Rd 433 ✓

Shell Oil Products US

March 17, 2005

Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Former Shell Service Station**
1230 14th Street
Oakland, California

Dear Mr. Chan:

Attached for your review and comment is a copy of the *Remediation, Verification Sampling, and Post-Remediation Monitoring Report* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (559) 645-9306 with any questions or concerns.

Sincerely,

Shell Oil Products US

Karen Petryna

Karen Petryna
Sr. Environmental Engineer

20945 S. Wilmington Ave., Carson, CA 90810 Phone (559) 645-9306 Facsimile (559) 645-5643

CAMBRIA

March 17, 2005

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Remediation, Verification Sampling, and Post-Remediation Monitoring Report**
Former Shell Service Station
1230 14th Street
Oakland, California
Incident #: 97088250
Cambria Project #: 247-0233-006

Dear Mr. Chan:

Cambria Environmental Technology, Inc. (Cambria) is submitting this *Remediation, Verification Sampling, and Post-Remediation Monitoring Report* to Alameda County Health Care Services Agency (ACHCSA) on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell). In Cambria's August 26, 2002 *Subsurface Investigation Report and Corrective Action Plan*, Cambria recommended conducting a 5-day field test of in-situ oxidation using Fenton's reagent/hydrogen peroxide to determine the site-specific effect of the hydrogen peroxide (H_2O_2) treatment while expediting site remediation by destroying on-site organic compounds. Cambria clarified details of the corrective action plan (CAP), cleanup levels, and cleanup goals in subsequent correspondence to AHCSA on September 12, 2002, November 18, 2002, and March 10, 2003. In a letter dated February 18, 2003, ACHCSA provided approval to proceed with the proposed corrective action.

Following work plan approval, initial on-site remediation activities took place between March 17 and March 20, 2003, consisting of H_2O_2 injection into 16 locations. Monthly post-remediation groundwater monitoring was conducted and the remediation results were evaluated on an interim basis. An additional H_2O_2 injection event was conducted using another contractor and injection method. Based on groundwater monitoring results, interim groundwater extraction (GWE) was conducted. To verify the effects of H_2O_2 injection, four verification borings were advanced for soil and groundwater sample collection. Seven quarterly groundwater monitoring events have been conducted following the remedial action. This report summarizes the site background, the remedial activities, and the results of post-remediation sampling and monitoring. Conclusions and recommendations for additional work are presented, along with a schedule for completion.

Cambria Environmental Technology, Inc.

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

Cambria believes that results show Shell's remediation efforts have been successful in removing residual hydrocarbons in saturated soils and groundwater. Cambria recommends evaluating post-remedial site conditions using the City of Oakland's risk-based corrective action (RBCA) guidance.

SITE BACKGROUND

Site Location: This former Shell-branded service station is located at the northeast corner of the 14th Street and Union Street intersection in Oakland (Figures 1 and 2). There is an abandoned station building and a pump island canopy on the site, and much of the property is unpaved. Gas station operations at the site ceased in 1993. The surrounding area is mixed residential-industrial.

February 1991 Soil Borings: On February 2, 1991, Tank Protect Engineering (TPE) of Northern California advanced soil borings SB-1, SB-2, and SB-3. The boring locations are shown on Figure 2, and a copy of TPE's map is included in Attachment A. Maximum concentrations of 1,600 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPHg) and 18 ppm benzene were detected in the soil sample collected at 10.5 feet below grade (fbg) in boring SB-3, located immediately downgradient of the gasoline underground storage tanks (USTs). Table 1 summarizes the analytical results.

August 1993 Tank Removal and Sampling: On August 24, 1993, TPE supervised the removal of two 7,500-gallon unleaded USTs, one 7,500-gallon leaded UST, one 8,000-gallon leaded UST and one 550-gallon waste-oil tank from the site. Soil sample S-1 was collected from beneath the fill end of the waste oil tank. Soil samples S-2 through S-9 were collected at depths ranging from 8.5 to 12.0 fbg from the floor of the fuel UST excavation. Two sidewall samples (VSW-1 and VSW-2) were collected at 6.0 feet (ft) depth from the west side of the UST pit. Soil samples DS-1 through DS-6 were collected at a depth of 1.0 ft from beneath the former dispensers. A copy of TPE's map showing the UST locations and soil sample locations is included in Attachment A. TPHg and benzene were detected at concentrations ranging from 1.3 ppm to 18,000 ppm and from <5.0 ppm to 11,000 ppm, respectively. Total petroleum hydrocarbons as diesel and oil and grease were detected in the waste-oil tank pit sample at 1,200 ppm and 7,700 ppm, respectively. Maximum concentrations of 13 ppm TPHg and 0.007 ppm benzene were detected in soil samples collected beneath the product dispensers. The tank pit was not back-filled after the UST removals. On September 17, 1993, TPE filed a UST Unauthorized Release (Leak) / Contamination Site Report form on behalf of the property owner. TPE's December 29, 1993 *Tank Closure Report* reports on sampling results.

November 1995 Piping Removal and Tank Pit Re-Sampling: On November 27, 1995, Cambria collected eight soil samples (S-2 though S-9) from the open tank pit at the ends of the former USTs and six soil samples (TS-1 through TS-6) beneath the former product piping. The sample locations are shown on Figure 2. TPHg was detected in all tank pit samples at concentrations ranging from 570 ppm to 5,600 ppm. Benzene was detected in the tank pit samples at concentrations ranging from <0.5 ppm to 72 ppm. TPHg was detected in two soil samples collected beneath former piping locations at concentrations of 46 ppm and 3,100 ppm, and benzene was detected at concentrations ranging from <0.005 ppm to 30 ppm (Table 1). Cambria's December 28, 1995 *Piping Removal Sampling and Tankpit Re-Sampling* report presents sampling results.

March 1996 Subsurface Investigation: On March 6 - 8, 1996, Cambria advanced 11 soil borings on site. Four borings were converted to groundwater monitoring wells (MW-1 through MW-4), two borings were converted to combined air-sparge and soil-vapor-extraction (SVE) wells (VW/AS-1, VW/AS-3), and two borings were converted to combined SVE and groundwater monitoring wells (VW/MW-2, VW/MW-4) (Figure 2). The remaining borings (SB-C, SB-E, and SB-J) were backfilled with neat cement. Selected soil samples were analyzed for TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX), and oil and grease. The results were presented in Cambria's July 22, 1996 *Subsurface Investigation Report* and are summarized in Table 1. Groundwater sampling of the monitoring wells was performed on March 25, 1996. Attachment B presents cumulative groundwater monitoring results in a table prepared by Blaine Tech Services, Inc. (Blaine) of San Jose, California

1997 Oxygen Releasing Compound (ORC) Installation: As agreed during a January 1997 meeting with ACHCSA, Cambria installed ORC "socks" in wells MW-1, VW/MW-2, and VW/MW-4 on March 25, 1997. The ORC socks were replaced periodically thereafter. Then, on October 17, 2000, the ORC socks were removed permanently.

1997 to 2000 Activities: Shell, Cambria, and ACHCSA met on January 21, 1997 to discuss the site investigation and activities. Between March 1997 and October 2000, as agreed during the January 21, 1997 meeting and per subsequent communications with ACHCSA, in compliance with ACHCSA's requirements, Shell's contractors installed ORC "socks" and maintained them until October 2000. Also, as ACHCSA required, site groundwater was monitored and sampled quarterly, and Cambria submitted quarterly monitoring reports. Periodically, Cambria's reports also made additional recommendations and responded to agency requests. Cambria's May 15, 1997 *First Quarter Monitoring Report* recommended preparing a work plan for additional investigation. However, ACHCSA's case notes (obtained from an agency file review) indicate the caseworker "decided not to ask for more SWI" *(soil and water investigation)* "because the 7/23/96 rpt *(report)* included *(boring)* SBE (SB-E) to the N *(north)* and SBJ *(SB-J)*

to the S *(south)* of MW1. They were low to ND conc *(concentrations)* for benz *(benzene)* in gw *(groundwater)* and ND in soil (although soil samples were below gw)."

Cambria's September 7, 1997 *Second Quarter Monitoring Report* noted that Cambria had discussed evaluating further groundwater investigation with ACHCSA on May 20, 1997, and requested that ACHCSA review the report's results and contact Cambria to discuss this recommendation further. Cambria's December 22, 1997 *Third Quarter Monitoring Report* again recommended evaluating further site investigation. ACHCSA's September 23, 1998 letter concurred with Cambria's recommendation to reduce the sampling of wells MW-2, MW-3, and MW-4 to semi-annual. ACHCSA's September 23, 1999 letter requested that the quarterly monitoring reports provide additional detail and that wells MW-1, VW/MW-2, and VW/MW-4 be sampled. In response to Cambria's proposal in the *Third Quarter 1999 Monitoring Report*, ACHCSA's March 1, 2000 letter concurred with Cambria's recommendation to resurvey all site monitoring wells. Virgil Chavez Land Surveying of Vallejo, California surveyed all wells on March 8, 2000 by, and the revised well casing elevation data was used to calculate groundwater elevations in subsequent monitoring reports. Following a May 1, 2000 telephone conversation with Cambria regarding further downgradient investigation, ACHCSA's May 11, 2000 letter requested preparation of a site conceptual model (SCM). Cambria discussed the elevated benzene concentrations in well MW-1 and site closure requirements with ACHCSA on May 11, 2000.

October 2000 SVE Testing: On October 16, 2000, at Shell's request, Cambria performed SVE testing to determine the feasibility of SVE as a remedial alternative at the site and to attempt to remove additional hydrocarbon mass from the subsurface. Although groundwater interfered with the SVE testing, Cambria concluded that SVE might be an effective method to remove hydrocarbons from soils above the groundwater table. However, subsequent investigations have detected little or no hydrocarbon impacts in soil samples collected above the range of water table fluctuations. Cambria's June 6, 2001 *Soil Vapor Extraction and Site Investigation Report* presented the results of the October 2000 SVE testing, the December 2000 Geoprobe investigation, and an SCM.

December 2000 Subsurface Investigation and SCM: On December 11, 2000, Cambria advanced five soil borings (GP-1 through GP-5) to depths ranging from 16 to 20.5 fbg (Figure 2). Soil samples were collected from each boring at 5-foot intervals, and groundwater samples were collected when groundwater was encountered. No TPHg, benzene, or methyl tertiary butyl ether (MTBE) was detected in any of the soil samples. TPHg was detected in groundwater samples from GP-1 and GP-3 at concentrations of 11 and 4,400 parts per billion (ppb), respectively. Benzene was detected in groundwater from GP-1 and GP-3 at concentrations of 11 and 4,400 ppb, respectively. MTBE was only detected in groundwater collected from boring GP-1 at 0.067 ppb (EPA Method 8260). The Geoprobe® investigation results were presented in Cambria's June 6, 2001 *Soil Vapor Extraction and Site Investigation Report*, along with the

results of the October 2000 SVE testing and an SCM. Table 1 presents soil analytical data, and Table 2 represents groundwater analytical data.

September 2001 Subsurface Investigation: On September 27, 2001, Cambria installed three monitoring wells (MW-5 through MW-7), each to a depth of 20 feet (Figure 2). Two soil samples were collected from the tank pit boring (MW-5) for chemical analysis. TPHg was detected at concentrations of 3.9 ppm and 790 ppm in soil at depths of 9.5 and 14.5 feet. Benzene was detected at a concentration of 2.7 ppm in soil at a depth of 14.5 feet (Table 1). Groundwater samples were collected from the new wells during the regularly scheduled quarterly monitoring event on December 6, 2001. TPHg was detected at concentrations of 31,000 ppb, 76 ppb, and 1,800 ppb in wells MW-5, MW-6, and MW-7, respectively. Benzene was detected at concentrations of 3,000 ppb, 5.7 ppb, and 390 ppb in the respective wells. No MTBE was detected in any of the soil or groundwater samples from the new wells. The results were presented in Cambria's November 2001 *Monitoring Well Installation Report.*

Well Survey and On-Site Conduit Study: Cambria submitted a *Well Survey* on March 22, 2002. The report indicates that due to either distance or location upgradient and cross gradient of the site, it is unlikely that any known well would be impacted by hydrocarbons originating from the site.

March 2002 RBCA Report: Cambria prepared a March 7 2002 *Risk-Based Corrective Action Report,* based on the City of Oakland's RBCA guidance document and using historical soil and groundwater data. The RBCA analysis considered BTEX as chemicals of concern (COCs). Due to its carcinogenic effects, the primary COC at this site is benzene in groundwater. Based on the predominantly sand/sandy silt/silty-sand stratigraphy observed in soil borings drilled at the site, Cambria selected the "sandy silts" soil type option for input for the analysis to select the appropriate Oakland Site Specific Target Levels (SSTLs). The results showed that the representative soil and groundwater concentrations were below the applicable Oakland SSTLs. Based on the parameters used, Cambria concluded that the results showed that residual hydrocarbons at this site would not pose a significant health risk to future on-site commercial occupants or off-site residential occupants. Cambria also concluded that hydrocarbon concentrations in groundwater were decreasing with time and distance from the former UST complex, indicating shrinkage of the groundwater plume due to natural attenuation. In a meeting between ACHCSA, Shell, and Cambria on May 6, 2002, ACHCSA expressed concern over the parameters used for the risk assessment, and requested that further investigation be conducted at the site. ACHCSA's May 20, 2002 letter expressed the concerns that the RBCA report was premature, summarized the agency's technical observations and expectations, and detailed the concerns raised with the RBCA report, including:

- Use or lack of use of apparent vadose zone soil sample data in the RBCA,
- Lack of historical groundwater data from recently installed wells,

- Choice of soil type used to compare with the Oakland SSTLs, and
- The representativeness of the soil and groundwater concentrations used in the RBCA analysis.

July 2002 Door-to-Door Well Survey: To determine whether there are any active water wells or basements in the survey area, Cambria conducted a July 23, 2002door-to-door well survey that included the residential block north-northeast (downgradient) of the site. A survey response was obtained from 23 of the 36 properties included in the survey. None of the respondents indicated the presence of a water well on the site, nine respondents reported that either a half or full basement was present at their dwelling, and one respondent noted a sump pump on the property. Cambria's August 26, 2002 *Subsurface Investigation Report and Corrective Action Plan* presents survey results.

June 2002 Onsite Subsurface Investigation: As ACHCSA requested in its May 20, 2002 letter requesting additional source area lateral and vertical characterization, between June 7 and June 10, 2002, Cambria advanced nine borings (S-10 through S-18) in and near the former tank pit to further assess the extent of impacted soil in both the vadose and saturated zones on site (Figure 2). Unsaturated soil samples collected at approximately 2.5-ft intervals and grab groundwater samples showed that the hydrocarbon plume was relatively well-defined within an area approximately 10 ft to the west, 10 ft to the south, 15 ft to the east, and 30 ft to the north of the tank pit. Analytical results obtained from saturated soil samples indicated that hydrocarbon concentrations attenuated vertically to very low concentrations within 10 ft below the static groundwater level. Cambria submitted investigation results in the August 26, 2002 *Subsurface Investigation Report and Corrective Action Plan,* and analytical results are summarized in Tables 1 and 2.

July 2002 Off-Site Subsurface Investigation: As requested by ACHCSA in its May 20, 2002 letter requesting additional off-site groundwater characterization, on July 7, 2002, Cambria advanced four hand-auger borings (HA-1 through HA-4) on two adjacent off-site properties and collected grab-groundwater samples to further define the extent of impacted groundwater downgradient of the site (Figure 2). No benzene was detected in any of the grab-groundwater samples collected from any of the off-site hand-auger borings at depths of 14 fbg (HA-1 and HA-2) and 16 fbg (HA-3 and HA-4). However, TPHg was detected at concentrations of 55 ppb and 85 ppb in hand-auger borings HA-1 and HA-2, respectively, on the property adjacent (east) of the site. Toluene was detected at a concentration of 0.77 ppb in HA-2 only, ethylbenzene was detected at a concentration of 0.52 ppb in HA-2 only, and xylenes were detected in borings HA-1 and HA-2 at concentrations of 1.2 and 2.8 ppb, respectively. Cambria submitted investigation results in the August 26, 2002 *Subsurface Investigation Report and Corrective Action Plan.* Table 1 summarizes soil analytical results, and Table 2 summarizes groundwater analytical results.

August 2002 Subsurface Investigation Report and Corrective Action Plan: In response to the May 20, 2002 ACHCSA letter, in addition to presenting results of the June and July 2002 subsurface investigations noted above, Cambria prepared a CAP for the site in this report. Cambria determined that the remedial objective for the site should be to reduce benzene concentrations in groundwater to levels considered protective of human health and the environment in the shortest time frame feasible. To meet this objective, Cambria recommended conducting a 5-day pilot test of in-situ oxidation using H_2O_2.

September 2002 Subsurface Investigation Report (SIR) and CAP Addendum: To clarify concerns ACHCSA raised in its August 30, 2002 e-mail message, Cambria prepared the September 12, 2002 *Subsurface Investigation Report and Corrective Action Plan – Addendum.* In it, Cambria:

- Acknowledged a 30-day public review comment period would be required prior to ACHCSA approval of the CAP. Cambria provided the names and addresses for property owners and residents of the immediate neighboring homes and businesses;
- Confirmed the basis for concluding the non-existence of the well formerly located in DeFremery Park;
- Clarified the basis for the proposed cleanup goals;
- Provided a summary of the results of evaluating the potential remedial alternatives, including anticipated effectiveness of each alternative, anticipated costs and expected time for remediation and monitoring activities;
- Discussed its consideration of residual pollution effects in relation to decreasing water levels;
- Proposed a soil and groundwater verification monitoring plan;
- Confirmed Cambria's belief that the proposed H_2O_2 injection work would not pose any risk to neighboring residents, and discussed the measures to prevent and monitor for any hazardous conditions; and
- Provided additional technical information to be made available to concerned citizens.

November 2002 SIR and CAP Addendum 2: To address concerns ACHCSA expressed in its October 21, 2002 letter, Cambria submitted the November 2002 *Subsurface Investigation Report and Corrective Action Plan – Addendum 2.* In it, Cambria:

- Provided assessor parcel numbers for neighboring properties;
- Confirmed the basis for concluding the non-existence of the well formerly located in DeFremery Park;
- Clarified and provided proposed cleanup levels and cleanup goals for soil and groundwater;
- Discussed Cambria's use of TPHg data in the prior RBCA analysis and proposal of cleanup levels;
- Discussed Cambria's evaluation of all complete exposure pathways;

- Provided a copy of the Oakland RBCA Eligibility Checklist as submitted with the March 7, 2002 report;
- Agreed to provide a soil grain size analysis from post-remediation soil samples to evaluate the selection of soil type used in the Oakland risk-based screening levels (RBSLs) RBCA analysis;
- Discussed the evaluation of human health risk considering current and historic depths to water;
- Agreed to provide a post- remediation verification sampling plan, including sampling of soil and groundwater; and
- Agreed to post informational signs on the perimeter fence while remedial activities are in progress.

ACHCSA approved the CAP in a February 18, 2003 letter, and concurred with the proposed final cleanup levels. ACHCSA stated the cleanup goals would be the Water Quality Objectives established in the Regional Water Quality Control Board's Basin Plan. Table 3 summarizes final cleanup goals and cleanup levels. In addition, ACHCSA requested that additional work be performed to evaluate the concerns of Mr. Matthew Willingham, owner of the property at 1418-1420 Union Street, including location of all utilities and evaluation of risk of volatilization to indoor air and residential exposure.

Groundwater Monitoring: Regular groundwater monitoring has been conducted at the site since March 25, 1996. Cumulative groundwater monitoring results through January 2005 are presented in Blaine's table included as Attachment B.

GWE and Dual Phase Vapor Extraction (DVE): Beginning on June 11, 2002, Cambria conducted semi-monthly mobile GWE using well MW-5 in an attempt to reduce hydrocarbon concentrations in groundwater in the suspected source area. Cambria changed semi-monthly mobile GWE to semi-monthly mobile DVE beginning on September 19, 2002. DVE was discontinued on March 4, 2003 prior to the start of hydrogen peroxide injection pilot testing. Monthly DVE was re-instated between November 10, 2003 and April 28, 2004. GWE and DVE have removed approximately 5.5 pounds of dissolved-phase hydrocarbons and 5.6 pounds of vapor-phase hydrocarbons from the subsurface. Table 4 summarizes GWE analytical data, and Table 5 summarizes vapor analytical data.

PRE-REMEDIATION SITE CONDITIONS

Sediment Lithology: Previous site investigations indicated that subsurface materials encountered consist primarily of silty sand, silty gravel, and sand to the total explored depth of 30 ft. The upper 9 to 10 ft of the filled former tank pit area consist of gravelly sand fill material.

United States Geological Survey (USGS) publications and maps indicate that the area is underlain by the Merritt Sand (*Areal and Engineering Geology of the Oakland West Quadrangle, California,* D.H. Radbruch, USGS; *Miscellaneous Geological Investigations, Map I-239,* 1957; and *Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California*, USGS R.W. Graymer, 2000).

Groundwater Depth and Flow Direction: Groundwater depth beneath the site has ranged from 4.8 to 13.9 fbg. In the first quarter of 2003, prior to H_2O_2 injection testing, the groundwater depths ranged from 9.6 to 11.2 fbg. As calculated from depth-to-water measurements in on-site monitoring wells, the groundwater flow direction is typically to the northeast.

Pre-Remediation Hydrocarbon Distribution in Soil: During the July 2002 subsurface investigation, no benzene was detected in any of the unsaturated soil samples, including a surface soil sample collected near the east end of the southern-most former pump island (boring S-18). TPHg was detected at a concentration of 2.3 ppm in one unsaturated sample collected within the former tank pit area at 10 fbg (sample S-15 10-10.5). No other analytes were detected in the unsaturated soil samples.

During the July 2002 investigation, groundwater was encountered at approximately 13 to 15 fbg during drilling. Water-saturated soil samples were collected from seven borings. The maximum saturated soil concentrations of 13,000 ppm TPHg and 130 ppm benzene were detected in the southwest corner of the tank pit at 15 fbg (boring S-12). The TPHg and benzene concentrations in the saturated soil samples from this boring attenuated vertically to 1.9 ppm and 0.047 ppm, respectively, at 24.5 fbg. We believe that the saturated soil sample results represent hydrocarbons present in groundwater combined with hydrocarbons sorbed to soil, and thus are not directly comparable to unsaturated soil sample or groundwater sample results

Pre-Remediation Hydrocarbon Distribution in Groundwater: Previous site investigation data and quarterly groundwater monitoring results indicated that the hydrocarbon plume is defined by non-detectable concentrations around the site perimeter, and is localized in and near the former tank pit area.

During the August 2002 investigation, no benzene was detected in any of the grab-groundwater samples collected from any of the off-site hand-auger borings. However, TPHg was detected at

concentrations of 55 ppb and 85 ppb in grab-groundwater samples collected from hand-auger borings on the property adjacent (east) of the site.

Results from the July 2002 investigation of the former tank pit area indicated the maximum concentrations of 260,000 ppb TPHg and 15,000 ppb benzene were detected in the grab groundwater samples collected in the northern side of the former tank pit (samples S-14 W and S-15 W). Results indicated that hydrocarbon concentrations in the groundwater plume are highest on the western side of the tank pit. The hydrocarbon plume appears to be confined to within 10 ft to the west, 10 ft to the south, 15 ft to the east, and 30 ft to the north of the tank pit area. Analytical results from the saturated soil samples indicated that the hydrocarbon concentrations attenuate vertically to very low concentrations within 10 ft below the static groundwater level. The maximum hydrocarbon concentrations at or below 20 fbg were 690 ppm TPHg and 2 ppm benzene detected at 20 fbg in the southeast corner of the former tank pit (boring S-10). Neither TPHg nor benzene was detected in the 22.5 fbg and 24.5 fbg samples from the same boring.

REMEDIATION ACTIVITIES

Remedial Objectives

Cambria's August 26, 2002 *Subsurface Investigation and Corrective Action Plan* identified benzene in groundwater as the primary COC at this site and that the remedial objective should be to reduce benzene concentrations in groundwater to levels considered protective of human health and the environment in the shortest time frame feasible.

Cleanup Levels and Cleanup Goals

As stated above, the primary COC at the site is benzene in groundwater. However, at the request of ACHCSA, cleanup levels and cleanup goals were also established for toluene, ethylbenzene, xylenes, and TPHg (Table 3).

As agreed with ACHCSA, the cleanup levels established for this remediation effort were based on the City of Oakland RBSLs for BTEX in Merritt Sands and on the San Francisco Regional Water Quality Control Board (SFRWQCB) RBSL for TPHg.

The long-term cleanup goals for BTEX in soil are equivalent to the shorter-term cleanup levels as noted above. At ACHCSA's request, the long-term cleanup goals for groundwater at the site are based on the SFRWQCB Water Quality Objectives for Municipal Supply (June 1995 Basin Plan, Table 3-5). However, Cambria's prior well surveys have shown that groundwater in the area is

not used for public or private drinking water supply, and ACHCSA has agreed that closure may be granted prior to reaching the long-term cleanup goals.

Remedial Method

In the August 26, 2002 SIR and CAP, Cambria recommended conducting a 5-day in-situ field test to determine the effectiveness of H_2O_2 injection treatment while expediting site remediation by destroying on-site organic compounds.

The proposed in-situ oxidation uses H_2O_2 as an oxidizer to remediate hydrocarbon-impacted soil and groundwater by directly oxidizing organic material found in gasoline constituents. In the presence of iron, the H_2O_2 reacts with hydrocarbons, breaking the bonds of these compounds into carbon dioxide and water.

For remedial estimation purposes, Cambria calculated that up to approximately 80 pounds of hydrocarbons remained in groundwater at the site at the time of the estimate. In evaluating the site, FAST-TEK Engineering Support Service (FAST-TEK) estimated that injecting approximately 10,000 gallons of 15% concentration H_2O_2 solution would be sufficient to remediate the site to the cleanup goal, and that the injection work could be completed in 5 days.

Remediation Activities – First Injection Event

Within one month of receiving the agency approval letter, Cambria began the remediation activities. Based on the pre-remediation site conditions, Cambria contracted with FAST-TEK to conduct the pilot test, and targeted the former tank pit area for the in-situ H_2O_2 injection, as shown on Figure 3.

Pre-Remediation Groundwater Sampling:	Blaine gauged all wells and sampled monitoring wells MW-1, MW-5, VW/AS-1, VW/MW-2 and MW/AS-3 on March 13, 2003 to establish pre-remediation groundwater concentrations in and around the tank pit. (Attachment B).
Remediation Dates:	March 17, 18, and 20, 2003. The pilot test was discontinued due to repeated failures of FAST-TEK's equipment.
Remediation Subcontractor:	FAST-TEK (California License 624461; A, B, Haz., Asb, C-57)
Personnel Present:	Melody Munz, Project Engineer, Cambria Kevin Dolan, Senior Staff Scientist, Cambria (March 17 and 18, 2003) Jason Gerke, Senior Staff Scientist, Cambria (March 20, 2003) Matt Derby, Senior Project Engineer, Cambria (March 17, 2003)

Number of Injection Points: Sixteen: A-1, A-3, A-6, A-8, C-4, C-6, C-7, D-3, D-4, E-6, F-2, F-7, G-1, G-4, G-6, G-8 (Figure 3).

Injection Method: FAST-TEK's RIP® equipment, consisting of a Geoprobe® direct-push sampling rig, a high-pressure chemical pump, hoses, manifold and injection lance, was used. The injection lance was advanced by pushing it to the final target depth with the Geoprobe® rig. After injecting chemical solutions at the targeted depth, the lance was raised to the next target depth at the location, and additional chemicals were injected, until all targeted zones were treated. H_2O_2 injection took place at depths ranging from 3.5 to 19.5 fbg at locations A-8 and G-8; from approximately 7.5 to 19.5 fbg at locations A-6, D-4, E-6, F-2, F-7, G-4, and G-6; from approximately 11.5 to 19.5 fbg at locations C-4, C-6, C-7, D-3 and G-1; from 15 to 19 fbg at location A-3, and at 14 fbg at location A-1.

Temperature Meter: Infrared temperature meter

Air Monitoring: Cambria conducted site-wide ambient and localized work zone air monitoring using a photo-ionization detector (PID).

Injection Depths and Volumes: A total of 3,521 gallons of 15 % H_2O_2, 9.5 gallons of sulfuric acid (H_2SO_4), and 60 gallons of water were injected into 16 locations at depths ranging from 19.5 to 3.5 fbg (Attachment C).

Post-Test Groundwater Sampling: Blaine re-developed wells MW-5, VW/MW-2, and VW/AS-1 on April 4, 2003 after it was noted that these wells were silted-in to varying degrees following the initial H_2O_2 injection event. Blaine gauged and sampled all monitoring wells on April 23, 2003, May 13, 2003, June 13, 2003, and July 14, 2003. Cambria used the monitoring results to evaluate whether the remediation effort should continue or be considered complete (Attachment B).

Chemical Analyses: Groundwater samples were analyzed by a State-certified laboratory for TPHg, and BTEX, by EPA Method 8260B. The April 23, 2003 set of post-remediation groundwater samples were also analyzed for total chromium using EPA Method 6010B and for hexavalent chromium using EPA Method 7196A. Table 6 presents the analytical results of additional analyses. Copies of Blaine's field data and laboratory reports were previously included in quarterly groundwater monitoring reports.

Interim Analytical Results Evaluation and Pilot Test Continuation

Upon review of post-test groundwater sampling data, Cambria observed no appreciable change in hydrocarbon concentrations in groundwater at the site since the start of the H_2O_2 injection remediation effort. As a result, Cambria evaluated whether to continue the pilot testing remediation effort. Cambria reviewed the methods already used and consulted with other remediation contractors about alternate means of delivering hydrogen peroxide to the subsurface. Cambria recommended proceeding with another phase of H_2O_2 injection using EKCO Remediation Corporation dba Rejuvenate (Rejuvenate) of San Rafael, California as the remediation contractor. Shell agreed, and a second H_2O_2 injection event was conducted from September 22 through September 24, 2004

Remediation Activities – Second Injection Event

Rejuvenate's chemical injection method used ¾-inch diameter, stainless steel, temporary fixed injection points to inject the chemical solutions. Each injection point had four drilled holes oriented radially at 90-degree spacing located within the depth interval to be treated. The targeted treatment intervals were 10 ft long in each location, and injection points were placed with the top of the perforations set at depths ranging from 7 to 12 fbg. Table 7 summarizes the injection point installation details. On September 11, 2003, Vironex, Inc. (Vironex) of San Leandro, California installed 12 3/4-inch temporary injection wells (P-1 through P-12). The injection wells were installed under Alameda County Public Works Agency (ACPWA) permit # W03-0830, included as Attachment D. Well installation logs are included as Attachment E. A 2-inch diameter direct-push (Geoprobe®) tool was advanced to the target depth and retracted. The ¾-inch injection probe piping was placed into each open borehole, and approximately 4 ft of 2-inch-diameter PVC casing was installed around each probe below ground surface. The PVC casing and injection probe were grouted in placed with neat Portland cement from the surface to create a surface seal.

Remediation Dates:	September 22, 23, and 24, 2003.
Remediation Subcontractor:	Rejuvenate
Personnel Present:	Melody Munz, Project Engineer, Cambria
Number of Injection Points:	Twelve: P-1 through P-12 (Figure 3).
Injection Method:	Rejuvenate's EKCO system.

Air Monitoring: Cambria conducted site-wide ambient and localized work zone air monitoring using a PID.

Injection Depths and Volumes: A total of approximately 805 gallons of 15% to 22% H_2O_2 solution, 128 gallons of H_2SO_4 solution, and 15 gallons of water were injected into 12 locations at depths ranging from 7 to 22 fbg (Attachment F).

Remediation Activities – Confirmation Groundwater Sampling

At Cambria's recommendation, groundwater sampling from all wells was conducted by Blaine on September 29, 2003 to determine the effects of H_2O_2 injection. Because they were not previously submitted with prior monitoring reports, copies of Blaine's September 29, 2003 field data and the laboratory report are included in Attachment G, and analytical results are summarized in Attachment B.

Remediation Activities – GWE

Following review of post-remedial groundwater monitoring results and noting increased concentrations in some wells, Cambria recommended resuming monthly DVE from well MW-5. Shell agreed, and monthly DVE was re-initiated on November 10, 2003, and continued until April 28, 2004. During the DVE events following H_2O_2 injections, an estimated 0.45 pounds of TPHg and 0.08 pounds benzene were removed in the liquid phase, and an estimated 1.51 pounds of TPHg and 0.02 pounds benzene were removed in the vapor phase. Summary tables of liquid phase and vapor phase mass removals by DVE are included as Tables 4 and 5.

Verification Soil Sampling

As approved by Shell, following the second phase of H_2O_2 injection, Cambria directed the installation of four verification soil borings (S-18 though S-21) to collect soil and grab groundwater samples from three locations within the treated UST backfill area and from one downgradient location.

Drilling Date: November 7, 2003

Drilling Company: Vironex, Inc.; C-57 License # 705927.

Personnel Present: Jason Gerke, Cambria

Drilling Methods: Two-inch hydraulic push

Soil Sampling: Soil samples were collected at approximately 5.0-ft intervals from each of the borings.

Groundwater Sampling: Grab groundwater samples were collected using a bailer from each open boring.

Number of Borings: Four

Boring Depths: 25 ft

Sediment Lithology: Soil encountered in the borings consisted predominantly of sand and silty sand to the total explored depth of 25 fbg. Approximately 9 to10 ft of fill consisting of gravelly sand was encountered in the tank pit borings (S-18, S-19, and S-21). Approximately 5.5 ft of fill was encountered in boring S-20. Boring logs are included as Attachment H.

Groundwater Depths: Depth to first encountered groundwater ranged from 18.2 ft to 20 ft.

Analyses: Soil samples were analyzed for TPHg and BTEX by EPA Method 8260, Table 1 summarizes the results. Selected soil samples were also analyzed for total organic carbon, alkalinity, and iron; Table 8 summarizes the results. Water samples were analyzed for TPHg and BTEX; Table 2 summarizes the results. The analytical laboratory report is included as Attachment I.

Injection Probe Destruction Activities – January 2005

The temporary injection probes (wells) were destroyed on January 11, 2005. The well destruction activities are summarized below.

Destruction Date: January 11, 2005

Wells Destroyed: P-1 through P- 12 (Figure 3).

Permitting: November 23, 2004: ACPWA Drilling Permits W04-1216 through W04-1226. January 12, 2005: ACPWA Drilling Permits W05-1216 through W05-1226 (Attachment J).

Personnel Present: Martin Wills, Project Geologist, Cambria.

Drilling Company: Vironex; C-57 License # 705927.

Destruction Method: All on-site injection probes and outer PVC casings were removed from the ground and each borehole grouted to the ground surface as approved by the ACPWA. As discussed in a November 22, 2004 telephone conversation, the ACPWA waived the on-site well destruction

inspection. Department of Water Resources (DWR) well completion reports are included in Attachment J.

Soil Disposal: No soil cuttings were produced during well destruction activities.

RESULTS AND ANALYSIS

Groundwater: Two H_2O_2 injection events using two separate remediation contractors were conducted as part of the pilot testing and site remediation as proposed in the approved CAP. Groundwater monitoring was conducted four days prior to the first H_2O_2 injection event, and monthly monitoring was conducted for four months following the first H_2O_2 injection event. Five days after the second H_2O_2 injection event, confirmation grab groundwater samples were collected from four borings, and six additional monthly DVE events were conducted. Six quarters of quarterly groundwater monitoring have been conducted following completion of the second H_2O_2 injection event. The results show that natural attenuation was occurring prior to these remedial activities, and that H_2O_2 injection resulted in a reduction of hydrocarbon concentrations in groundwater. Ongoing monitoring indicates that natural attenuation is continuing to decrease hydrocarbon concentrations in groundwater.

Review of the accumulated groundwater monitoring data shows a pattern of seasonal increases and decreases superimposed on an overall decreasing trend in benzene and TPHg concentrations from March 1996 until the start of active remediation by temporary GWE in June 2002, as shown on Figures 4 and 5. Benzene and TPHg concentrations have fluctuated and increased in certain wells following GWE, DVE, and the two H_2O_2 injection events; however, the concentration fluctuations have previously stayed within historically observed ranges. Following H_2O_2 injection, most wells' benzene and TPHg concentrations are again within historic ranges and are currently showing decreasing concentrations below prior results.

