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***Corrective Action Plan  
with  
Additional Investigation  
and  
Groundwater Sampling Report  
for  
2942 San Pablo Avenue  
Oakland, California***

***Performed For:***

Mr. James Chung  
San Pablo Auto Body  
2926 San Pablo Avenue  
Oakland, CA 94608

***Prepared By:***

PIERS Environmental Services, Inc.  
1330 S. Bascom Avenue, Suite F  
San Jose, CA 95128

**November 2006**

**Project: 6043**



November 7, 2006

Tel (408) 559-1248 Fax (408) 559-1224

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

**RE: Corrective Action Plan with Additional Investigation  
and Groundwater Sampling Report for  
2942 San Pablo Avenue  
Oakland, CA**

Dear Mr. Wickham:

PIERS Environmental, Inc. (PIERS) has prepared this Corrective Action Plan (CAP) for the subject site in response to a letter from Mr. Jerry Wickham of Alameda County Environmental Health Services (ACEH) dated February 8, 2006.

This CAP is intended to follow the format of the requirements presented in the California Code of Regulations, Title 23, Article 11, Section 2725, Subsection (d) for Corrective Action Plans. The feasibility study presented in this CAP has been evaluated by taking into account historical hydrogeological and chemical analytical data. Using this data, PIERS has developed a remedial action plan. This remedial action plan is presented in a conceptual form and may require modifications prior to implementation, as additional investigative work is also proposed.

This CAP also reports the results of recent additional investigative work completed to characterize the vertical and lateral extent of volatile organic compounds (VOCs), particularly trichloroethene (TCE) and its breakdown products, and metals and cyanide at the above-referenced site. This work was proposed in PIERS "Work Plan for Additional Site Characterization" dated March 27, 2006 and PIERS "Addendum to Work Plan for Additional Site Characterization and Report of Well Survey" dated April 18, 2006. The work plan and addendum were conditionally approved by ACEH in a letter dated May 4, 2005.

The scope of investigative work included 1) obtaining drilling permits from the Alameda County Public Works Agency, 2) collecting near surface soil samples and soil vapor samples using a Geoprobe drill rig; 3) installing two additional groundwater monitoring wells; 4) collecting soil, vapor and groundwater samples; 5) submitting the soil, vapor and groundwater samples for chemical analysis; 6) data analysis and interpretation; and 7) preparation of this CAP.

## **SITE DESCRIPTION AND BACKGROUND**

The Property is located on the eastern side of San Pablo Avenue, at the intersection with 30<sup>th</sup> Street, in the City of Oakland, Alameda County, California (see Figure 1). Previous historical research for the Property completed during a Phase I Environmental Site Assessment (ESA) indicated that a metal plating works operated on the eastern portion of the site, and a fuel dispenser island was located on the western portion of the site, near San Pablo Avenue. PIERS recommended that exploratory soil borings should be installed in the vicinities of the plating works and the fuel dispenser island. This research, and the initial soil and groundwater sampling completed based on those findings, is summarized in PIERS' ESA dated May 2003.

A previous environmental report entitled "Soil/Environmental Report, 2942 San Pablo Avenue, Oakland, California", by Globe Soil Engineers, dated November 19, 1999, had been completed for the Property. No evidence of environmental concerns was found during their investigation; however, the three exploratory soil borings installed by Globe Soil Engineers were sited without knowledge of the prior service station or plating works, and were not installed close enough to the site to pick up any compounds of concern.

Based on the initial results of soil and groundwater sampling by PIERS, two more phases of exploratory soil borings were completed. Based on the analytical results, the groundwater beneath the Property at the location of the former service station has been impacted by a release of hydrocarbons. Also, solvents, particularly TCE, were present in elevated concentrations in groundwater, and at low concentrations in soil. Based on the historical research, the solvents in soil appeared to have originated from the former metal plating works. This work was summarized in PIERS' reports entitled "Report of Additional Phase II Investigation" and "October 2003 Report of Additional Phase II Investigation" dated September 9, 2003 and October 3, 2003, respectively.

Based on those findings, a work plan entitled "Work Plan for Site Characterization" dated March 18, 2004, was prepared. The purpose of the work was to further characterize the vertical and lateral extent of volatile organic compounds (VOC), particularly trichloroethene (TCE) and its breakdown products. The work plan was reviewed and approved with revisions by Mr. Barney Chan of Alameda County Environmental Health Services (ACEH) in a letter to the Property owner, Mr. James Chung, dated March 31, 2004. Revisions to the work plan requested by Mr. Chan were summarized in PIERS' work plan addendum dated April 12, 2004. In addition, installation of three groundwater monitoring wells was proposed. The work plan addendum was subsequently verbally approved by Mr. Chan.

Following work plan approval, a cost estimate was prepared and a loan from the City of Oakland Community and Economic Development Agency (OCEDA) was obtained for the Property owner for this work.

On July 20 through 22, 2004, a Geoprobe drill rig equipped with the membrane interface probe (MIP) system was used to obtain qualitative data on total volatile organic compound (VOC) concentrations, and data on conductivity that is useful for evaluating grain size and permeability of soils. On July 22, 23, 26 and 27, 2004, additional soil borings were completed with soil and groundwater sampling, and three groundwater monitoring wells were installed. The MIP data allowed a determination of focused sampling intervals for both soil and groundwater in the borings.

The soil samples collected were primarily to characterize conditions at and near the source area, and to determine the vertical extent of soil impacts. In addition to the source area, soil samples were collected from a soil boring beneath the underground hoist and at the locations of wells MW2 and MW3. These soil samples were collected to provide additional site characterization data and to allow correlation between MIP data and laboratory analyses. The sample locations are shown on Figure 2.

This investigative work was successful in identifying a source of TCE contamination in soil. The highest concentrations in soil, which began within a few feet of the surface, correspond to an unpaved area on the eastern side of an old concrete slab from the former plating works. Initially, five soil borings had been proposed in this area. The work proceeded in an iterative manner with each new boring relocated based on previous data. Additional soil borings to those proposed were completed with both the MIP system, and with soil and groundwater sampling by Geoprobe, in an attempt to delineate this source area for possible excavation. The borings located in this area are designated as B9B through B9M. The highest concentrations and the nearest surface impacts, based on the MIP data available on site during drilling, appeared to occur in B9I, B9D, B9H, and B9G.

Three monitoring wells (MW1 through MW3) were constructed using one-inch-diameter casing with a pre-packed filter sand of #2/16 sand, and were subsequently sampled for four consecutive quarters.

This investigation identified the source of the TCE impacts in groundwater as an unpaved area just to the east of a concrete-paved area at the former metal plating works. The highest concentrations of TCE in near surface soils were found in boring B9D. The highest concentration of TCE in soil was found at boring B9I at a depth of 14 feet below grade. The TCE in the vicinity of these soil borings represents a source area that will continue to contribute to the dissolved concentrations in groundwater until the source is remediated and the surface is paved.

The primary constituent of concern (COC) in soil and groundwater at the Property is TCE and its breakdown products.

Total Petroleum Hydrocarbons (TPH) as gasoline was also detected in groundwater at the TCE source area during this investigation, in concentrations above the Environmental Screening Levels (ESLs). The highest concentration was detected at B9I at 141,000 parts per billion (ppb); however, in this and other samples the laboratory noted that this concentration was partly due to a single peak of TCE. Benzene has not been detected in any water sample collected to date above a concentration of 37 ppb (Table 2A).

Lateral migration at the Property occurs preferentially along the discontinuous layers of more permeable gravelly silt. As the depth to groundwater is approximately 15 feet below grade, there does not appear to be the potential for groundwater to encounter utilities that could act as preferential pathways.

As refusal was encountered with both the MIP sampling probe and the dual casing setup on the Geoprobe rig, the vertical extent of contamination in groundwater is not entirely defined, but appears to attenuate with depth, based on sampling at B9B and B9I at the source area.

## RECENT FIELD ACTIVITIES – THIS INVESTIGATION

### INSTALLATION OF WELLS MW4 AND MW5

On September 19, 2006, groundwater monitoring wells MW4 and MW5 were completed at the Property by Vironex, a state-licensed driller. Prior to drilling, a health and safety plan was prepared, the well locations were marked with white paint and Underground Service Alert (USA) was notified. Also, a permit was obtained from the Alameda County Department of Public Works (ACDPW). After completion of the monitoring wells, Department of Water Resources Well Drillers Reports were completed and sent to ACDPW. The well locations are shown on Figure 2. The boring logs and well construction logs are presented in Appendix C.

Both wells were completed using a Geoprobe 6600. Well MW4 was completed using a dual casing setup where sampling was performed within inner 2-1/4 inch rods that were contained in 3-1/4 inch rods. In well MW4, the first encountered abundant water zone was a slightly coarser (trace sand) silt layer between about 36.5 and 37.5 feet below grade, which coincided with the start of a dark green reducing zone. Upon completion of continuous soil sampling to approximately 41 feet below grade, a “prepack” well was installed to approximately 40 feet below grade. The prepack well consisted of one-inch-diameter casing with five feet of 2/16 sand contained within a wire mesh. The well was screened from approximately 35 to 40 feet below grade. The sand pack extended from approximately 34.5 to 40 feet below grade. A foam collar was placed over the sand pack and then a two-foot bentonite “packer” was placed over the foam collar, within the interval from approximately 32.5 to 34.5 feet below grade. The annulus from the surface to 32.5 feet below grade was filled with neat cement grout. A locking well box was placed at the surface.

Well MW5 was first continuously sampled for lithology using 2-1/4 inch diameter rods to approximately 40 feet below grade. The 3-1/4 inch rods were then inserted to the total depth and the well was constructed in the same manner as MW4. The lithologic conditions encountered were similar to those encountered in MW4.

During drilling on September 19, 2006, the depth to groundwater in wells MW1, MW2, and MW3 was measured at approximately 11.82 feet, 14.30 feet and 14.17 feet below the tops of the casings.

At MW4, TCE had previously been detected in samples above 10 feet below grade. To further delineate these impacts, soil samples were collected at approximately 13.5 feet, 17.5 feet and 22.5 feet below grade.

No odors or obvious evidence of contamination were observed during drilling of either of the wells. The soil samples selected for analyses were cut from the plastic liner retrieved from the sampling tool. The ends of the samples were covered with Teflon tape and plastic caps. The samples were labeled, entered on a chain of custody form, and placed in a cooler, on ice, prior to pickup by a laboratory courier for transport to the laboratory.

The drilling rods and tools were decontaminated prior to use. Soil generated was stored on site in 55-gallon drums prior characterization for proper disposal.

## SURFICIAL SAMPLING

On September 19 and 20, sixteen discrete soil samples were collected at approximately 0.5 feet below grade. Locations are shown on Figure 2. A few samples were collected at approximately one foot below grade where base gravels or old pavement was thick. All of the soil samples were collected using a Geoprobe, except for four samples in the “hummocky area”, which were collected by using a shovel and directly filling the brass liners. The soil samples were handled as described above. No odors or obvious evidence of contamination were observed in these soil borings, except at SS3A, where an odor of hydrocarbons was detected from approximately 2 feet below grade, and therefore an additional soil sample was collected at that depth.

Brick fragments were encountered in many of the samples, and brick paving was encountered around well MW5. In addition to some brick, the samples generally consisted of silt with gravel base rock. The laboratory was instructed to perform the metals analyses on the sediment portion of the samples.

The drilling rods and tools were decontaminated prior to use. All soil borings were sealed using neat cement grout. Soil generated was stored on site in 55-gallon drums prior to characterization for proper disposal.

## SOIL VAPOR SAMPLING

On September 20, 2006, six soil vapor samples were completed at the Property in the area of former soil boring B10B and new well MW4. The soil vapor analytical data are presented in Appendix B and summarized in Table 7. The sample locations are shown on Figure 2. The soil vapor samples were collected using a Geoprobe direct push rig. An expendable drive point was advanced ahead of the drilling rods at each location to an approximate depth of 5 feet below grade. A Teflon tubing sampling line was installed into the drilling rods. The tubing was fitted with a threaded fitting that attached to a “point holder” with an O-ring to create a seal. The sampling line was capped with a vapor-tight valve. The drilling rods were then raised approximately six inches to create a void. Sampling took place after a 20 to 30-minute interval to allow conditions to equilibrate.

The soil vapor samples were collected using Summa canisters and a manifold system that allowed purging to a separate canister. After checking for air leaks, the tubing was purged of approximately three casing volumes of air and then a soil vapor sample was collected using a vacuum pump.

Hydrated bentonite was placed around the drill rods prior to sampling to halt air migration. The purging and the vapor sample collection were performed at a purge rate of between 100 and 200 milliliters per minute, using a regulator.

The drilling rods and tools were decontaminated prior to each use. All soil vapor borings were sealed using neat cement grout. Soil generated was stored on site in 55-gallon drums for proper disposal.

## MONITORING AND SAMPLING AND SURVEYING OF THE WELLS

On October 9, 2006, groundwater samples were obtained from monitoring wells MW1 through MW5 at the above-referenced site. The wells were also developed by purging, and monitored. The groundwater monitoring data is summarized in Table 1 and presented in Appendix A.

The groundwater samples were collected as follows: prior to sampling, the wells were checked for depth to water, and for the presence of free product and/or sheen. No free product or sheen was noted in any of the wells.

Each well was bailed until the volume of water withdrawn was equal to at least ten well casing volumes. To assure that a representative groundwater sample was collected, periodic measurements of the temperature, pH and specific conductance were made. The sample was collected after the temperature, pH, and/or specific conductance reached relatively constant values.

Water samples were collected using new, disposable bailers. An effort was made to minimize exposure of the samples to air. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. Sample containers were obtained directly from the analytical laboratory. Sampling equipment was cleaned after its use at each sampling location. Thermometers, pH electrodes, and conductivity probes were also cleaned after sampling.

Subsequent to collection, the samples were immediately stored on ice in an appropriate ice chest. Excess water resulting from the sampling and cleaning procedures was collected and contained in pre-labeled, 55-gallon drums on-site pending receipt of laboratory analyses.

On September 26, 2006, the two new wells and three existing wells were surveyed by CSS, a licensed surveying company. The survey data is attached in Appendix D. The wells were surveyed to a new benchmark required by Geotracker, and the elevations of the tops of casings differed from previous survey data. Based on a discussion with the surveyor, it is known that there is a difference between these benchmarks and the differences between the original surveyed elevations and the new elevations is within that range.

## HYDROLOGY

On October 9, 2006, the measured depth to groundwater in the three monitoring wells varied between 12.99 feet and 14.67 feet below the tops of the well casings. The depths to groundwater in the wells MW1 through MW3 increased between approximately 2.32 feet and 2.73 feet since the last event on May 12, 2005, but are within previous seasonal fluctuation ranges. On October 9, 2006, the direction of groundwater flow at the Property was to the west at an approximate gradient of 0.024 feet per foot, generally similar to previous events. Monitoring data collected this quarter is summarized on Table 1 and Figure 3.

The elevation of groundwater in MW1 appears anomalous to the other wells, and was not used in calculating the direction of groundwater flow presented on Figure 3. However, the groundwater flow direction is unchanged when the data from MW1 is used in contouring.

The measured hydraulic gradient (0.024 feet per foot) continues to be steeper compared to typical gradients along the East Bay Plain.

### LABORATORY ANALYSES

Samples were transported under Chain-of-Custody procedures to McCampbell Analytical Laboratory in Pittsburg, CA. The soil samples from MW4 were analyzed for VOCs by EPA Method 8260. The surficial samples were analyzed for the CAM 17 metals, cyanide, and hexavalent chromium. Sample SS3Ad2 was analyzed for VOCs by EPA Method 8260 and for TPH as diesel and motor oil by EPA Method 8015. The laboratory analytical data are summarized in Tables 5A, 5B, and 6.

The soil vapor samples (SV1 through SV6) were analyzed for VOCs by Method TO-15. The analyses were performed by Air Toxics Limited in Folsom, California, which also provided the Summa canisters and manifolds used in collecting the samples. The soil vapor analytical results are summarized in Table 7.

The groundwater samples collected from the five monitoring wells were analyzed for VOCs by EPA Method 8260, TPH as gasoline by EPA Method 8015, the Cam 17 metal, hexavalent chromium (TTLIC), and cyanide. The analytical results are summarized in Tables 2, 3, and 4. The groundwater samples for metals analyses were filtered in the field of sediment prior to transport to the analytical laboratory.

Copies of laboratory analytical results are presented in Appendix B.

### ANALYTICAL RESULTS – SOIL FROM MW4 AND SS3Ad2

The analytical results of the soil samples collected from MW4 at depths of approximately 13.5 feet, 17.5 feet and 22.5 feet below grade indicated detectable concentrations of TCE and cis-1,2 dichloroethene that ranged up to 2.3 parts per million (ppm). The concentrations of TCE at 13.5 and 17.5 feet below grade in MW4 (2.3 and 1.9 ppm, respectively) were in excess of the Environmental Screening Level (ESL) of 0.73 ppm.

In SS3Ad2, where an odor of hydrocarbons was observed, TPH as diesel and motor oil were detected at concentrations of 120 ppm and 1,000 ppm, respectively. Also, Methyl-tertiary-butyl-ether (MTBE) was detected at a concentration of 0.058 ppm, and BTEX (benzene, toluene, ethylbenzene and xylenes) constituents were detected ranging from 0.060 (ethylbenzene) to 0.33 ppm (1,2,4-trimethylbenzene). These sample results are summarized on Table 6.



**To further define the extent of hydrocarbon contamination at this location, a soil boring should be extended to groundwater at this location and soil samples collected at every five-foot interval and at any obvious contamination. A grab groundwater sample should also be collected. The soil samples should be analyzed for TPH as diesel and motor oil and EPA method 8260 constituents.**

#### ANALYTICAL RESULTS – SURFICIAL SOIL SAMPLES

The analytical results of the composite soil samples collected for analyses for the CAM 17 metals, hexavalent chromium and cyanide indicated concentrations of some metals in excess of the commercial ESLs. Therefore, as proposed in the work plan, the discrete soil samples were analyzed for the particular metals that were in excess of the ESLs. These sample results are summarized on Tables 5A and 5B.

Arsenic was detected in five discrete samples at concentrations above the ESL (5.5 ppm), ranging up to 8.1 ppm. It is possible that all of the arsenic detected is naturally occurring, as it is within published background ranges, and relatively uniformly distributed.

Soil samples 3B through 3D, collected nearest the auto body shop building on the southern portion of the Property, contained elevated concentrations of cadmium, chromium, copper, and nickel. Arsenic, zinc and hexavalent chromium were also elevated (above their respective ESLs) in some of these samples. Chromium and arsenic were detected above their respective ESLs in S3A. At this location, a deeper soil sample was collected at 2 feet below grade. This sample was collected due to an odor of hydrocarbons; however, to provide vertical delineation for metals and an example of “background” concentrations in native soils, it was also analyzed for those metals that were above the ESLs in composite sample S3A-3D. The results indicated concentrations below the ESLs.

Composite soil sample S4A-S4D was collected in a hummocky area and none of the detected compounds were in excess of their respective ESLs. Based on observations during sample collection, this “hummocky area” is comprised of surficial soils that were moved from other portions of the site after the plating operation had long ceased.

Chromium was also detected above the ESL in three other discrete samples, and hexavalent chromium in one other discrete sample. Except at SS2D, these samples (SS1A and SS2A) may be representative of naturally occurring background concentrations.

**To further define the extent of these metals in soil, PIERS recommends that soil samples be collected from SS3B through SS3D and at SS2D at 2 feet below grade and analyzed for those metals that exceed the ESL in the shallow samples. Also, two soil borings should be advanced in the “hummocky area” and soil samples collected at approximately 0.5 and 2.0 feet below the original grade. The samples from 2.0 feet could be placed on hold and analyzed based on the analytical results of the samples from 0.5 feet below grade, which should be analyzed for the CAM 17 metals.**

Although some concentrations of metals were in excess of the “ten times rule”, where the STLC test would be performed, the STLC tests were not performed at this time because additional exploration is proposed to define the vertical extent of metals in soil, and because in the future, if profiling for disposal of these soils, the concentrations of metals in the stockpiles may be less than these values.

#### ANALYTICAL RESULTS – MONITORING WELLS

The analytical results of the VOCs in wells MW1 through MW3 were within historical ranges (see Table 2). The concentration of TCE in MW1 decreased to 9,100 ppb, as compared to 19,000 ppb detected on May 12, 2005, the historical maximum detected. The concentration of VOCs in newly installed wells MW4 and MW5 were relatively low. The concentrations in MW1 remain elevated above the ESL where groundwater is not considered a resource. Figure 4 presented the TCE concentrations in wells.

Petroleum hydrocarbons (Table 3) were non-detectable in all of the wells except in MW1, where a single peak, that the laboratory has previously stated was TCE falling within the TPH as gasoline range, lead to a reportable result of 6,800 ppb.

The analytical results of the CAM 17 metals, hexavalent chromium and cyanide indicated concentrations below the ESL for the respective compounds, except for lead and zinc in MW2, copper in MW3 and MW5, and cyanide in MW5 (see Table 4). For the metals, because the concentrations are the same order of magnitude as the ESL, and because all of the other compounds were below the ESL and the detected metals in groundwater do not correspond to locations of elevated concentrations in soil, it is not clear that these detected concentrations are due to previous site activities. The reason is not clear for the occurrence of 22 ppb of cyanide in well MW5 while non-detectable in the other wells and below the ESLS in the soil samples. **PIERS recommends that future groundwater samples be analyzed for these compounds to confirm these findings in the wells where they were previously detected.**

The analytical results are summarized on Tables 2 through 4 and Figure 4.

#### ANALYTICAL RESULTS – SOIL VAPOR SAMPLING

The analytical results of the six soil vapor samples (SV1 through SV6) indicated concentrations of TCE and cis-1, 2 DCE above their respective ESLs in samples SV2 through SV4, closest to the building. However, previous soil sampling at B10 and B10B and soil sampling during this investigation at MW4 did not clearly indicate a near surface source as was encountered at the center of the Property near MW1. **Therefore, the source of these contaminants is undefined, and additional investigation in this area is warranted. This investigation should be conducted in conjunction with additional investigation for metals at SS3B through SS3D and hydrocarbons at SS3A.**

**In order to calibrate the soil vapor data with soil analytical data, PIERS proposes collecting soil samples at approximately 5 feet below grade at the two soil vapor locations with the highest concentrations of constituents (SV4 and SV5) and analyzing these samples by EPA Method 8260. Three additional soil vapor borings would also be completed to the east and southeast of these points outside the building, and three soil vapor borings would be completed to the south of SV4, inside the building. At these locations, a soil sample would be collected at any obvious contamination and at 5 feet below grade, and then a soil vapor sample would be collected. The locations of the proposed borings are shown on Figure 5.**

Numerous other compounds were detected (see laboratory sheets) but were below their respective ESLs or else there is no ESL for the compound. The results of these analyses are depicted on Table 7 and Figure 5.

#### FILE REVIEW FOR 958 - 28<sup>TH</sup> STREET

As proposed in PIERS' workplan, wells identified in a well survey were investigated further. PIERS had previously reported that thirty-six monitoring wells are located at 958 E. 28<sup>th</sup> Street, approximately 700 feet to the west-southwest. To better determine the location of these wells, to obtain information on the hydrogeologic conditions, and to determine if the wells have ever been sampled for VOCs, PIERS proposed to review the file.

Based on the file review, this site was a LUST case that received closure in February 1996. Eight monitoring wells were installed, and apparently have been destroyed, as this was a condition for obtaining the Remedial Action Completion Certification. There is no indication that samples from the wells were ever analyzed for the contaminants of concern for the 2942 San Pablo investigation. The depth to groundwater at this site reportedly ranged from about 10 to 16 feet below grade, with a flow direction that was generally to the south-southwest. However, as stated in the file documents, the tank pit gravel backfill may have affected the elevations in groundwater of two wells. The wells were generally screened over 10-foot to 20-foot intervals, beginning as shallow as 10 feet below grade and as deep as 18 feet below grade, and extending to 25 to 30 feet below grade. The wells appear to be screened through units of differing lithology without regard to permeability.

## CORRECTIVE ACTION PLAN

### IMPACT ASSESSMENT

1. *The physical and chemical characteristics of the hazardous substance or its constituents, including their toxicity, persistence, and potential for migration in water, soil, and air:*

Based on the analytical results for both soil and groundwater samples collected to date, the primary contaminant to be addressed by this CAP is Trichloroethylene (TCE) and its breakdown products. The analytical results of the soil and groundwater samples collected from the monitoring wells and borings indicate dissolved concentrations of these compounds. These compounds are relatively defined in soil and groundwater except for the southeastern portion adjacent to the building. These compounds are defined in soil vapor only around MW4. Additional delineation in that area is proposed but is not anticipated to significantly change this CAP, which is conceptual. Also, elevated concentrations of metals and hydrocarbons have been identified during this investigation in shallow soils, and are not completely delineated.

2. *The hydrogeologic characteristics of the site and the surrounding area where the unauthorized release has migrated or might migrate:*

The contaminant source on the site is considered to be the residual TCE and VOC-impacted soils and groundwater that was identified by the MIP investigation in July 2004. Although some metals have been identified above ESLs in shallow soil at the Property, they do not appear to have significantly impacted groundwater.

The subsurface soils at the Property consist predominantly of silt and clayey silt with varying amounts of gravel, and some silty clay. The gravels are highly weathered and decomposed. Three lithologic units have been defined. The first unit is comprised of the lowest permeability soils consisting predominantly of clay or silty clay (CL). This unit is defined on the cross-sections by those soils with greater than 150 milliSiemens per meter of conductivity during MIP logging. While the unit is of relatively low permeability, it is clear that the TCE at the source migrated vertically downward through up to 5 feet of thickness of these soils. The other occurrences of this unit at depth were predominantly discontinuous and less than two feet in thickness within the saturated zone (s).

The second unit is comprised of the highest permeability soils, which consisted of gravelly silt (ML). This unit is defined as those soils with less than 50 milliSiemens per meter of conductivity during MIP logging. This unit also occurs in discontinuous layers of less than several feet within the saturated zone, except in the vicinity of MIP boring B14/well MW2. At this location, the unit was encountered from approximately 32.5 feet below grade to the total depth explored (about 43 feet).

The third unit is defined as those soils of intermediate permeability, between 50 and 150 milliSiemens per meter of conductivity. These soils vary from clayey silt (ML) to silt with some gravel (ML).

The three units are gradational laterally and vertically and discontinuous laterally, typical of alluvial fan deposits. The unit of intermediate permeability could be described as layers of fining upward and coarsening upward sequences, as shown on the cross-sections.

According to “Flatland Deposits – Their Geology and Engineering Properties and Their Importance to Comprehensive Planning” by Halley et al (U. S. G. S Professional Paper 943), the Property is underlain by Late Pleistocene alluvium, which is generally described as weakly consolidated, slightly weathered, poorly sorted, irregularly interbedded clay, silt, sand and gravel at least 150 feet thick. The alluvium was deposited in stream channels and on stream terraces in an alluvial fan setting.

Also, according to “Groundwater Study and Water Supply History of the East Bay Plain, Alameda and Contra Costa Counties”, by Sandy Figuers, dated June 15, 1998, the Property is located within the Oakland sub-area of the San Francisco Basin, a tectonic depression that is filled primarily with a sequence of coalescing alluvial fans, occurring as irregular lenses eroded from the surrounding hills. Based on cross-sections accompanying this report, the Property is underlain by over 100 feet of Yerba Buena mud, which is underlain by about 260 feet of recent alluvium. The recent alluvium is in turn underlain by about 320 feet of Santa Clara-equivalent, fine-grained, alluvial fan-derived sediments. The depth to the underlying bedrock is about 600 feet. The Yerba Buena mud is considered to be an aquitard. However, the lithologic logging and MIP work completed during this investigation are more consistent with the recent alluvium unit.

According to Figuers, the Oakland sub-basin has two main aquifers, the Merritt Sand, which does not occur in the area of the Property, and deeper gravels. North Oakland has a surface clay between two to twenty feet in thickness, and water-bearing gravels occur at 20 to 25 feet and 45 to 50 feet, which is generally consistent with this investigation. Wells in this area (no longer active) averaged 150 feet in depth.

3. *The proximity and quality of nearby surface waters, wetlands, or groundwater, and the current and potential beneficial uses of these waters:*

#### Surface Waters

Based on the USGS Topographic Map for this area (Oakland West), the nearest surface water body is Lake Merritt, which is located approximately one mile to the southeast. As this is cross-gradient to up-gradient of the Property, the subject site does not have the potential to impact the surface waters at Lake Merritt. The next closest surface waters and wetlands are located approximately 1.2 miles to the northwest, at the margin of San Francisco Bay.

According to information contained in the Water Quality Control Plan for the RWQCB, San Francisco Bay Basin (Basin Plan) dated June 21, 1995, the existing and potential beneficial uses for the San Francisco Bay are as follows:

- Ocean, Commercial, and Sport Fishing
- Estuarine Habitat
- Industrial Service Supply
- Fish Migration
- Navigation
- Preservation of Rare and Endangered Species
- Water Contact Recreation
- Non-Contact Water Recreation
- Shellfish Harvesting
- Fish Spawning (Potential)
- Wildlife Habitat

#### Wetlands

There are no wetlands in the vicinity of the site. The closest wetlands are at San Francisco Bay, approximately 1.2 miles to the northwest of the site.

#### Groundwater

The Property is located within the East Bay Plain groundwater basin. Per the Basin Plan, the existing and potential beneficial uses applicable to groundwater include municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply.

4. *The potential effects of residual contamination on nearby surface water, wetlands, and groundwater:*

Although the down-gradient extent of dissolved contamination at the Property is not completely defined, based on the distance (approximately 1.2 miles) of the Property from the nearest surface water or wetlands, it does not appear that the contamination at the Property would significantly impact surface water or wetlands. In addition, PIERS previously searched the available records for the presence of water-producing wells located within a half-mile radius of the site. No active production wells were located within the half-mile radius.

## FEASIBILITY STUDY

*The responsible party shall conduct a feasibility study to evaluate the alternatives for remedying or mitigating the actual or potential adverse effects of the unauthorized release. Each alternative shall be evaluated for cost effectiveness, and the responsible party shall propose to implement the most cost-effective corrective action:*

### OPTION #1 - NO REMEDIAL ACTION/LONG TERM MONITORING

- COST: Relatively low
- TIME FRAME: Long term
- ADVANTAGES: 1) Low annual cost  
2) Minimal impact to planned development
- DISADVANTAGES: 1) Source continues to impact groundwater with potential for further migration  
2) No defined project closure
- CONCLUSION: Not a suitable approach for this site at this time.

### OPTION #2 – GROUNDWATER PUMP AND TREAT

- COST: High
- TIME FRAME: Long term due to low extraction rate
- ADVANTAGES: 1) Potential for hydraulic control  
2) Could reduce dissolved concentrations in groundwater
- DISADVANTAGES: 1) Not an effective method for remediating dissolved concentrations of volatile organic compounds in low permeability soils. Wells might not produce sufficient water to provide significant treatment.  
2) Would require disposal of treated water.  
3) Construction and operation costs for an extraction system would be high.
- CONCLUSION: Not an effective remedial method for this site; more feasible methods are available.

OPTION #3 - VAPOR EXTRACTION

- COST: High
- TIME FRAME: Long term due to low extraction rate
- ADVANTAGES: 1) Could potentially remediate soil.  
2) Could reduce dissolved concentrations in groundwater.
- DISADVANTAGES: 1) Not an effective method for remediating volatile organic compounds in low permeability soils. Vapor extraction wells likely would not have sufficient capture zone to provide significant treatment.  
2) Construction and operation costs for an extraction system would be high.  
3) Would require permitting for emissions.
- CONCLUSION: Not an effective remedial method for this site; more feasible methods are available.

OPTION #4 – ELECTRICAL RESISTIVITY HEATING & VOLATILIZATION

- COST: High
- TIME FRAME: Short term
- ADVANTAGES: 1) Works largely independently of permeability and lithology.  
2) Can be completed in relatively short duration.
- DISADVANTAGES: 1) High cost  
2) Requires permitting for emissions.  
3) May affect adjacent parcels.
- CONCLUSION: Considered unfeasible for this site due to high costs and site logistics (small site bordered by other properties and street improvements).



OPTION #5 – INJECTION OF BIODEGRADATION, OXIDATION OR REDUCTION REAGENTS

- COST: Relatively low
- TIME FRAME: Short term, longer term with additional monitoring and re-injection
- ADVANTAGES: 1) Effective for reducing moderate to high dissolved levels of groundwater contamination.  
2) Monitoring of groundwater conditions can be performed and additional material injected, if required.  
3) Oxidizing agents containing permanganate are relatively effective in low permeability soils
- DISADVANTAGES: 1) Reagent must come in direct contact with contaminants  
2) May not be effective for remediating low dispersed concentrations in low permeability areas.  
3) Reducing agents and biodegradation enhancers not effective if little natural biodegradation occurring, reducing agents could potentially leave daughter products if breakdown incomplete.
- CONCLUSION: Oxidation (injection of permanganate) appears to be an effective remedial method for this site.

OPTION #6 – SOURCE REMOVAL

- COST: High
- TIME FRAME: Short term
- ADVANTAGES: 1) Completely effective for area excavated and for groundwater extracted during dewatering of excavation.  
2) Allows access for addition of reagents.
- DISADVANTAGES: 1) Not economically feasible if soil concentrations would require incineration of soils.  
2) Not feasible with increasing depth due to groundwater and construction considerations.
- CONCLUSION: Considered a possible remedial technique for this site if concentrations can be reduced to allow disposal at a Class II facility.

## FEASIBILITY STUDY DISCUSSION

1. *For all sites, each recommended alternative shall be designed to mitigate nuisance conditions and risk of fire or explosion:*

A site Health and Safety Plan (HSP) will be prepared for the recommended scope of work. The HSP will be strictly followed in order to ensure site and community safety.

