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Alameda County Environmental Health

April 30, 2008

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

SUBJECT: SUBSURFACE INVESTIGATION REPORT CERTIFICATION ACEHS File # RO0002509 Thanh's Autobody Repair 901 77th Avenue Oakland, California

Dear Mr. Wickham:

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

Subsurface Investigation Report (Boreholes B15 and B16) dated April 14, 2008 (document 0330.R3).

I declare, under penalty of perjury, that the information and/or recommendations contained in the above-mentioned document 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 me at (408) 354-9777.

Sincerely,

Cupertino Capital

Daniel Shaw

Enclosure

0330.L11

P&D ENVIRONMENTAL, INC.

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

April 14, 2008 Report 0330.R3

Mr. Michael Parsons Cupertino Capital 15700 Winchester Boulevard Los Gatos, CA 95030

SUBJECT: SUBSURFACE INVESTIGATION REPORT (Boreholes B15 and B16) ACEH File #RO-2509 Thanh's Autobody Repair 901 77th Avenue Oakland, CA

Dear Mr. Parsons:

P&D Environmental, Inc. (P&D) is pleased to present this report documenting the drilling and sampling at two locations designated as B15 and B16 at the subject site. Drilling activities were performed on November 21, 2006. The boreholes were drilled for the collection of soil conductivity data and groundwater samples to define the horizontal extent of petroleum hydrocarbons in groundwater at the 36-foot depth to the west of the site the vertical extent of petroleum hydrocarbons in groundwater at the site. This investigation was performed in accordance with a letter from the Alameda County Department of Environmental Health (ACDEH) dated April 21, 2006 and the scope of work set forth in P&D's Subsurface Investigation Work Plan (B15 and B16) dated October 20, 2006 (document 0330.W3). A Site Location Map is attached as Figure 1, and a Site Vicinity Map showing the drilling locations is attached as Figure 2. All work was performed under the direct supervision of an appropriately registered professional.

BACKGROUND

On July 25, 2002 one 1,000-gallon capacity gasoline Underground Storage Tank (UST) was removed from the subject site. The removal of the tank is documented in the Underground Storage Tank Removal – Final Report dated August 6, 2002 prepared by AEI Consultants (AEI). Two tank pit soil samples were collected by AEI at a depth of 8 feet below grade (fbg) following removal of the UST and analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G), methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene, and xylenes (BTEX), and lead. Groundwater was not encountered in the UST pit at the time of UST removal. The sample collected at the west end of the UST pit (closest to the intersection of 77th Avenue and Hawley Street) contained 4,600 mg/kg TPH-G and 4.5 mg/kg benzene. The sample collected at the east end of the UST contained 310 mg/kg TPH-G, and benzene was not detected. MTBE was not detected in either sample, and lead was detected at concentrations of 16 and 9.1 mg/kg, respectively.

In a letter dated January 27, 2003 Mr. Ariu Levi of the ACDEH provided Notice of Responsibility for investigation and cleanup of the subject site to Mr. Daniel Shaw of D&D Ventures, LLC

April 14, 2008 Report 0330.R3

(D&D), the primary responsible party for the site. A subsequent letter dated February 3, 2003 from Mr. Amir Gholami of the ACDEH, also addressed to D&D, provided landowner notification and participation requirements associated with unauthorized release of a hazardous substance from an UST at the subject site.

Following conversations with Mr. Gholami to develop a scope of work to move the case towards closure, P&D submitted a January 26, 2004 Subsurface Investigation Work Plan (B1 Through B7) and associated addendum dated February 3, 2004. The January 26, 2004 work plan proposed a total of seven boreholes for collection of groundwater samples. The February 3, 2004 addendum included the collection of groundwater samples from an additional two boreholes located inside the building and analysis of soil samples from boreholes in the vicinity of the former UST pit. The work plan and addendum were approved in a letter from Mr. Gholami dated February 20, 2004.

On March 30, 2004 AEI drilled a total of seven boreholes and collected groundwater samples at locations identified in the P&D January 26, 2004 work plan. AEI did not drill at locations inside the building or arrange for laboratory analysis of soil samples as set forth in the February 3, 2004 work plan addendum. The boreholes were drilled to total depths ranging from 12 to 16 fbg. Saturated soils were encountered at depths of approximately 8 to 15 fbg, and groundwater was subsequently measured in the boreholes at depths of 6 to 10 fbg. The results of the March 30, 2004 investigation are documented in AEI's April 26, 2004 Groundwater Investigation addressed to D&D Ventures, LLC.

TPH-G was not detected in any of the boreholes except SB3 and SB4 at concentrations of 1,100 and 510 μ g/L, respectively. BTEX was not detected in any of the samples with the exception of SB3 where toluene and ethylbenzene were detected at concentrations of 1.8 and 3.5 μ g/L, and SB4 where toluene was detected at a concentration of 2.5 μ g/L. MTBE was not detected in any of the samples except SB3, SB6 and SB7. In SB3, MTBE was detected at a concentration of 3.9 μ g/L using EPA Method 8021B. In SB6 MTBE was detected at a concentration of 240 μ g/L using EPA Method 8021B. In SB7, MTBE was detected at a concentration of 440 μ g/L using EPA Method 8021B and at a concentration of 660 μ g/L using EPA Method 8260B. In addition, the fuel oxygenate tertiary-amyl methyl ether (TAME) was detected in sample SB7 at a concentration of 34 μ g/L. A summary of the groundwater sampling results is included as Table 1.

Evaluation of the water quality data collected by AEI shows that TPH-G concentrations in groundwater appear to extend in a southwesterly direction from the former UST pit, and is defined in extent by boreholes SB1, SB2, SB5, SB6 and SB7. In addition, the water quality data shows that MTBE concentrations are highest on the opposite side of the street from the site, and decrease as one gets closer to the former UST pit.