The pre-remediation decreasing concentration trends are likely due to natural attenuation of residual fuel hydrocarbons which remained in water-saturated soils after removal of the USTs in 1993. The seasonal changes in benzene and TPHg concentrations are likely due to seasonal changes in the groundwater levels within the monitoring wells. Following remediation, the non-seasonal fluctuations and temporary increases in benzene and TPHg concentrations seen in certain wells suggest that the GWE, DVE, and H_2O_2 injection events disrupted the physical and chemical equilibrium of hydrocarbon in the saturated soil and groundwater, as intended. While field observations indicated that very vigorous reactions occurred in soil and groundwater during H_2O_2 injection, the chemical oxidation was not immediately successful in completely destroying the fuel hydrocarbons in saturated soils and groundwater, as intended. However, continued

monitoring has shown that post-remediation groundwater concentrations are now generally less than pre-remediation conditions.

Several upgradient, perimeter monitoring wells (MW-2, MW-3, and MW-4) have shown virtually no detectable concentrations of COCs, and the current monitoring results continue to demonstrate that the hydrocarbon plume is contained within the western and southern property boundaries.

Well MW-6, on the eastern edge of the property, has shown relatively low, seasonally-fluctuating benzene and TPHg concentrations, which have remained consistently below the approved cleanup level of 1,400 ppb for benzene. Well MW-7, on the northern edge of the property, had only three groundwater samples analyzed prior to the start of the H_2O_2 injection testing, and the maximum benzene concentration before testing was 390 ppb. Following the first H_2O_2 injection event, benzene concentrations in MW-7 increased from 48 ppb to 1,200 ppb prior to the second H_2O_2 injection event. Following the second H_2O_2 injection event, benzene concentrations fluctuated seasonally, ranging from less than 0.50 ppb up to a maximum concentration of 3,400 ppb. The most recent data, from January 2005, indicated that the MW-7 benzene concentration was 2.0 ppb, significantly less than pre-remediation conditions.

Prior groundwater sampling data from off-site borings HA-1 through HA-4 showed no detectable concentrations of benzene and maximum concentrations of other constituents as follows: TPHg 83 ppb, toluene 0.77 ppb, ethylbenzene 0.52 ppb, and xylenes 2.8 ppb. Thus, it appears that the hydrocarbon concentrations in groundwater at the northern and eastern boundaries are below the benzene cleanup level of 1,400 ppb.

The wells near and within the former UST tank pit (MW-1, MW-5, VW/AS-1, VW/AS-3, and VW/MW-2) also showed fluctuation of their benzene and TPHg concentrations during remedial activities. Benzene concentrations in wells VW/AS-3 and VW/MW-2 have remained consistently below the cleanup level since remediation began. Benzene concentrations in wells MW-1, MW-5, VW/AS-1, and VW/MW-4 fluctuated and increased to a greater degree during remediation, but are now decreasing, with some seasonal fluctuations.

Results from grab groundwater samples collected on November 7, 2003 from confirmation borings S-18 though S-21 showed lower concentrations that those collected in corresponding locations in June 2002. These results indicate that the remediation of saturated soils and groundwater by H_2O_2 injection was effective. Boring S-18 was located in between borings S-11 and S-12. The TPHg and benzene results from S-18 were less than half those detected in S-12. However, the S-18 TPHg concentrations were nearly the same as those in S-11, and the benzene concentrations in S-18 were higher than in S-11. Boring S-19 was located near boring S-15; the TPHg and benzene results from S-19 were nearly an order of magnitude less than in S-15. Boring S-21 was located near the boring S-14; the TPHg results were from S-21 were nearly an order of magnitude less than in S-14, and the benzene results were less than half those detected in S-14.

Boring S-20 was located outside the H_2O_2 treatment area, and was not located near a prior boring location that had grab groundwater sampling. However, as previous sampling results indicated, the results from S-20 indicated that downgradient TPHg and benzene concentrations attenuate rapidly with distance in the downgradient direction.

Soil: Confirmation soil borings S-18 through S-21 were advanced near previous borings and soil samples were collected for analysis from above and below the water table. As with prior investigation results, no hydrocarbons were detected in soil samples above the range of water table fluctuations. The highest hydrocarbon concentrations were detected from 14.0 fbg, below the static water depths gauged in monitoring wells before and after drilling. The soil analytical results indicate that hydrocarbon concentrations were largely, but not entirely reduced, following H_2O_2 injection.

Boring S-18 was located between prior boring S-11 and S-12; S-18 TPHg and benzene results show reduced concentrations in comparison. Boring S-19 was located near S-16; TPHg concentrations were reduced in comparison, although the benzene concentration detected at 14.0 fbg was higher than previously detected. Boring S-20 was located outside the H_2O_2 treatment area and near boring S-1 and MW-1; TPHg and benzene concentrations were reduced in comparison. Boring S-21 was located near boring S-14; the TPHg and benzene concentrations were higher in comparison following H_2O_2 injection.

CONCLUSIONS

Remediation by H_2O_2 injection and additional DVE has been successfully completed. The results of H_2O_2 injection appear to be mixed, as in-situ chemical oxidation appears to have destroyed significant amounts of residual fuel hydrocarbons in saturated soils and groundwater on site. Review of historical groundwater data shows that groundwater concentrations have been substantially reduced over time, and additional reductions in concentrations resulted from the H_2O_2 injection. Groundwater concentrations in monitoring wells were generally decreasing and fluctuating seasonally prior to H_2O_2 injection. As intended, H_2O_2 injection temporarily disturbed the natural attenuation progress and seasonal groundwater concentration fluctuations, possibly as a result of chemical or physical changes to saturated soils from chemical oxidation.

Following extended post-remediation monitoring, groundwater concentrations have generally decreased relative to pre-remediation concentrations. Post-remediation grab groundwater sampling results showed significant reductions in concentrations relative to prior data. Saturated soil concentrations measured in four locations after H_2O_2 injection generally showed a decrease in saturated soil hydrocarbon concentrations, although not consistently.

Previously available site data shows that representative concentrations of the site's unsaturated soils and groundwater already met the approved "cleanup levels" for BTEX compounds, although they did not meet the "cleanup goals" for BTEX compounds stipulated by ACHCSA. Cambria believes that the data shows that natural attenuation processes are cleaning up site soils and groundwater, that H_2O_2 injection further remediated groundwater and saturated soils, and that the "cleanup goals" will eventually be met by continued natural attenuation.

The "cleanup level" and "cleanup goal" for TPHg in soil and groundwater were set to the RWQCB RBSLs (now known as environmental screening levels, or ESLs) as requested specifically by ACHCSA. In the prior evaluation in the 2002 RBCA analysis report, Cambria showed that unsaturated soils already met the soil "cleanup levels" and "cleanup goals" for TPHg. Cambria notes that the approved groundwater "cleanup level" of 500 ppb for TPHg is far less than the approved "cleanup level" of 1,400 ppb for benzene; this is conceptually incongruous due to the known differences in benzene versus TPHg toxicity. Cambria continues to believe that the applicable city of Oakland RBCA guidance appropriately does not include use of hydrocarbon mixtures data to set risk-based cleanup levels for hydrocarbon mixtures such as TPHg.

Cambria also believes that use of the RWQCB groundwater RBSL for TPHg as the groundwater "cleanup level" was not appropriate for this site, since the RBSL for TPHg was based on surface water ecological receptor criteria developed for the Presidio of San Francisco, and applied to San Francisco International Airport. Cambria believes these "cleanup levels" are not applicable to this site, since monitoring shows that the extent of hydrocarbon-impacted groundwater is limited to the site. It should also be noted that the RWQCB revised and renamed the RBSLs as ESLs in July 2003.

Site soil and groundwater conditions were previously evaluated and were found to be protective of human health in Cambria's Tier 2 RBCA analysis based on the city of Oakland's Urban Land Redevelopment RBCA *Guidance Document*. To respond to concerns expressed by ACHCSA regarding the parameters and methods used in the RBCA analysis, Cambria recommends updating the RBCA analysis utilizing current soil and groundwater data and the results of additional soil analyses. However, additional groundwater monitoring data and recent confirmation soil and groundwater sampling data shows that conditions have generally improved since implementing temporary GWE, DVE, and H_2O_2 injection.

During site work, Cambria observed no signs of underground utilities that lead from areas of impacted soils or groundwater at the site to the property at 1418-1420 Union Street. Since the prior RBCA analysis showed that unsaturated soils concentrations are already protective of human health, no further evaluation of exposure of this residence from soils is warranted. Since groundwater is typically present at depths near 10 fbg, Cambria believes the shallow utilities in East 14th Street and Union Street are unable to cause migration of subsurface vapors from

groundwater to the subject off-site property. Also, since the extent of groundwater contamination is defined on site and there is no evidence of underground utilities at depth leaving the site and entering the subject off-site property, Cambria believes this potential exposure pathway is incomplete, and that no further investigation or evaluation is warranted.

Cambria's final CAP addendum stated that Cambria would propose a verification sampling plan including soil and groundwater confirmation samples. Since data from the completed interim verification sampling and groundwater monitoring suggest that soil and groundwater conditions are likely to meet the appropriate "cleanup levels" already, Cambria does not believe additional investigation to collect soil and groundwater data is warranted. Cambria recommends that a grain-size analysis of soil samples be conducted to validate the selected soil type utilized in the RBCA analysis as specified by the City of Oakland RBCA guidance. .

RECOMMENDATIONS

To verify that the site meets the appropriate "cleanup levels", Cambria recommends the following:

- Advancing three direct-push soil borings (two in native soil outside the former UST pit within 5 ft of MW-4 and within 5 ft of MW-6, and one within the former UST pit within 5 ft of MW-5) to collect soil samples at 3 fbg and 8 fbg for grain size analysis for use in an updated RBCA analysis based on Oakland RBCA guidance;
- Continuing quarterly groundwater monitoring;
- Calculating updated representative soil and groundwater concentrations, including the post-remediation soil and groundwater data;
- Updating the SCM;
- Revising the Tier 2 RBCA analysis based upon the updated SCM and updated soil and groundwater concentration data.

If the updated SCM and RBCA analysis show that site conditions continue to be protective of human health and the environment, and meet the appropriate Oakland SSTLs, then Cambria recommends that case closure be granted.

SCHEDULE

Cambria proposes to implement the work according to the following schedule:

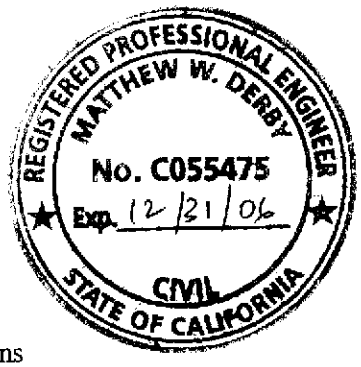
- Advance the proposed soil borings to collect soil grain size analysis data immediately; and
- Submit the report presenting the updated representative soil and groundwater concentrations, the updated SCM, and the revised Tier 2 RBCA analysis within 30 days of submission of this report. If not available at the time of report submission, the revised Tier 2 RBCA analysis will use the Merritt Sands soil classification for the analysis, and the soil grain size analysis will be submitted as an addendum as soon as the results are available.

CLOSING

If you have any questions or comments, please call Matthew Derby at (510) 420-3332.

Sincerely,
Cambria Environmental Technology, Inc.

Matthew W. Derby, P.E.
Senior Project Engineer



Figures:
1 - Vicinity/Area Well Survey Map
2 - Extended Site Plan
3 - 2003 Hydrogen Peroxide Injection Locations
4 - Groundwater Benzene Concentrations
5 - Groundwater TPHg Concentration (MW-5)

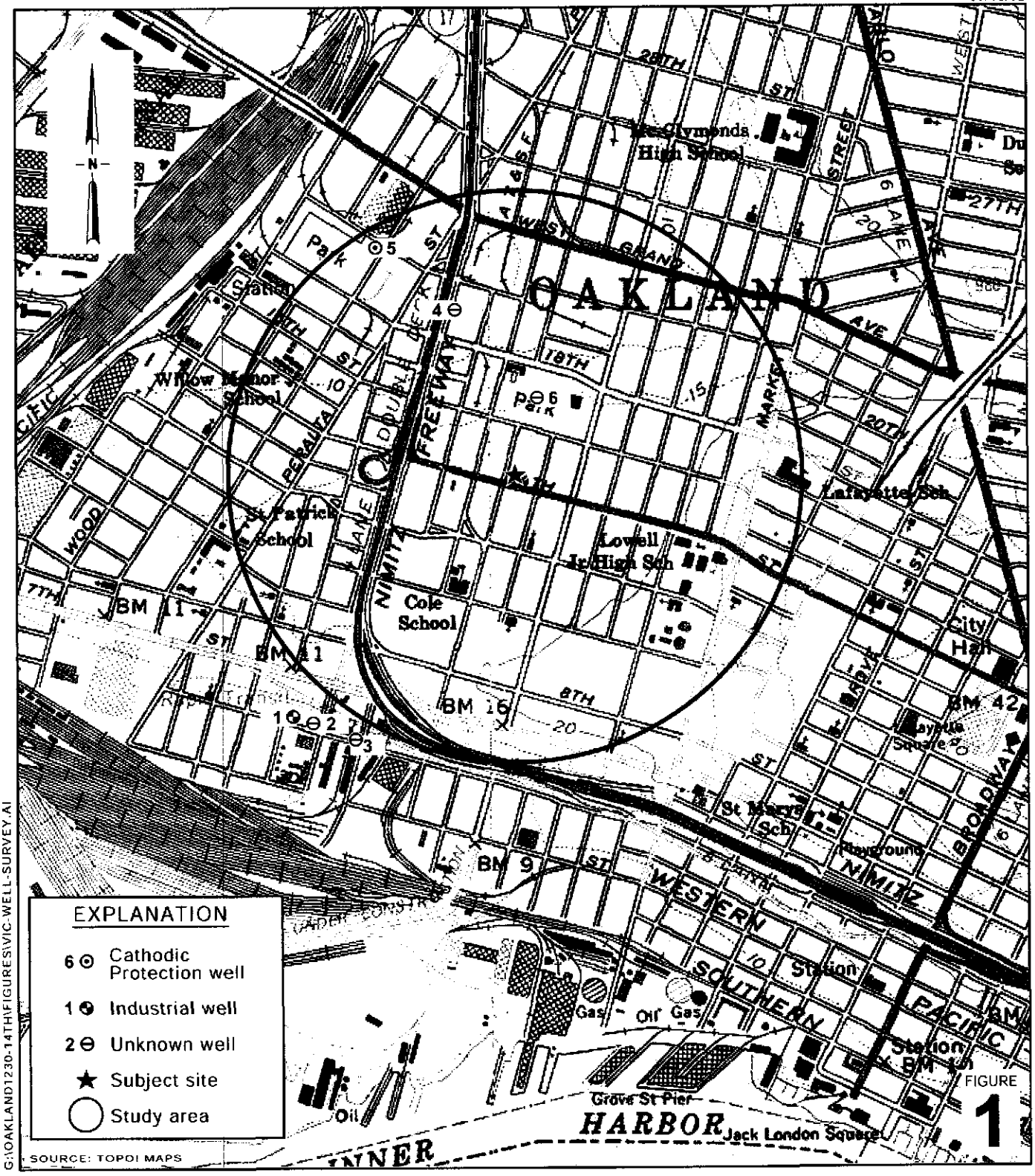
Tables:
1 - Cumulative Soil Analytical Results
2 - Groundwater Analytical Results
3 - Cleanup Levels and Cleanup Goals
4 - Groundwater Extraction – Mass Removal Data
5 - Vapor Extraction – Mass Removal Data
6 - Groundwater Analytical Results – Additional Analyses
7 - Injection Point Construction Details
8 - Soil Analytical Results – Additional Soil Analytical Results

Attachments:
A -Tank Protect Engineering's 1991 and 1993 Site Plans
B - Blaine's Groundwater Monitoring Report Summary Table
C - FAST-TEK Summary of Injection Data
D -Well and Boring Installation Permits
E - Injection Point Well Construction Logs
F - Rejuvenate Summary of Injection Data
G - Blaine Sept. 29, 2003 Field Data and Laboratory Report
H - Confirmation Soil Boring Logs
I - Soil Confirmation Sample Analytical Laboratory Reports
J - Injection Point Well Destruction Permits and DWR Logs

cc: Karen Petryna, Shell Oil Products US, 20945 S. Wilmington Ave, Carson, CA 90810
Tom Saberi, 1045 Airport Boulevard, Suite 12, South San Francisco, CA 94080
Matthew Dudley, Sedgwick, Detert, Moran, & Arnold, 1 Embarcadero Center, 16th Floor, San Francisco, CA 94111-3628
Ellen Wyrick-Parkinson, 1420 Magnolia St, Oakland, CA 94607

G:\Oakland 1230 14th\2003 Peroxide Injection\2005 January Remediation Report\Mar05 Remediation Report.doc

07/10/02



0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250

CAMBRIA

Vicinity/Area Well Survey Map
(1/2-Mile Radius)

03/03/05

Extended Site Plan

EXPLANATION

- HA-1 ⊕ Hand auger location (07/23/02)
- S-14 ◧ Soil boring location (06/07,10/02)
- S-11 ◆ Deeper soil boring location (06/07/02)
- 3' —◐ Proposed slanted soil boring showing slant direction and target depth
- Soil boring location (2/91)
- Product piping sample (11/95)
- Tank Pit grab soil sample (1995)
- Soil boring location (3/96)
- Soil boring location (12/00)
- Monitoring well location
- Combination air sparge/soil vapor extraction well
- Combination soil vapor extraction well/monitoring well

HA-3 ⊕

HA-4 ⊕

HA-2 ⊕

HA-1 ⊕

Former Shell
Service Station
1230 14th St.

S-14 S-15 S-16
S-13 S-17
S-12 S-11 S-10
3' S-18

Typical groundwater flow direction

14TH STREET

0 15 30 60
Scale (ft)

FIGURE
2

Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250

CAMBRIA

G:\OAKLAND 1230 14TH\FIGURES\EXT-SITE PLAN 3-05.DWG

Figure 4- Groundwater Benzene Concentrations
Former Shell Station, 1230 14th Street, Oakland

CAMBRIA

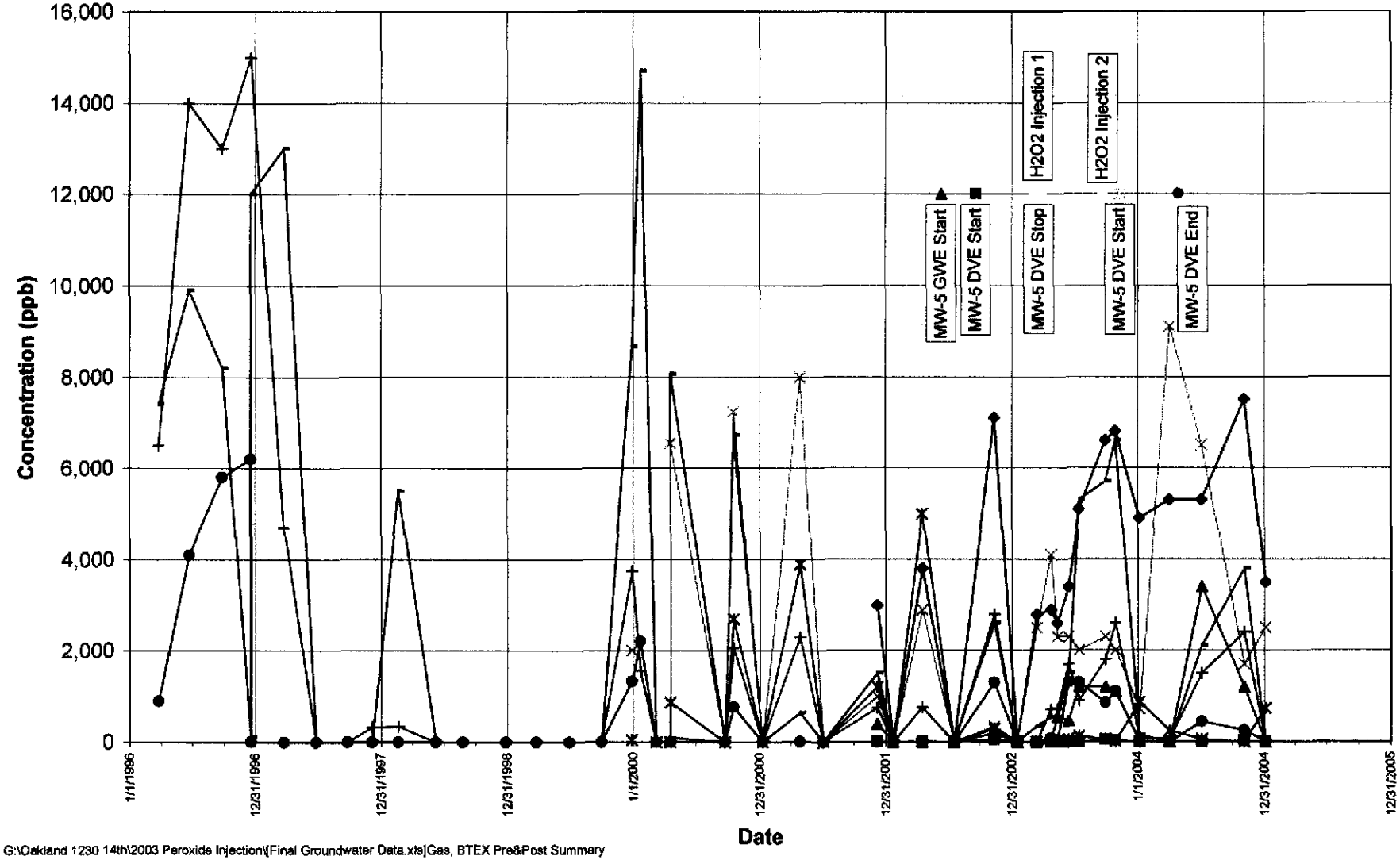
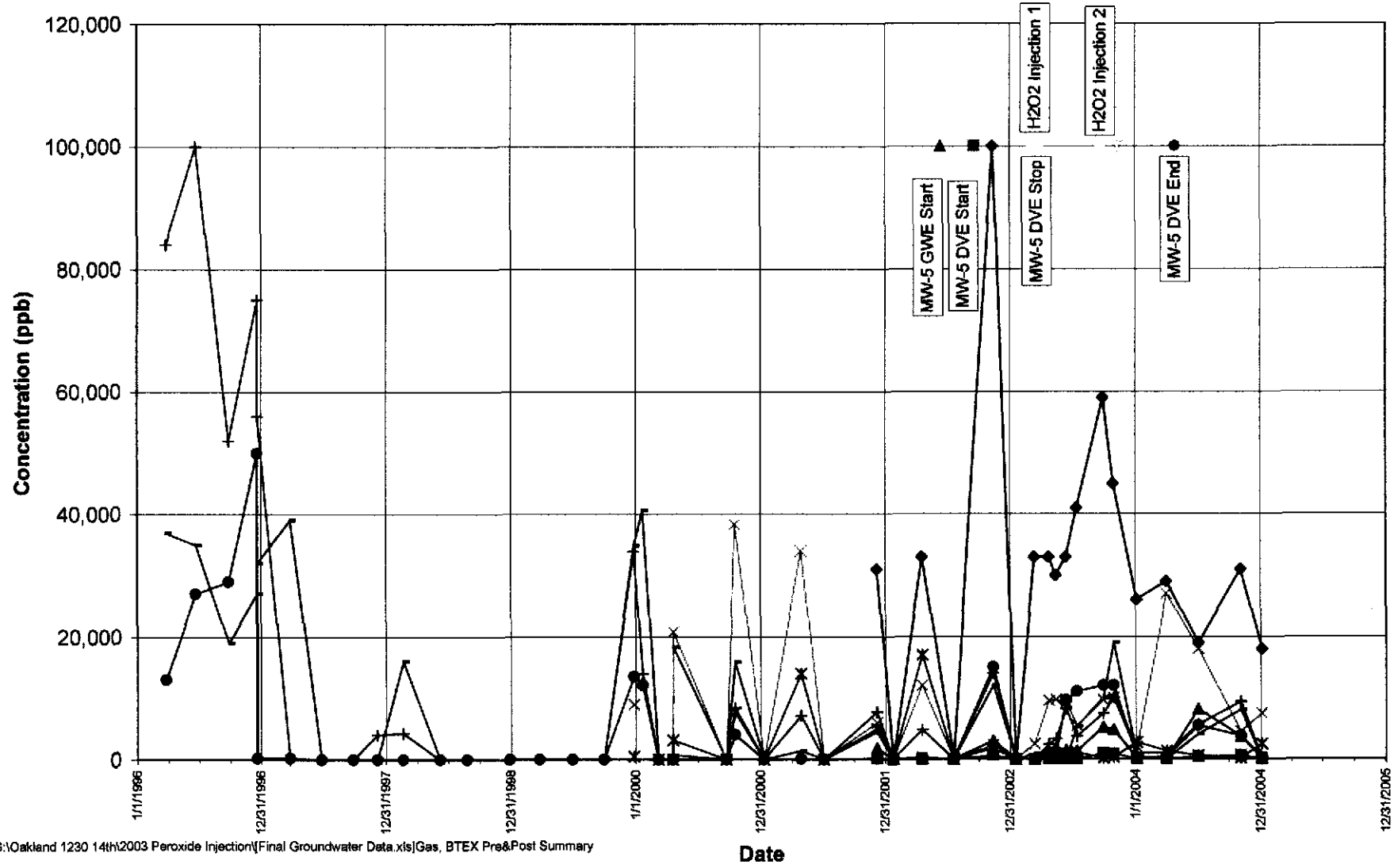


Figure 5 - Groundwater TPHg Concentrations
Former Shell Station, 1230 14th Street, Oakland

CAMBRIA



G:\Oakland 1230 14th\2003 Peroxide Injection\[Final Groundwater Data.xls]Gas, BTEX Pre&Post Summary