2. *For sites where unauthorized release affects or threatens water with current or potential beneficial uses designated in water quality control plans, the feasibility study shall also identify and evaluate at least two alternatives for restoring or protecting these beneficial uses:*

As previously stated in this CAP, it does not appear that the contaminants that are present at the subject site threaten any surface water or wetlands in the vicinity of the site that have a current or potential beneficial use. However, groundwater is affected, and two alternatives (addition of oxidizer and source removal) have been identified. Monitoring and sampling of the existing wells would be used to evaluate corrective action effectiveness and progress towards cleanup.

## CLEANUP LEVELS

*Cleanup levels for ground or surface waters, affected or threatened by the unauthorized release, shall meet the following requirements:*

- (i) For waters with current or potential beneficial uses for which numerical objectives have been designated in water quality control plans, the responsible party shall propose at least two alternatives to achieve these numerical objectives.
- (ii) For waters with current or potential beneficial uses for which no numerical objectives have been designated in water quality control plans, the responsible party shall recommend target cleanup levels for long-term corrective actions to the regulatory agency for concurrence.

The final cleanup level goal for TCE in groundwater is proposed to be 5.0 ppb, the Environmental Screening Level (ESL) for areas where groundwater is considered to be a resource. It is anticipated that for any remaining residual contamination in groundwater above the cleanup goal, and for the potential for indoor air exposure, an evaluation of risk to human health and environment (risk based corrective action or RBCA) would be conducted, and mitigating measures would be designed.

## REMEDIAL ACTION PLAN

Based on the various remedial alternatives evaluated in this CAP, PIERS presents the following recommendations for remedial action. Recommendations for additional investigation were presented earlier in this report. This work should be carried out first, and the findings used to reevaluate this remedial action plan and modify it, as appropriate.

### Injection of Permanganate into Groundwater

A calculation of contaminant mass and determination of soil oxygen demand and other parameters would be performed to determine suitable quantities for injection. A work plan would be developed detailing pilot test procedures and the ultimate number of injection points. After injection, periodic monitoring for permanganate and TCE would be performed during regular quarterly monitoring and the need for additional injection would be evaluated on an ongoing basis. Although it would be beneficial to install permanent injection points (two-inch casings) it is anticipated that this would not be feasible due to source removal and future construction excavation considerations. This step would be performed prior to any excavation as injection under pressure has the potential to resurface around the borehole.

### Soil Mixing and Limited Source Removal

This work would remove or greatly reduce the highest concentrations of TCE at the source down to the level of groundwater. An area of soil mixing approximately 13 feet by 26 feet laterally and up to 17 feet deep would be completed at the source. Other areas requiring excavation for the planned facility would be identified and soil mixing would be performed at those areas. A large excavator fitted with a soil mixing wheel and hose for direct application of permanganate in solution would be used to treat the affected soils. After treatment, it is anticipated that soils in the mixed areas with remaining residual levels above screening levels, surficial soils impacted by metals, and any soil requiring excavation for construction of the new facility would be disposed of at the appropriate landfill facility.

Due to the low permeability soils and discontinuous nature and depth of the contaminant distribution, mixing and treatment of all of the TCE-impacted soil at the Property is not considered feasible. Some concentrations of TCE in excess of the ESLs would likely remain in place in soils both laterally and vertically after this work.

### Mitigation of Potential for Exposure to Contaminants in Indoor Air

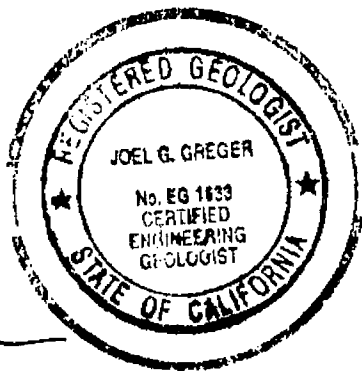
It is recognized that prior to construction of the new facility, and in the area of the existing building, additional investigation of soil vapor conditions would be performed, a risk assessment would be conducted, and in the case of the new building, a vapor barrier designed.

### Evaluation of Progress Towards Cleanup Goals

The existing well network would be sampled on a quarterly basis to evaluate the progress towards cleanup goals and the effectiveness of the remediation.

It is anticipated that after your review of this document, and finalization of the scope of work, more detailed work plans would be prepared for each future phase and submitted for your review. If you have any questions regarding this report and CAP, please do not hesitate to contact me at (510) 593-5382.

Sincerely,  
PIERS Environmental Services, Inc.



Joel G. Greger  
Senior Project Manager  
CEG # EG1633, REA # 07079



Kay Pannell  
Chief Operations Officer  
REP #5800, REA-II #20236

Attachments  
Figures 1 through 5  
Tables 1 through 7  
Appendices A-E

cc: Mr. James Chung, owner

## **FOR REFERENCE ONLY**

Attachments –

Figure 1 – Vicinity Map

Figure 2 – Site Plan showing Locations of Surficial Samples, Wells, and Soil Vapor Borings

Figure 3 – Potentiometric Surface Map

Figure 4 – Concentrations of TCE in Groundwater – Monitoring Wells

Figure 5 – Soil Vapor Data & Proposed Borings

Table 1 – Groundwater Monitoring Data

Table 2 - Groundwater Analytical Data – Solvents

Table 3 – Groundwater Analytical Data – Hydrocarbons

Table 4 – Groundwater Analytical Data – Metals & Cyanide

Table 5A – Soil Analytical Data – Metals – Composite Samples

Table 5B – Soil Analytical Data – Metals – Discrete Samples

Table 6 – Soil Analytical Data – Solvents - Perimeter

Table 7 – Soil Vapor Analytical Data

Appendix A – Well Purging and Sampling Data

Appendix B - Laboratory Analytical Data Sheets and Chain of Custody

Appendix C - Boring Logs and Well Construction Diagram

Appendix D - Survey Data

Appendix E – Geotracker uploads

## **FIGURES**

# IDENTIFIED HAZARDOUS MATERIALS SITES

## RADIUS REPORT

### Site Vicinity Map

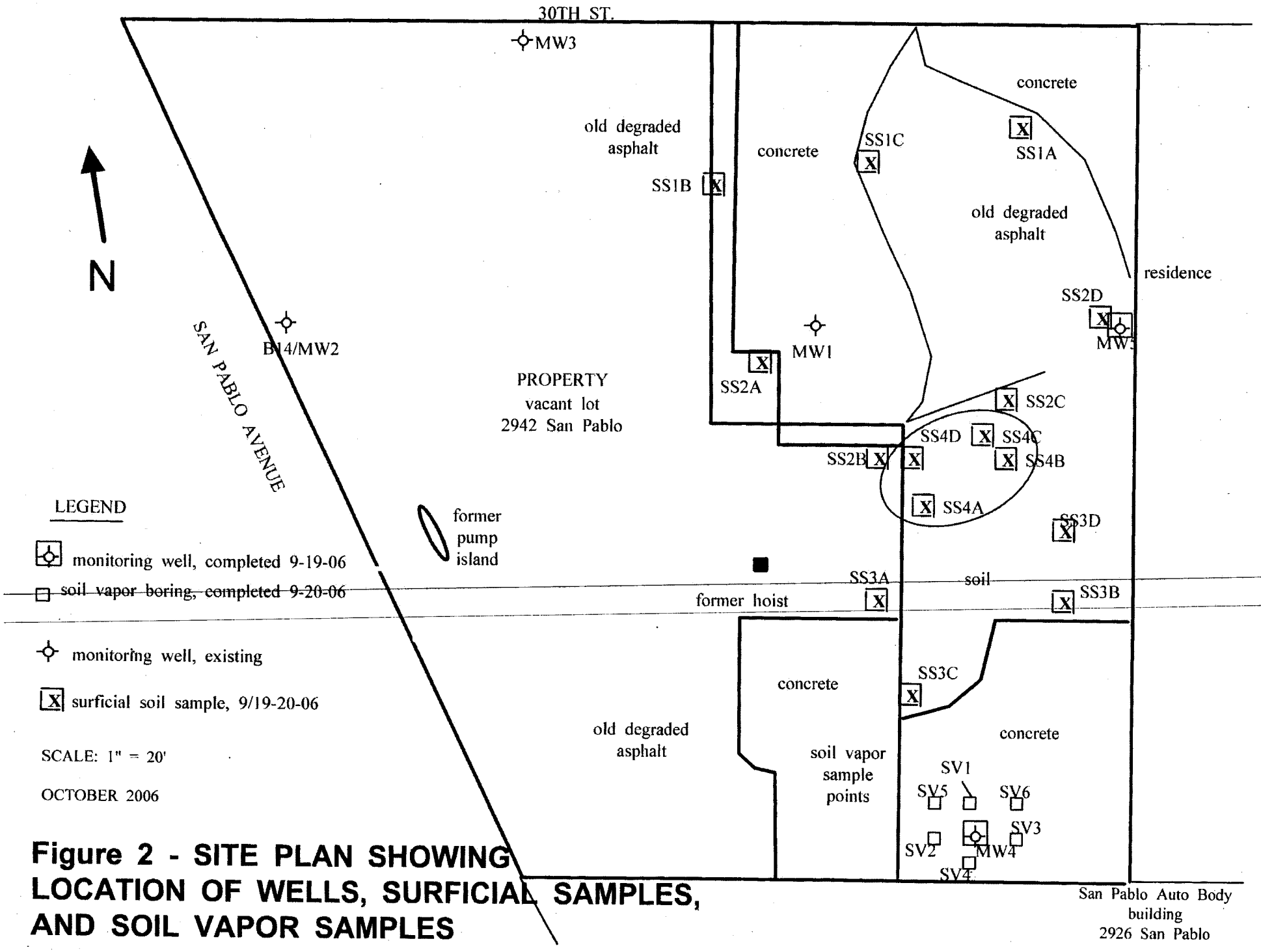


FIGURE 1

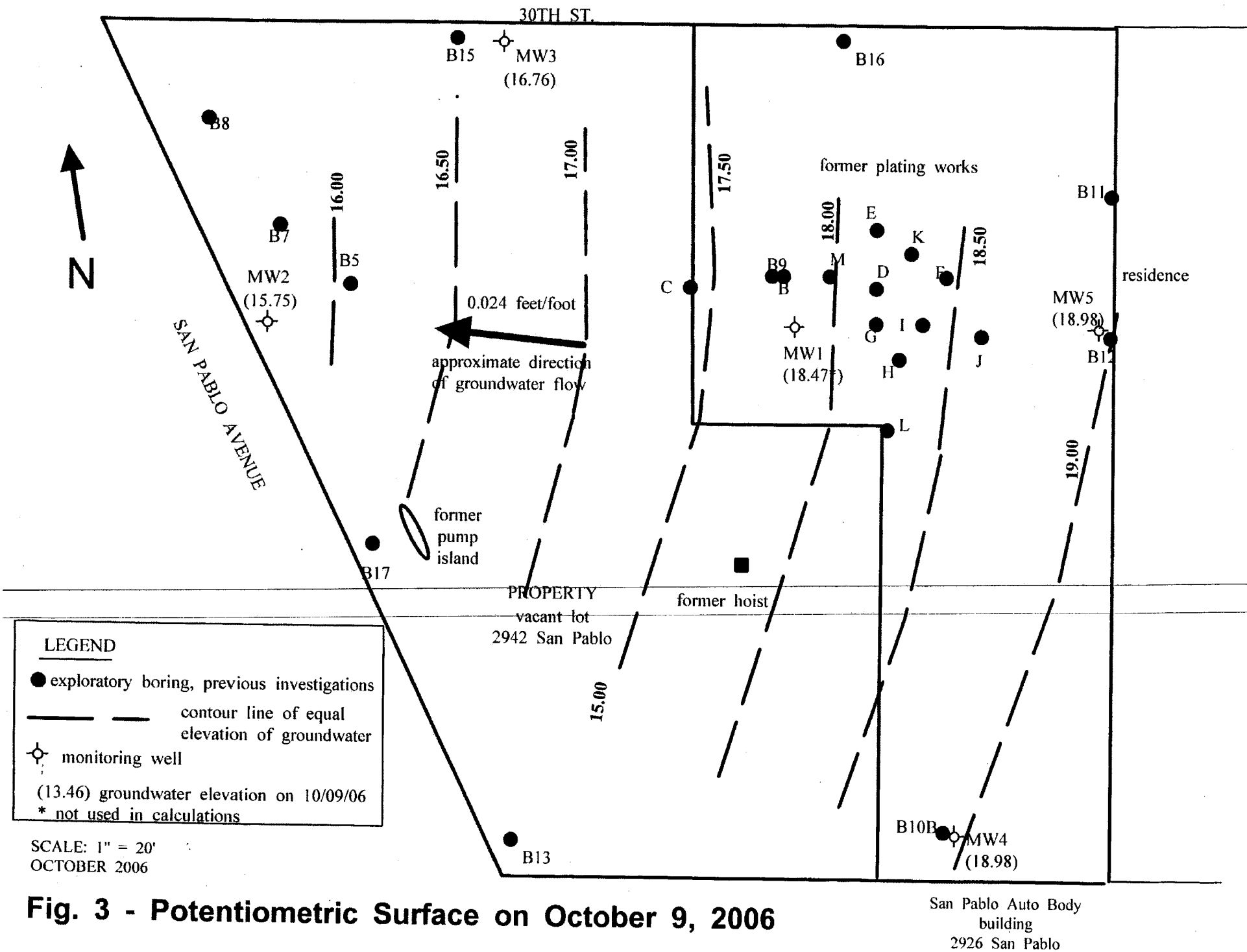
PROPERTY VICINITY MAP

2926-2942 SAN PABLO AVENUE  
OAKLAND, CALIFORNIA

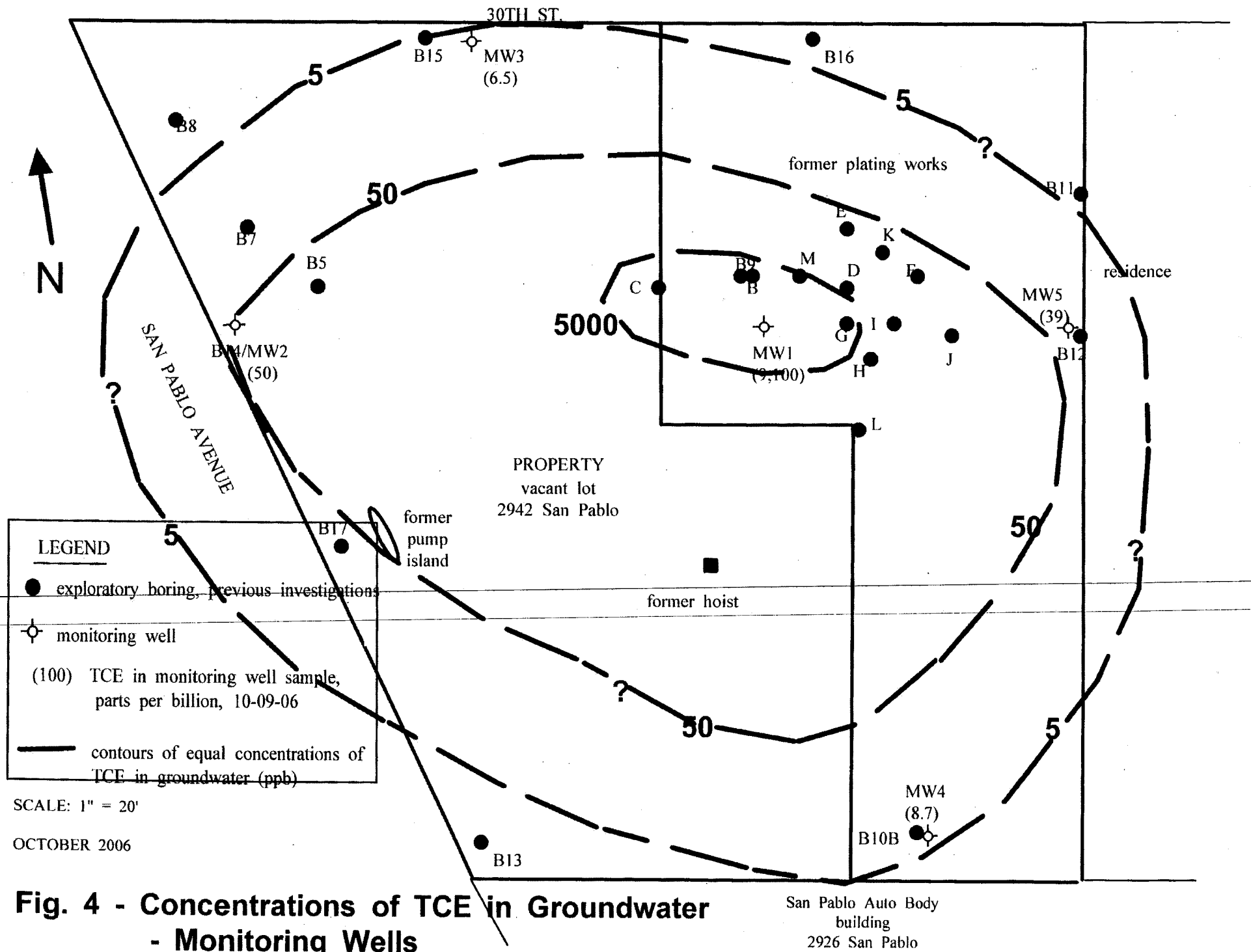
NOT TO SCALE  
MAY 2002

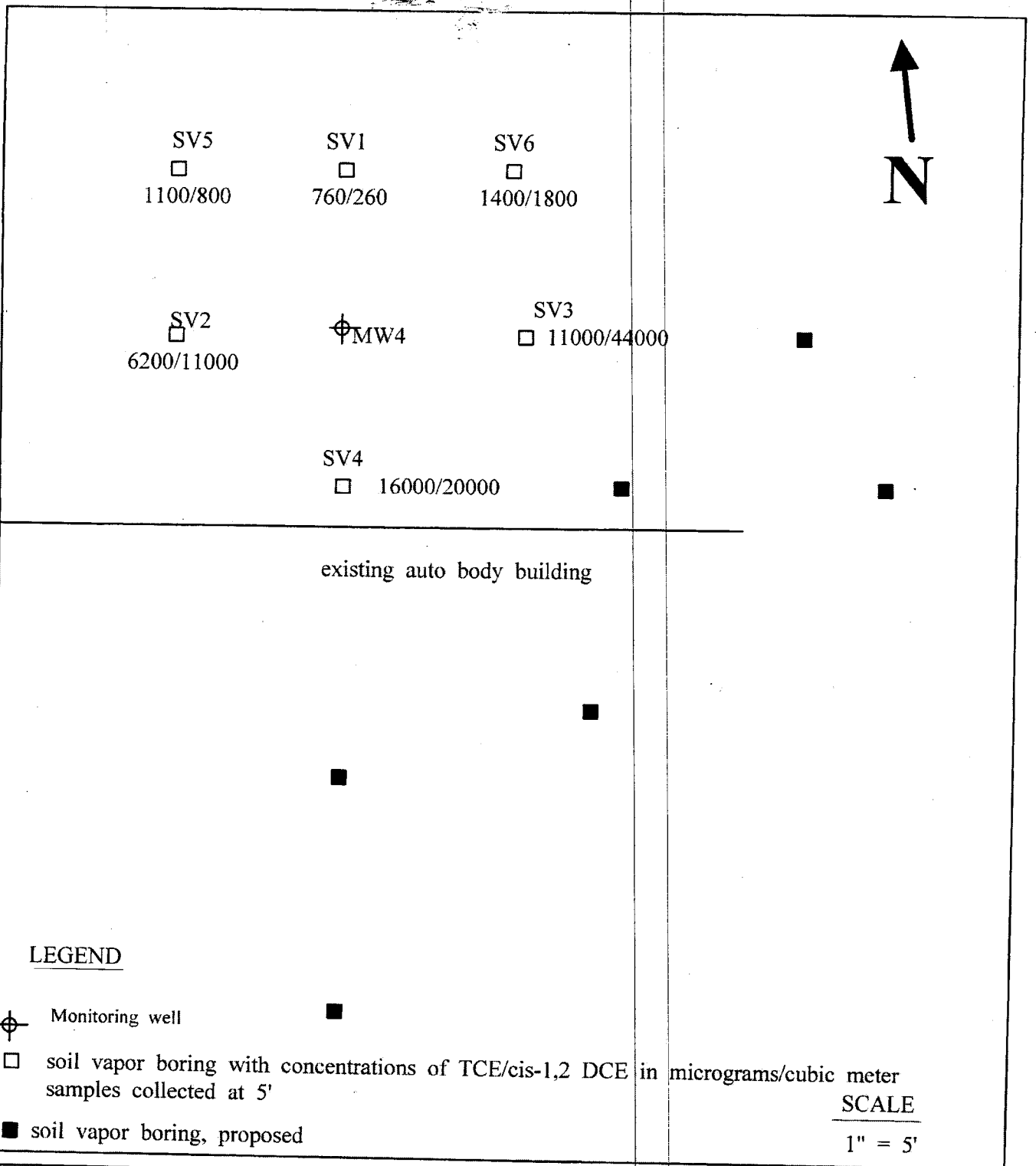






**Fig. 3 - Potentiometric Surface on October 9, 2006**





2942 SAN PABLO AVE.  
OAKLAND, CA

**FIGURE 5**  
**SOIL VAPOR DATA &**  
**PROPOSED BORINGS**

OCTOBER 2006

PIERS ENVIRONMENTAL SERVICES, INC. 1330 BASCOM AVE. SUITE F SAN JOSE, CA 95128  
PHONE: 408-559-1248 FAX: 408-559-1224 WEB: PIERSES.COM

## **TABLES**

**TABLE 1**  
**GROUNDWATER MONITORING DATA**  
**2942 San Pablo Avenue, Oakland**

Well No.	Date	Groundwater Elevation	Top of casing Elevation	Depth to Water	Well Depth	Product Thickness	Sheen	Water purged (gallons)
MW1	7/27/2004	13.17	26.32	13.15				0
	7/30/2004	13.12		13.20	36.55	0	No	5
	11/15/2004	13.46		12.86	36.60	0	No	1.5
	2/11/2005	15.76		10.56	36.60	0	No	1.6
	5/12/2005	15.87		10.45	36.60	0	No	1.6
	10/9/2006	18.47	31.65*	13.18	36.60	0	No	1.41
MW2	7/27/2004	9.93	24.60	14.67				0
	7/30/2004	10.30		14.30	33.10	0	No	4
	11/15/2004	10.85		13.75	33.11	0	No	1.2
	2/11/2005	12.66		11.94	33.11	0	No	1.3
	5/12/2005	12.75		11.85	33.11	0	No	1.3
		10/9/2006	15.75	29.92*	14.17	33.20	0	No
MW3	7/27/2004	11.36	25.69	14.33				0
	7/30/2004	11.50		14.40	36.00	0	No	5
	11/15/2004	12.06		13.63	36.05	0	No	1.5
	2/11/2005	13.79		11.90	36.05	0	No	1.4
	5/12/2005	13.84		11.85	36.05	0	No	1.5
		10/9/2006	16.76	31.00*	14.24	36.02	0	No
MW4	10/9/2006	18.98	31.97	12.99	40.11	0	No	1.75
MW5	10/9/2006	18.98	32.11	13.13	39.66	0	No	1.75

\* The wells were resurveyed to a new benchmark on 9-26-06, see report text for discussion.

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA - SOLVENTS**  
**2942 San Pablo Avenue, Oakland**

Sample/ Depth (feet)	Date Sampled	TCE (ppb)	cis-1,2- DCE	Acetone (ppb)	Chloroform (ppb)
MW1	7/30/2004	5,670	2	<10	2.1
MW1*	11/15/2004	5,610	6	<10	2.1
MW1**	2/11/2005	7,130	5	<10	2.6
MW1	5/12/2005	19,000	5	<10	5.3
MW1***	10/9/2006	9,100	3.9	<10	2.3
MW2	7/30/2004	219	<1	51	3
MW2	11/15/2004	15	<1	<10	<0.5
MW2	2/11/2005	12.5	<1	<10	<0.5
MW2	5/12/2005	45.6	<1	<10	<0.5
MW2	10/9/2006	50	4.7	<33	<1.7
MW3	7/30/2004	6.6	<1	<10	<0.5
MW3	11/15/2004	11.6	<1	<10	<0.5
MW3	2/11/2005	20.6	<1	<10	<0.5
MW3	5/12/2005	16.2	<1	<10	<0.5
MW3	10/9/2006	6.5	1.5	<10	<0.5
MW4	10/9/2006	8.7	4.4	<33	<1.7
MW5	10/9/2006	39	4.5	<10	<0.5
ESL		5.0/360	6.0/590	700/1500	5.0/350

**EXPLANATION:**

ppb = parts per billion

DCE = Dichloroethene

TCE = Trichloroethene

ESL = Environmental Screening Level, groundwater is/is not a resource (Tables C/D).

\* Vinyl Chloride and trans-1,2-DCE were also detected at concentrations of 1.7 and 1 ppb, respectively.

\*\* Vinyl Chloride was detected at a concentration of 0.7 ppb.

\*\*\* 1,1,2-TCA and carbon disulfide were also detected at concentrations of 0.65 and 2.1 ppb, respectively.

**ANALYTICAL METHODS:**

EPA Method 8260.

**TABLE 3**  
**GROUNDWATER ANALYTICAL DATA - HYDROCARBONS**  
**2942 San Pablo Avenue, Oakland**

Sample/ Depth (feet)	Date Sampled	TPH-g (ppb)	Benzene (ppb)	Ethylbenzene (ppb)	Toluene (ppb)	Xylenes (ppb)	MTBE (ppb)
MW1	7/30/2004	2,280	<0.5	<0.5	<0.5	<1	<0.5
	11/15/2004	2,200	3.7/2.9	<0.5	<0.5	<1	<0.5
	2/11/2005	5,270	0.7/0.8	<0.5	<0.5	1.4	<0.5
	5/12/2005	7,610	<0.5	0.5/1.2	<0.5	<1	<0.5
	10/9/2006	6,800	<0.5	<0.5	<0.5	<0.5	<5.0
MW2	7/30/2004	144	<0.5	<0.5	<0.5	<1	<0.5
	11/15/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	2/11/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	5/12/2005	<50	<0.5	<0.5	<0.5	<1	<0.5
	10/9/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW3	7/30/2004	63	<0.5	<0.5	<0.5	<1	<0.5*
	11/15/2004	<50	<0.5	<0.5	<0.5	<1	<0.5
	2/11/2005	<50	<0.5	<0.5	<0.5	<1	<0.5
	5/12/2005	<50	<0.5	<0.5	<0.5	<1	<0.5
	10/9/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW4	10/9/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW5	10/9/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
ESL		100/500	1.0/46	30/290	40/130	13/13	5.0/1,800

**EXPLANATION:**

ppb = parts per billion

Analytical results are by EPA Methods 8015 and/or 8260.

TPHg = Total Petroleum Hydrocarbons as gasoline.

ESL = Environmental Screening Level, groundwater is/is not a resource (Tables C/ D).

\* Di - isopropyl ether (DIPE) was detected at a concentration of 1.6 ppb.

**TABLE 4**  
**GROUNDWATER ANALYTICAL RESULTS -METALS, CYANIDE**  
**2942 San Pablo Avenue**  
**Oakland, California**

Sample (depth)	Date	Arsenic (ppb)	Barium (ppb)	Cadmium (ppb)	Chromium (ppb)	Cobalt (ppb)	Copper (ppb)	Lead (ppb)	Molybdenum (ppb)	Nickel (ppb)	Selenium (ppb)	Vanadium (ppb)	Zinc (ppb)	Chrome 6 (ppb)	Cyanide (ppb)
MW1	10/9/2006	0.65	360	0.79	1.3	1.5	1.6	1.9	1.2	3.8	<0.5	3.9	54	<0.2	<2.0
MW2	10/9/2006	<0.5	230	0.40	3.0	1.8	2.0	<b>6.4</b>	0.91	12	0.59	3.5	<b>130</b>	<0.2	<2.0
MW3	10/9/2006	0.57	230	0.46	1.3	1.4	<b>4.6</b>	2.0	1.0	3.9	<0.5	2.4	78	0.48	<2.0
MW4	10/9/2006	3.7	420	<0.25	0.80	<0.5	1.0	1.0	2.2	1.7	<0.5	0.91	36	0.34	<2.0
MW5	10/9/2006	3.1	320	<0.25	1.1	7.1	<b>7.1</b>	1.1	26	3.5	1.3	3.1	72	0.26	<b>22</b>
ESL		36	1000	2.2	50/180	3.0	3.1	2.5	35/240	8.2	5.0	15/19	81	11	1.0

**EXPLANATION:**

ppb = parts per billion

Antimony, beryllium, mercury, silver and thallium were not detected in any of these samples.

ESL C/D = Environmental Screening Level from Tables C and D where groundwater is/is not a resource.



**TABLE 5A**  
**SOIL ANALYTICAL RESULTS -METALS, pH, CYANIDE - COMPOSITE SAMPLES**  
**2942 San Pablo Avenue**  
**Oakland, California**

Sample (depth)	Date	Antimony (ppm)	Arsenic (ppm)	Barium (ppm)	Beryllium (ppm)	Cadmium (ppm)	Chromium (ppm)	Cobalt (ppm)	Copper (ppm)	Lead (ppm)	Mercury (ppm)	Molybdenum (ppm)	Nickel (ppm)	Selenium (ppm)	Silver (ppm)	Vanadium (ppm)	Zinc (ppm)	Chrome 6 (ppm)	Cyanide (ppm)	pH
B9 (1.5')	8/20/2003	<0.5	4.2	130	<0.5	2.3	<b>63.6</b>	10.4	17.6	50.6	<0.05	1.0	54.6	<0.5	<0.5	26.8	71.8	0.130	<0.40	9.56
B10 (1.5')	8/20/2003	<0.5	5.4	188	<0.5	5.4	55.6	6.8	72.2	27.2	<0.05	1.4	<b>346</b>	<0.5	<0.5	40.2	<b>650</b>	0.0046	0.44	8.05
SS1A-1D	9/19-20/2006	3.4	<b>17</b>	170	0.51	1.3	<b>84</b>	18	210	210	0.54	1.9	100	<0.5	<0.5	100	210	<0.8	1.5	7.98
SS2A-2D	9/19-20/2006	3.4	<b>6.0</b>	260	<0.5	<b>8.9</b>	<b>100</b>	10	160	360	0.80	1.1	150	<0.5	2.0	44	430	<b>1.9</b>	1.3	7.58
SS3A-3D	9/19-20/2006	2.7	<b>5.8</b>	190	0.59	<b>26</b>	<b>910</b>	20	<b>430</b>	84	0.23	1.7	<b>5400</b>	0.71	2.9	39	<b>750</b>	<b>2.2</b>	6.1	10.88
SS4A-41D	9/19-20/2006	<0.5	4.2	150	<0.5	0.44	47	8.0	22	56	0.050	0.80	35	<0.5	<0.5	38	60	<0.8	1.1	7.37
ESL res./comm.		6.3/40	5.5/5.5	750/1500	4.0/8.0	1.7/7.4	58/58	40/80	230/230	200/750	2.5/10	40/40	150/150	10/10	20/40	110/200	600/600	1.8/1.8	100/500	
Background*		0.15-195	0.6-11	133 - 1,400	0.25-2.70	0.05 - 1.7	23 - 1,579	2.7 - 46.9	9.1 - 96.4	12.4 - 97.1	0.05-0.90	0.1-9.6	9 - 509	0.015-0.430	0.10-8.30	39 - 288	88 - 236			
STLC		15.0	5.0	100	0.75	1.0	5.0	80.0	25.0	5.0	0.2	350.0	20.0	1.0	5.0	24.0	250.0	5.0		
TTLC		500	500	10000	75	100	500	8000	2500	1000	20	3500	2000	100	500	2400	5000	500		

**EXPLANATION:**

ppm = parts per million

\* Range of background concentrations from Bradford et al, 1996.

Thallium was not detected (<0.5) in any of these samples.

**TABLE 5B**  
**SOIL ANALYTICAL RESULTS - DISCRETE SAMPLES - METALS, pH, CYANIDE**  
**2942 San Pablo Avenue**  
**Oakland, California**

Sample (depth)	Date	Arsenic (ppm)	Cadmium (ppm)	Chromium (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)	Chrome 6 (ppm)	pH
B9 (1.5')	8/20/2003	4.2	2.3	63.6	17.6	54.6	71.8	0.130	9.56
B10 (1.5')	8/20/2003	5.4	5.4	55.6	72.2	346	650	0.0046	8.05
SS1A-1D	9/19-20/2006	17	1.3	84	210	100	210	<0.8	7.98
SS1A		5.8	NA	69	NA	NA	NA	NA	7.70
SS1B		4.1	NA	53	NA	NA	NA	NA	9.18
SS1C		4.6	NA	52	NA	NA	NA	NA	9.76
SS1D		5.3	NA	56	NA	NA	NA	NA	11.34
SS2A-2D	9/19-20/2006	6.0	8.9	100	160	150	430	1.9	7.58
SS2A		7.5	5.7	71	NA	NA	NA	1.2	9.3
SS2B		6.4	2.7	55	NA	NA	NA	<0.8	9.45
SS2C		4.8	2.8	56	NA	NA	NA	<0.8	8.12
SS2D		4.2	6.5	250	NA	NA	NA	9.4	6.51
SS3A-3D	9/19-20/2006	5.8	26	910	430	5400	750	2.2	10.88
SS3A		7.2	4.1	86	100	97	500	<0.8	NA
SS3A d2'		2.8	<0.25	30	12	22	22	<0.8	7.78
SS3B		8.1	26	2400	850	18000	370	8.6	NA
SS3C		5.2	45	200	360	400	1800	1.0	NA
SS3D		5.2	48	150	860	700	420	6.5	NA
SS4A-41D	9/19-20/2006	4.2	0.44	47	22	35	60	<0.8	7.37
ESL res./comm.		5.5/5.5	1.7/7.4	58/58	230/230	150/150	600/600	1.8/1.8	
Background*		0.6-11	0.05 - 1.7	23 - 1,579	9.1 - 96.4	9 - 509	88 - 236		
STLC		5	1.0	5.0	25.0	20.0	250.0	5.0	
TTLC		500	100	500	2500	2000	5000	500	

**EXPLANATION:**

ppm = parts per million

\* Range of background concentrations from Bradford et al, 1996.