Sample SB3 was also analyzed for TPH-D and TPH-MO, with 780 and 580 μ g/L reported, respectively. The laboratory identified the results reported as diesel as consisting of gasoline-range and oil-range compounds. Based on subsequent conversations by P&D with the laboratory, the chromatograms showed that no diesel fuel was detected. The absence of BTEX and MTBE, the shape of the peaks on the chromatogram, and the distribution of gasoline-range compounds all suggested to the laboratory analyst that the detected petroleum hydrocarbons are very old, weathered gasoline.

MTBE was not detected in either of the soil samples collected at the time of the UST removal. The increasing concentration of MTBE as one gets farther from the former UST pit in conjunction with the absence of MTBE in the UST pit soil samples suggests an offsite source for the MTBE.

On November 7 through November 10 and on November 15, 2005, P&D observed the drilling of boreholes B8 through B14, soil conductivity logging, continuous borehole coring, Hydropunch sample collection, and soil and groundwater grab sample collection. P&D also oversaw the installation of groundwater monitoring wells MW1 through MW3. Well development was performed on November 21, 2005 and water level monitoring in the wells was performed on November 30 and December 7, 2005. The wells were not purged and sampled following development because water samples were collected from first encountered groundwater in GeoProbe boreholes located immediately adjacent to the monitoring well locations.

Soil conductivity logging was performed at locations B8, B9, B13, and B14 to a depth of 43.0 fbg except for location B9, where soil conductivity logging was performed to a depth of 42.0 fbg. Soil conductivity values were continuously measured and recorded and printed as a log. The soil conductivity logs suggested that a coarse-grained sand layer was encountered in all four of the boreholes at variable depths ranging between approximately 27 and 38 fbg. Following review of subsurface conditions identified in the soil conductivity logs, groundwater grab samples were also collected at all of the drilling locations (B8 through B14) by driving a Hydropunch to a depth of 36.0 fbg. The boreholes for wells MW1, MW2 and MW3 were drilled using a portable, limited access hollow stem auger drill rig and 6.5-inch outside diameter hollow stem augers. All of the boreholes were drilled to a depth of 14.0 fbg. Soil samples were collected at 5-foot intervals. Wells MW1, MW2 and MW3 were constructed using two-inch diameter Schedule 40 PVC pipe with 10 feet of 0.010-inch factory slot placed in the bottom of the borehole between the depths of 4 and 14 fbg.

MTBE was not detected in any of the soil samples. TPH-G and BTEX were detected only in samples from boreholes B9 through B12. In borehole B9, TPH-G was detected at a depth of 14.5 fbg at a concentration of 37 mg/kg, and benzene was detected at a concentration of 0.088 mg/kg. In borehole B10, TPH-G was detected at depths of 9.5, 19.5, and 29.5 fbg at concentrations of 1,400, 230, and 1.3 mg/kg, respectively, and benzene was detected at concentrations of 4.4, 4.6 and 0.014 mg/kg, respectively. In borehole B11, TPH-G was detected at depths of 9.5 and 22.0 fbg at concentrations of 150 and 13 mg/kg, respectively, and benzene was detected only in the sample collected at depth of 22.0 fbg at a concentration of 0.093 mg/kg. In borehole B12, TPH-G was detected at depths of 9.5 and 19.5 fbg at concentrations of 26 and 1.2 mg/kg, respectively, and benzene was not detected in any of the soil samples. MTBE was not detected in any of the groundwater samples with the exception of sample B14-15.0 at a concentration of 1.8 μ g/L. TPH-G and BTEX were detected in all of the boreholes except B8.

The TPH-G groundwater sample result at location B10 at a depth of 24 fbg (24,000 μ g/L) indicated that the vertical extent of TPH-G had not yet been defined. Similarly, benzene concentrations in groundwater at 36 fbg (310 μ g/L) indicated that the vertical extent of benzene had not yet been defined. The highest concentrations of TPH-G and benzene at the 36-foot depth are located at the southern portion of the property at borehole locations B10 and B11 (at the west end of the UST pit, between the UST pit and the building). The groundwater sample results also indicate that the horizontal extent of TPH-G and benzene are defined at the 15 or 20-foot depth with the exception of

the area to the west of the site. A summary of the groundwater sampling results is included as Table 1.

The absence of MTBE in all of the soil and water samples from boreholes B8 through B14 and the distribution of MTBE in water samples collected from boreholes B1 through B7 suggests that MTBE has not originated from the subject site. The absence of MTBE in samples at the subject site also suggests that a detached plume has not originated from the subject site because no residual MTBE has been detected in the immediate vicinity of the USTs. The distribution of MTBE in the vicinity of the site suggests an offsite source for the MTBE.

Based on the results of the previous investigation, P&D recommended that subsurface exploration be performed at two locations, designated as B15 and B16, as shown on Figure 2. P&D recommended that soil conductivity logs be recorded at locations B15 and B16 to depths of 50 and 100 fbg, respectively, and that one groundwater grab sample be collected using a Hydropunch® at location B15 at a depth of 36 fbg and at location B16 at a depth defined by the soil conductivity log as the next water bearing zone below the 36-foot depth. Documentation of the drilling of boreholes B8 through B14 and the installation of groundwater monitoring wells MW1 through MW3 is provided in P&D's Subsurface Investigation Report (document 0330.R1) dated March 22, 2006 addressed to Cupertino Capital.

Mr. Jerry Wickham of the ACDEH provided comments on the report in a letter dated April 21, 2006 and requested a work plan containing historic site use information, historic UST system information (including dispensers and piping), identification of methods for evaluation of potential vapor intrusion, a description of methods for collection of groundwater samples recommended in the March 2006 report, identification of potential preferential pathways, a detailed well survey within a 2,000-foot radius of the site, and the implementation of a quarterly groundwater monitoring program for the three groundwater monitoring wells.