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
November 2003 Post-Peroxide Injection Sampling										
S-18-4	11/7/2003	4	<1.0		<0.0050	<0.0050	<0.0050	--	--	--
S-18-9	11/7/2003	9	**1,800**	**4.0**	**35**	**21**	**150**	--	--	--
S-18-14	11/7/2003	14	**2,000**	**27**	**120**	**42**	**230**	--	--	--
S-18-19	11/7/2003	19	<1.0	**0.028**	**0.073**	**0.019**	**0.10**	--	--	--
S-18-24	11/7/2003	24	<4.6	<0.023	**0.027**	<0.023	**0.061**	--	--	--
S-19-4	11/7/2003	4	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-19-8	11/7/2003	8	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-19-9	11/7/2003	9	**3.5**	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-19-14	11/7/2003	14	**2,000**	**9.6**	**71**	**34**	**190**	--	--	--
S-19-19	11/7/2003	19	<1.0	**0.0075**	**0.017**	**0.0079**	**0.036**	--	--	--
S-20-9	11/7/2003	9	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-20-15	11/7/2003	15	<5.0	**1.2**	<0.025	**0.095**	**0.026**	--	--	--
S-20-19.5	11/7/2003	19.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-20-21	11/7/2003	21	<4.6	**0.84**	<0.023	**0.067**	**0.026**	--	--	--
S-20-24	11/7/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-21-4	11/7/2003	4	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-21-9	11/7/2003	9	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-21-11	11/7/2003	11	**680**	<0.50	<0.50	**4.4**	**14**	--	--	--
S-21-14	11/7/2003	14	**1,400**	**5.5**	**67**	**26**	**130**	--	--	--
S-21-19	11/7/2003	19	<1.0	**0.0083**	**0.033**	**0.010**	**0.044**	--	--	--
S-21-24	11/7/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
June 2002 Soil Investigation										
S-10 5.0-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 8.5-9.0	6/7/2002	8.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 10-10.5	6/7/2002	10.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 12.5-13	6/7/2002	12.5	**1,700**	**1.2**	**6.3**	**25**	**120**	--	--	--
S-10 15-15.5	6/7/2002	15.0	**4,300**	**4.3**	**46**	**57**	**470**	--	--	--
S-10 17.5-18	6/7/2002	17.5	<1.0	**0.012**	**0.012**	**0.012**	**0.062**	--	--	--
S-10 20-20.5	6/7/2002	20.0	**690**	**2**	**9.1**	**11**	**56**	--	--	--
S-10 22.5-23	6/7/2002	22.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 24.5-25	6/7/2002	24.5	<1.0	<.005	<.005	<.005	<.005	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
S-11 5-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 7.5-8	6/7/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 10.5-11	6/7/2002	10.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 12.5-13	6/7/2002	12.5	**1,400**	**3.7**	**26**	**21**	**140**	--	--	--
S-11 15-15.5	6/7/2002	15.5	**3,200**	**8.6**	**55**	**42**	**230**	--	--	--
S-11 17.5-18	6/7/2002	17.5	**330**	**1.3**	**5.9**	**4.2**	**24**	--	--	--
S-11 20-20.5	6/7/2002	20.0	<1.0	**0.015**	**0.018**	<0.005	**0.019**	--	--	--
S-11 22.5-23	6/7/2002	22.5	<1.0	**0.019**	**0.045**	**0.015**	**0.092**	--	--	--
S-11 24.5-25	6/7/2002	24.5	<1.0	**0.01**	**0.023**	**0.062**	**0.037**	--	--	--
S-11 26-26.5	6/7/2002	26.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 28.5-29	6/7/2002	28.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-12 5-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-12 7.5-8	6/7/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-12 13.5-14	6/7/2002	13.5	**650**	**5.7**	**30**	**12**	**64**	--	--	--
S-12 15-15.5	6/7/2002	15.0	**13,000**	**130**	**740**	**290**	**1,500**	--	--	--
S-12 17.5-18	6/7/2002	17.5	**16**	**0.65**	**2.1**	**0.42**	**2.3**	--	--	--
S-12 20-20.5	6/7/2002	20.0	**2**	**0.058**	**0.19**	**0.049**	**0.29**	--	--	--
S-12 22.5-23	6/7/2002	22.5	**220**	**1.3**	**9**	**4.2**	**24**	--	--	--
S-12 24.5-25	6/7/2002	24.5	**1.9**	**0.047**	**0.2**	**0.052**	**0.26**	--	--	--
S-13 5-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-13 7.5-8	6/7/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-13 12.5-13	6/7/2002	12.5	**9,800**	**26**	**310**	**130**	**1,100**	--	--	--
S-13 15-15.5	6/7/2002	15.0	**3,900**	**37**	**180**	**76**	**360**	--	--	--
S-13 17.5-18	6/7/2002	17.5	**4,700**	**6.5**	**130**	**59**	**580**	--	--	--
S-13 20-20.5	6/7/2002	20.0	<1.0	**0.028**	**0.0085**	**<0.005**	**0.068**	--	--	--
S-14 5.5-6	6/10/2002	5.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-14 7.5-8	6/10/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-14 9-9.5	6/10/2002	9.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-14 11.5-12	6/10/2002	11.5	<1.0	<.005	<.005	<.005	**0.0078**	--	--	--
S-14 12.5-13	6/10/2002	12.5	**670**	<0.25	**0.71**	**5.4**	**19**	--	--	--
S-14 15-15.5	6/10/2002	15.0	**1,100**	**0.88**	**25**	**22**	**120**	--	--	--
S-14 17.5-18	6/10/2002	17.5	**3.8**	**0.1**	**0.3**	**0.89**	**0.48**	--	--	--
S-14 20-20.5	6/10/2002	20.0	**4**	**0.39**	**0.51**	**0.12**	**0.5**	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
S-15 5-5.5	6/10/2002	5.0	<1.0	<.005	<.005	<.005	0.011	--	--	--
S-15 7.5-8	6/10/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-15 10-10.5	6/10/2002	10.0	**2.3**	<.005	<.005	<.005	<.005	--	--	--
S-15 12.5-13	6/10/2002	12.5	<1.0	<.005	<.005	<.005	0.032	--	--	--
S-15 15-15.5	6/10/2002	15.0	**1,200**	**1.9**	**4.3**	**22**	**110**	--	--	--
S-15 17.5-18	6/10/2002	17.5	**24**	**1.3**	**1.9**	**0.4**	**1.9**	--	--	--
S-15 20-20.5	6/10/2002	20.0	**270**	**0.51**	**3.5**	**4.2**	**21**	--	--	--
S-16 7.5-8	6/10/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-16 10-10.5	6/10/2002	10.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-16 11.5-12	6/10/2002	11.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-16 15-15.5	6/10/2002	15.0	**4,500**	<1.0	**4**	**94**	**460**	--	--	--
S-16 17.5-18	6/10/2002	17.5	**5,000**	<1.0	**23**	**76**	**360**	--	--	--
S-16 20-20.5	6/10/2002	20.0	**1.3**	**0.12**	**0.0088**	**0.08**	**0.08**	--	--	--
S-17 5-5.5	6/10/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-17 10-10.5	6/10/2002	10.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-17 12.5-13	6/10/2002	12.5	**4,300**	**0.64**	**6.8**	**48**	**340**	--	--	--
S-17 15-15.5	6/10/2002	15.0	**590**	**0.41**	**5.8**	**11**	**58**	--	--	--
S-17 17.5-18	6/10/2002	17.0	**5.2**	**0.57**	**0.073**	**0.16**	**0.66**	--	--	--
S-17 20-20.5	6/10/2002	20.0	<1.0	<.005	<.005	<.005	**0.013**	--	--	--
S-18 2.5-3	6/10/2002	2.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
MW-5 Installation										
MW-5-9.5	9/27/2001	9.5	**3.9**	<0.0050	<0.0050	**0.0069**	**0.019**	<0.50	--	--
MW-5-14.0	9/27/2001	14.5	**790**	**2.7**	**30**	**11**	**67**	<1.0	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
December 2000 Geoprobe Investigation										
GP-1-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-1-10	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-1-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-1-20	12/11/2000	20.0	120	<0.020	**0.022**	**0.64**	**1.1**	<0.020	--	--
GP-2-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-2-10.5	12/11/2000	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-2-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-3-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-3-10.0	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-3-15.0	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-4-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-4-10	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-4-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-5-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-5-10	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-5-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
March 1996 Investigation										
SB-A/(MW-1)-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	**160**	--
SB-A/(MW-1)-16.0	03/06/96	16.0	**9.8**	**1.9**	**0.4**	**0.22**	**1.1**	--	**57**	--
SB-A/(MW-1)-20.5	03/06/96	20.5	**5.9**	**0.89**	**0.049**	**0.19**	**0.25**	--	**80**	--
SB-B/(MW-2)-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-B/(MW-2)-16.0	03/06/96	16.0	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-C-11.75	03/06/96	11.8	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-C-15.5	03/06/96	15.5	**1.9**	**0.022**	**0.12**	**0.086**	**0.32**	--	--	--
SB-D/(MW-3)-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-D/(MW-3)-15.5	03/06/96	15.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-E-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	<50	--
SB-E-16.0	03/06/96	16.0	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	200	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
SB-F(VW/AS)-1-5.5	03/07/96	5.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-F(VW/AS-1)-10.5	03/07/96	10.5	**62**	**0.97**	**4.2**	**1.4**	**8.0**	--	--	--
SB-F(VW/AS-1)-15.5	03/07/96	15.5	**7.4**	**1.7**	**0.44**	**0.2**	**0.6**	--	--	--
SB-F(VW/AS-1)-20.5	03/07/96	20.5	**20**	**2.6**	**1.7**	**0.5**	**2.0**	--	--	--
SB-G(VW/MW-2)-8.5	03/07/96	8.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-G(VW/MW-2)-10.5	03/07/96	10.5	<1.0	0.0032	<0.0025	<0.0025	<0.0025	--	--	--
SB-G(VW/MW-2)-20.5	03/07/96	20.5	**2.9**	**0.47**	**0.34**	**0.15**	**0.57**	--	--	--
SB-H(VW/AS-3)-8.5	03/07/96	8.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-H(VW/AS-3)-10.5	03/07/96	10.5	<1.0	**0.018**	<0.0025	<0.0025	**0.014**	--	--	--
SB-H(VW/AS-3)-21.0	03/07/96	21.0	**1.0**	**0.047**	**0.016**	**0.0037**	**0.017**	--	--	--
SB-I(VW/MW-4)-5.5	03/08/96	5.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-I(VW/MW-4)-8.5	03/08/96	8.5	**80**	**0.14**	**0.33**	**1.3**	**5.2**	--	--	--
SB-I(VW/MW-4)-15.5	03/08/96	15.5	**3.4**	**0.23**	**0.093**	**0.1**	**0.42**	--	--	--
SB-J-10.5	03/08/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-K(MW-4)-10.5	03/08/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
Product Piping Samples										
TS-1-4.0	11/27/1995	4	<1.0	<0.0050	0.005	<0.0050	<0.0050	--	--	--
TS-2-2.0	11/27/1995	2	<1.0	<0.0050	0.0057	<0.0050	**0.0075**	--	--	--
TS-3-3.0	11/27/1995	3	<1.0	<0.0050	<0.0050	<0.0050	**0.0069**	--	--	--
TS-4-3.0	11/27/1995	3	<0.005	**0.011**	**0.038**	**0.0073**	**0.043**	--	--	--
TS-5-2.5	11/27/1995	2.5	**46**	<0.10	<0.10	<0.10	**2**	--	--	--
TS-6-3.0	11/27/1995	3	**3,100**	**30**	<6.0	**33**	**230**	--	--	--
Tankpit Excavation Confirmation Samples										
S2-15.0	11/27/1995	15	**3,600**	<6.0	**140**	**78**	**430**	--	--	--
S3-15.0	11/27/1995	15	**1,000**	**7.6**	**33**	**19**	**100**	--	--	--
S4-15.0	11/27/1995	15	**5,600**	**72**	**280**	**110**	**580**	--	--	--
S5-15.0	11/27/1995	15	**2,800**	**36**	**160**	**64**	**350**	--	--	--
S6-15.0	11/27/1995	15	**3,800**	<6.0	<6.0	**76**	**350**	--	--	--
S7-15.0	11/27/1995	15	**570**	<0.50	<0.50	**4.9**	**13**	--	--	--
S8-15.0	11/27/1995	15	**3,200**	**60**	**200**	**69**	**350**	--	--	--
S9-15.0	11/27/1995	15	**5,100**	**62**	**260**	**110**	**570**	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
1993 UST and Dispenser Removal Samples										
S-1	08/25/93	8.5	**67**	**0.038**	**0.089**	**0.110**	**0.380**	--	**7,700**	**1,200**
S-2	08/25/93	14.0	**2,200**	**1.4**	**3.2**	**3.5**	**13**	--	--	--
S-3	08/25/93	11.0	**530**	**0.4**	**0.76**	**0.83**	**3.1**	--	--	--
S-4	08/25/93	11.0	**40**	**0.031**	**0.059**	**0.066**	**0.29**	--	--	--
S-5	08/25/93	11.0	**1.4**	<0.005	**0.0063**	**0.0081**	**0.025**	--	--	--
S-6	08/25/93	13.0	**1,600**	**0.97**	**2.3**	**2.7**	**10**	--	--	--
S-7	08/25/93	11.0	**11,000**	**6.7**	**16**	**18**	**69**	--	--	--
S-8	08/25/93	11.0	**18,000**	**11**	**26**	**30**	**110**	--	--	--
S-9	08/25/93	11.0	**6,200**	**3.7**	**8.7**	**10**	**37**	--	--	--
DS-1	08/25/93	1.0	**0.013**	**0.0070**	**0.017**	**0.021**	**0.072**	--	--	--
DS-2	08/25/93	1.0	**0.0020**	**0.0053**	**0.0089**	**0.012**	**0.031**	--	--	--
DS-3	08/25/93	1.0	**0.0013**	<0.0050	**0.0059**	**0.0061**	**0.018**	--	--	--
DS-4	08/25/93	1.0	**0.0027**	**0.0055**	**0.0094**	**0.016**	**0.047**	--	--	--
DS-5	08/25/93	1.0	**0.0034**	**0.0059**	**0.011**	**0.018**	**0.061**	--	--	--
DS-6	08/25/93	1.0	**0.011**	**0.0068**	**0.015**	**0.018**	**0.064**	--	--	--
VSW-1	08/25/93	6.0	**4,800**	**2.9**	**7.0**	**8.0**	**30**	--	--	--
VSW-2	08/25/93	6.0	**0.021**	**0.15**	**0.29**	**0.33**	**1.3**	--	--	--
1991 Soil Borings										
SB1-6-6.5	2/21/1991	6.0	**11**	**0.014**	**0.37**	**0.22**	**1.2**	--	--	--
SB1-10.5-11	2/21/1991	10.5	**4.6**	**0.15**	**0.5**	**0.13**	**0.68**	--	--	--
SB1-15.5-16	2/21/1991	15.5	**7.5**	**2.1**	**1.8**	**0.18**	**1.1**	--	--	--
SB2-6-6.5	2/21/1991	6.0	<1.0	<.0050	<.0050	<.0050	0.034	--	--	--
SB2-10.5-11	2/21/1991	10.5	**1.8**	**0.062**	**0.038**	**0.035**	**0.085**	--	--	--
SB2-15.5-16	2/21/1991	15.5	**6.1**	**1.2**	**1.4**	**0.15**	**0.8**	--	--	--
SB3-6-6.5	2/21/1991	6.0	<1.0	**0.038**	**0.0054**	**0.015**	**0.034**	--	--	--
SB3-10.5-11	2/21/1991	10.5	**1,600**	**18**	**98**	**35**	**190**	--	--	--
SB3-15.5-16	2/21/1991	15.5	**2.4**	**0.31**	**0.21**	**0.064**	**0.35**	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
November 2003 Post-Peroxide Injection Sampling										
S-18-4	11/7/2003	4	<1.0		<0.0050	<0.0050	<0.0050	--	--	--
S-18-9	11/7/2003	9	**1,800**	**4.0**	**35**	**21**	**150**	--	--	--
S-18-14	11/7/2003	14	**2,000**	**27**	**120**	**42**	**230**	--	--	--
S-18-19	11/7/2003	19	<1.0	**0.028**	**0.073**	**0.019**	**0.10**	--	--	--
S-18-24	11/7/2003	24	<4.6	<0.023	**0.027**	<0.023	**0.061**	--	--	--
S-19-4	11/7/2003	4	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-19-8	11/7/2003	8	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-19-9	11/7/2003	9	**3.5**	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-19-14	11/7/2003	14	**2,000**	**9.6**	**71**	**34**	**190**	--	--	--
S-19-19	11/7/2003	19	<1.0	**0.0075**	**0.017**	**0.0079**	**0.036**	--	--	--
S-20-9	11/7/2003	9	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-20-15	11/7/2003	15	<5.0	**1.2**	<0.025	**0.095**	**0.026**	--	--	--
S-20-19.5	11/7/2003	19.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-20-21	11/7/2003	21	<4.6	**0.84**	<0.023	**0.067**	**0.026**	--	--	--
S-20-24	11/7/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-21-4	11/7/2003	4	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-21-9	11/7/2003	9	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
S-21-11	11/7/2003	11	**680**	<0.50	<0.50	**4.4**	**14**	--	--	--
S-21-14	11/7/2003	14	**1,400**	**5.5**	**67**	**26**	**130**	--	--	--
S-21-19	11/7/2003	19	<1.0	**0.0083**	**0.033**	**0.010**	**0.044**	--	--	--
S-21-24	11/7/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--
June 2002 Soil Investigation										
S-10 5.0-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 8.5-9.0	6/7/2002	8.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 10-10.5	6/7/2002	10.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 12.5-13	6/7/2002	12.5	**1,700**	**1.2**	**6.3**	**25**	**120**	--	--	--
S-10 15-15.5	6/7/2002	15.0	**4,300**	**4.3**	**46**	**57**	**470**	--	--	--
S-10 17.5-18	6/7/2002	17.5	<1.0	**0.012**	**0.012**	**0.012**	**0.062**	--	--	--
S-10 20-20.5	6/7/2002	20.0	**690**	**2**	**9.1**	**11**	**56**	--	--	--
S-10 22.5-23	6/7/2002	22.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-10 24.5-25	6/7/2002	24.5	<1.0	<.005	<.005	<.005	<.005	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
S-11 5-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 7.5-8	6/7/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 10.5-11	6/7/2002	10.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 12.5-13	6/7/2002	12.5	**1,400**	**3.7**	**26**	**21**	**140**	--	--	--
S-11 15-15.5	6/7/2002	15.5	**3,200**	**8.6**	**55**	**42**	**230**	--	--	--
S-11 17.5-18	6/7/2002	17.5	**330**	**1.3**	**5.9**	**4.2**	**24**	--	--	--
S-11 20-20.5	6/7/2002	20.0	<1.0	**0.015**	**0.018**	<0.005	**0.019**	--	--	--
S-11 22.5-23	6/7/2002	22.5	<1.0	**0.019**	**0.045**	**0.015**	**0.092**	--	--	--
S-11 24.5-25	6/7/2002	24.5	<1.0	**0.01**	**0.023**	**0.062**	**0.037**	--	--	--
S-11 26-26.5	6/7/2002	26.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-11 28.5-29	6/7/2002	28.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-12 5-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-12 7.5-8	6/7/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-12 13.5-14	6/7/2002	13.5	**650**	**5.7**	**30**	**12**	**64**	--	--	--
S-12 15-15.5	6/7/2002	15.0	**13,000**	**130**	**740**	**290**	**1,500**	--	--	--
S-12 17.5-18	6/7/2002	17.5	**16**	**0.65**	**2.1**	**0.42**	**2.3**	--	--	--
S-12 20-20.5	6/7/2002	20.0	**2**	**0.058**	**0.19**	**0.049**	**0.29**	--	--	--
S-12 22.5-23	6/7/2002	22.5	**220**	**1.3**	**9**	**4.2**	**24**	--	--	--
S-12 24.5-25	6/7/2002	24.5	**1.9**	**0.047**	**0.2**	**0.052**	**0.26**	--	--	--
S-13 5-5.5	6/7/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-13 7.5-8	6/7/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-13 12.5-13	6/7/2002	12.5	**9,800**	**26**	**310**	**130**	**1,100**	--	--	--
S-13 15-15.5	6/7/2002	15.0	**3,900**	**37**	**180**	**76**	**360**	--	--	--
S-13 17.5-18	6/7/2002	17.5	**4,700**	**6.5**	**130**	**59**	**580**	--	--	--
S-13 20-20.5	6/7/2002	20.0	<1.0	**0.028**	**0.0085**	**<0.005**	**0.068**	--	--	--
S-14 5.5-6	6/10/2002	5.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-14 7.5-8	6/10/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-14 9-9.5	6/10/2002	9.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-14 11.5-12	6/10/2002	11.5	<1.0	<.005	<.005	<.005	**0.0078**	--	--	--
S-14 12.5-13	6/10/2002	12.5	**670**	<0.25	**0.71**	**5.4**	**19**	--	--	--
S-14 15-15.5	6/10/2002	15.0	**1,100**	**0.88**	**25**	**22**	**120**	--	--	--
S-14 17.5-18	6/10/2002	17.5	**3.8**	**0.1**	**0.3**	**0.89**	**0.48**	--	--	--
S-14 20-20.5	6/10/2002	20.0	**4**	**0.39**	**0.51**	**0.12**	**0.5**	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
S-15 5-5.5	6/10/2002	5.0	<1.0	<.005	<.005	<.005	0.011	--	--	--
S-15 7.5-8	6/10/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-15 10-10.5	6/10/2002	10.0	**2.3**	<.005	<.005	<.005	<.005	--	--	--
S-15 12.5-13	6/10/2002	12.5	<1.0	<.005	<.005	<.005	0.032	--	--	--
S-15 15-15.5	6/10/2002	15.0	**1,200**	**1.9**	**4.3**	**22**	**110**	--	--	--
S-15 17.5-18	6/10/2002	17.5	**24**	**1.3**	**1.9**	**0.4**	**1.9**	--	--	--
S-15 20-20.5	6/10/2002	20.0	**270**	**0.51**	**3.5**	**4.2**	**21**	--	--	--
S-16 7.5-8	6/10/2002	7.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-16 10-10.5	6/10/2002	10.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-16 11.5-12	6/10/2002	11.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-16 15-15.5	6/10/2002	15.0	**4,500**	<1.0	**4**	**94**	**460**	--	--	--
S-16 17.5-18	6/10/2002	17.5	**5,000**	<1.0	**23**	**76**	**360**	--	--	--
S-16 20-20.5	6/10/2002	20.0	**1.3**	**0.12**	**0.0088**	**0.08**	**0.08**	--	--	--
S-17 5-5.5	6/10/2002	5.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-17 10-10.5	6/10/2002	10.0	<1.0	<.005	<.005	<.005	<.005	--	--	--
S-17 12.5-13	6/10/2002	12.5	**4,300**	**0.64**	**6.8**	**48**	**340**	--	--	--
S-17 15-15.5	6/10/2002	15.0	**590**	**0.41**	**5.8**	**11**	**58**	--	--	--
S-17 17.5-18	6/10/2002	17.0	**5.2**	**0.57**	**0.073**	**0.16**	**0.66**	--	--	--
S-17 20-20.5	6/10/2002	20.0	<1.0	<.005	<.005	<.005	**0.013**	--	--	--
S-18 2.5-3	6/10/2002	2.5	<1.0	<.005	<.005	<.005	<.005	--	--	--
MW-5 Installation										
MW-5-9.5	9/27/2001	9.5	**3.9**	<0.0050	<0.0050	**0.0069**	**0.019**	<0.50	--	--
MW-5-14.0	9/27/2001	14.5	**790**	**2.7**	**30**	**11**	**67**	<1.0	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
December 2000 Geoprobe Investigation										
GP-1-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-1-10	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-1-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-1-20	12/11/2000	20.0	120	<0.020	**0.022**	**0.64**	**1.1**	<0.020	--	--
GP-2-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-2-10.5	12/11/2000	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-2-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-3-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-3-10.0	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-3-15.0	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-4-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-4-10	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-4-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-5-5	12/11/2000	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-5-10	12/11/2000	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
GP-5-15	12/11/2000	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
March 1996 Investigation										
SB-A/(MW-1)-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	**160**	--
SB-A/(MW-1)-16.0	03/06/96	16.0	**9.8**	**1.9**	**0.4**	**0.22**	**1.1**	--	**57**	--
SB-A/(MW-1)-20.5	03/06/96	20.5	**5.9**	**0.89**	**0.049**	**0.19**	**0.25**	--	**80**	--
SB-B/(MW-2)-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-B/(MW-2)-16.0	03/06/96	16.0	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-C-11.75	03/06/96	11.8	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-C-15.5	03/06/96	15.5	**1.9**	**0.022**	**0.12**	**0.086**	**0.32**	--	--	--
SB-D/(MW-3)-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-D/(MW-3)-15.5	03/06/96	15.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-E-10.5	03/06/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	<50	--
SB-E-16.0	03/06/96	16.0	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	200	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
SB-F(VW/AS)-1-5.5	03/07/96	5.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-F(VW/AS-1)-10.5	03/07/96	10.5	**62**	**0.97**	**4.2**	**1.4**	**8.0**	--	--	--
SB-F(VW/AS-1)-15.5	03/07/96	15.5	**7.4**	**1.7**	**0.44**	**0.2**	**0.6**	--	--	--
SB-F(VW/AS-1)-20.5	03/07/96	20.5	**20**	**2.6**	**1.7**	**0.5**	**2.0**	--	--	--
SB-G(VW/MW-2)-8.5	03/07/96	8.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-G(VW/MW-2)-10.5	03/07/96	10.5	<1.0	0.0032	<0.0025	<0.0025	<0.0025	--	--	--
SB-G(VW/MW-2)-20.5	03/07/96	20.5	**2.9**	**0.47**	**0.34**	**0.15**	**0.57**	--	--	--
SB-H(VW/AS-3)-8.5	03/07/96	8.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-H(VW/AS-3)-10.5	03/07/96	10.5	<1.0	**0.018**	<0.0025	<0.0025	**0.014**	--	--	--
SB-H(VW/AS-3)-21.0	03/07/96	21.0	**1.0**	**0.047**	**0.016**	**0.0037**	**0.017**	--	--	--
SB-I(VW/MW-4)-5.5	03/08/96	5.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-I(VW/MW-4)-8.5	03/08/96	8.5	**80**	**0.14**	**0.33**	**1.3**	**5.2**	--	--	--
SB-I(VW/MW-4)-15.5	03/08/96	15.5	**3.4**	**0.23**	**0.093**	**0.1**	**0.42**	--	--	--
SB-J-10.5	03/08/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
SB-K(MW-4)-10.5	03/08/96	10.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--
Product Piping Samples										
TS-1-4.0	11/27/1995	4	<1.0	<0.0050	0.005	<0.0050	<0.0050	--	--	--
TS-2-2.0	11/27/1995	2	<1.0	<0.0050	0.0057	<0.0050	**0.0075**	--	--	--
TS-3-3.0	11/27/1995	3	<1.0	<0.0050	<0.0050	<0.0050	**0.0069**	--	--	--
TS-4-3.0	11/27/1995	3	<0.005	**0.011**	**0.038**	**0.0073**	**0.043**	--	--	--
TS-5-2.5	11/27/1995	2.5	**46**	<0.10	<0.10	<0.10	**2**	--	--	--
TS-6-3.0	11/27/1995	3	**3,100**	**30**	<6.0	**33**	**230**	--	--	--
Tankpit Excavation Confirmation Samples										
S2-15.0	11/27/1995	15	**3,600**	<6.0	**140**	**78**	**430**	--	--	--
S3-15.0	11/27/1995	15	**1,000**	**7.6**	**33**	**19**	**100**	--	--	--
S4-15.0	11/27/1995	15	**5,600**	**72**	**280**	**110**	**580**	--	--	--
S5-15.0	11/27/1995	15	**2,800**	**36**	**160**	**64**	**350**	--	--	--
S6-15.0	11/27/1995	15	**3,800**	<6.0	<6.0	**76**	**350**	--	--	--
S7-15.0	11/27/1995	15	**570**	<0.50	<0.50	**4.9**	**13**	--	--	--
S8-15.0	11/27/1995	15	**3,200**	**60**	**200**	**69**	**350**	--	--	--
S9-15.0	11/27/1995	15	**5,100**	**62**	**260**	**110**	**570**	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			←			(ppm)				→
1993 UST and Dispenser Removal Samples										
S-1	08/25/93	8.5	67	0.038	0.089	0.110	0.380	--	7,700	1,200
S-2	08/25/93	14.0	2,200	1.4	3.2	3.5	13	--	--	--
S-3	08/25/93	11.0	530	0.4	0.76	0.83	3.1	--	--	--
S-4	08/25/93	11.0	40	0.031	0.059	0.066	0.29	--	--	--
S-5	08/25/93	11.0	1.4	<0.005	0.0063	0.0081	0.025	--	--	--
S-6	08/25/93	13.0	1,600	0.97	2.3	2.7	10	--	--	--
S-7	08/25/93	11.0	11,000	6.7	16	18	69	--	--	--
S-8	08/25/93	11.0	18,000	11	26	30	110	--	--	--
S-9	08/25/93	11.0	6,200	3.7	8.7	10	37	--	--	--
DS-1	08/25/93	1.0	0.013	0.0070	0.017	0.021	0.072	--	--	--
DS-2	08/25/93	1.0	0.0020	0.0053	0.0089	0.012	0.031	--	--	--
DS-3	08/25/93	1.0	0.0013	<0.0050	0.0059	0.0061	0.018	--	--	--
DS-4	08/25/93	1.0	0.0027	0.0055	0.0094	0.016	0.047	--	--	--
DS-5	08/25/93	1.0	0.0034	0.0059	0.011	0.018	0.061	--	--	--
DS-6	08/25/93	1.0	0.011	0.0068	0.015	0.018	0.064	--	--	--
VSW-1	08/25/93	6.0	4,800	2.9	7.0	8.0	30	--	--	--
VSW-2	08/25/93	6.0	0.021	0.15	0.29	0.33	1.3	--	--	--
1991 Soil Borings										
SB1-6-6.5	2/21/1991	6.0	11	0.014	0.37	0.22	1.2	--	--	--
SB1-10.5-11	2/21/1991	10.5	4.6	0.15	0.5	0.13	0.68	--	--	--
SB1-15.5-16	2/21/1991	15.5	7.5	2.1	1.8	0.18	1.1	--	--	--
SB2-6-6.5	2/21/1991	6.0	<1.0	<.0050	<.0050	<.0050	0.034	--	--	--
SB2-10.5-11	2/21/1991	10.5	1.8	0.062	0.038	0.035	0.085	--	--	--
SB2-15.5-16	2/21/1991	15.5	6.1	1.2	1.4	0.15	0.8	--	--	--
SB3-6-6.5	2/21/1991	6.0	<1.0	0.038	0.0054	0.015	0.034	--	--	--
SB3-10.5-11	2/21/1991	10.5	1,600	18	98	35	190	--	--	--
SB3-15.5-16	2/21/1991	15.5	2.4	0.31	0.21	0.064	0.35	--	--	--

Table 1 Cumulative Soil Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oil and Grease	TPHd
			← (ppm)				→			

Notes:

ppm = parts per million (milligrams per kilogram).

TPHg = Total Petroleum Hydrocarbons as gasoline, analyzed by EPA Method 8015 or 8260B.

TPHd = Total Petroleum Hydrocarbons as diesel, analyzed by EPA Method 8015.

Benzene, toluene, ethylbenzene, and xylene analyzed by EPA Method 8020 or 8260B.

MTBE = Methyl tertiary butyl ether, analyzed by EPA Method 8020 or 8260B.

Petroleum oil and grease (POG) by Standard Method 5520.

-- = Not sampled or not analyzed
ppm=parts per million
<x=not detected above x ppm

G:\Oakland 1230 14th\Tables\[Cumulative 1230 14th Soil & GW Summary.xls]Table 1 -Cumul Soil TPHg&BTEX

Table 2: Groundwater Analytical Results - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Sample ID	Date	Depth to Water (fbg)	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
			←			(ppb)	→	
November 2003 Post-Peroxide Injection Sampling								
S-18	11/7/2003	~12.5	75,000	3,600	10,000	2,200	12,000	--
S-19	11/7/2003	~12.5	18,000	540	980	480	2,300	--
S-20	11/7/2003	~12.5	1,500	1,100	15	66	38	--
S-21	11/7/2003	~12.5	34,000	2,400	2,300	1,200	5,000	--
2002 Off-Site Investigation								
HA-1	7/23/2002	14.0	55	<0.5	<0.5	<0.5	1.2	--
HA-2	7/23/2002	14.0	83	<0.5	0.77	0.52	2.8	--
HA-3	7/23/2002	15.0	<50	<0.5	<0.5	<0.5	<0.5	--
HA-4	7/23/2002	15.0	<50	<0.5	<0.5	<0.5	<0.5	--
2002 On-Site Investigation								
S-10 W	6/7/2002	17	34,000	760	940	930	5,200	--
S-11 W	6/7/2002	22	78,000	2,000	7,000	2,600	14,000	--
S-12 W	6/7/2002	18	180,000	9,600	28,000	49,000	28,000	--
S-13 W	6/7/2002	17.0	22,000	2,400	850	900	1,900	--
S-14 W	6/10/2002	17.0	260,000	6,900	49,000	6,200	35,000	--
S-15 W	6/10/2002	17.0	130,000	15,000	15,000	4,100	20,000	--
S-16 W	6/10/2002	17.0	70,000	940	2,100	3,200	15,000	--
S-17 W	6/10/2002	17.0	69,000	2,600	1,000	1,900	13,000	--
December 2000 Geoprobe Investigation								
GP-1-17	12/11/2000	17.0	**2,200**	**11**	**3.8**	**69**	**170**	**0.67**
GP-2-16	12/11/2000	16.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
GP-3-16	12/11/2000	16.0	**9,800**	**4,400**	**120**	**650**	**90**	<20
GP-4-16	12/11/2000	16.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
GP-5-16	12/11/2000	16.0	<50	<0.50	<0.50	<0.50	**0.80**	<0.50

Abbreviations and Notes:
ppm = parts per million (milligrams per kilogram).
TPHg = Total Petroleum Hydrocarbons as gasoline, analyzed by EPA Method 8260B.
Benzene, toluene, ethylbenzene, and xylene analyzed by EPA Method 8260B.
MTBE = Methyl tertiary butyl ether, analyzed by EPA Method 8260B.

G:\Oakland 1230 14th\Tables\[Cumulative 1230 14th Soil & GW Summary.xls]Table 2-Cumulative Water Data

Table 3. Cleanup Levels and Cleanup Goals
Former Shell Service Station, Incident #97088250, 1230 14th Street, Oakland, CA

Chemical of Concern	Cleanup Level Soil[1] (ppm)	Cleanup Level Groundwater[2] (ppb)	Cleanup Goal Soil[1] (ppm)	Cleanup Goal Groundwater (ppb)
Benzene	0.7	1,400	0.7	1[4]
Toluene	370	>Sol	370	150[4]
Ethylbenzene	SAT	>Sol	SAT	700[4]
Xylenes	SAT	>Sol	SAT	1750[4]
TPHg	400[3]	500[3]	400[3]	500[3]

Notes:
RBSL = Risk-Based Screening Level
[1] Oakland RBSL for volatilization of BTEX from groundwater into indoor air in a residential setting, for Merritt Sands
[2] Oakland RBSL for volatilization of BTEX from subsurface soil to indoor air in a residential setting, for Merritt Sands
[3] SF RWQCB RBSL Tier 1 Lookup Table D, Interim Final December 2001
[4] SF RWQCB Water Quality Objectives for Municipal Supply (June 1995 Basin Plan, Table 3-5)
SAT = RBSL exceeds the saturated soil concentration of the chemical
>Sol = RBSL exceeds solubility of chemical in water

Revised 3/4/03 per ACHCSA letter dated February 18, 2003

G:\Oakland 1230 14th\2003 Peroxide Injection\[Final Groundwater Data.xls]Cleanup Levels & Goals 3-4-03

Table 4: Groundwater Extraction - Mass Removal Data - Former Shell Service Station, Incident #97088250, 1230 14th St., Oakland, California

					TPPH			Benzene		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)
06/11/02	MW-5	300	300	04/17/02	33,000	0.08261	0.08261	3,800	0.00951	0.00951
06/25/02	MW-5	200	500	04/17/02	33,000	0.05507	0.13768	3,800	0.00634	0.01585
07/09/02	MW-5	415	915	04/17/02	33,000	0.11428	0.25196	3,800	0.01316	0.02901
07/23/02	MW-5	300	1,215	04/17/02	33,000	0.08261	0.33457	3,800	0.00951	0.03853
08/06/02	MW-5	300	1,515	04/17/02	33,000	0.08261	0.41718	3,800	0.00951	0.04804
08/20/02	MW-5	185	1,700	04/17/02	33,000	0.05094	0.46812	3,800	0.00587	0.05390
09/03/02	MW-5	151	1,851	04/17/02	33,000	0.04158	0.50970	3,800	0.00479	0.05869
09/19/02	MW-5	400	2,251	04/17/02	33,000	0.11015	0.61984	3,800	0.01268	0.07138
10/01/02	MW-5	375	2,626	04/17/02	33,000	0.10326	0.72311	3,800	0.01189	0.08327
10/17/02	MW-5	150	2,776	04/17/02	33,000	0.04130	0.76441	3,800	0.00476	0.08802
11/01/02	MW-5	327	3,103	04/17/02	33,000	0.09004	0.85445	3,800	0.01037	0.09839
11/15/02	MW-5	200	3,303	11/11/02	100,000	0.16689	1.02134	7,100	0.01185	0.11024
12/03/02	MW-5	200	3,503	11/11/02	100,000	0.16689	1.18823	7,100	0.01185	0.12209
12/31/02	MW-5	391	3,894	11/11/02	100,000	0.32626	1.51449	7,100	0.02316	0.14525
01/17/03	MW-5	463	4,357	11/11/02	100,000	0.38634	1.90084	7,100	0.02743	0.17268
01/29/03	MW-5	2,780	7,137	11/11/02	100,000	2.31973	4.22057	7,100	0.16470	0.33739
02/04/03	MW-5	250	7,387	11/11/02	100,000	0.20861	4.42918	7,100	0.01481	0.35220
02/18/03	MW-5	400	7,787	11/11/02	100,000	0.33377	4.76295	7,100	0.02370	0.37589
03/04/03	MW-5	350	8,137	11/11/02	100,000	0.29205	5.05500	7,100	0.02074	0.39663
11/10/03	MW-5	250	8,387	10/29/03	45,000	0.09387	5.14888	6,800	0.01419	0.41082
12/12/03	MW-5	204	8,591	10/29/03	45,000	0.07660	5.22548	6,800	0.01158	0.42239
01/30/04	MW-5	300	8,891	01/05/04	26,000	0.06509	5.29056	4,900	0.01227	0.43466
02/26/04	MW-5	400	9,291	01/05/04	26,000	0.08678	5.37735	4,900	0.01635	0.45101
03/31/04	MW-5	255	9,546	01/05/04	26,000	0.05532	5.43267	4,900	0.01043	0.46144

Table 4: Groundwater Extraction - Mass Removal Data - Former Shell Service Station, Incident #97088250, 1230 14th St., Oakland, California

					TPPH			Benzene		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)
04/28/04	MW-5	300	9,846	04/01/04	29,000	0.07260	5.50526	5,300	0.01327	0.47471
Total Gallons Extracted:			**9,846**		**Total Pounds Removed:**		**5.50526**			**0.47471**
					Total Gallons Removed:		**0.90250**			**0.06503**

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline
ppb = Parts per billion
gal = Gallons
Mass removed based on the formula: volume extracted (gal) x concentration (µg/L) x ($g/10^6 \mu g$) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPPH and benzene analyzed by EPA Method 8260
Concentrations based on most recent groundwater monitoring results
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.
Groundwater extracted by vacuum trucks provided by Phillips Services. Water disposed of at a Martinez Refinery.

G:\Oakland 1230 14th\VacOps\[mass removal.xls]Oakland, 1230 14th - TFE

Table 5: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #97088250, 1230 14th Street, Oakland, Califor

Date Purged	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	TPPH TPHg Removal Rate (#/hour)	TPPH Cumulative TPHg Removed (#)	Benzene Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)
09/19/02	MW-5	4.00	10.1	150	25	0.020	0.081	0.003	0.012
10/01/02	MW-5	4.00	11.1	2,100	23	0.312	1.327	0.003	0.025
10/17/02	MW-5	4.00	9.3	1,100	20	0.137	1.874	0.002	0.034
11/01/02	MW-5	4.00	10.0	520	8.9	0.070	2.152	0.001	0.038
11/15/02	MW-5	4.00	8.5	1,500	16	0.170	2.834	0.002	0.045
12/03/02	MW-5	4.00	7.7	1,300	15	0.134	3.370	0.001	0.050
12/31/02	MW-5	4.25	10.9	560	13	0.082	3.716	0.002	0.057
01/17/03	MW-5	4.00	9.1	260	14	0.032	3.843	0.002	0.064
01/29/03	MW-5	4.08	13.4	340	12	0.061	4.091	0.002	0.072
02/04/03	MW-5	2.50	NA	190	1.1	0.000	4.091	0.000	0.072
02/18/03	MW-5	4.00	NA	56	0.29	0.000	4.091	0.000	0.072
03/04/03	MW-5	4.00	21.5	31	2.8	0.009	4.127	0.001	0.075
11/10/03	MW-5	4.75	10.3	890	8.2	0.123	4.709	0.001	0.079
12/12/03	MW-5	4.00	13.0	1,200	14	0.209	5.543	0.002	0.088
01/30/04	MW-5	4.00	12.9	48	2.5	0.008	5.576	0.000	0.090
02/26/04	MW-5	4.50	4.2	67	1.4	0.004	5.593	0.000	0.090
03/31/04	MW-5	4.92	20.7	26	2.3	0.007	5.629	0.001	0.093
04/28/04	MW-5	4.00	17.9	12	2.7	0.003	5.640	0.001	0.095
Total Pounds Removed:						**TPHg =**	**5.640**	**Benzene =**	**0.095**

Table 5: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #97088250, 1230 14th Street, Oakland, Califor

Abbreviations and Notes:

CFM = Cubic feet per minute

TPHg = Total petroleum hydrocarbons as gasoline (C6-C12) by modified EPA Method 8015 in 1 liter tedlar bag samples

ppmv = Parts per million by volume

= Pounds

NA = Not available

TPHG, Benzene, and MTBE analyzed by EPA Method 8015/8020 in 1 liter tedlar bag samples

TPHg / Benzene / MTBE removal rate = Rate based on Bay Area Air Quality Management District's Manual of Procedures for Soil Vapor Extraction dated July 17, 1991.

(Rate = Concentration (ppmv) x system flow rate (cfm) x (1lb-mole/386ft3) x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene, 88 lb/lb-mole for MTBE) x 60 min/hour x 1/1,000,000)

Cumulative TPHg / Benzene / MTBE removal = Previous removal rate multiplied by the hour-interval of operation plus the previous total

If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.