Thallium was not detected (<0.5) in any of these samples.

**TABLE 6**  
**SOIL ANALYTICAL DATA - SOLVENTS - PERIMETER**  
**2942 San Pablo Avenue, Oakland**

Sample/ Depth (feet)	Date Sampled	TCE (ppm)	trans-1,2- DCE	cis-1,2- DCE	Chloroform (ppm)
B7 (1')	8/20/2003	0.022	<0.01	<0.01	ND
B7 (9.5')	8/20/2003	0.0057	<0.005	<0.005	ND
B7 (14.5')	8/20/2003	0.074	1.4	<0.005	ND
B10 (1.5')	8/20/2003	0.25	0.0065	0.029	ND
B10B (3')	9/23/2003	0.022	0.11	<b>0.24</b>	ND
B10B (6')	9/23/2003	0.046	0.016	0.11	ND
B10B (9')	9/23/2003	<b>0.54</b>	<0.033	<b>0.22</b>	ND
MW4d13.5	9/19/2006	<b>2.3</b>	<0.050	0.84	<0.050
MW4d17.5	9/19/2006	<b>1.9</b>	<0.050	0.54	<0.050
MW4d22.5	9/19/2006	0.53	<0.020	0.11	<0.020
SS3Ad2*	9/20/2006	0.45	<0.050	<b>0.97</b>	<0.050
MW2 (7.5')	7/23/2004	0.012	<0.005	<0.005	0.007
MW2 (19.1')	7/23/2004	0.065	<0.005	<0.005	<0.005
ESL - < 3m		0.46	0.67	0.19	0.27
ESL > 3m		0.73	0.73	3.6	0.27

**EXPLANATION:**

ppm = parts per million

TCE = Trichloroethene

DCE = Dichloroethene

ESL - Environmental Screening Level, Tables A /C (<3 meters), Tables B/D (> 3 meters).

\* This sample also contained TPH as diesel at a concentration of 120 ppm, TPH as motor oil at 1,000 ppm, 0.058 ppm of MTBE, 0.060 ppm of ethylbenzene, 0.33 ppm of 1,2,4-trimethylbenzene, and 0.12 ppm of xylenes.

**TABLE 7**  
**SOIL VAPOR ANALYTICAL DATA**  
**2942 San Pablo Avenue, Oakland**  
**Samples collected on 9-20-06**

Sample/ Depth (feet)	Vinyl Chloride	Trans-1,2- DCE	Cis-1,2 DCE	TCE
SV1 d 5'	21	89	260	760
SV2 d 5'*	1400	7500	11000	<b>6200</b>
SV3 d 5'	7700	4300	<b>44000</b>	<b>11000</b>
SV4 d 5'	3300	4600	<b>20000</b>	<b>16000</b>
SV5 d 5'	1900	7400	800	1100
SV6 d 5'	200	1200	1800	1400
ESL	100	41000	20000	4100

**EXPLANATION:**

results are in micrograms per cubic meter.

\* duplicate sample ran, highest value shown

ESL = Environmental Screening Level for shallow soil gas, commercial/  
industrial use only.

Additional compounds detected in all samples, see laboratory sheets.

**APPENDIX A**  
**WELL PURGING AND SAMPLING DATA**

1" wells

Dysert Environmental, Inc.

**FLUID-LEVEL MONITORING DATA**

Project Name: \_\_\_\_\_ Date: 10-9-06

Project/Site Location: 2942 SAN PABLO AVE, OAKLAND CA

Technician: RV/SC Method: \_\_\_\_\_

0.00 D

Boring/Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments
5 MW-1	13.18			36.60	H <sub>2</sub> O IN WELL BOX BELOW CASING @ 1030
2 MW-2	14.17			33.20	@ 1035
1 MW-3	<del>3.18</del> 14.24			36.02	@ 1040 SLOW RECHARGE
4 MW-4	12.99			40.11	@ 1045 H <sub>2</sub> O IN BOX, BELOW CASING SLOW RECHARGE
3 MW-5	13.13			39.66	@ 1050 SLOW RECHARGE

Measurements referenced to top of well casing.

Page 1 of 1

Oct 18 06 03:39p

Mark Dysert

10503670123

p2

MW-1

DYSERT ENVIRONMENTAL, INC.  
WELL PURGING / SAMPLING DATA

Dysert Environmental, Inc.

DATE: 10-9-06

PROJECT:  
SITE LOCATION: 2942 SAN PABLO AVE.

CITY: OAKLAND STATE: CA

PURGE DEVICE  
 circle one 12 volt submersible pump peristaltic pump bladder pump disposable bailer

SAMPLING DEVICE  
 circle one bladder pump peristaltic pump disposable bailer other

casing diameter (inches) circle one 0.75  
 casing volumes (gallons) circle one 0.02 0.2 0.7 6 1.52

WELL DATA

SAMPLER/S: SC/RV

WELL NUMBER / FIELD POINT ID: MW-1

A. TOTAL WELL DEPTH: 36.60

B. DEPTH TO WATER: 13.18

C. WATER HEIGHT (A-B): 23.42

D. WELL CASING DIAMETER: 1

E. CASING VOLUME: 0.02

F. SINGLE CASE VOLUME (Cx): .47

G. CASE VOLUME (s) (Cx x 3): 1.41

H. 80% RECHARGE LEVEL (F+B): 13.65

PURGE DATA

START TIME: 1255

PUMP DEPTH: N/A

FINISH TIME: 1315

PUMP DEPTH: N/A

RECHARGE / SAMPLE TIME

DEPTH TO WATER: 13.25 TIME MEASURED: 1520

GREATER THAN OR EQUAL TO 80% RECHARGE LEVEL (H): circle one YES NO

SAMPLE TIME: 1525 DEPTH TO WATER: 13.25

SAMPLE APPEARANCE / ODOR: clear / N/A

TOTAL GALLONS PURGED: 1.41

WELL FLUID PARAMETERS

CASE VOL.	0	0.5	1	1.5	2	2.5	3	POST
Ph	7.07	7.12	7.05	7.08	7.07	7.05	7.06	7.02
TEMP in °C	22.2	21.8	21.2	20.8	20.9	20.2	20.6	20.7
COND / SC	606	473	670	810	826	836	851	849
DTW								
Pump Depth								
Pump Rate								

Oct 16 06 03:40p Mark Dysert

16503670123

p.3

MW-2

DYSERT ENVIRONMENTAL, INC.  
WELL PURGING / SAMPLING DATA

Dysert Environmental, Inc.

DATE: 10-9-06

PROJECT:  
SITE LOCATION: 2942 SAN PABLO AVE.

CITY: OAKLAND STATE: CA

circle one 12volt submersible pump    peristaltic pump    bladder pump    disposable bailer

circle one bladder pump    peristaltic pump    disposable bailer    other

casing diameter (inches)    circle one    0.75    2    4    6

casing volumes (gallons)    circle one    0.02    0.2    0.7    1.52

WELL DATA

SAMPLER/S: SC/RV

WELL NUMBER / FIELD POINT ID: MW-2

A. TOTAL WELL DEPTH: 23.20

B. DEPTH TO WATER: 14.17

C. WATER HEIGHT (A-B): 9.03

D. WELL CASING DIAMETER: 1

E. CASING VOLUME: 0.02

F. SINGLE CASE VOLUME (CXE): .38

G. CASE VOLUME (s) (CXEX 3): 1.14

H: 80% RECHARGE LEVEL (F+B): 14.55

PURGE DATA

START TIME: 1140

PUMP DEPTH: N/A

FINISH TIME: 1155

PUMP DEPTH: N/A

RECHARGE / SAMPLE TIME

DEPTH TO WATER: 14.17    TIME MEASURED: 1415

GREATER THAN OR EQUAL TO 80% RECHARGE LEVEL (H): circle one YES    NO

SAMPLE TIME: 1420    DEPTH TO WATER: 14.17

SAMPLE APPEARANCE / ODOR: CLOUDY / N/A

TOTAL GALLONS PURGED: 1.20

WELL FLUID PARAMETERS

CASE VOL.	0	0.5	1	1.5	2	2.5	3	POST
Ph	6.83	6.88	6.79	6.74	6.77	6.75	6.77	6.75
TEMP in °C	21.2	21.0	20.6	20.0	19.9	19.7	19.8	19.8
COND / SC	727	702	701	681	702	669	712	743
DTW								
Pump Depth								
Pump Rate								



Oct 18 08 03:40p

Mark Dysert

16503670123

p.4

MW-3

DYSERT ENVIRONMENTAL, INC.  
WELL PURGING / SAMPLING DATA

Dysert Environmental, Inc.

DATE: 10-9-06

PROJECT:  
SITE LOCATION: 2942 SAN PABLO AVE

CITY: OAKLAND STATE: CA

circle one 12volt submersible pump      PURGE DEVICE  
 peristaltic pump      bladder pump      disposable bailer

circle one bladder pump      SAMPLING DEVICE  
 peristaltic pump      disposable bailer      other

casing diameter (inches)      circle one      2      4      6  
0.75

casing volumes (gallons)      circle one      0.2      0.7      1.52  
0.02

WELL DATA

SAMPLERS: RV/SC

WELL NUMBER / FIELD POINT ID: MW-3

A. TOTAL WELL DEPTH: 33.36002

B. DEPTH TO WATER: 19.29

C. WATER HEIGHT (A-B): 14.07      21.78

D. WELL CASING DIAMETER: 1

E. CASING VOLUME: 0.02

F. SINGLE CASE VOLUME (Cx E): .44

G. CASE VOLUME (s) (Cx Ex 3): 1.32

H: 80% RECHARGE LEVEL (F-B): 14.68

PURGE DATA

START TIME: 1115

PUMP DEPTH: N/A

FINISH TIME: 1135

PUMP DEPTH: N/A

RECHARGE / SAMPLE TIME

DEPTH TO WATER: 1466      TIME MEASURED: 1350

GREATER THAN OR EQUAL TO 80% RECHARGE LEVEL (H): circle one YES      NO

SAMPLE TIME: 1355      DEPTH TO WATER: 1466

SAMPLE APPEARANCE / ODOR: cloudy / N/A

TOTAL GALLONS PURGED: 1.40

WELL FLUID PARAMETERS

CASE VOL.	0	0.5	1	1.5	2	2.5	3	POST
Ph	6.29	6.65	6.70	6.75	6.86	7.54	7.33	7.53
TEMP in °C	21.9	21.3	21.0	20.7	20.3	20.5	20.2	20.0
COND / SC	918	753	743	752	686	6.92	6.93	6.89
DTW								
Pump Depth								
Pump Rate								

Od 10 06 03:40p

Mark Dysert

10503570123

p.5

MW-4

DYSERT ENVIRONMENTAL, INC.  
WELL PURGING / SAMPLING DATA

Dysert Environmental, Inc.

DATE: 10-9-06

PROJECT:  
SITE LOCATION: 2942 SAN PABLO AVE.

CITY: OAKLAND STATE: CA

circle one 12volt submersible pump PURGE DEVICE peristaltic pump bladder pump disposable bailer

circle one bladder pump SAMPLING DEVICE peristaltic pump disposable bailer other

casing diameter (inches) circle one 0.75 2 4 6

casing volumes (gallons) circle one 0.02 0.2 0.7 1.52

WELL DATA

SAMPLER(S): RV/S

WELL NUMBER / FIELD POINT ID: MW-4

A. TOTAL WELL DEPTH: 40.1

B. DEPTH TO WATER: 24.9

C. WATER HEIGHT (A-B): 15.2

D. WELL CASING DIAMETER: 1

E. CASING VOLUME: 0.02

F. SINGLE CASE VOLUME (CxÉ): .54

G. CASE VOLUME (s) (CxÉ x 3): 1.62

H. 80% RECHARGE LEVEL (F+B): 13.53

PURGE DATA

START TIME: 1230

PUMP DEPTH: N/A

FINISH TIME: 1250

PUMP DEPTH: N/A

RECHARGE / SAMPLE TIME

DEPTH TO WATER: 15.79 TIME MEASURED:

GREATER THAN OR EQUAL TO 80% RECHARGE LEVEL (H): circle one YES (NO) WAITED 2HRS FOR RECHARGE

SAMPLE TIME: 1500 DEPTH TO WATER: 15.79

SAMPLE APPEARANCE / ODOR: CLEAR / N/A

TOTAL GALLONS PURGED: 1.75

WELL FLUID PARAMETERS

CASE VOL.	0	0.5	1	1.5	2	2.5	3	POST
Ph	7.25	7.33	7.33	7.35	7.32	7.34	7.31	7.33
TEMP In °C	21.1	20.2	19.8	19.7	19.5	19.1	19.1	19.1
COND / SC	1022	1012	1007	1006	1010	1017	996	1003
DTW								
Pump Depth								
Pump Rate								

*mw-5*

DYSERT ENVIRONMENTAL, INC.  
 WELL PURGING / SAMPLING DATA

Dysert Environmental, Inc.

PROJECT:  
 SITE LOCATION: 2942 SAN PABLO AVE.

DATE: 10-9-06

CITY: OAKLAND STATE: CA

circle one 12volt submersible pump    peristaltic pump    bladder pump    disposable bailer

circle one bladder pump    peristaltic pump    disposable bailer    other

casing diameter (inches)    circle one    0.75    2    4    6

casing volumes (gallons)    circle one    0.02    0.7    0.7    1.52

**WELL DATA**

SAMPLERS: RV/S

WELL NUMBER / FIELD POINT ID: MW-5

A. TOTAL WELL DEPTH: 37.66

B. DEPTH TO WATER: 13.13

C. WATER HEIGHT (A-B): 26.53

D. WELL CASING DIAMETER: 1

E. CASING VOLUME: 0.02

F. SINGLE CASE VOLUME (Cx5): .53

G. CASE VOLUME (s) (CxEx 3 ): 1.59

H: 80% RECHARGE LEVEL (F+B): 13.60

**PURGE DATA**

START TIME: 1205

PUMP DEPTH: N/A

FINISH TIME: 1225

PUMP DEPTH: N/A

**RECHARGE / SAMPLE TIME**

DEPTH TO WATER: 22.00    TIME MEASURED:

GREATER THAN OR EQUAL TO 80% RECHARGE LEVEL (H): circle one YES (NO) WAITED 2 HRS FOR RECHARGE

SAMPLE TIME: 1440    DEPTH TO WATER: 22.00

SAMPLE APPEARANCE / ODOR: cloudy / N/A

TOTAL GALLONS PURGED: 1.75

**WELL FLUID PARAMETERS**

CASE VOL.	0	0.5	1	1.5	2	2.5	3	POST
Ph	7.11	7.55	7.62	7.61	7.64	7.70	7.66	7.69
TEMP in °C	20.0	19.9	19.4	20.0	19.8	19.3	19.6	19.3
COND / SC	877	867	864	868	805	841	830	849
DTW								
Pump Depth								
Pump Rate								

**APPENDIX B**  
**LABORATORY ANALYTICAL DATA SHEETS AND CHAIN OF**  
**CUSTODY**



## **McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: [www.mcccampbell.com](http://www.mcccampbell.com) E-mail: [main@mcccampbell.com](mailto:main@mcccampbell.com)  
Telephone: 877-252-9262 Fax: 925-252-9269

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Reported: 09/27/06
	Client P.O.:	Date Completed: 09/27/06

**WorkOrder: 0609403**

September 27, 2006

Dear Joel:

Enclosed are:

- 1). the results of 2 analyzed samples from your **2942 San Pablo 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. McC Campbell 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

0609403

**McCAMPBELL ANALYTICAL INC.**

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
 PACHECO, CA 94553-5560  
 Telephone: (925) 798-1620 Fax: (925) 798-1622

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**

EDF Required?  PDF Coelt (Normal)  RUSH  24 HR  48 HR  72 HR  5 DAY  
 No Write On (DW) No

Report To: *Joel Greger* Bill To: *PIERS*  
 Company: *PIERS Environmental*  
*1330 S. Bascom Ave Suite F*  
*San Jose CA 95128* E-Mail:  
 Tele: *(510) 5935382* Fax: *(510) 7871457*  
 Project #: Project Name: *2942 San Pablo*  
 Project Location: *2942 San Pablo Ave Oakland*  
 Sampler Signature: *Joel Greger*

**Analysis Request**

Other Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other			
SS4A	D0.5	9-20-06	8:37AM	1	liner	X					X						an metals analyses perform on soil & sediment portion
SS4B	D1		8:43AM	1		X				X							
SS4C	D0.5		8:49AM	1		X				X							
SS4D	D1		8:57AM	1		X				X							
SS3A	D2		8:01AM	1		X				X							
																	Composite 4 as 1

BTEX & TPH as Gas (602/8020 + 8015)/MTBE  
 TPH as Diesel (8015) *improving it*  
 Total Petroleum Oil & Grease (5520 E&F/B&F)  
 Total Petroleum Hydrocarbons (418.1)  
 EPA 601 / 8010  
 BTEX ONLY (EPA 602 / 8020)  
 EPA 608 / 8080  
 EPA 608 / 8080 PCB's ONLY  
 EPA 624 / 8240 / 8260  
 EPA 625 / 8270  
 PAH's / PNA's by EPA 625 / 8270 / 8310  
 CAM-17 Metals *+ he xovalent*  
 LUFT 5 Metals *chromium & cyanide*  
 Lead (7240/7421/239.2/6/110)  
 RCI

Relinquished By: *Joel Greger* Date: *9/20/06* Time: *1:15pm* Received By: *[Signature]*  
 Relinquished By: *[Signature]* Date: *9/20/06* Time: *1:15pm* Received By: *[Signature]*  
 Relinquished By: *[Signature]* Date: *9/20/06* Time: *3:55* Received By: *[Signature]*

ICE/AC    
 GOOD CONDITION  PRESERVATION APPROPRIATE   
 HEAD SPACE ABSENT  CONTAINERS PRESERVED IN LAB   
 DECHLORINATED IN LAB  VOAS  O&G  METALS  OTHER

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0609403**

**ClientID: PESJ**

**EDF: YES**

**Report to:**

Joel Greger  
 Piers Environmental  
 1330 S. Bascom Avenue, Ste. F  
 San Jose, CA 95128

Email:  
 TEL: (408) 559-1248 FAX: (408) 559-1224  
 ProjectNo: 2942 San Pablo  
 PO:

**Bill to:**

Accounts Payable  
 Piers Environmental  
 1330 S. Bascom Avenue, Ste. F  
 San Jose, CA 95128

**Requested TAT: 5 days**

*Date Received: 09/20/2006*

*Date Printed: 09/20/2006*

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0609403-001	SS4A-4D	Soil	09/20/2006	<input type="checkbox"/>	A		A	A									
0609403-002	SS3A	Soil	09/20/2006	<input type="checkbox"/>		A			A								

**Test Legend:**

1	218_6m_S	2	8260B_S	3	CAM17MS_S	4	PREFD REPORT	5	TPH(DMO)_S
6		7		8		9		10	
11		12							

The following SampID: 0609403-001A contains testgroup. Please make sure all relevant testcodes are reported. Many thanks.

**Prepared by: Nickole White**

**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.







# 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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609403

Lab ID	0609403-002A
Client ID	SS3A
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.50	10	0.05	Acrolein (Propenal)	ND<0.50	10	0.05
Acrylonitrile	ND<0.20	10	0.02	tert-Amyl methyl ether (TAME)	ND<0.050	10	0.005
Benzene	ND<0.050	10	0.005	Bromobenzene	ND<0.050	10	0.005
Bromochloromethane	ND<0.050	10	0.005	Bromodichloromethane	ND<0.050	10	0.005
Bromofom	ND<0.050	10	0.005	Bromomethane	ND<0.050	10	0.005
2-Butanone (MEK)	ND<0.20	10	0.02	t-Butyl alcohol (TBA)	ND<0.50	10	0.05
n-Butyl benzene	ND<0.050	10	0.005	sec-Butyl benzene	ND<0.050	10	0.005
tert-Butyl benzene	ND<0.050	10	0.005	Carbon Disulfide	ND<0.050	10	0.005
Carbon Tetrachloride	ND<0.050	10	0.005	Chlorobenzene	ND<0.050	10	0.005
Chloroethane	ND<0.050	10	0.005	2-Chloroethyl Vinyl Ether	ND<0.10	10	0.01
Chloroform	ND<0.050	10	0.005	Chloromethane	ND<0.050	10	0.005
2-Chlorotoluene	ND<0.050	10	0.005	4-Chlorotoluene	ND<0.050	10	0.005
Dibromochloromethane	ND<0.050	10	0.005	1,2-Dibromo-3-chloropropane	ND<0.050	10	0.005
1,2-Dibromoethane (EDB)	ND<0.050	10	0.005	Dibromomethane	ND<0.050	10	0.005
1,2-Dichlorobenzene	ND<0.050	10	0.005	1,3-Dichlorobenzene	ND<0.050	10	0.005
1,4-Dichlorobenzene	ND<0.050	10	0.005	Dichlorodifluoromethane	ND<0.050	10	0.005
1,1-Dichloroethane	ND<0.050	10	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.050	10	0.005
1,1-Dichloroethene	ND<0.050	10	0.005	cis-1,2-Dichloroethene	0.97	10	0.005
trans-1,2-Dichloroethene	ND<0.050	10	0.005	1,2-Dichloropropane	ND<0.050	10	0.005
1,3-Dichloropropane	ND<0.050	10	0.005	2,2-Dichloropropane	ND<0.050	10	0.005
1,1-Dichloropropene	ND<0.050	10	0.005	cis-1,3-Dichloropropene	ND<0.050	10	0.005
trans-1,3-Dichloropropene	ND<0.050	10	0.005	Diisopropyl ether (DIPE)	ND<0.050	10	0.005
Ethylbenzene	0.060	10	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.050	10	0.005
Freon 113	ND<1.0	10	0.1	Hexachlorobutadiene	ND<0.050	10	0.005
Hexachloroethane	ND<0.050	10	0.005	2-Hexanone	ND<0.050	10	0.005
Isopropylbenzene	ND<0.050	10	0.005	4-Isopropyl toluene	ND<0.050	10	0.005
Methyl-t-butyl ether (MTBE)	0.058	10	0.005	Methylene chloride	ND<0.050	10	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.050	10	0.005	Naphthalene	0.079	10	0.005
Nitrobenzene	ND<1.0	10	0.1	n-Propyl benzene	ND<0.050	10	0.005
Styrene	ND<0.050	10	0.005	1,1,1,2-Tetrachloroethane	ND<0.050	10	0.005
1,1,2,2-Tetrachloroethane	ND<0.050	10	0.005	Tetrachloroethene	ND<0.050	10	0.005
Toluene	ND<0.050	10	0.005	1,2,3-Trichlorobenzene	ND<0.050	10	0.005
1,2,4-Trichlorobenzene	ND<0.050	10	0.005	1,1,1-Trichloroethane	ND<0.050	10	0.005
1,1,2-Trichloroethane	ND<0.050	10	0.005	Trichloroethene	0.45	10	0.005
Trichlorofluoromethane	ND<0.050	10	0.005	1,2,3-Trichloropropane	ND<0.050	10	0.005
1,2,4-Trimethylbenzene	0.33	10	0.005	1,3,5-Trimethylbenzene	ND<0.050	10	0.005
Vinyl Chloride	ND<0.050	10	0.005	Xylenes	0.12	10	0.005

#### Surrogate Recoveries (%)

%SS1:	94	%SS2:	92
%SS3:	109		

#### Comments:

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

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.



# 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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/22/06

### CAM / CCR 17 Metals\*

Lab ID	0609403-001A				Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS4A-4D					
Matrix	S				S	W
Extraction Type	TTLIC				mg/Kg	mg/L

### ICP-MS Metals, Concentration\*

Analytical Method: 6020A

Extraction Method: SW3050B

Work Order: 0609403

Dilution Factor	1				1	1
Antimony	ND				0.5	NA
Arsenic	4.2				0.5	NA
Barium	150				5.0	NA
Beryllium	ND				0.5	NA
Cadmium	0.44				0.25	NA
Chromium	47				0.5	NA
Cobalt	8.0				0.5	NA
Copper	22				0.5	NA
Lead	56				0.5	NA
Mercury	0.060				0.05	NA
Molybdenum	0.80				0.5	NA
Nickel	35				0.5	NA
Selenium	ND				0.5	NA
Silver	ND				0.5	NA
Thallium	ND				0.5	NA
Vanadium	38				0.5	NA
Zinc	60				5.0	NA
%SS:	106					

#### Comments

\*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.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLIC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.





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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
	Client Contact: Joel Greger	Date Received: 09/20/06
	Client P.O.:	Date Extracted: 09/20/06
		Date Analyzed: 09/21/06

**pH\***

Analytical Method: SW9045C Work Order: 0609403

Lab ID	Client ID	Matrix	pH
0609403-001A	SS4A-4D	S	7.37 @ 23.9 °C

Method Accuracy and Reporting Units	W	NA
	S	±0.1, pH units @ °C

Angela Rydelius, Lab Manager



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

## Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil\*

Extraction method: SW3550C Analytical methods: SW8015C Work Order: 0609403

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0609403-002A	SS3A	S	120,g,d,b	1000	10	100

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	ug/L
	S	1.0	5.0	mg/Kg

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

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel (asphalt?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit; p) see attached narrative.



### QC SUMMARY REPORT FOR E218.6m

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0609403

EPA Method: E218.6m		Extraction: SW3060A			BatchID: 23797			Spiked Sample ID: 0609365-001a				
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
Hexachrome	ND	40	102	104	2.53	93.1	96.5	3.59	80 - 120	20	90 - 110	10
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE												

BATCH 23797 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001	9/20/06 8:37 AM	9/20/06	9/21/06 6:19 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.

N/A = not applicable to this method.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method SW8260B	Extraction SW5030B					BatchID: 23787			Spiked Sample ID: 0609343-001A			
	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	101	103	2.46	105	109	3.56	70 - 130	30	70 - 130	30
Benzene	ND	0.050	96.9	98.8	1.80	98.7	107	7.87	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	91.3	86.1	5.89	98.5	124	22.5	70 - 130	30	70 - 130	30
Chlorobenzene	ND	0.050	101	101	0	93.7	99.7	6.20	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	95.1	95.1	0	93.1	93.4	0.306	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	115	121	4.94	119	124	4.27	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	0.050	116	117	0.517	108	111	3.45	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	117	121	2.99	116	120	3.84	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	111	114	3.28	111	116	3.63	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	0.011	0.050	90.2	93	2.50	115	120	3.87	70 - 130	30	70 - 130	30
Toluene	ND	0.050	88.6	88.4	0.227	90.4	87.9	2.84	70 - 130	30	70 - 130	30
Trichloroethene	ND	0.050	97.2	98.7	1.59	91.3	97	6.02	70 - 130	30	70 - 130	30
%SS1:	112	0.050	105	106	0.689	105	103	1.47	70 - 130	30	70 - 130	30
%SS2:	98	0.050	106	105	0.639	106	96	9.90	70 - 130	30	70 - 130	30
%SS3:	92	0.050	106	107	0.800	109	106	2.59	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 23787 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002	9/20/06 8:01 AM	9/20/06	9/26/06 7:11 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.



**QC SUMMARY REPORT FOR 6020A**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method 6020A		Extraction SW3050B				BatchID: 23846				Spiked Sample ID 0609397-052A			
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
Antimony	ND	50	100	99.4	0.736	10	99.2	101	1.51	75 - 125	20	80 - 120	20
Arsenic	5	50	92.7	93	0.331	10	94.2	94.9	0.761	75 - 125	20	80 - 120	20
Barium	290	500	95.7	96	0.207	100	96.4	97.8	1.48	75 - 125	20	80 - 120	20
Beryllium	0.72	50	89.5	89.6	0.110	10	98.7	102	3.36	75 - 125	20	80 - 120	20
Cadmium	ND	50	95	94.6	0.464	10	95.5	95.8	0.303	75 - 125	20	80 - 120	20
Chromium	41	50	82.5	86.6	2.47	10	90.9	92.6	1.86	75 - 125	20	80 - 120	20
Cobalt	13	50	84.5	84.1	0.328	10	95.4	99.3	3.95	75 - 125	20	80 - 120	20
Copper	24	50	89.1	91.3	1.59	10	95.2	95.3	0.105	75 - 125	20	80 - 120	20
Lead	10	50	94	93.7	0.193	10	96.4	98	1.74	75 - 125	20	80 - 120	20
Mercury	ND	2.5	102	100	1.14	0.50	103	104	1.33	75 - 125	20	80 - 120	20
Molybdenum	0.50	50	93.3	92.6	0.766	10	95	95.6	0.608	75 - 125	20	80 - 120	20
Nickel	42	50	90.7	94.3	2.01	10	93.8	94.8	1.10	75 - 125	20	80 - 120	20
Selenium	ND	50	95.6	94.3	1.28	10	93	94.4	1.49	75 - 125	20	80 - 120	20
Silver	ND	50	91.3	90.7	0.636	10	94.5	95.2	0.791	75 - 125	20	80 - 120	20
Thallium	ND	50	92.4	93.4	1.08	10	89.4	92.1	2.98	75 - 125	20	80 - 120	20
Vanadium	72	50	81.1	88.1	3.05	10	91.2	92.6	1.51	75 - 125	20	80 - 120	20
Zinc	56	500	94.3	94	0.304	100	97.7	98.6	0.917	75 - 125	20	80 - 120	20
%SS:	108	250	105	107	2.41	250	101	102	1.58	70 - 130	20	70 - 130	20

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 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





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### QC SUMMARY REPORT FOR 6020A

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

#### BATCH 23846 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001A	9/20/06 8:37 AM	9/20/06	9/22/06 2:29 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 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~~



### QC SUMMARY REPORT FOR SM5220D

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method SM5220D		Extraction SM5220D				BatchID: 23796			Spiked Sample ID: 0609365-001A			
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
COD	3200	10000	109	104	3.45	106	99.6	6.41	90 - 110	20	90 - 110	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 23796 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001	9/20/06 8:37 AM	9/21/06	9/21/06 4:55 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.

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



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### QC SUMMARY REPORT FOR WET CHEMISTRY TESTS

Test Method: pH

Matrix: S

WorkOrder: 0609403

Method Name: SW9045C		Units ±, pH units @ °C			BatchID: 23847	
SampleID	Sample	DF	Dup / Ser. Dil.	DF	RD	Acceptance Criteria
0609403-001A	7.37 @ 23.9 °C	1	7.38 @ 24.0 °C	1	0.01	±0.05

#### BATCH 23847 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001A	9/20/06 8:37 AM	9/20/06	9/21/06 8:30 PM	0609403-001A	9/20/06 8:37 AM	9/20/06	9/21/06 8:30 PM

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

RD = Absolute Value (Sample - Duplicate); RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2].



### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method SW8015C		Extraction SW3550C				BatchID: 23830			Spiked Sample ID: 0609374-005A			
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(d)	ND	20	102	105	2.65	97.9	101	3.00	70 - 130	30	70 - 130	30
%SS:	92	50	102	105	2.22	103	106	2.12	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 23830 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002	9/20/06 8:01 AM	9/20/06	9/26/06 3:15 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 / 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.



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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Reported: 09/27/06
	Client P.O.:	Date Completed: 10/03/06

**WorkOrder: 0609403**

October 03, 2006

Dear Joel:

Enclosed are:

- 1). the results of 2 analyzed samples from your **2942 San Pablo 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. McC Campbell 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

PESS

Also Fax to 408 5591224

0609403

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH  24 HR  48 HR  72 HR  5 DAY

EDF Required?  PDF Coelt (Normal)  No  Write On  No

Report To: Joel Greger Bill To: PIERS  
 Company: PIERS Environmental  
 1330 S. Bascom Ave Suite F  
 San Jose CA 95128 E-Mail:  
 Tele: (510) 5935382 Fax: (510) 7871457  
 Project #: Project Name: 2942 San Pablo  
 Project Location: 2942 San Pablo Ave Oakland  
 Sampler Signature: *Joel Greger*

Analysis Request

Other Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other				
SS4A	D0.5	9-20-06	8:37AM	1	liner	X					X							
SS4B	D1		8:43AM	1			X				X							
SS4C	D0.5		8:49AM	1			X				X							
SS4D	D1		8:57AM	1			X				X							
SS3A	D2		8:01AM	1		X					X							

- BTEX & TPH as Gas (602/8020 + 8015)/MTBE
- TPH as Diesel (8015) *1 metal g/l*
- Total Petroleum Oil & Grease (5520 E&F/B&F)
- Total Petroleum Hydrocarbons (418.1)
- EPA 601 / 8010
- BTEX ONLY (EPA 602 / 8020)
- EPA 608 / 8080
- EPA 608 / 8080 PCB's ONLY
- EPA 624 / 8240 / 8260
- EPA 625 / 8270
- PAH's / PNA's by EPA 625 / 8270 / 8310
- CAM-17 Metals *+ hexavalent chromium + cyanide*
- LUFT 5 Metals
- Lead (7240/7421/239.2/6010)
- RCI

*AsCdCrCuNiZn added 9/27 5day*  
*CR6TTIC added 9/27 5day*

*an metals analyses  
 perform on soil &  
 sed. ment portion*

*Composite  
 4 as 1*

**XX**

Relinquished By: *Joel Greger* Date: *9/20/06* Time: *1:15pm* Received By: *[Signature]*  
 Relinquished By: *[Signature]* Date: *9/20/06* Time: *1:15pm* Received By: *[Signature]*  
 Relinquished By: *[Signature]* Date: *9/20/06* Time: *3:55* Received By: *[Signature]*

ICE/t°   
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB

PRESERVATION APPROPRIATE   
 CONTAINERS PRESERVED IN LAB

VOAS  O&G  METALS  OTHER

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0609403**

**ClientID: PESJ**

**EDF: YES**

**Report to:**

Joel Greger  
 Piers Environmental  
 1330 S. Bascom Avenue, Ste. F  
 San Jose, CA 95128

Email:  
 TEL: (408) 559-1248 FAX: (408) 559-1224  
 ProjectNo: 2942 San Pablo  
 PO:

**Bill to:**

Accounts Payable  
 Piers Environmental  
 1330 S. Bascom Avenue, Ste. F  
 San Jose, CA 95128

**Requested TAT: 5 days**

*Date Received: 09/20/2006*

*Date Printed: 09/28/2006*

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0609403-001	SS4A-4D	Soil	9/20/06 8:37:00 AM	<input type="checkbox"/>	A		A	A		A						
0609403-002	SS3A	Soil	9/20/06 8:01:00 AM	<input type="checkbox"/>	A	A			A		A					

**Test Legend:**

1	218_6m_S	2	8260B_S	3	CAM17MS_S	4	CN_S	5	METALSMS_S
6	PREDF REPORT	7	TPH(DMO)_S	8		9		10	
11		12							

The following SampIDs: 0609403-001A, 0609403-002A contain testgroup. Please make sure all relevant testcodes are reported. Many thanks.