A Subsurface Investigation Work Plan (B15 and B16) prepared by P&D dated October 20, 2006 (document 0330.W3) which addressed the drilling of boreholes B15 and B16 was subsequently submitted to the ACDEH. Information regarding historic site use, the UST system, and potential vapor intrusion are provided in this report. Documentation of the findings of potential preferential pathways, a detailed well survey, and the implementation of the quarterly groundwater monitoring program are provided under separate cover.

FIELD ACTIVITIES

Field activities consisted of file reviews for historic site and UST use, and drilling of boreholes B15 and B16.

File Review

File reviews at the ACDEH and the Oakland Fire Department were performed to identify information regarding historic site use and historic information regarding the UST, including the UST dispenser and piping. In addition, the August 6, 2002 Underground Storage Tank Removal Final Report prepared by AEI, and portions of a February 5, 1998 Phase I Environmental Site Assessment prepared by AEI for 900-920 76th Avenue, 7600-7660 Hawley Street, 901-933 77th

April 14, 2008 Report 0330.R3

Avenue, Oakland, California were reviewed, and responsible party was requested to provide any available information regarding historic site use and the UST system.

No documents were present in the ACDEH file for the subject site for historic land use or historic information regarding the UST. However, review of the county files for the nearby Western Exterminator site located at 901 76th Avenue (located approximately 300 feet northwest of the subject site) revealed one subsurface investigation related to an UST at 901 76th Avenue. The depth to water at the nearby site was reported to be between 5.5 and 10.2 fbg in a Case Closure Summary dated March 8, 1996 associated with the removal and investigation of one 1,000-gallon capacity gasoline UST at the neighboring site. The groundwater flow direction at the nearby site was identified as west to southwest, towards San Francisco Bay.

No documents were present in the Oakland Fire Department file dated prior to the 2002 UST removal permit application, and none of the documents in the file provided information regarding the dispenser or piping location.

There is no reference to the former UST dispenser or piping in the UST removal report text. The only reference to piping or a dispenser is on Figure 3 of the report, which shows two vent pipe locations, identified as, "Vent pipe to tank removed," and "Vent pipe cut off just belowground (sic) surface."

The Phase I report contained information regarding historic site use and potential nearby sources of petroleum hydrocarbons in groundwater. Review of Oakland Fire Department files in 1998 for addresses in the building located near or adjacent to the subject site (900-920 76th Avenue; 7600-7660 Hawley Street; 901-933 77th Avenue) dating back to 1985 showed that the historic use of the building has been for vehicle-related work. One inspection reported cited a business for a potential pollutant discharge into storm drains of oil and motor fluids from a parking area. The report also identified a file documenting removal and installation of a 1,000-gallon gasoline UST in the sidewalk in 1978 for Pacific Mill & Fixture at 907 77th Avenue of the same building.

The Phase I report stated that the subject site was not identified during the Leaking Underground Storage Tank database search. However, two nearby sites were identified as follows. The Western Exterminator Company at 901 76th Avenue, located adjacent to the north of the property, and the R.A. Trucking Company at 865 77th Avenue, located approximately 200 feet southwest of the subject site. Both cases are now closed.

Based on the available information, it was not possible to identify the UST installation date, any system upgrades, the type or volume of fuel used, the dates the UST was active, or the types of activities supported by the UST. Similarly, no information was obtained regarding the locations of the former dispensers and product piping.

Mr. Michael Parsons of Cupertino Capital stated that he did not have any information regarding site historic use or the UST system other than information provided above.

Based on discussions with the current owner, REIG, it is P&D's understanding that the intended use of the entire building of which the subject site is a portion is mixed commercial/industrial and residential, with possible conversion of the building to live-work space.

April 14, 2008 Report 0330.R3

Soil Borings

Drilling activities were performed on November 21, 2006. All subsurface exploration (soil conductivity logging and Hydropunch sample collection) for boreholes B15 and B16 was performed by Vironex, Inc. of San Leandro, California.

Prior to drilling, Alameda County Public Works Agency (ACPWA) permit W2006-0955 was obtained for the drilling of boreholes B15 and B16. In addition, the drilling locations were marked with white paint, Underground Service Alert was notified for underground utility location, a health and safety plan was prepared, and notification of the scheduled drilling date was provided to the City, the ACPWA and the ACDEH.

Soil Conductivity Logging

Soil conductivity logging was performed at locations B15 and B16 to depths of 52.0 and 98.0 fbg, respectively. Soil conductivity values were continuously measured and recorded and printed as a log. Increased conductivity values indicate finer grained materials. Correlation of the log values with actual earth materials is performed by evaluation and comparison of the conductivity logs with the lithology recorded during the completion of continuously cored boreholes completed during the November 2005 subsurface investigation (boreholes B8, B9, B10, B11, B12, B13, and B14). 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 for B15 and B16 with the previously drilled soil cores shows reasonable correlation of the decreased conductivity log values with the observed depths at which coarse-grained materials were encountered at depths of less than 15.0 fbg. Previously drilled borings B8, B9 and B14 were continuously cored to a depth of 15.0 fbg, previously drilled borings B10, B11, and B12 were continuously cored to a depth of 30.0 fbg, and previously drilled boring B13 was continuously cored to a depth of 40.0 fbg. Previously logged soil conductivity for boreholes B8, B9, B13 and B14 to depths of 42 or 43 feet suggest that a coarse-grained sand layer was encountered in all four of the boreholes at variable depths ranging between approximately 27 and 38 fbg. A similar interval was encountered in boring B15 but was absent in the conductivity log for boring B16.

Copies of the soil conductivity logs for B15 and B16 are attached with this report. Please note that the vertical and horizontal scales for the logs are different.

Hydropunch Groundwater Sample Collection

Following review of subsurface conditions identified in the soil conductivity logs, groundwater grab samples were also collected at both of the drilling locations (B15 and B16) by driving a Hydropunch at a location approximately two feet away from the soil conductivity log borehole. The Hydropunch was driven at boreholes B15 and B16 to a total depth of 52.0 feet and 98.0 feet, respectively. The locations of the boreholes are shown on Figure 2, and correspond with the locations of boreholes B15 and B16, respectively. Prior to retracting the drilling rods to expose the Hydropunch screen, the interior of the drilling rods for each borehole were evaluated to determine if water was present inside the drilling rods. No water was measured in any of the drilling rods prior to retracting the drilling rods to expose the Hydropunch screen.