G:\Oakland 1230 14th\VacOps\[mass removal.xls]Oakland, 1230 14th - Vapor

Table 6: Groundwater Analytical Results - Additional Analyses - Former Shell-branded Service Station, 1230 14th St., Oakland, California - Incident #97088250

Well ID	Date	Temperature (F)	Post-Purge Dissolved Oxygen (mg/L)	pH	Conductivity (uS)	Turbidity (NTU)	Chromium (mg/L)	Hexavalent Chromium (mg/L)
MW-1	3/13/2003	63.0	0.9	7.1	791	>200	NA	NA
MW-1	4/23/2003	61.6	0.1	6.9	797	310	0.26	0.010
MW-1	5/13/2003	62.5	0.2	6.6	755	>200	NA	NA
MW-1	6/13/2003	63.3	0.8	6.8	965	107	NA	NA
MW-5	3/13/2003	64.8	0.3	6.8	1,423	>200	NA	NA
MW-5	4/7/2003*	65.3	NA	6.7	1,083	>200	NA	NA
MW-5	4/23/2003	65.0	0.1	6.9	1,322	>1,000	0.038	0.020
MW-5	5/13/2003	65.0	0.3	6.5	1,498	>200	NA	NA
MW-5	6/13/2003	64.9	0.3	6.7	1,599	>200	NA	NA
VW/AS-1	3/13/2003	65.9	1.9	6.9	1,396	>200	NA	NA
VW/AS-1	4/7/2003*	64.5	NA	6.8	1,508	>200	NA	NA
VW/AS-1	4/23/2003	63.5	0.4	6.9	1,505	>1,000	0.48	0.020
VW/AS-1	5/13/2003	64.0	2.0	6.5	2,002	>200	NA	NA
VW/AS-1	6/13/2003	65.0	0.5	6.9	1,422	>200	NA	NA
VW/MW-2	4/7/2003*	64.4	NA	6.6	840	>200	NA	NA
VW/MW-2	4/23/2003	63.7	0.3	6.7	837	>1,000	0.54	0.010
VW/MW-2	5/13/2003	64.0	0.2	6.5	870	>200	NA	NA
VW/MW-2	6/13/2003	64.7	0.5	6.7	877	>200	NA	NA
VW/AS-3	4/23/2003	64.1	0.7	6.6	1,174	>1,000	0.26	0.020
VW/AS-3	5/13/2003	65.2	1.8	6.5	1,079	>200	NA	NA
VW/AS-3	6/13/2003	65.0	0.8	6.6	1119	>200	NA	NA
Reporting Limit							0.005	0.010

* wells redeveloped - no samples collected

G:\Oakland 1230 14th\2003 Peroxide Injection\[Final Groundwater Data.xls]Table 6 - Add'l GW Analytes

Table 7 - Injection Point Construction Details - Former Shell-branded Service Station, 1230 14th St., Oakland, California
Incident #97088250

Installation Date 9/11/03

Well ID	Diameter	Sand Pack	Screen Top (fbg)	Screen Bottom fbg)	Perforations Holes per foot	Total Depth (fbg)	Notes
P-1	0.75"	none	8	18	4/ ft	18	
P-2	0.75"	none	12	22	4/ ft	22	
P-3	0.75"	none	8	18	4/ ft	19	Geoprobe met refusal at 19 ft, bottom 1.0 ft collapsed
P-4	0.75"	none	7.5	17.5	4/ ft	17.5	
P-5	0.75"	none	9	19	4/ ft	19	
P-6	0.75"	none	7	17	4/ ft	18	Geoprobe met refusal at 18 ft
P-7	0.75"	none	10	20	4/ ft	20	Geoprobe met refusal at 20 ft
P-8	0.75"	none	10	20	4/ ft	20	Geoprobe met refusal at 20 ft
P-9	0.75"	none	10	20	4/ ft	20	
P-10	0.75"	none	7.5	17.5	4/ ft	19	Geoprobe met refusal at 19 ft, bottom 1.5 ft collapsed
P-11	0.75"	none	10	20	4/ ft	20	
P-12	0.75"	none	10	20	4/ ft	20	

G:\Oakland 1230 14th\2003 Peroxide Injection\[Injection point construction details.xls]Sheet1

Table 8: Soil Analytical Results - Additional Analyses - Former Shell-branded Service Station, 1230 14th St., Oakland, California

Incident #97088250

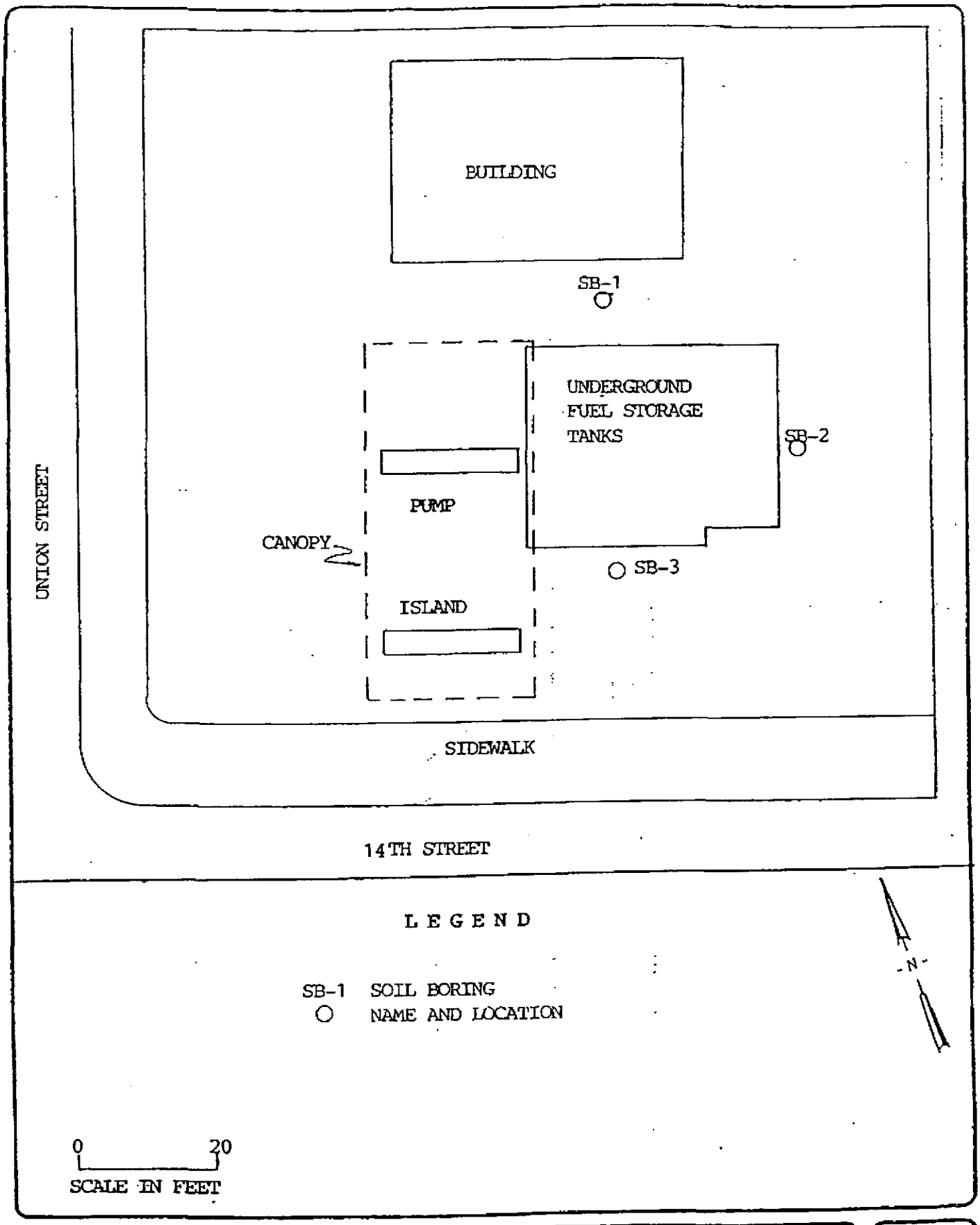
Sample ID	Date	Depth (fbg)	pH	Total Organic Carbon	Alkalinity as $CaCO_3$	Total Iron	Trivalent Chromium	Hexavalent Chromium
						(ppm)		
S-12 15-15.5	6/7/2002	15.0	8.05	570	300	13,700	39.8	ND
S-13-12.5-13	6/7/2002	12.5	8.39	720	330	12,700	40.0	ND
S-16 17.5-18	6/10/2002	17.5	7.75	340	640	16,200	58.1	ND
S-17 12.5-13	6/10/2002	12.5	7.87	530	290	14,500	42.6	ND
S-21-14	11/7/2003	14.0	--	940	<20	14,000	--	--
S-21-24	11/7/2003	24.0	--	250	<20	7,100	--	--

ppm = parts per million (milligrams per kilogram).

G:\Oakland 1230 14th\Tables\[Cumulative 1230 14th Soil & GW Summary.xls]Table 8-Add'l soil Analyses

ATTACHMENT A

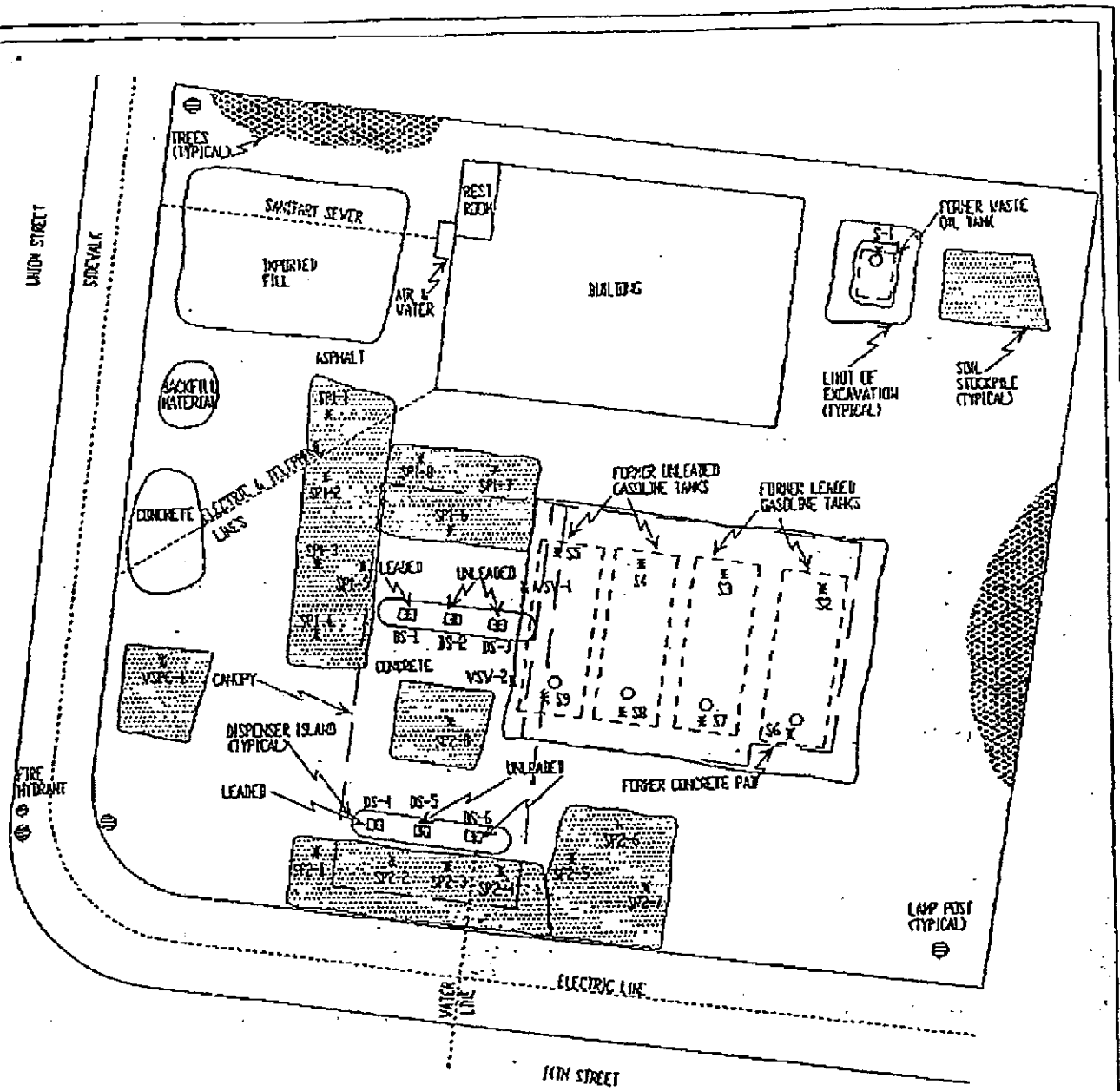
Tank Protect Engineering's 1991 and 1993 Site Plans



TANK PROTECT ENGINEERING
Of Northern California

SITE PLAN
1230 14TH STREET
OAKLAND, CALIFORNIA

FIGURE



LEGEND

- o FILL HOLE
- S-1 NAME AND LOCATION
- x OF SOIL SAMPLE

N

0 20

SCALE IN FEET

TANK PROTECT ENGINEERING

SITE PLAN

3230 14TH STREET
OAKLAND, CA

DATE	9/1/93
FIGURE	
FILE #	150-1
DRAWN BY	JN
CHECKED BY	AK

ATTACHMENT B

Blaine's Groundwater Monitoring Report Summary Table

BLAINE
TECH SERVICES INC.

GROUNDWATER SAMPLING SPECIALISTS
SINCE 1985

February 3, 2005

Karen Petryna
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

First Quarter 2005 Groundwater Monitoring at
Former Shell Service Station
1230 14th Street
Oakland, CA

Monitoring performed on January 4, 2005

Groundwater Monitoring Report **050104-WC-1**

This report covers the routine monitoring of groundwater wells at this Former Shell facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Leon Gearhart
Project Coordinator

LG/ks

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Anni Kreml
Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	03/25/1996	37,000	7,400	1,500	720	3,300	<500	NA	18.58	9.53	9.05	NA
MW-1	06/21/1996	35,000	9,900	460	340	3,500	890	NA	18.58	10.72	7.86	NA
MW-1	09/26/1996	19,000	8,200	510	780	790	<250	NA	18.58	12.88	5.70	NA
MW-1	12/19/1996	27,000	120	1,200	1,400	2,800	<100	NA	18.58	12.59	5.99	NA
MW-1	12/19/1996	32,000	12,000	1,300	1,600	3,100	830	NA	18.58	12.59	5.99	NA
MW-1	03/25/1997	39,000	13,000	1,600	840	3,100	730	NA	18.58	11.10	7.48	1.2
MW-1	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.58	12.42	6.16	NA
MW-1	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.58	13.31	5.27	0.8
MW-1	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.58	12.65	5.93	0.3
MW-1	02/19/1998	16,000	5,500	450	500	800	<500	NA	18.58	6.46	12.12	2.4
MW-1	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.58	6.62	11.96	1.2
MW-1	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.58	11.83	6.75	2.8
MW-1	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.58	12.01	6.57	2.6
MW-1	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.58	9.15	9.43	2.2
MW-1	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.58	11.22	7.36	3.8
MW-1	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.58	11.89	6.69	3.0
MW-1	12/27/1999	34,800	8,660	953	956	2,770	<1,000	NA	18.58	13.55	5.03	2.4/2.1
MW-1	01/21/2000	40,600	14,700	1,850	1,210	3,670	<500	NA	18.58	13.42	5.16	2.8
MW-1	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.58	8.11	10.47	0.4
MW-1	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.58	9.78	8.80	3.0/3.4
MW-1	04/18/2000	18,300	8,060	543	528	872	<50.0	NA	18.58	NA	NA	NA
MW-1	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.58	13.11	5.47	5.2
MW-1	10/17/2000	15,800	6,720	435	587	887	351	<66.7	18.58	12.61	5.97	1.2/0.8
MW-1	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.58	12.94	5.64	0.3
MW-1	04/27/2001	1,400	650	28	58	48	NA	<10	18.58	10.73	7.85	1.8/2.1
MW-1	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.58	12.00	6.58	1.8
MW-1	12/06/2001	4,500	1,500	85	160	210	NA	<50	18.58	10.53	8.05	2.5/2.9
MW-1	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.58	9.33	9.25	0.1
MW-1	04/17/2002	230	12	<0.50	4.6	2.5	NA	<5.0	18.58	10.49	8.09	6.3/5.3
MW-1	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.58	11.98	6.60	1.2

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	11/11/2002	12,000	2,600	240	470	640	NA	8.5	18.58	13.00	5.58	0.2/0.2
MW-1	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.58	9.68	8.90	4.4
MW-1	03/13/2003	820	340	2.7	<2.0	3.2	NA	<20	18.58	10.45	8.13	2.8/0.9
MW-1	04/23/2003	900	550	19	49	49	NA	<50	18.58	10.32	8.26	0.9/0.1
MW-1	05/13/2003	740	510	18	43	46	NA	<50	18.58	10.28	8.30	0.1/0.2
MW-1	06/13/2003	<5,000	1,500	82	180	250	NA	<500	18.58	11.16	7.42	0.3/0.8
MW-1	07/14/2003	5,300	3,400	160	340	420	NA	<20	18.58	11.66	6.92	0.6/0.3
MW-1	09/29/2003	10,000	5,700	400	670	1,000	NA	<50	18.58	12.44	6.14	0.6/0.7
MW-1	10/29/2003	19,000	6,600	560	820	1,300	NA	26	18.58	12.63	5.95	0.6/0.4
MW-1	01/05/2004	380	140	7.1	6.2	16	NA	<1.0	18.58	10.17	8.41	5.0/0.8
MW-1	04/01/2004	79	0.59	<0.50	<0.50	<1.0	NA	<0.50	18.58	9.57	9.01	4.6/1.2
MW-1	07/02/2004	4,100	2,100	33	110	81	NA	<10	18.58	11.81	6.77	0.6/0.5
MW-1	11/03/2004	8,000	3,800	150	480	460	NA	<25	18.58	12.53	6.05	1.45/2.1
MW-1	**01/04/2005**	**120**	**23**	**1.6**	**2.0**	**3.5**	**NA**	**<0.50**	**18.58**	**9.39**	**9.19**	**4.21/2.82**
MW-2	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	8.19	9.71	NA
MW-2	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	9.94	7.96	NA
MW-2	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.15	5.75	NA
MW-2	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	17.90	11.70	6.20	NA
MW-2	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	9.25	8.65	1.8
MW-2	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	11.36	6.54	2.4
MW-2	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.56	5.34	1.1
MW-2	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.56	5.34	1.1
MW-2	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	11.15	6.75	0.7
MW-2	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	5.61	12.29	2.7
MW-2	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	17.90	5.58	12.32	3.2
MW-2	08/25/1998	NA	NA	NA	NA	NA	NA	NA	17.90	10.67	7.23	1.7
MW-2	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	17.90	11.65	6.25	0.4/0.8
MW-2	03/26/1999	NA	NA	NA	NA	NA	NA	NA	17.90	8.60	9.30	0.7
MW-2	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	17.90	10.30	7.60	2.3

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-2	09/30/1999	NA	NA	NA	NA	NA	NA	NA	17.90	10.77	7.13	1.9
MW-2	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	17.90	12.21	5.69	0.7/0.7
MW-2	03/07/2000	NA	NA	NA	NA	NA	NA	NA	17.90	7.13	10.77	1.1
MW-2	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	17.90	8.35	9.55	1.8/1.8
MW-2	09/21/2000	NA	NA	NA	NA	NA	NA	NA	17.90	11.76	6.14	2.1
MW-2	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	17.90	11.80	6.10	0.9/0.6
MW-2	01/09/2001	NA	NA	NA	NA	NA	NA	NA	17.90	12.14	5.76	0.7
MW-2	04/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	17.90	9.85	8.05	1.1/0.9
MW-2	07/03/2001	NA	NA	NA	NA	NA	NA	NA	17.90	11.20	6.70	1.2
MW-2	12/06/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	17.90	10.77	7.13	3.9/2.1
MW-2	01/23/2002	NA	NA	NA	NA	NA	NA	NA	17.90	8.64	9.26	2.5
MW-2	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	17.90	9.61	8.29	3.5/5.2
MW-2	07/18/2002	NA	NA	NA	NA	NA	NA	NA	17.90	11.09	6.81	1.4
MW-2	11/11/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	17.90	12.16	5.74	0.2/0.3
MW-2	01/16/2003	NA	NA	NA	NA	NA	NA	NA	17.90	8.92	8.98	1.7
MW-2	03/13/2003	NA	NA	NA	NA	NA	NA	NA	17.90	9.60	8.30	1.1
MW-2	04/23/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	17.90	9.48	8.42	0.4/0.2
MW-2	05/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	17.90	9.45	8.45	0.5/0.3
MW-2	06/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	17.90	10.28	7.62	0.6/0.9
MW-2	07/14/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	17.90	10.67	7.23	0.5/.09
MW-2	09/29/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	17.90	11.58	6.32	1.9/1.3
MW-2	10/29/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	17.90	11.76	6.14	4.3/0.5
MW-2	01/05/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	17.90	9.36	8.54	1.2/0.8
MW-2	04/01/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	17.90	8.77	9.13	4.0/0.3
MW-2	07/02/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	17.90	11.04	6.86	0.4/0.3
MW-2	11/03/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	0.54	17.90	11.71	6.19	6.4/1.40
MW-2	**01/04/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**0.62**	**17.90**	**8.68**	**9.22**	**4.41/2.88**
MW-3	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	8.47	9.71	NA
MW-3	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	10.40	7.78	NA

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-3	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	12.45	5.73	NA
MW-3	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	18.18	12.14	6.02	NA
MW-3	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	9.54	8.64	2.2
MW-3	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	11.66	6.52	3.6
MW-3	09/26/1997	<50	<0.50	<050	<0.50	<0.50	<2.5	NA	18.18	12.85	5.33	1.1
MW-3	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	11.44	6.74	0.6
MW-3	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	6.78	11.40	3.6
MW-3	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.18	6.82	11.36	3.8
MW-3	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.18	6.82	11.36	3.8
MW-3	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.18	11.09	7.09	1.2
MW-3	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	18.18	11.84	6.34	0.9/0.6
MW-3	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.18	8.57	9.61	0.8
MW-3	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.18	10.61	7.57	4.8
MW-3	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.18	11.53	6.65	1.4
MW-3	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.18	12.35	5.83	1.4/2.5
MW-3	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.17	7.36	10.81	5.8
MW-3	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	19.3	NA	18.17	8.39	9.78	6.5/5.1
MW-3	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.17	12.01	6.16	3.0
MW-3	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.17	12.10	6.07	2.0/1.0
MW-3	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.17	12.43	5.74	1.9
MW-3	04/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	18.17	10.10	8.07	2.3/2.4
MW-3	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.17	11.45	6.72	1.4
MW-3	12/06/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.17	11.07	7.10	2.8/3.9
MW-3	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.17	8.89	9.28	3.1
MW-3	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.17	9.92	8.25	3.7/3.2
MW-3	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.17	11.42	6.75	1.6
MW-3	11/11/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.17	12.44	5.73	0.3/0.4
MW-3	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.17	9.25	8.92	2.1
MW-3	03/13/2003	NA	NA	NA	NA	NA	NA	NA	18.17	9.84	8.33	1.2
MW-3	04/23/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.17	9.71	8.46	0.7/0.2

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-3	05/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.17	9.70	8.47	0.6/0.2
MW-3	06/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.17	10.58	7.59	0.4/1.3
MW-3	07/14/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.17	10.98	7.19	0.4/.03
MW-3	09/29/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.17	11.84	6.33	1.4/1.1
MW-3	10/29/2003	58 b	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.17	12.05	6.12	0.8/0.4
MW-3	01/05/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.17	9.70	8.47	1.3/0.7
MW-3	04/01/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.17	9.03	9.14	1.2/0.6
MW-3	07/02/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.17	11.15	7.02	0.7/0.5
MW-3	11/03/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.17	11.98	6.19	1.65/2.75
MW-3	**01/04/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**<0.50**	**18.17**	**8.98**	**9.19**	**3.21/1.87**
MW-4	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	9.20	8.81	NA
MW-4	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	10.25	7.76	NA
MW-4	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	12.29	5.72	NA
MW-4	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	18.01	12.47	5.54	NA
MW-4	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	9.44	8.57	1.8
MW-4	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.57	6.44	6.2
MW-4 (D)	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.57	6.44	6.2
MW-4	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	12.75	5.26	2.1
MW-4	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.37	6.64	1.0
MW-4 (D)	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.37	6.64	1.0
MW-4	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	5.59	12.42	6.5
MW-4	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.01	5.65	12.36	2.6
MW-4	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.01	10.98	7.03	2.4
MW-4	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	18.01	11.83	6.18	1.3/1.2
MW-4	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.01	8.40	9.61	1.9
MW-4	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.01	10.53	7.48	7.6
MW-4	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.01	11.03	6.98	2.6
MW-4	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.01	12.53	5.48	1.9/0.8
MW-4	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.01	7.00	11.01	6.5

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-4	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.01	8.57	9.44	5.1/5.1
MW-4	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.01	12.05	5.96	3.0
MW-4	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.01	11.96	6.05	5.5/1.2
MW-4	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.01	12.33	5.68	2.1
MW-4	04/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	18.01	9.96	8.05	5.3/3.8
MW-4	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.01	11.35	6.66	4.5
MW-4	12/06/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.01	10.99	7.02	10.23/6.5
MW-4	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.01	8.80	9.21	8.8
MW-4	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.01	9.75	8.26	7.0/5.1
MW-4	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.01	11.32	6.69	5.3
MW-4	11/11/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.01	12.36	5.65	3.6/2.0
MW-4	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.01	10.33	7.68	6.5
MW-4	03/13/2003	NA	NA	NA	NA	NA	NA	NA	18.01	10.06	7.95	6.5
MW-4	04/23/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.01	9.57	8.44	5.1/5.7
MW-4	05/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.01	9.55	8.46	2.0/2.5
MW-4	06/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.01	10.50	7.51	5.0/5.6
MW-4	07/14/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.01	10.86	7.15	3.9/4.2
MW-4	09/29/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.01	11.74	6.27	1.6/1.4
MW-4	10/29/2003	58 b	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.01	11.95	6.06	2.4/1.0
MW-4	01/05/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.01	10.35	7.66	7.4/7.5
MW-4	04/01/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.01	8.81	9.20	6.0/6.4
MW-4	07/02/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.01	11.10	6.91	0.8/0.6
MW-4	11/03/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.01	11.85	6.16	1.3/2.84
MW-4	**01/04/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**<0.50**	**18.01**	**9.06**	**8.95**	**7.12/6.37**
MW-5	12/03/2001	NA	NA	NA	NA	NA	NA	NA	18.47	11.86	6.61	NA
MW-5	12/06/2001	31,000	3,000	2,000	1,100	3,000	NA	<50	18.47	11.40	7.07	3.1/3.2
MW-5	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.47	9.24	9.23	0.9
MW-5	04/17/2002	33,000	3,800	2,400	1,300	4,400	NA	<200	18.47	10.35	8.12	5.3/3.8
MW-5	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.47	11.82	6.65	0.8

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-5	11/11/2002	100,000	7,100	12,000	3,000	17,000	NA	5.1	18.47	12.86	5.61	1.2/1.4
MW-5	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.47	9.57	8.90	0.0
MW-5	03/13/2003	33,000	2,800	2,200	980	4,600	NA	<100	18.47	10.30	8.17	0.5/0.3
MW-5	04/07/2003	NA	NA	NA	NA	NA	NA	NA	18.47	10.29	8.18	NA
MW-5	04/23/2003	33,000	2,900	3,100	960	5,800	NA	<250	18.47	10.15	8.32	0.1/0.1
MW-5	05/13/2003	30,000	2,600	1,500	850	4,500	NA	<250	18.47	10.12	8.35	0.4/0.3
MW-5	06/13/2003	33,000	3,400	2,300	1,000	4,400	NA	<500	18.47	11.00	7.47	0.3/0.3
MW-5	07/14/2003	41,000	5,100	3,500	1,400	5,100	NA	<50	18.47	11.39	7.08	0.5/0.5
MW-5	09/29/2003	59,000	6,600	4,200	1,500	6,500	NA	<50	18.47	12.24	6.23	0.6/0.5
MW-5	10/29/2003	45,000	6,800	3,500	1,500	6,400	NA	21	18.47	12.45	6.02	0.5/0.3
MW-5	01/05/2004	26,000	4,900	1,700	1,100	3,300	NA	<50	18.47	9.97	8.50	0.9/1.2
MW-5	04/01/2004	29,000	5,300	2,700	880	2,900	NA	<50	18.47	9.43	9.04	0.3/1.0
MW-5	07/02/2004	19,000	5,300	740	1,100	1,400	NA	<50	18.47	11.62	6.85	0.4/0.5
MW-5	11/03/2004	31,000	7,500	2,300	1,400	4,400	NA	<50	18.47	12.26	6.21	2.5/1.9
MW-5	**01/04/2005**	**18,000**	**3,500**	**1,200**	**730**	**2,300**	**NA**	**<25**	**18.47**	**9.13**	**9.34**	**0.44/1.64**
MW-6	12/03/2001	NA	NA	NA	NA	NA	NA	NA	18.84	12.19	6.65	NA
MW-6	12/06/2001	76	5.7	3.8	1.4	7.0	NA	<5.0	18.84	11.70	7.14	6.3/6.1
MW-6	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.84	9.57	9.27	8.7
MW-6	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.84	10.73	8.11	9.8/9.1
MW-6	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.84	12.27	6.57	1.7
MW-6	11/11/2002	580	55	<0.50	<0.50	2.8	NA	<5.0	18.84	13.24	5.60	0.3/0.6
MW-6	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.84	9.89	8.95	6.4
MW-6	03/13/2003	NA	NA	NA	NA	NA	NA	NA	18.84	10.66	8.18	5.5
MW-6	04/23/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.84	10.57	8.27	3.7/4.4
MW-6	05/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.84	10.56	8.28	3.5/3.0
MW-6	06/13/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<5.0	18.84	11.48	7.36	2.7/3.1
MW-6	07/14/2003	230 b	3.4	<0.50	<0.50	<1.0	NA	<0.50	18.84	11.83	7.01	1.8/1.3
MW-6	09/29/2003	910 b	46	<2.5	<2.5	<5.0	NA	<2.5	18.84	12.70	6.14	1.1/1.0
MW-6	10/29/2003	830	38	0.53	<0.50	3.3	NA	0.60	18.84	12.91	5.93	1.2/0.9

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-6	01/05/2004	93	0.92	<0.50	<0.50	<1.0	NA	<0.50	18.84	10.35	8.49	6.2/4.3
MW-6	04/01/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.84	9.80	9.04	3.5/3.4
MW-6	07/02/2004	370	3.0	<0.50	<0.50	<1.0	NA	<0.50	18.84	12.09	6.75	0.6/1.0
MW-6	11/03/2004	540	22	0.73	<0.50	1.5	NA	0.82	18.84	12.84	6.00	2.28/0.84
MW-6	**01/04/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**<0.50**	**18.84**	**9.55**	**9.29**	**6.71/5.16**
MW-7	12/03/2001	NA	NA	NA	NA	NA	NA	NA	19.20	12.66	6.54	NA
MW-7	12/06/2001	1,800	390	<2.0	6.2	<2.0	NA	<20	19.20	12.20	7.00	3.9/3.8
MW-7	01/23/2002	NA	NA	NA	NA	NA	NA	NA	19.20	10.00	9.20	9.4
MW-7	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	19.20	11.21	7.99	8.8/7.3
MW-7	07/18/2002	NA	NA	NA	NA	NA	NA	NA	19.20	12.69	6.51	0.8
MW-7	11/11/2002	3,000	190	<0.50	<0.50	4.3	NA	5.2	19.20	13.69	5.51	0.4/0.8
MW-7	01/16/2003	NA	NA	NA	NA	NA	NA	NA	19.20	10.36	8.84	7.9
MW-7	03/13/2003	NA	NA	NA	NA	NA	NA	NA	19.20	11.16	8.04	5.2
MW-7	04/23/2003	250	48	<0.50	<0.50	<1.0	NA	<5.0	19.20	11.02	8.18	3.2/1.3
MW-7	05/13/2003	1,700	550	<2.5	<2.5	<5.0	NA	<25	19.20	11.00	8.20	2.0/1.5
MW-7	06/13/2003	1,500 b	470	<2.5	<2.5	<5.0	NA	<25	19.20	11.90	7.30	1.8/1.6
MW-7	07/14/2003	1300 b	1,200	<10	<10	<20	NA	<10	19.20	12.29	6.91	0.4/0.2
MW-7	09/29/2003	5,200	1,200	<10	<10	<20	NA	<10	19.20	13.12	6.08	0.9/0.9
MW-7	10/29/2003	4,800	1,100	<5.0	<5.0	<10	NA	8.9	19.20	13.34	5.86	0.4/0.3
MW-7	01/05/2004	53	6.7	<0.50	<0.50	<1.0	NA	<0.50	19.20	10.85	8.35	1.4/2.3
MW-7	04/01/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	19.20	10.28	8.92	5.5/6.2
MW-7	07/02/2004	8,100 d	3,400	<25	<25	<50	NA	<25	19.20	12.48	6.72	0.8/0.8
MW-7	11/03/2004	3,700	1,200	<5.0	<5.0	<10	NA	<5.0	19.20	13.25	5.95	1.9/0.8
MW-7	**01/04/2005**	**<50**	**2.0**	**<0.50**	**<0.50**	**<1.0**	**NA**	**<0.50**	**19.20**	**10.02**	**9.18**	**6.31/5.71**
VW/MW-2	03/25/1996	13,000	900	920	180	1,500	<250	NA	18.30	9.04	9.26	NA
VW/MW-2	06/21/1996	27,000	4,100	1,100	1,400	3,200	700	NA	18.30	10.48	7.82	NA
VW/MW-2	09/26/1996	27,000	5,300	1,900	980	2,200	<500	NA	18.30	12.52	5.78	NA
VW/MW-2 (D)	09/26/1996	29,000	5,800	2,200	1,100	2,500	<250	NA	18.30	12.52	5.78	NA

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
VW/MW-2	12/19/1996	50,000	6,200	5,100	1,700	5,600	590	NA	18.30	12.42	5.88	NA
VW/MW-2	03/25/1997	210	5.6	<0.50	0.52	<0.50	14	NA	18.30	9.83	8.47	2.0
VW/MW-2 (D)	03/25/1997	250	1.7	0.58	0.51	<0.50	4.7	NA	18.30	9.83	8.47	2.0
VW/MW-2	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.43	5.87	NA
VW/MW-2	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.98	5.32	0.9
VW/MW-2	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.20	6.10	0.4
VW/MW-2	02/19/1998	<50	1.5	<0.50	<0.50	0.71	<2.5	NA	18.30	5.83	12.47	3.6
VW/MW-2	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.30	5.80	12.50	1.0
VW/MW-2	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.30	11.72	6.58	4.8
VW/MW-2	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.30	11.69	6.61	2.7
VW/MW-2	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.30	8.75	9.55	2.8
VW/MW-2	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.30	10.72	7.58	4.7
VW/MW-2	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.30	12.24	6.06	4.9
VW/MW-2	12/27/1999	13,500	1,330	1,310	490	1,400	<250	NA	18.30	13.92	4.38	2.1/1.9
VW/MW-2	01/21/2000	12,100	2,200	1,080	429	1,120	<250	NA	18.30	13.26	5.04	2.8
VW/MW-2	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.28	7.87	10.41	3.7
VW/MW-2	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.28	9.65	8.63	3.7/4.1
VW/MW-2	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.28	NA	NA	NA
VW/MW-2	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.28	12.75	5.53	6.2
VW/MW-2	10/17/2000	4,070	763	589	214	501	<50.0	NA	18.28	12.21	6.07	0.8/0.7
VW/MW-2	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.28	12.51	5.77	0.7
VW/MW-2	04/27/2001	80	5.7	<0.50	2.7	4.9	NA	<0.50	18.28	10.21	8.07	2.3/2.8
VW/MW-2	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.28	11.60	6.68	0.6
VW/MW-2	12/06/2001	160	1.7	1.0	1.8	4.6	NA	<5.0	18.28	11.15	7.13	3.7/2.3
VW/MW-2	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.28	9.07	9.21	0.5
VW/MW-2	04/17/2002	<50	2.1	<0.50	<0.50	<0.50	NA	<5.0	18.28	10.11	8.17	4.9/4.4
VW/MW-2	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.28	11.61	6.67	0.9
VW/MW-2	11/11/2002	15,000	1,300	1,300	680	1,800	NA	<5.0	18.28	12.63	5.65	0.2/0.2
VW/MW-2	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.28	9.35	8.93	0.4
VW/MW-2	03/13/2003	NA	NA	NA	NA	NA	NA	NA	18.28	10.09	8.19	0.8

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
VW/MW-2	04/07/2003	NA	NA	NA	NA	NA	NA	NA	18.28	10.09	8.19	NA
VW/MW-2	04/23/2003	1,100	76	29	45	66	NA	<5.0	18.28	9.95	8.33	0.8/0.3
VW/MW-2	05/13/2003	1,200	38	16	16	24	NA	<5.0	18.28	9.90	8.38	0.2/0.2
VW/MW-2	06/13/2003	9,600	1,300	1,100	440	890	NA	<250	18.28	10.80	7.48	0.2/0.5
VW/MW-2	07/14/2003	11,000	1,300	1,800	430	1,500	NA	<5.0	18.28	11.20	7.08	0.5/0.5
VW/MW-2	09/29/2003	12,000	860	980	410	1,100	NA	<10	18.28	12.05	6.23	0.4/0.4
VW/MW-2	10/29/2003	12,000	1,100	940	530	1,200	NA	<10	18.28	12.29	5.99	0.7/0.3
VW/MW-2	01/05/2004	190 b	<0.50	<0.50	<0.50	<1.0	NA	<0.50	18.28	9.82	8.46	2.8/1.8
VW/MW-2	04/01/2004	410	1.4	0.54	1.6	1.0	NA	<0.50	18.28	9.24	9.04	1.7/0.1
VW/MW-2	07/02/2004	5,500	440	370	170	410	NA	<2.5	18.28	11.33	6.95	0.5/0.4
VW/MW-2	11/03/2004	3,800	260	210	150	600	NA	<2.5	18.28	12.14	6.14	0.9/1.4
VW/MW-2	**01/04/2005**	**280**	**5.8**	**20**	**7.8**	**26**	**NA**	**<0.50**	**18.28**	**9.03**	**9.25**	**1.66/2.66**

VW/MW-4	03/25/1996	83,000	6,500	7,000	2,000	11,000	<250	NA	18.14	8.45	9.69	NA
VW/MW-4 (D)	03/25/1996	84,000	6,400	7,000	2,100	12,000	<250	NA	18.14	8.45	9.69	NA
VW/MW-4	06/21/1996	110,000	14,000	15,000	3,700	17,000	1,700	NA	18.14	10.38	7.76	NA
VW/MW-4 (D)	06/21/1996	100,000	12,000	12,000	2,900	13,000	<1,000	NA	18.14	10.38	7.76	NA
VW/MW-4	09/26/1996	52,000	13,000	2,700	2,100	3,200	<500	NA	18.14	12.43	5.71	NA
VW/MW-4	12/19/1996	75,000	15,000	6,600	3,000	7,600	<1,250	NA	18.14	11.87	6.27	NA
VW/MW-4	03/25/1997	56,000	4,700	1,500	2,500	6,300	580	NA	18.14	9.60	8.54	2.4
VW/MW-4	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.36	5.78	NA
VW/MW-4	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.82	5.32	0.4
VW/MW-4	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.15	5.99	0.3
VW/MW-4	02/19/1998	4,100	320	40	44	520	<50	NA	18.14	5.85	12.29	1.8
VW/MW-4 (D)	02/19/98	4,300	340	44	47	540	<50	NA	18.14	5.85	12.29	1.8
VW/MW-4	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.14	5.87	12.27	1.8
VW/MW-4	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.14	10.96	7.18	2.5
VW/MW-4	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.14	11.28	6.86	0.9
VW/MW-4	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.14	8.45	9.69	1.9
VW/MW-4	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.14	9.70	8.44	3.6