**Prepared by: Nickole White**

**Comments:** as cd cr cu ni zn & tlc cr6 added 9/27/06 per email

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.



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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/21/06

**TTLc Hexachrome by Alkaline Digestion and IC-UV Analysis\***

Extraction method SW3060A

Analytical methods E218.6m

Work Order: 0609403

Lab ID	Client ID	Matrix	Extraction	Hexachrome	DF	% SS
0609403-001A	SS4A-4D	S	TTLc	ND	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLc	NA	µg/L
	S	TTLc	0.8	mg/Kg

\* All samples are reported in mg/kg unless otherwise requested. All samples and QC were cleaned up prior to analysis.

j) reporting limit raised due to matrix interference.







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	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609403

Lab ID	0609403-002A
Client ID	SS3A
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.50	10	0.05	Acrolein (Propenal)	ND<0.50	10	0.05
Acrylonitrile	ND<0.20	10	0.02	tert-Amyl methyl ether (TAME)	ND<0.050	10	0.005
Benzene	ND<0.050	10	0.005	Bromobenzene	ND<0.050	10	0.005
Bromochloromethane	ND<0.050	10	0.005	Bromodichloromethane	ND<0.050	10	0.005
Bromofom	ND<0.050	10	0.005	Bromomethane	ND<0.050	10	0.005
2-Butanone (MEK)	ND<0.20	10	0.02	t-Butyl alcohol (TBA)	ND<0.50	10	0.05
n-Butyl benzene	ND<0.050	10	0.005	sec-Butyl benzene	ND<0.050	10	0.005
tert-Butyl benzene	ND<0.050	10	0.005	Carbon Disulfide	ND<0.050	10	0.005
Carbon Tetrachloride	ND<0.050	10	0.005	Chlorobenzene	ND<0.050	10	0.005
Chloroethane	ND<0.050	10	0.005	2-Chloroethyl Vinyl Ether	ND<0.10	10	0.01
Chloroform	ND<0.050	10	0.005	Chloromethane	ND<0.050	10	0.005
2-Chlorotoluene	ND<0.050	10	0.005	4-Chlorotoluene	ND<0.050	10	0.005
Dibromochloromethane	ND<0.050	10	0.005	1,2-Dibromo-3-chloropropane	ND<0.050	10	0.005
1,2-Dibromoethane (EDB)	ND<0.050	10	0.005	Dibromomethane	ND<0.050	10	0.005
1,2-Dichlorobenzene	ND<0.050	10	0.005	1,3-Dichlorobenzene	ND<0.050	10	0.005
1,4-Dichlorobenzene	ND<0.050	10	0.005	Dichlorodifluoromethane	ND<0.050	10	0.005
1,1-Dichloroethane	ND<0.050	10	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.050	10	0.005
1,1-Dichloroethene	ND<0.050	10	0.005	cis-1,2-Dichloroethene	0.97	10	0.005
trans-1,2-Dichloroethene	ND<0.050	10	0.005	1,2-Dichloropropane	ND<0.050	10	0.005
1,3-Dichloropropane	ND<0.050	10	0.005	2,2-Dichloropropane	ND<0.050	10	0.005
1,1-Dichloropropene	ND<0.050	10	0.005	cis-1,3-Dichloropropene	ND<0.050	10	0.005
trans-1,3-Dichloropropene	ND<0.050	10	0.005	Diisopropyl ether (DIPE)	ND<0.050	10	0.005
Ethylbenzene	0.060	10	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.050	10	0.005
Freon 113	ND<1.0	10	0.1	Hexachlorobutadiene	ND<0.050	10	0.005
Hexachloroethane	ND<0.050	10	0.005	2-Hexanone	ND<0.050	10	0.005
Isopropylbenzene	ND<0.050	10	0.005	4-Isopropyl toluene	ND<0.050	10	0.005
Methyl-t-butyl ether (MTBE)	0.058	10	0.005	Methylene chloride	ND<0.050	10	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.050	10	0.005	Naphthalene	0.079	10	0.005
Nitrobenzene	ND<1.0	10	0.1	n-Propyl benzene	ND<0.050	10	0.005
Styrene	ND<0.050	10	0.005	1,1,1,2-Tetrachloroethane	ND<0.050	10	0.005
1,1,2,2-Tetrachloroethane	ND<0.050	10	0.005	Tetrachloroethene	ND<0.050	10	0.005
Toluene	ND<0.050	10	0.005	1,2,3-Trichlorobenzene	ND<0.050	10	0.005
1,2,4-Trichlorobenzene	ND<0.050	10	0.005	1,1,1-Trichloroethane	ND<0.050	10	0.005
1,1,2-Trichloroethane	ND<0.050	10	0.005	Trichloroethene	0.45	10	0.005
Trichlorofluoromethane	ND<0.050	10	0.005	1,2,3-Trichloropropane	ND<0.050	10	0.005
1,2,4-Trimethylbenzene	0.33	10	0.005	1,3,5-Trimethylbenzene	ND<0.050	10	0.005
Vinyl Chloride	ND<0.050	10	0.005	Xylenes	0.12	10	0.005

### Surrogate Recoveries (%)

%SS1:	94	%SS2:	92
%SS3:	109		

### Comments:

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

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.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/22/06

### CAM / CCR 17 Metals\*

Lab ID	0609403-001A				Reporting Limit for DF =1; ND means not detected above the reporting limit
Client ID	SS4A-4D				
Matrix	S				S
Extraction Type	TTLIC				mg/Kg
					mg/L

### ICP-MS Metals, Concentration\*

Analytical Method: 6020A

Extraction Method: SW3050B

Work Order: 0609403

Dilution Factor	1				1	1
Antimony	ND				0.5	NA
Arsenic	4.2				0.5	NA
Barium	150				5.0	NA
Beryllium	ND				0.5	NA
Cadmium	0.44				0.25	NA
Chromium	47				0.5	NA
Cobalt	8.0				0.5	NA
Copper	22				0.5	NA
Lead	56				0.5	NA
Mercury	0.060				0.05	NA
Molybdenum	0.80				0.5	NA
Nickel	35				0.5	NA
Selenium	ND				0.5	NA
Silver	ND				0.5	NA
Thallium	ND				0.5	NA
Vanadium	38				0.5	NA
Zinc	60				5.0	NA
%SS:	106					

#### Comments

\*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.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLIC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.







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		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/29/06
	Client P.O.:	Date Analyzed 09/29/06

**Chemical Oxygen Demand (COD)\***

Analytical Method: SM5220D

Work Order: 0609403

Lab ID	Client ID	Matrix	COD	DF
0609403-002A	SS3A	S	12,000	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	NA
	S	250 mg/Kg

\*water/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.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/28/06
	Client P.O.:	Date Analyzed 09/29/06

### Metals\*

Extraction method SW3050B

Analytical methods 6020A

Work Order: 0609403

Lab ID	Client ID	Matrix	Extraction	Arsenic	Cadmium	Chromium	Copper	Nickel	Zinc	DF	% SS
002A	SS3A	S	TTLC	2.8	ND	30	12	22	22	1	102

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	NA	NA	NA	NA	NA	NA	NA
	S	TTLC	0.5	0.25	0.5	0.5	0.5	0.5	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.

J) analyte detected between reporting limits (RLs) and method detection limits (MDLs).

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.









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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

**Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil\***

Extraction method: SW3550C Analytical methods: SW8015C Work Order: 0609403

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0609403-002A	SS3A	S	120,g,d,b	1000	10	100

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	ug/L
	S	1.0	5.0	mg/Kg

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

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel (asphalt?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit; p) see attached narrative.



### QC SUMMARY REPORT FOR SM4500-CN<sup>-</sup> E

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method SM4500-CN <sup>-</sup> E	Extraction SM4500-CN <sup>-</sup> E			BatchID: 23949			Spiked Sample ID: 0609530-002A					
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
Total Cyanide	0.12	0.80	96.4	97.4	0.896	97.3	95.9	1.53	80 - 120	20	90 - 110	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 23949 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001	9/20/06 8:37 AM	10/02/06	10/02/06 1:20 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.

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



### QC SUMMARY REPORT FOR E218.6m

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method E218.6m	Extraction SW3060A			BatchID: 24002			Spiked Sample ID: 0609403-002a					
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
Hexachrome	ND	40	87.8	96.9	9.85	92.9	96	3.28	80 - 120	20	90 - 110	10

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

#### BATCH 24002 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002	9/20/06 8:01 AM	9/28/06	9/28/06 10:14 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.

N/A = not applicable to this method.



### QC SUMMARY REPORT FOR E218.6m

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0609403

EPA Method: E218.6m		Extraction: SW3060A			BatchID: 23797			Spiked Sample ID: 0609365-001a				
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
Hexachrome	ND	40	102	104	2.53	93.1	96.5	3.59	80 - 120	20	90 - 110	10
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE												

BATCH 23797 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001	9/20/06 8:37 AM	9/20/06	9/21/06 6:19 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.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method SW8260B	Extraction SW5030B					BatchID: 23787			Spiked Sample ID: 0609343-001A			
	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	101	103	2.46	105	109	3.56	70 - 130	30	70 - 130	30
Benzene	ND	0.050	96.9	98.8	1.80	98.7	107	7.87	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	91.3	86.1	5.89	98.5	124	22.5	70 - 130	30	70 - 130	30
Chlorobenzene	ND	0.050	101	101	0	93.7	99.7	6.20	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	95.1	95.1	0	93.1	93.4	0.306	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	115	121	4.94	119	124	4.27	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	0.050	116	117	0.517	108	111	3.45	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	117	121	2.99	116	120	3.84	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	111	114	3.28	111	116	3.63	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	0.011	0.050	90.2	93	2.50	115	120	3.87	70 - 130	30	70 - 130	30
Toluene	ND	0.050	88.6	88.4	0.227	90.4	87.9	2.84	70 - 130	30	70 - 130	30
Trichloroethene	ND	0.050	97.2	98.7	1.59	91.3	97	6.02	70 - 130	30	70 - 130	30
%SS1:	112	0.050	105	106	0.689	105	103	1.47	70 - 130	30	70 - 130	30
%SS2:	98	0.050	106	105	0.639	106	96	9.90	70 - 130	30	70 - 130	30
%SS3:	92	0.050	106	107	0.800	109	106	2.59	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 23787 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002	9/20/06 8:01 AM	9/20/06	9/26/06 7:11 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.



**QC SUMMARY REPORT FOR 6020A**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method 6020A		Extraction SW3050B				BatchID: 23846				Spiked Sample ID 0609397-052A			
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
Antimony	ND	50	100	99.4	0.736	10	99.2	101	1.51	75 - 125	20	80 - 120	20
Arsenic	5	50	92.7	93	0.331	10	94.2	94.9	0.761	75 - 125	20	80 - 120	20
Barium	290	500	95.7	96	0.207	100	96.4	97.8	1.48	75 - 125	20	80 - 120	20
Beryllium	0.72	50	89.5	89.6	0.110	10	98.7	102	3.36	75 - 125	20	80 - 120	20
Cadmium	ND	50	95	94.6	0.464	10	95.5	95.8	0.303	75 - 125	20	80 - 120	20
Chromium	41	50	82.5	86.6	2.47	10	90.9	92.6	1.86	75 - 125	20	80 - 120	20
Cobalt	13	50	84.5	84.1	0.328	10	95.4	99.3	3.95	75 - 125	20	80 - 120	20
Copper	24	50	89.1	91.3	1.59	10	95.2	95.3	0.105	75 - 125	20	80 - 120	20
Lead	10	50	94	93.7	0.193	10	96.4	98	1.74	75 - 125	20	80 - 120	20
Mercury	ND	2.5	102	100	1.14	0.50	103	104	1.33	75 - 125	20	80 - 120	20
Molybdenum	0.50	50	93.3	92.6	0.766	10	95	95.6	0.608	75 - 125	20	80 - 120	20
Nickel	42	50	90.7	94.3	2.01	10	93.8	94.8	1.10	75 - 125	20	80 - 120	20
Selenium	ND	50	95.6	94.3	1.28	10	93	94.4	1.49	75 - 125	20	80 - 120	20
Silver	ND	50	91.3	90.7	0.636	10	94.5	95.2	0.791	75 - 125	20	80 - 120	20
Thallium	ND	50	92.4	93.4	1.08	10	89.4	92.1	2.98	75 - 125	20	80 - 120	20
Vanadium	72	50	81.1	88.1	3.05	10	91.2	92.6	1.51	75 - 125	20	80 - 120	20
Zinc	56	500	94.3	94	0.304	100	97.7	98.6	0.917	75 - 125	20	80 - 120	20
%SS:	108	250	105	107	2.41	250	101	102	1.58	70 - 130	20	70 - 130	20

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 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



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"When Quality Counts"

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

### QC SUMMARY REPORT FOR 6020A

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

#### BATCH 23846 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001A	9/20/06 8:37 AM	9/20/06	9/22/06 2:29 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 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~~





### QC SUMMARY REPORT FOR SM5220D

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method SM5220D		Extraction SM5220D				BatchID: 23796			Spiked Sample ID: 0609365-001A			
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
COD	3200	10000	109	104	3.45	106	99.6	6.41	90 - 110	20	90 - 110	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 23796 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001	9/20/06 8:37 AM	9/21/06	9/21/06 4:55 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.

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



### QC SUMMARY REPORT FOR SM5220D

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

Analyte	EPA Method SM5220D		Extraction SM5220D			BatchID: 24001			Spiked Sample ID: 0609403-002A			
	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
COD	12000	10000	105	108	1.37	109	106	2.87	90 - 110	20	90 - 110	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 24001 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002	9/20/06 8:01 AM	9/29/06	9/29/06 3:01 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.

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



### QC SUMMARY REPORT FOR 6020A

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0609403

EPA Method: 6020A		Extraction: SW3050B				BatchID: 23981				Spiked Sample ID: 0609551-001A			
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
Arsenic	5.5	50	102	101	0.855	10	94.8	96.7	2.01	75 - 125	20	80 - 120	20
Cadmium	0.5	50	97.4	97.4	0	10	94.9	94.3	0.550	75 - 125	20	80 - 120	20
Chromium	33	50	95	94.7	0.236	10	90.4	91.6	1.33	75 - 125	20	80 - 120	20
Copper	34	50	102	103	0.292	10	95.2	95.4	0.189	75 - 125	20	80 - 120	20
Nickel	38	50	103	104	0.101	10	95.1	96.2	1.17	75 - 125	20	80 - 120	20
Zinc	210	500	106	106	0	100	91	91.9	0.951	75 - 125	20	80 - 120	20
%SS:	104	250	111	112	0.935	250	98	103	4.42	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 23981 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002A	9/20/06 8:01 AM	9/28/06	9/29/06 9:01 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.

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.



### QC SUMMARY REPORT FOR WET CHEMISTRY TESTS

Test Method: pH

Matrix: S

WorkOrder: 0609403

Method Name: SW9045C		Units: ±, pH units @ °C			BatchID: 23847	
SampleID	Sample	DF	Dup / Ser. Dil.	DF	RD	Acceptance Criteria
0609403-001A	7.37 @ 23.9 °C	1	7.38 @ 24.0 °C	1	0.01	±0.05

BATCH 23847 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-001A	9/20/06 8:37 AM	9/20/06	9/21/06 8:30 PM	0609403-001A	9/20/06 8:37 AM	9/20/06	9/21/06 8:30 PM

Test Method: pH

Matrix: S

WorkOrder: 0609403

Method Name: SW9045C		Units: ±, pH units @ °C			BatchID: 23990	
SampleID	Sample	DF	Dup / Ser. Dil.	DF	RD	Acceptance Criteria
0609403-002A	7.78 @ 23.3°C	1	7.77 @ 23.3°C	1	0.01	±0.05

BATCH 23990 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002A	9/20/06 8:01 AM	9/28/06	9/28/06 8:15 PM				

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

RD = Absolute Value (Sample - Duplicate); RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2].



### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609403

EPA Method SW8015C		Extraction SW3550C				BatchID: 23830			Spiked Sample ID: 0609374-005A			
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(d)	ND	20	102	105	2.65	97.9	101	3.00	70 - 130	30	70 - 130	30
%SS:	92	50	102	105	2.22	103	106	2.12	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 23830 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609403-002	9/20/06 8:01 AM	9/20/06	9/26/06 3:15 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 / 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.



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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Reported: 09/27/06
	Client P.O.:	Date Completed: 09/27/06

**WorkOrder: 0609404**

September 27, 2006

Dear Joel:

Enclosed are:

- 1). the results of **6** analyzed samples from your **2942 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. McC Campbell 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

PKS

HASLWORE BT

0400904

McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR  48 HR  72 HR  5 DAY

EDF Required? Coelt (Normal)  No Write On (DW)  No

Report To: Joel Greger Bill To: PIERS  
Company: PIERS Environmental  
1330 S. Bascom Ave Suite F  
San Jose CA 95128 E-Mail: piers@pierses.com  
Tele: 0510 5935382 Fax: 0510 7871457  
Project #: \_\_\_\_\_ Project Name: 2942  
Project Location: 2942 San Pablo Ave Oakland  
Sampler Signature: [Signature]

Analysis Request

Other

Comments

BTEX & TPH as Gas (601/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 <u>8260</u>	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals <u>7 metals vs 17 of Chromium &amp; Cyanide</u>	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	on metals analysis perform on soil/sediment portion	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED					
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other		
MW4	d13.5	9-19-06	8:21am	1	1m		X									
MW4	d17.5		8:40am	1	1m		X									
MW4	d22.5		8:51am	1	1m		X									
SS1A	d0.5		12:37PM				X									
SS1B	d1		12:43PM				X									
SS1C	d1		12:51PM				X									
SS1D	d0.5		12:57PM				X									
SS2A	d0.5		1:08PM				X									
SS2B	d0.5		1:17PM				X									
SS2C	d0.5		1:22PM				X									
SS2B	d0.5		1:31PM				X									
SS3A	d0.5	9-20-06	8:01 AM				X									
SS3B	d0.5		8:11 AM				X									
SS3C	d0.5		9:41 AM				X									
SS3D	d0.5		9:22 AM				X									

Composite 4 as 1

Composite 4 as 1

Composite 4 as 1

Relinquished By: [Signature] Date: 9/20/06 Time: 11 AM Received By: [Signature]

Relinquished By: [Signature] Date: 9/20/06 Time: 1 PM Received By: [Signature]

Relinquished By: [Signature] Date: 9/20/06 Time: 3:55 Received By: [Signature]

ICE/t° GOOD PRESERVATION APPROPRIATE VOAS   O&G   METALS   OTHER  

GOOD CONDITION   APPROPRIATE CONTAINERS  

HEAD SPACE ABSENT   CONTAINERS  

DECHLORINATED IN LAB   PRESERVED IN LAB

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0609404**

**ClientID: PESJ**

**EDF: YES**

**Report to:**

Joel Greger  
 Piers Environmental  
 1330 S. Bascom Avenue, Ste. F  
 San Jose, CA 95128

**Email:**  
 TEL: (408) 559-1248 FAX: (408) 559-1224  
 ProjectNo: 2942  
 PO:

**Bill to:**

**Requested TAT: 5 days**

*Date Received: 09/20/2006*

*Date Printed: 09/20/2006*

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0609404-001	MW4	Soil	09/19/2006	<input type="checkbox"/>			A		A								
0609404-002	MW4	Soil	09/19/2006	<input type="checkbox"/>			A										
0609404-003	MW4	Soil	09/19/2006	<input type="checkbox"/>			A										
0609404-004	SS1A-1D	Soil	09/19/2006	<input type="checkbox"/>	A			A									
0609404-005	SS2A-2D	Soil	09/19/2006	<input type="checkbox"/>	A			A									
0609404-006	SS3A-3D	Soil	09/20/2006	<input type="checkbox"/>	A			A									

**Test Legend:**

1	218_6m_S	2	8260B_S	3	CAM17MS_S	4	PREF REPORT	5	
6		7		8		9		10	
11		12							

The following SampIDs: 0609404-004A, 0609404-005A, 0609404-006A contain testgroup. Please make sure all relevant testcodes are reported. Many thanks.

**Prepared by: Nickole White**

**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.





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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06-09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/21/06

### TTLC Hexachrome by Alkaline Digestion and IC-UV Analysis\*

Extraction method SW3060A

Analytical methods E218.6m

Work Order: 0609404

Lab ID	Client ID	Matrix	Extraction	Hexachrome	DF	% SS
0609404-004A	SS1A-1D	S	TTLC	ND	1	N/A
0609404-005A	SS2A-2D	S	TTLC	1.9	1	N/A
0609404-006A	SS3A-3D	S	TTLC	2.2	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	µg/L
	S	TTLC	0.8	mg/Kg

\* All samples are reported in mg/kg unless otherwise requested. All samples and QC were cleaned up prior to analysis.

j) reporting limit raised due to matrix interference.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609404

Lab ID	0609404-001A
Client ID	MW4
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.50	10	0.05	Acrolein (Propenal)	ND<0.50	10	0.05
Acrylonitrile	ND<0.20	10	0.02	tert-Amyl methyl ether (TAME)	ND<0.050	10	0.005
Benzene	ND<0.050	10	0.005	Bromobenzene	ND<0.050	10	0.005
Bromochloromethane	ND<0.050	10	0.005	Bromodichloromethane	ND<0.050	10	0.005
Bromofom	ND<0.050	10	0.005	Bromomethane	ND<0.050	10	0.005
2-Butanone (MEK)	ND<0.20	10	0.02	t-Butyl alcohol (TBA)	ND<0.50	10	0.05
n-Butyl benzene	ND<0.050	10	0.005	sec-Butyl benzene	ND<0.050	10	0.005
tert-Butyl benzene	ND<0.050	10	0.005	Carbon Disulfide	ND<0.050	10	0.005
Carbon Tetrachloride	ND<0.050	10	0.005	Chlorobenzene	ND<0.050	10	0.005
Chloroethane	ND<0.050	10	0.005	2-Chloroethyl Vinyl Ether	ND<0.10	10	0.01
Chloroform	ND<0.050	10	0.005	Chloromethane	ND<0.050	10	0.005
2-Chlorotoluene	ND<0.050	10	0.005	4-Chlorotoluene	ND<0.050	10	0.005
Dibromochloromethane	ND<0.050	10	0.005	1,2-Dibromo-3-chloropropane	ND<0.050	10	0.005
1,2-Dibromoethane (EDB)	ND<0.050	10	0.005	Dibromomethane	ND<0.050	10	0.005
1,2-Dichlorobenzene	ND<0.050	10	0.005	1,3-Dichlorobenzene	ND<0.050	10	0.005
1,4-Dichlorobenzene	ND<0.050	10	0.005	Dichlorodifluoromethane	ND<0.050	10	0.005
1,1-Dichloroethane	ND<0.050	10	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.050	10	0.005
1,1-Dichloroethene	ND<0.050	10	0.005	cis-1,2-Dichloroethene	0.84	10	0.005
trans-1,2-Dichloroethene	ND<0.050	10	0.005	1,2-Dichloropropane	ND<0.050	10	0.005
1,3-Dichloropropane	ND<0.050	10	0.005	2,2-Dichloropropane	ND<0.050	10	0.005
1,1-Dichloropropene	ND<0.050	10	0.005	cis-1,3-Dichloropropene	ND<0.050	10	0.005
trans-1,3-Dichloropropene	ND<0.050	10	0.005	Diisopropyl ether (DIPE)	ND<0.050	10	0.005
Ethylbenzene	ND<0.050	10	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.050	10	0.005
Freon 113	ND<1.0	10	0.1	Hexachlorobutadiene	ND<0.050	10	0.005
Hexachloroethane	ND<0.050	10	0.005	2-Hexanone	ND<0.050	10	0.005
Isopropylbenzene	ND<0.050	10	0.005	4-Isopropyl toluene	ND<0.050	10	0.005
Methyl-t-butyl ether (MTBE)	ND<0.050	10	0.005	Methylene chloride	ND<0.050	10	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.050	10	0.005	Naphthalene	ND<0.050	10	0.005
Nitrobenzene	ND<1.0	10	0.1	n-Propyl benzene	ND<0.050	10	0.005
Styrene	ND<0.050	10	0.005	1,1,1,2-Tetrachloroethane	ND<0.050	10	0.005
1,1,2,2-Tetrachloroethane	ND<0.050	10	0.005	Tetrachloroethene	ND<0.050	10	0.005
Toluene	ND<0.050	10	0.005	1,2,3-Trichlorobenzene	ND<0.050	10	0.005
1,2,4-Trichlorobenzene	ND<0.050	10	0.005	1,1,1-Trichloroethane	ND<0.050	10	0.005
1,1,2-Trichloroethane	ND<0.050	10	0.005	Trichloroethene	2.3	10	0.005
Trichlorofluoromethane	ND<0.050	10	0.005	1,2,3-Trichloropropane	ND<0.050	10	0.005
1,2,4-Trimethylbenzene	ND<0.050	10	0.005	1,3,5-Trimethylbenzene	ND<0.050	10	0.005
Vinyl Chloride	ND<0.050	10	0.005	Xylenes	ND<0.050	10	0.005

#### Surrogate Recoveries (%)

%SS1:	93	%SS2:	95
%SS3:	110		

#### Comments:

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

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.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609404

Lab ID	0609404-002A
Client ID	MW4
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.50	10	0.05	Acrolein (Propenal)	ND<0.50	10	0.05
Acrylonitrile	ND<0.20	10	0.02	tert-Amyl methyl ether (TAME)	ND<0.050	10	0.005
Benzene	ND<0.050	10	0.005	Bromobenzene	ND<0.050	10	0.005
Bromochloromethane	ND<0.050	10	0.005	Bromodichloromethane	ND<0.050	10	0.005
Bromofom	ND<0.050	10	0.005	Bromomethane	ND<0.050	10	0.005
2-Butanone (MEK)	ND<0.20	10	0.02	t-Butyl alcohol (TBA)	ND<0.50	10	0.05
n-Butyl benzene	ND<0.050	10	0.005	sec-Butyl benzene	ND<0.050	10	0.005
tert-Butyl benzene	ND<0.050	10	0.005	Carbon Disulfide	ND<0.050	10	0.005
Carbon Tetrachloride	ND<0.050	10	0.005	Chlorobenzene	ND<0.050	10	0.005
Chloroethane	ND<0.050	10	0.005	2-Chloroethyl Vinyl Ether	ND<0.10	10	0.01
Chloroform	ND<0.050	10	0.005	Chloromethane	ND<0.050	10	0.005
2-Chlorotoluene	ND<0.050	10	0.005	4-Chlorotoluene	ND<0.050	10	0.005
Dibromochloromethane	ND<0.050	10	0.005	1,2-Dibromo-3-chloropropane	ND<0.050	10	0.005
1,2-Dibromoethane (EDB)	ND<0.050	10	0.005	Dibromomethane	ND<0.050	10	0.005
1,2-Dichlorobenzene	ND<0.050	10	0.005	1,3-Dichlorobenzene	ND<0.050	10	0.005
1,4-Dichlorobenzene	ND<0.050	10	0.005	Dichlorodifluoromethane	ND<0.050	10	0.005
1,1-Dichloroethane	ND<0.050	10	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.050	10	0.005
1,1-Dichloroethene	ND<0.050	10	0.005	cis-1,2-Dichloroethene	0.55	10	0.005
trans-1,2-Dichloroethene	ND<0.050	10	0.005	1,2-Dichloropropane	ND<0.050	10	0.005
1,3-Dichloropropane	ND<0.050	10	0.005	2,2-Dichloropropane	ND<0.050	10	0.005
1,1-Dichloropropene	ND<0.050	10	0.005	cis-1,3-Dichloropropene	ND<0.050	10	0.005
trans-1,3-Dichloropropene	ND<0.050	10	0.005	Diisopropyl ether (DIPE)	ND<0.050	10	0.005
Ethylbenzene	ND<0.050	10	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.050	10	0.005
Freon 113	ND<1.0	10	0.1	Hexachlorobutadiene	ND<0.050	10	0.005
Hexachloroethane	ND<0.050	10	0.005	2-Hexanone	ND<0.050	10	0.005
Isopropylbenzene	ND<0.050	10	0.005	4-Isopropyl toluene	ND<0.050	10	0.005
Methyl-t-butyl ether (MTBE)	ND<0.050	10	0.005	Methylene chloride	ND<0.050	10	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.050	10	0.005	Naphthalene	ND<0.050	10	0.005
Nitrobenzene	ND<1.0	10	0.1	n-Propyl benzene	ND<0.050	10	0.005
Styrene	ND<0.050	10	0.005	1,1,1,2-Tetrachloroethane	ND<0.050	10	0.005
1,1,2,2-Tetrachloroethane	ND<0.050	10	0.005	Tetrachloroethene	ND<0.050	10	0.005
Toluene	ND<0.050	10	0.005	1,2,3-Trichlorobenzene	ND<0.050	10	0.005
1,2,4-Trichlorobenzene	ND<0.050	10	0.005	1,1,1-Trichloroethane	ND<0.050	10	0.005
1,1,2-Trichloroethane	ND<0.050	10	0.005	Trichloroethene	1.9	10	0.005
Trichlorofluoromethane	ND<0.050	10	0.005	1,2,3-Trichloropropane	ND<0.050	10	0.005
1,2,4-Trimethylbenzene	ND<0.050	10	0.005	1,3,5-Trimethylbenzene	ND<0.050	10	0.005
Vinyl Chloride	ND<0.050	10	0.005	Xylenes	ND<0.050	10	0.005

#### Surrogate Recoveries (%)

%SS1:	94	%SS2:	95
%SS3:	109		

#### Comments:

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

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.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609404

Lab ID	0609404-003A
Client ID	MW4
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.20	4.0	0.05	Acrolein (Propenal)	ND<0.20	4.0	0.05
Acrylonitrile	ND<0.080	4.0	0.02	tert-Amyl methyl ether (TAME)	ND<0.020	4.0	0.005
Benzene	ND<0.020	4.0	0.005	Bromobenzene	ND<0.020	4.0	0.005
Bromochloromethane	ND<0.020	4.0	0.005	Bromodichloromethane	ND<0.020	4.0	0.005
Bromoform	ND<0.020	4.0	0.005	Bromomethane	ND<0.020	4.0	0.005
2-Butanone (MEK)	ND<0.080	4.0	0.02	t-Butyl alcohol (TBA)	ND<0.20	4.0	0.05
n-Butyl benzene	ND<0.020	4.0	0.005	sec-Butyl benzene	ND<0.020	4.0	0.005
tert-Butyl benzene	ND<0.020	4.0	0.005	Carbon Disulfide	ND<0.020	4.0	0.005
Carbon Tetrachloride	ND<0.020	4.0	0.005	Chlorobenzene	ND<0.020	4.0	0.005
Chloroethane	ND<0.020	4.0	0.005	2-Chloroethyl Vinyl Ether	ND<0.040	4.0	0.01
Chloroform	ND<0.020	4.0	0.005	Chloromethane	ND<0.020	4.0	0.005
2-Chlorotoluene	ND<0.020	4.0	0.005	4-Chlorotoluene	ND<0.020	4.0	0.005
Dibromochloromethane	ND<0.020	4.0	0.005	1,2-Dibromo-3-chloropropane	ND<0.020	4.0	0.005
1,2-Dibromoethane (EDB)	ND<0.020	4.0	0.005	Dibromomethane	ND<0.020	4.0	0.005
1,2-Dichlorobenzene	ND<0.020	4.0	0.005	1,3-Dichlorobenzene	ND<0.020	4.0	0.005
1,4-Dichlorobenzene	ND<0.020	4.0	0.005	Dichlorodifluoromethane	ND<0.020	4.0	0.005
1,1-Dichloroethane	ND<0.020	4.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.020	4.0	0.005
1,1-Dichloroethene	ND<0.020	4.0	0.005	cis-1,2-Dichloroethene	0.11	4.0	0.005
trans-1,2-Dichloroethene	ND<0.020	4.0	0.005	1,2-Dichloropropane	ND<0.020	4.0	0.005
1,3-Dichloropropane	ND<0.020	4.0	0.005	2,2-Dichloropropane	ND<0.020	4.0	0.005
1,1-Dichloropropene	ND<0.020	4.0	0.005	cis-1,3-Dichloropropene	ND<0.020	4.0	0.005
trans-1,3-Dichloropropene	ND<0.020	4.0	0.005	Diisopropyl ether (DIPE)	ND<0.020	4.0	0.005
Ethylbenzene	ND<0.020	4.0	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.020	4.0	0.005
Freon 113	ND<0.40	4.0	0.1	Hexachlorobutadiene	ND<0.020	4.0	0.005
Hexachloroethane	ND<0.020	4.0	0.005	2-Hexanone	ND<0.020	4.0	0.005
Isopropylbenzene	ND<0.020	4.0	0.005	4-Isopropyl toluene	ND<0.020	4.0	0.005
Methyl-t-butyl ether (MTBE)	ND<0.020	4.0	0.005	Methylene chloride	ND<0.020	4.0	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.020	4.0	0.005	Naphthalene	ND<0.020	4.0	0.005
Nitrobenzene	ND<0.40	4.0	0.1	n-Propyl benzene	ND<0.020	4.0	0.005
Styrene	ND<0.020	4.0	0.005	1,1,1,2-Tetrachloroethane	ND<0.020	4.0	0.005
1,1,2,2-Tetrachloroethane	ND<0.020	4.0	0.005	Tetrachloroethene	ND<0.020	4.0	0.005
Toluene	ND<0.020	4.0	0.005	1,2,3-Trichlorobenzene	ND<0.020	4.0	0.005
1,2,4-Trichlorobenzene	ND<0.020	4.0	0.005	1,1,1-Trichloroethane	ND<0.020	4.0	0.005
1,1,2-Trichloroethane	ND<0.020	4.0	0.005	Trichloroethene	0.53	4.0	0.005
Trichlorofluoromethane	ND<0.020	4.0	0.005	1,2,3-Trichloropropane	ND<0.020	4.0	0.005
1,2,4-Trimethylbenzene	ND<0.020	4.0	0.005	1,3,5-Trimethylbenzene	ND<0.020	4.0	0.005
Vinyl Chloride	ND<0.020	4.0	0.005	Xylenes	ND<0.020	4.0	0.005

### Surrogate Recoveries (%)

%SS1:	92	%SS2:	92
%SS3:	107		

### Comments:

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

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.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06-09/20/06
	Client Contact: Joel Greger	Date Received: 09/20/06
	Client P.O.:	Date Extracted: 09/20/06
		Date Analyzed: 09/22/06-09/25/06

### CAM / CCR 17 Metals\*

Lab ID	0609404-004A	0609404-005A	0609404-006A	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS1A-1D	SS2A-2D	SS3A-3D	S	W
Matrix	S	S	S	S	W
Extraction Type	TTLC	TTLC	TTLC	mg/Kg	mg/L

### ICP-MS Metals, Concentration\*

Analytical Method: 6020A

Extraction Method: SW3050B

Work Order: 0609404

Dilution Factor	1	1	1	1	1
Antimony	3.4	3.4	2.7	0.5	NA
Arsenic	17	6.0	5.8	0.5	NA
Barium	170	260	190	5.0	NA
Beryllium	0.51	ND	0.59	0.5	NA
Cadmium	1.3	8.9	26	0.25	NA
Chromium	84	100	910	0.5	NA
Cobalt	18	10	20	0.5	NA
Copper	210	160	430	0.5	NA
Lead	210	360	84	0.5	NA
Mercury	0.54	0.80	0.23	0.05	NA
Molybdenum	1.9	1.1	1.7	0.5	NA
Nickel	100	150	5400	0.5	NA
Selenium	ND	ND	0.71	0.5	NA
Silver	ND	2.0	2.9	0.5	NA
Thallium	ND	ND	ND	0.5	NA
Vanadium	100	44	39	0.5	NA
Zinc	210	430	750	5.0	NA
%SS:	104	102	105		

#### Comments

\*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.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



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Piers Environmental 1330 S. Bascom Avenue, Ste. F San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06-09/20/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/21/06
	Client P.O.:	Date Analyzed 09/21/06

**Chemical Oxygen Demand (COD)\***

Analytical Method: SM5220D

Work Order: 0609404

Lab ID	Client ID	Matrix	COD	DF
0609404-004A	SS1A-1D	S	6900	1
0609404-005A	SS2A-2D	S	18,000	1
0609404-006A	SS3A-3D	S	14,000	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	NA
	S	250 mg/Kg

\*water/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.