Following retraction of the drilling rods to expose a four-foot long section of the Hydropunch screen in boreholes B15 and B16, water was measured inside the drilling rods prior to sample collection at depths of 36.0 and 76 fbg, respectively. A groundwater grab sample was collected from each of the boreholes using polyethylene tubing and a stainless steel foot valve. All water samples were transferred to 40-milliliter glass VOA vials containing hydrochloric acid preservative, which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to ensure that air bubbles were not present. The samples were labeled and then placed into a cooler with ice pending delivery to the laboratory. Chain of custody procedures were observed for all sample handling.

GEOLOGY AND HYDROGEOLOGY

Based on review of regional geologic maps from U. S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E. J. Helley and K. R. Lajoie, 1979, the subject site is underlain by Fine-Grained Alluvium (Qhaf). Fine-Grained Alluvium is described as unconsolidated plastic moderately to poorly sorted carbonaceous silt and clay.

The subsurface materials encountered in previously drilled boreholes B8a, B9a and B14a shows that clay was encountered to a depth of approximately 5.0 feet, below which predominantly sandy silt was encountered to a depth of 6.7 to 9.5 feet, which was in turn underlain by silty sand or sand to the total depth explored of 15.0 feet below the ground surface. The subsurface materials encountered in boreholes B10a, B11a, and B12a, consisted of silt or clay to a depth of 2.5 to 5.9 feet, below which sandy silt or sand was encountered to a depth of 12.7 to 18.0 feet, which was in turn underlain by clay or silt (with one sand layer encountered in each of the boreholes at different depths and ranging in thickness from 0.2 to 2.0 feet) to the total depth explored of 30.0 feet below the ground surface. In borehole B13a, silt and clay were encountered to a depth of 5.0 feet, below which sandy silt or sand were encountered to a depth of 16.5 feet, underlain by silt to 29.3 feet, sand to 38.0 feet, and clay to the total depth explored of 40.0 feet.

Review of the soil conductivity logs for boreholes B9EC and B14EC shows that below a depth of 4.0 or 6.0 feet, the subsurface materials consist of interlayered silty sand and coarse sand to the total depths explored of 42.0 and 43.0 feet, respectively. In borehole B9EC, coarse sand was encountered between the depths of approximately 5.0 and 13.0 feet, and again between the depths of approximately 27.0 and 36.0 feet below the ground surface. Similarly, in borehole B9EC,

coarse sand was encountered between the depths of approximately 6.0 and 14.0 feet (interlayered with silt), and again between the depths of approximately 31.0 and 38.0 feet below the ground surface.

Review of the soil conductivity logs for boreholes B8EC and B13EC shows that below a depth of 4.0 or 6.0 feet, the subsurface materials consist predominantly of interlayered silty clay and silty sand with interspersed layers of coarse sand to the total depths explored of 43.0 and 42.0 feet, respectively. In borehole B8EC, coarse sand was encountered between the depths of approximately 9.0 and 12.0 feet, 13.0 and 15.0 feet, and again between the depths of approximately 34.0 and 36.0 feet below the ground surface. Similarly, in borehole B13EC, coarse sand was encountered between the depths of approximately 7.0 and 11.0 feet, 12.0 and 13.0 feet, and again between the depths of approximately 33.0 and 35.0 feet below the ground surface.

Review of both the continuously cored borehole logs and the soil conductivity logs shows that in general, sand layers ranging from approximately 0.5 to approximately 9.5 feet in thickness were encountered at variable depths, but appeared to be located in two zones located predominantly between the depths of approximately 4 and 16 feet below the ground surface, and again between the depths of approximately 28 and 38 feet below the ground surface.

Review of the soil conductivity logs for boreholes B15 and B16 shows that below a depth of 4.0 or 6.0 feet, the subsurface materials consist of interlayered silty sand and coarse sand to the total depths explored of 52.0 and 98.0 feet, respectively. In borehole B15, coarse sand was encountered between the depths of approximately 7.0 and 14.0 fbg and again between the depths of approximately 27.0 and 36.0 fbg, below which silty clay and clay material is encountered to the total depth explored of 52.0 feet. Similarly, in borehole B16 prominent sandy layers are encountered between depths of 7.0 and 14.0 fbg, 29.0 and 36.0 fbg, and 67.0 to 75.0 fbg.

Groundwater was initially encountered in previously drilled boreholes B8a through B14a during drilling at depths ranging from 11.4 to 13.7 fbg with the exception of borehole B11a, where groundwater was initially encountered during drilling at a depth of 18.0 fbg. Groundwater was subsequently measured in the boreholes prior to groundwater grab sample collection at depths of 5.5 to 7.5 fbg with the exception of boreholes B10a and B12a, where groundwater was subsequently encountered prior to groundwater grab sample collection at depths of 12.0 and 14.1 fbg, respectively. Following retraction of the drilling rods to expose a four-foot long section of the Hydropunch screen in boreholes B15 and B16, water was measured inside the drilling rods prior to sample collection at depths of 36.0 and 76 fbg, respectively.

On November 30, 2005 following well installation but prior to well development, the measured depth to water in wells MW1, MW2 and MW3 was 5.85, 4.96 and 4.86 feet, respectively. On December 7, 2005 following well development, the measured depth to water in wells MW1, MW2 and MW3 was 5.62, 4.90 and 4.80 feet, respectively. Based on the measured depth to groundwater in the groundwater monitoring wells, the apparent groundwater flow direction at the site on November 30, 2005 was to the southwest with a gradient of 0.012, and on December 7, 2005 was to the southwest with a gradient of 0.011.