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
VW/MW-4	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.14	11.78	6.36	2.6
VW/MW-4	12/27/1999	33,900	3,740	2,000	1,130	5,090	587	NA	18.14	12.63	5.51	0.4/0.2
VW/MW-4	01/21/2000	13,900	1,560	568	227	1,990	<500	21.0a	18.14	13.07	5.07	1.0
VW/MW-4	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.13	7.82	10.31	0.9
VW/MW-4	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.13	9.18	8.95	1.4/1.9
VW/MW-4	04/18/2000	757	103	8.59	30.8	84.2	<25.0	NA	18.13	NA	NA	NA
VW/MW-4	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.13	12.18	5.95	5.0
VW/MW-4	10/17/2000	8,360	2,060	391	468	1,170	147	NA	18.13	12.03	6.10	0.7/0.8
VW/MW-4	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.13	12.42	5.71	0.9
VW/MW-4	04/27/2001	7,100	2,300	50	460	250	NA	<10	18.13	10.13	8.00	1.0/1.4
VW/MW-4	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.13	11.42	6.71	1.2
VW/MW-4	12/06/2001	7,700	750	90	300	350	NA	<25	18.13	11.02	7.11	2.5/1.9
VW/MW-4	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.13	8.89	9.24	0.4
VW/MW-4	04/17/2002	4,800	760	27	240	150	NA	<25	18.13	9.89	8.24	4.7/5.1
VW/MW-4	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.13	11.37	6.76	0.6
VW/MW-4	11/11/2002	14,000	2,800	480	700	1,300	NA	<100	18.13	12.41	5.72	0.3/0.3
VW/MW-4	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.13	9.17	8.96	0.8
VW/MW-4	03/13/2003	NA	NA	NA	NA	NA	NA	NA	18.13	9.85	8.28	1.1
VW/MW-4	04/23/2003	2,400	710	28	160	100	NA	<50	18.13	9.74	8.39	0.2/0.05
VW/MW-4	05/13/2003	3,300	720	35	170	160	NA	<50	18.13	9.70	8.43	0.2/0.2
VW/MW-4	06/13/2003	8,200	1,700	220	460	790	NA	<250	18.13	10.55	7.58	0.3/0.3
VW/MW-4	07/14/2003	3,700	900	190	220	540	NA	<10	18.13	10.90	7.23	0.5/0.4
VW/MW-4	09/29/2003	7,500	1,800	300	390	860	NA	<20	18.13	11.83	6.30	0.5/0.6
VW/MW-4	10/29/2003	10,000	2,600	400	510	1,200	NA	<13	18.13	12.03	6.10	0.5/0.4
VW/MW-4	01/05/2004	1,000	70	12	30	56	NA	<1.0	18.13	9.60	8.53	1.7/1.2
VW/MW-4	04/01/2004	1,000	64	7.0	22	18	NA	<1.0	18.13	9.00	9.13	0.6/0.1
VW/MW-4	07/02/2004	5,600	1,500	57	380	180	NA	<10	18.13	11.00	7.13	0.4/0.4
VW/MW-4	11/03/2004	9,400	2,400	210	560	890	NA	<10	18.13	11.85	6.28	1.5/2.1
VW/MW-4	**01/04/2005**	**110**	**12**	**<0.50**	**2.3**	**<1.0**	**NA**	**<0.50**	**18.13**	**8.89**	**9.24**	**2.40/1.05**

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
VW/AS-1	03/25/1996	NA	NA	NA	NA	NA	NA	NA	18.60	8.98	9.62	NA
VW/AS-1	06/21/1996	NA	NA	NA	NA	NA	NA	NA	18.60	10.95	7.65	NA
VW/AS-1	09/26/1996	NA	NA	NA	NA	NA	NA	NA	18.60	12.98	5.62	NA
VW/AS-1	12/19/1996	NA	NA	NA	NA	NA	NA	NA	18.60	12.67	5.93	NA
VW/AS-1	03/25/1997	NA	NA	NA	NA	NA	NA	NA	18.60	10.12	8.48	NA
VW/AS-1	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.60	12.34	6.26	NA
VW/AS-1	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.60	13.40	5.20	NA
VW/AS-1	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.60	11.96	6.64	5.2
VW/AS-1	02/19/1998	NA	NA	NA	NA	NA	NA	NA	18.60	6.22	12.38	1.3
VW/AS-1	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.60	6.20	12.40	1.0
VW/AS-1	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.60	11.59	7.01	1.6
VW/AS-1	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.60	11.74	6.86	1.3
VW/AS-1	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.60	9.20	9.40	1.3
VW/AS-1	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.60	11.08	7.52	2.1
VW/AS-1	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.60	11.94	6.66	1.9
VW/AS-1	12/27/1999	8,940	2,000	95.7	1,200	570	606	NA	18.60	11.01	7.59	1.6/1.8
VW/AS-1	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.59	7.35	11.24	NA
VW/AS-1	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.59	9.08	9.51	1.9/2.0
VW/AS-1	04/18/2000	20,800	6,550	1,220	2,270	1,720	<250	NA	18.59	NA	NA	NA
VW/AS-1	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.59	11.98	6.61	2.1
VW/AS-1	10/17/2000	38,400	7,240	5,980	1,960	5,730	534	72.4	18.59	12.62	5.97	2.5/1.0
VW/AS-1	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.59	13.03	5.56	1.9
VW/AS-1	04/27/2001	34,000	8,000	2,100	2,500	2,000	NA	<25	18.59	10.71	7.88	2.9/2.1
VW/AS-1	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.59	12.03	6.56	2.0
VW/AS-1	12/06/2001	6,000	990	35	820	59	NA	<25	18.59	11.63	6.96	1.2/0.8
VW/AS-1	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.59	9.34	9.25	0.9
VW/AS-1	04/17/2002	12,000	2,900	57	1,400	98	NA	<200	18.59	10.41	8.18	3.3/2.9
VW/AS-1	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.59	12.13	6.46	0.3
VW/AS-1	11/11/2002	2,200	340	7.3	250	24	NA	<20	18.59	13.15	5.44	1.2/1.3
VW/AS-1	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.59	9.73	8.86	2.3

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
VW/AS-1	03/13/2003	11,000	2,500	55	1,800	170	NA	<100	18.59	10.45	8.14	2.1/1.9
VW/AS-1	04/07/2003	NA	NA	NA	NA	NA	NA	NA	18.59	10.40	8.19	NA
VW/AS-1	04/23/2003	9,500	4,100	200	1,400	200	NA	<250	18.59	10.28	8.31	1.2/0.4
VW/AS-1	05/13/2003	9,700	2,300	110	1,100	140	NA	<250	18.59	10.26	8.33	0.5/2.0
VW/AS-1	06/13/2003	9,300	2,300	77	820	<100	NA	<500	18.59	11.15	7.44	1.0/0.5
VW/AS-1	07/15/2003	5,500	2,000	230	620	360	NA	20	18.59	11.62	6.97	1.8/1.9
VW/AS-1	09/29/2003	9,600	2,300	100	1,200	670	NA	<20	18.59	12.48	6.11	2.3/3.6
VW/AS-1	10/29/2003	10,000	2,000	39	1,000	370	NA	16	18.59	12.73	5.86	3.3/3.6
VW/AS-1	01/05/2004	2,000	710	18	410	18	NA	13	18.59	10.25	8.34	3.0/2.8
VW/AS-1	04/01/2004	27,000	9,100	1,200	2,200	1,400	NA	<50	18.52 c	9.60	8.92	1.0/1.4
VW/AS-1	07/02/2004	18,000	6,500	170	1,200	1,200	NA	<50	18.52	11.80	6.72	3.2/0.8
VW/AS-1	11/03/2004	4,500	1,700	23	280	55	NA	9.8	18.52	12.56	5.96	1.7/1.9
VW/AS-1	**01/04/2005**	**7,500**	**2,500**	**74**	**540**	**110**	**NA**	**<13**	**18.52**	**9.50**	**9.02**	**1.19/0.53**
VW/AS-3	03/25/1996	NA	NA	NA	NA	NA	NA	NA	18.17	8.50	9.67	NA
VW/AS-3	06/21/1996	NA	NA	NA	NA	NA	NA	NA	18.17	10.42	7.75	NA
VW/AS-3	09/26/1996	NA	NA	NA	NA	NA	NA	NA	18.17	12.49	5.68	NA
VW/AS-3	12/19/1996	NA	NA	NA	NA	NA	NA	NA	18.17	12.28	5.89	NA
VW/AS-3	03/25/1997	NA	NA	NA	NA	NA	NA	NA	18.17	9.61	8.56	NA
VW/AS-3	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.17	11.80	6.37	NA
VW/AS-3	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.17	12.89	5.28	NA
VW/AS-3	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.17	11.38	6.79	1.8
VW/AS-3	02/19/1998	NA	NA	NA	NA	NA	NA	NA	18.17	6.24	11.93	1.3
VW/AS-3	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.17	6.25	11.92	1.2
VW/AS-3	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.17	11.43	6.74	1.3
VW/AS-3	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.17	11.63	6.54	1.7
VW/AS-3	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.17	8.92	9.25	1.5
VW/AS-3	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.17	10.71	7.46	2.5
VW/AS-3	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.17	11.78	6.39	1.5

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
VW/AS-3	12/27/1999	488	47.9	2.60	16.9	8.50	35.4	NA	18.17	12.57	5.60	1.5/2.1
VW/AS-3	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.14	4.82	13.32	NA
VW/AS-3	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.14	8.69	9.45	2.0/2.4
VW/AS-3	04/18/2000	3,110	871	<5.00	141	56.8	78.2	NA	18.14	NA	NA	NA
VW/AS-3	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.14	11.65	6.49	2.5
VW/AS-3	10/17/2000	7,730	2,700	<50.0	542	344	<250	42.1	18.14	12.13	6.01	1.6/1.0
VW/AS-3	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.14	12.51	5.63	2.2
VW/AS-3	04/27/2001	14,000	3,900	62	690	560	NA	46	18.14	10.20	7.94	2.8/1.6
VW/AS-3	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.14	11.55	6.59	2.6
VW/AS-3	12/06/2001	5,000	1,200	19	380	320	NA	<50	18.14	11.10	7.04	0.9/1.1
VW/AS-3	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.14	8.93	9.21	1.1
VW/AS-3	04/17/2002	17,000	5,000	<25	1,100	390	NA	<250	18.14	10.00	8.14	3.2/3.2
VW/AS-3	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.14	11.49	6.65	0.4
VW/AS-3	11/11/2002	1,700	290	1.5	150	2.8	NA	<10	18.14	12.43	5.71	1.0/1.1
VW/AS-3	01/16/2003	NA	NA	NA	NA	NA	NA	NA	18.14	9.32	8.82	4.7
VW/AS-3	03/13/2003	NA	NA	NA	NA	NA	NA	NA	18.14	9.88	8.26	2.7
VW/AS-3	04/23/2003	150	47	0.67	8.5	3.2	NA	<5.0	18.14	9.85	8.29	2.1/0.7
VW/AS-3	05/13/2003	440	35	<0.50	1.7	<1.0	NA	<5.0	18.14	9.81	8.33	1.4/1.8
VW/AS-3	06/13/2003	580	71	<2.5	40	<5.0	NA	<25	18.14	10.77	7.37	1.1/0.6
VW/AS-3	07/14/2003	1,100	120	4.9	63	9.3	NA	16	18.14	11.12	7.02	2.0/2.2
VW/AS-3	09/29/2003	160	54	2.2	6.9	8.7	NA	1.1	18.14	12.02	6.12	4.1/1.6
VW/AS-3	10/29/2003	350	16	<0.50	1.1	<1.0	NA	6.3	18.14	12.25	5.89	3.2/1.6
VW/AS-3	01/05/2004	2,700	870	39	130	250	NA	5.5	18.14	9.74	8.40	3.6/2.8
VW/AS-3	04/01/2004	1,300	240	4.1	36	45	NA	12	18.14	9.06	9.08	1.1/1.0
VW/AS-3	07/02/2004	610	59	<1.0	3.6	<2.0	NA	10	18.14	11.29	6.85	2.0/2.2
VW/AS-3	11/03/2004	200	<0.50	<0.50	<0.50	<1.0	NA	10	18.14	12.02	6.12	2.1/2.3
VW/AS-3	**01/04/2005**	**2,500**	**730**	**42**	**36**	**190**	**NA**	**<10**	**18.14**	**8.99**	**9.15**	**1.72/1.36**

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to April 27, 2001, analyzed by EPA Method 8015.
BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to April 27, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary butyl ether
TOC = Top of Casing Elevation
GW = Groundwater
DO = Dissolved Oxygen
NA = Not applicable
ug/L = Parts per billion
ppm = Parts per million
MSL = Mean sea level
ft. = Feet
<n = Below detection limit
(D) = Duplicate sample
n/n = Pre-purge/Post-purge DO Readings

Notes:
a = Sample was analyzed outside of the EPA recommended holding time.
b = Hydrocarbon reported does not match the pattern of the laboratory's standard.
c = Top of casing change due to maintenance.
d = Sample contains discrete peak in addition to gasoline.
Site surveyed November 1, 2001 by Virgil Chavez Land Surveying of Vallejo, CA.

ATTACHMENT C

FAST-TEK Summary of Injection Data

FAST-TEK ENGINEERING SUPPORT SERVICES - SUMMARY OF INJECTION DATA

Contact: Melody Munz
Client: Cambria Environmental Technology
Site: Former Shell Gasoline Station
1230 14th Street, Oakland, California

Summary updated 6/11/03; Jim Jacobs

3-17-03: TOTAL PEROXIDE: 20 drums X 55 gallons = 1,100 gallons

5 gallons of sulfuric acid; 20 gallons of tank wash water = total of 1,125 gallons of liquids injected.

DATE: 3/17/2003

TARGET ZONE (ft.)			H2SO4	H2O2	REACTION	PRESSURE	RADIUS OF	NOTES
PORT	TOP	BASE	Gal.	Gal.	TEMP (F)*	psi	INFLUENCE	
A-8	19.5	20	0.50	25	125	500	**12'**	
A-8	15.5	20		25	95	100		PID = 0.7 to 1.3 ppm probably
A-8	11.5	20		40	95	200		related to diesel truck fumes from
A-8	7.5	20		10	93	200		rig.
A-8	3.5	20		10	100	100		
		TOTAL:		**120**				
								* measured in foam on surface
A-6	19.5	20	0.50	20		200	**12'**	
A-6	15.5	20		10	90	200		PID = 0.5 to 0.7 ppm probably
A-6	11.5	20		120		200		related to diesel truck fumes from
A-6	7.5	20		90		400		rig.
		TOTAL:		**240**				
G-8	19.5	20	0.50	12		300		foam coming up anulus
G-8	15.5	20		18		300		foam coming up anulus
G-8	11.5	20		25	87	300		foam coming up anulus
G-8	7.5	20		18	114	300		foam coming up anulus
G-8	3.5	20		13		300		foam coming up anulus
		TOTAL:		**85**				
G-6	19.5	20	0.50	30	99	300	**12'**	
G-6	15.5	20		70		200		
G-6	11.5	20	0.50	100	103	800		
G-6	7.5	20		60		800		
		TOTAL:		**260**				

DATE: 3/17/2003

PORT	TARGET ZONE (ft.) TOP	BASE	H2SO4 Gal.	H2O2 Gal.	REACTION TEMP (F)*	PRESSURE psi	RADIUS OF INFLUENCE	NOTES
G-4	19.5	20	0.50	55	65	400		
G-4	15.5	20		45	81	800	8'	
G-4	11.5	20	0.25	50		800		
G-4	7.5	20		50	99	800		
		TOTAL:		**200**				
D-4	19.5	20	1.00	10		200	8'+	
D-4	15.5	20		80	95	800		
D-4	11.5	20		70		800		
D-4	7.5	20	0.25	35		800		
		TOTAL:		**195**	**			

** Cleanout with 20 gallons of water, not included in injection totals.

3-18-03: TOTAL PEROXIDE: 20 drums X 55 gallons = 1,100 gallons

3 gallons of sulfuric acid; 20 gallons of tank wash water = total of 1,123 gallons of liquids injected.

DATE: 3/18/2003

	TARGET ZONE (ft.)		H2SO4	H2O2	REACTION	PRESSURE	RADIUS OF	NOTES
PORT	TOP	BASE	Gal.	Gal.	TEMP (F)*	psi	INFLUENCE	
G-1	19.5	20		5	89	200	4'	
G-1	15.5	20		5	131	200	8'	
G-1	11.5	20		15	131	200	8'	
		TOTAL:		25				
E6	19.5	20	1.00	10		400	4'	MW-5@ 89 F
E6	15.5	20		130	94	1,000	12'	MW-5@ 87 F
E6	11.5	20		150	100	1,000	18'	MW-5@ 90 F
E6	7.5	20		50		600		MW-5 @ 100 F
		TOTAL:		340				
C-6	19.5	20	1.00	150	110	1,000	11'	
C-6	15.5	20		300	60	1,000		
C-6	11.5	20		40	130	1,000		
		TOTAL:		490				
C-4	19.5	20	1.00	40	108	600	25'	
C-4	15.5	20		40	106	800		
C-4	11.5	20		165		200		
		TOTAL:		245	**			

** Cleanout with 20 gallons of water, not included in injection totals.

3-20-03: TOTAL PEROXIDE: 19 drums X 55 gallons = 1,045 gallons

2+ gallon of sulfuric acid; 20 gallons of tank wash water = total of 1,067 gallons of liquids injected.

DATE: 3/20/2003

	TARGET ZONE (ft.)		H2SO4	H2O2	REACTION	PRESSURE	RADIUS OF	NOTES
PORT	TOP	BASE	Gal.	Gal.	TEMP (F)*	psi	INFLUENCE	
A-1		20	1 cup	1				abandoned-*liquid not taking*
A-1	14	20		30	93	350	6'	
		TOTAL:		31				
D-3	19.5	20	0.50	20	91	300	4'	
D-3	15.5	20		10				
D-3	11.5				125		15'	from MW5
		TOTAL:		30				
F-7	19	20	1 cup	140	84	350		
F-7	15	20		150	95	450		
F-7	11	20		275	98	500		
F-7	7	20		110	92	600		
		TOTAL:		675				
A-3	19	20	0.50	15	95	500		
A-3	15	20		5	92	500		
		TOTAL:		20				
C-7	19	20	0.50	10	113	400	3'	
C-7	15	20		2	72	400		
C-7	11	20		33	84	450	16'	at C-3
C-7		20			85			
		TOTAL:		45				
F-2	19	20	0.50	100	87	600	30'	temp at annulus
F-2	15	20		75		700		boreholes C-3, C-7, F-7
F-2	11	20		30	88	500	30'	92 deg, annulus
F-2	7	20		39	105	375	30'	
		TOTAL:		244				

SUMMARY:

3-17-03: TOTAL PEROXIDE: 20 drums X 55 gallons = 1,100 gallons
5 gallons of sulfuric acid; 20 gallons of tank wash water = total of 1,125 gallons of liquids injected.

3-18-03: TOTAL PEROXIDE: 20 drums X 55 gallons = 1,100 gallons
5 gallons of sulfuric acid; 20 gallons of tank wash water = total of 1,125 gallons of liquids injected.

3-20-03: TOTAL PEROXIDE: 19 drums X 55 gallons = 1,045 gallons
2+ gallon of sulfuric acid; 20 gallons of tank wash water = total of 1,067 gallons of liquids injected.

TOTALS:

Peroxide:	3,245 gallons
Sulfuric Acid:	12+ gallons
Wash Water	60 gallons
TOTAL GALLONS INJECTED:	**3,317 gallons**

G:\Oakland 1230 14th\2003 Peroxide Injection\[Fast-Tek Injection Summary 061103.xls]Sheet1

ATTACHMENT D

Well and Boring Installation Permits

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554 ~~MARLON MAGALLANES/FRANK CODD~~ (510) 670-5783 6633 James Yoo
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14th Street, Oakland.

CLIENT
Name Shell Oil Products US - Karen Abayna
Address P.O. Box 7869 Phone (559) 645-9306
City Burbank, CA Zip

APPLICANT
Name Cambria Environmental Technology, Inc.
Fax (510) 420-9170
Address 5900 Hollis Suite A Phone (510) 420-0700
City Emeryville, CA Zip 94608

TYPE OF PROJECT
Well Construction
Cathodic Protection [ ]
Water Supply [ ]
Monitoring [ ]
Geotechnical Investigation
General [ ]
Contamination [ ]
Well Destruction [ ]
Remediation ✓

PROPOSED WATER SUPPLY WELL USE
New Domestic [ ] Replacement Domestic [ ]
Municipal [ ] Irrigation [ ]
Industrial [ ] Other Temporary Injection Wells (12)

DRILLING METHOD:
Mud Rotary [ ] Air Rotary [ ] Auger [ ]
Cable [ ] Other [ ]

DRILLER'S NAME VIRONEX

DRILLER'S LICENSE NO. 705927 Exp. 5/31/05

WELL PROJECTS
Drill Hole Diameter 2" in.
Casing Diameter 2" in.
Surface Seal Depth 4' ft.
Maximum Depth 25 ft. max
Owner's Well Number TIW-(1-12)

GEOTECHNICAL PROJECTS
Number of Borings ______
Hole Diameter ______ in.
Maximum Depth ______ ft.

ESTIMATED STARTING DATE September 11, 2003.
ESTIMATED COMPLETION DATE September 12, 2003

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE August 29, 2003

PLEASE PRINT NAME ______ Rev.6-5-00

FOR OFFICE USE

PERMIT NUMBER W03-0830
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. (circled) Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. (circled) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached requirements for destruction of shallow wells. Send a map of work site. A different permit application is required for wells deeper than 45 feet.

G. (circled) SPECIAL CONDITIONS Mw#2 Attached

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 8/29/03

TOTAL P.03

USA Ticket 329 246 (called in 9/9/03)

ALAMEDA COUNTY PUBLIC WORKS AGENCY
WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544-1395
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

PERMIT NO. W03-0830

WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
MW#2-GENERAL CONDITIONS: INJECTION & EXTRACTION WELLS

1) Prior to any drilling activities shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or to the City and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.

2) The minimum surface seal thickness two inches of cement grout placed by tremie.

3) All monitoring wells shall have a minimum surface cement seal depth of five (5) feet, approved seal depth or the maximum depth practicable or twenty (20) feet.

4) Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

5) Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where wok is being completed.

6) No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7) Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. **Permit Is valid from September 11- September 12, 2003.** Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

8) Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). **Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including: permit number and site map.**

9) Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 - 14th Street
OAKLAND

CLIENT
Name Shell Oil Products US
Address P.O. Box 4769 Phone Lyna Walker : 925-426-1559
City Buchanan, CA Zip 94510

APPLICANT
Name CAMBRIA ENVIRONMENTAL Fax 510-420-9170
Address 5900 Hollis, Suite A Phone 510-420-3320
City Emeryville, CA Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☒
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☒	Direct Push	

DRILLER'S NAME Vironex
DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth ____ ft.
Surface Seal Depth ____ ft. Owner's Well Number ____

GEOTECHNICAL PROJECTS
Number of Borings 3 Maximum
Hole Diameter 2 in. Depth 25 ft.

S-18, S-19, S-20
See attached Figure

STARTING DATE 11/7/03
COMPLETION DATE 11/14/03

FOR OFFICE USE
PERMIT NUMBER W03-1015
WELL NUMBER ____
APN ____

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL / Contamination
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS B #1 Attached.

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED ____ DATE 11-6-03

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/3/03
PLEASE PRINT NAME Jason Eberle

Rev.9-18-02

FAXED 11-6-03

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544-1395
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

PERMIT NO. W03-1015

WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
B#1-GENERAL CONDITIONS: GEOTECHNICAL & CONTAMINATION BOREHOLES

1. Prior to any drilling activities shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that Federal, State, County or to the City and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.

2. Boreholes shall not be left open for a period of more than **24 hours**. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

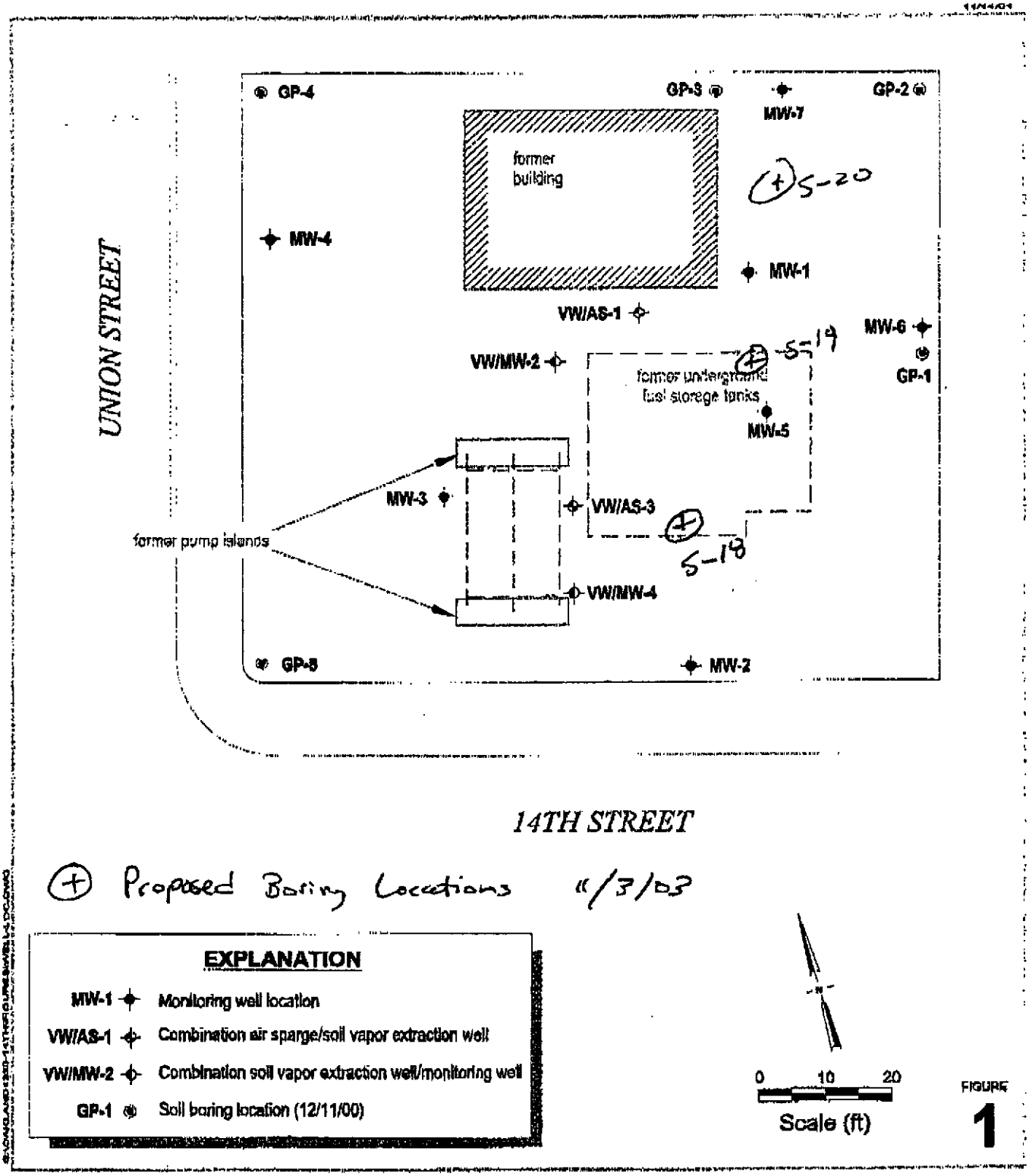
3. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where wok is being completed.

4. Permit is valid only for the purpose specified herein **November 7 to November 14, 2003**. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

5. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

6. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

FAXED 11-6-03



Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250

CAMBRIA

Monitoring Well Location Map

ATTACHMENT E

Injection Point Well Construction Logs

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	IW-12 (P-12)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	10 to 20 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA

REMARKS

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					5			Rubber Bladder Inserted to 7 Feet Below Grade With 0.75" Pipe Inside	10.0	Rubber Bladder
					10					
					15			Native Material Collasped Around Injection Well Casing	20.0	0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					20					Bottom of Boring @ 20 ft

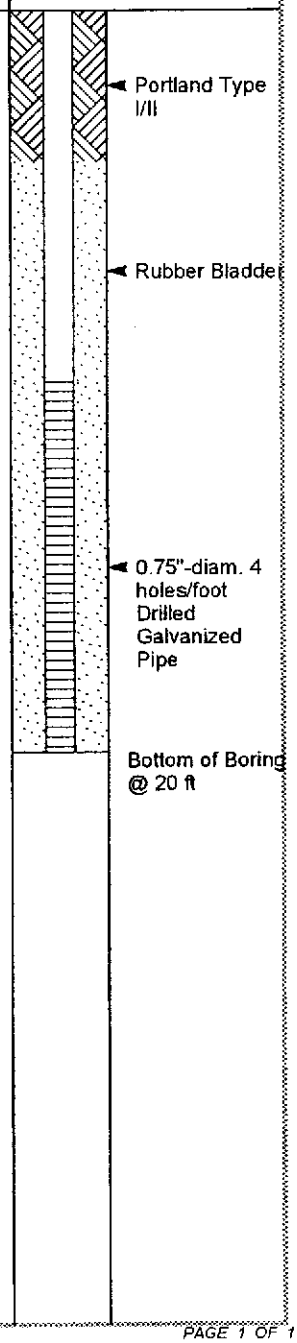
WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-11 (P-11)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	10 to 20 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
								2" Blank Schedule 40 PVC to 4 fbg	4.0
					5			Rubber Bladder Inserted to 7 Feet Below Grade With 0.75" Pipie Inside	10.0
					10				
					15			Native Material Collasped Around Injection Well Casing	20.0
					20				



WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

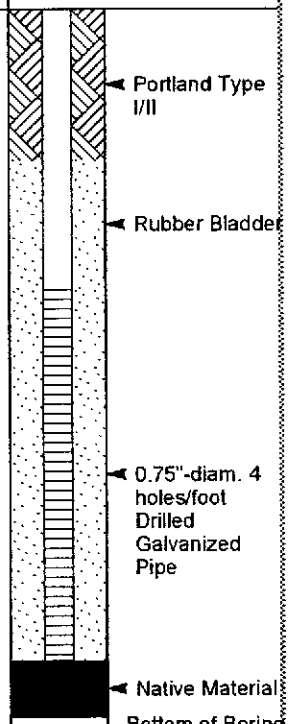
Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-10 (P-10)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	7.5 to 17.5 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Geoprobe Met Refusal at 19 fbg		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
								2" Blank Schedule 40 PVC to 4 fbg	4.0
					5			Rubber Bladder Inserted to 7.5 Feet Below Grade With 0.75" Pipe Inside	7.5
					10			Native Material Collasped Around Injection Well Casing	
					15				17.5

WELL DIAGRAM



WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-9 (P-9)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	10 to 20 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					5			2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					10			Rubber Bladder Inserted to 7 Feet Below Grade With 0.75" Pipe Inside	10.0	Rubber Bladder
					15			Native Material Collasped Around Injection Well Casing	20.0	0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					20					Bottom of Boring @ 20 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-8 (P-8)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	10 to 20 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Geoprobe Met Refusal at 20 fbg		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					5			Rubber Bladder Inserted to 7 Feet Below Grade With 0.75" Pipe Inside	10.0	Rubber Bladder
					10					
					15			Native Material Collasped Around Injection Well Casing	20.0	0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					20					Bottom of Boring @ 20 ft

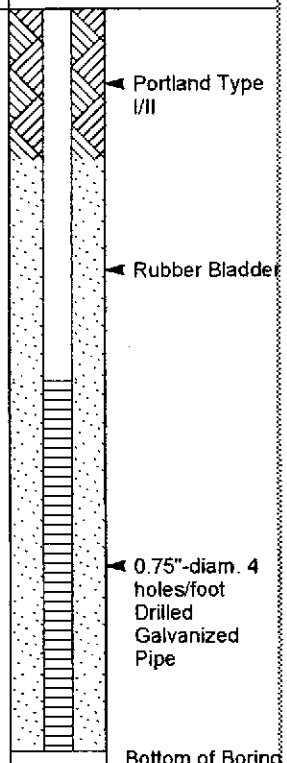
WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	IW-7 (B-7)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	10 to 20 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Geoprobe Met Refusal at 20 fbg		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
								2" Blank Schedule 40 PVC to 4 fbg	4.0
					5			Rubber Bladder Inserted to 7 Feet Below Grade With 0.75" Pipe Inside	
					10				10.0
					15			Native Material Collasped Around Injection Well Casing	
					20				20.0



WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-6 (P-6)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	7 to 17 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Geoprobe Met Refusal at 18 fbg		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					5			Rubber Bladder Inserted to 7 Feet Below Grade With 0.75" Pipe Inside	7.0	Rubber Bladder
					10			Native Material Collasped Around Injection Well Casing		0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					15				17.0	
								Bottom 1 Foot Collapsed	18.0	Native Material Bottom of Boring @ 18 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	T IW-5 (P-5)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	9 to 19 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					5			Rubber Bladder Inserted to 9 Feet Below Grade With 0.75" Pipe Inside	9.0	Rubber Bladder
					10			Native Material Collasped Around Injection Well Casing	19.0	0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					15					Bottom of Boring @ 19 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-4 (P-4)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	7.5 to 17.5 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					5			Rubber Bladder Inserted to 7.5 Feet Below Grade With 0.75" Pipe Inside	7.5	Rubber Bladder
					10			Native Material Collasped Around Injection Well Casing		0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					15				17.5	Bottom of Boring @ 17.5 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINTOK-1230.GPJ DEFAULT GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TIW-3 (P-3)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	8 to 18 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	M. Derby, PE# 55475	***DEPTH TO WATER (Static)***	NA ▼
REMARKS	Geoprobe Met Refusal at 19 fbg		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					5			Rubber Bladder Inserted to 8 Feet Below Grade With 0.75" Pipe Inside	8.0	Rubber Bladder
					10			Native Material Collasped Around Injection Well Casing	18.0	0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					15			Bottom 1 Foot Collapsed	19.0	Native Material Bottom of Boring @ 19 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-2 (P-2)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	12 to 22 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 2 fbg	2.0	Portland Type I/II
					5			Rubber Bladder Inserted to 12 Feet Below Grade With 0.75" Pipe Inside		Rubber Bladder
					10				12.0	
					15			Native Material Collasped Around Injection Well Casing		0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					20				22.0	Bottom of Boring @ 22 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	TW-1 (P-1)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Sep-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Sep-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	8 to 18 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								2" Blank Schedule 40 PVC to 4 fbg	4.0	Portland Type I/II
					5			Rubber Bladder Inserted to 8 Feet Below Grade With 0.75" Pipe Inside	8.0	Rubber Bladder
					10			Native Material Collasped Around Injection Well Casing		0.75"-diam. 4 holes/foot Drilled Galvanized Pipe
					15				18.0	Bottom of Boring @ 18 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 2/17/05

12 pages

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

ATTACHMENT F

Rejuvenate Summary of Injection Data

Attachment F

Chemical Injection summary
September 22-24, 2003
Rejuvenate

Date	Start time	H2O (gallons)	H2SO4 (gallons)	H2O2 (gallons)	H2O2 (concentration)	Comments
9/22/2003	15:00	hydrotest	18	--	15%	
9/22/2003	15:28	5	10	130	17.50%	
9/22/2003	16:50	0	10	100	20%	Higher concentration appears to produce more activity
9/23/2003	9:50	0	15	140	19%	
9/23/2003	11:55		20	100		15% H2So4
9/23/2003	12:25	15	15	50	20%	additional 8% H2SO4 injection to raise pH
9/23/2003	13:35	0	20	140	20%	
9/24/2003	10:40	0	20	145	22%	
	Totals	20	128	805		

