.7	88.1	1.70	86.6	88.3	1.85	60 - 130	30	60 - 130	30
Chlorobenzene	ND	0.050	115	115	0	106	107	1.56	60 - 130	30	60 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	105	105	0	97.8	99	1.23	60 - 130	30	60 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	94	93	1.02	89.1	90.5	1.57	60 - 130	30	60 - 130	30
1,1-Dichloroethene	ND	0.050	90.8	89	2.06	77.2	79.8	3.22	60 - 130	30	60 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	94.9	95.2	0.268	88.5	89.3	0.941	60 - 130	30	60 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	105	105	0	97.9	100	2.35	60 - 130	30	60 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	98.2	97.5	0.744	91.7	94	2.45	60 - 130	30	60 - 130	30
Toluene	ND	0.050	130	128	0.995	117	119	1.23	60 - 130	30	60 - 130	30
Trichloroethene	ND	0.050	120	118	1.49	108	108	0	60 - 130	30	60 - 130	30
%SS1:	85	0.12	86	87	0.869	86	86	0	70 - 130	30	70 - 130	30
%SS2:	105	0.12	105	104	0.555	105	105	0	70 - 130	30	70 - 130	30
%SS3:	79	0.012	93	93	0	92	92	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42630 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904295-011A	04/06/09 12:15 PM	04/10/09	04/14/09 1:40 PM	0904295-012A	04/06/09 12:20 PM	04/10/09	04/14/09 1:00 AM
0904295-013A	04/06/09 10:05 AM	04/10/09	04/14/09 1:43 AM	0904295-014A	04/06/09 10:00 AM	04/10/09	04/14/09 2:27 AM
0904295-015A	04/06/09 10:10 AM	04/10/09	04/14/09 2:18 PM	0904295-016A	04/06/09 10:08 AM	04/10/09	04/14/09 3:54 AM
0904295-017A	04/06/09 10:12 AM	04/10/09	04/14/09 4:37 AM	0904295-018A	04/06/09 10:18 AM	04/10/09	04/13/09 10:14 PM
0904295-019A	04/06/09 10:15 AM	04/10/09	04/13/09 10:53 PM	0904295-020A	04/06/09 8:40 AM	04/10/09	04/13/09 11:31 PM
0904295-021A	04/06/09 8:47 AM	04/10/09	04/13/09 9:05 PM	0904295-022A	04/06/09 8:55 AM	04/10/09	04/13/09 9:48 PM
0904295-023A	04/06/09 9:10 AM	04/10/09	04/13/09 10:32 PM	0904295-024A	04/06/09 9:20 AM	04/10/09	04/13/09 11:15 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

**QC SUMMARY REPORT FOR 6010C**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0904295

EPA Method 6010C			Extraction SW3050B			BatchID: 42590			Spiked Sample ID 0904267-001A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Lead	120	50	104	78.8	7.73	10	84.8	80.6	5.11	75 - 125	20	75 - 125	20
%SS:	107	250	99	106	6.18	250	107	101	5.85	70 - 130	20	70 - 130	20
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE													

BATCH 42590 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904295-003A	04/06/09 1:50 PM	04/10/09	04/13/09 4:08 PM	0904295-009A	04/06/09 11:45 AM	04/10/09	04/13/09 3:50 PM
0904295-015A	04/06/09 10:10 AM	04/10/09	04/13/09 3:54 PM	0904295-021A	04/06/09 8:47 AM	04/10/09	04/13/09 3:57 PM


MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

 $\% \text{ Recovery} = 100 * (\text{MS} - \text{Sample}) / (\text{Amount Spiked}); \text{RPD} = 100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2).$

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

 McC Campbell Analytical, Inc. "When Quality Counts"		1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mcccampbell.com E-mail: main@mcccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269
P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co. 1200 20th Ave,	Date Sampled: 04/06/09-04/09/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Reported: 04/17/09
	Client P.O.:	Date Completed: 04/15/09

WorkOrder: 0904294

April 17, 2009

Dear Paul:

Enclosed within are:

- 1) The results of the **8** analyzed samples from your project: **#0405; William Wurzbach, Co. 1200**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,



Angela Rydelius
 Laboratory Manager
 McC Campbell Analytical, Inc.