### QC SUMMARY REPORT FOR E218.6m

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0609404

EPA Method E218.6m		Extraction SW3060A			BatchID: 23797			Spiked Sample ID: 0609365-001a				
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
Hexachrome	ND	40	102	104	2.53	93.1	96.5	3.59	80 - 120	20	90 - 110	10
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE												

BATCH 23797 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004	9/19/06 12:37 PM	9/20/06	9/21/06 6:40 PM	0609404-005	9/19/06 1:08 PM	9/20/06	9/21/06 7:02 PM
0609404-006	9/20/06 8:01 AM	9/20/06	9/21/06 7:23 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.

N/A = not applicable to this method.





### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

EPA Method SW8260B	Extraction SW5030B					BatchID: 23787			Spiked Sample ID: 0609343-001A			
	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	101	103	2.46	105	109	3.56	70 - 130	30	70 - 130	30
Benzene	ND	0.050	96.9	98.8	1.80	98.7	107	7.87	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	91.3	86.1	5.89	98.5	124	22.5	70 - 130	30	70 - 130	30
Chlorobenzene	ND	0.050	101	101	0	93.7	99.7	6.20	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	95.1	95.1	0	93.1	93.4	0.306	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	115	121	4.94	119	124	4.27	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	0.050	116	117	0.517	108	111	3.45	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	117	121	2.99	116	120	3.84	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	111	114	3.28	111	116	3.63	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	0.011	0.050	90.2	93	2.50	115	120	3.87	70 - 130	30	70 - 130	30
Toluene	ND	0.050	88.6	88.4	0.227	90.4	87.9	2.84	70 - 130	30	70 - 130	30
Trichloroethene	ND	0.050	97.2	98.7	1.59	91.3	97	6.02	70 - 130	30	70 - 130	30
%SS1:	112	0.050	105	106	0.689	105	103	1.47	70 - 130	30	70 - 130	30
%SS2:	98	0.050	106	105	0.639	106	96	9.90	70 - 130	30	70 - 130	30
%SS3:	92	0.050	106	107	0.800	109	106	2.59	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 23787 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-001	9/19/06 8:27 AM	9/20/06	9/26/06 7:56 AM	0609404-002	9/19/06 8:40 AM	9/20/06	9/26/06 8:41 AM
0609404-003	9/19/06 8:51 AM	9/20/06	9/26/06 9:26 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 / 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.



### QC SUMMARY REPORT FOR 6020A

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

EPA Method 6020A		Extraction SW3050B				BatchID: 23846				Spiked Sample ID 0609397-052A			
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
Antimony	ND	50	100	99.4	0.736	10	99.2	101	1.51	75 - 125	20	80 - 120	20
Arsenic	5	50	92.7	93	0.331	10	94.2	94.9	0.761	75 - 125	20	80 - 120	20
Barium	290	500	95.7	96	0.207	100	96.4	97.8	1.48	75 - 125	20	80 - 120	20
Beryllium	0.72	50	89.5	89.6	0.110	10	98.7	102	3.36	75 - 125	20	80 - 120	20
Cadmium	ND	50	95	94.6	0.464	10	95.5	95.8	0.303	75 - 125	20	80 - 120	20
Chromium	41	50	82.5	86.6	2.47	10	90.9	92.6	1.86	75 - 125	20	80 - 120	20
Cobalt	13	50	84.5	84.1	0.328	10	95.4	99.3	3.95	75 - 125	20	80 - 120	20
Copper	24	50	89.1	91.3	1.59	10	95.2	95.3	0.105	75 - 125	20	80 - 120	20
Lead	10	50	94	93.7	0.193	10	96.4	98	1.74	75 - 125	20	80 - 120	20
Mercury	ND	2.5	102	100	1.14	0.50	103	104	1.33	75 - 125	20	80 - 120	20
Molybdenum	0.50	50	93.3	92.6	0.766	10	95	95.6	0.608	75 - 125	20	80 - 120	20
Nickel	42	50	90.7	94.3	2.01	10	93.8	94.8	1.10	75 - 125	20	80 - 120	20
Selenium	ND	50	95.6	94.3	1.28	10	93	94.4	1.49	75 - 125	20	80 - 120	20
Silver	ND	50	91.3	90.7	0.636	10	94.5	95.2	0.791	75 - 125	20	80 - 120	20
Thallium	ND	50	92.4	93.4	1.08	10	89.4	92.1	2.98	75 - 125	20	80 - 120	20
Vanadium	72	50	81.1	88.1	3.05	10	91.2	92.6	1.51	75 - 125	20	80 - 120	20
Zinc	56	500	94.3	94	0.304	100	97.7	98.6	0.917	75 - 125	20	80 - 120	20
%SS:	108	250	105	107	2.41	250	101	102	1.58	70 - 130	20	70 - 130	20

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 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



### QC SUMMARY REPORT FOR 6020A

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

#### BATCH 23846 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004A	9/19/06 12:37 PM	9/20/06	9/22/06 3:02 AM	0609404-004A	9/19/06 12:37 PM	9/20/06	9/22/06 10:04 PM
0609404-005A	9/19/06 1:08 PM	9/20/06	9/22/06 3:09 AM	0609404-005A	9/19/06 1:08 PM	9/20/06	9/25/06 8:14 PM
0609404-006A	9/20/06 8:01 AM	9/20/06	9/22/06 3:16 AM	0609404-006A	9/20/06 8:01 AM	9/20/06	9/25/06 8:21 PM
0609404-006A	9/20/06 8:01 AM	9/20/06	9/25/06 8:28 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.

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



### QC SUMMARY REPORT FOR SM5220D

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

EPA Method SM5220D	Extraction SM5220D					BatchID: 23796			Spiked Sample ID: 0609365-001A			
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
COD	3200	10000	109	104	3.45	106	99.6	6.41	90 - 110	20	90 - 110	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 23796 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004	9/19/06 12:37 PM	9/21/06	9/21/06 5:01 PM	0609404-005	9/19/06 1:08 PM	9/21/06	9/21/06 5:07 PM
0609404-006	9/20/06 8:01 AM	9/21/06	9/21/06 5:13 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.

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



**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

### QC SUMMARY REPORT FOR WET CHEMISTRY TESTS

Test Method: pH

Matrix: S

WorkOrder: 0609404

Method Name: SW9045C		Units ±, pH units @ °C			BatchID: 23847	
SampleID	Sample	DF	Dup / Ser. Dil.	DF	RD	Acceptance Criteria
0609404-004A	7.98 @ 24.5 °C	1	7.99 @ 24.5 °C	1	0.01	±0.05
0609404-005A	7.58 @ 24.5 °C	1	7.57 @ 24.6 °C	1	0.01	±0.05
0609404-006A	10.88 @ 24.5 °C	1	10.89 @ 24.5 °C	1	0.01	±0.05

#### BATCH 23847 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004A	9/19/06 12:37 PM	9/20/06	9/21/06 8:40 PM	0609404-004A	9/19/06 12:37 PM	9/20/06	9/21/06 8:40 PM
0609404-005A	9/19/06 1:08 PM	9/20/06	9/21/06 8:50 PM	0609404-005A	9/19/06 1:08 PM	9/20/06	9/21/06 8:50 PM
0609404-006A	9/20/06 8:01 AM	9/20/06	9/21/06 9:00 PM	0609404-006A	9/20/06 8:01 AM	9/20/06	9/21/06 9:00 PM

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

RD = Absolute Value (Sample - Duplicate); RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2].



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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Reported: 09/27/06
	Client P.O.:	Date Completed: 10/05/06

**WorkOrder: 0609404**

October 05, 2006

Dear Joel:

Enclosed are:

- 1). the results of **6** analyzed samples from your **2942 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. McC Campbell 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

1077

1900000-REV 1

0400704

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH  24 HR  48 HR  72 HR  5 DA

EDF Required?  Coelt (Normal)  No  Write On  DWY  No

Report To: Joel Greger Bill To: PIERS  
 Company: PIERS Environmental  
1330 S. Bascom Ave Suite F  
San Jose CA 95128 E-Mail: piers@pierses.com  
 Tele: 0510 5935382 Fax: 0510 7871457  
 Project #: \_\_\_\_\_ Project Name: 2942  
 Project Location: 2942 San Pablo Ave Oakland  
 Sampler Signature: [Signature]

Analysis Request

Analysis Request	Other	Comments
BTEX & TPH as Gas (602/8020 + 8015)/MTBE		<p>on metals analyses perform on soil/sediment portion</p> <p>As, Cd, Cr, Co, Ni, Zn Sedpa Hexavalent Chromium Sed per</p>
TPH as Diesel (8015)		
Total Petroleum Oil & Grease (5520 E&F/B&F)		
Total Petroleum Hydrocarbons (418.1)		
EPA 601 / 8010		
BTEX ONLY (EPA 602 / 8020)		
EPA 608 / 8080		
EPA 608 / 8080 PCB's ONLY		
EPA 624 / 8240 <u>8260</u>		
EPA 625 / 8270		
PAH's / PNA's by EPA 625 / 8270 / 8310		
CAM-17 Metals <u>Hexavalent Chromium &amp; Cyanide</u>		
<u>As, Cr, Cd, Ni, Zn Sedpa</u>		

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other				
MW4	d 13.5	9-19-06	8:27am	1	Man	✓												
MW4	d 17.5		8:40am	1	✓													
MW4	d 22.5		8:51am	1	✓													
SS1A	d 0.5		12:37pm			✓												
SS1B	d 1		12:43pm			✓												
SS1C	d 1		12:51pm			✓												
SS1D	d 0.5		12:57pm			✓												
SS2A	d 0.5		1:08pm			✓												
SS2B	d 0.5		1:17pm			✓												
SS2C	d 0.5		1:22pm			✓												
SS2D	d 0.5		1:31pm			✓												
SS3A	d 0.5	9-20-06	8:01 Am			✓												
SS3B	d 0.5		8:11 Am			✓												
SS3C	d 0.5		9:41 Am			✓												
SS3D	d 0.5		9:22 Am			✓												

Relinquished By: [Signature] Date: 9/20/06 Time: 11 Am Received By: [Signature]  
 Relinquished By: [Signature] Date: 9/20/06 Time: 1 PM Received By: [Signature]  
 Relinquished By: [Signature] Date: 9/20/06 Time: 3:55 Received By: [Signature]

ICE/T°  GOOD CONDITION  
 HEAD SPACE ABSENT  
 DECHLORINATED IN LAB

PRESERVATION APPROPRIATE  
 CONTAINERS PRESERVED IN LAB

VOAS  O&G  METALS  OTHER

Composi 4 as 1  
 Composi 4 as  
 Composi 4 as 1

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0609404**

**ClientID: PESJ**

**EDF: YES**

**Report to:**

Joel Greger  
 Piers Environmental  
 1330 S. Bascom Avenue, Ste. F  
 San Jose, CA 95128

**Email:**

TEL: (408) 559-1248 FAX: (408) 559-1224  
 ProjectNo: 2942  
 PO:

**Bill to:**

**Requested TAT:**

**5 days**

*Date Received:* **09/20/2006**

*Date Printed:* **09/20/2006**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0609404-001	MW4	Soil	09/19/2006	<input type="checkbox"/>			A		A								
0609404-002	MW4	Soil	09/19/2006	<input type="checkbox"/>			A										
0609404-003	MW4	Soil	09/19/2006	<input type="checkbox"/>			A										
0609404-004	SS1A-1D	Soil	09/19/2006	<input type="checkbox"/>	A			A									
0609404-005	SS2A-2D	Soil	09/19/2006	<input type="checkbox"/>	A			A									
0609404-006	SS3A-3D	Soil	09/20/2006	<input type="checkbox"/>	A			A									

**Test Legend:**

1	218_6m_S	2	8260B_S	3	CAM17MS_S	4	PREF REPORT	5	
6		7		8		9		10	
11		12							

The following SampIDs: 0609404-004A, 0609404-005A, 0609404-006A contain testgroup. Please make sure all relevant testcodes are reported. Many thanks.

**Prepared by: Nickole White**

**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.







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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06-09/20/06
	Client Contact: Joel Greger	Date Received: 09/20/06
	Client P.O.:	Date Extracted: 09/28/06
		Date Analyzed: 09/28/06

### TTLIC Hexachrome by Alkaline Digestion and IC-UV Analysis\*

Extraction method SW3060A

Analytical methods E218.6m

Work Order: 0609404

Lab ID	Client ID	Matrix	Extraction	Hexachrome	DF	% SS
0609404-005B	SS2A	S	TTLIC	1.2	1	N/A
0609404-005C	SS2B	S	TTLIC	ND	1	N/A
0609404-005D	SS2C	S	TTLIC	ND	1	N/A
0609404-005E	SS2D	S	TTLIC	9.4	1	N/A
0609404-006B	SS3A	S	TTLIC	ND	1	N/A
0609404-006C	SS3B	S	TTLIC	8.6	1	N/A
0609404-006D	SS3C	S	TTLIC	1.0	1	N/A
0609404-006E	SS3D	S	TTLIC	6.5	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLIC	NA	µg/L
	S	TTLIC	0.8	mg/Kg

\* All samples are reported in mg/kg unless otherwise requested. All samples and QC were cleaned up prior to analysis.

j) reporting limit raised due to matrix interference.



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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609404

Lab ID	0609404-001A
Client ID	MW4
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.50	10	0.05	Acrolein (Propenal)	ND<0.50	10	0.05
Acrylonitrile	ND<0.20	10	0.02	tert-Amyl methyl ether (TAME)	ND<0.050	10	0.005
Benzene	ND<0.050	10	0.005	Bromobenzene	ND<0.050	10	0.005
Bromochloromethane	ND<0.050	10	0.005	Bromodichloromethane	ND<0.050	10	0.005
Bromofom	ND<0.050	10	0.005	Bromomethane	ND<0.050	10	0.005
2-Butanone (MEK)	ND<0.20	10	0.02	t-Butyl alcohol (TBA)	ND<0.50	10	0.05
n-Butyl benzene	ND<0.050	10	0.005	sec-Butyl benzene	ND<0.050	10	0.005
tert-Butyl benzene	ND<0.050	10	0.005	Carbon Disulfide	ND<0.050	10	0.005
Carbon Tetrachloride	ND<0.050	10	0.005	Chlorobenzene	ND<0.050	10	0.005
Chloroethane	ND<0.050	10	0.005	2-Chloroethyl Vinyl Ether	ND<0.10	10	0.01
Chloroform	ND<0.050	10	0.005	Chloromethane	ND<0.050	10	0.005
2-Chlorotoluene	ND<0.050	10	0.005	4-Chlorotoluene	ND<0.050	10	0.005
Dibromochloromethane	ND<0.050	10	0.005	1,2-Dibromo-3-chloropropane	ND<0.050	10	0.005
1,2-Dibromoethane (EDB)	ND<0.050	10	0.005	Dibromomethane	ND<0.050	10	0.005
1,2-Dichlorobenzene	ND<0.050	10	0.005	1,3-Dichlorobenzene	ND<0.050	10	0.005
1,4-Dichlorobenzene	ND<0.050	10	0.005	Dichlorodifluoromethane	ND<0.050	10	0.005
1,1-Dichloroethane	ND<0.050	10	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.050	10	0.005
1,1-Dichloroethene	ND<0.050	10	0.005	cis-1,2-Dichloroethene	0.84	10	0.005
trans-1,2-Dichloroethene	ND<0.050	10	0.005	1,2-Dichloropropane	ND<0.050	10	0.005
1,3-Dichloropropane	ND<0.050	10	0.005	2,2-Dichloropropane	ND<0.050	10	0.005
1,1-Dichloropropene	ND<0.050	10	0.005	cis-1,3-Dichloropropene	ND<0.050	10	0.005
trans-1,3-Dichloropropene	ND<0.050	10	0.005	Diisopropyl ether (DIPE)	ND<0.050	10	0.005
Ethylbenzene	ND<0.050	10	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.050	10	0.005
Freon 113	ND<1.0	10	0.1	Hexachlorobutadiene	ND<0.050	10	0.005
Hexachloroethane	ND<0.050	10	0.005	2-Hexanone	ND<0.050	10	0.005
Isopropylbenzene	ND<0.050	10	0.005	4-Isopropyl toluene	ND<0.050	10	0.005
Methyl-t-butyl ether (MTBE)	ND<0.050	10	0.005	Methylene chloride	ND<0.050	10	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.050	10	0.005	Naphthalene	ND<0.050	10	0.005
Nitrobenzene	ND<1.0	10	0.1	n-Propyl benzene	ND<0.050	10	0.005
Styrene	ND<0.050	10	0.005	1,1,1,2-Tetrachloroethane	ND<0.050	10	0.005
1,1,2,2-Tetrachloroethane	ND<0.050	10	0.005	Tetrachloroethene	ND<0.050	10	0.005
Toluene	ND<0.050	10	0.005	1,2,3-Trichlorobenzene	ND<0.050	10	0.005
1,2,4-Trichlorobenzene	ND<0.050	10	0.005	1,1,1-Trichloroethane	ND<0.050	10	0.005
1,1,2-Trichloroethane	ND<0.050	10	0.005	Trichloroethene	2.3	10	0.005
Trichlorofluoromethane	ND<0.050	10	0.005	1,2,3-Trichloropropane	ND<0.050	10	0.005
1,2,4-Trimethylbenzene	ND<0.050	10	0.005	1,3,5-Trimethylbenzene	ND<0.050	10	0.005
Vinyl Chloride	ND<0.050	10	0.005	Xylenes	ND<0.050	10	0.005

#### Surrogate Recoveries (%)

%SS1:	93	%SS2:	95
%SS3:	110		

#### Comments:

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

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.



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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609404

Lab ID	0609404-002A
Client ID	MW4
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.50	10	0.05	Acrolein (Propenal)	ND<0.50	10	0.05
Acrylonitrile	ND<0.20	10	0.02	tert-Amyl methyl ether (TAME)	ND<0.050	10	0.005
Benzene	ND<0.050	10	0.005	Bromobenzene	ND<0.050	10	0.005
Bromochloromethane	ND<0.050	10	0.005	Bromodichloromethane	ND<0.050	10	0.005
Bromoform	ND<0.050	10	0.005	Bromomethane	ND<0.050	10	0.005
2-Butanone (MEK)	ND<0.20	10	0.02	t-Butyl alcohol (TBA)	ND<0.50	10	0.05
n-Butyl benzene	ND<0.050	10	0.005	sec-Butyl benzene	ND<0.050	10	0.005
tert-Butyl benzene	ND<0.050	10	0.005	Carbon Disulfide	ND<0.050	10	0.005
Carbon Tetrachloride	ND<0.050	10	0.005	Chlorobenzene	ND<0.050	10	0.005
Chloroethane	ND<0.050	10	0.005	2-Chloroethyl Vinyl Ether	ND<0.10	10	0.01
Chloroform	ND<0.050	10	0.005	Chloromethane	ND<0.050	10	0.005
2-Chlorotoluene	ND<0.050	10	0.005	4-Chlorotoluene	ND<0.050	10	0.005
Dibromochloromethane	ND<0.050	10	0.005	1,2-Dibromo-3-chloropropane	ND<0.050	10	0.005
1,2-Dibromoethane (EDB)	ND<0.050	10	0.005	Dibromomethane	ND<0.050	10	0.005
1,2-Dichlorobenzene	ND<0.050	10	0.005	1,3-Dichlorobenzene	ND<0.050	10	0.005
1,4-Dichlorobenzene	ND<0.050	10	0.005	Dichlorodifluoromethane	ND<0.050	10	0.005
1,1-Dichloroethane	ND<0.050	10	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.050	10	0.005
1,1-Dichloroethene	ND<0.050	10	0.005	cis-1,2-Dichloroethene	0.55	10	0.005
trans-1,2-Dichloroethene	ND<0.050	10	0.005	1,2-Dichloropropane	ND<0.050	10	0.005
1,3-Dichloropropane	ND<0.050	10	0.005	2,2-Dichloropropane	ND<0.050	10	0.005
1,1-Dichloropropene	ND<0.050	10	0.005	cis-1,3-Dichloropropene	ND<0.050	10	0.005
trans-1,3-Dichloropropene	ND<0.050	10	0.005	Diisopropyl ether (DIPE)	ND<0.050	10	0.005
Ethylbenzene	ND<0.050	10	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.050	10	0.005
Freon 113	ND<1.0	10	0.1	Hexachlorobutadiene	ND<0.050	10	0.005
Hexachloroethane	ND<0.050	10	0.005	2-Hexanone	ND<0.050	10	0.005
Isopropylbenzene	ND<0.050	10	0.005	4-Isopropyl toluene	ND<0.050	10	0.005
Methyl-t-butyl ether (MTBE)	ND<0.050	10	0.005	Methylene chloride	ND<0.050	10	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.050	10	0.005	Naphthalene	ND<0.050	10	0.005
Nitrobenzene	ND<1.0	10	0.1	n-Propyl benzene	ND<0.050	10	0.005
Styrene	ND<0.050	10	0.005	1,1,1,2-Tetrachloroethane	ND<0.050	10	0.005
1,1,2,2-Tetrachloroethane	ND<0.050	10	0.005	Tetrachloroethene	ND<0.050	10	0.005
Toluene	ND<0.050	10	0.005	1,2,3-Trichlorobenzene	ND<0.050	10	0.005
1,2,4-Trichlorobenzene	ND<0.050	10	0.005	1,1,1-Trichloroethane	ND<0.050	10	0.005
1,1,2-Trichloroethane	ND<0.050	10	0.005	Trichloroethene	1.9	10	0.005
Trichlorofluoromethane	ND<0.050	10	0.005	1,2,3-Trichloropropane	ND<0.050	10	0.005
1,2,4-Trimethylbenzene	ND<0.050	10	0.005	1,3,5-Trimethylbenzene	ND<0.050	10	0.005
Vinyl Chloride	ND<0.050	10	0.005	Xylenes	ND<0.050	10	0.005

#### Surrogate Recoveries (%)

%SS1:	94	%SS2:	95
%SS3:	109		

#### Comments:

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

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.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06
		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/20/06
	Client P.O.:	Date Analyzed 09/26/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0609404

Lab ID	0609404-003A
Client ID	MW4
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.20	4.0	0.05	Acrolein (Propenal)	ND<0.20	4.0	0.05
Acrylonitrile	ND<0.080	4.0	0.02	tert-Amyl methyl ether (TAME)	ND<0.020	4.0	0.005
Benzene	ND<0.020	4.0	0.005	Bromobenzene	ND<0.020	4.0	0.005
Bromochloromethane	ND<0.020	4.0	0.005	Bromodichloromethane	ND<0.020	4.0	0.005
Bromoform	ND<0.020	4.0	0.005	Bromomethane	ND<0.020	4.0	0.005
2-Butanone (MEK)	ND<0.080	4.0	0.02	t-Butyl alcohol (TBA)	ND<0.20	4.0	0.05
n-Butyl benzene	ND<0.020	4.0	0.005	sec-Butyl benzene	ND<0.020	4.0	0.005
tert-Butyl benzene	ND<0.020	4.0	0.005	Carbon Disulfide	ND<0.020	4.0	0.005
Carbon Tetrachloride	ND<0.020	4.0	0.005	Chlorobenzene	ND<0.020	4.0	0.005
Chloroethane	ND<0.020	4.0	0.005	2-Chloroethyl Vinyl Ether	ND<0.040	4.0	0.01
Chloroform	ND<0.020	4.0	0.005	Chloromethane	ND<0.020	4.0	0.005
2-Chlorotoluene	ND<0.020	4.0	0.005	4-Chlorotoluene	ND<0.020	4.0	0.005
Dibromochloromethane	ND<0.020	4.0	0.005	1,2-Dibromo-3-chloropropane	ND<0.020	4.0	0.005
1,2-Dibromoethane (EDB)	ND<0.020	4.0	0.005	Dibromomethane	ND<0.020	4.0	0.005
1,2-Dichlorobenzene	ND<0.020	4.0	0.005	1,3-Dichlorobenzene	ND<0.020	4.0	0.005
1,4-Dichlorobenzene	ND<0.020	4.0	0.005	Dichlorodifluoromethane	ND<0.020	4.0	0.005
1,1-Dichloroethane	ND<0.020	4.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.020	4.0	0.005
1,1-Dichloroethene	ND<0.020	4.0	0.005	cis-1,2-Dichloroethene	0.11	4.0	0.005
trans-1,2-Dichloroethene	ND<0.020	4.0	0.005	1,2-Dichloropropane	ND<0.020	4.0	0.005
1,3-Dichloropropane	ND<0.020	4.0	0.005	2,2-Dichloropropane	ND<0.020	4.0	0.005
1,1-Dichloropropene	ND<0.020	4.0	0.005	cis-1,3-Dichloropropene	ND<0.020	4.0	0.005
trans-1,3-Dichloropropene	ND<0.020	4.0	0.005	Diisopropyl ether (DIPE)	ND<0.020	4.0	0.005
Ethylbenzene	ND<0.020	4.0	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.020	4.0	0.005
Freon 113	ND<0.40	4.0	0.1	Hexachlorobutadiene	ND<0.020	4.0	0.005
Hexachloroethane	ND<0.020	4.0	0.005	2-Hexanone	ND<0.020	4.0	0.005
Isopropylbenzene	ND<0.020	4.0	0.005	4-Isopropyl toluene	ND<0.020	4.0	0.005
Methyl-t-butyl ether (MTBE)	ND<0.020	4.0	0.005	Methylene chloride	ND<0.020	4.0	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.020	4.0	0.005	Naphthalene	ND<0.020	4.0	0.005
Nitrobenzene	ND<0.40	4.0	0.1	n-Propyl benzene	ND<0.020	4.0	0.005
Styrene	ND<0.020	4.0	0.005	1,1,1,2-Tetrachloroethane	ND<0.020	4.0	0.005
1,1,2,2-Tetrachloroethane	ND<0.020	4.0	0.005	Tetrachloroethene	ND<0.020	4.0	0.005
Toluene	ND<0.020	4.0	0.005	1,2,3-Trichlorobenzene	ND<0.020	4.0	0.005
1,2,4-Trichlorobenzene	ND<0.020	4.0	0.005	1,1,1-Trichloroethane	ND<0.020	4.0	0.005
1,1,2-Trichloroethane	ND<0.020	4.0	0.005	Trichloroethene	0.53	4.0	0.005
Trichlorofluoromethane	ND<0.020	4.0	0.005	1,2,3-Trichloropropane	ND<0.020	4.0	0.005
1,2,4-Trimethylbenzene	ND<0.020	4.0	0.005	1,3,5-Trimethylbenzene	ND<0.020	4.0	0.005
Vinyl Chloride	ND<0.020	4.0	0.005	Xylenes	ND<0.020	4.0	0.005

#### Surrogate Recoveries (%)

%SS1:	92	%SS2:	92
%SS3:	107		

#### Comments:

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

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.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942	Date Sampled: 09/19/06-09/20/06
	Client Contact: Joel Greger	Date Received: 09/20/06
	Client P.O.:	Date Extracted: 09/20/06
		Date Analyzed: 09/22/06-09/25/06

### CAM / CCR 17 Metals\*

Lab ID	0609404-004A	0609404-005A	0609404-006A	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS1A-1D	SS2A-2D	SS3A-3D	S	W
Matrix	S	S	S	S	W
Extraction Type	TTLC	TTLC	TTLC	mg/Kg	mg/L

### ICP-MS Metals, Concentration\*

Analytical Method: 6020A

Extraction Method: SW3050B

Work Order: 0609404

Dilution Factor	1	1	1	1	1
Antimony	3.4	3.4	2.7	0.5	NA
Arsenic	17	6.0	5.8	0.5	NA
Barium	170	260	190	5.0	NA
Beryllium	0.51	ND	0.59	0.5	NA
Cadmium	1.3	8.9	26	0.25	NA
Chromium	84	100	910	0.5	NA
Cobalt	18	10	20	0.5	NA
Copper	210	160	430	0.5	NA
Lead	210	360	84	0.5	NA
Mercury	0.54	0.80	0.23	0.05	NA
Molybdenum	1.9	1.1	1.7	0.5	NA
Nickel	100	150	5400	0.5	NA
Selenium	ND	ND	0.71	0.5	NA
Silver	ND	2.0	2.9	0.5	NA
Thallium	ND	ND	ND	0.5	NA
Vanadium	100	44	39	0.5	NA
Zinc	210	430	750	5.0	NA
%SS:	104	102	105		

#### Comments

\*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.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



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		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 10/05/06
	Client P.O.:	Date Analyzed 10/05/06

## Cyanide, Total\*^

Analytical Method: SM4500-CN<sup>-</sup> E

Work Order: 0609404

Lab ID	Client ID	Matrix	Total Cyanide	DF
0609404-004A	SS1A-1D	S	1.5	1
0609404-005A	SS2A-2D	S	1.3	1
0609404-006A	SS3A-3D	S	6.1	10

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	NA
	S	0.1 mg/Kg

\* water samples are reported in µg/L; soil/sludge/solid samples in mg/kg; wipe samples in µg/wipe.

^All soil samples are treated to remove sulfide, nitrate and nitrite interference prior to analysis.

i) liquid sample contains greater than ~1 vol. % sediment; j) reporting limit raised due to high sediment content/matrix interference; k) sample pretreatment was done to remove interfering sulfide per E335.4; m) sample pretreatment was done to remove interfering nitrate and nitrite per E335.4; n) results are reported on a dry weight basis; p) see attached narrative.



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	Client Contact: Joel Greger	Date Received: 09/20/06
	Client P.O.:	Date Extracted: 09/21/06
		Date Analyzed: 09/21/06

### Chemical Oxygen Demand (COD)\*

Analytical Method: SM5220D

Work Order: 0609404

Lab ID	Client ID	Matrix	COD	DF
0609404-004A	SS1A-1D	S	6900	1
0609404-005A	SS2A-2D	S	18,000	1
0609404-006A	SS3A-3D	S	14,000	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	NA
	S	250 mg/Kg

\*water/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.