G:\Oakland 1230 14th\2003 Peroxide Injection\[Final Groundwater Data.xls]Rejuvenate Chem Inj. Summary

ATTACHMENT G

Blaine September 29, 2003 Field Data and Laboratory Report

WELL GAUGING DATA

Project # 030929-MW1 Date 9/29/03 Client 9708825-0

Site 1230 14th St, Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Pre purge D.O.
MW-1	2					12.44	20.95		
MW-2	2					11.58	21.75		
MW-3	2					11.89	18.86		
MW-4	2					11.79	19.72		
MW-5	4					* 12.24	19.75		
MW-6	4					12.70	19.65		
MW-7	4					13.12	19.71		
VW/MW-2	2					12.05	22.10		
VW/MW-4	2					11.83	18.45		
VW/AS-1	1					12.48	19.64		
VW/AS-3	1					12.02	19.73		
		* guaged w/ stinger in well							

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 20.95	Depth to Water (DTW): 12.44
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.14

Purge Method: Bailer / (Disposable Bailer) / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other____

Sampling Method: ~~Bailer~~ / (Disposable Bailer) / ~~Extraction Port~~ / Dedicated Tubing / Other: ____

1.4 (Gals.) X 3 = 4.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1338	68.3	6.7	1543	7200	1.4	Gray, cloudy, gas odor
1340	68.8	6.8	1564	7200	2.8	
1343	67.5	6.9	6559	7200	4.2	

Did well dewater? Yes (No) Gallons actually evacuated: 4.2

Sampling Date: 9/29/03 Sampling Time: 1350 Depth to Water: 12.61

Sample I.D.: MW-1 Laboratory: (STL) Other____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd): (Pre-purge):	0.6 mg/L	(Post-purge):	0.7	mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 21.75	Depth to Water (DTW): 11.58
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.61

Purge Method: Bailer / (Disposable Bailer) / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Dedicated Tubing / Other: _____

1.6 (Gals.) X 3 = 4.8 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1055	70.2	6.1	816	7200	1.6	foam/cloudy
1057	70.3	6.2	795	7200	3.2	
1059	69.5	6.2	761	7200	4.8	

Did well dewater? Yes (No) Gallons actually evacuated: 4.8

Sampling Date: 9/29/03 Sampling Time: 1105 Depth to Water: 11.81

Sample I.D.: MW-2 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	(Pre-purge):	1.9 mg/L	(Post-purge):	1.3	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 18.86	Depth to Water (DTW): 11.84
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.24	

Purge Method: Bailer / (Disposable Bailer) / ~~Positive Air Displacement~~ / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other____

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Dedicated Tubing / Other: ____

1 Case Volume	Specified Volumes	Calculated Volume
1.1 (Gals.) X	3	= 3.3 Gals.

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1114	68.1	6.3	897	7200	1.1	tan/body
1116	68.4	6.3	896	7200	2.2	
1118	68.5	6.3	865	7200	3.3	

Did well dewater? Yes (No) Gallons actually evacuated: 3.3

Sampling Date: 9/29/03 Sampling Time: 1125 Depth to Water: 12.21

Sample I.D.: MW-3 Laboratory: (STL) Other____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	(Pre-purge):	1.4 mg/L	Post-purge:	1.1	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 19.32	Depth to Water (DTW): 11.74
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.26	

Purge Method: Bailer / (Disposable Bailer) / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other____

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Dedicated Tubing / Other: ____

1.2 (Gals.) X 3 = 3.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1130	71.8	6.5	291	7200	1.2	tan, cloudy
1132	71.2	6.4	348	7200	2.4	
1135	70.4	6.4	383	7200	3.6	

Did well dewater? Yes (No) Gallons actually evacuated: 3.6

Sampling Date: 9/29/03 Sampling Time: 1140 Depth to Water: 11.96

Sample I.D.: MW-4 Laboratory: (STL) Other____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	1.6 mg/L	Post-purge:	1.4	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 19.75	Depth to Water (DTW): 12.24
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.74	

Purge Method: Bailer; Disposable Bailer; ~~Positive Air Displacement~~; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

4.9 (Gals.) X 3 = 14.7 Gals.
1 Case Volume; Specified Volumes; Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
	obstruction in well - used MB					
1503	71.1	6.9	1727	>200	5	gray, gas odor, cloudy
1513	74.0	7.1	1716	>200	10	
1523	73.8	7.2	1736	>200	15	

Did well dewater? Yes (No) Gallons actually evacuated: 15

Sampling Date: 9/29/03 Sampling Time: 1575 Depth to Water: 13.74

Sample I.D.: MW-5 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd): (Pre-purge):	0.6 mg/L	(Post-purge):	0.5	mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: MW-6	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 19.65	Depth to Water (DTW): 12.70
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.09	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other:_____

4.5 (Gals.) X 3 = 13.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1152	68.1	6.5	975	105	4.5	clear; little gas odor
1153	66.8	6.6	987	166	9	
1155	66.1	6.6	975	7200	13.5	Cloudy

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Date: 9/29/03 Sampling Time: 1205 Depth to Water: 14.09

Sample I.D.: MW-6 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	(Pre-purge):	1.1 mg/L	(Post-purge):	1.0 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: MW-7	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 19.71	Depth to Water (DTW): 13.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.44	

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other: _____

1 Case Volume		Specified Volumes		Calculated Volume
9.3	(Gals.) X	3	=	12.9 Gals.

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1248	67.1	6.8	836	129	4.5	Cloudy, gas odor
1249	66.2	6.5	965	200	9.0	
1251	66.2	6.5	997	7200	13	

Did well dewater? Yes (No) Gallons actually evacuated: 13

Sampling Date: 9/29/03 Sampling Time: 1305 Depth to Water: 14.44

Sample I.D.: MW-7 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	(Pre-purge):	0.9 mg/L	(Post-purge):	0.9 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: VW/MW-2	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 22.10	Depth to Water (DTW): 12.05
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.06	

Purge Method: Bailer / (Disposable Bailer) / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Dedicated Tubing / Other: _____

1.6 (Gals.) X	3 =	4.8 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1422	71.2	7.0	1043	7200	1.6	gray, strong gasoline
1425	69.2	6.9	992	7200	3.2	
1430	69.3	6.8	1008	7200	4.8	

Did well dewater? Yes (No) Gallons actually evacuated: 4.8

Sampling Date: 9/29/03 Sampling Time: 1440 Depth to Water: 13.81

Sample I.D.: VW/MW-2 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	(Pre-purge):	0.4 mg/L	(Post-purge):	0.4	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: VW/MW-4	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 18.45	Depth to Water (DTW): 11.83
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.15	

Purge Method: Bailer (Disposable Bailer) Positive Air Displacement Electric Submersible | Waterra Peristaltic Extraction Pump Other_____

Sampling Method: Bailer (Disposable Bailer) Extraction Port Dedicated Tubing Other: _____

1 (Gals.) X 3 (Specified Volumes) = 3 (Calculated Volume) Gals.

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1312	68.6	6.6	1298	7200	1	gray, cloudy, strong gas odor
1314	68.6	6.7	1260	7200	2	
1316	68.5	6.7	1264	66	3	clear/gray, gas odor

Did well dewater? Yes (No) Gallons actually evacuated: 3

Sampling Date: 9/29/03 Sampling Time: 1330 Depth to Water: 12.04

Sample I.D.: VW/MW-4 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	0.5 mg/L	Post-purge:	0.6 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: VW/AS-1	Well Diameter: 2 3 4 6 8 (1)
Total Well Depth (TD): 19.64	Depth to Water (DTW): 12.46
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.91	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; (Other) 5/8 tubing w/check valve

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

.3 (Gals.) X 3 = .9 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1358	71.1	6.9	1400	7200	.3	gray, cloudy, strong odor
1401	70.5	6.9	1407	>200	.6	
1403	70.1	6.9	1406	7200	.9	

Did well dewater? Yes (No) Gallons actually evacuated: .9

Sampling Date: 9/29/03 Sampling Time: 1410 Depth to Water: 12.81

Sample I.D.: VW/AS-1 Laboratory: (STL) Other

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	(Pre-purge):	2.3 mg/L	(Post-purge):	3.6	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030929-MD1	Site: 97088250
Sampler: John DeJong	Date: 9/29/03
Well I.D.: VW/AS-3	Well Diameter: 2 3 4 6 8 (1)
Total Well Depth (TD): 19.73	Depth to Water (DTW): 12.02
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.56	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; (Other) 3/8" tubing w/check valve

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other:

1 Case Volume	(Gals.) X	Specified Volumes	=	Calculated Volume	Gals.
.3		3		.9	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1215	69.1	6.7	1230	7200	.3	cloudy, strong gas odor
1219	69.6	6.7	1207	7200	.6	gray, strong gas odor
1222	68.9	6.8	1165	97.2	.9	

Did well dewater? Yes (No) Gallons actually evacuated: .9

Sampling Date: 9/29/03 Sampling Time: 1230 Depth to Water: 12.07

Sample I.D.: VW/AS-3 Laboratory: (STL) Other

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	(Pre-purge):	4.1 mg/L	(Post-purge):	1.6	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

→ in cup outside of well

SEVERN TRENT STL

Submission#: 2003-10-0017

Blaine Tech Services, Inc.

October 13, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 030929-MD1
Project: 97088250
Site: 1230 14th Street, Oakland

Dear Mr.Gearhart,

Attached is our report for your samples received on 09/30/2003 16:10
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 11/14/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: vvancil@stl-inc.com

Sincerely,

Vincent Vancil
Project Manager

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	09/29/2003 13:50	Water	1
MW-2	09/29/2003 11:05	Water	2
MW-3	09/29/2003 11:25	Water	3
MW-4	09/29/2003 11:40	Water	4
MW-5	09/29/2003 15:35	Water	5
MW-6	09/29/2003 12:05	Water	6
MW-7	09/29/2003 13:05	Water	7
VW/MW-4	09/29/2003 13:30	Water	8
VW/MW-2	09/29/2003 14:40	Water	9
VW/AS-1	09/29/2003 14:10	Water	10
VW/AS-3	09/29/2003 12:30	Water	11

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s): 5030B
Test(s): 8260FAB

Sample ID: **MW-1**
Lab ID: 2003-10-0017 - 1

Sampled: 09/29/2003 13:50
Extracted: 10/6/2003 23:59

Matrix: Water
QC Batch#: 2003/10/06-02.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	10000	5000	ug/L	100.00	10/06/2003 23:59	
Benzene	5700	50	ug/L	100.00	10/06/2003 23:59	
Toluene	400	50	ug/L	100.00	10/06/2003 23:59	
Ethylbenzene	670	50	ug/L	100.00	10/06/2003 23:59	
Total xylenes	1000	100	ug/L	100.00	10/06/2003 23:59	
Methyl tert-butyl ether (MTBE)	ND	50	ug/L	100.00	10/06/2003 23:59	
Surrogate(s)						
1,2-Dichloroethane-d4	89.8	76-130	%	100.00	10/06/2003 23:59	
Toluene-d8	101.6	78-115	%	100.00	10/06/2003 23:59	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-2**	Lab ID:	2003-10-0017 - 2
Sampled:	09/29/2003 11:05	Extracted:	10/7/2003 00:21
Matrix:	Water	QC Batch#:	2003/10/06-02.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/07/2003 00:21	
Benzene	ND	0.50	ug/L	1.00	10/07/2003 00:21	
Toluene	ND	0.50	ug/L	1.00	10/07/2003 00:21	
Ethylbenzene	ND	0.50	ug/L	1.00	10/07/2003 00:21	
Total xylenes	ND	1.0	ug/L	1.00	10/07/2003 00:21	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/07/2003 00:21	
Surrogate(s)						
1,2-Dichloroethane-d4	85.8	76-130	%	1.00	10/07/2003 00:21	
Toluene-d8	100.0	78-115	%	1.00	10/07/2003 00:21	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-3**	Lab ID:	2003-10-0017 - 3
Sampled:	09/29/2003 11:25	Extracted:	10/7/2003 00:43
Matrix:	Water	QC Batch#:	2003/10/06-02.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/07/2003 00:43	
Benzene	ND	0.50	ug/L	1.00	10/07/2003 00:43	
Toluene	ND	0.50	ug/L	1.00	10/07/2003 00:43	
Ethylbenzene	ND	0.50	ug/L	1.00	10/07/2003 00:43	
Total xylenes	ND	1.0	ug/L	1.00	10/07/2003 00:43	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/07/2003 00:43	
Surrogate(s)						
1,2-Dichloroethane-d4	80.0	76-130	%	1.00	10/07/2003 00:43	
Toluene-d8	102.6	78-115	%	1.00	10/07/2003 00:43	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-4**	Lab ID:	2003-10-0017 - 4
Sampled:	09/29/2003 11:40	Extracted:	10/7/2003 01:49
Matrix:	Water	QC Batch#:	2003/10/06-02.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/07/2003 01:49	
Benzene	ND	0.50	ug/L	1.00	10/07/2003 01:49	
Toluene	ND	0.50	ug/L	1.00	10/07/2003 01:49	
Ethylbenzene	ND	0.50	ug/L	1.00	10/07/2003 01:49	
Total xylenes	ND	1.0	ug/L	1.00	10/07/2003 01:49	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/07/2003 01:49	
Surrogate(s)						
1,2-Dichloroethane-d4	85.1	76-130	%	1.00	10/07/2003 01:49	
Toluene-d8	93.5	78-115	%	1.00	10/07/2003 01:49	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s): 5030B
Test(s): 8260FAB

Sample ID: **MW-5**
Lab ID: 2003-10-0017 - 5

Sampled: 09/29/2003 15:35
Extracted: 10/7/2003 02:11

Matrix: Water
QC Batch#: 2003/10/06-02.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	59000	5000	ug/L	100.00	10/07/2003 02:11	
Benzene	6600	50	ug/L	100.00	10/07/2003 02:11	
Toluene	4200	50	ug/L	100.00	10/07/2003 02:11	
Ethylbenzene	1500	50	ug/L	100.00	10/07/2003 02:11	
Total xylenes	6500	100	ug/L	100.00	10/07/2003 02:11	
Methyl tert-butyl ether (MTBE)	ND	50	ug/L	100.00	10/07/2003 02:11	
Surrogate(s)						
1,2-Dichloroethane-d4	92.4	76-130	%	100.00	10/07/2003 02:11	
Toluene-d8	95.0	78-115	%	100.00	10/07/2003 02:11	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s): 5030B
Test(s): 8260FAB

Sample ID: **MW-6**
Lab ID: 2003-10-0017 - 6

Sampled: 09/29/2003 12:05
Extracted: 10/7/2003 02:33

Matrix: Water
QC Batch#: 2003/10/06-02.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	910	250	ug/L	5.00	10/07/2003 02:33	g
Benzene	46	2.5	ug/L	5.00	10/07/2003 02:33	
Toluene	ND	2.5	ug/L	5.00	10/07/2003 02:33	
Ethylbenzene	ND	2.5	ug/L	5.00	10/07/2003 02:33	
Total xylenes	ND	5.0	ug/L	5.00	10/07/2003 02:33	
Methyl tert-butyl ether (MTBE)	ND	2.5	ug/L	5.00	10/07/2003 02:33	
Surrogate(s)						
1,2-Dichloroethane-d4	86.9	76-130	%	5.00	10/07/2003 02:33	
Toluene-d8	100.1	78-115	%	5.00	10/07/2003 02:33	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s): 5030B
Test(s): 8260FAB

Sample ID: **MW-7**
Lab ID: 2003-10-0017 - 7

Sampled: 09/29/2003 13:05
Extracted: 10/7/2003 02:55

Matrix: Water
QC Batch#: 2003/10/06-02.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	5200	1000	ug/L	20.00	10/07/2003 02:55	
Benzene	1200	10	ug/L	20.00	10/07/2003 02:55	
Toluene	ND	10	ug/L	20.00	10/07/2003 02:55	
Ethylbenzene	ND	10	ug/L	20.00	10/07/2003 02:55	
Total xylenes	ND	20	ug/L	20.00	10/07/2003 02:55	
Methyl tert-butyl ether (MTBE)	ND	10	ug/L	20.00	10/07/2003 02:55	
Surrogate(s)						
1,2-Dichloroethane-d4	93.7	76-130	%	20.00	10/07/2003 02:55	
Toluene-d8	100.1	78-115	%	20.00	10/07/2003 02:55	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**VW/MW-4**	Lab ID:	2003-10-0017 - 8
Sampled:	09/29/2003 13:30	Extracted:	10/7/2003 03:17
Matrix:	Water	QC Batch#:	2003/10/06-02.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	7500	2000	ug/L	40.00	10/07/2003 03:17	
Benzene	1800	20	ug/L	40.00	10/07/2003 03:17	
Toluene	300	20	ug/L	40.00	10/07/2003 03:17	
Ethylbenzene	390	20	ug/L	40.00	10/07/2003 03:17	
Total xylenes	860	40	ug/L	40.00	10/07/2003 03:17	
Methyl tert-butyl ether (MTBE)	ND	20	ug/L	40.00	10/07/2003 03:17	
Surrogate(s)						
1,2-Dichloroethane-d4	88.9	76-130	%	40.00	10/07/2003 03:17	
Toluene-d8	100.8	78-115	%	40.00	10/07/2003 03:17	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s): 5030B
Test(s): 8260FAB

Sample ID: **VW/MW-2**
Lab ID: 2003-10-0017 - 9

Sampled: 09/29/2003 14:40
Extracted: 10/7/2003 03:39

Matrix: Water
QC Batch#: 2003/10/06-02.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	12000	1000	ug/L	20.00	10/07/2003 03:39	
Benzene	860	10	ug/L	20.00	10/07/2003 03:39	
Toluene	980	10	ug/L	20.00	10/07/2003 03:39	
Ethylbenzene	410	10	ug/L	20.00	10/07/2003 03:39	
Total xylenes	1100	20	ug/L	20.00	10/07/2003 03:39	
Methyl tert-butyl ether (MTBE)	ND	10	ug/L	20.00	10/07/2003 03:39	
Surrogate(s)						
1,2-Dichloroethane-d4	85.1	76-130	%	20.00	10/07/2003 03:39	
Toluene-d8	103.1	78-115	%	20.00	10/07/2003 03:39	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s): 5030B
Test(s): 8260FAB

Sample ID: **VW/AS-1**
Lab ID: 2003-10-0017 - 10

Sampled: 09/29/2003 14:10
Extracted: 10/7/2003 04:01

Matrix: Water
QC Batch#: 2003/10/06-02.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	9600	2000	ug/L	40.00	10/07/2003 04:01	
Benzene	2300	20	ug/L	40.00	10/07/2003 04:01	
Toluene	100	20	ug/L	40.00	10/07/2003 04:01	
Ethylbenzene	1200	20	ug/L	40.00	10/07/2003 04:01	
Total xylenes	670	40	ug/L	40.00	10/07/2003 04:01	
Methyl tert-butyl ether (MTBE)	ND	20	ug/L	40.00	10/07/2003 04:01	
Surrogate(s)						
1,2-Dichloroethane-d4	89.2	76-130	%	40.00	10/07/2003 04:01	
Toluene-d8	104.6	78-115	%	40.00	10/07/2003 04:01	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**VW/AS-3**	Lab ID:	2003-10-0017 - 11
Sampled:	09/29/2003 12:30	Extracted:	10/7/2003 04:23
Matrix:	Water	QC Batch#:	2003/10/06-02.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	160	50	ug/L	1.00	10/07/2003 04:23	
Benzene	54	0.50	ug/L	1.00	10/07/2003 04:23	
Toluene	2.2	0.50	ug/L	1.00	10/07/2003 04:23	
Ethylbenzene	6.9	0.50	ug/L	1.00	10/07/2003 04:23	
Total xylenes	8.7	1.0	ug/L	1.00	10/07/2003 04:23	
Methyl tert-butyl ether (MTBE)	1.1	0.50	ug/L	1.00	10/07/2003 04:23	
Surrogate(s)						
1,2-Dichloroethane-d4	87.6	76-130	%	1.00	10/07/2003 04:23	
Toluene-d8	100.4	78-115	%	1.00	10/07/2003 04:23	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Method Blank — **Water** — **QC Batch # 2003/10/06-02.64**

MB: 2003/10/06-02.64-008 — Date Extracted: 10/06/2003 22:08

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/06/2003 22:08	
Benzene	ND	0.5	ug/L	10/06/2003 22:08	
Toluene	ND	0.5	ug/L	10/06/2003 22:08	
Ethylbenzene	ND	0.5	ug/L	10/06/2003 22:08	
Total xylenes	ND	1.0	ug/L	10/06/2003 22:08	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	10/06/2003 22:08	
Surrogates(s)					
1,2-Dichloroethane-d4	82.6	76-130	%	10/06/2003 22:08	
Toluene-d8	99.5	78-115	%	10/06/2003 22:08	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike **Water** **QC Batch # 2003/10/06-02.64**

LCS 2003/10/06-02.64-025 Extracted: 10/06/2003 Analyzed: 10/06/2003 21:25

LCSD 2003/10/06-02.64-047 Extracted: 10/06/2003 Analyzed: 10/06/2003 21:47

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	24.1	28.7	25.0	96.4	114.8	17.4	69-129	20		
Toluene	25.0	29.7	25.0	100.0	118.8	17.2	70-130	20		
Methyl tert-butyl ether (MTBE)	23.3	26.7	25.0	93.2	106.8	13.6	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	443	408	500	88.6	81.6		76-130			
Toluene-d8	493	494	500	98.6	98.8		78-115			

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Matrix Spike (MS / MSD) **Water** **QC Batch # 2003/10/06-02.64**

MW-3 >> MS

Lab ID: 2003-10-0017 - 003

MS: 2003/10/06-02.64-005 Extracted: 10/07/2003

Analyzed: 10/07/2003 01:05

Dilution: 1.00

MSD: 2003/10/06-02.64-027 Extracted: 10/07/2003

Analyzed: 10/07/2003 01:27

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	29.7	24.6	ND	25.0	118.8	98.4	18.8	69-129	20		
Toluene	30.2	26.7	ND	25.0	120.8	106.8	12.3	70-130	20		
Methyl tert-butyl ether	28.1	23.3	ND	25.0	112.4	93.2	18.7	65-165	20		
Surrogate(s)											
1,2-Dichloroethane-d4	430	416		500	86.0	83.2		76-130			
Toluene-d8	514	516		500	102.8	103.1		78-115			

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030929-MD1
97088250

Received: 09/30/2003 16:10

Site: 1230 14th Street, Oakland

Legend and Notes

Analysis Flag

o

Reporting limits were raised due to high level of analyte present in the sample.

Result Flag

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

SHELL Chain Of Custody Record

77521

Lab Identification (if necessary):
Address:
City, State, Zip:

Shell Project Manager to be invoiced:

- ☒ SCIENCE & ENGINEERING
- ☐ TECHNICAL SERVICES
- ☐ CRMT HOUSTON

Karen Petryna

2003.10.0017

INCIDENT NUMBER (S&E ONLY): 9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT):

DATE: 9/29/07

PAGE: 1 of 2

Sampling Company	laine Tech Services
Log Code	BTSS
Address	80 Rogers Avenue, San Jose, CA 95112
Project Contact (Hardcopy or PDF Report to)	on Gearhart
Telephone	8-573-0555
Fax	408-573-7771
Email	lgearhart@blainetech.com
Site Address (Street and City)	1230 14th Street, Oakland
Global ID No.	T0600101691
EDF Deliverable To (Responsible Party or Designee)	Anni Kreml
Phone No.	510-420-3335
E-mail	ShellOaklandEDF@cambria-env.com
Consultant Project No.	030929-MD1
BTS #	
Sampler Name(s) (Print)	Johnathan DeJong

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☐ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ______

GC/MS MTBE CONFIRMATION: HIGHEST ______ HIGHEST per BORING ______ ALL ______

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED ☐

REQUESTED ANALYSIS

Field Sample Identification	Sampling Date	Sampling Time	Matrix	No. of Cont.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)	TPH - Diesel, Extractable (8015m)	Field Notes: Container/Preservative or PID Readings or Laboratory Notes
MW-1	9/29/07	1320	W	3	✓	✓		✓							
MW-2		1105		3	✓	✓		✓							
MW-3		1125		3	✓	✓		✓							
MW-4		1140		3	✓	✓		✓							
MW-5		1535		3	✓	✓		✓							
MW-6		1205		3	✓	✓		✓							
MW-7		1705		3	✓	✓		✓							
VW/MW-4		1330		3	✓	✓		✓							
VW/MW-2		1440		3	✓	✓		✓							
VW/AS-1		1410		3	✓	✓		✓							

TEMPERATURE ON RECEIPT C°: 2.5 °C

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Jonathan DeJong	[signature]	9/30/03	1610
[signature] 9/30/03 1746	[signature]	9/30/03	1746

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

10/29/02 Revision

SHELL Chain Of Custody Record

Shell Project Manager to be invoiced:

- [x] SCIENCE & ENGINEERING
- [ ] TECHNICAL SERVICES
- [ ] CRMT HOUSTON

Karen Petryna

03-10-0017

INCIDENT NUMBER (S&E ONLY): 9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT):

DATE: 9/29/03

PAGE: 2 of 2

Sampling Company:	...aine Tech Services
Lab Code:	BTSS
Address:	...80 Rogers Avenue, San Jose, CA 95112
Project Contact:	...on Gearhart
Telephone:	...9-573-0555
Fax:	408-573-7771
Email:	[illegible]@blainetech.com
Site Address (Street and City):	1230 14th Street, Oakland
Global ID No.:	T0600101691
EDF Deliverable To:	Anni Kreml
Phone No.:	510-420-3335
E-Mail:	ShellOaklandEDF@cambria-env.com
Consultant Project No.:	030929-MD1
	BTSS
Sampler Name(s) (Print):	Johnathen De Jong
Lab Use Only	

TURNAROUND TIME (BUSINESS DAYS): [ ] 10 DAYS [ ] 5 DAYS [ ] 72 HOURS [ ] 48 HOURS [ ] 24 HOURS [ ] LESS THAN 24 HOURS

[ ] LA - RWQCB REPORT FORMAT [ ] UST AGENCY: ______

GC/MS MTBE CONFIRMATION: HIGHEST ______ HIGHEST per BORING ______ ALL ______

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED [ ]

REQUESTED ANALYSIS

Field Sample Identification	Sampling Date	Sampling Time	Matrix	No. of Cont.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)		TPH - Diesel, Extractable (8015m)									Field Notes: Container/Preservative or PID Readings or Laboratory Notes
VW/AS-3	9/29/03	1230	w	3	✓	✓		✓																

TEMPERATURE ON RECEIPT C°: 2.5°C

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	[signature]	9/30/03	1611
[signature] 9/30/03 1746	[signature]	9/30/03	1746

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client

10/16/00 Revision

ATTACHMENT H

Confirmation Soil Boring Logs

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-18
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	07-Nov-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	07-Nov-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	18.2 ft (07-Nov-03) ▽
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
			S-18-4		5			**FILL**; brown; dry; 15% clay, 10% silt, 35% sand, 45% angular fine to medium gravel; no plasticity.	9.0	
230			S-18-9		10	SP		**SAND** (SP); dark gray; damp; 5% silt, 95% fine sand; no plasticity.	14.0	Portland Type I/II Cement
327			S-18-14		15	SM		**Silty SAND** (SM); brown with gray mottling; 45% silt, 55% sand. @ 17.0 fbg - 40% silt, 50% fine sand, 10% fine to medium subangular gravel. @ 18.2 fbg - wet; 35% silt, 65% sand. ▽		
270			S-18-19		20				21.0	
						SP		**SAND** (SP); brown with gray mottling; 90% fine sand, 10% subangular gravel.		
30			S-18-24		25			@ 24.0 fbg - 100% fine sand.	25.0	Bottom of Boring @ 25 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 5/17/04

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-19
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	07-Nov-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	07-Nov-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	19.8 ft (07-Nov-03) ▽
REVIEWED BY	M. Derby, PE# 55475	***DEPTH TO WATER (Static)***	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
			S-19-4		5			**FILL**; brown; dry; 10% clay, 15% silt, 30% sand, 60% angular fine to medium gravel; no plasticity.		
								@ 6.0 fbg - damp.		
			S-19-8						8.6	
			S-19-9		10	SM		**Silty SAND**(SM); dark gray; moist; 40% silt, 60% fine sand; no plasticity.		Portland Type I/II Cement
500			S-19-14		15			@ 16.0 fbg - 20% silt, 80% fine sand.	17.0	
						SP		**SAND**(SP); gray; moist; 5% silt, 95% sand; no plasticity.	18.5	
30			S-19-19		20	SM		**Silty SAND**(SM); gray; 45% silt, 55% sand. ▽		
								@ 19.8 fbg - wet.		
10								@ 21.0 fbg - 15% silt, 85% sand.	22.8	
2.2						SP		**SAND**(SP); brown; wet; 100% sand; no plasticity.		
					25				25.0	Bottom of Boring @ 25 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 5/17/04

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-20
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	07-Nov-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	07-Nov-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	20.0 ft (07-Nov-03) ▽
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					0			**FILL**; light brown; damp; 10% clay, 15% silt, 25% sand, 50% angular fine to medium gravel; no plasticity.		
					5				5.5	
						SM		**SAND with Silt**(SM); brown; moist; 20% silt, 70% fine sand; no plasticity.		
			S-20- 9		10					
150			S-20- 15		15				16.1	◄ Portland Type I/II Cement
						ML		**Sandy SILT**(ML); brown; moist; 65% silt, 35% fine sand; low plasticity. @ 17.0 fbg - brown with gray mottling.	18.5	
5			S-20- 19.5		20			**Silty SAND**(SM); brown; moist; 40% silt, 60% fine sand; no plasticity. ▽ @ 20.0 fbg - wet; 20% silt, 80% very fine sand.		
55			S-20- 21.5			SM				
0			S-20- 24		25			@ 23.5 fbg - gray; 30% silt, 70% sand.	25.0	Bottom of Boring @ 25 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINTOK-1230.GPJ DEFAULT.GDT 5/17/04

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-21
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	07-Nov-03
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	07-Nov-03
PROJECT NUMBER	246-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	20.0 ft (07-Nov-03)
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								FILL; dark brown; moist; 20% silt, 35% sand, 45% angular fine to medium gravel; no plasticity.		
								@ 2.5 fbg - brown; damp.		
0			S-21-4		5					
0			S-21-9		10			@ 9.0 fbg - 15% silt, 30% sand, 55% gravel.	10.5	
			S-21-11					**Silty SAND**(SM); gray; moist; 35% silt, 65% fine sand; no plasticity.		Portland Type I/II Cement
550			S-21-14		15			@ 15.0 fbg - 40% silt, 60% sand.		
						SM				
55			S-21-19		20			@ 20.0 fbg - wet; 20% silt, 80% sand. ▽		
2									23.1	
2			S-21-24		25	SP		**SAND** (SP); brown; wet; 100% fine sand; no plasticity.	25.0	Bottom of Boring @ 25 ft

WELL LOG (PID/TPHG) G:\OAKLAND 1230 14TH\GINT\OK-1230.GPJ DEFAULT.GDT 5/17/04

ATTACHMENT I

Soil Confirmation Sample Analytical Laboratory Reports

SEVERN TRENT STL

Submission#: 2003-11-0359

Cambria Environmental Emeryville

November 24, 2003

5900 Hollis Street, Ste. A
Emeryville, CA 94608

Attn.: Melody Munz

Project#: 245-0233
Project: 97088250
Site: 1230-14th Street, Oakland

Dear Ms. Munz:

Attached is our report for your samples received on 11/10/2003 10:45
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 12/25/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: vvancil@stl-inc.com

Sincerely,

Vincent Vancil
Project Manager

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
S-18	11/10/2003	Water	6
S-21	11/10/2003	Water	12
S-19	11/10/2003	Water	18
S-20	11/10/2003	Water	23

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-18**	Lab ID:	2003-11-0359 - 6
Sampled:	11/10/2003	Extracted:	11/18/2003 03:24
Matrix:	Water	QC Batch#:	2003/11/17-02.62

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	75000	5000	ug/L	100.00	11/18/2003 03:24	
Benzene	3600	50	ug/L	100.00	11/18/2003 03:24	
Toluene	10000	50	ug/L	100.00	11/18/2003 03:24	
Ethylbenzene	2200	50	ug/L	100.00	11/18/2003 03:24	
Total xylenes	12000	100	ug/L	100.00	11/18/2003 03:24	
Methyl tert-butyl ether (MTBE)	ND	50	ug/L	100.00	11/18/2003 03:24	
Surrogate(s)						
1,2-Dichloroethane-d4	99.7	76	%	100.00	11/18/2003 03:24	
Toluene-d8	101.2	78	%	100.00	11/18/2003 03:24	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-21**	Lab ID:	2003-11-0359 - 12
Sampled:	11/10/2003	Extracted:	11/18/2003 03:46
Matrix:	Water	QC Batch#:	2003/11/17-02.62

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	34000	1300	ug/L	25.00	11/18/2003 03:46	
Benzene	2400	13	ug/L	25.00	11/18/2003 03:46	
Toluene	2300	13	ug/L	25.00	11/18/2003 03:46	
Ethylbenzene	1200	13	ug/L	25.00	11/18/2003 03:46	
Total xylenes	5000	25	ug/L	25.00	11/18/2003 03:46	
Methyl tert-butyl ether (MTBE)	ND	13	ug/L	25.00	11/18/2003 03:46	
Surrogate(s)						
1,2-Dichloroethane-d4	109.9	76	%	25.00	11/18/2003 03:46	
Toluene-d8	103.3	78	%	25.00	11/18/2003 03:46	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-19**	Lab ID:	2003-11-0359 - 18
Sampled:	11/10/2003	Extracted:	11/18/2003 04:08
Matrix:	Water	QC Batch#:	2003/11/17-02.62

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	18000	1000	ug/L	20.00	11/18/2003 04:08	
Benzene	540	10	ug/L	20.00	11/18/2003 04:08	
Toluene	980	10	ug/L	20.00	11/18/2003 04:08	
Ethylbenzene	480	10	ug/L	20.00	11/18/2003 04:08	
Total xylenes	2300	20	ug/L	20.00	11/18/2003 04:08	
Methyl tert-butyl ether (MTBE)	11	10	ug/L	20.00	11/18/2003 04:08	
Surrogate(s)						
1,2-Dichloroethane-d4	108.2	76	%	20.00	11/18/2003 04:08	
Toluene-d8	102.4	78	%	20.00	11/18/2003 04:08	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-20**	Lab ID:	2003-11-0359 - 23
Sampled:	11/10/2003	Extracted:	11/18/2003 04:30
Matrix:	Water	QC Batch#:	2003/11/17-02.62

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1500	1000	ug/L	20.00	11/18/2003 04:30	
Benzene	1100	10	ug/L	20.00	11/18/2003 04:30	
Toluene	15	10	ug/L	20.00	11/18/2003 04:30	
Ethylbenzene	66	10	ug/L	20.00	11/18/2003 04:30	
Total xylenes	38	20	ug/L	20.00	11/18/2003 04:30	
Methyl tert-butyl ether (MTBE)	ND	10	ug/L	20.00	11/18/2003 04:30	
Surrogate(s)						
1,2-Dichloroethane-d4	102.4	76	%	20.00	11/18/2003 04:30	
Toluene-d8	100.7	78	%	20.00	11/18/2003 04:30	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2003/11/17-02.62**

MB: 2003/11/17-02.62-013 — Date Extracted: 11/17/2003 22:13

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	11/17/2003 22:13	
Benzene	ND	0.5	ug/L	11/17/2003 22:13	
Toluene	ND	0.5	ug/L	11/17/2003 22:13	
Ethylbenzene	ND	0.5	ug/L	11/17/2003 22:13	
Total xylenes	ND	1.0	ug/L	11/17/2003 22:13	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	11/17/2003 22:13	
Surrogates(s)					
1,2-Dichloroethane-d4	91.4	76-130	%	11/17/2003 22:13	
Toluene-d8	100.6	78-115	%	11/17/2003 22:13	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2003/11/17-02.62**

LCS 2003/11/17-02.62-029 Extracted: 11/17/2003 Analyzed: 11/17/2003 21:29

LCSD 2003/11/17-02.62-051 Extracted: 11/17/2003 Analyzed: 11/17/2003 21:51

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	21.8	23.1	25.0	87.2	92.4	5.8	69-129	20		
Toluene	24.0	25.2	25.0	96.0	100.8	4.9	70-130	20		
Methyl tert-butyl ether (MTBE)	17.4	19.3	25.0	69.6	77.2	10.4	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	463	467	500	92.6	93.4		76-130			
Toluene-d8	521	523	500	104.2	104.6		78-115			

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Legend and Notes

Analysis Flag

o

Reporting limits were raised due to high level of analyte present in the sample.