April 14, 2008 Report 0330.R3

LABORATORY ANALYSIS

The two groundwater samples were analyzed at McCampbell Analytical, Inc. in Pittsburg, California. McCampbell Analytical, Inc. is a state-accredited hazardous waste testing laboratory. The two groundwater samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G), and benzene, toluene, ethylbenzene, and xylenes (BTEX), using EPA Method 8021B in conjunction with modified EPA Method 8015C. In addition, groundwater grab sample were analyzed for fuel oxygenates (including methyl tert-butyl ether (MTBE)) and lead scavengers using EPA Method 8260B.

Review of the laboratory analytical results for the groundwater grab samples shows that none of the analytes were detected in the sample from B15. In B16, TPH-G was detected at a concentration of 140 140 μ g/L, and benzene was detected at a concentration of 7.6 μ g/L. Toluene, ethylbenzene and xylenes were detected in B16 at concentrations ranging from 5.7 to17 μ g/L. No fuel oxygenates or lead scavengers were detected in the sample. 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.

DISCUSSION AND RECOMMENDATIONS

The results of file and report reviews and a request to the responsible party did not reveal any new historic information regarding the UST system. However, review of a Phase I report for the subject site identified two closed UST cases in the immediate vicinity of the site, with one case located approximately 200 feet southwest of the subject site, in the same direction that increasing MTBE concentrations are encountered as one moves away from the subject site (see Figure 5).

The soil conductivity logs for B15 and B16 show coarse-grained material at depths of approximately 27 to 35 feet, which is consistent with the materials encountered in other boreholes at the site. Borehole B15 was drilled to evaluate the horizontal extent of petroleum hydrocarbons at a depth of 36.0 fbg. The groundwater sample results from borehole B15 at a depth of approximately 36.0 feet showed that no analytes were detected, indicating that the horizontal extent of petroleum hydrocarbons has been defined at the site.

During the previous subsurface investigation, groundwater samples collected from borehole B10 showed a one order of magnitude decrease in TPH-G concentration between the depths of 15.0 and 36.0 fbg, and a two order of magnitude decrease in benzene concentration between the depths of 15.0 and 36.0 fbg. Borehole B16 was located adjacent to borehole B10 to further evaluate the vertical extent of petroleum hydrocarbons in the vicinity of borehole B10. The sample results from borehole B16 show an additional two order of magnitude decrease in TPH-G concentration between the depths of 36.0 and 76.0 fbg, and an additional two order of magnitude decrease in benzene concentration between the depths of 36.0 and 76.0 fbg. Comparison of the San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) Environmental Screening Levels (ESLs) from interim-final November 2007 Table F-1a (Groundwater Screening Levels) shows that the near-ESL groundwater screening level values for groundwater sample results from borehole B16 at a depth of 76.0 fbg indicate that the vertical extent of petroleum hydrocarbons in groundwater has been defined at the site.

Isoconcentration contours showing the approximate areas exceeding ESL groundwater screening level values for TPH-G of 100 ug/L and benzene of 1 ug/L at depths of approximately 15 to 20 feet and approximately 36 feet are attached as Figures 3, 4 and 6 and 7. Please note that the TPH-G 100 ug/L isoconcentration contour for groundwater at 15 or 20-foot depth (Figure 3) has been modified to exclude the area in the vicinity of B14 which was shown in the previous subsurface investigation report.

Comparison of the November 2007 Table E-1a values (Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Concerns) shows that the MBTEX residential values of 24,000, 540, 380,000, 170,000, and 160,000 ug/L, respectively, with Table 1 shows that only benzene exceeds the ESL for potential vapor intrusion at location B10 at a depth of 10.0 feet and at B11 at a depth of 20.0 feet. Table E-1a states that soil gas samples should be used for evaluation of the risk associated with potential TPH-G vapor intrusion concern. Evaluation of Figures 3 and 4 shows that benzene concentrations posing a potential vapor intrusion concern (concentrations greater than 540 ug/L) are located in the vicinity of the south end of the former UST pit, and appear to extend beneath the southern corner of the building for a distance of approximately 20 feet from 77th Avenue and for a distance of approximately 30 feet from Hawley Street.

Review of the soil sample results for soil samples collected from MW2 at depths of 5.5 and 11.0 fbg shows that TPH-G and MBTEX were all not detected. Review of the boring logs from SB-2, SB-4 and SB-5 show that the subsurface materials consist of clay between the depths of 2 and 11 or 12 fbg. Similarly, the boring log for MW2 shows that clay was present between the depths of approximately 3.0 and 8.0 fbg, and in boreholes B9 (located near MW2) and B10 clay was present to a depth of approximately 5.0 fbg. In borehole B11 silt was encountered to a depth of approximately 8.0 fbg. The presence of clay in the upper portions of all of the boreholes except for B11, which is located in the sidewalk, suggests that clayey materials are present beneath the building and may perform as a barrier to the upward movement of petroleum hydrocarbon vapors.

Based on the sample results, P&D recommends that a pilot test be performed to evaluate the feasibility of dual phase groundwater and soil vapor extraction in the area where petroleum hydrocarbon concentrations exceed ESL groundwater screening values. In addition, the pilot test should evaluate the feasibility of air sparging to reduce petroleum hydrocarbon concentrations in groundwater below the water table.

DISTRIBUTION

A copy of this report will be uploaded to the ACDEH website, in accordance with ACDEH requirements. In addition, a copy of this report will be uploaded to the GeoTracker database.