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		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/29/06
	Client P.O.:	Date Analyzed 09/29/06

## Chemical Oxygen Demand (COD)\*

Analytical Method: SM5220D

Work Order: 0609404

Lab ID	Client ID	Matrix	COD	DF
0609404-005B	SS2A	S	22,000	1
0609404-005C	SS2B	S	23,000	1
0609404-005D	SS2C	S	18,000	1
0609404-005E	SS2D	S	12,000	1
0609404-006B	SS3A	S	32,000	1
0609404-006C	SS3B	S	11,000	1
0609404-006D	SS3C	S	26,000	1
0609404-006E	SS3D	S	7500	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	NA
	S	250 mg/Kg

\*water/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.



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		Date Received: 09/20/06
	Client Contact: Joel Greger	Date Extracted: 09/28/06
	Client P.O.:	Date Analyzed 09/29/06-10/02/06

### Metals\*

Extraction method SW3050B

Analytical methods 6020A

Work Order: 0609404

Lab ID	Client ID	Matrix	Extraction	Arsenic	Cadmium	Chromium	Copper	Nickel	Zinc	DF	% SS
006B	SS3A	S	TTLC	7.2	4.1	86	100	97	500	1	103
006C	SS3B	S	TTLC	8.1	26	2400	850	18,000	370	1	106
006D	SS3C	S	TTLC	5.2	45	200	360	400	1800	1	106
006E	SS3D	S	TTLC	5.2	48	150	860	700	420	1	102

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	NA	NA	NA	NA	NA	NA	NA
	S	TTLC	0.5	0.25	0.5	0.5	0.5	0.5	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.

J) analyte detected between reporting limits (RLs) and method detection limits (MDLs).

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.



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	Client Contact: Joel Greger	Date Received: 09/20/06
	Client P.O.:	Date Analyzed: 09/29/06-10/02/06
		Date Extracted: 09/28/06

### Metals\*

Extraction method SW3050B Analytical methods 6020A Work Order: 0609404

Lab ID	Client ID	Matrix	Extraction	Arsenic	Cadmium	Chromium	DF	% SS
005B	SS2A	S	TTLC	7.5	5.7	71	1	108
005C	SS2B	S	TTLC	6.4	2.7	55	1	104
005E	SS2D	S	TTLC	4.2	6.5	250	1	105

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	NA	NA	NA
	S	TTLC	0.5	0.25	0.5	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.

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	Client P.O.:	Date Analyzed: 09/29/06

### Metals\*

Extraction method SW3050B

Analytical methods 6020A

Work Order: 0609404

Lab ID	Client ID	Matrix	Extraction	Arsenic	Chromium	DF	% SS
004B	SS1A	S	TTLC	5.8	69	1	105
004C	SS1B	S	TTLC	4.1	53	1	105
004D	SS1C	S	TTLC	4.6	52	1	105
004E	SS1D	S	TTLC	5.3	56	1	105
005D	SS2C	S	TTLC	4.8	56	1	108

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	NA	NA
	S	TTLC	0.5	0.5	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.

J) analyte detected between reporting limits (RLs) and method detection limits (MDLs).

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.



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### Metals\*

Extraction method SW3050B

Analytical methods 6020A

Work Order: 0609404

Lab ID	Client ID	Matrix	Extraction	Arsenic	Chromium	DF	% SS
004B	SS1A	S	TTLC	5.8	69	1	105
004C	SS1B	S	TTLC	4.1	53	1	105
004D	SS1C	S	TTLC	4.6	52	1	105
004E	SS1D	S	TTLC	5.3	56	1	105

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	NA	NA
	S	TTLC	0.5	0.5	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.

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	Client P.O.:	Date Analyzed 09/29/06-10/02/06

### Metals\*

Extraction method SW3050B

Analytical methods 6020A

Work Order: 0609404

Lab ID	Client ID	Matrix	Extraction	Arsenic	Cadmium	Chromium	DF	% SS
005B	SS2A	S	TTLC	7.5	5.7	71	1	108
005C	SS2B	S	TTLC	6.4	2.7	55	1	104
005D	SS2C	S	TTLC	4.8	2.8	56	1	108
005E	SS2D	S	TTLC	4.2	6.5	250	1	105

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	NA	NA	NA
	S	TTLC	0.5	0.25	0.5	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.

J) analyte detected between reporting limits (RLs) and method detection limits (MDLs).

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.









### QC SUMMARY REPORT FOR E218.6m

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0609404

EPA Method E218.6m		Extraction SW3060A			BatchID: 23797			Spiked Sample ID: 0609365-001a				
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
Hexachrome	ND	40	102	104	2.53	93.1	96.5	3.59	80 - 120	20	90 - 110	10
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE												

#### BATCH 23797 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004	9/19/06 12:37 PM	9/20/06	9/21/06 6:40 PM	0609404-005	9/19/06 1:08 PM	9/20/06	9/21/06 7:02 PM
0609404-006	9/20/06 8:01 AM	9/20/06	9/21/06 7:23 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.

N/A = not applicable to this method.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

EPA Method SW8260B	Extraction SW5030B					BatchID: 23787			Spiked Sample ID: 0609343-001A			
	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	101	103	2.46	105	109	3.56	70 - 130	30	70 - 130	30
Benzene	ND	0.050	96.9	98.8	1.80	98.7	107	7.87	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	91.3	86.1	5.89	98.5	124	22.5	70 - 130	30	70 - 130	30
Chlorobenzene	ND	0.050	101	101	0	93.7	99.7	6.20	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	95.1	95.1	0	93.1	93.4	0.306	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	115	121	4.94	119	124	4.27	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	0.050	116	117	0.517	108	111	3.45	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	117	121	2.99	116	120	3.84	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	111	114	3.28	111	116	3.63	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	0.011	0.050	90.2	93	2.50	115	120	3.87	70 - 130	30	70 - 130	30
Toluene	ND	0.050	88.6	88.4	0.227	90.4	87.9	2.84	70 - 130	30	70 - 130	30
Trichloroethene	ND	0.050	97.2	98.7	1.59	91.3	97	6.02	70 - 130	30	70 - 130	30
%SS1:	112	0.050	105	106	0.689	105	103	1.47	70 - 130	30	70 - 130	30
%SS2:	98	0.050	106	105	0.639	106	96	9.90	70 - 130	30	70 - 130	30
%SS3:	92	0.050	106	107	0.800	109	106	2.59	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 23787 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-001	9/19/06 8:27 AM	9/20/06	9/26/06 7:56 AM	0609404-002	9/19/06 8:40 AM	9/20/06	9/26/06 8:41 AM
0609404-003	9/19/06 8:51 AM	9/20/06	9/26/06 9:26 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 / 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.



**QC SUMMARY REPORT FOR 6020A**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

EPA Method 6020A		Extraction SW3050B				BatchID: 23846				Spiked Sample ID 0609397-052A			
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
Antimony	ND	50	100	99.4	0.736	10	99.2	101	1.51	75 - 125	20	80 - 120	20
Arsenic	5	50	92.7	93	0.331	10	94.2	94.9	0.761	75 - 125	20	80 - 120	20
Barium	290	500	95.7	96	0.207	100	96.4	97.8	1.48	75 - 125	20	80 - 120	20
Beryllium	0.72	50	89.5	89.6	0.110	10	98.7	102	3.36	75 - 125	20	80 - 120	20
Cadmium	ND	50	95	94.6	0.464	10	95.5	95.8	0.303	75 - 125	20	80 - 120	20
Chromium	41	50	82.5	86.6	2.47	10	90.9	92.6	1.86	75 - 125	20	80 - 120	20
Cobalt	13	50	84.5	84.1	0.328	10	95.4	99.3	3.95	75 - 125	20	80 - 120	20
Copper	24	50	89.1	91.3	1.59	10	95.2	95.3	0.105	75 - 125	20	80 - 120	20
Lead	10	50	94	93.7	0.193	10	96.4	98	1.74	75 - 125	20	80 - 120	20
Mercury	ND	2.5	102	100	1.14	0.50	103	104	1.33	75 - 125	20	80 - 120	20
Molybdenum	0.50	50	93.3	92.6	0.766	10	95	95.6	0.608	75 - 125	20	80 - 120	20
Nickel	42	50	90.7	94.3	2.01	10	93.8	94.8	1.10	75 - 125	20	80 - 120	20
Selenium	ND	50	95.6	94.3	1.28	10	93	94.4	1.49	75 - 125	20	80 - 120	20
Silver	ND	50	91.3	90.7	0.636	10	94.5	95.2	0.791	75 - 125	20	80 - 120	20
Thallium	ND	50	92.4	93.4	1.08	10	89.4	92.1	2.98	75 - 125	20	80 - 120	20
Vanadium	72	50	81.1	88.1	3.05	10	91.2	92.6	1.51	75 - 125	20	80 - 120	20
Zinc	56	500	94.3	94	0.304	100	97.7	98.6	0.917	75 - 125	20	80 - 120	20
%SS:	108	250	105	107	2.41	250	101	102	1.58	70 - 130	20	70 - 130	20

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 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



### QC SUMMARY REPORT FOR 6020A

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

#### BATCH 23846 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004A	9/19/06 12:37 PM	9/20/06	9/22/06 3:02 AM	0609404-004A	9/19/06 12:37 PM	9/20/06	9/22/06 10:04 PM
0609404-005A	9/19/06 1:08 PM	9/20/06	9/22/06 3:09 AM	0609404-005A	9/19/06 1:08 PM	9/20/06	9/25/06 8:14 PM
0609404-006A	9/20/06 8:01 AM	9/20/06	9/22/06 3:16 AM	0609404-006A	9/20/06 8:01 AM	9/20/06	9/25/06 8:21 PM
0609404-006A	9/20/06 8:01 AM	9/20/06	9/25/06 8:28 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.

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



### QC SUMMARY REPORT FOR SM4500-CN<sup>-</sup> E

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

EPA Method SM4500-CN <sup>-</sup> E	Extraction SM4500-CN <sup>-</sup> E			BatchID: 23949			Spiked Sample ID: 0609530-002A					
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
Total Cyanide	0.12	0.80	96.4	97.4	0.896	97.3	95.9	1.53	80 - 120	20	90 - 110	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 23949 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004	9/19/06 12:37 PM	10/05/06	10/05/06 1:24 PM	0609404-005	9/19/06 1:08 PM	10/05/06	10/05/06 1:25 PM
0609404-006	9/20/06 8:01 AM	10/05/06	10/05/06 1:23 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.

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



### QC SUMMARY REPORT FOR SM5220D

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

Analyte	Extraction SM5220D			BatchID: 23796			Spiked Sample ID: 0609365-001A					
	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
COD	3200	10000	109	104	3.45	106	99.6	6.41	90 - 110	20	90 - 110	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 23796 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004	9/19/06 12:37 PM	9/21/06	9/21/06 5:01 PM	0609404-005	9/19/06 1:08 PM	9/21/06	9/21/06 5:07 PM
0609404-006	9/20/06 8:01 AM	9/21/06	9/21/06 5:13 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 $\% \text{ Recovery} = 100 * (\text{MS-Sample}) / (\text{Amount Spiked});$   
 $\text{RPD} = 100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2).$   
 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 enough sample to perform matrix spike and matrix spike duplicate.



### QC SUMMARY REPORT FOR 6020A

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0609404

EPA Method 6020A		Extraction SW3050B				BatchID: 23981				Spiked Sample ID 0609551-001A			
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
Arsenic	5.5	50	102	101	0.855	10	94.8	96.7	2.01	75 - 125	20	80 - 120	20
Cadmium	0.5	50	97.4	97.4	0	10	94.9	94.3	0.550	75 - 125	20	80 - 120	20
Chromium	33	50	95	94.7	0.236	10	90.4	91.6	1.33	75 - 125	20	80 - 120	20
Copper	34	50	102	103	0.292	10	95.2	95.4	0.189	75 - 125	20	80 - 120	20
Nickel	38	50	103	104	0.101	10	95.1	96.2	1.17	75 - 125	20	80 - 120	20
Zinc	210	500	106	106	0	100	91	91.9	0.951	75 - 125	20	80 - 120	20
%SS:	104	250	111	112	0.935	250	98	103	4.42	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

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 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



### QC SUMMARY REPORT FOR 6020A

#### BATCH 23981 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004B	9/19/06 12:37 PM	9/28/06	9/29/06 9:09 PM	0609404-004C	9/19/06 12:37 PM	9/28/06	9/29/06 10:40 PM
0609404-004D	9/19/06 12:37 PM	9/28/06	9/29/06 11:25 PM	0609404-004E	9/19/06 12:37 PM	9/28/06	9/29/06 11:46 PM
0609404-005B	9/19/06 1:08 PM	9/28/06	9/29/06 9:14 PM	0609404-005C	9/19/06 1:08 PM	9/28/06	9/29/06 10:46 PM
0609404-005D	9/19/06 1:08 PM	9/28/06	9/29/06 11:31 PM	0609404-005E	9/19/06 1:08 PM	9/28/06	9/29/06 11:51 PM
0609404-005E	9/19/06 1:08 PM	9/28/06	10/02/06 4:32 PM	0609404-006B	9/20/06 8:01 AM	9/28/06	9/29/06 9:46 PM
0609404-006C	9/20/06 8:01 AM	9/28/06	9/29/06 11:18 PM	0609404-006C	9/20/06 8:01 AM	9/28/06	10/02/06 4:07 PM
0609404-006C	9/20/06 8:01 AM	9/28/06	10/02/06 4:14 PM	0609404-006C	9/20/06 8:01 AM	9/28/06	10/02/06 4:20 PM
0609404-006D	9/20/06 8:01 AM	9/28/06	9/29/06 11:38 PM	0609404-006D	9/20/06 8:01 AM	9/28/06	10/02/06 4:25 PM
0609404-006E	9/20/06 8:01 AM	9/28/06	9/29/06 11:58 PM	0609404-006E	9/20/06 8:01 AM	9/28/06	10/02/06 4:38 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.

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

### QC SUMMARY REPORT FOR WET CHEMISTRY TESTS

Test Method: pH

Matrix: S

WorkOrder: 0609404

Method Name: SW9045C		Units ±, pH units @ °C			BatchID: 23847	
SampleID	Sample	DF	Dup / Ser. Dil.	DF	RD	Acceptance Criteria
0609404-004A	7.98 @ 24.5 °C	1	7.99 @ 24.5 °C	1	0.01	±0.05
0609404-005A	7.58 @ 24.5 °C	1	7.57 @ 24.6 °C	1	0.01	±0.05
0609404-006A	10.88 @ 24.5 °C	1	10.89 @ 24.5 °C	1	0.01	±0.05

BATCH 23847 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0609404-004A	9/19/06 12:37 PM	9/20/06	9/21/06 8:40 PM	0609404-004A	9/19/06 12:37 PM	9/20/06	9/21/06 8:40 PM
0609404-005A	9/19/06 1:08 PM	9/20/06	9/21/06 8:50 PM	0609404-005A	9/19/06 1:08 PM	9/20/06	9/21/06 8:50 PM
0609404-006A	9/20/06 8:01 AM	9/20/06	9/21/06 9:00 PM	0609404-006A	9/20/06 8:01 AM	9/20/06	9/21/06 9:00 PM

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

RD = Absolute Value (Sample - Duplicate); RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2].



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
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Telephone: 877-252-9262 Fax: 925-252-9269

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Reported: 10/17/06
	Client P.O.:	Date Completed: 10/17/06

**WorkOrder: 0610200**

October 17, 2006

Dear Joel:

Enclosed are:

- 1). the results of **5** analyzed samples from your **2942 San Pablo 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. McC Campbell 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

0610200

Global ID # SL 0600138148

# McCAMPBELL ANALYTICAL, INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHICO, CA 94553-5560

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Telephone: (925) 798-1620 Fax: (925) 798-1622

## CHAIN OF CUSTODY RECORD

### TURN-AROUND TIME

EDF Required?  Coelt (Normal)  No

RUSH 24 HR  48 HR  72 HR  5 DAY   
Write On (DW)  No

Report To: Joel Greger Bill To: PIERS  
Company: PIERS Environmental  
1330 S. Bascom Ave Suite F + to cage2usa@aol.com  
San Jose CA 95128 E-Mail: piers@pierses.com  
Tele: (510) 5935382 Fax: (510) 7271457  
Project #: \_\_\_\_\_ Project Name: 2942 San Pablo  
Project Location: 2942 San Pablo Ave, Oakland  
Sampler Signature: Scott Cassidy R. VANQUEZ

### Analysis Request

Other \_\_\_\_\_ Comments \_\_\_\_\_

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other <sup>4/4/01</sup>	
MW1	2942 San Pablo	10/9/06	1525	6	36V	Y					X	Y	X	X	Y
MW2			1420	6	36V	X					X	Y	X	X	Y
MW3			1355	6	36V	Y					X	Y	X	X	Y
MW4			1500	6	36V	X					X	X	X	X	Y
MW5			1440	6	36V	Y					X	X	X	Y	X

BTX & TPH as Gas (602/6020 + 3015)/MTBE	BTX only (EPA 602/6020)	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520/1664) (E7/E8)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010/8021 (Halo carbons)	EPA 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141 (Np Pesticides)	EPA 8150 / 8151 (Acidic Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525 / 625 / 8270 (SVOCs)	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Hex Chrome 218.1	Cyanide 335.2
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Filter Samples for Metals analysis: Yes (No) (Filtered in field)

Relinquished By: Scott Cassidy Date: 11/15/06 Time: 0935 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: 10/26/06 Time: 1000 Received By: Melanie V...  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/ 3.0  
GOOD CONDITION ✓  
HEAD SPACE ABSENT ✓  
DECHLORINATED IN LAB ✓  
APPROPRIATE CONTAINERS ✓  
PRESERVED IN LAB ✓

### COMMENTS:

PRESERVATION VOAS ✓ O&G METALS pH < 7 ✓ OTHER NaOH for CN



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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/10/06
	Client P.O.:	Date Analyzed: 10/10/06

**Hexachrome by IC\***

Analytical Method: E218.6

Work Order: 0610200

Lab ID	Client ID	Matrix	Hexachrome	DF
0610200-001E	MW1	W	ND	1
0610200-002E	MW2	W	ND	1
0610200-003E	MW3	W	0.48	1
0610200-004E	MW4	W	0.34	1
0610200-005E	MW5	W	0.26	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	0.2 µg/L
	S	NA

\* water samples are reported in µg/L.

N/A means surrogate not applicable to this analysis; # surrogate diluted out of range or surrogate coelutes with another peak.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to matrix interference; p) see attached narrative.



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/16/06
	Client P.O.:	Date Analyzed 10/16/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0610200

Lab ID	0610200-001B
Client ID	MW1
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<5000	500	10	Acrolein (Propenal)	ND<2500	500	5.0
Acrylonitrile	ND<1000	500	2.0	tert-Amyl methyl ether (TAME)	ND<250	500	0.5
Benzene	ND<250	500	0.5	Bromobenzene	ND<250	500	0.5
Bromochloromethane	ND<250	500	0.5	Bromodichloromethane	ND<250	500	0.5
Bromoform	ND<250	500	0.5	Bromomethane	ND<250	500	0.5
2-Butanone (MEK)	ND<1000	500	2.0	t-Butyl alcohol (TBA)	ND<2500	500	5.0
n-Butyl benzene	ND<250	500	0.5	sec-Butyl benzene	ND<250	500	0.5
tert-Butyl benzene	ND<250	500	0.5	Carbon Disulfide	ND<250	500	0.5
Carbon Tetrachloride	ND<250	500	0.5	Chlorobenzene	ND<250	500	0.5
Chloroethane	ND<250	500	0.5	2-Chloroethyl Vinyl Ether	ND<500	500	1.0
Chloroform	ND<250	500	0.5	Chloromethane	ND<250	500	0.5
2-Chlorotoluene	ND<250	500	0.5	4-Chlorotoluene	ND<250	500	0.5
Dibromochloromethane	ND<250	500	0.5	1,2-Dibromo-3-chloropropane	ND<250	500	0.5
1,2-Dibromoethane (EDB)	ND<250	500	0.5	Dibromomethane	ND<250	500	0.5
1,2-Dichlorobenzene	ND<250	500	0.5	1,3-Dichlorobenzene	ND<250	500	0.5
1,4-Dichlorobenzene	ND<250	500	0.5	Dichlorodifluoromethane	ND<250	500	0.5
1,1-Dichloroethane	ND<250	500	0.5	1,2-Dichloroethane (1,2-DCA)	ND<250	500	0.5
1,1-Dichloroethene	ND<250	500	0.5	cis-1,2-Dichloroethene	ND<250	500	0.5
trans-1,2-Dichloroethene	ND<250	500	0.5	1,2-Dichloropropane	ND<250	500	0.5
1,3-Dichloropropane	ND<250	500	0.5	2,2-Dichloropropane	ND<250	500	0.5
1,1-Dichloropropene	ND<250	500	0.5	cis-1,3-Dichloropropene	ND<250	500	0.5
trans-1,3-Dichloropropene	ND<250	500	0.5	Diisopropyl ether (DIPE)	ND<250	500	0.5
Ethylbenzene	ND<250	500	0.5	Ethyl tert-butyl ether (ETBE)	ND<250	500	0.5
Freon 113	ND<5000	500	10	Hexachlorobutadiene	ND<250	500	0.5
Hexachloroethane	ND<250	500	0.5	2-Hexanone	ND<250	500	0.5
Isopropylbenzene	ND<250	500	0.5	4-Isopropyl toluene	ND<250	500	0.5
Methyl-t-butyl ether (MTBE)	ND<250	500	0.5	Methylene chloride	ND<250	500	0.5
4-Methyl-2-pentanone (MIBK)	ND<250	500	0.5	Naphthalene	ND<250	500	0.5
Nitrobenzene	ND<5000	500	10	n-Propyl benzene	ND<250	500	0.5
Styrene	ND<250	500	0.5	1,1,1,2-Tetrachloroethane	ND<250	500	0.5
1,1,2,2-Tetrachloroethane	ND<250	500	0.5	Tetrachloroethene	ND<250	500	0.5
Toluene	ND<250	500	0.5	1,2,3-Trichlorobenzene	ND<250	500	0.5
1,2,4-Trichlorobenzene	ND<250	500	0.5	1,1,1-Trichloroethane	ND<250	500	0.5
1,1,2-Trichloroethane	ND<250	500	0.5	Trichloroethene	9100	500	0.5
Trichlorofluoromethane	ND<250	500	0.5	1,2,3-Trichloropropane	ND<250	500	0.5
1,2,4-Trimethylbenzene	ND<250	500	0.5	1,3,5-Trimethylbenzene	ND<250	500	0.5
Vinyl Chloride	ND<250	500	0.5	Xylenes	ND<250	500	0.5

#### Surrogate Recoveries (%)

%SS1:	98	%SS2:	96
%SS3:	95		

#### Comments:

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

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; q) reported in ppm



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/12/06
	Client P.O.:	Date Analyzed 10/12/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0610200

Lab ID	0610200-002B
Client ID	MW2
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<33	3.3	10	Acrolein (Propenal)	ND<17	3.3	5.0
Acrylonitrile	ND<6.7	3.3	2.0	tert-Amyl methyl ether (TAME)	ND<1.7	3.3	0.5
Benzene	ND<1.7	3.3	0.5	Bromobenzene	ND<1.7	3.3	0.5
Bromochloromethane	ND<1.7	3.3	0.5	Bromodichloromethane	ND<1.7	3.3	0.5
Bromoform	ND<1.7	3.3	0.5	Bromomethane	ND<1.7	3.3	0.5
2-Butanone (MEK)	ND<6.7	3.3	2.0	t-Butyl alcohol (TBA)	ND<17	3.3	5.0
n-Butyl benzene	ND<1.7	3.3	0.5	sec-Butyl benzene	ND<1.7	3.3	0.5
tert-Butyl benzene	ND<1.7	3.3	0.5	Carbon Disulfide	57	3.3	0.5
Carbon Tetrachloride	ND<1.7	3.3	0.5	Chlorobenzene	ND<1.7	3.3	0.5
Chloroethane	ND<1.7	3.3	0.5	2-Chloroethyl Vinyl Ether	ND<3.3	3.3	1.0
Chloroform	ND<1.7	3.3	0.5	Chloromethane	ND<1.7	3.3	0.5
2-Chlorotoluene	ND<1.7	3.3	0.5	4-Chlorotoluene	ND<1.7	3.3	0.5
Dibromochloromethane	ND<1.7	3.3	0.5	1,2-Dibromo-3-chloropropane	ND<1.7	3.3	0.5
1,2-Dibromoethane (EDB)	ND<1.7	3.3	0.5	Dibromomethane	ND<1.7	3.3	0.5
1,2-Dichlorobenzene	ND<1.7	3.3	0.5	1,3-Dichlorobenzene	ND<1.7	3.3	0.5
1,4-Dichlorobenzene	ND<1.7	3.3	0.5	Dichlorodifluoromethane	ND<1.7	3.3	0.5
1,1-Dichloroethane	ND<1.7	3.3	0.5	1,2-Dichloroethane (1,2-DCA)	ND<1.7	3.3	0.5
1,1-Dichloroethene	ND<1.7	3.3	0.5	cis-1,2-Dichloroethene	ND<1.7	3.3	0.5
trans-1,2-Dichloroethene	ND<1.7	3.3	0.5	1,2-Dichloropropane	ND<1.7	3.3	0.5
1,3-Dichloropropane	ND<1.7	3.3	0.5	2,2-Dichloropropane	ND<1.7	3.3	0.5
1,1-Dichloropropene	ND<1.7	3.3	0.5	cis-1,3-Dichloropropene	ND<1.7	3.3	0.5
trans-1,3-Dichloropropene	ND<1.7	3.3	0.5	Diisopropyl ether (DIPE)	ND<1.7	3.3	0.5
Ethylbenzene	ND<1.7	3.3	0.5	Ethyl tert-butyl ether (ETBE)	ND<1.7	3.3	0.5
Freon 113	ND<33	3.3	10	Hexachlorobutadiene	ND<1.7	3.3	0.5
Hexachloroethane	ND<1.7	3.3	0.5	2-Hexanone	ND<1.7	3.3	0.5
Isopropylbenzene	ND<1.7	3.3	0.5	4-Isopropyl toluene	ND<1.7	3.3	0.5
Methyl-t-butyl ether (MTBE)	ND<1.7	3.3	0.5	Methylene chloride	ND<1.7	3.3	0.5
4-Methyl-2-pentanone (MIBK)	ND<1.7	3.3	0.5	Naphthalene	ND<1.7	3.3	0.5
Nitrobenzene	ND<33	3.3	10	n-Propyl benzene	ND<1.7	3.3	0.5
Styrene	ND<1.7	3.3	0.5	1,1,1,2-Tetrachloroethane	ND<1.7	3.3	0.5
1,1,2,2-Tetrachloroethane	ND<1.7	3.3	0.5	Tetrachloroethene	ND<1.7	3.3	0.5
Toluene	ND<1.7	3.3	0.5	1,2,3-Trichlorobenzene	ND<1.7	3.3	0.5
1,2,4-Trichlorobenzene	ND<1.7	3.3	0.5	1,1,1-Trichloroethane	ND<1.7	3.3	0.5
1,1,2-Trichloroethane	ND<1.7	3.3	0.5	Trichloroethene	50	3.3	0.5
Trichlorofluoromethane	ND<1.7	3.3	0.5	1,2,3-Trichloropropane	ND<1.7	3.3	0.5
1,2,4-Trimethylbenzene	ND<1.7	3.3	0.5	1,3,5-Trimethylbenzene	ND<1.7	3.3	0.5
Vinyl Chloride	ND<1.7	3.3	0.5	Xylenes	ND<1.7	3.3	0.5

#### Surrogate Recoveries (%)

%SS1:	104	%SS2:	98
%SS3:	95		

#### Comments:

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

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; q) reported in ppm



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/11/06
	Client P.O.:	Date Analyzed 10/11/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0610200

Lab ID	0610200-003B
Client ID	MW3
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	7.0	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	1.5	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	6.5	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	103	%SS2:	96
%SS3:	100		

### Comments:

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

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; q) reported in ppm



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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/12/06
	Client P.O.:	Date Analyzed 10/12/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0610200

Lab ID	0610200-004B
Client ID	MW4
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<33	3.3	10	Acrolein (Propenal)	ND<17	3.3	5.0
Acrylonitrile	ND<6.7	3.3	2.0	tert-Amyl methyl ether (TAME)	ND<1.7	3.3	0.5
Benzene	ND<1.7	3.3	0.5	Bromobenzene	ND<1.7	3.3	0.5
Bromochloromethane	ND<1.7	3.3	0.5	Bromodichloromethane	ND<1.7	3.3	0.5
Bromoform	ND<1.7	3.3	0.5	Bromomethane	ND<1.7	3.3	0.5
2-Butanone (MEK)	ND<6.7	3.3	2.0	t-Butyl alcohol (TBA)	ND<17	3.3	5.0
n-Butyl benzene	ND<1.7	3.3	0.5	sec-Butyl benzene	ND<1.7	3.3	0.5
tert-Butyl benzene	ND<1.7	3.3	0.5	Carbon Disulfide	47	3.3	0.5
Carbon Tetrachloride	ND<1.7	3.3	0.5	Chlorobenzene	ND<1.7	3.3	0.5
Chloroethane	ND<1.7	3.3	0.5	2-Chloroethyl Vinyl Ether	ND<3.3	3.3	1.0
Chloroform	ND<1.7	3.3	0.5	Chloromethane	ND<1.7	3.3	0.5
2-Chlorotoluene	ND<1.7	3.3	0.5	4-Chlorotoluene	ND<1.7	3.3	0.5
Dibromochloromethane	ND<1.7	3.3	0.5	1,2-Dibromo-3-chloropropane	ND<1.7	3.3	0.5
1,2-Dibromoethane (EDB)	ND<1.7	3.3	0.5	Dibromomethane	ND<1.7	3.3	0.5
1,2-Dichlorobenzene	ND<1.7	3.3	0.5	1,3-Dichlorobenzene	ND<1.7	3.3	0.5
1,4-Dichlorobenzene	ND<1.7	3.3	0.5	Dichlorodifluoromethane	ND<1.7	3.3	0.5
1,1-Dichloroethane	ND<1.7	3.3	0.5	1,2-Dichloroethane (1,2-DCA)	ND<1.7	3.3	0.5
1,1-Dichloroethene	ND<1.7	3.3	0.5	cis-1,2-Dichloroethene	4.4	3.3	0.5
trans-1,2-Dichloroethene	ND<1.7	3.3	0.5	1,2-Dichloropropane	ND<1.7	3.3	0.5
1,3-Dichloropropane	ND<1.7	3.3	0.5	2,2-Dichloropropane	ND<1.7	3.3	0.5
1,1-Dichloropropene	ND<1.7	3.3	0.5	cis-1,3-Dichloropropene	ND<1.7	3.3	0.5
trans-1,3-Dichloropropene	ND<1.7	3.3	0.5	Diisopropyl ether (DIPE)	ND<1.7	3.3	0.5
Ethylbenzene	ND<1.7	3.3	0.5	Ethyl tert-butyl ether (ETBE)	ND<1.7	3.3	0.5
Freon 113	ND<33	3.3	10	Hexachlorobutadiene	ND<1.7	3.3	0.5
Hexachloroethane	ND<1.7	3.3	0.5	2-Hexanone	ND<1.7	3.3	0.5
Isopropylbenzene	ND<1.7	3.3	0.5	4-Isopropyl toluene	ND<1.7	3.3	0.5
Methyl-t-butyl ether (MTBE)	ND<1.7	3.3	0.5	Methylene chloride	ND<1.7	3.3	0.5
4-Methyl-2-pentanone (MIBK)	ND<1.7	3.3	0.5	Naphthalene	ND<1.7	3.3	0.5
Nitrobenzene	ND<33	3.3	10	n-Propyl benzene	ND<1.7	3.3	0.5
Styrene	ND<1.7	3.3	0.5	1,1,1,2-Tetrachloroethane	ND<1.7	3.3	0.5
1,1,2,2-Tetrachloroethane	ND<1.7	3.3	0.5	Tetrachloroethene	ND<1.7	3.3	0.5
Toluene	ND<1.7	3.3	0.5	1,2,3-Trichlorobenzene	ND<1.7	3.3	0.5
1,2,4-Trichlorobenzene	ND<1.7	3.3	0.5	1,1,1-Trichloroethane	ND<1.7	3.3	0.5
1,1,2-Trichloroethane	ND<1.7	3.3	0.5	Trichloroethene	8.7	3.3	0.5
Trichlorofluoromethane	ND<1.7	3.3	0.5	1,2,3-Trichloropropane	ND<1.7	3.3	0.5
1,2,4-Trimethylbenzene	ND<1.7	3.3	0.5	1,3,5-Trimethylbenzene	ND<1.7	3.3	0.5
Vinyl Chloride	ND<1.7	3.3	0.5	Xylenes	ND<1.7	3.3	0.5

#### Surrogate Recoveries (%)

%SS1:	103	%SS2:	98
%SS3:	95		

#### Comments:

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

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; q) reported in ppm





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Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/12/06
	Client P.O.:	Date Analyzed 10/12/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0610200

Lab ID	0610200-005B
Client ID	MW5
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	3.3	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	4.5	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	39	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	3.4	1.0	0.5	Xylenes	ND	1.0	0.5

#### Surrogate Recoveries (%)

%SS1:	104	%SS2:	97
%SS3:	100		

#### Comments:

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

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; q) reported in ppm



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		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/10/06
	Client P.O.:	Date Analyzed: 10/12/06

### CAM / CCR 17 Metals\*

Lab ID	0610200-001C	0610200-002C	0610200-003C	0610200-004C	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	MW1	MW2	MW3	MW4	S	W
Matrix	W	W	W	W		
Extraction Type	DISS.	DISS.	DISS.	DISS.	mg/kg	µg/L

### ICP-MS Metals, Concentration\*

Analytical Method: E200.8

Extraction Method: E200.8

Work Order: 0610200

Dilution Factor	1	1	1	1	1	1
Antimony	ND	ND	ND	ND	NA	0.5
Arsenic	0.65	ND	0.57	3.7	NA	0.5
Barium	360	230	230	420	NA	5.0
Beryllium	ND	ND	ND	ND	NA	0.5
Cadmium	0.79	0.40	0.46	ND	NA	0.25
Chromium	1.3	3.0	1.3	0.80	NA	0.5
Cobalt	1.5	1.8	1.4	ND	NA	0.5
Copper	1.6	2.0	4.6	1.0	NA	0.5
Lead	1.9	6.4	2.0	1.0	NA	0.5
Mercury	ND	ND	ND	ND	NA	0.012
Molybdenum	1.2	0.91	1.0	2.2	NA	0.5
Nickel	3.8	12	3.9	1.7	NA	0.5
Selenium	ND	0.59	ND	ND	NA	0.5
Silver	ND	ND	ND	ND	NA	0.19
Thallium	ND	ND	ND	ND	NA	0.5
Vanadium	3.9	3.5	2.4	0.91	NA	0.5
Zinc	54	130	78	36	NA	5.0
%SS:	N/A	N/A	N/A	N/A		

### Comments

\*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.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



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	Client P.O.:	Date Analyzed: 10/12/06

### CAM / CCR 17 Metals\*

Lab ID	0610200-005C				Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	MW5					
Matrix	W				S	W
Extraction Type	DISS.				mg/kg	µg/L

### ICP-MS Metals, Concentration\*

Analytical Method: E200.8

Extraction Method: E200.8

Work Order: 0610200

Dilution Factor	1				1	1
Antimony	ND				NA	0.5
Arsenic	3.1				NA	0.5
Barium	320				NA	5.0
Beryllium	ND				NA	0.5
Cadmium	ND				NA	0.25
Chromium	1.1				NA	0.5
Cobalt	7.1				NA	0.5
Copper	7.1				NA	0.5
Lead	1.1				NA	0.5
Mercury	ND				NA	0.012
Molybdenum	26				NA	0.5
Nickel	3.5				NA	0.5
Selenium	1.3				NA	0.5
Silver	ND				NA	0.19
Thallium	ND				NA	0.5
Vanadium	3.1				NA	0.5
Zinc	72				NA	5.0
%SS:	N/A					

#### Comments

\*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.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



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	Client Contact: Joel Greger	Date Extracted: 10/11/06
	Client P.O.:	Date Analyzed: 10/11/06

**Cyanide, Total\***

Analytical Method: E335.3 / Kelada-01

Work Order: 0610200

Lab ID	Client ID	Matrix	Total Cyanide	DF
0610200-001D	MW1	W	ND	1
0610200-002D	MW2	W	ND	1
0610200-003D	MW3	W	ND	1
0610200-004D	MW4	W	ND	1
0610200-005D	MW5	W	22	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	2.0 µg/L
	S	NA

\* water samples are reported in ug/L; soil/sludge/solid samples in mg/kg; wipe samples in µg/wipe.  
 ^ All water samples are screened for sulfide interference prior to analysis and treated to remove sulfide if it is present. All soil samples are treated to remove sulfide, nitrate and nitrite interference prior to analysis.  
 i) liquid sample contains greater than ~1 vol. % sediment; j) reporting limit raised due to high sediment content/matrix interference; m) sample treated to remove interfering sulfide per E335.4; n) sample treated to remove interfering nitrate and nitrite per E335.4; p) see attached narrative.