0904294

[illegible]

P & D ENVIRONMENTAL, INC.

55 Santa Clara Ave, Suite 240
Oakland, CA 94610
(510) 658-6916

CHAIN OF CUSTODY RECORD

PAGE 2 OF 2

PROJECT NUMBER: 0405		PROJECT NAME: WILLIAM WIRZBACH, CO 1200 26TH AVE, OAKLAND		NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-G BY EPA 8015 MUTEX, EDTA AND LA-DCA USING EPA 8210-B TOTAL HARD BY EPA 8015-1010	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) MICHAEL DESCHENES							
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION			
B4W65	4/9/09	1345	WATER		5	X X X	ice NORMAL TURN AROUND
B7W64	4/9/09	1545	"		6	X X X	" " "
B8-W	4/9/09	1300	"		5	X X X	" " "
B8W59	4/9/09	1100	"		7	X X X	" " "
B9-W	4/9/09	1420	"		6	X X X	" " "
					ICE / 1" 5.7 GOOD CONDITION <input checked="" type="checkbox"/> HEAD SPACE ABSENT <input checked="" type="checkbox"/> APPROPRIATE CONTAINERS <input checked="" type="checkbox"/> DECHLORINATED IN LAB <input checked="" type="checkbox"/> PRESERVED IN LAB <input checked="" type="checkbox"/> PRESERVATION <input checked="" type="checkbox"/> VOAG 1000 METALS OTHER <input checked="" type="checkbox"/>		
RELINQUISHED BY: (SIGNATURE) MICHAEL DESCHENES		DATE 4/10/09	TIME 1009	RECEIVED BY: (SIGNATURE) [Signature]		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 8 TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 50 LABORATORY: MC CAMPBELL ANALYTICAL	
RELINQUISHED BY: (SIGNATURE) [Signature]		DATE 4/10/09	TIME 1200	RECEIVED BY: (SIGNATURE) [Signature]		LABORATORY CONTACT: ANGELA RYDELING LABORATORY PHONE NUMBER: (877) 252-9262	
RELINQUISHED BY: (SIGNATURE) [Signature]		DATE 4/10/09	TIME 1200	RECEIVED FOR LABORATORY BY: (SIGNATURE) [Signature]		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: () YTS () NO	
Results and billing to: P&D Environmental, Inc. lob@pdenviro.com				REMARKS: SAMPLE B9W; 1/2AMBER.			

x30
x10
x25
x25
x10

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0904294

ClientCode: PDEO

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:

Paul King
P & D Environmental
55 Santa Clara, Ste.240
Oakland, CA 94610
(510) 658-6916 FAX 510-834-0152

Email: lab@pdenviro.com
cc:
PO:
ProjectNo: #0405; William Wurzbach, Co. 1200
20th Ave,

Bill to:

Accounts Payable
P & D Environmental
55 Santa Clara, Ste.240
Oakland, CA 94610

Requested TAT: 5 days

Date Received: 04/10/2009

Date Printed: 04/10/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0904294-001	B6-W	Water	4/6/2009 10:40	<input type="checkbox"/>	B	A										
0904294-002	B7-W	Water	4/7/2009 14:45	<input type="checkbox"/>	B	A										
0904294-003	B3-W	Water	4/8/2009 13:45	<input type="checkbox"/>	B	A										
0904294-004	B4W-65	Water	4/9/2009 13:45	<input type="checkbox"/>	B	A										
0904294-005	B7W-64	Water	4/9/2009 15:45	<input type="checkbox"/>	B	A										
0904294-006	B8-W	Water	4/9/2009 13:00	<input type="checkbox"/>	B	A										
0904294-007	B8W-59	Water	4/9/2009 11:00	<input type="checkbox"/>	B	A										
0904294-008	B9-W	Water	4/9/2009 14:20	<input type="checkbox"/>	B	A										