LIMITATIONS

This report was prepared solely for the use of Cupertino Capital. 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 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

April 14, 2008 Report 0330.R3

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

Sincerely, P&D Environmental, Inc.

and H.King

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



- Attachments: Table 1: Summary of Laboratory Analytical Results Historic Groundwater Sample Analytical Data
 - Table 2: Summary of Laboratory Analytical Results Groundwater Sample Analytical Data
 - Figure 1: Site Location Map
 - Figure 2: Site Vicinity Map Showing Borehole Locations
 - Figure 3: TPH-G Concentrations in Shallow Groundwater at 15- or 20-Foot Depth
 - Figure 4: Benzene Concentrations in Groundwater at 15- or 20-Foot Depth
 - Figure 5: MTBE Concentrations in Groundwater at 15- or 20-Foot Depth
 - Figure 6: TPH-G Concentrations in Groundwater at 36-Foot Depth
 - Figure 7: Benzene Concentrations in Groundwater at 36-Foot Depth
 - Soil Electric Conductivity Logs
 - Laboratory Analytical Reports and Chain of Custody Documentation

PHK/jts 0330.R3

TABLES

TABLE 1SUMMARY OF LABORATORY ANALYTICAL RESULTS -HISTORIC GROUNDWATER SAMPLE ANALYTICAL DATA

Sample Name	TPH-G	TPH-D	TPH- MO	MTBE	Benzene	Toluene	Ethyl- benzene	Xylenes	Other VOCs By 8260B				
March 30, 2004 AEI Groundwater Investigation													
SB-1 W	ND<50			ND<5.0 ²	ND<0.5	ND<0.5	ND<0.5	ND<0.5					
SB-2 W	ND<50			ND<5.0 ²	ND<0.5	ND<0.5	ND<0.5	ND<0.5					
SB-3 W	<u>1,100</u> ,a,b	<u>780</u> ,c,d	<u>580</u>	ND<40 ²	ND<0.5	1.8	ND<0.5	1.5	ND, except MTBE = 3.9				
SB-4 W	<u>510</u> ,a,b			ND<5.0 ²	ND<0.5	2.5	ND<0.5	ND<0.5					
SB-5 W	ND<50			ND<5.0 ²	ND<0.5	ND<0.5	ND<0.5	ND<0.5					
SB-6 W	ND<50			$\underline{22}^2$	ND<0.5	ND<0.5	ND<0.5	ND<0.5					
SB-7 W	ND<50			<u>470</u> ²	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND, except TAME = 34, MTBE = <u>660</u>				
ESL ¹	100	100	100	5.0	1.0	40	30	20	MTBE = 5.0, No ESL for TAME				

NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

VOCs = Volatile Organic Compounds.

MTBE = Methyl Tertiary-Butyl Ether

TAME = Tertiary-Amyl Methyl Ether

-- = Not Analyzed

ESL¹ = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Groundwater Screening Levels Table F-1a – Groundwater is a current or potential source of drinking water.

² Analyzed using EPA Method 8021B

³ Analyzed using EPA Method 8260B

a = Laboratory analytical report note: heavier gasoline range compounds are significant, possibly aged gasoline.

b = Laboratory analytical report note: no recognizable pattern.

c = Laboratory analytical report note: gasoline range compounds are significant

d = Laboratory analytical report note: oil range compounds are significant.

f = Laboratory analytical report note: lighter than water immiscible sheen/product is present

ND = Not detected.

Results in bold indicate positive laboratory result.

Results with underline indicate value exceeding ESL.

Results are in ug/L, unless otherwise indicated.

TABLE 1(CONTINUED) SUMMARY OF LABORATORY ANALYTICAL RESULTS – HISTORIC GROUNDWATER SAMPLE ANALYTICAL DATA

Sample Name	TPH-G	TPH-D	TPH- MO	MTBE	Benzene	Toluene	Ethyl- benzene	Xylenes	Other VOCs By 8260B
Novembe	r 7 through	15, 2005 S	ubsurface	e Investigatio	п				•
B8-15.0	ND<50			1.83	ND<5.0 ³	ND<0.5 ³	ND<0.5 ³	ND<0.5 ³	All ND
B8-36.0	ND<50			ND<5.0 ²	ND<0.5	ND<0.5	ND<0.5	0.73	
B9-15.0	72			ND<5.0 ²	ND<0.5	0.76	ND<0.5	ND<0.5	
B9-36.0	<u>130</u>			ND<5.0 ²	<u>2.2</u>	0.77	2.4	1.6	
B10- 15.0	<u>290,000</u> ,f			ND<1,000 ²	<u>12,000</u>	<u>29,000</u>	<u>7,300</u>	<u>39,000</u>	
B10- 36.0	<u>24,000</u>			ND<500 ²	<u>310</u>	<u>1,200</u>	<u>680</u>	<u>3,500</u>	
B11- 20.0	<u>71,000</u> ,f			ND<750 ²	<u>4,800</u>	<u>880</u>	<u>5,700</u>	<u>9,700</u>	
B11- 36.0	<u>460</u>			ND<5.0 ²	<u>7.0</u>	3.6	<u>38</u>	<u>51</u>	
B12- 15.0	<u>570</u>			ND<5.0 ²	<u>11</u>	31	17	<u>91</u>	
B12- 36.0	96			ND<5.0 ²	0.71	2.6	1.6	8.8	
B13- 20.0	460 ,b			ND<10 ²	0.75	1.1	ND<0.5	1.9	
B13- 36.0	ND<50			ND<5.0 ²	ND<0.5	ND<0.5	ND<0.5	ND<0.5	
B14- 15.0	<u>100</u> ,b			ND<5.0 ²	ND<0.5	1.2	ND<0.5	3.3	MTBE = 1.8
B14- 36.0	61			ND<5.0 ²	0.73	0.77	3.7	6.6	

NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

VOCs = Volatile Organic Compounds.

MTBE = Methyl Tertiary-Butyl Ether

TAME = Tertiary-Amyl Methyl Ether

-- = Not Analyzed

ESL¹ = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Groundwater Screening Levels Table F-1a – Groundwater is a current or potential source of drinking water.

² Analyzed using EPA Method 8021B

³ Analyzed using EPA Method 8260B

f = Laboratory analytical report note: lighter than water immiscible sheen/product is present

ND = Not detected.

Results in **bold** indicate positive laboratory result.

Results with underline indicate value exceeding ESL.

Results are in ug/L, unless otherwise indicated.