SEVERN TRENT STL

Submission #: 2003-11-0359

Alkalinity (Total)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
S-21-14	11/10/2003	Soil	9
S-21-24	11/10/2003	Soil	11

Alkalinity (Total)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	SM2320B	Test(s):	SM2320B
Sample ID:	**S-21-14**	Lab ID:	2003-11-0359 - 9
Sampled:	11/10/2003	Extracted:	11/19/2003 05:03
Matrix:	Soil	QC Batch#:	2003/11/19-02.58

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Alkalinity, Carbonate (as CaCO3)	ND	20	mg/Kg	1.00	11/19/2003 05:03	
Alkalinity, Bicarbonate (as CaCO3)	ND	20	mg/Kg	1.00	11/19/2003 05:03	
Alkalinity, Hydroxide (as CaCO3)	ND	20	mg/Kg	1.00	11/19/2003 05:03	
Alkalinity (Total)	ND	20	mg/Kg	1.00	11/19/2003 05:03	

Alkalinity (Total)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	SM2320B	Test(s):	SM2320B
Sample ID:	**S-21-24**	Lab ID:	2003-11-0359 - 11
Sampled:	11/10/2003	Extracted:	11/19/2003 05:03
Matrix:	Soil	QC Batch#:	2003/11/19-02.58

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Alkalinity, Carbonate (as CaCO3)	ND	20	mg/Kg	1.00	11/19/2003 05:03	
Alkalinity, Bicarbonate (as CaCO3)	ND	20	mg/Kg	1.00	11/19/2003 05:03	
Alkalinity, Hydroxide (as CaCO3)	ND	20	mg/Kg	1.00	11/19/2003 05:03	
Alkalinity (Total)	ND	20	mg/Kg	1.00	11/19/2003 05:03	

Alkalinity (Total)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): SM2320B — Test(s): SM2320B

Method Blank — **Soil** — **QC Batch # 2003/11/19-02.58**

MB: 2003/11/19-02.58-001 — Date Extracted: 11/19/2003

Compound	Conc.	RL	Unit	Analyzed	Flag
Alkalinity (Total)	ND	20.0	mg/Kg	11/19/2003	

Alkalinity (Total)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): SM2320B

Test(s): SM2320B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/19-02.58**

LCS 2003/11/19-02.58-002 Extracted: 11/19/2003 Analyzed: 11/19/2003

LCSD 2003/11/19-02.58-003 Extracted: 11/19/2003 Analyzed: 11/19/2003

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Alkalinity (Total)	23500	23300	25000	94.0	93.2	0.9	80-120	20		

SEVERN TRENT STL

Submission #: 2003-11-0359

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
S-18-4	11/10/2003	Soil	1
S-18-19	11/10/2003	Soil	4
S-18-24	11/10/2003	Soil	5
S-21-4	11/10/2003	Soil	7
S-21-9	11/10/2003	Soil	8
S-21-24	11/10/2003	Soil	11
S-19-4	11/10/2003	Soil	13
S-19-8	11/10/2003	Soil	14
S-19-9	11/10/2003	Soil	15
S-19-19	11/10/2003	Soil	17
S-20-9	11/10/2003	Soil	19
S-20-15	11/10/2003	Soil	20
S-20-19.5	11/10/2003	Soil	21
S-20-21	11/10/2003	Soil	22
S-20-24	11/10/2003	Soil	24

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-18-4**	Lab ID:	2003-11-0359 - 1
Sampled:	11/10/2003	Extracted:	11/14/2003 16:03
Matrix:	Soil	QC Batch#:	2003/11/14-01.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/14/2003 16:03	
Benzene	ND	0.0050	mg/Kg	1.00	11/14/2003 16:03	
Toluene	ND	0.0050	mg/Kg	1.00	11/14/2003 16:03	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/14/2003 16:03	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/14/2003 16:03	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/14/2003 16:03	
Surrogate(s)						
1,2-Dichloroethane-d4	94.2	70	%	1.00	11/14/2003 16:03	
Toluene-d8	94.6	81	%	1.00	11/14/2003 16:03	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-18-19**	Lab ID:	2003-11-0359 - 4
Sampled:	11/10/2003	Extracted:	11/20/2003 14:50
Matrix:	Soil	QC Batch#:	2003/11/20-1A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/20/2003 14:50	
Benzene	0.028	0.0050	mg/Kg	1.00	11/20/2003 14:50	
Toluene	0.073	0.0050	mg/Kg	1.00	11/20/2003 14:50	
Ethyl benzene	0.019	0.0050	mg/Kg	1.00	11/20/2003 14:50	
Total xylenes	0.10	0.0050	mg/Kg	1.00	11/20/2003 14:50	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/20/2003 14:50	
Surrogate(s)						
1,2-Dichloroethane-d4	79.7	70	%	1.00	11/20/2003 14:50	
Toluene-d8	89.6	81	%	1.00	11/20/2003 14:50	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-18-24**	Lab ID:	2003-11-0359 - 5
Sampled:	11/10/2003	Extracted:	11/14/2003 16:21
Matrix:	Soil	QC Batch#:	2003/11/14-01.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	4.6	mg/Kg	4.63	11/14/2003 16:21	
Benzene	ND	0.023	mg/Kg	4.63	11/14/2003 16:21	
Toluene	0.027	0.023	mg/Kg	4.63	11/14/2003 16:21	
Ethyl benzene	ND	0.023	mg/Kg	4.63	11/14/2003 16:21	
Total xylenes	0.061	0.023	mg/Kg	4.63	11/14/2003 16:21	
Methyl tert-butyl ether (MTBE)	ND	0.023	mg/Kg	4.63	11/14/2003 16:21	
Surrogate(s)						
1,2-Dichloroethane-d4	97.8	70	%	4.63	11/14/2003 16:21	
Toluene-d8	90.2	81	%	4.63	11/14/2003 16:21	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-21-4**	Lab ID:	2003-11-0359 - 7
Sampled:	11/10/2003	Extracted:	11/19/2003 22:41
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/19/2003 22:41	
Benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 22:41	
Toluene	ND	0.0050	mg/Kg	1.00	11/19/2003 22:41	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 22:41	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/19/2003 22:41	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/19/2003 22:41	
Surrogate(s)						
1,2-Dichloroethane-d4	93.6	70	%	1.00	11/19/2003 22:41	
Toluene-d8	92.5	81	%	1.00	11/19/2003 22:41	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-21-9**	Lab ID:	2003-11-0359 - 8
Sampled:	11/10/2003	Extracted:	11/19/2003 23:00
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/19/2003 23:00	
Benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:00	
Toluene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:00	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:00	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/19/2003 23:00	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/19/2003 23:00	
Surrogate(s)						
1,2-Dichloroethane-d4	93.2	70	%	1.00	11/19/2003 23:00	
Toluene-d8	88.0	81	%	1.00	11/19/2003 23:00	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-21-24**	Lab ID:	2003-11-0359 - 11
Sampled:	11/10/2003	Extracted:	11/19/2003 23:38
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/19/2003 23:38	
Benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:38	
Toluene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:38	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:38	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/19/2003 23:38	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/19/2003 23:38	
Surrogate(s)						
1,2-Dichloroethane-d4	94.2	70	%	1.00	11/19/2003 23:38	
Toluene-d8	107.8	81	%	1.00	11/19/2003 23:38	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-19-4**	Lab ID:	2003-11-0359 - 13
Sampled:	11/10/2003	Extracted:	11/19/2003 23:57
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/19/2003 23:57	
Benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:57	
Toluene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:57	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/19/2003 23:57	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/19/2003 23:57	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/19/2003 23:57	
Surrogate(s)						
1,2-Dichloroethane-d4	102.0	70	%	1.00	11/19/2003 23:57	
Toluene-d8	92.3	81	%	1.00	11/19/2003 23:57	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-19-8**	Lab ID:	2003-11-0359 - 14
Sampled:	11/10/2003	Extracted:	11/20/2003 00:15
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/20/2003 00:15	
Benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 00:15	
Toluene	ND	0.0050	mg/Kg	1.00	11/20/2003 00:15	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 00:15	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/20/2003 00:15	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/20/2003 00:15	
Surrogate(s)						
1,2-Dichloroethane-d4	91.9	70	%	1.00	11/20/2003 00:15	
Toluene-d8	105.9	81	%	1.00	11/20/2003 00:15	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-19-9**	Lab ID:	2003-11-0359 - 15
Sampled:	11/10/2003	Extracted:	11/20/2003 00:34
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	3.5	1.0	mg/Kg	1.00	11/20/2003 00:34	g
Benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 00:34	
Toluene	ND	0.0050	mg/Kg	1.00	11/20/2003 00:34	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 00:34	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/20/2003 00:34	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/20/2003 00:34	
Surrogate(s)						
1,2-Dichloroethane-d4	89.0	70	%	1.00	11/20/2003 00:34	
Toluene-d8	100.2	81	%	1.00	11/20/2003 00:34	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-19-19**	Lab ID:	2003-11-0359 - 17
Sampled:	11/10/2003	Extracted:	11/20/2003 00:52
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/20/2003 00:52	
Benzene	0.0075	0.0050	mg/Kg	1.00	11/20/2003 00:52	
Toluene	0.017	0.0050	mg/Kg	1.00	11/20/2003 00:52	
Ethyl benzene	0.0079	0.0050	mg/Kg	1.00	11/20/2003 00:52	
Total xylenes	0.036	0.0050	mg/Kg	1.00	11/20/2003 00:52	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/20/2003 00:52	
Surrogate(s)						
1,2-Dichloroethane-d4	92.2	70	%	1.00	11/20/2003 00:52	
Toluene-d8	93.5	81	%	1.00	11/20/2003 00:52	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-20-9**	Lab ID:	2003-11-0359 - 19
Sampled:	11/10/2003	Extracted:	11/20/2003 01:11
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/20/2003 01:11	
Benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 01:11	
Toluene	ND	0.0050	mg/Kg	1.00	11/20/2003 01:11	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 01:11	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/20/2003 01:11	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/20/2003 01:11	
Surrogate(s)						
1,2-Dichloroethane-d4	97.6	70	%	1.00	11/20/2003 01:11	
Toluene-d8	106.5	81	%	1.00	11/20/2003 01:11	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-20-15**	Lab ID:	2003-11-0359 - 20
Sampled:	11/10/2003	Extracted:	11/20/2003 15:08
Matrix:	Soil	QC Batch#:	2003/11/20-1A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	5.0	mg/Kg	5.00	11/20/2003 15:08	
Benzene	1.2	0.025	mg/Kg	5.00	11/20/2003 15:08	
Toluene	ND	0.025	mg/Kg	5.00	11/20/2003 15:08	
Ethyl benzene	0.095	0.025	mg/Kg	5.00	11/20/2003 15:08	
Total xylenes	0.026	0.025	mg/Kg	5.00	11/20/2003 15:08	
Methyl tert-butyl ether (MTBE)	ND	0.025	mg/Kg	5.00	11/20/2003 15:08	
Surrogate(s)						
1,2-Dichloroethane-d4	88.4	70	%	5.00	11/20/2003 15:08	
Toluene-d8	96.7	81	%	5.00	11/20/2003 15:08	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-20-19.5**	Lab ID:	2003-11-0359 - 21
Sampled:	11/10/2003	Extracted:	11/20/2003 02:25
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/20/2003 02:25	
Benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 02:25	
Toluene	ND	0.0050	mg/Kg	1.00	11/20/2003 02:25	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 02:25	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/20/2003 02:25	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/20/2003 02:25	
Surrogate(s)						
1,2-Dichloroethane-d4	87.4	70	%	1.00	11/20/2003 02:25	
Toluene-d8	104.5	81	%	1.00	11/20/2003 02:25	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-20-21**	Lab ID:	2003-11-0359 - 22
Sampled:	11/10/2003	Extracted:	11/20/2003 15:27
Matrix:	Soil	QC Batch#:	2003/11/20-1A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	4.6	mg/Kg	4.59	11/20/2003 15:27	
Benzene	0.84	0.023	mg/Kg	4.59	11/20/2003 15:27	
Toluene	ND	0.023	mg/Kg	4.59	11/20/2003 15:27	
Ethyl benzene	0.067	0.023	mg/Kg	4.59	11/20/2003 15:27	
Total xylenes	0.026	0.023	mg/Kg	4.59	11/20/2003 15:27	
Methyl tert-butyl ether (MTBE)	ND	0.023	mg/Kg	4.59	11/20/2003 15:27	
Surrogate(s)						
1,2-Dichloroethane-d4	89.6	70	%	4.59	11/20/2003 15:27	
Toluene-d8	99.4	81	%	4.59	11/20/2003 15:27	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-20-24**	Lab ID:	2003-11-0359 - 24
Sampled:	11/10/2003	Extracted:	11/20/2003 03:04
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/20/2003 03:04	
Benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 03:04	
Toluene	ND	0.0050	mg/Kg	1.00	11/20/2003 03:04	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	11/20/2003 03:04	
Total xylenes	ND	0.0050	mg/Kg	1.00	11/20/2003 03:04	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/20/2003 03:04	
Surrogate(s)						
1,2-Dichloroethane-d4	98.4	70	%	1.00	11/20/2003 03:04	
Toluene-d8	89.2	81	%	1.00	11/20/2003 03:04	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Soil** — **QC Batch # 2003/11/14-01.69**

MB: 2003/11/14-01.69-000 — Date Extracted: 11/14/2003 10:00

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1.000	mg/Kg	11/14/2003 10:00	
Benzene	ND	0.0050	mg/Kg	11/14/2003 10:00	
Toluene	ND	0.0050	mg/Kg	11/14/2003 10:00	
Ethyl benzene	ND	0.0050	mg/Kg	11/14/2003 10:00	
Total xylenes	ND	0.0050	mg/Kg	11/14/2003 10:00	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	11/14/2003 10:00	
Surrogates(s)					
1,2-Dichloroethane-d4	88.3	70-121	%	11/14/2003 10:00	
Toluene-d8	100.7	81-117	%	11/14/2003 10:00	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Soil** — **QC Batch # 2003/11/19-02.69**

MB: 2003/11/19-02.69-027 — Date Extracted: 11/19/2003 21:27

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1.000	mg/Kg	11/19/2003 21:27	
Benzene	ND	0.0050	mg/Kg	11/19/2003 21:27	
Toluene	ND	0.0050	mg/Kg	11/19/2003 21:27	
Ethyl benzene	ND	0.0050	mg/Kg	11/19/2003 21:27	
Total xylenes	ND	0.0050	mg/Kg	11/19/2003 21:27	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	11/19/2003 21:27	
Surrogates(s)					
1,2-Dichloroethane-d4	92.6	70-121	%	11/19/2003 21:27	
Toluene-d8	105.7	81-117	%	11/19/2003 21:27	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Soil** — **QC Batch # 2003/11/20-1A.69**

MB: 2003/11/20-1A.69-027 — Date Extracted: 11/20/2003 10:27

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1.000	mg/Kg	11/20/2003 10:27	
Benzene	ND	0.0050	mg/Kg	11/20/2003 10:27	
Toluene	ND	0.0050	mg/Kg	11/20/2003 10:27	
Ethyl benzene	ND	0.0050	mg/Kg	11/20/2003 10:27	
Total xylenes	ND	0.0050	mg/Kg	11/20/2003 10:27	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	11/20/2003 10:27	
Surrogates(s)					
1,2-Dichloroethane-d4	91.4	70-121	%	11/20/2003 10:27	
Toluene-d8	89.4	81-117	%	11/20/2003 10:27	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike | **Soil** | **QC Batch # 2003/11/14-01.69**

LCS 2003/11/14-01.69-022 Extracted: 11/14/2003 Analyzed: 11/14/2003 09:22

LCSD 2003/11/14-01.69-041 Extracted: 11/14/2003 Analyzed: 11/14/2003 09:41

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	38.3	38.2	50.0	76.6	76.4	0.3	69-129	20		
Toluene	43.4	43.6	50.0	86.8	87.2	0.5	70-130	20		
Methyl tert-butyl ether (MTBE)	40.4	35.0	50.0	80.8	70.0	14.3	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	448	444	500	89.6	88.8		70-121			
Toluene-d8	482	503	500	96.4	100.6		81-117			

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/19-02.69**

LCS 2003/11/19-02.69-047 Extracted: 11/19/2003 Analyzed: 11/19/2003 20:47

LCSD 2003/11/19-02.69-006 Extracted: 11/19/2003 Analyzed: 11/19/2003 21:06

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	43.1	42.5	50.0	86.2	85.0	1.4	69-129	20		
Toluene	48.4	45.1	50.0	96.8	90.2	7.1	70-130	20		
Methyl tert-butyl ether (MTBE)	38.9	41.0	50.0	77.8	82.0	5.3	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	449	461	500	89.8	92.2		70-121			
Toluene-d8	485	446	500	97.0	89.2		81-117			

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/20-1A.69**

LCS 2003/11/20-1A.69-050 Extracted: 11/20/2003 Analyzed: 11/20/2003 09:50

LCSD 2003/11/20-1A.69-008 Extracted: 11/20/2003 Analyzed: 11/20/2003 10:08

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	0.0400	0.0427	0.05	80.0	85.4	6.5	69-129	20		
Toluene	0.0468	0.0424	0.05	93.6	84.8	9.9	70-130	20		
Methyl tert-butyl ether (MTBE)	0.0375	0.0384	0.05	75.0	76.8	2.4	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	432	438	500	86.4	87.6		70-121			
Toluene-d8	493	417	500	98.6	83.4		81-117			

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Soil** **QC Batch # 2003/11/19-02.69**

S-20-9 >> MS

Lab ID: 2003-11-0359 - 019

MS: 2003/11/19-02.69-029 Extracted: 11/20/2003

Analyzed: 11/20/2003 01:29

Dilution: 1.00

MSD: 2003/11/19-02.69-048 Extracted: 11/20/2003

Analyzed: 11/20/2003 01:48

Dilution: 1.00

Compound	Conc. mg/Kg			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	mg/Kg	MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	38.5	45.5	0.203	49.1	78.0	92.3	16.8	69-129	20		
Toluene	47.8	47.4	0.293	49.1	96.8	95.9	0.9	70-130	20		
Methyl tert-butyl ether	45.4	46.5	ND	49.1	92.5	94.7	2.4	65-165	20		
Surrogate(s)											
1,2-Dichloroethane-d4	452	453		500	90.4	90.6		70-121			
Toluene-d8	483	474		500	96.6	94.8		81-117			

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Legend and Notes

Result Flag

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
S-18-9	11/10/2003	Soil	2
S-18-14	11/10/2003	Soil	3
S-21-14	11/10/2003	Soil	9
S-21-11	11/10/2003	Soil	10
S-19-14	11/10/2003	Soil	16

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-18-9**	Lab ID:	2003-11-0359 - 2
Sampled:	11/10/2003	Extracted:	11/17/2003 09:00
Matrix:	Soil	QC Batch#:	2003/11/17-03.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1800	250	mg/Kg	5.00	11/19/2003 16:10	
Benzene	4.0	2.5	mg/Kg	5.00	11/19/2003 16:10	
Toluene	35	2.5	mg/Kg	5.00	11/19/2003 16:10	
Ethyl benzene	21	2.5	mg/Kg	5.00	11/19/2003 16:10	
Total xylenes	150	2.5	mg/Kg	5.00	11/19/2003 16:10	
Methyl tert-butyl ether (MTBE)	ND	2.5	mg/Kg	5.00	11/19/2003 16:10	
Surrogate(s)						
1,2-Dichloroethane-d4	NA	76-130	%	5.00	11/19/2003 16:10	sd
Toluene-d8	NA	78-115	%	5.00	11/19/2003 16:10	sd

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-18-14**	Lab ID:	2003-11-0359 - 3
Sampled:	11/10/2003	Extracted:	11/17/2003 09:00
Matrix:	Soil	QC Batch#:	2003/11/17-03.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	2000	250	mg/Kg	5.00	11/19/2003 16:34	
Benzene	27	2.5	mg/Kg	5.00	11/19/2003 16:34	
Toluene	120	2.5	mg/Kg	5.00	11/19/2003 16:34	
Ethyl benzene	42	2.5	mg/Kg	5.00	11/19/2003 16:34	
Total xylenes	230	2.5	mg/Kg	5.00	11/19/2003 16:34	
Methyl tert-butyl ether (MTBE)	ND	2.5	mg/Kg	5.00	11/19/2003 16:34	
Surrogate(s)						
1,2-Dichloroethane-d4	NA	76-130	%	5.00	11/19/2003 16:34	sd
Toluene-d8	NA	78-115	%	5.00	11/19/2003 16:34	sd

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-21-14**	Lab ID:	2003-11-0359 - 9
Sampled:	11/10/2003	Extracted:	11/19/2003 11:00
Matrix:	Soil	QC Batch#:	2003/11/19-03.66

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1400	250	mg/Kg	5.00	11/20/2003 12:20	
Benzene	5.5	2.5	mg/Kg	5.00	11/20/2003 12:20	
Toluene	67	2.5	mg/Kg	5.00	11/20/2003 12:20	
Ethyl benzene	26	2.5	mg/Kg	5.00	11/20/2003 12:20	
Total xylenes	130	2.5	mg/Kg	5.00	11/20/2003 12:20	
Methyl tert-butyl ether (MTBE)	ND	2.5	mg/Kg	5.00	11/20/2003 12:20	
Surrogate(s)						
1,2-Dichloroethane-d4	NA	76-130	%	5.00	11/20/2003 12:20	sd
Toluene-d8	NA	78-115	%	5.00	11/20/2003 12:20	sd

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-21-11**	Lab ID:	2003-11-0359 - 10
Sampled:	11/10/2003	Extracted:	11/20/2003 13:00
Matrix:	Soil	QC Batch#:	2003/11/20-03.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	680	50	mg/Kg	1.00	11/20/2003 15:20	g
Benzene	ND	0.50	mg/Kg	1.00	11/20/2003 15:20	
Toluene	ND	0.50	mg/Kg	1.00	11/20/2003 15:20	
Ethyl benzene	4.4	0.50	mg/Kg	1.00	11/20/2003 15:20	
Total xylenes	14	0.50	mg/Kg	1.00	11/20/2003 15:20	
Methyl tert-butyl ether (MTBE)	ND	0.50	mg/Kg	1.00	11/20/2003 15:20	
Surrogate(s)						
1,2-Dichloroethane-d4	87.2	76-130	%	1.00	11/20/2003 15:20	
Toluene-d8	96.6	78-115	%	1.00	11/20/2003 15:20	

SEVERN TRENT STL

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-19-14**	Lab ID:	2003-11-0359 - 16
Sampled:	11/10/2003	Extracted:	11/19/2003 11:00
Matrix:	Soil	QC Batch#:	2003/11/19-03.66

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	2000	250	mg/Kg	5.00	11/20/2003 12:44	
Benzene	9.6	2.5	mg/Kg	5.00	11/20/2003 12:44	
Toluene	71	2.5	mg/Kg	5.00	11/20/2003 12:44	
Ethyl benzene	34	2.5	mg/Kg	5.00	11/20/2003 12:44	
Total xylenes	190	2.5	mg/Kg	5.00	11/20/2003 12:44	
Methyl tert-butyl ether (MTBE)	ND	2.5	mg/Kg	5.00	11/20/2003 12:44	
Surrogate(s)						
1,2-Dichloroethane-d4	NA	76-130	%	5.00	11/20/2003 12:44	sd
Toluene-d8	NA	78-115	%	5.00	11/20/2003 12:44	sd

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Method Blank

Soil

QC Batch # 2003/11/17-03.65

MB: 2003/11/17-03.65-047

Date Extracted: 11/17/2003 11:47

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50000	ug/Kg	11/17/2003 11:47	
Benzene	ND	500	ug/Kg	11/17/2003 11:47	
Toluene	ND	500	ug/Kg	11/17/2003 11:47	
Ethyl benzene	ND	500	ug/Kg	11/17/2003 11:47	
Total xylenes	ND	500	ug/Kg	11/17/2003 11:47	
Methyl tert-butyl ether (MTBE)	ND	500	ug/Kg	11/17/2003 11:47	
Surrogates(s)					
1,2-Dichloroethane-d4	115.6	70-121	%	11/17/2003 11:47	
Toluene-d8	110.8	81-117	%	11/17/2003 11:47	

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Soil** — **QC Batch # 2003/11/19-03.66**

MB: 2003/11/19-03.66-010 — Date Extracted: 11/19/2003 14:10

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50000	ug/Kg	11/19/2003 14:10	
Benzene	ND	500	ug/Kg	11/19/2003 14:10	
Toluene	ND	500	ug/Kg	11/19/2003 14:10	
Ethyl benzene	ND	500	ug/Kg	11/19/2003 14:10	
Total xylenes	ND	500	ug/Kg	11/19/2003 14:10	
Methyl tert-butyl ether (MTBE)	ND	500	ug/Kg	11/19/2003 14:10	
Surrogates(s)					
1,2-Dichloroethane-d4	98.4	70-121	%	11/19/2003 14:10	
Toluene-d8	100.5	81-117	%	11/19/2003 14:10	

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Soil** — **QC Batch # 2003/11/20-03.65**

MB: 2003/11/20-03.65-058 — Date Extracted: 11/20/2003 13:00

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50000	ug/Kg	11/20/2003 14:58	
Benzene	ND	500	ug/Kg	11/20/2003 14:58	
Toluene	ND	500	ug/Kg	11/20/2003 14:58	
Ethyl benzene	ND	500	ug/Kg	11/20/2003 14:58	
Total xylenes	ND	500	ug/Kg	11/20/2003 14:58	
Methyl tert-butyl ether (MTBE)	ND	500	ug/Kg	11/20/2003 14:58	
Surrogates(s)					
1,2-Dichloroethane-d4	89.8	70-121	%	11/20/2003 14:58	
Toluene-d8	98.9	81-117	%	11/20/2003 14:58	

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/17-03.65**

LCS 2003/11/17-03.65-041 Extracted: 11/17/2003 Analyzed: 11/17/2003 13:41

LCSD 2003/11/17-03.65-023 Extracted: 11/17/2003 Analyzed: 11/17/2003 11:23

Compound	Conc. ug/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	9630	11200	10000	96.3	112.0	15.1	69-129	20		
Toluene	10000	11100	10000	100.0	111.0	10.4	70-130	20		
Methyl tert-butyl ether (MTBE)	10700	11900	10000	107.0	119.0	10.6	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	259	284	250	103.6	113.6		70-121			
Toluene-d8	269	281	250	107.6	112.4		81-117			

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/19-03.66**

LCS 2003/11/19-03.66-022 Extracted: 11/19/2003 Analyzed: 11/19/2003 13:22

LCSD 2003/11/19-03.66-046 Extracted: 11/19/2003 Analyzed: 11/19/2003 13:46

Compound	Conc. ug/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	9650	9440	10000	96.5	94.4	2.2	69-129	20		
Toluene	10200	10200	10000	102.0	102.0	0.0	70-130	20		
Methyl tert-butyl ether (MTBE)	8740	8960	10000	87.4	89.6	2.5	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	251	252	250	100.4	100.8		70-121			
Toluene-d8	268	255	250	107.2	102.0		81-117			

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/20-03.65**

LCS 2003/11/20-03.65-012 Extracted: 11/20/2003 Analyzed: 11/20/2003 14:12

LCSD 2003/11/20-03.65-035 Extracted: 11/20/2003 Analyzed: 11/20/2003 14:35

Compound	Conc. ug/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	9720	10200	10000	97.2	102.0	4.8	69-129	20		
Toluene	9630	9950	10000	96.3	99.5	3.3	70-130	20		
Methyl tert-butyl ether (MTBE)	9620	9580	10000	96.2	95.8	0.4	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	225	223	250	90.0	89.2		70-121			
Toluene-d8	237	240	250	94.8	96.0		81-117			

Gas/BTEXFuel Oxygenates by 8260B (High Level)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Legend and Notes

Result Flag

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

sd

Surrogate recovery not reportable due to required dilution.

Metals

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
S-21-14	11/10/2003	Soil	9
S-21-24	11/10/2003	Soil	11

Metals

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**S-21-14**	Lab ID:	2003-11-0359 - 9
Sampled:	11/10/2003	Extracted:	11/12/2003 16:35
Matrix:	Soil	QC Batch#:	2003/11/12-11.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	14000	10	mg/Kg	1.00	11/20/2003 18:42	

Metals

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**S-21-24**	Lab ID:	2003-11-0359 - 11
Sampled:	11/10/2003	Extracted:	11/12/2003 16:35
Matrix:	Soil	QC Batch#:	2003/11/12-11.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	7100	10	mg/Kg	1.00	11/20/2003 18:45	

Metals

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Method Blank

Soil

QC Batch # 2003/11/12-11.15

MB: 2003/11/12-11.15-015

Date Extracted: 11/12/2003 16:35

Compound	Conc.	RL	Unit	Analyzed	Flag
Iron	ND	10	mg/Kg	11/21/2003 11:04	

Metals

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233
97088250

Received: 11/10/2003 10:45

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/12-11.15**

LCS 2003/11/12-11.15-016 Extracted: 11/12/2003 Analyzed: 11/21/2003 11:09

LCSD 2003/11/12-11.15-017 Extracted: 11/12/2003 Analyzed: 11/21/2003 11:13

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Iron	967	974	1000	96.7	97.4	0.7	80-120	20		

SEVERN TRENT STL

STL Chicago
2417 Bond Street
University Park, IL 60466

Tel: 708 534 5200 Fax: 708 534 5211
www.stl-inc.com

SEVERN TRENT LABORATORIES
ANALYTICAL REPORT

JOB NUMBER: 222263

Prepared For:

Severn Trent Laboratories
1220 Quarry Lane
Pleasanton, CA 94566-4756

Project: STL San Francisco

Attention: Vincent Vancil

Date: 11/19/2003

Signature

Name: Bonnie M. Stadelmann

Title: Project Manager

E-Mail: bstadelmann@stl-inc.com

11/19/03
Date

STL Chicago
2417 Bond Street
University Park, IL 60466

PHONE: (708) 534-5200
FAX..: (708) 534-5211

This Report Contains (9) Pages

STL Chicago is part of Severn Trent Laboratories, Inc.

SAMPLE INFORMATION
Date: 11/19/2003

Job Number.: 222263
Customer...: Severn Trent Laboratories
Attn.....: Vincent Vancil

Project Number.....: 20002032
Customer Project ID....: 2003-11-0359
Project Description....: STL San Francisco

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
222263-1	S-21-14	Soil	11/10/2003	12:00	11/13/2003	09:50
222263-2	S-21-24	Soil	11/10/2003	12:00	11/13/2003	09:50

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 222263

Date: 11/19/2003

CUSTOMER: Severn Trent Laboratories PROJECT: 2003-11-0359 ATTN: Vincent Vancil

Customer Sample ID: S-21-14
Date Sampled.....: 11/10/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 222263-1
Date Received.....: 11/13/2003
Time Received.....: 09:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
Lloyd Kahn	Total Organic Carbon (Soils) TOC Average Duplicates, Solid	940	410	mg/Kg	11/17/03	cls

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 222263 Date: 11/19/2003

CUSTOMER: Severn Trent Laboratories PROJECT: 2003-11-0359 ATTN: Vincent Vancil

Customer Sample ID: S-21-24
Date Sampled.....: 11/10/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 222263-2
Date Received.....: 11/13/2003
Time Received.....: 09:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
Lloyd Kahn	Total Organic Carbon (Soils) TOC Average Duplicates, Solid	250	240	mg/Kg	11/17/03	cls

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY CHRONICLE

Job Number: 222263 Date: 11/19/2003

CUSTOMER: Severn Trent Laboratories PROJECT: 2003•11•0359 ATTN: Vincent Vancil

Lab ID: 222263-1 Client ID: S-21-14 Date Recvd: 11/13/2003 Sample Date: 11/10/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
Lloyd Kahn	Total Organic Carbon (Soils)	1	101923	101923	11/17/2003 1512	

Lab ID: 222263-2 Client ID: S-21-24 Date Recvd: 11/13/2003 Sample Date: 11/10/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
Lloyd Kahn	Total Organic Carbon (Soils)	1	101923	101923	11/17/2003 1528	

QUALITY CONTROL RESULTS

Job Number.: 222263 Report Date.: 11/19/2003

CUSTOMER: Severn Trent Laboratories PROJECT: 2003-11-0359 ATTN: Vincent Vancil

Test Method.....: Lloyd Kahn Batch.....: 101923 Analyst...: cls
Method Description.: Total Organic Carbon (Soils) Equipment Code....: TOC4 Test Code.: TOC
Parameter.....: Organic Carbon, Tot. (TOC)

QC	Lab ID	Reagent	Units	QC Result		QC Result	True Value	Orig. Value		QC Calc.	F	*	Limits	Date	Time
MB	101923-003		mg/Kg	32.00	U									11/17/2003	1054
LCS	101923-004	IOOFSTLK3	mg/Kg	4177.46			4780.00	202.37	U	87		%	53-140	11/17/2003	1111
LCD	101923-005	IOOFSTLK3	mg/Kg	4570.17		4177.46	4780.00	200.00	U	96		%	53-140	11/17/2003	1119
										9		R	30		

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 11/19/2003

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 100201
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviations (any number of which may appear in the report)

Inorganic Qualifiers (Q-Column)

U	Analyte was not detected at or above the stated limit.
<	Not detected at or above the reporting limit.
J	Result is less than the RL, but greater than or equal to the method detection limit.
B	Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S	Result was determined by the Method of Standard Additions.
F	AFCEE: Result is less than the RL, but greater than or equal to the method detection limit.

Inorganic Flags (Flag Column)

-	ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
*	LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+	MSA correlation coefficient is less than 0.995.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E	SD: Serial dilution exceeds the control limits.
H	MB, EB1, EB2, EB3: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N	MS, MSD: Spike recovery exceeds the upper or lower control limits.
W	AS(GFAA) Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U	Analyte was not detected at or above the stated limit.
ND	Compound not detected.
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q	Result was qualitatively confirmed, but not quantified.
C	Pesticide identification was confirmed by GC/MS.
Y	The chromatographic response resembles a typical fuel pattern.
Z	The chromatographic response does not resemble a typical fuel pattern.
E	Result exceeded calibration range, secondary dilution required.
F	AFCEE:Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

Organic Flags (Flags Column)

B	MB: Batch QC is greater than reporting limit.
*	LCS, LCD, ELC, ELD, CV, MS, MSD, Surrogate: Batch QC exceeds the upper or lower control limits.
-	EB1, EB2, EB3, MLE: Batch QC is greater than reporting Limit
A	Concentration exceeds the instrument calibration range
a	Concentration is below the method Reporting Limit (RL)
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H	Alternate peak selection upon analytical review
I	Indicates the presence of an interfence, recovery is not calculated.
M	Manually integrated compound.
P	The lower of the two values is reported when the % difference between the results of two GC columns is

greater than 25%.

Abbreviations

AS	Post Digestion Spike (GFAA Samples - See Note 1 below)
Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column CCB Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation analysis of original
C1	Confirmation analysis of A1 or D1
C2	Confirmation analysis of A2 or D2
C3	Confirmation analysis of A3 or D3
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
CV	Calilbration Verification Standard
Dil Fac	Dilution Factor - Secondary dilution analysis
D1	Dilution 1
D2	Dilution 2
D3	Dilution 3
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB1	Extraction Blank 1
EB2	Extraction Blank 2
EB3	DI Blank
ELC	Method Extracted LCS
ELD	Method Extracted LCD
ICAL	Initial calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A - ICAP
ISB	Interference Check Sample B - ICAP
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group Lab ID An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PDS	Post Digestion Spike (ICAP)
RA	Re-analysis of original
A1	Re-analysis of D1
A2	Re-analysis of D2
A3	Re-analysis of D3
RD	Re-extraction of dilution
RE	Re-extraction of original
RC	Re-extraction Confirmation
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RT	Retention Time

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 11/19/2003

RTW	Retention Time Window Sample ID A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution (Calculated when sample concentration exceeds 50 times the MDL)
UCB	Unseeded Control Blank
SSV	Second Source Verification Standard
SLCS	Solid Laboratory Control Standard(LCS)
PHC	pH Calibration Check LCSP pH Laboratory Control Sample
LCDP	pH Laboratory Control Sample Duplicate
MDPH	pH Sample Duplicate
MDFP	Flashpoint Sample Duplicate
LCFP	Flashpoint LCS
G1	Gelex Check Standard Range 0-1
G2	Gelex Check Standard Range 1-10
G3	Gelex Check Standard Range 10-100
G4	Gelex Check Standard Range 100-1000

Note 1: The Post Spike Designation on Batch QC for GFAA is designated with an "S" added to the current abbreviation used. EX, LCS S=LCS Post Spike (GFAA); MSS=MS Post Spike (GFAA)

Note 2: The MD calculates an absolute difference (A) when the sample concentration is less than 5 times the reporting limit. The control limit is represented as +/- the RL.