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	Client Contact: Joel Greger	Date Extracted: 10/12/06
	Client P.O.:	Date Analyzed: 10/12/06

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0610200

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW1	W	6800,f	ND	ND	ND	ND	ND	1	97
002A	MW2	W	ND	ND	ND	ND	ND	ND	1	88
003A	MW3	W	ND	ND	ND	ND	ND	ND	1	93
004A	MW4	W	ND	ND	ND	ND	ND	ND	1	111
005A	MW5	W	ND	ND	ND	ND	ND	ND	1	110

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	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 McC Campbell 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.



### QC SUMMARY REPORT FOR Kelada-01

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0610200

EPA Method E335.3 / Kelada-01		Extraction E335.3 / Kelada-01				BatchID: 24201			Spiked Sample ID: 0610200-004D			
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
Total Cyanide	ND	40	101	103	2.08	98.8	101	2.29	80 - 120	20	90 - 110	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 24201 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610200-001	10/09/06 3:25 PM	10/11/06	10/11/06 1:37 PM	0610200-002	10/09/06 2:20 PM	10/11/06	10/11/06 1:38 PM
0610200-003	10/09/06 1:55 PM	10/11/06	10/11/06 1:39 PM	0610200-004	10/09/06 3:00 PM	10/11/06	10/11/06 1:40 PM
0610200-005	10/09/06 2:40 PM	10/11/06	10/11/06 1:41 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.

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



### QC SUMMARY REPORT FOR E218.6

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0610200

EPA Method E218.6		Extraction E218.6				BatchID: 24202			Spiked Sample ID: 0610200-001e			
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
Hexachrome	ND	25	105	103	1.88	101	104	2.27	90 - 110	10	90 - 110	10
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE												

#### BATCH 24202 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610200-001	10/09/06 3:25 PM	10/10/06	10/10/06 3:36 PM	0610200-002	10/09/06 2:20 PM	10/10/06	10/10/06 3:58 PM
0610200-003	10/09/06 1:55 PM	10/10/06	10/10/06 4:19 PM	0610200-004	10/09/06 3:00 PM	10/10/06	10/10/06 4:40 PM
0610200-005	10/09/06 2:40 PM	10/10/06	10/10/06 5:01 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.

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



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0610200

EPA Method SW8260B	Extraction SW5030B					BatchID: 24183			Spiked Sample ID: 0610178-003C			
	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<500	10	NR	NR	NR	89.9	89.7	0.193	70 - 130	30	70 - 130	30
Benzene	ND<500	10	NR	NR	NR	113	111	1.39	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	51000	50	NR	NR	NR	106	105	0.806	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	NR	NR	NR	95	95.6	0.676	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND<500	10	NR	NR	NR	110	111	0.926	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND<500	10	NR	NR	NR	95.5	95.6	0.0300	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND<500	10	NR	NR	NR	99.8	95.7	4.26	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND<500	10	NR	NR	NR	103	102	0.909	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND<500	10	NR	NR	NR	94.1	92.7	1.52	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND<500	10	NR	NR	NR	95.7	94.8	0.932	70 - 130	30	70 - 130	30
Toluene	ND<500	10	NR	NR	NR	105	105	0	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	NR	NR	NR	83.2	83.2	0	70 - 130	30	70 - 130	30
%SS1:	107	10	110	112	1.70	105	103	2.16	70 - 130	30	70 - 130	30
%SS2:	96	10	101	105	3.22	97	97	0	70 - 130	30	70 - 130	30
%SS3:	97	10	103	103	0	102	100	1.56	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 24183 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610200-001	10/09/06 3:25 PM	10/16/06	10/16/06 3:49 PM	0610200-002	10/09/06 2:20 PM	10/12/06	10/12/06 6:21 PM
0610200-003	10/09/06 1:55 PM	10/11/06	10/11/06 9:32 PM	0610200-004	10/09/06 3:00 PM	10/12/06	10/12/06 7:06 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.

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





### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0610200

EPA Method SW8260B	Extraction SW5030B					BatchID: 24200			Spiked Sample ID: 0610206-003B			
	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	91.5	77.7	16.3	91.7	88	4.03	70 - 130	30	70 - 130	30
Benzene	ND	10	119	106	11.7	116	116	0	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	115	94.1	19.6	88	90.9	3.25	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	103	88.5	15.0	100	101	1.40	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	107	91.9	15.4	108	108	0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	99.2	84.3	16.3	97.1	95.5	1.66	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	82.7	74.4	10.5	99.4	83.7	17.1	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	99.7	86.5	14.1	98.7	97.4	1.31	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	94.3	80.9	15.3	94.4	93.2	1.30	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	95.2	81.3	15.8	95.8	92.9	3.02	70 - 130	30	70 - 130	30
Toluene	ND	10	104	92.5	11.9	113	112	0.884	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	80	72.6	9.67	79	79.1	0.0871	70 - 130	30	70 - 130	30
%SS1:	104	10	106	106	0	106	104	1.56	70 - 130	30	70 - 130	30
%SS2:	96	10	95	98	2.97	106	104	1.34	70 - 130	30	70 - 130	30
%SS3:	100	10	102	101	1.00	100	100	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 24200 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610200-005	10/09/06 2:40 PM	10/12/06	10/12/06 12:40 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.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0610200

EPA Method SW8021B/8015Cm		Extraction SW5030B				BatchID: 24181			Spiked Sample ID: 0610177-010A			
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) <sup>£</sup>	ND	60	101	101	0	96.6	98.8	2.18	70 - 130	30	70 - 130	30
MTBE	ND	10	95.4	94.1	1.38	96	105	8.61	70 - 130	30	70 - 130	30
Benzene	ND	10	96.5	94.5	2.09	93.5	104	10.9	70 - 130	30	70 - 130	30
Toluene	ND	10	89.1	88.6	0.591	88	98.8	11.6	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	92.2	93.8	1.74	93.1	99.8	6.93	70 - 130	30	70 - 130	30
Xylenes	ND	30	86	85.7	0.388	85.3	90.3	5.69	70 - 130	30	70 - 130	30
%SS:	106	10	99	99	0	101	109	7.51	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 24181 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610200-001	10/09/06 3:25 PM	10/12/06	10/12/06 4:50 AM	0610200-002	10/09/06 2:20 PM	10/12/06	10/12/06 6:25 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.



### QC SUMMARY REPORT FOR E200.8

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0610200

EPA Method E200.8		Extraction E200.8				BatchID: 24194			Spiked Sample ID: 0610212-001A			
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
Antimony	ND	10	96.9	96.1	0.821	92.2	92.5	0.368	75 - 125	20	85 - 115	20
Arsenic	6.6	10	100	102	1.20	94.6	94.4	0.201	75 - 125	20	85 - 115	20
Barium	330	100	115	113	0.296	94.7	94.8	0.0739	75 - 125	20	85 - 115	20
Beryllium	ND	10	87.2	87.3	0.166	97.2	96.4	0.878	75 - 125	20	85 - 115	20
Cadmium	ND	10	94	94.2	0.221	95.3	95.4	0.105	75 - 125	20	85 - 115	20
Chromium	23	10	94.8	97.3	0.770	93.7	92.8	0.986	75 - 125	20	85 - 115	20
Cobalt	11	10	83.2	81.8	0.745	93.6	94.5	0.893	75 - 125	20	85 - 115	20
Copper	18	10	94	98.1	1.46	94.9	94.3	0.624	75 - 125	20	85 - 115	20
Lead	4.2	10	97	96.6	0.287	93	93	0	75 - 125	20	85 - 115	20
Mercury	0.25	0.50	124	121	1.87	105	105	0	75 - 125	20	85 - 115	20
Molybdenum	30	10	103	101	0.428	94.9	93.4	1.56	75 - 125	20	85 - 115	20
Nickel	53	10	88.3	96.6	1.33	95.3	95.4	0.126	75 - 125	20	85 - 115	20
Selenium	27	10	96.7	97.9	0.328	93.1	91.6	1.61	75 - 125	20	85 - 115	20
Silver	ND	10	83.7	83.1	0.719	87.8	87.6	0.308	75 - 125	20	85 - 115	20
Thallium	ND	10	90.1	90.7	0.615	94.8	94.3	0.497	75 - 125	20	85 - 115	20
Vanadium	43	10	104	105	0.150	93.2	93	0.258	75 - 125	20	85 - 115	20
Zinc	28	100	92.3	92.4	0.0831	92.7	93.3	0.624	75 - 125	20	85 - 115	20
%SS:	103	750	106	106	0	97	97	0	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 24194 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610200-001	10/09/06 3:25 PM	10/10/06	10/12/06 1:47 AM	0610200-002	10/09/06 2:20 PM	10/10/06	10/12/06 1:54 AM
0610200-003	10/09/06 1:55 PM	10/10/06	10/12/06 2:02 AM	0610200-004	10/09/06 3:00 PM	10/10/06	10/12/06 2:09 AM
0610200-005	10/09/06 2:40 PM	10/10/06	10/12/06 2:16 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 applicable to this method.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0610200

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 24199			Spiked Sample ID: 0610217-001A			
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
TPH(btex) <sup>£</sup>	ND	60	102	102	0	103	102	0.970	70 - 130	30	70 - 130	30
MTBE	ND	10	99.8	101	0.738	111	105	5.74	70 - 130	30	70 - 130	30
Benzene	ND	10	93.7	92.3	1.52	102	95.1	7.05	70 - 130	30	70 - 130	30
Toluene	ND	10	88.5	86.1	2.73	93.1	87.7	5.95	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	92.6	92.3	0.255	98.7	93.5	5.46	70 - 130	30	70 - 130	30
Xylenes	ND	30	86.3	85.7	0.775	90.3	86	4.91	70 - 130	30	70 - 130	30
%SS:	95	10	98	99	1.12	105	98	6.87	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 24199 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610200-003	10/09/06 1:55 PM	10/12/06	10/12/06 9:24 PM	0610200-004	10/09/06 3:00 PM	10/12/06	10/12/06 9:56 PM
0610200-005	10/09/06 2:40 PM	10/12/06	10/12/06 8:00 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.



# 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

Piers Environmental  1330 S. Bascom Avenue, Ste. F  San Jose, CA 95128	Client Project ID: 2942 San Pablo	Date Sampled: 10/09/06
		Date Received: 10/10/06
	Client Contact: Joel Greger	Date Extracted: 10/12/06-10/16/06
	Client P.O.:	Date Analyzed 10/12/06-10/16/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0610200

Lab ID	0610200-001B
Client ID	MW1
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	2.1	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	2.3	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	3.9	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	0.65	1.0	0.5	Trichloroethene	9100	500	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

#### Surrogate Recoveries (%)

%SS1:	102	%SS2:	92
%SS3:	88		

#### Comments:

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

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; q) reported in ppm

## **Air Toxics Ltd. Introduces the Electronic Report**

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

**WORK ORDER #: 0609467**

Work Order Summary

**CLIENT:** Ms. Katie Piers  
PIERS Environmental Services, Inc.  
1330 S. Bascom Avenue, Suite F  
San Jose, CA 95128

**BILL TO:** Ms. Katie Piers  
PIERS Environmental Services, Inc.  
1330 S. Bascom Avenue, Suite F  
San Jose, CA 95128

**PHONE:** 408-559-1248  
**FAX:** 408-536-0294  
**DATE RECEIVED:** 09/21/2006  
**DATE COMPLETED:** 10/04/2006

**P.O. #**  
**PROJECT #** 2942 San Pablo  
**CONTACT:** Kyle Vagadori

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>
01A	SV1 d5	Modified TO-15	2.0 psi
02A	SV2 d5	Modified TO-15	3.0 "Hg
02AA	SV2 d5 Duplicate	Modified TO-15	3.0 "Hg
03A	SV3 d5	Modified TO-15	0.0 "Hg
04A	SV4 d5	Modified TO-15	5.0 "Hg
05A	SV5 d5	Modified TO-15	3.5 "Hg
06A	SV6 d5	Modified TO-15	8.0 "Hg
07A	Lab Blank	Modified TO-15	NA
08A	CCV	Modified TO-15	NA
09A	LCS	Modified TO-15	NA

CERTIFIED BY: 

DATE: 10/04/06

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07  
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**PIERS Environmental Services, Inc.**  
**Workorder# 0609467**

Six 1 Liter Summa Canister samples were received on September 21, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<=/ 30% Difference with two allowed out up to <=/40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

### **Receiving Notes**

The Chain of Custody (COC) information for samples SV5 d5 and SV6 d5 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the samples.

### **Analytical Notes**

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

The reported LCS for each daily batch has been derived from more than one analytical file.

The reported result for 4-Ethyltoluene in samples SV1 d5 and SV6 d5 may be biased high due to co-elution with a non target compound with similar characteristic ions. Both the primary and secondary ion for 4-Ethyltoluene exhibited potential interference.

### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.





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- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



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## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV1 d5

Lab ID#: 0609467-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.89	8.4	2.3	21
Ethanol	3.6	32	6.7	60
Acetone	3.6	67	8.4	160
2-Propanol	3.6	6.0	8.7	15
Carbon Disulfide	0.89	2.8	2.8	8.8
Methylene Chloride	0.89	2.4	3.1	8.4
trans-1,2-Dichloroethene	0.89	22	3.5	89
Hexane	0.89	6.8	3.1	24
2-Butanone (Methyl Ethyl Ketone)	0.89	7.4	2.6	22
cis-1,2-Dichloroethene	0.89	65	3.5	260
Tetrahydrofuran	0.89	2.0	2.6	5.8
Cyclohexane	0.89	6.4	3.1	22
2,2,4-Trimethylpentane	0.89	11	4.2	51
Benzene	0.89	3.0	2.8	9.5
Heptane	0.89	5.2 J	3.6	22 J
Trichloroethene	0.89	140	4.8	760
Toluene	0.89	18	3.4	70
Ethyl Benzene	0.89	2.1	3.9	9.2
m,p-Xylene	0.89	8.8	3.9	38
o-Xylene	0.89	3.0	3.9	13
4-Ethyltoluene	0.89	1.8	4.4	9.0
1,2,4-Trimethylbenzene	0.89	2.7	4.4	13

Client Sample ID: SV2 d5

Lab ID#: 0609467-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	11	560	29	1400
1,3-Butadiene	11	19	25	42
Ethanol	45	54	84	100
Acetone	45	180	110	440
trans-1,2-Dichloroethene	11	1900	44	7500
Hexane	11	14	39	48
cis-1,2-Dichloroethene	11	2700	44	11000
2,2,4-Trimethylpentane	11	12	52	59
Heptane	11	13 J	46	55 J
Trichloroethene	11	1200	60	6200



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV2 d5

Lab ID#: 0609467-02A

Toluene	11	35	42	130
m,p-Xylene	11	16	49	68

Client Sample ID: SV2 d5 Duplicate

Lab ID#: 0609467-02AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	11	560	29	1400
1,3-Butadiene	11	15	25	34
Ethanol	45	61	84	120
Acetone	45	180	110	420
trans-1,2-Dichloroethene	11	1900	44	7400
Hexane	11	12	39	44
cis-1,2-Dichloroethene	11	2700	44	11000
2,2,4-Trimethylpentane	11	12	52	57
Heptane	11	12 J	46	49 J
Trichloroethene	11	1200	60	6200
Toluene	11	32	42	120
m,p-Xylene	11	13	49	58

Client Sample ID: SV3 d5

Lab ID#: 0609467-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	50	3000	130	7700
1,1-Dichloroethene	50	68	200	270
trans-1,2-Dichloroethene	50	1100	200	4300
cis-1,2-Dichloroethene	50	11000	200	44000
Trichloroethene	50	2100	270	11000

Client Sample ID: SV4 d5

Lab ID#: 0609467-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	16	1300	41	3300
1,1-Dichloroethene	16	28	64	110
Acetone	65	92	150	220



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AN ENVIRONMENTAL ANALYTICAL LABORATORY

## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV4 d5

Lab ID#: 0609467-04A

trans-1,2-Dichloroethene	16	1200	64	4600
cis-1,2-Dichloroethene	16	5000	64	20000
Trichloroethene	16	3000	87	16000
Toluene	16	21	61	80

Client Sample ID: SV5 d5

Lab ID#: 0609467-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	46	730	120	1900
trans-1,2-Dichloroethene	46	1800	180	7400
cis-1,2-Dichloroethene	46	200	180	800
Trichloroethene	46	200	250	1100

Client Sample ID: SV6 d5

Lab ID#: 0609467-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	1.4	78	3.5	200
Ethanol	5.5	21	10	40
Acetone	5.5	110	13	260
Carbon Disulfide	1.4	2.0	4.3	6.1
Methylene Chloride	1.4	1.8	4.8	6.4
trans-1,2-Dichloroethene	1.4	310	5.5	1200
Hexane	1.4	4.6	4.9	16
cis-1,2-Dichloroethene	1.4	440	5.5	1800
Tetrahydrofuran	1.4	3.6	4.1	10
Cyclohexane	1.4	5.7	4.8	19
2,2,4-Trimethylpentane	1.4	9.5	6.4	44
Benzene	1.4	2.2	4.4	7.0
Heptane	1.4	4.6 J	5.6	19 J
Trichloroethene	1.4	250	7.4	1400
4-Methyl-2-pentanone	1.4	2.2	5.6	8.9
Toluene	1.4	16	5.2	61
Ethyl Benzene	1.4	3.7	6.0	16
m,p-Xylene	1.4	14	6.0	63
o-Xylene	1.4	5.7	6.0	25
Propylbenzene	1.4	2.5	6.8	12



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## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: SV6 d5**

**Lab ID#: 0609467-06A**

4-Ethyltoluene	1.4	8.9	6.8	44
1,3,5-Trimethylbenzene	1.4	6.0	6.8	29
1,2,4-Trimethylbenzene	1.4	18	6.8	86



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV1 d5

Lab ID#: 0609467-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092720	Date of Collection:	9/20/06
Dil. Factor:	1.78	Date of Analysis:	9/28/06 03:19 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.89	Not Detected	4.4	Not Detected
Freon 114	0.89	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.89	8.4	2.3	21
1,3-Butadiene	0.89	Not Detected	2.0	Not Detected
Bromomethane	0.89	Not Detected	3.4	Not Detected
Chloroethane	0.89	Not Detected	2.3	Not Detected
Freon 11	0.89	Not Detected	5.0	Not Detected
Ethanol	3.6	32	6.7	60
Freon 113	0.89	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.89	Not Detected	3.5	Not Detected
Acetone	3.6	67	8.4	160
2-Propanol	3.6	6.0	8.7	15
Carbon Disulfide	0.89	2.8	2.8	8.8
3-Chloropropene	3.6	Not Detected	11	Not Detected
Methylene Chloride	0.89	2.4	3.1	8.4
Methyl tert-butyl ether	0.89	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.89	22	3.5	89
Hexane	0.89	6.8	3.1	24
1,1-Dichloroethane	0.89	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.89	7.4	2.6	22
cis-1,2-Dichloroethene	0.89	65	3.5	260
Tetrahydrofuran	0.89	2.0	2.6	5.8
Chloroform	0.89	Not Detected	4.3	Not Detected
1,1,1-Trichloroethane	0.89	Not Detected	4.8	Not Detected
Cyclohexane	0.89	6.4	3.1	22
Carbon Tetrachloride	0.89	Not Detected	5.6	Not Detected
2,2,4-Trimethylpentane	0.89	11	4.2	51
Benzene	0.89	3.0	2.8	9.5
1,2-Dichloroethane	0.89	Not Detected	3.6	Not Detected
Heptane	0.89	5.2 J	3.6	22 J
Trichloroethene	0.89	140	4.8	760
1,2-Dichloropropane	0.89	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.89	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.89	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.89	Not Detected	3.6	Not Detected
Toluene	0.89	18	3.4	70
trans-1,3-Dichloropropene	0.89	Not Detected	4.0	Not Detected
1,1,2-Trichloroethane	0.89	Not Detected	4.8	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV1 d5

Lab ID#: 0609467-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092720	Date of Collection:	9/20/06
Dil. Factor:	1.78	Date of Analysis:	9/28/06 03:19 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.89	Not Detected	6.0	Not Detected
2-Hexanone	3.6	Not Detected	14	Not Detected
Dibromochloromethane	0.89	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.89	Not Detected	6.8	Not Detected
Chlorobenzene	0.89	Not Detected	4.1	Not Detected
Ethyl Benzene	0.89	2.1	3.9	9.2
m,p-Xylene	0.89	8.8	3.9	38
o-Xylene	0.89	3.0	3.9	13
Styrene	0.89	Not Detected	3.8	Not Detected
Bromoform	0.89	Not Detected	9.2	Not Detected
Cumene	0.89	Not Detected	4.4	Not Detected
1,1,2,2-Tetrachloroethane	0.89	Not Detected	6.1	Not Detected
Propylbenzene	0.89	Not Detected	4.4	Not Detected
4-Ethyltoluene	0.89	1.8	4.4	9.0
1,3,5-Trimethylbenzene	0.89	Not Detected	4.4	Not Detected
1,2,4-Trimethylbenzene	0.89	2.7	4.4	13
1,3-Dichlorobenzene	0.89	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.89	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.89	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.89	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected U J	38	Not Detected U J

J = Estimated value due to bias in the CCV.

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	114	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV2 d5

Lab ID#: 0609467-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092721	Date of Collection:	9/20/06
Dil. Factor:	22.4	Date of Analysis:	9/28/06 03:54 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	11	Not Detected	55	Not Detected
Freon 114	11	Not Detected	78	Not Detected
Chloromethane	45	Not Detected	92	Not Detected
Vinyl Chloride	11	560	29	1400
1,3-Butadiene	11	19	25	42
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	11	Not Detected	30	Not Detected
Freon 11	11	Not Detected	63	Not Detected
Ethanol	45	54	84	100
Freon 113	11	Not Detected	86	Not Detected
1,1-Dichloroethene	11	Not Detected	44	Not Detected
Acetone	45	180	110	440
2-Propanol	45	Not Detected	110	Not Detected
Carbon Disulfide	11	Not Detected	35	Not Detected
3-Chloropropene	45	Not Detected	140	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Methyl tert-butyl ether	11	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	11	1900	44	7500
Hexane	11	14	39	48
1,1-Dichloroethane	11	Not Detected	45	Not Detected
2-Butanone (Methyl Ethyl Ketone)	11	Not Detected	33	Not Detected
cis-1,2-Dichloroethene	11	2700	44	11000
Tetrahydrofuran	11	Not Detected	33	Not Detected
Chloroform	11	Not Detected	55	Not Detected
1,1,1-Trichloroethane	11	Not Detected	61	Not Detected
Cyclohexane	11	Not Detected	38	Not Detected
Carbon Tetrachloride	11	Not Detected	70	Not Detected
2,2,4-Trimethylpentane	11	12	52	59
Benzene	11	Not Detected	36	Not Detected
1,2-Dichloroethane	11	Not Detected	45	Not Detected
Heptane	11	13 J	46	55 J
Trichloroethene	11	1200	60	6200
1,2-Dichloropropane	11	Not Detected	52	Not Detected
1,4-Dioxane	45	Not Detected	160	Not Detected
Bromodichloromethane	11	Not Detected	75	Not Detected
cis-1,3-Dichloropropene	11	Not Detected	51	Not Detected
4-Methyl-2-pentanone	11	Not Detected	46	Not Detected
Toluene	11	35	42	130
trans-1,3-Dichloropropene	11	Not Detected	51	Not Detected
1,1,2-Trichloroethane	11	Not Detected	61	Not Detected





AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV2 d5

Lab ID#: 0609467-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092721	Date of Collection:	9/20/06
Dil. Factor:	22.4	Date of Analysis:	9/28/06 03:54 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	11	Not Detected	76	Not Detected
2-Hexanone	45	Not Detected	180	Not Detected
Dibromochloromethane	11	Not Detected	95	Not Detected
1,2-Dibromoethane (EDB)	11	Not Detected	86	Not Detected
Chlorobenzene	11	Not Detected	52	Not Detected
Ethyl Benzene	11	Not Detected	49	Not Detected
m,p-Xylene	11	16	49	68
o-Xylene	11	Not Detected	49	Not Detected
Styrene	11	Not Detected	48	Not Detected
Bromoform	11	Not Detected	120	Not Detected
Cumene	11	Not Detected	55	Not Detected
1,1,2,2-Tetrachloroethane	11	Not Detected	77	Not Detected
Propylbenzene	11	Not Detected	55	Not Detected
4-Ethyltoluene	11	Not Detected	55	Not Detected
1,3,5-Trimethylbenzene	11	Not Detected	55	Not Detected
1,2,4-Trimethylbenzene	11	Not Detected	55	Not Detected
1,3-Dichlorobenzene	11	Not Detected	67	Not Detected
1,4-Dichlorobenzene	11	Not Detected	67	Not Detected
alpha-Chlorotoluene	11	Not Detected	58	Not Detected
1,2-Dichlorobenzene	11	Not Detected	67	Not Detected
1,2,4-Trichlorobenzene	45	Not Detected	330	Not Detected
Hexachlorobutadiene	45	Not Detected U J	480	Not Detected U J

J = Estimated value due to bias in the CCV.

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	114	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV2 d5 Duplicate

Lab ID#: 0609467-02AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 8092722 Date of Collection: 9/20/06  
Dil. Factor: 22.4 Date of Analysis: 9/28/06 04:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	11	Not Detected	55	Not Detected
Freon 114	11	Not Detected	78	Not Detected
Chloromethane	45	Not Detected	92	Not Detected
Vinyl Chloride	11	560	29	1400
1,3-Butadiene	11	15	25	34
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	11	Not Detected	30	Not Detected
Freon 11	11	Not Detected	63	Not Detected
Ethanol	45	61	84	120
Freon 113	11	Not Detected	86	Not Detected
1,1-Dichloroethene	11	Not Detected	44	Not Detected
Acetone	45	180	110	420
2-Propanol	45	Not Detected	110	Not Detected
Carbon Disulfide	11	Not Detected	35	Not Detected
3-Chloropropene	45	Not Detected	140	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Methyl tert-butyl ether	11	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	11	1900	44	7400
Hexane	11	12	39	44
1,1-Dichloroethane	11	Not Detected	45	Not Detected
2-Butanone (Methyl Ethyl Ketone)	11	Not Detected	33	Not Detected
cis-1,2-Dichloroethene	11	2700	44	11000
Tetrahydrofuran	11	Not Detected	33	Not Detected
Chloroform	11	Not Detected	55	Not Detected
1,1,1-Trichloroethane	11	Not Detected	61	Not Detected
Cyclohexane	11	Not Detected	38	Not Detected
Carbon Tetrachloride	11	Not Detected	70	Not Detected
2,2,4-Trimethylpentane	11	12	52	57
Benzene	11	Not Detected	36	Not Detected
1,2-Dichloroethane	11	Not Detected	45	Not Detected
Heptane	11	12 J	46	49 J
Trichloroethene	11	1200	60	6200
1,2-Dichloropropane	11	Not Detected	52	Not Detected
1,4-Dioxane	45	Not Detected	160	Not Detected
Bromodichloromethane	11	Not Detected	75	Not Detected
cis-1,3-Dichloropropene	11	Not Detected	51	Not Detected
4-Methyl-2-pentanone	11	Not Detected	46	Not Detected
Toluene	11	32	42	120
trans-1,3-Dichloropropene	11	Not Detected	51	Not Detected
1,1,2-Trichloroethane	11	Not Detected	61	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV2 d5 Duplicate

Lab ID#: 0609467-02AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092722	Date of Collection:	9/20/06
Dil. Factor:	22.4	Date of Analysis:	9/28/06 04:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	11	Not Detected	76	Not Detected
2-Hexanone	45	Not Detected	180	Not Detected
Dibromochloromethane	11	Not Detected	95	Not Detected
1,2-Dibromoethane (EDB)	11	Not Detected	86	Not Detected
Chlorobenzene	11	Not Detected	52	Not Detected
Ethyl Benzene	11	Not Detected	49	Not Detected
m,p-Xylene	11	13	49	58
o-Xylene	11	Not Detected	49	Not Detected
Styrene	11	Not Detected	48	Not Detected
Bromoform	11	Not Detected	120	Not Detected
Cumene	11	Not Detected	55	Not Detected
1,1,2,2-Tetrachloroethane	11	Not Detected	77	Not Detected
Propylbenzene	11	Not Detected	55	Not Detected
4-Ethyltoluene	11	Not Detected	55	Not Detected
1,3,5-Trimethylbenzene	11	Not Detected	55	Not Detected
1,2,4-Trimethylbenzene	11	Not Detected	55	Not Detected
1,3-Dichlorobenzene	11	Not Detected	67	Not Detected
1,4-Dichlorobenzene	11	Not Detected	67	Not Detected
alpha-Chlorotoluene	11	Not Detected	58	Not Detected
1,2-Dichlorobenzene	11	Not Detected	67	Not Detected
1,2,4-Trichlorobenzene	45	Not Detected	330	Not Detected
Hexachlorobutadiene	45	Not Detected U J	480	Not Detected U J

J = Estimated value due to bias in the CCV.

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	112	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV3 d5

Lab ID#: 0609467-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 8092723 Date of Collection: 9/20/06  
Dil. Factor: 101 Date of Analysis: 9/28/06 05:05 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	50	Not Detected	250	Not Detected
Freon 114	50	Not Detected	350	Not Detected
Chloromethane	200	Not Detected	420	Not Detected
Vinyl Chloride	50	3000	130	7700
1,3-Butadiene	50	Not Detected	110	Not Detected
Bromomethane	50	Not Detected	200	Not Detected
Chloroethane	50	Not Detected	130	Not Detected
Freon 11	50	Not Detected	280	Not Detected
Ethanol	200	Not Detected	380	Not Detected
Freon 113	50	Not Detected	390	Not Detected
1,1-Dichloroethene	50	68	200	270
Acetone	200	Not Detected	480	Not Detected
2-Propanol	200	Not Detected	500	Not Detected
Carbon Disulfide	50	Not Detected	160	Not Detected
3-Chloropropene	200	Not Detected	630	Not Detected
Methylene Chloride	50	Not Detected	180	Not Detected
Methyl tert-butyl ether	50	Not Detected	180	Not Detected
trans-1,2-Dichloroethene	50	1100	200	4300
Hexane	50	Not Detected	180	Not Detected
1,1-Dichloroethane	50	Not Detected	200	Not Detected
2-Butanone (Methyl Ethyl Ketone)	50	Not Detected	150	Not Detected
cis-1,2-Dichloroethene	50	11000	200	44000
Tetrahydrofuran	50	Not Detected	150	Not Detected
Chloroform	50	Not Detected	250	Not Detected
1,1,1-Trichloroethane	50	Not Detected	280	Not Detected
Cyclohexane	50	Not Detected	170	Not Detected
Carbon Tetrachloride	50	Not Detected	320	Not Detected
2,2,4-Trimethylpentane	50	Not Detected	240	Not Detected
Benzene	50	Not Detected	160	Not Detected
1,2-Dichloroethane	50	Not Detected	200	Not Detected
Heptane	50	Not Detected U J	210	Not Detected U J
Trichloroethene	50	2100	270	11000
1,2-Dichloropropane	50	Not Detected	230	Not Detected
1,4-Dioxane	200	Not Detected	730	Not Detected
Bromodichloromethane	50	Not Detected	340	Not Detected
cis-1,3-Dichloropropene	50	Not Detected	230	Not Detected
4-Methyl-2-pentanone	50	Not Detected	210	Not Detected
Toluene	50	Not Detected	190	Not Detected
trans-1,3-Dichloropropene	50	Not Detected	230	Not Detected
1,1,2-Trichloroethane	50	Not Detected	280	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV3 d5

Lab ID#: 0609467-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092723	Date of Collection:	9/20/06
Dil. Factor:	101	Date of Analysis:	9/28/06 05:05 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	50	Not Detected	340	Not Detected
2-Hexanone	200	Not Detected	830	Not Detected
Dibromochloromethane	50	Not Detected	430	Not Detected
1,2-Dibromoethane (EDB)	50	Not Detected	390	Not Detected
Chlorobenzene	50	Not Detected	230	Not Detected
Ethyl Benzene	50	Not Detected	220	Not Detected
m,p-Xylene	50	Not Detected	220	Not Detected
o-Xylene	50	Not Detected	220	Not Detected
Styrene	50	Not Detected	220	Not Detected
Bromoform	50	Not Detected	520	Not Detected
Cumene	50	Not Detected	250	Not Detected
1,1,2,2-Tetrachloroethane	50	Not Detected	350	Not Detected
Propylbenzene	50	Not Detected	250	Not Detected
4-Ethyltoluene	50	Not Detected	250	Not Detected
1,3,5-Trimethylbenzene	50	Not Detected	250	Not Detected
1,2,4-Trimethylbenzene	50	Not Detected	250	Not Detected
1,3-Dichlorobenzene	50	Not Detected	300	Not Detected
1,4-Dichlorobenzene	50	Not Detected	300	Not Detected
alpha-Chlorotoluene	50	Not Detected	260	Not Detected
1,2-Dichlorobenzene	50	Not Detected	300	Not Detected
1,2,4-Trichlorobenzene	200	Not Detected	1500	Not Detected
Hexachlorobutadiene	200	Not Detected U J	2200	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	116	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV4 d5

Lab ID#: 0609467-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092729	Date of Collection:	9/20/06
Dil. Factor:	32.3	Date of Analysis:	9/28/06 09:03 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	16	Not Detected	80	Not Detected
Freon 114	16	Not Detected	110	Not Detected
Chloromethane	65	Not Detected	130	Not Detected
Vinyl Chloride	16	1300	41	3300
1,3-Butadiene	16	Not Detected	36	Not Detected
Bromomethane	16	Not Detected	63	Not Detected
Chloroethane	16	Not Detected	43	Not Detected
Freon 11	16	Not Detected	91	Not Detected
Ethanol	65	Not Detected	120	Not Detected
Freon 113	16	Not Detected	120	Not Detected
1,1-Dichloroethene	16	28	64	110
Acetone	65	92	150	220
2-Propanol	65	Not Detected	160	Not Detected
Carbon Disulfide	16	Not Detected	50	Not Detected
3-Chloropropene	65	Not Detected	200	Not Detected
Methylene Chloride	16	Not Detected	56	Not Detected
Methyl tert-butyl ether	16	Not Detected	58	Not Detected
trans-1,2-Dichloroethene	16	1200	64	4600
Hexane	16	Not Detected	57	Not Detected
1,1-Dichloroethane	16	Not Detected	65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	16	Not Detected	48	Not Detected
cis-1,2-Dichloroethene	16	5000	64	20000
Tetrahydrofuran	16	Not Detected	48	Not Detected
Chloroform	16	Not Detected	79	Not Detected
1,1,1-Trichloroethane	16	Not Detected	88	Not Detected
Cyclohexane	16	Not Detected	56	Not Detected
Carbon Tetrachloride	16	Not Detected	100	Not Detected
2,2,4-Trimethylpentane	16	Not Detected	75	Not Detected
Benzene	16	Not Detected	52	Not Detected
1,2-Dichloroethane	16	Not Detected	65	Not Detected
Heptane	16	Not Detected U J	66	Not Detected U J
Trichloroethene	16	3000	87	16000
1,2-Dichloropropane	16	Not Detected	75	Not Detected
1,4-Dioxane	65	Not Detected	230	Not Detected
Bromodichloromethane	16	Not Detected	110	Not Detected
cis-1,3-Dichloropropene	16	Not Detected	73	Not Detected
4-Methyl-2-pentanone	16	Not Detected	66	Not Detected
Toluene	16	21	61	80
trans-1,3-Dichloropropene	16	Not Detected	73	Not Detected
1,1,2-Trichloroethane	16	Not Detected	88	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV4 d5

Lab ID#: 0609467-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092729	Date of Collection:	9/20/06
Dil. Factor:	32.3	Date of Analysis:	9/28/06 09:03 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	16	Not Detected	110	Not Detected
2-Hexanone	65	Not Detected	260	Not Detected
Dibromochloromethane	16	Not Detected	140	Not Detected
1,2-Dibromoethane (EDB)	16	Not Detected	120	Not Detected
Chlorobenzene	16	Not Detected	74	Not Detected
Ethyl Benzene	16	Not Detected	70	Not Detected
m,p-Xylene	16	Not Detected	70	Not Detected
o-Xylene	16	Not Detected	70	Not Detected
Styrene	16	Not Detected	69	Not Detected
Bromoform	16	Not Detected	170	Not Detected
Cumene	16	Not Detected	79	Not Detected
1,1,2,2-Tetrachloroethane	16	Not Detected	110	Not Detected
Propylbenzene	16	Not Detected	79	Not Detected
4-Ethyltoluene	16	Not Detected	79	Not Detected
1,3,5-Trimethylbenzene	16	Not Detected	79	Not Detected
1,2,4-Trimethylbenzene	16	Not Detected	79	Not Detected
1,3-Dichlorobenzene	16	Not Detected	97	Not Detected
1,4-Dichlorobenzene	16	Not Detected	97	Not Detected
alpha-Chlorotoluene	16	Not Detected	84	Not Detected
1,2-Dichlorobenzene	16	Not Detected	97	Not Detected
1,2,4-Trichlorobenzene	65	Not Detected	480	Not Detected
Hexachlorobutadiene	65	Not Detected U J	690	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	117	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV5 d5

Lab ID#: 0609467-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092730	Date of Collection:	9/20/06
Dil. Factor:	91.6	Date of Analysis:	9/28/06 09:42 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	46	Not Detected	230	Not Detected
Freon 114	46	Not Detected	320	Not Detected
Chloromethane	180	Not Detected	380	Not Detected
Vinyl Chloride	46	730	120	1900
1,3-Butadiene	46	Not Detected	100	Not Detected
Bromomethane	46	Not Detected	180	Not Detected
Chloroethane	46	Not Detected	120	Not Detected
Freon 11	46	Not Detected	260	Not Detected
Ethanol	180	Not Detected	340	Not Detected
Freon 113	46	Not Detected	350	Not Detected
1,1-Dichloroethene	46	Not Detected	180	Not Detected
Acetone	180	Not Detected	440	Not Detected
2-Propanol	180	Not Detected	450	Not Detected
Carbon Disulfide	46	Not Detected	140	Not Detected
3-Chloropropene	180	Not Detected	570	Not Detected
Methylene Chloride	46	Not Detected	160	Not Detected
Methyl tert-butyl ether	46	Not Detected	160	Not Detected
trans-1,2-Dichloroethene	46	1800	180	7400
Hexane	46	Not Detected	160	Not Detected
1,1-Dichloroethane	46	Not Detected	180	Not Detected
2-Butanone (Methyl Ethyl Ketone)	46	Not Detected	140	Not Detected
cis-1,2-Dichloroethene	46	200	180	800
Tetrahydrofuran	46	Not Detected	140	Not Detected
Chloroform	46	Not Detected	220	Not Detected
1,1,1-Trichloroethane	46	Not Detected	250	Not Detected
Cyclohexane	46	Not Detected	160	Not Detected
Carbon Tetrachloride	46	Not Detected	290	Not Detected
2,2,4-Trimethylpentane	46	Not Detected	210	Not Detected
Benzene	46	Not Detected	150	Not Detected
1,2-Dichloroethane	46	Not Detected	180	Not Detected
Heptane	46	Not Detected U J	190	Not Detected U J
Trichloroethene	46	200	250	1100
1,2-Dichloropropane	46	Not Detected	210	Not Detected
1,4-Dioxane	180	Not Detected	660	Not Detected
Bromodichloromethane	46	Not Detected	310	Not Detected
cis-1,3-Dichloropropene	46	Not Detected	210	Not Detected
4-Methyl-2-pentanone	46	Not Detected	190	Not Detected
Toluene	46	Not Detected	170	Not Detected
trans-1,3-Dichloropropene	46	Not Detected	210	Not Detected
1,1,2-Trichloroethane	46	Not Detected	250	Not Detected





AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV5 d5

Lab ID#: 0609467-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092730	Date of Collection:	9/20/06
Dil. Factor:	91.6	Date of Analysis:	9/28/06 09:42 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	46	Not Detected	310	Not Detected
2-Hexanone	180	Not Detected	750	Not Detected
Dibromochloromethane	46	Not Detected	390	Not Detected
1,2-Dibromoethane (EDB)	46	Not Detected	350	Not Detected
Chlorobenzene	46	Not Detected	210	Not Detected
Ethyl Benzene	46	Not Detected	200	Not Detected
m,p-Xylene	46	Not Detected	200	Not Detected
o-Xylene	46	Not Detected	200	Not Detected
Styrene	46	Not Detected	200	Not Detected
Bromoform	46	Not Detected	470	Not Detected
Cumene	46	Not Detected	220	Not Detected
1,1,2,2-Tetrachloroethane	46	Not Detected	310	Not Detected
Propylbenzene	46	Not Detected	220	Not Detected
4-Ethyltoluene	46	Not Detected	220	Not Detected
1,3,5-Trimethylbenzene	46	Not Detected	220	Not Detected
1,2,4-Trimethylbenzene	46	Not Detected	220	Not Detected
1,3-Dichlorobenzene	46	Not Detected	280	Not Detected
1,4-Dichlorobenzene	46	Not Detected	280	Not Detected
alpha-Chlorotoluene	46	Not Detected	240	Not Detected
1,2-Dichlorobenzene	46	Not Detected	280	Not Detected
1,2,4-Trichlorobenzene	180	Not Detected	1400	Not Detected
Hexachlorobutadiene	180	Not Detected U J	2000	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	116	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV6 d5

Lab ID#: 0609467-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092726	Date of Collection:	9/20/06
Dil. Factor:	2.76	Date of Analysis:	9/28/06 06:34 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.4	Not Detected	6.8	Not Detected
Freon 114	1.4	Not Detected	9.6	Not Detected
Chloromethane	5.5	Not Detected	11	Not Detected
Vinyl Chloride	1.4	78	3.5	200
1,3-Butadiene	1.4	Not Detected	3.0	Not Detected
Bromomethane	1.4	Not Detected	5.4	Not Detected
Chloroethane	1.4	Not Detected	3.6	Not Detected
Freon 11	1.4	Not Detected	7.8	Not Detected
Ethanol	5.5	21	10	40
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Acetone	5.5	110	13	260
2-Propanol	5.5	Not Detected	14	Not Detected
Carbon Disulfide	1.4	2.0	4.3	6.1
3-Chloropropene	5.5	Not Detected	17	Not Detected
Methylene Chloride	1.4	1.8	4.8	6.4
Methyl tert-butyl ether	1.4	Not Detected	5.0	Not Detected
trans-1,2-Dichloroethene	1.4	310	5.5	1200
Hexane	1.4	4.6	4.9	16
1,1-Dichloroethane	1.4	Not Detected	5.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	Not Detected	4.1	Not Detected
cis-1,2-Dichloroethene	1.4	440	5.5	1800
Tetrahydrofuran	1.4	3.6	4.1	10
Chloroform	1.4	Not Detected	6.7	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.5	Not Detected
Cyclohexane	1.4	5.7	4.8	19
Carbon Tetrachloride	1.4	Not Detected	8.7	Not Detected
2,2,4-Trimethylpentane	1.4	9.5	6.4	44
Benzene	1.4	2.2	4.4	7.0
1,2-Dichloroethane	1.4	Not Detected	5.6	Not Detected
Heptane	1.4	4.6 J	5.6	19 J
Trichloroethene	1.4	250	7.4	1400
1,2-Dichloropropane	1.4	Not Detected	6.4	Not Detected
1,4-Dioxane	5.5	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.2	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected
4-Methyl-2-pentanone	1.4	2.2	5.6	8.9
Toluene	1.4	16	5.2	61
trans-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.5	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SV6 d5

Lab ID#: 0609467-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092726	Date of Collection:	9/20/06
Dil. Factor:	2.76	Date of Analysis:	9/28/06 06:34 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	1.4	Not Detected	9.4	Not Detected
2-Hexanone	5.5	Not Detected	23	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	Not Detected	6.4	Not Detected
Ethyl Benzene	1.4	3.7	6.0	16
m,p-Xylene	1.4	14	6.0	63
o-Xylene	1.4	5.7	6.0	25
Styrene	1.4	Not Detected	5.9	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	Not Detected	6.8	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.5	Not Detected
Propylbenzene	1.4	2.5	6.8	12
4-Ethyltoluene	1.4	8.9	6.8	44
1,3,5-Trimethylbenzene	1.4	6.0	6.8	29
1,2,4-Trimethylbenzene	1.4	18	6.8	86
1,3-Dichlorobenzene	1.4	Not Detected	8.3	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.3	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.1	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.3	Not Detected
1,2,4-Trichlorobenzene	5.5	Not Detected	41	Not Detected
Hexachlorobutadiene	5.5	Not Detected U J	59	Not Detected U J

J = Estimated value due to bias in the CCV.

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	118	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0609467-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092709	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/27/06 06:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected U J	2.0	Not Detected U J
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0609467-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092709	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/27/06 06:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected U J	21	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	113	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0609467-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092707	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/27/06 04:12 PM

Compound	%Recovery
Freon 12	79
Freon 114	80
Chloromethane	109
Vinyl Chloride	85
1,3-Butadiene	91
Bromomethane	77
Chloroethane	90
Freon 11	85
Ethanol	104
Freon 113	86
1,1-Dichloroethene	87
Acetone	91
2-Propanol	102
Carbon Disulfide	79
3-Chloropropene	85
Methylene Chloride	104
Methyl tert-butyl ether	87
trans-1,2-Dichloroethene	76
Hexane	90
1,1-Dichloroethane	83
2-Butanone (Methyl Ethyl Ketone)	76
cis-1,2-Dichloroethene	84
Tetrahydrofuran	91
Chloroform	74
1,1,1-Trichloroethane	85
Cyclohexane	74
Carbon Tetrachloride	90
2,2,4-Trimethylpentane	87
Benzene	74
1,2-Dichloroethane	96
Heptane	68 Q
Trichloroethene	81
1,2-Dichloropropane	82
1,4-Dioxane	75
Bromodichloromethane	84
cis-1,3-Dichloropropene	80
4-Methyl-2-pentanone	83
Toluene	81
trans-1,3-Dichloropropene	79
1,1,2-Trichloroethane	77



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0609467-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092707	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/27/06 04:12 PM

Compound	%Recovery
Tetrachloroethene	91
2-Hexanone	80
Dibromochloromethane	84
1,2-Dibromoethane (EDB)	80
Chlorobenzene	74
Ethyl Benzene	79
m,p-Xylene	73
o-Xylene	77
Styrene	73
Bromoform	95
Cumene	76
1,1,2,2-Tetrachloroethane	81
Propylbenzene	84
4-Ethyltoluene	80
1,3,5-Trimethylbenzene	72
1,2,4-Trimethylbenzene	82
1,3-Dichlorobenzene	75
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	83
1,2-Dichlorobenzene	71
1,2,4-Trichlorobenzene	82
Hexachlorobutadiene	69 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	118	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0609467-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/27/06 12:25 PM

Compound	%Recovery
Freon 12	96
Freon 114	98
Chloromethane	134 Q
Vinyl Chloride	104
1,3-Butadiene	125
Bromomethane	98
Chloroethane	108
Freon 11	103
Ethanol	122
Freon 113	105
1,1-Dichloroethene	102
Acetone	108
2-Propanol	111
Carbon Disulfide	99
3-Chloropropene	94
Methylene Chloride	122
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	91
Hexane	103
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	87
cis-1,2-Dichloroethene	99
Tetrahydrofuran	98
Chloroform	84
1,1,1-Trichloroethane	99
Cyclohexane	80
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	92
Benzene	90
1,2-Dichloroethane	110
Heptane	74
Trichloroethene	94
1,2-Dichloropropane	93
1,4-Dioxane	84
Bromodichloromethane	85
cis-1,3-Dichloropropene	65 Q
4-Methyl-2-pentanone	86
Toluene	94
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	96





AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0609467-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8092703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/27/06 12:25 PM

Compound	%Recovery
Tetrachloroethene	114
2-Hexanone	87
Dibromochloromethane	83
1,2-Dibromoethane (EDB)	97
Chlorobenzene	93
Ethyl Benzene	101
m,p-Xylene	88
o-Xylene	81
Styrene	85
Bromoform	71
Cumene	76
1,1,2,2-Tetrachloroethane	100
Propylbenzene	85
4-Ethyltoluene	83
1,3,5-Trimethylbenzene	73
1,2,4-Trimethylbenzene	69 Q
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	112
alpha-Chlorotoluene	84
1,2-Dichlorobenzene	88
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	86

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	119	70-130



**Sample Transportation Notice**

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. L.O.T. Hotline (800) 467-4022.

180 BLUE RAVINE ROAD, SUITE B  
FOLSOM, CA 95630-4719  
(916) 985-1000 FAX (916) 985-1020

**CHAIN-OF-CUSTODY RECORD**

Contact Person: Joel Greger  
 Company: PIERS Environmental Piers@piers.com  
 Address: 1330 S. Bascom Ave Suite F City San Jose State CA Zip 95128  
 Phone: 510 593 5382 Fax: 510 787 1457  
 Collected by: (Signature) Joel Greger

**Project info:**  
 P.O. #: \_\_\_\_\_  
 Project #: \_\_\_\_\_  
 Project Name: 2942 San Pablo

**Turn Around Time:**  
 Normal  
 Rush  
 specify \_\_\_\_\_

**Lab Use Only**  
 Pressurized by: VJR  
 Date: 9/26/06  
 Pressurization Gas: N<sub>2</sub> He

Lab I.D.	Field Sample I.D. (Location)		Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum			
							Initial	Final	Receipt	Final (psi)
01A	SV1	d5	32412	9-20-06	9:04 AM	Tri chloro ethylene - TC-15			2.0 psi	15.0 psi
02A	SV2	d5	31792		9:50 AM	"			3.0 psi	
03A	SV3	d5	31633		11:59 AM	"			0.0 psi	
04A	SV4	d5	12801		12:22 PM	"			5.0 psi	
05A	SV5	d5	33410		1:01 PM	"			3.5 psi	
06A	SV6	d5	31111		1:22 PM	"			8.0 psi	

Relinquished by: (signature) Joel Greger Date/Time 9/20/06 1:21 PM  
 Received by: (signature) [Signature] Date/Time 9/21/06 0855 Notes: \_\_\_\_\_

Relinquished by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_

Relinquished by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_

Shipper Name: FedEx Air Bill #: 85735966 HBD Temp (°C): NA Condition: Good Customer Seals Intact?: None Work Order #: 0609467

**APPENDIX C**  
**BORING LOGS AND WELL CONSTRUCTION DIAGRAM**

**BORING LOG**

Project No.	Boring diameter: 2"	Logged By: Joel Greger PIERS
Project: 2942 San Pablo	Elevation:	Date drilled: 9/19/06
Boring No. MW4	Drilling Method: GeoProbe	Drilling Company: Vironex

Sample intervals	G.W. level	Sample Depth (ft)	Stratigraphy (USCS)	Description
		0		@ 0' - 2' - 6" of concrete over sand and gravel base.
		5		@ 2' - Dark olive green to dark brown clayey silt (ML), saturated, stiff. @ 3.5-4' - Olive clayey silt with gravel, gravels highly weathered (ML). Weathered gravels also in part form clayey silt matrix. @ 4' - Orangish-brown clayey silt (ML), few gravels, moist, stiff. @ 5.7' - Olive clayey silt with gravel (ML), gravels highly weathered, moist to v. moist, locally wet around gravels @ 9', stiff to hard. Gravels are subrounded, generally 1/4" or less in diameter. @ 5 - 10' Poor recovery due to sample splitting open under pressure during removal from core barrel.
MW4 d 13.5'		10	ML	@ 10 - 12.5' - Clayey silt, as above (ML). @ 12.5' - Olive clayey silt (ML), few gravels, v. moist to wet, hard, increasing gravels @ 13.2', estimated at up to 15%.
MW4 d 17.5'		15		@ 14' - Olive clayey silt with gravel (ML), as above, gravels highly weathered, predominantly <1/4" diameter, very moist to wet, hard. Fewer gravels 16-18'.
		20		@ 18-23' - Olive clayey silt (ML), few gravels, mottled with orangish brown iron oxide staining, wet to saturated, stiff.
MW4 d 22.5'		25		@ 23 - 28' - As above except locally up to 15-20% subrounded to subangular gravels to 3/4" diameter, saturated, stiff.
		30	ML	@ 28 - 33' - Olive clayey silt (ML), no gravel, very homogenous, saturated, hard, mottled with orangish brown Fe-oxide staining. Near refusal.
				@ 33 - 38' - Olive clayey silt, as above, water showing.

2942 San Pablo Avenue Oakland, CA	Figure No:	Date: 10/24/06
	MW4 pg. 1/2	Drawn By: JG - PIERS

**Monitoring Well MW4**

**BORING LOG**

Project No.	Boring diameter: 2"	Logged By: Joel Greger PIERS
Project: 2942 San Pablo	Elevation:	Date drilled: 9/19/06
Boring No. MW4	Drilling Method: GeoProbe	Drilling Company: Vironex

Sample intervals	G.W. level	Sample Depth (ft)	Stratigraphy (USCS)	Description
		35		@ 36.7' - Unoxidized zone, color change to dark green, trace very fine-grained sand 36.5 - 37.5'.
		40	ML	@ 38 - 41' - Dark green clayey silt (ML), very homogenous, saturated, hard.
				TOTAL DEPTH - 41'
		45		
		50		
		55		
		60		
		65		

2942 San Pablo Avenue Oakland, CA	Figure No:	Date: 10/24/06
	MW4 pg. 2/2	Drawn By: JG - PIERS

**Monitoring Well MW4**

**WELL CONSTRUCTION DIAGRAM**

Project: 2942 San Pablo  
Oakland, CA

Boring & casing diameter: 3.25"/1"

Drilling Company: Vironex

Well No. MW-4

Drilling Method: Hollow Stem Auger

Date drilled: 9/19/20

Depth  
(ft)

0

5

10

15

20

25

30

35

40

one-inch PVC casing

neat cement grout seal 0-32.5'

bentonite 32.5 - 34.5'

# 2/16 sand 34.5 - 40.1'

0.010 slot 35.1' - 40.1', T. D. 40.1'

Chung Property  
2942 San Pablo Ave.  
Oakland, California

MW4  
Pg. 1 of 1

Date: 10-9-06

Drawn By: JG

**MONITORING WELL MW4**

**BORING LOG**

Project No.	Boring diameter: 2"	Logged By: Joel Greger PIERS
Project: 2942 San Pablo	Elevation:	Date drilled: 9/19/06
Boring No. MW5	Drilling Method: GeoProbe	Drilling Company: Vironex

Sample intervals	G.W. level	Sample Depth (ft)	Stratigraphy (USCS)	Description
MW4 d 22.5'		0		@ 0' - 0.5' - topsoil and base rock.
				@ 1' - Brown clayey silt (ML), moist, stiff, appears undisturbed @ 2'.
				@ 3' - Color change to dark green, otherwise as above.
				@ 4' - mottled with orangish brown Fe-oxide staining and dark organic staining.
			5	@ 5 - 6.5' - Occasional subangular to subrounded gravels to 3/4" diameter.
				@ 7.5' - Orangish brown clayey silt (ML), slightly moist, stiff.
			10	@ 10' - gravelly clayey silt (ML), subrounded gravels to 1" diameter, highly weathered.
				@ 11.3 - 12' - gravelly clayey silt (ML), weathered gravels also form portion of clay/silt matrix, wet around some indurated gravels, stiff-hard.
				@ 12-14' - Olive clayey silt, occasional subrounded to subangular gravels to 3/4" diameter, mottled with Fe-Oxide and organic staining.
			15	@ 14 - 16.5' - slough in sample liner, poor recovery.
			@ 16.5' - 19' - Olive clayey silt (ML), very moist, few gravels, homogenous, mottled with Fe-oxide staining.	
		20	@ 19-24' - Olive clayey silt as above, few gravels, saturated?, stiff - hard, only partial recovery.	
		25	@ 24-29' - As above except gravelly clayey silt, gravels highly weathered and in part forming matrix, saturated.	
		30	@ 29 - 25 - Only partial recovery. Clayey silt, few or no gravels (ML), saturated, stiff - hard.	

2942 San Pablo Avenue Oakland, CA	Figure No:	Date: 10/24/06
	MW5 pg. 1/2	Drawn By: JG - PIERS

**Monitoring Well MW5**

**BORING LOG**

Project No.	Boring diameter: 2"	Logged By: Joel Greger PIERS
Project: 2942 San Pablo	Elevation:	Date drilled: 9/19/06
Boring No. MW5	Drilling Method: GeoProbe	Drilling Company: Vironex

Sample intervals	G.W. level	Sample Depth (ft)	Stratigraphy (USCS)	Description
		35		@ 36 - 38' free water, softer, slightly sandier, few gravels.
			ML	@ 39' - start of unoxidized zone (dark green), hard.
		40		
				TOTAL DEPTH - 40'
		45		
		50		
		55		
		60		
		65		

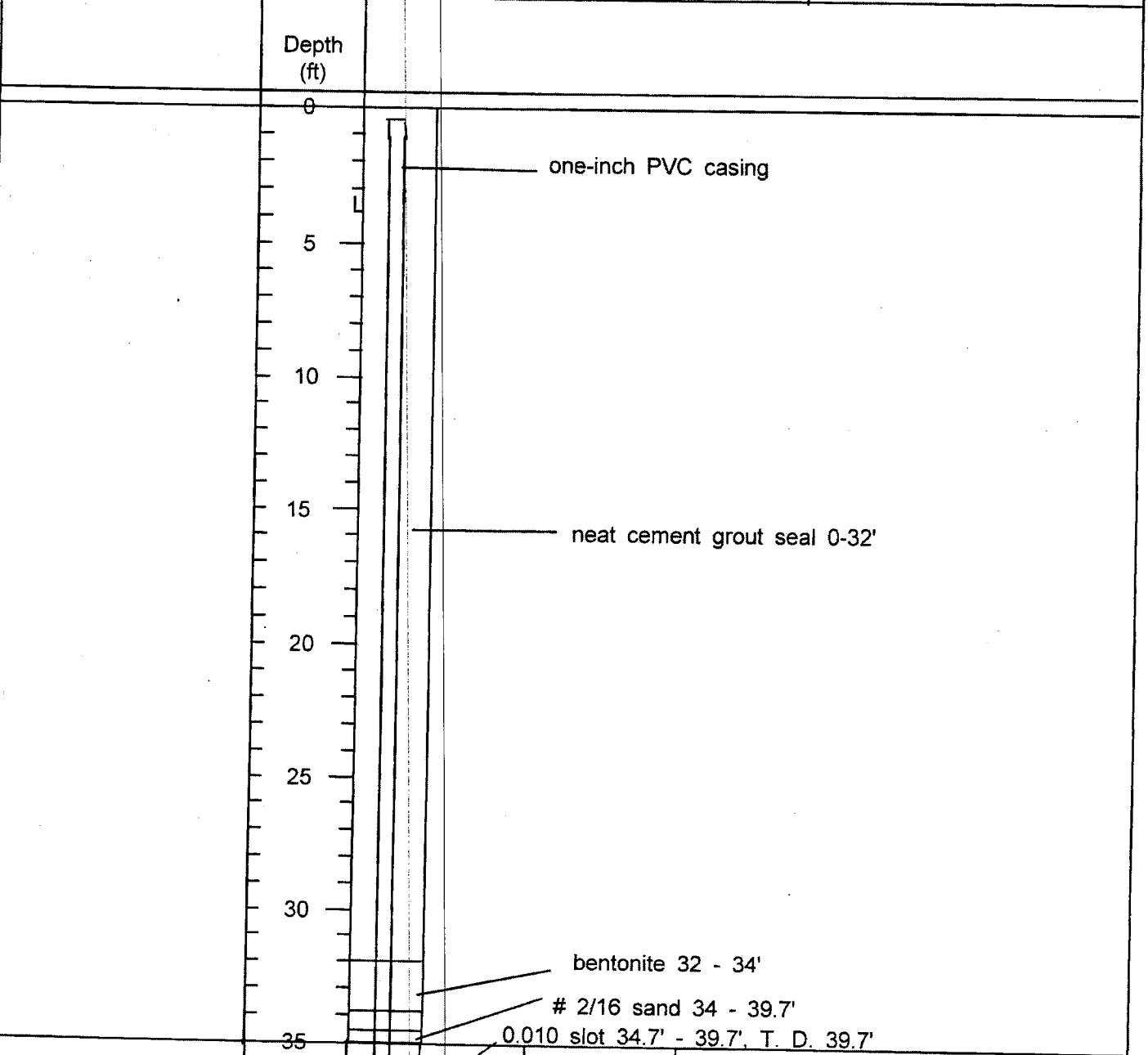
2942 San Pablo Avenue Oakland, CA	Figure No:	Date: 10/24/06
	MW5 pg. 2/2	Drawn By: JG - PIERS

**Monitoring Well MW5**



## WELL CONSTRUCTION DIAGRAM

Project: 2942 San Pablo Oakland, CA	Boring & casing diameter: 3.25"/1"	Drilling Company: Vironex
Well No. MW-5	Drilling Method: Hollow Stem Auger	Date drilled: 9/19/20



Chung Property  
2942 San Pablo Ave.  
Oakland, California

MW5  
Pg. 1 of 1

Date: 10-9-06

Drawn By: JG

## MONITORING WELL MW5

**APPENDIX D**  
**SURVEY DATA**



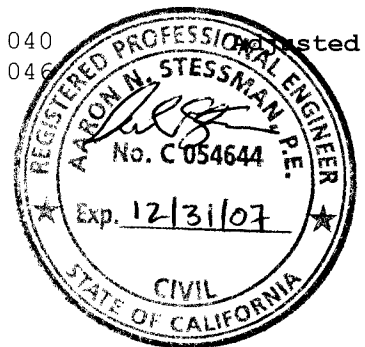
CSS ENVIRONMENTAL SERVICES, INC.  
 Managing Cost, Scope and Schedule  
 100 Galli Drive, Suite 1  
 Novato, CA 94949  
 Telephone: (415) 883-6203  
 Facsimile: (415) 883-6204

**Site Positions**

CSS Project 6420 - Piers Environmental Services, Inc.  
 2942 San Pablo Ave., Oakland

Horizontal Coordinate System: North American 1983-CONUS      Survey Date: 9/26/06  
 Height System: North American Vertical Datum 1988-Ortho. Ht. (GEOID03)  
 Project file: 6420 Piers Oakland.spr  
 Desired Horizontal Accuracy: 0.100Ft + 1ppm  
 Desired Vertical Accuracy: 0.100Ft + 2ppm  
 Confidence Level: 95% Err.  
 Linear Units of Measure: Int. Feet

Site ID	Site Descriptor	Position	95% Error	Fix Status	Position Status
1 3814	MONUMENT AA3814	Lat. 37° 44' 59.75783" N	0.000	Fixed	Adjusted
		Lon. 122° 12' 18.11826" W	0.000	Fixed	
		Elv. 11.581	0.000	Fixed	
2 MW-4	NR WELL LOC N RIM WELL LOCATION N TOC	Lat. 37° 49' 11.87809" N	0.045		Adjusted
		Lon. 122° 16' 33.12212" W	0.048		
		Elv. 32.30			
		Elv. 31.97			
3 MW-3	NR WELL LOC N RIM WELL LOCATION N TOC	Lat. 37° 49' 13.29978" N	0.040		Adjusted
		Lon. 122° 16' 33.82983" W	0.046		
		Elv. 31.37			
		Elv. 31.00			
4 MW-1	TBM-A ON N RIM N RIM WELL LOCATION N TOC	Lat. 37° 49' 12.72308" N	0.039		Adjusted
		Lon. 122° 16' 33.29079" W	0.045		
		Elv. 31.91	0.042		
		Elv. 31.65			
5 0882	MONUMENT HT0882	Lat. 37° 46' 48.04137" N	0.000	Fixed	Adjusted
		Lon. 122° 17' 53.51060" W	0.000	Fixed	
		Elv. 9.131	0.000	Fixed	
6 MW-5	NR WELL LOC N RIM WELL LOCATION N TOC	Lat. 37° 49' 12.63059" N	0.041		Adjusted
		Lon. 122° 16' 32.63195" W	0.047		
		Elv. 32.27			
		Elv. 32.11			
7 MW-2	TBM-B ON N RIM N RIM WELL LOCATION N TOC	Lat. 37° 49' 12.90376" N	0.040		Adjusted
		Lon. 122° 16' 34.35602" W	0.046		
		Elv. 30.21			
		Elv. 29.92			



**APPENDIX E**  
**GEOTRACKER UPLOADS**