TABLE 2 SUMMARY OF LABORATORY ANALYTICAL RESULTS – GROUNDWATER SAMPLE ANALYTICAL DATA

Sample Name	TPH-G	TPH- D	ТРН-МО	MTBE	Benzene	Toluene	Ethyl- benzene	Xylenes	Other VOCs By 8260B
November 2	21, 2006 Sul	bsurface I	nvestigation						
B15-36W	ND<50			ND<0.5 ³	ND<0.5	ND<0.5	ND<0.5	ND<0.5	All ND
B16-76W	<u>140</u>			ND<0.5 ³	<u>7.6</u>	8.6	5.7	17	All ND
ESL^1	100	100	100	5.0	1.0	40	30	20	MTBE = 5.0, No ESL for TAME

NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

VOCs = Volatile Organic Compounds.

MTBE = Methyl Tertiary-Butyl Ether

TAME = Tertiary-Amyl Methyl Ether

-- = Not Analyzed

ESL¹ = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Groundwater Screening Levels Table F-1a – Groundwater is a current or potential source of drinking water.

³ Analyzed using EPA Method 8260B

ND = Not detected.

Results in **bold** indicate positive laboratory result.

Results with underline indicate value exceeding ESL.

Results are in ug/L, unless otherwise indicated.

FIGURES











MTBE Concentrations in Oakland, CA



0 CSS Environmental Services, Inc. F Scale In Feet

November 2005

TPH-G Concentrations in Groundwater at 36-Foot Depth 901 77th Ave Oakland, CA



30 Scale In Feet

November 2005

Benzene Concentrations in Groundwater at 36-Foot Depth 901 77th Ave Oakland, CA

SOIL ELECTRIC CONDUCTIVITY LOGS





LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION



McCampbell Analytical, Inc.

"When Ouality Counts"

P & D Environmental	Client Project ID: #0330; 901 77th Ave	Date Sampled:	11/21/06
55 Santa Clara, Ste.240	Oakianu	Date Received:	11/22/06
Oakland CA 94610	Client Contact: Eric Olson	Date Reported:	11/29/06
, / .010	Client P.O.:	Date Completed:	11/29/06

WorkOrder: 0611469

November 29, 2006

Dear Eric:

Enclosed are:

- 1). the results of 2 analyzed samples from your #0330; 901 77th Ave Oakland project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill 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 please contact me. McCampbell Analytical Laboratories strives for excellence

in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

Р	& D ENVIRON 55 Santa Clara A Oskland, CA (510) 658-	MENTAI ve, Suite 240 A 94610 6916	l, Ind	fale(c.	CHAIN OF CUSTOD	Y F	REC	:OF	SD and	the start	5	PAG	EOF
	PROJECT NUMBER: 0330 SAMPLED BY: (PRI	NTED AND	SIGNAT	NAME: 17th Ave Oakland 1	ard AINERS			A T	//	ESERVIC	THE	REMARKS	
	SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUNCON	Tal.				6	/	
15	B15-36W B16-76W	11-21-06		water 11		5.5	XX				ICE 11	Normal	Turnaround
	ς	-											
1 94 1 4 1 - 1													
					ICE/1º 9.8 C GOOD CONDITION APPROPRIATE	\checkmark							
					DECHLORINATED IN LABPRESERVED IN 	IAB							,
	RELINQUISHED BY:	(SIGNATURE	E)	DATE,	TIME RECEIVED BY: (SIGNATURE)		TOTAL (TH TOTAL 1 (TH	NO. OF IS SHIPH IO. OF (IS SHIPH	SAMPLES IDIT) XONTAINEIS IDIT)	2	LAB Mc	ORATORY:	(Anylytical
	RELINOUTSHED BY	SIGNATURI		DATE 122	TIME RECEIVED BY: (SIGNATURE)		LABO	ela l	RY COI	NTAC	T: LAB	ORATORY	PHONE NUMBER:
	RELINQUISHED BY:	SICHATUR	E) /	DATE	TIME RECEIVED FOR LABORATORY (SIGNATURE)	BY:		S	ATTACH	AN AL HED:	YSIS RI ()YE	EQUEST SH	IEET
					REMARKS: VOAS presen	red w/	He	2					

McCampbell Analytical, Inc.

B16-76W

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, CA 94565-17 (925) 252-9262	01					Worl	cOrde	r: 061	1469		Clie	ntID:	PDE	0				
							Fax		∠ Em	nail		⊟Ha	rdCopy		Thirc	Party		
Report to: Eric Olson P & D Environmental 55 Santa Clara, Ste.240		Email: TEL: ProjectNo:	(510) 658-691 #0330; 901 77	6 FAX: 510-8 'th Ave Oakland	34-015	2	Bill to: A P 5	ccounts & D Er 5 Santa	s Payal nvironm a Clara,	ble nental , Ste.24	40			Rec Da	quested te Rece	TAT:	5 11/22	days /2006
Oakland, CA 94610		PO:					C	akland,	, CA 94	4610				Da	te Prin	ted:	11/22	/2006
									I	Reques	ted Te	sts (S	ee lege	end be	low)			
Sample ID	ClientSampID		Matrix	Collection Date	Hold	1	2	3	4	5		6	7	8	9	10	11	12
0611469-001	B15-36W		Water	11/21/06		А	В											

А

В

11/21/06

Water

Test Legend:

0611469-002

1	G-MBTEX_W
6	
11	

2	MBTEXOXY-8260B_W
7	
12	

3	
8	

4			
9			

5	
10	

Prepared by: Melissa Valles

Comments:

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

	McCampbell	Analyt alitv Counts"	ical, Inc	<u>-</u>		1534 Wi Web: www.m Telepl	illow Pass Road, F accampbell.com hone: 877-252-926	Pittsburg, CA 94565 E-mail: main@mcca 52 Fax: 925-252-9	i-1701 mpbell.com 269		
P&DI	Environmental		Client Project ID: #0330; 901 77th Ave Oakland				Date Sampled: 11/21/06				
55 Santa	a Clara, Ste.240				Date Receive	Date Received: 11/22/06					
Oakland	1 CA 94610		Client Cor	ntact: Eri	ic Ols	on		Date Extract	ed: 11/23/06		
Oaklaik	i, CA)+010		Client P.O	.:				Date Analyz	ed 11/23/06		
Extraction	Gasoline	e Range (O	C 6-C12) Vola Anal	itile Hydi ytical metho [,]	rocarl ds SW	bons as Gaso 8021B/8015Cm	line with BTI	EX and MTBE	* Work Order	r: 061	1469
Lab ID	Client ID	Matrix	TPH(g)	MTBI	E	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	B15-36W	W	ND,i			ND	ND	ND	ND	1	114
002A	B16-76W	W	140,a,i			7.6	8.6	5.7	17	1	112
	-			+						1	1
											1
											1
				1						1	
Rep	porting Limit for DF =1:	W	50	5.0		0.5	0.5	0.5	0.5		μσ/Ι
ND i ab	means not detected at or ove the reporting limit	S	NA	NA		NA	NA	NA	NA	1	mg/Kg

* 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 McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



WcCampbell Ana "When Ouality Co	alytical, Ind ounts"	1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269								
P & D Environmental	Client Pro	oject ID: #	#0330;	901 77th Ave	Date Sampled:	11/21/06				
55 Santa Clara, Ste.240	Oakland				Date Received: 11/22/06					
Oakland CA 94610	Client Co	ontact: Er	ic Olso	n	Date Extracted:	acted: 11/23/06				
Ouklund, CA 94010	Client P.C	D.:			Date Analyzed	e Analyzed 11/23/06				
	Ox	xygenates	by GC	/MS*						
Extraction Method: SW5030B	Analy	ytical Method	: SW826	0B		Work Order:	0611469			
Lab ID	0611469-001B	0611469-	002B			_				
Client ID	B15-36W	B16-76	6W			Reporting Limit fo DF =1				
Matrix	W	W								
DF	1	1				S	W			
Compound		Conce	entration		ug/kg	µg/L				
tert-Amyl methyl ether (TAME)	ND	ND				NA	0.5			
t-Butyl alcohol (TBA)	ND	ND				NA	5.0			
Diisopropyl ether (DIPE)	ND	ND	ND			NA	0.5			
Ethyl tert-butyl ether (ETBE)	ND	ND ND				NA	0.5			
Methyl-t-butyl ether (MTBE)	ND	ND				NA	0.5			
Surrogate Recoveries (%)										
%SS1:	114	110								
Comments	i	i								
* water and vapor samples are reported in μ extracts are reported in mg/L, wipe samples	ug/L, soil/sludge/so s in μg/wipe.	lid samples	in mg/k	g, product/oil/non-a	aqueous liquid sample	es and all TC	LP & SPLP			

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

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~ 1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



McCampbell Analytical, Inc.

"When Ouality Counts"

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0611469

EPA Method SW8260B	E	Extraction	SW503	0B		Batchll	D: 24900	ş	Spiked Sar	nple ID	: 0611472-0)03a
Analyte	Sample	Sample Spiked MS MSD M				LCS	LCSD	LCS-LCSD Acceptance Criteria (%)				%)
Analyte	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME	ND	10	85.6	87.3	1.92	89.4	84.7	5.41	70 - 130	30	70 - 130	30
Benzene	ND	10	120	118	1.47	117	110	6.35	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	85.9	80	7.13	85.5	92.2	7.59	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	112	113	0.789	113	107	5.16	70 - 130	30	70 - 130	30
Ethanol	ND	500	103	99.6	3.13	101	103	1.54	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	87.3	88.7	1.58	90	85.1	5.57	70 - 130	30	70 - 130	30
Methanol	ND	2500	119	117	1.64	111	108	3.31	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	81.5	82.9	1.69	88.2	82.4	6.75	70 - 130	30	70 - 130	30
Toluene	ND	10	113	111	1.51	111	103	7.85	70 - 130	30	70 - 130	30
%SS1:	103	10	94	97	3.07	94	97	2.74	70 - 130	30	70 - 130	30
%SS2:	95	10	97	97	0	96	96	0	70 - 130	30	70 - 130	30
%SS3:	91	10	91	91	0	92	91	1.33	70 - 130	30	70 - 130	30
All target compounds in the Met NONE	hod Blank o	f this extra	iction bat	ch were N	ND less tha	n the met	hod RL w	vith the follo	wing except	tions:		

BATCH 24900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0611469-001	11/21/06	11/23/06	1/23/06 10:57 AM	0611469-002	11/21/06	11/23/06	/23/06 11:40 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.

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





"When Ouality Counts"

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0611469

EPA Method SW8021B/8015	Cm I	Extraction	SW503	0B		Batchll	D: 24902	5	Spiked Sar	nple ID	: 0611469-0)01A
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	111	106	4.99	93.6	102	8.73	70 - 130	30	70 - 130	30
MTBE	ND	10	93.2	91.3	2.06	97.7	104	6.37	70 - 130	30	70 - 130	30
Benzene	ND	10	105	114	8.03	96.7	105	7.83	70 - 130	30	70 - 130	30
Toluene	ND	10	96.6	110	13.1	92.3	97.6	5.63	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	104	112	7.17	105	107	1.87	70 - 130	30	70 - 130	30
Xylenes	ND	30	110	120	8.70	103	107	3.17	70 - 130	30	70 - 130	30
%SS:	114	10	97	117	18.9	90	101	11.0	70 - 130	30	70 - 130	30
All target compounds in the Met NONE	hod Blank c	of this extra	iction bat	ch were N	ID less tha	n the met	hod RL w	with the follo	wing except	tions:		

BATCH 24902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0611469-001	11/21/06	11/23/06	11/23/06 4:22 AM	0611469-002	11/21/06	11/23/06	1/23/06 3:49 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.