Test Legend:

1	8260VOC_W	2	G-MBTX_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



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Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **P & D Environmental**

Date and Time Received: **4/10/2009 6:13:04 PM**

Project Name: **#0405; William Wurzbach, Co. 1200 20th Ave,**

Checklist completed and reviewed by: **Ana Venegas**

WorkOrder N°: **0904294** Matrix Water

Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature	Cooler Temp: 5.2°C		NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE)

* NOTE: If the "No" box is checked, see comments below.

=====

Client contacted:

Date contacted:

Contacted by:

Comments:

**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co. 1200 20th Ave,	Date Sampled: 04/06/09-04/09/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09-04/13/09
	Client P.O.:	Date Analyzed 04/10/09-04/13/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0904294

Lab ID	0904294-001B	0904294-002B	0904294-003B	0904294-004B	Reporting Limit for DF =1	
Client ID	B6-W	B7-W	B3-W	B4W-65		
Matrix	W	W	W	W		
DF	1	1	5	1		

Compound	Concentration				ug/kg	µg/L
Benzene	ND	ND	110	11	NA	0.5
1,2-Dibromoethane (EDB)	ND	ND	ND<2.5	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	11	ND	NA	0.5
Ethylbenzene	ND	ND	56	1.3	NA	0.5
Methyl-t-butyl ether (MTBE)	ND	ND	ND<2.5	ND	NA	0.5
Toluene	ND	ND	ND<2.5	1.5	NA	0.5
Xylenes	0.55	0.53	92	5.3	NA	0.5

Surrogate Recoveries (%)

%SS1:	78	79	87	87	
%SS2:	106	107	101	101	
%SS3:	96	96	71	75	
Comments	b1	b1	b1	b1	

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

b1) aqueous sample that contains greater than ~1 vol. % sediment

**McC Campbell Analytical, Inc.**

"When Quality Counts"

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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co. 1200 20th Ave,	Date Sampled: 04/06/09-04/09/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/10/09-04/13/09
	Client P.O.:	Date Analyzed 04/10/09-04/13/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0904294

Lab ID	0904294-005B	0904294-006B	0904294-007B	0904294-008B	Reporting Limit for DF =1	
Client ID	B7W-64	B8-W	B8W-59	B9-W		
Matrix	W	W	W	W		
DF	1	1	1	1		

Compound	Concentration				ug/kg	µg/L
Benzene	1.0	ND	ND	ND	NA	0.5
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	NA	0.5
Ethylbenzene	ND	1.3	ND	1.6	NA	0.5
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	NA	0.5
Toluene	0.99	ND	ND	1.0	NA	0.5
Xylenes	1.0	3.2	1.6	7.1	NA	0.5

Surrogate Recoveries (%)

%SS1:	89	81	81	79	
%SS2:	101	108	106	107	
%SS3:	72	101	99	100	
Comments	b1	b1	b1	b1	

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

b1) aqueous sample that contains greater than ~1 vol. % sediment



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P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0405; William Wurzbach, Co. 1200 20th Ave,	Date Sampled: 04/06/09-04/09/09
		Date Received: 04/10/09
	Client Contact: Paul King	Date Extracted: 04/13/09-04/15/09
	Client P.O.:	Date Analyzed 04/13/09-04/15/09

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method SW5030B

Analytical methods SW8015Bm

Work Order: 0904294

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	B6-W	W	ND,b1	1	95
002A	B7-W	W	ND,b1	1	91
003A	B3-W	W	1200,d1,b1	2	95
004A	B4W-65	W	100,d1,b1	1	96
005A	B7W-64	W	ND,b1	1	99
006A	B8-W	W	ND,b1	1	94
007A	B8W-59	W	ND,b1	1	95
008A	B9-W	W	ND,b1	1	92

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

b1) aqueous sample that contains greater than ~1 vol. % sediment

d1) weakly modified or unmodified gasoline is significant

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Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42627

WorkOrder 0904294

EPA Method SW8260B		Extraction SW5030B							Spiked Sample ID: 0904294-001B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	99.4	103	3.57	101	100	0.554	70 - 130	30	70 - 130	30
Benzene	ND	10	119	117	1.83	122	120	1.41	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	71	84.5	17.3	80.5	95.9	17.4	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	112	108	3.66	102	102	0	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	109	116	6.16	116	115	0.572	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	101	107	5.81	116	113	2.24	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	94.3	92.3	2.13	95.1	94	1.13	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	100	102	1.39	111	112	0.447	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	108	113	4.02	118	117	0.498	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	93.4	102	8.32	109	110	0.673	70 - 130	30	70 - 130	30
Toluene	ND	10	126	128	1.12	110	110	0	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	127	127	0	120	118	2.44	70 - 130	30	70 - 130	30
%SS1:	78	25	89	78	12.2	85	86	1.22	70 - 130	30	70 - 130	30
%SS2:	106	25	121	104	15.2	98	98	0	70 - 130	30	70 - 130	30
%SS3:	96	2.5	97	96	0.758	80	78	1.97	70 - 130	30	70 - 130	30
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE												

BATCH 42627 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904294-001B	04/06/09 10:40 AM	04/10/09	04/10/09 8:00 PM	0904294-002B	04/07/09 2:45 PM	04/10/09	04/10/09 8:39 PM
0904294-003B	04/08/09 1:45 PM	04/13/09	04/13/09 3:59 PM	0904294-004B	04/09/09 1:45 PM	04/13/09	04/13/09 4:43 PM
0904294-005B	04/09/09 3:45 PM	04/13/09	04/13/09 5:26 PM	0904294-006B	04/09/09 1:00 PM	04/10/09	04/10/09 11:11 PM
0904294-007B	04/09/09 11:00 AM	04/10/09	04/10/09 11:49 PM	0904294-008B	04/09/09 2:20 PM	04/11/09	04/11/09 12:26 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42626

WorkOrder: 0904294

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0904294-008A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) _f	ND	60	104	99.5	4.04	94.8	97.8	3.13	70 - 130	20	70 - 130	20
MTBE	ND	10	107	101	6.12	114	106	6.70	70 - 130	20	70 - 130	20
Benzene	ND	10	105	99.1	6.15	98.5	98.7	0.199	70 - 130	20	70 - 130	20
Toluene	0.99	10	84.9	79.4	5.92	89.5	90.5	1.12	70 - 130	20	70 - 130	20
Ethylbenzene	1.6	10	88.7	83.8	4.86	92.8	96.7	4.21	70 - 130	20	70 - 130	20
Xylenes	6.8	30	78.9	75.2	3.71	91.2	93	1.95	70 - 130	20	70 - 130	20
%SS:	92	10	99	100	0.496	95	98	2.95	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42626 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904294-001A	04/06/09 10:40 AM	04/13/09	04/13/09 8:55 PM	0904294-002A	04/07/09 2:45 PM	04/15/09	04/15/09 9:52 PM
0904294-003A	04/08/09 1:45 PM	04/15/09	04/15/09 1:18 AM	0904294-004A	04/09/09 1:45 PM	04/14/09	04/14/09 12:49 AM
0904294-005A	04/09/09 3:45 PM	04/14/09	04/14/09 1:22 AM	0904294-006A	04/09/09 1:00 PM	04/14/09	04/14/09 1:55 AM
0904294-007A	04/09/09 11:00 AM	04/14/09	04/14/09 2:28 AM	0904294-008A	04/09/09 2:20 PM	04/15/09	04/15/09 2:58 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$; RPD = $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.