Chain of Custody 2003-11-0359-1

Date Shipped: 11/11/2003

222263

From:

STL San Francisco (CL)
1220 Quarry Lane
Pleasanton, CA 94566-4756

Project Manager:	Vincent Vancil	
Phone:	(925) 484-1919	Ext:
Fax:	(925) 484-1096	
Email:	vvancil@stl-inc.com	

To:

STL Chicago
2417 Bond Street
University Park, IL 60466

Phone:	(708) 534-5200	Ext: 154
Fax:	(708) 534-5211	
Contact:	Nancy McDonald	
Phone:	(708) 534-5200	Ext: 159

CL Submission #: **2003-11-0359**
CL PO #:

Project #: 245-0233
Project Name: 97088250

Client Sample ID / Analysis	CL#	Sampled	Matrix / Method	TAT
1 S-21-14	009	11/10/2003	Soil	
Subcontract - TOC			415.1	5 Day
2 S-21-24	011	11/10/2003	Soil	
Subcontract - TOC			415.1	5 Day

PLEASE INCLUDE QC WITH FAXED AND HARD-COPY RESULTS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature / Time: 1300	Signature / Time	Signature / Time
Printed Name / Date: TING HOANG 11-12-03	Printed Name / Date	Printed Name / Date
Company: STL SF	Company	Company
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature / Time: 0950	Signature / Time	Signature / Time
Printed Name / Date: 11/13/03	Printed Name / Date	Printed Name / Date
Company	Company	Company

STL-San Francisco

1220 Quarry Lane
Pleasanton, CA 94566
(925) 484-1919 (925) 484-1096-fax

Shell Oil Products US Chain Of Custody Record

80073

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING Karen Petryna
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

2003-11-0359

INCIDENT NUMBER (S&E ONLY): 9 7 0 9 3 2 5 0

SAP or CRMT NUMBER (TS/CRMT): 1 3 9 4 0 3

DATE: 11/7/03

PAGE: 1 of 3

SAMPLING COMPANY: CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC	SITE ADDRESS (Street and City): 1230-14th Street, Oakland
ADDRESS: 5900 HOLLIS ST., Suite A	PROJECT CONTACT (Report to): Melody Munz — SHELL SAP PROJECT NO.: 245-0233
CITY: EMERYVILLE, CA 94608	SAMPLER NAME(S) (Print): Jason Gerke — LAB USE ONLY
TELEPHONE: 510-420-0700 FAX: 510-420-9170 E-MAIL: mmunz@cambria-env.com	

TURNAROUND TIME (BUSINESS DAYS): ☑ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ________

GC/MS MTBE CONFIRMATION: HIGHEST ________ HIGHEST per BORING ________ ALL ________

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

cc Report to jgerke@cambria-env.com

REQUESTED ANALYSIS

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

4.1°C

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Purgeable	TPH - Extractable (8015m)	BTEX	MTBE	TBA	5 Oxygenates	1,2 DCA and EDB	Ethanol	Methanol	VOCs by 8260B	Semi-Volatiles by 8270C	Lead ☐ STLC ☐ TCLP	Metals LUFT5 ☐ STLC ☐ TCLP	Metals CAM17 ☐ STLC ☐ TCLP	Total Organic Carbon 9060	Test for Disposal (See Attached)	Alkalinity as CaCO3 SM2320	~~[struck]~~	~~[struck]~~	Ferrous Iron	FIELD NOTES
	S-18-4	11/7/03	940	Soil	1	X		X	X																	
	S-18-9		950		1	X		X	X																	
	S-18-14		1000		1	X		X	X																	
	S-18-19		1010		1	X		X	X																	
	S-18-24		1020		1	X		X	X																	
	S-18-		1040	water	5	X		X	X																	
	S-21-4		1045	Soil	1	X		X	X																	
	S-21-9		1048		1	X		X	X																	
	S-21-14		1050		1	X		X	X											X		X	~~X~~	~~X~~	X	
	S-21-11		1053		1	X		X	X																	

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Jason Gerke	Secure location	11/7/03	1500
[signature]	[signature]	11/10/03	1045
[signature]	Nowak E. 11/10/03	11/10/03	[illegible]

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client

STL-San Francisco

1220 Quarry Lane

Pleasanton, CA 94566

(925) 484-1919 (925) 484-1096-fax

Shell Oil Products US Chain Of Custody Record

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING Karen Petryna
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

2003-11-0359

INCIDENT NUMBER (S&E ONLY): 9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT): 1 2 9 4 0 3

DATE: 11/7/03

PAGE: 2 of 3

CONSULTANT COMPANY: CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC

ADDRESS: 5900 HOLLIS ST., Suite A

CITY: EMERYVILLE, CA 94608

TELEPHONE: 510-420-0700 FAX: 510-420-9170 EMAIL: mmunz@cambria-env.com

SITE ADDRESS (Street and City): 1230-14th Street, Oakland

PROJECT CONTACT (Hardcopy or PDF Report to): Melody Munz

CONSULTANT PROJECT NO.: 245-0233

SAMPLER NAME(S) (Print): Jason Gerke

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☑ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ____

GC/MS MTBE CONFIRMATION: HIGHEST ____ HIGHEST per BORING ____ ALL ____

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

cc Report to jgerke@cambria-env.com

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Purgeable	TPH - Extractable (8015m)	BTEX	MTBE	TBA	5 Oxygenates	1,2 DCA and EDB	Ethanol	Methanol	VOCs by 8260B	Semi-Volatiles by 8270C	Lead ☐ STLC ☐ TCLP	Metals LUFTS ☐ STLC ☐ TCLP	Metals CAM17 ☐ STLC ☐ TCLP	Total Organic Carbon 9060	Test for Disposal (See Attached)	Alkalinity as CaCO3 SM 2320	~~[illegible]~~	~~[illegible]~~	Ferrous Iron	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	S-21-24	11/6/03	1102	Soil	1	X		X	X											X		X	~~X~~	~~X~~	X	
	S-21		1110	water	5	X		X	X																	
	S-19-4		1115	Soil	1	X		X	X																	
	S-19-8		1117		1	X		X	X																	
	S-19-9		1119		1	X		X	X																	
	S-19-14		1122		1	X		X	X																	
	S-19-19		1125		1	X		X	X																	
	S-19		1135	water	5	X		X	X																	
	S-20-9		1230	Soil	1	X		X	X																	
	~~S-20-14~~		1235	Soil	1	X		X	X																	

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	"Secure Location"	11/7/03	1500
	[signature]	11/10/03	10:45
[signature]	Nouna C. 11/10/03	11/10/03	18:00

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

10/23/03 Revision

STL-San Francisco

1220 Quarry Lane
Pleasanton, CA 94566
(925) 484-1919 (925) 484-1096 fax

Shell Oil Products US Chain Of Custody Record

Shell Project Manager to be Invoiced:

☑ SCIENCE & ENGINEERING Karen Petryna
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

2003-11-0354

INCIDENT NUMBER (S&E ONLY): 9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT): 1 2 9 4 0 3

DATE: 11/7/03
PAGE: 3 of 3

SAMPLING COMPANY: CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC
ADDRESS: 5900 HOLLIS ST., Suite A
CITY: EMERYVILLE, CA 94608
TELEPHONE: 510-420-0700 FAX: 510-420-9170 EMAIL: mmunz@cambria-env.com

SITE ADDRESS (Street and City): 1230-14th Street, Oakland
PROJECT CONTACT (Report to): Melody Munz
CONSULTANT PROJECT NO.: 245-0233
SAMPLER NAME(S) (Print): Jason Gerke
LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☑ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ____________

GC/MS MTBE CONFIRMATION: HIGHEST ______ HIGHEST per BORING ______ ALL ______

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

cc Report to jgerke@cambria-env.com

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Purgeable	TPH - Extractable (8015m)	BTEX	MTBE	TBA	5 Oxygenates	1,2 DCA and EDB	Ethanol	Methanol	VOCs by 8260B	Semi-Volatiles by 8270C	Lead ☐ STLC ☐ TCLP	Metals LUFT5 ☐ STLC ☐ TCLP	Metals CAM17 ☐ STLC ☐ TCLP		Test for Disposal (See Attached)					FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	5-20-15	11/3/03	1245	Soil	1	X		X	X																	
	5-20-19.5	↓	1248	↓	1	X		X	X																	
	5-20-21	↓	[illegible]	↓	1	X		X	X																	
	5-20	↓	1300	Water	5	X		X	X																	
	5-20-24	↓	1305	Soil	1	X		X	X																	

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	"Secure Location"	11/7/03	1500
[signature]	[signature]	11/10/03	10:45
[signature]	[signature] 11/10/03 1800	11/10/03	18:00

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client

10/23/02 Revision

STL-San Francisco

1220 Quarry Lane

Pleasanton, CA 94566

(925) 484-1919 (925) 484-1096-fax

Shell Oil Products US Chain Of Custody Record

Shell Project Manager to be Invoiced:

☒ SCIENCE & ENGINEERING Karen Petryna
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

2003-11-0359

INCIDENT NUMBER (S&E ONLY): 9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT): 1 2 6 4 0 3

DATE: 11/7/03

PAGE: 1 of 3

CONSULTANT COMPANY: CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC

ADDRESS: 5900 HOLLIS ST., Suite A

CITY: EMERYVILLE, CA 94608

TELEPHONE: 510-420-0700 FAX: 510-420-9170 EMAIL: mmunz@cambria-env.com

SITE ADDRESS (Street and City): 1230-14th Street, Oakland

GLOBAL ID: T0600101691

PROJECT CONTACT (Report to): Melody Munz

CONSULTANT PROJECT NO.: 245-0233 - 009

SAMPLER NAME(S) (Print): Jason Gerke

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☒ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ______

GC/MS MTBE CONFIRMATION: HIGHEST ____ HIGHEST per BORING ____ ALL ____

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

EDD Req'd

Obtain Samples from sides of containers labelled "X".

cc Report to jgerke@cambria-env.com

REQUESTED ANALYSIS

Field Sample Identification	Sampling Date	Sampling Time	Matrix	No. of Cont.	TPH - Purgeable	TPH - Extractable (8015m)	BTEX	MTBE	TBA	5 Oxygenates	1,2 DCA and EDB	Ethanol	Methanol	VOCs by 8260B	Semi-Volatiles by 8270C	Lead ☐ STLC ☐ TCLP	Metals LUFT5 ☐ STLC ☐ TCLP	Metals CAM17 ☐ STLC ☐ TCLP	Total Organic Carbon 9060	Test for Disposal (See Attached)	Alkalinity as $CaCO_3$ 310.1	~~[illegible]~~	~~[illegible]~~	Ferrous Iron	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
S-18-4	11/7/03	940	Soil	1	X		X	X																	Field Point Name S-18
S-18-9	↓	950	↓	1	X		X	X																	
S-18-14		1000		1	X		X	X																	
S-18-19		1010		1	X		X	X																	
S-18-24		1020	↓	1	X		X	X																	
S-18-		1040	water	5	X		X	X																	
S-21-4		1045	Soil	1	X		X	X																	S-21
S-21-9		1050	↓	1	X		X	X																	
S-21-14		1051		1	X		X	X											X		X	X	X	X	
S-21-11	↓	1053	↓	1	X		X	X																	

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Jason Gerke	"Secure Location"	11/7/03	1500
[signature]	[signature]	11/10/03	1045

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

Shell Oil Products US Chain Of Custody Record

1220 Quarry Lane
Pleasanton, CA 94566
(925) 484-1919 (925) 484-1096 fax

Shell Project Manager to be Invoiced:

☑ SCIENCE & ENGINEERING Karen Petryna
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

2003-11-0359

INCIDENT NUMBER (S&E ONLY): 9 7 0 9 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT): 1 2 9 4 0 3

DATE: 11/7/03

PAGE: 2 of 3

CONSULTANT COMPANY: CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC	SITE ADDRESS (Street and City): 1230 14th Street, Oakland
ADDRESS: 5900 HOLLIS ST., Suite A	PROJECT CONTACT (Report to): Melody Munz — CONSULTANT PROJECT NO.: 245-0233
CITY: EMERYVILLE, CA 94608	SAMPLER NAME(S) (Print): Jason Gerke
TELEPHONE: 510-420-0700 — FAX: 510-420-9170 — E-MAIL: mmunz@cambria-env.com	LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☑ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ______

GC/MS MTBE CONFIRMATION: HIGHEST ______ HIGHEST per BORING ______ ALL ______

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°: ______

cc Report to jgerke@cambria-env.com

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	Sampling Date	Sampling Time	Matrix	No. of Cont.	TPH - Purgeable	TPH - Extractable (8015m)	BTEX	MTBE	TBA	5 Oxygenates	1,2 DCA and EDB	Ethanol	Methanol	VOCs by 8260B	Semi-Volatiles by 8270C	Lead ☐ STLC ☐ TCLP	Metals LUFTS ☐ STLC ☐ TCLP	Metals CAM17 ☐ STLC ☐ TCLP	Total Organic Carbon	Test for Disposal (See Attached)	Alkalinity as CaCO3	~~Hexavalent Chromium~~	~~Total [illegible]~~	Ferrous Iron	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes — Field Point Name
	S-21-24	11/7/03	1102	Soil	1	X		X	X											X		X	[illegible]	[illegible]	X	S-21
	S-21		1110	water	5	✓		X	X																	
	S-19-4		1115	Soil	1	X		X	X																	
	S-19-8		1117		1	X		X	X																	
	S-19-9		1119		1	X		X	X																	
	S-19-14		1122		1	X		X	X																	S-19
	S-19-19		1125		1	X		X	X																	
	S-19		1135	water	5	X		X	X																	
	S-20-9		1210	Soil	1	X		X	X																	S-20
	~~S-20-14 (S-20-14)~~		1215	Soil	1	~~X~~		~~X~~	~~X~~																	

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	Secora Laughlan	11/7/03	1500
Relinquished by: (Signature) [signature]	Received by: (Signature) [signature]	11/10/03	10:45
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client. 10/16/00 Revision

11/11/2003 09:31 FAX 510 420 9170 CAMBRIA 004

STL-San Francisco

1220 Quarry Lane

Pleasanton, CA 94566

(925) 484-1919 (925) 484-1096-fax

Shell Oil Products US Chain Of Custody Record

Shell Project Manager to be Invoiced:

☒ SCIENCE & ENGINEERING Karen Petryna

☐ TECHNICAL SERVICES

☐ CRMT HOUSTON

2003-11-0359

INCIDENT NUMBER (S&E ONLY): 9 7 0 9 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT): [redacted] 1 2 9 4 0 3

DATE: 11/7/03

PAGE: 3 of 3

CONSULTANT COMPANY: CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC

ADDRESS: 5900 HOLLIS ST., Suite A

CITY: EMERYVILLE, CA 94608

TELEPHONE: 510-420-0700 FAX: 510-420-9170 EMAIL: mmunz@cambria-env.com

SITE ADDRESS (Street and City): 1230-14th Street, Oakland

PROJECT CONTACT (Report to): Melody Munz

CONSULTANT PROJECT NO.: 245-0233

SAMPLER NAME(S) (Print): Jason Gerke

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☒ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ______

GC/MS MTBE CONFIRMATION: HIGHEST ______ HIGHEST per BORING ______ ALL ______

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

cc Report to jgerke@cambria-env.com

REQUESTED ANALYSIS

Field Sample Identification	Sampling Date	Sampling Time	Matrix	No. of Cont.	TPH - Purgeable	TPH - Extractable (8015m)	BTEX	MTBE	TBA	5 Oxygenates	1,2 DCA and EDB	Ethanol	Methanol	VOCs by 8260B	Semi-Volatiles by 8270C	Lead ☐ STLC ☐ TCLP	Metals LUFT5 ☐ STLC ☐ TCLP	Metals CAM17 ☐ STLC ☐ TCLP		Test for Disposal (See Attached)					FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
S-20-15	11/7/03	1245	Soil	1	X		X	X																	Field Point Name: S-20
S-20-19.5	↓	1258	↓	1	X		X	X																	S-20
S-20-21	↓	1305	↓	1	X		X	X																	S-20
S-20	↓	1310	Water	5	X		X	X																	S-20
S-20-24	↓	1315	Soil	1	X		X	X																	S-20

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Jason Gerke [signature]	[signature]	11/7/03	1500
[signature]	[signature]	11/10/03	1045

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

10/23/00 Revision

SEVERN TRENT STL

Submission#: 2003-11-0355

Cambria Environmental Emeryville

November 25, 2003

5900 Hollis Street, Ste. A
Emeryville, CA 94608

Attn.: Melody Munz

Project#: 245-0233-007
Project: 97088250
Site: 1230-14th Street, Oakland

Dear Ms. Munz:

Attached is our report for your samples received on 11/10/2003 16:52
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 12/25/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: vvancil@stl-inc.com

Sincerely,

Vincent Vancil
Project Manager

SEVERN TRENT STL

Submission #: 2003-11-0355

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233-007
97088250

Received: 11/10/2003 16:52

Site: 1230-14th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
S-21-19	11/07/2003 10:58	Soil	1

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233-007
97088250

Received: 11/10/2003 16:52

Site: 1230-14th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**S-21-19**	Lab ID:	2003-11-0355 - 1
Sampled:	11/07/2003 10:58	Extracted:	11/19/2003 22:23
Matrix:	Soil	QC Batch#:	2003/11/19-02.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	11/19/2003 22:23	
Benzene	0.0083	0.0050	mg/Kg	1.00	11/19/2003 22:23	
Toluene	0.033	0.0050	mg/Kg	1.00	11/19/2003 22:23	
Ethyl benzene	0.010	0.0050	mg/Kg	1.00	11/19/2003 22:23	
Total xylenes	0.044	0.0050	mg/Kg	1.00	11/19/2003 22:23	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	11/19/2003 22:23	
Surrogate(s)						
1,2-Dichloroethane-d4	98.7	70	%	1.00	11/19/2003 22:23	
Toluene-d8	89.6	81	%	1.00	11/19/2003 22:23	

SEVERN TRENT STL

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233-007
97088250

Received: 11/10/2003 16:52

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B
Method Blank

Soil

Test(s): 8260B
QC Batch # 2003/11/19-02.69

MB: 2003/11/19-02.69-027

Date Extracted: 11/19/2003 21:27

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1.000	mg/Kg	11/19/2003 21:27	
Benzene	ND	0.0050	mg/Kg	11/19/2003 21:27	
Toluene	ND	0.0050	mg/Kg	11/19/2003 21:27	
Ethyl benzene	ND	0.0050	mg/Kg	11/19/2003 21:27	
Total xylenes	ND	0.0050	mg/Kg	11/19/2003 21:27	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	11/19/2003 21:27	
Surrogates(s)					
1,2-Dichloroethane-d4	92.6	70-121	%	11/19/2003 21:27	
Toluene-d8	105.7	81-117	%	11/19/2003 21:27	

Gas/BTEX/MTBE by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Melody Munz

5900 Hollis Street, Ste. A
Emeryville, CA 94608
Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 245-0233-007
97088250

Received: 11/10/2003 16:52

Site: 1230-14th Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Soil** **QC Batch # 2003/11/19-02.69**

LCS 2003/11/19-02.69-047 Extracted: 11/19/2003 Analyzed: 11/19/2003 20:47

LCSD 2003/11/19-02.69-006 Extracted: 11/19/2003 Analyzed: 11/19/2003 21:06

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	43.1	42.5	50.0	86.2	85.0	1.4	69-129	20		
Toluene	48.4	45.1	50.0	96.8	90.2	7.1	70-130	20		
Methyl tert-butyl ether (MTBE)	38.9	41.0	50.0	77.8	82.0	5.3	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	449	461	500	89.8	92.2		70-121			
Toluene-d8	485	446	500	97.0	89.2		81-117			

STL Laboratories

1220 Quarry Lane
Pleasanton, CA 94566
(925) 484 1919 (925) 484-1096 fax

SHELL Chain Of Custody Record

80072

Shell Project Manager to be Invoiced:
☑ SCIENCE & ENGINEERING Karen Petryna
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

2003-11-0355

INCIDENT NUMBER (S&E ONLY): 9 7 0 8 8 2 5 0
SAP or CRMT NUMBER (TS/CRMT):

DATE: Nov. 10/03
PAGE: 1 of 1

SAMPLING COMPANY: Cambria Environmental Technology
LOG CODE: CETO
SITE ADDRESS (Street and City): 1230-14th Street, Oakland
GLOBAL ID NO.: T0600101691
ADDRESS: 5900 Hollis Street, Suite A, Emeryville, CA 94608
EDF DELIVERABLE TO (Responsible Party or Designee): shelloaklandedf@cambria-env.com
PHONE NO.:
E-MAIL:
CONSULTANT PROJECT NO.: 245-0233-007
PROJECT CONTACT (Hardcopy or PDF Report to): M. Munz
SAMPLER NAME(S) (Print): Jason Gerke; Phone - 510-420-3320
LAB USE ONLY
TELEPHONE: 510-420-3324
FAX: 510-420-9170
E-MAIL: jgerke@cambria-env.com

TURNAROUND TIME (BUSINESS DAYS): ☑ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST ______ HIGHEST per BORING ______ ALL ______

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED ☐

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	EDB & 1,2-DCA (8260B)	EPA 5035 Extraction for Volatiles	VOCs Halogenated/Aromatic (8021B)	TRPH (418.1)	Vapor VOCs BTEX / MTBE (TO-15)	Vapor VOCs Full List (TO-15)	Vapor TPH (ASTM 3416m)	Vapor Fixed Gases (ASTM D1946)	Test for Disposal - See Attached		TPH - Diesel, Extractable (8015m)		MTBE (8260B) Confirmation, See Note	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	S-21-19	11/7/03	10:58	Soil	1	X	X		X																	Field Point Name: S-21

TEMPERATURE ON RECEIPT C°: 4.2

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
M. Munz	"secure location"	11/10/03	11:32 am
[signature]	[signature]	11/10/03	18:52
[signature]	[signature] 11/10/03 1800	11/10/03	18:00

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client

10/16/00 Revision

ATTACHMENT J

Injection Point Well Destruction Permits and DWR Logs

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939 www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST
OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS, US
Address 20945 WILMINGTON Phone 92X
City CARSON, CA Zip

APPLICANT
Name MARIAN WILLS
CAMBRIA Fax 510. 420.2357 / 420-3354
Address 5900 HOLLIS Phone 510. 420. 3342
City EMERYVILLE Zip

TYPE OF PROJECT
Well Construction / Geotechnical Investigation
- Cathodic Protection ☐ General ☐
- Water Supply ☐ Contamination ☐
- Monitoring ☐ Well Destruction X

PROPOSED WATER SUPPLY WELL USE
- New Domestic ☐ Replacement Domestic ☐
- Municipal ☐ Irrigation ☐
- Industrial ☐ Other INJECTION X

DRILLING METHOD:
- Mud Rotary ☐ Air Rotary ☐ Auger ☐
- Cable ☐ Other X GROUT

DRILLER'S NAME VIRONEX

DRILLER'S LICENSE NO. 705927

WELL PROJECTS
- Drill Hole Diameter 1" in. Maximum
- Casing Diameter — in. Depth 20 ft.
- Surface Seal Depth — ft. Owner's Well Number P-1

GEOTECHNICAL/CONTAMINATION PROJECTS
- Number of Borings 1 Maximum
- Hole Diameter 1" in. Depth 20 ft.

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME MARIAN WILLS Rev.5-11-04

FOR OFFICE USE

PERMIT NUMBER W05-0029
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION — TGA1
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

Part of W04-1216 & 1226 issued on 11-29-04

APPROVED [signature] DATE 1-12-05

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS! PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS, US
Address 10945 [illegible] Phone 925.
City CAMBRIA, CA Zip

APPLICANT
Name MEGAN WILLS Fax 510 420.2737
Address 5900 HOLLIS Phone 510. 420.3342
City EMERYVILLE Zip

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring		Well Destruction	X

PROPOSED WATER SUPPLY WELL USE

New Domestic		Replacement Domestic	
Municipal		Irrigation	
Industrial		Other INJECTION	X

DRILLING METHOD:

Mud Rotary		Air Rotary	Auger
Cable		Other	X GEOPROBE

DRILLER'S NAME VINDEX
DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum Depth 20 ft.
Casing Diameter — in. Owner's Well Number P-2
Surface Seal Depth — ft

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum Depth 20 ft.
Hole Diameter 1" in.

STARTING DATE 11/29/04
COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04
PLEASE PRINT NAME MEGAN WILLS

Rev.5-11-04

FOR OFFICE USE
PERMIT NUMBER W04-1216
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

(F) WELL DESTRUCTION — Total
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14th ST OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS, US
Address 20945 WILMINGTON Phone
City CARSON, CA Zip

APPLICANT
Name MARTIN WILLS CAMBRIA
Fax 510. 420.
Address 5900 HOLLIS Phone 510. 420. 3342
City EMERYVILLE Zip

TYPE OF PROJECT
Well Construction — Cathodic Protection ☐ Water Supply ☐ Monitoring ☐
Geotechnical Investigation — General ☐ Contamination ☐ Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic ☐ Replacement Domestic ☐
Municipal ☐ Irrigation ☐
Industrial ☐ Other X INJECTION

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other X GROUT

DRILLER'S NAME VIRONEX

DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum
Casing Diameter — in. Depth 20 ft
Surface Seal Depth — ft Owner's Well Number P-3

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 1" in Depth 20 ft.

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME MARTIN WILLS

Rev 5-11-04

FOR OFFICE USE

PERMIT NUMBER W04-1217
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2.) Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

(F) WELL DESTRUCTION — TGAI
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations

APPROVED [signature] DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James You
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST
OAKLAND, CA

CLIENT
Name CHEVRON PRODUCTS, US
Address 2945 WILLAMETTE Phone 925.
City CARLSON, CA Zip

APPLICANT
Name MARIAN WILLS
CAMBRIA Fax 510 420-2737
Address 5900 HOLLIS Phone 510 420-3342
City EMERYVILLE Zip

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring		Well Destruction	X

PROPOSED WATER SUPPLY WELL USE

New Domestic		Replacement Domestic	
Municipal		Irrigation	
Industrial		Other INTERON	X

DRILLING METHOD:

Mud Rotary		Air Rotary		Auger	
Cable		Other	X GROUT		

DRILLER'S NAME VINDEX
DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum
Casing Diameter — in. Depth 20 ft.
Surface Seal Depth — ft. Owner's Well Number P-4

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 10 in. Depth 20 ft.

STARTING DATE 11/29/04
COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ DATE 11/19/04
PLEASE PRINT NAME MARIAN WILLS

Rev 5-11-04

FOR OFFICE USE
PERMIT NUMBER W04-1218
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Mminum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie

F. WELL DESTRUCTION T6H7
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED _____ DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST
OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS US
Address 10945 WILLOWS RD Phone 925
City CONCORD, CA Zip

APPLICANT
Name MATTHEW WILLS
CAMBRIA Fax 510 420 2707
Address 5900 HOLLIS Phone 510 420 3342
City EMERYVILLE Zip

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring		Well Destruction	X

PROPOSED WATER SUPPLY WELL USE

New Domestic		Replacement Domestic	
Municipal		Irrigation	
Industrial		Other INJECTION	X

DRILLING METHOD:

Mud Rotary		Air Rotary		Auger	
Cable		Other	X GEOPROBE		

DRILLER'S NAME VINDEX

DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum
Casing Diameter — in. Depth 20 ft
Surface Seal Depth — ft Owner's Well Number P-5

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 1" in. Depth 20 ft.

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME MATTHEW WILLS

Rev 5-11-03

FOR OFFICE USE

PERMIT NUMBER W04-1219
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole above zone with concrete placed by tremie

F. WELL DESTRUCTION — 76 #7
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST
OAKLAND, CA

CLIENT
Name Shell Oil Products US
Address 20945 Wilmington Phone ___
City Carson, CA Zip ___

APPLICANT
Name Marcus Wills
Cambria Fax 510 420.2? ?
Address 5900 Hollis Phone 510 420.3342
City Emeryville Zip ___

TYPE OF PROJECT
Well Construction
Cathodic Protection ☐
Water Supply ☐
Monitoring ☐
Geotechnical Investigation
General ☐
Contamination ☐
Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic ☐ Replacement Domestic ☐
Municipal ☐ Irrigation ☐
Industrial ☐ Other Injection X

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other X Grout

DRILLER'S NAME Virgil Drez

DRILLER'S LICENSE NO 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum
Casing Diameter ___ in. Depth 20 ft.
Surface Seal Depth ___ ft Owner's Well Number P-6

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 1" in. Depth 20 ft.

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME Marcus Wills

Rev 5-11-04

FOR OFFICE USE

PERMIT NUMBER W04-1220
WELL NUMBER ___
APN ___

PERMIT CONDITIONS
Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2.) Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

(F.) WELL DESTRUCTION — 7GA1
Send a map of work site. A separate permit is required for wells deeper than 45 feet

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14th St
OAKLAND, CA

CLIENT
Name Shell Oil Products US
Address 20945 Wilmington Phone 92...
City Carson, CA Zip

APPLICANT
Name Marvin Wills
Cambria Fax 510. 420.2717
Address 5900 Hollis Phone 510. 420.3342
City Emeryville Zip

TYPE OF PROJECT
Well Construction
Cathodic Protection ☐
Water Supply ☐
Monitoring ☐
Geotechnical Investigation
General ☐
Contamination ☐
Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic ☐
Municipal ☐
Industrial ☐
Replacement Domestic ☐
Irrigation ☐
Other Destruction X

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other P. Grout

DRILLER'S NAME Virgil Ex

DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in.
Casing Diameter — in.
Surface Seal Depth — ft.
Maximum Depth 20 ft.
Owner's Well Number P-7

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1
Hole Diameter 1" in.
Maximum Depth 20 ft

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME Marvin Wills

Rev.5-11-04

FOR OFFICE USE

PERMIT NUMBER W04-1221
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2.) Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

(F.) WELL DESTRUCTION — 7G#1
Send a map of work site. A separate permit is required for wells deeper than 45 feet

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION.

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14th ST
OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS US
Address 10995 [illegible] Phone 92[illegible]
City CARLSBAD, CA Zip

APPLICANT
Name MARIO WILLS
CAMBRIA Fax 510 420.2[illegible]
Address 5900 HOLLIS Phone 510 420.3342
City EMERYVILLE Zip

TYPE OF PROJECT
Well Construction
Cathodic Protection ☐
Water Supply ☐
Monitoring ☐
Geotechnical Investigation
General ☐
Contamination ☐
Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic ☐
Municipal ☐
Industrial ☐
Replacement Domestic ☐
Irrigation ☐
Other INJECTION X

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other X GROUT

DRILLER'S NAME VIRONEX

DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum Depth 20 ft
Casing Diameter — in. Owner's Well Number P-8
Surface Seal Depth — ft.

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum Depth 20 ft.
Hole Diameter 1" in.

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME MARIO WILLS Rev 5-11-04

FOR OFFICE USE

PERMIT NUMBER W04-1222
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2.) Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

(F.) WELL DESTRUCTION — 1641
Send a map of work site. A separate permit is required for wells deeper than 45 feet

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST OAKLAND, CA

CLIENT
Name Shell Oil Products US
Address 1099? [illegible] Phone ?X.
City Carson, CA Zip

APPLICANT
Name Martin Wills
Cambria Fax 510 420.2357
Address 5900 Hollis Phone 510. 420.3342
City Emeryville Zip

TYPE OF PROJECT
Well Construction
Cathodic Protection ☐
Water Supply ☐
Monitoring ☐
Geotechnical Investigation
General ☐
Contamination ☐
Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic ☐ Replacement Domestic ☐
Municipal ☐ Irrigation ☐
Industrial ☐ Other Injection X

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other X Grout

DRILLER'S NAME Vironex

DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum
Casing Diameter — in. Depth 20 ft. Owner's Well Number P-9
Surface Seal Depth — ft

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 1" in. Depth 20 ft.

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME Martin Wills Rev.5-11-04

FOR OFFICE USE
PERMIT NUMBER W04-1223
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION — TGHZ
Send a map of work site. A separate permit is required for wells deeper than 45 feet

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

APPLICANT'S SIGNATURE [signature] DATE 11/10/04
PLEASE PRINT NAME Martin Wills Rev.5-11-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5633 James Yoo
FAX (510) 782-1939 www.acpwwd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST
OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS US
Address 20945 WILMINGTON Phone 925.
City CARSON, CA Zip

APPLICANT
Name MAGGIE WELLS
CAMBRIA Fax 510 420-2357
Address 5900 HOLLIS Phone 510 420 3342
City EMERYVILLE Zip

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☐	Well Destruction	X

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other INJECTION	X

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	X GEOPROBE		

DRILLER'S NAME VINCENT
DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum
Casing Diameter — in. Depth 20 ft
Surface Seal Depth — ft. Owner's Well Number P-10

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 1" in. Depth 20 ft.

STARTING DATE 11/29/04
COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04
PLEASE PRINT NAME MAGGIE WELLS

Rev. 5-11-04

FOR OFFICE USE

PERMIT NUMBER W04-1224
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION — TG41
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11/23/04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939 www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST
OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS US
Address 20945 WILMINGTON Phone
City CARSON, CA Zip

APPLICANT
Name MARTIN WILLS
CAMBRIA Fax 510 420.2717
Address 5900 HOLLIS Phone 510 420 3342
City EMERYVILLE Zip

TYPE OF PROJECT
Well Construction
Cathodic Protection ☐
Water Supply ☐
Monitoring ☐

Geotechnical Investigation
General ☐
Contamination ☐
Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic ☐ Replacement Domestic ☐
Municipal ☐ Irrigation ☐
Industrial ☐ Other DESTRUCTION X

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other PR GROUT

DRILLER'S NAME VIRONEX

DRILLER'S LICENSE NO. 705927

WELL PROJECTS
Drill Hole Diameter 1" in. Maximum
Casing Diameter — in. Depth 20 ft.
Surface Seal Depth — ft. Owner's Well Number P-11

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 1" in Depth 20 ft.

STARTING DATE 11/29/04

COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME MARTIN WILLS Rev 5-11-04

FOR OFFICE USE

PERMIT NUMBER W04-1225
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION — TGAT
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 14TH ST OAKLAND, CA

CLIENT
Name SHELL OIL PRODUCTS US
Address 20945 WILMINGTON Phone 4X.
City CARSON, CA Zip

APPLICANT
Name MARGO WILLS
CAMBRIA Fax 510 420.2357
Address 5900 HOLLIS Phone 510 420.3342
City EMERYVILLE Zip

TYPE OF PROJECT
Well Construction
Cathodic Protection ☐
Water Supply ☐
Monitoring ☐
Geotechnical Investigation
General ☐
Contamination ☐
Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic ☐ Replacement Domestic ☐
Municipal ☐ Irrigation ☐
Industrial ☐ Other DESTROY X

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other X GROUT

DRILLER'S NAME VIRONEX
DRILLER'S LICENSE NO 705927

WELL PROJECTS
Drill Hole Diameter 1 in. Maximum
Casing Diameter — in. Depth 20 ft.
Surface Seal Depth — ft. Owner's Well Number P-12

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 1 Maximum
Hole Diameter 1" in. Depth 20 ft.

STARTING DATE 11/29/04
COMPLETION DATE 11/30/04

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/10/04

PLEASE PRINT NAME MARGO WILLS Rev 5-11-04

FOR OFFICE USE

PERMIT NUMBER W04-1226
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date
(2.) Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

(F.) WELL DESTRUCTION ← 7647
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-23-04

13 Pages

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED