



Denis L. Brown

June 23, 2005

Jerry Wickham  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Shell Oil Products US**  
HSE - Environmental Services  
20945 S. Wilmington Ave.  
Carson, CA 90810-1039  
Tel (707) 865 0251  
Fax (707) 865 2542  
Email [denis.l.brown@shell.com](mailto:denis.l.brown@shell.com)

Re:     Interim Remediation Report  
          Shell-branded Service Station  
          1784 150th Avenue  
          San Leandro, California  
          SAP Code 136019  
          Incident #98996068

Dear Mr. Wickham:

Attached for your review and comment is a copy of the *Interim Remediation 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.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

A handwritten signature in black ink, appearing to read "Denis L. Brown".

Denis L. Brown  
Sr. Environmental Engineer

# C A M B R I A

June 23, 2005

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

Re: **Interim Remediation Report**  
Shell-branded Service Station  
1784 150<sup>th</sup> Avenue  
San Leandro, California  
Incident #: 98996068  
Project #: 247-0612-009  
ACEH Case #RO367



Dear Mr. Wickham:

Cambria Environmental Technology, Inc. (Cambria) prepared this *Interim Remediation Report* on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell). As proposed in Cambria's October 27, 2004 *Interim Remedial Work Plan*, dual-phase extraction (DPE) was conducted at Shell's request as an interim remedial action to reduce hydrocarbon concentrations in groundwater near the western corner of the site and to progress the site toward closure. All activities were performed in accordance with Alameda County Health Care Services Agency guidelines. The following sections discuss the site background, interim remediation, conclusions, and recommendations.

## SITE BACKGROUND

**Site Location:** The site is an operating Shell service station located at the southern corner of 150th Street and Freedom Avenue in San Leandro, California (Figures 1 and 2).

**Local Topography:** The base of the San Leandro hills is approximately 0.25 miles to the northeast. The site is about 50 feet above mean sea level, and the local topography slopes toward the San Francisco Bay, approximately 6 miles to the west.

**Surroundings:** The site is surrounded by mixed commercial and residential development.

**Local Geology:** Sediments beneath the site are Quaternary alluvial deposits derived from sedimentary and igneous rocks of the Diablo Range. The site is intersected by the Hayward Fault Zone. The site is underlain by low estimated permeability sediments (clay) with interspersed sediments of moderate estimated permeability. During recent investigations at the site, soil

**Cambria  
Environmental  
Technology, Inc.**

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

consisted of silty clay, clayey silts and clayey sandy silt interlayered with sands and gravels to the total explored depth of 40 feet below grade (fbg).

**Groundwater:** Groundwater is not a source of local drinking water. An area well survey in 1992 identified 21 wells within ½ mile of the site (Figure 1). As described below, the well survey was updated in October 2003. Groundwater depths have ranged between 17 and 30 fbg on site and between approximately 4 and 14 fbg in off-site well MW-4. Water level measurements have not shown a consistent or reliable groundwater flow direction, although the most frequent groundwater flow direction since 1999 has been to the north-northwest. In March 2005, depth to groundwater measurements ranged from approximately 7 to 30 fbg. In March 2005, groundwater extraction from well MW-11 created a cone of depression in the groundwater table, which affected the groundwater flow direction and gradient.



## Previous Investigations

**1986 Waste Oil Tank Removal:** According to an October 13, 1989 letter from Weiss Associates (Weiss) to Shell, Petroleum Engineering of Santa Rosa, California removed a 550-gallon waste oil tank from the site in November 1986. Immediately following the tank removal, Blaine Tech Services, Inc. (Blaine) of San Jose, California collected soil samples beneath the former tank at 8-foot and 11-foot depths. The soil samples contained petroleum oil and grease at 196 and 167 parts per million (ppm), respectively. The tank pit was over-excavated to a total depth of 16 feet, but soil samples were not collected. Groundwater was not encountered in the tank excavation. A new 550-gallon fiberglass waste oil tank was installed in the same location. Weiss' October 13, 1989 report summarized the results.

**1990 Well Installation:** In March 1990, Weiss installed soil boring BH-A, which was converted to groundwater monitoring well MW-1, adjacent to the waste oil tank. In a soil sample collected from 29 fbg, 35 ppm total petroleum hydrocarbons as gasoline (TPHg) and 0.23 ppm benzene were detected. A report summarizing the results of this work is not readily available. Historical soil analytical results are presented as Attachment A. Table 1 summarizes well construction details.

**1992 Well Installations:** In February 1992, Weiss installed soil borings BH-B and BH-C, which were converted to monitoring wells MW-2 and MW-3. A soil sample collected near the water table from the boring for well MW-2 contained 79 ppm TPHg. Although well MW-3 is located over 100 feet upgradient of the tanks, up to 68 ppm TPHg was detected in soil from this boring. Weiss' April 27, 1992 *Subsurface Investigation Report* summarized the results

**1994 Subsurface Investigation:** In June 1994, Weiss drilled six soil borings (BH-1 through BH-6) around the site. No hydrocarbons were detected in soil samples from any borings, except for 0.013 ppm benzene in boring BH-3 at 16 fbg. Also, no hydrocarbons were detected in grab

groundwater samples from borings BH-1, BH-4, BH-5, and BH-6. Groundwater from borings BH-2 and BH-3 contained over 5,000 parts per billion (ppb) TPHg. Weiss' October 13, 1994 *Subsurface Investigation Report* summarized the results.

**1995 Well Installation:** In February and March 1995, Weiss drilled four soil borings (BH-7 through BH-10) and converted BH-10 to monitoring well MW-4. No petroleum hydrocarbons were detected in any of the soil samples. Up to 100 ppb TPHg and 1.0 ppb benzene were detected in grab groundwater samples from BH-7 and BH-9. No TPHg or benzene was detected in the grab groundwater sample from MW-4. Groundwater was not encountered in soil boring BH-8. Results were summarized in Weiss' May 16, 1995 *Well Construction Report* and June 13, 1995 *Subsurface Investigation Report and First Quarter 1995 Monitoring Results*.

**1996 Soil Vapor Survey and Soil Sampling:** In July 1996, Weiss conducted a subsurface investigation to obtain site-specific data for a risk-based corrective action (RBCA) evaluation of the site. Soil vapor and soil samples were collected from the vadose zone at 10 on- and off-site locations (SVS-1 through SVS-10). Results were summarized in Weiss' February 7, 1997 *Soil Vapor Summary Report*. Weiss concluded that depleted oxygen concentrations and elevated carbon dioxide and methane concentrations in the vadose zone indicated that biodegradation was occurring. Weiss' report and the associated data are not readily available. This summary was paraphrased from Cambria's September 17, 1999 *Risk-Based Corrective Action*.

**1997 RBCA Evaluation:** In 1997, Weiss prepared a RBCA evaluation for the site. Results of the RBCA analysis indicated that concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX), methyl tertiary butyl ether (MTBE), 1,2-dichloroethane, and tetrachloroethane detected in soil and groundwater beneath the site did not exceed a target risk level of  $10^{-5}$  for residential indoor or outdoor air exposure pathways. However, a risk threshold exceedance was identified associated with ingestion of groundwater from a hypothetical well 25 feet downgradient of the source. Results were summarized in Weiss' April 21, 1997 *Tier 1 and 2 RBCA Summary Report*.

**1997 Dispenser and Turbine Sump Upgrade:** The dispensers and turbine sumps at the station were upgraded in December 1997. Cambria collected soil samples Disp-A through Disp-D from beneath the dispenser islands during upgrade activities. Up to 590 ppm TPHg (Disp-C at 4.5 fbg), 1.8 ppm benzene (Disp-C at 2.0 fbg) and 1.4 ppm MTBE (Disp-C at 2.0 fbg) were detected. Cambria's March 27, 1998 *Dispenser Soil Sampling* report summarized the results.

**1998 Soil Vapor Survey and Soil Sampling:** In November 1998, Cambria conducted a subsurface investigation to obtain site-specific data for a RBCA evaluation of the site. Soil samples, soil vapor samples and grab groundwater samples were collected from the vadose zone at three on-site and three off-site locations (SVS-11 through SVS-16). In soil vapor, maximum concentrations of 2.7 parts per million by volume (ppmv) TPHg (C5+ hydrocarbons) and 0.17 ppmv TPHg (C2-C4 hydrocarbons) were detected in borings SVS-14 and SVS-15,

respectively, at 10 fbg. A maximum concentration 0.0099 ppmv benzene was detected in SVS-16 at 5 fbg. In soil, 1.6 ppm TPHg and 0.005 ppm benzene were detected in boring SVS-11 at 19.5 fbg. No TPHg or benzene was detected in any other soil samples. MTBE was reported at 0.029 ppm in soil from boring SVS-14 at 19 fbg using EPA Method 8020; however, MTBE was not detected in this sample using EPA Method 8260. TPHg and benzene were detected using EPA Method 8020 in groundwater from borings SVS-11 and SVS-12. The highest concentrations (130,000 ppb TPHg and 18,000 ppb benzene) were detected in SVS-11. MTBE was reported at a concentration of 1,500 ppb in soil from boring SVS-11 by EPA Method 8020, but not confirmed by EPA Method 8260. Cambria's September 17, 1999 *Risk-Based Corrective Action* summarized the results.



**1999 RBCA Evaluation:** In September 1999, Cambria prepared a RBCA evaluation of the site. Cambria analyzed the following potential exposure pathways: off-site ingestion of groundwater, on-site ingestion of surficial soil, volatilization of benzene from soil or groundwater into on-site or off-site indoor air, and migration of benzene soil vapor to on-site or off-site outdoor air. Results of Tier 1 and Tier 2 RBCA analysis indicated that contaminants within soil and groundwater did not present significant human health risks. Cambria's September 17, 1999 *Risk-Based Corrective Action* summarized the results.

**October 2001 Off-Site Monitoring Well Installation:** Two monitoring wells (MW-5, MW-6) were installed off site to the southwest. Results were summarized in Cambria's December 20, 2001 *Offsite Monitoring Well Installation Report*. Soil sample results from this investigation indicated only minimal MTBE impact to off-site soil southwest of the site. This finding was in accordance with Cambria's 1998 subsurface investigation, in which no TPHg or benzene and only low MTBE concentrations were detected in soil from three borings (SVS-14 through SVS-16) along the private driveway. In these wells, benzene was detected only in MW-4, in June and September 2002, at a maximum concentration of 1.4 ppb. MTBE was not detected in groundwater from either of these wells; however, TPHg, toluene, ethylbenzene and xylene had been detected in groundwater from well MW-5 at concentrations of 650 ppb, 3.0 ppb, 52 ppb, and 28 ppb, respectively.

**October 2002 Off-Site Monitoring Well Installation:** Two monitoring wells (MW-7, MW-8) and one soil boring (SB-9) were installed off site to the northwest in 150<sup>th</sup> Avenue. Soil sample results from this investigation indicated minimal MTBE, BTEX and TPHg impact to off-site soil northwest of the site. However, grab groundwater samples indicated benzene and TPHg compounds were present at elevated concentrations in groundwater northwest of the site in 150<sup>th</sup> Avenue. Cambria's November 18, 2002 *Offsite Monitoring Well Installation Report* summarized the results.

**June 2003 Soil and Groundwater Investigation:** Six soil borings (SB-10, SB-11, SB-12, SB-13, SB-14, and SB-16) were completed off site to the northwest in both 150<sup>th</sup> Avenue and Portofino

Circle; an additional boring, SB-15, was completed on site (Figure 2). During the investigation, MTBE was detected only in on-site grab groundwater sample SB-15-W at 40 ppb. The highest TPHg concentration was detected in SB-14-W at 67,000 ppb, and the highest benzene concentration was detected in SB-15-W at 530 ppb. TPHg was detected only in soil samples SB-11-30' and SB-15-36' at concentrations of 650 ppm and 1.4 ppm, respectively. Benzene was detected only in soil sample SB-11-35' at 0.10 ppm. Based on typical groundwater depths in nearby well MW-7, it was determined that samples SB-11-30' and SB-15-36' were saturated, and results may be more indicative of chemical concentrations in groundwater. Results were summarized in Cambria's March 10, 2003 *Soil and Water Investigation Work Plan and Well Screen Interval Evaluation* report.



**October 2003 Sensitive Receptor Survey (SRS):** In October 2003, Cambria completed an SRS at Shell's request. The SRS targeted the following as potential sensitive receptors: basements within 200 feet, surface water and sensitive habitats within 500 feet, hospitals, residential care and childcare facilities within 1,000 feet, and water wells within ½ mile. No basements were observed within 200 feet, nor were any surface water or sensitive habitats observed within 500 feet. No educational or childcare facilities were identified within the search radius. The Fairmont Hospital campus, located at 15400 Foothill Boulevard, is located approximately 1,100 feet from the site, just outside the target radius.

To update the 1992 well survey performed by Weiss, Cambria researched Department of Water Resources records in September 2003, and located no additional well records for locations within ½ mile of the site. The closest identified water well potentially used for drinking water is a well installed in 1952 and listed as a "domestic well." As shown on Figure 1, this well is located at Fairmont Hospital, approximately 2,445 feet east-southeast of the site. The well is reportedly 138 feet deep, and has screened intervals between 62 and 95 fbg. The well's status and operation frequency are unknown. Due to the well's distance from the site and the site's observed groundwater flow directions, it is unlikely that this well could be impacted by contaminants from the site.

**November 2003 Monitoring Well Installation:** In November 2003, Cambria supervised the installation of one off-site (MW-9) and two on-site (MW-10 and MW-11) monitoring wells. Off-site well MW-9 was installed in Portofino Circle, north to northwest of soil boring SB-14. Two soil borings were proposed on the adjacent parcel, south to southeast of the site. However, at the time, the current property owner refused to sign an access agreement allowing Cambria to complete these upgradient soil borings. No benzene was detected in any of the soil samples collected during this investigation. MTBE was detected in two soil samples (MW-11-20' and MW-11-24.5') at concentrations of 0.039 and 1.4 ppm, respectively. TPHg was detected in four soil samples (MW-10-30', MW-10-31.5', MW-11-20', and MW-11-34.5') at concentrations of 14, 230, 1.8, and 330 ppm, respectively. All soil samples with detectable hydrocarbon concentrations were saturated soil samples, so results may be more indicative of chemical

concentrations in groundwater rather than soil. Results were summarized in Cambria's January 12, 2004 *Soil and Water Investigation and Monitoring Well Installation Report*.

**September 2004 Off-Site Investigation:** Following negotiation of an access agreement with the off-site property owner, Cambria supervised the advancement of two off-site soil borings (SB-17 and SB-18) on September 13, 2004. No target analytes were detected in any soil sample collected during the investigation. No benzene, MTBE, tert-butyl alcohol, fuel oxygenates, or lead scavengers were detected in grab groundwater samples collected during the investigation. TPHg was detected at 55 ppb in grab groundwater sample SB-18-W. Toluene, ethylbenzene and xylenes were detected in grab groundwater samples SB-17-W and SB-18-W at concentrations of 4.2 and 5.5 ppb toluene, respectively; 2.0 and 2.5 ppb ethylbenzene, respectively; and 7.9 and 10 ppb xylenes, respectively. Results were summarized in Cambria's December 17, 2004 *Soil and Water Investigation Report*.

**March-May 2005 Station Upgrade Activities:** From March through May 2005, the station's fuel system was upgraded. A report documenting these activities will be submitted under separate cover.

**Groundwater Monitoring:** Groundwater has been sampled quarterly since March 1990. The highest historical concentrations of TPHg, benzene, and MTBE in groundwater were detected in well MW-2 at concentrations of 160,000 ppb, 36,000 ppb, and 32,000 ppb, respectively. During the first quarter 2005 groundwater monitoring event, TPHg was detected in eight monitoring wells in concentrations ranging from 100 ppb in MW-9 to 110,000 ppb in MW-1. Benzene was detected in six monitoring wells ranging in concentration from 0.60 ppb in MW-10 to 6,200 ppb in MW-2. MTBE was detected in wells MW-1, MW-2, and MW-11 at concentrations of 87 ppb, 630 ppb, and 16,000 ppb, respectively. Historical groundwater monitoring data is presented as Attachment B.

### **Remedial Activities**

**2002 – 2004 Mobile Groundwater Extraction (GWE):** In July 2002, Onyx Industrial Services (Onyx) of Benicia, California began conducting semi-monthly GWE from monitoring well MW-2. Semi-monthly GWE continued for three events; it was then performed on a monthly basis until March 2004. In March 2004, Onyx commenced monthly GWE from well MW-2 and well MW-11, such that GWE was conducted twice per month at the site. However, due to an error during March 2004, Onyx conducted GWE twice from well MW-2 and once from MW-11. The GWE frequency was increased to weekly (from both MW-2 and MW-11) beginning in May 2004. As of August 24, 2004, approximately 18.5 pounds of TPHg and approximately 4.8 pounds of MTBE had been removed from the subsurface. Mobile GWE was stopped on September 15, 2004 following startup of a temporary GWE system. Table 2 summarizes mobile GWE and mass removal data.

**September 2004 – April 2005 Temporary GWE System:** On September 13, 2004, Cambria completed installation and started operation of a temporary GWE system. The temporary GWE system was installed at Shell's request as an interim remedial measure to address the elevated petroleum hydrocarbon and MTBE concentrations in groundwater near the western corner of the site. As part of the temporary GWE system, groundwater has been extracted from wells MW-1, MW-2, and MW-11 at various times. Extracted groundwater is pumped from the well into a 6,500-gallon storage tank located in the southern corner of the site. To prevent overflow, a float switch in the storage tank will shut off the system when the tank is full. The extracted water is periodically transported by tanker truck to Shell's Martinez Refinery located in Martinez, California for reclamation. As of April 13, 2005, the temporary GWE system has extracted 47,864 gallons of groundwater, 24.7 pounds of TPHg, 2.44 pounds of benzene, and 5.68 pounds of MTBE. These totals include GWE during interim DPE activities in November 2004. Table 3 summarizes the GWE data. The temporary GWE system is currently off. The system will be decommissioned in June 2005 due to limits on the allowable duration of the "temporary" project established by the City of San Leandro.



## INTERIM REMEDIATION – DPE

The primary area of groundwater and soils impacted by petroleum hydrocarbons is immediately west of the USTs. Historical soil analytical results suggest that soil impact is limited to the capillary fringe (approximately 20 to 25 fbg). Well MW-2 (screened 25 to 45 fbg) has had elevated hydrocarbon concentrations in groundwater samples since 1995 and detectable MTBE concentrations in groundwater since 1996. Well MW-11 was installed in November 2003 adjacent to well MW-2. Well MW-11 (screened 15 to 25 fbg) has had hydrocarbon and MTBE concentrations in groundwater comparable to concentrations in well MW-2. The extent of MTBE in groundwater appears to be limited to this area. However, lower concentrations of hydrocarbons have been detected in wells MW-7 and MW-9, located across 150<sup>th</sup> Avenue.

A secondary area of groundwater and soil impacts by petroleum hydrocarbons is immediately to the southwest of the waste oil UST. Well MW-1 soil analytical results suggest that soil impact is again limited to the capillary fringe. Well MW-1 has had elevated hydrocarbon concentrations in groundwater since 1993.

The available data suggests that the primary hydrocarbon and MTBE plumes are localized near the western corner of the site. A secondary hydrocarbon plume is localized around the waste oil UST. The hydrocarbon and MTBE plumes do not appear to be migrating significantly. Cambria's October 27, 2004 *Interim Remediation Work Plan* proposed interim DPE to remediate the residual hydrocarbons and MTBE within the center of the plumes. DPE was selected to target the capillary fringe for soil vapor extraction (SVE), which required dewatering.

**DPE Equipment:** A Clean Environment Equipment submersible pneumatic pump and a Grundfos submersible electric pump were used to extract groundwater for dewatering the soil formation. The extracted groundwater was temporarily stored in a 6,500-gallon Baker tank. Vacuum trucks were coordinated to remove and transport water from the Baker tank to the Martinez Refining Company in Martinez, California for recycling.

A Solleco trailer-mounted liquid-ring pump with electric catalytic oxidizer (Solleco unit) was used as the vapor extraction and abatement device during interim remediation. A 100-kilowatt generator powered the Solleco unit. A throttle valve controlled the applied vacuum and vapor extraction flow rate. The Solleco unit is equipped with auto-dilution and manual dilution valves for additional vacuum and flow control and to maintain oxidizer temperatures within the specified range. The Bay Area Air Quality Management District (BAAQMD) was notified of these activities on November 2, 2004. The Solleco unit was operated in compliance with BAAQMD regulations.

Field vapor concentrations were measured with a Horiba model MEXA554JU organic vapor analyzer. Vapor samples were collected in one-liter teflar bags using a Thomas Industries model 907CDC18F vacuum pump. Magnehelic differential pressure gauges were used to measure system vacuums, the applied wellhead vacuum, and induced vacuum in adjacent wells. A thermal anemometer was used to measure extraction flow rates within the sample manifold.

**Data Collection and Sampling:** Data was recorded on standard forms. The depth to water in the on-site monitoring wells and distances between the extraction and monitoring points was recorded prior to beginning DPE. Throughout the interim remediation, Cambria measured the applied vacuum, airflow, and volatile organic vapor concentration at 15 to 30 minute intervals. Samples of the extracted soil vapor were collected several times during remediation.

**Analyses:** State-certified Severn Trent Laboratories Inc. of Pleasanton, California analyzed all laboratory samples using EPA Method 8260B to determine TPHg, BTEX, and MTBE vapor concentrations.

**Health and Safety Plan:** A site-specific health and safety plan was prepared for the interim remediation activities, and was kept on site throughout the remedial activities.

## Results of Interim Remediation

Table 3 summarizes GWE data, and Table 4 summarizes vapor extraction data. Field data sheets are presented as Attachment C. Laboratory analytical reports are presented as Attachment D. Details of the interim remediation are presented below.

**November 8, 2004:** Prior to starting interim remediation, the depth-to-groundwater in wells MW-2 and MW-11 was measured at 19.79 fbg and 19.51 fbg, respectively. The well screen in

well MW-2 was submerged. Cambria installed and started the pneumatic groundwater pump in well MW-2 to begin dewatering this well. Approximately 4.5 feet of screen was available for SVE in well MW-11. Cambria connected the Solleco unit to MW-11 to begin DPE from this well. A downwell stinger was installed to dewater well MW-11. However, vapor concentrations were too high to accommodate the minimum vacuum required to dewater well MW-11. Therefore, the stinger was raised to the top of the well to conduct SVE from well MW-11.

The applied wellhead vacuum ranged from 22 to 70 inches of water column-gauge (WC). The extraction flow rate ranged from 34.1 to 122.8 standard cubic feet per minute (scfm). Vapor samples were collected at the wellhead for laboratory analysis. The vapor sample collected at 13:15 contained 5,300 ppmv TPHg. Benzene and MTBE were not detected in excess of the reporting limits of 3.1 and 1.4 ppmv, respectively. The vapor sample collected at the end of the day (16:15) contained 8,300 ppmv TPHg and 12 ppmv benzene. MTBE was not detected in excess of the reporting limit of 2.8 ppmv. The Solleco unit was set-up to run overnight to maximize the remedial effort.

**November 9, 2004:** GWE from MW-2 and SVE from MW-11 continued through the day. The applied wellhead vacuum ranged from 20 to 40 inches of WC. The vapor extraction flow rate ranged from 4.5 to 67.2 scfm. A vapor sample collected at 8:45 contained 3,600 ppmv TPHg and 7.2 ppmv benzene. MTBE was not detected in excess of a reporting limit of 1.4 ppmv. The sample collected at the end of the day (13:15) contained 3,000 ppmv TPHg, 8.5 ppmv benzene, and 2.1 ppmv MTBE. The Solleco unit was set-up to run overnight to maximize the remedial effort.

**November 10, 2004:** GWE from MW-2 using the submersible pneumatic pump was not sufficiently dewatering the well. Therefore, Cambria removed the pneumatic pump and installed the higher capacity Grundfos submersible electric pump. SVE from MW-11 continued until 12:30.

The applied wellhead vacuum on MW-11 ranged from 2.2 to 24 inches of WC. The vapor extraction flow rate ranged from 13.2 to 128.1 scfm. A vapor sample collected at 9:30 from MW-11 contained 1,300 ppmv TPHg, 5.2 ppmv benzene, and 1.2 ppmv MTBE. Since vapor concentrations from well MW-11 had decreased, Cambria lowered the stinger to the bottom of the well at 9:30 to remove the remaining 5 feet of water column in the well and vapor extract this saturated area. A vapor sample collected from well MW-11 at 12:30 contained 3,700 ppmv TPHg, 13 ppmv benzene, and 6.0 ppmv MTBE.

At 12:30, Cambria measured the groundwater level in well MW-2 at 28.9 fbg. Dewatering with the submersible electric pump resulted in approximately 3.9 feet of well screen exposure. Since well screen was exposed, SVE from well MW-11 stopped and SVE from well MW-2 was initiated at this time. The applied wellhead vacuum on MW-2 ranged from 3.1 to 11.9 inches of

WC. The vapor extraction flow rate ranged from 15.1 to over 41.5 scfm. The vapor sample collected from well MW-2 at 13:30 contained 88 ppmv TPHg. Benzene and MTBE were not detected in excess of the reporting limits of 0.31 and 0.14 ppmv respectively. The vapor sample collected at the end of the day (15:30) contained 25 ppmv TPHg. Benzene and MTBE were not detected at a reporting limit of 0.31 and 0.14 ppmv respectively.

The low vapor concentrations from well MW-2 suggested that hydrocarbon impact to soils below 25 fbg were minimal or further dewatering and drying out of saturated soils was required to remove hydrocarbons from saturated soils by SVE. GWE extraction from well MW-2 continued, but SVE was moved back to well MW-11 to maximize hydrocarbon removal in the limited time available. The Solleco unit was set-up to run overnight to maximize the remedial effort.



**November 11, 2004:** GWE continued from MW-2. SVE continued from MW-11 until 09:30. The applied wellhead vacuum on MW-11 ranged from 1.7 to 2.0 inches of WC. The vapor extraction flow rate ranged from 11 to 13 scfm. A vapor sample collected at 08:30 did not contain TPHg, benzene, or MTBE at reporting limits of 14, 0.31, and 1.4 ppmv respectively. However, Cambria field personnel noted that the vapor sampling pump was malfunctioning after this sample was collected. The vapor sampling pump was leaking, which allowed ambient air to draw into the vapor sampling stream. The leak was stopped upon discovery.

At 09:30, Cambria measured the groundwater level in well MW-2 at 32.2 fbg. Dewatering with the submersible electric pump resulted in approximately 7.2 feet of well screen exposure. Since well screen was exposed, SVE from well MW-2 was initiated at this time. The applied wellhead vacuum on MW-2 was 7.6 inches of WC. The vapor extraction flow rate was 21.5 scfm. Field-measured vapor concentrations from well MW-2 remained low. Cambria determined that further GWE and SVE from well MW-2 was neither practical nor effective due to the moderate GWE rate required to keep well screen exposed, the limited water storage capacity, and the low vapor concentrations. Therefore, GWE and SVE from well MW-2 were stopped at 12:00.

At 12:00, the Grundfos submersible electric pump was installed in well MW-1 and GWE was initiated from this well. SVE was discontinued for the day to service the Solleco unit's liquid-ring pump.

**November 12, 2004:** GWE continued from MW-1. SVE resumed from MW-11 at 11:15. The applied wellhead vacuum on MW-11 ranged from 12.5 to 15.5 inches of WC. The vapor extraction flow rate ranged from 72.2 to 73.7 scfm. A vapor sample collected at 11:30 from MW-11 contained 5,100 ppmv TPHg, 14 ppmv benzene, and 53.7 ppmv MTBE. The Solleco unit was set-up to run overnight to maximize the remedial effort.

**November 13, 2004:** The Solleco unit was off upon Cambria's arrival to the site. Based on the hour meter, the Solleco unit had shut off at 04:30 on November 13. Cambria stopped GWE from

well MW-1 and all equipment was removed from the site. The temporary GWE system was left off due to repaving of the site.

## CONCLUSIONS

Based on operating parameters and vapor sample analytical results, the total TPHg, benzene and MTBE vapor-phase mass removed from well MW-11 is estimated at 165, 0.291, and 0.063 pounds, respectively. The total TPHg, benzene, and MTBE vapor-phase mass removed from well MW-2 is estimated at 0.073, 0.0002, and 0.001 pounds, respectively.

Approximately, 7,445 gallons of groundwater were extracted from well MW-2. Approximately, 5,714 gallons of groundwater were extracted from well MW-1. The total TPHg, benzene and MTBE liquid-phase mass removed from wells MW-2 and MW-1 during interim remediation is estimated at 5.15, 0.719, and 1.69 pounds, respectively.

GWE by the temporary system and during interim remediation effectively reduced hydrocarbon concentrations in well MW-2. TPHg, benzene, and MTBE groundwater concentrations in well MW-2 prior to starting the temporary GWE system (May 27, 2004) were 74,000, 6,000, and 19,000 ppb, respectively. During the first quarter 2005 groundwater monitoring event (March 2, 2005), TPHg, benzene, and MTBE groundwater concentrations in well MW-2 were 960, 150, and 630 ppb, respectively.

Groundwater monitoring data from well MW-11 has not shown a significant change in TPHg, benzene, or MTBE groundwater concentrations since the temporary GWE system and interim remediation was implemented.

## RECOMMENDATIONS

Cambria recommends preparing a site conceptual model (SCM). The SCM will be used to concisely present all site data collected to identify receptors, critical decision-making parameters for which additional data needs to be gathered, and the uncertainty associated with these parameters.

# C A M B R I A

Mr. Wickham  
June 23, 2005

## CLOSING

Please call Dan Lescure at (510) 420-3306, if you have any questions or comments.

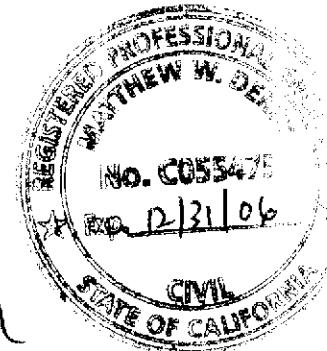
Sincerely,  
**Cambria Environmental Technology, Inc.**



David Gibbs, P.G.  
Project Geologist



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



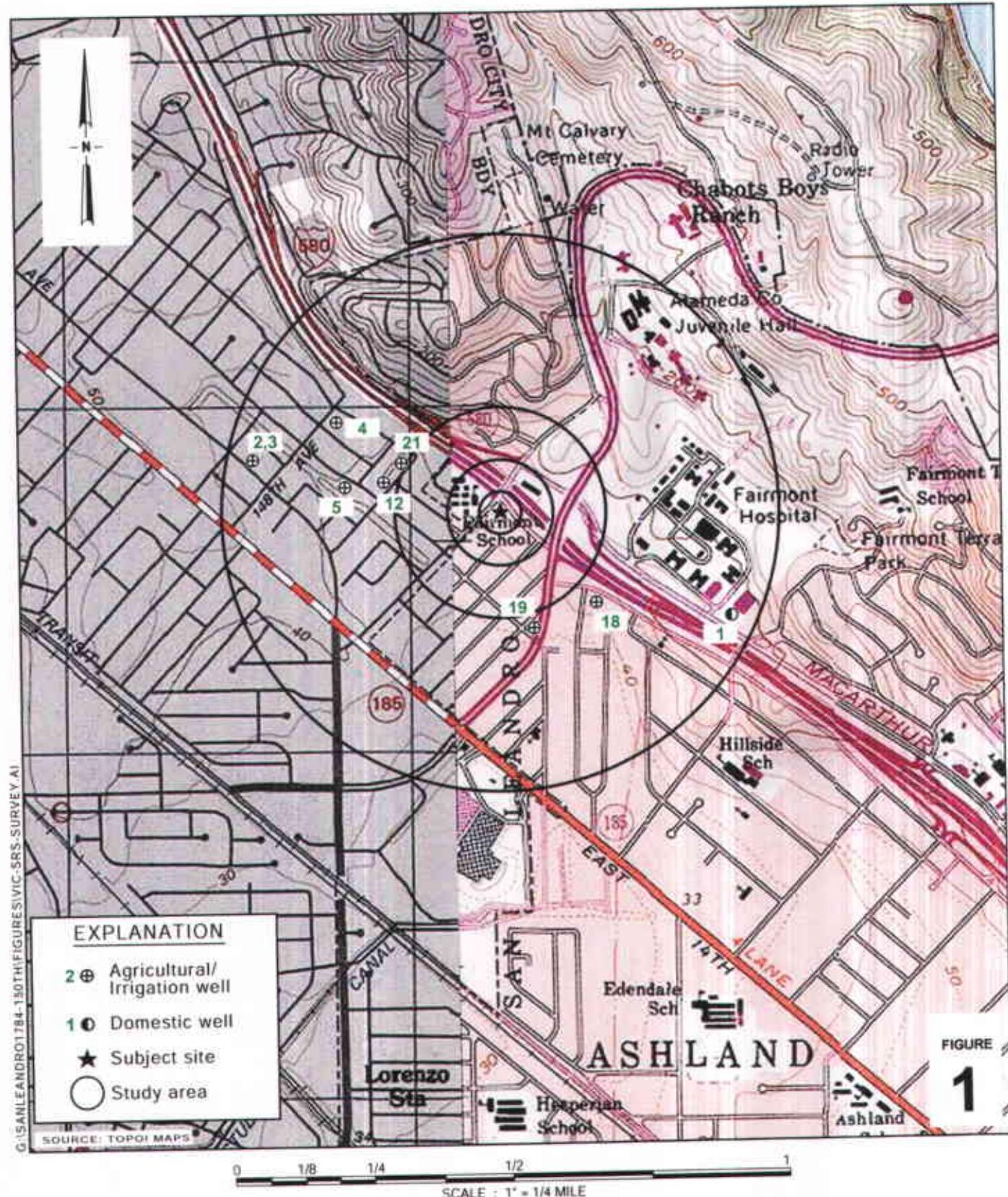
Figures:      1 - Vicinity/Sensitive Receptor Survey Map  
                  2 - Groundwater Elevation Contour Map

Tables:        1 - Well Construction Details  
                  2 - Mobile Groundwater Extraction – Mass Removal Data  
                  3 - Temporary Groundwater Extraction System – Mass Removal Data  
                  4 - Soil Vapor Extraction – Mass Removal Data

Attachments:    A - Historical Soil Analytical Data  
                  B - Historical Groundwater Monitoring Data  
                  C - Field Data Sheets  
                  D - Laboratory Analytical Reports

cc:            Denis Brown, Shell Oil Products US, 20945 S. Wilmington Ave., Carson, CA 90810  
                  City of San Leandro, Environmental Division, 835 East 14<sup>th</sup> Street, San Leandro, CA.  
                  94577

G:\San Leandro 1784 150th\Remediation\DPE Test Nov04\Report May05\Interim Rem (DPE) Rpt.doc



### Shell-branded Service Station

1784 150th Avenue  
San Leandro, California  
Incident #98996068



C A M B R I A

### Vicinity/Sensitive Receptor Survey Map

(1/2-Mile Radius)

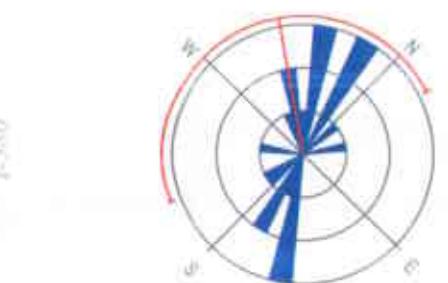
## Groundwater Elevation Contour Map

**FIGURE  
2**

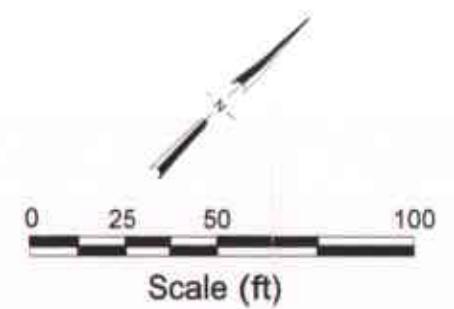
09/01/05

### EXPLANATION

- D-1-3.5 ◆ Soil sample location (03/22/05)
- MW-2 ◇ Monitoring well location used for groundwater extraction
- MW-1 ● Monitoring well location
- SB-17 ◎ Soil boring location (Cambria, 9/04)
- SB-10 ◎ Soil boring location (Cambria, 6/03)
- SB-9 ◎ Soil boring location (Cambria, 10/02)
- SVS-11 △ Soil boring location (Cambria, 11/98)
- SVS-1 ▲ Soil boring location (Cambria, 7/96)
- BH-7 ◆ Soil boring location (Weiss, 3/95)
- A ■ Dispenser soil sample location (Weiss, 3/95)
- BH-1 ◆ Soil boring location (Weiss, 6/94)
- \* Data anomalous, not used for contouring
- Groundwater flow direction
- XX.XX Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred
- Well designation
- ELEV Groundwater elevation, in feet above msl
- Benzene Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.
- Dispenser number
- Water line (W)

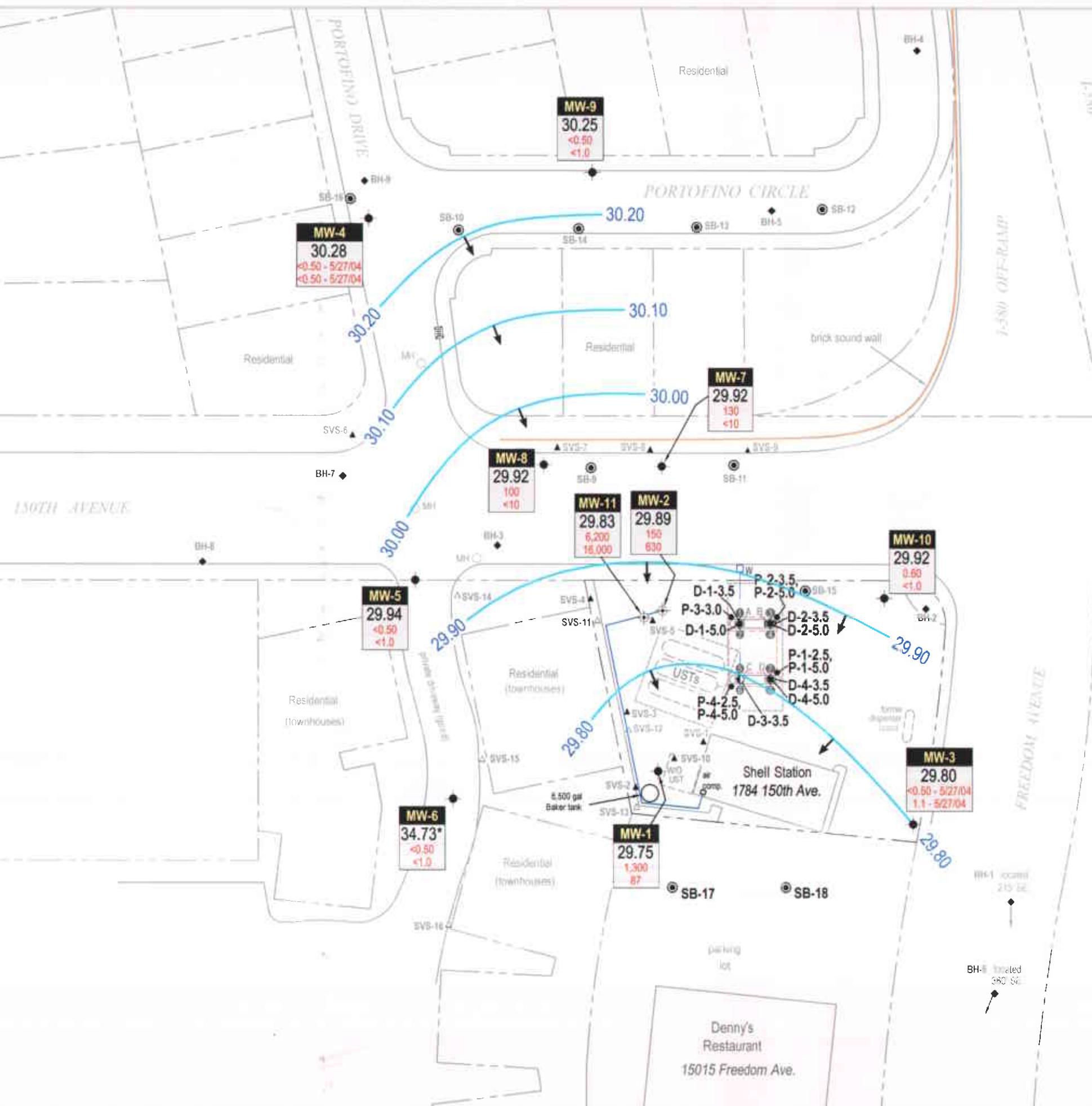


Groundwater Flow Direction  
(06/14/99 to 05/27/04)



Scale (ft)

**Shell-branded Service Station**  
1784 150th Avenue  
San Leandro, California  
Incident No.98996068



# CAMBRIA

**Table 1. Well Construction Details - Shell-branded Service Station, 1784 150th St., San Leandro, California - Incident #98996068**

Well No.	Date Installed	Elevation TOC <sup>(1)</sup> (ft-msl)	Casing Material	Total Depth (fbg)	Well Depth (fbg)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (fbg)	Screened Interval (ft-msl)	Slot Size (inches)	Filter Pack Interval (fbg)	Filter Pack Material	Current <sup>(2)</sup> GW Elev (ft-msl)	Historical GW Elevation Maximum (ft-msl)	Historical GW Elevation Minimum (ft-msl)		
MW-1	3/6/1990	49.10	PVC	45	45	10	4	30	45	19.1	4.1	0.020	28-45	#3 sand	#REF!	30.85	21.14
MW-2	2/4/1992	45.79	PVC	45	45	10	4	25	45	20.79	0.79	0.010	24-45	#1/20 sand	#REF!	30.95	21.58
MW-3	2/5/1992	51.92	PVC	42	42	10	4	22	42	29.92	9.92	0.010	20-42	#1/20 sand	--	30.9	21.71
MW-4	6/6/1994	40.45	PVC	30	27	8	2	5	27	35.45	13.45	0.010	3-28	#1/20 sand	#REF!	31.86	25.9
MW-5	6/6/1994	41.46	PVC	25	25	8	2	10	25	31.46	16.46	0.010	7-25	#2/12 sand	#REF!	26.64	25.89
MW-6	6/6/1994	41.50	PVC	20	20	8	2	5	20	36.5	21.5	0.010	3.5-20	#2/12 sand	#REF!	37.62	28.68
MW-7	10/3/2002	44.45	PVC	27	27	8	2	22	27	22.45	17.45	0.010	20-27	#2/12 sand	--	--	--
MW-8	10/3/2002	43.27	PVC	24	24	8	2	19	24	24.27	19.27	0.010	17-24	#2/12 sand	--	--	--
MW-9	11/19/2003	41.65	PVC	35	35	8	2	30	35	11.65	6.65	0.010	28-35	#2/12 sand	27.1	29.5	26.5
MW-10	11/19/2003	50.64	PVC	32	32	10	4	28	32	22.64	18.64	0.010	26-32	#2/12 sand	27.01	29.44	26.31
MW-11	11/20/2003	45.58	PVC	25	25	10	4	15	25	30.58	20.58	0.010	26-32	#2/12 sand	26.98	28.91	26.48

feet-msl = feet above mean sea level

fbg = feet below grade

(1) TOC = Top of casing elevation. The survey was completed on January 23, 2002. The benchmark for this survey was a cinch nail in top of catch basin northwest corner of 150th and East 14th Streets. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83). Benchmark Elevation 36.883 feet (NGVD 29).

GW Elevation = Groundwater Elevation (feet, msl)

(2) Current groundwater elevation measured on 12/27/02

-- Information not available.

CAMBRIA

**Table 2: Mobile Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98996068, 1784 150th Avenue, San Leandro, CA**

Date Purged	Well ID	Cumulative			TPPH			Benzene			MTBE		
		Volume Pumped (gal)	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)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
07/03/02	MW-2	482	482	06/18/02	72,000	0.28958	0.28958	9,500	0.03821	0.03821	29,000	0.11664	0.11664
07/17/02	MW-2	834	1,316	06/18/02	72,000	0.50106	0.79064	9,500	0.06611	0.10432	29,000	0.20182	0.31845
07/31/02	MW-2	213	1,529	06/18/02	72,000	0.12797	0.91861	9,500	0.01688	0.12121	29,000	0.05154	0.37000
08/14/02	MW-2	664	2,193	06/18/02	72,000	0.39893	1.31754	9,500	0.05264	0.17384	29,000	0.16068	0.53068
09/16/02	MW-2	662	2,855	06/18/02	72,000	0.39773	1.71527	9,500	0.05248	0.22632	29,000	0.16019	0.69087
10/14/02	MW-2	501	3,356	09/18/02	48,000	0.20067	1.91593	7,600	0.03177	0.25809	8,700	0.03637	0.72724
11/11/02	MW-2	547	3,903	09/18/02	48,000	0.21909	2.13502	7,600	0.03469	0.29278	8,700	0.03971	0.76695
12/09/02	MW-2	106	4,009	09/18/02	48,000	0.04246	2.17748	7,600	0.00672	0.29950	8,700	0.00770	0.77465
01/08/03	MW-2	652	4,661	12/27/02	40,000	0.21762	2.39510	5,900	0.03210	0.33160	19,000	0.10337	0.87802
02/04/03	MW-2	326	4,987	12/27/02	40,000	0.10881	2.50391	5,900	0.01605	0.34765	19,000	0.05168	0.92970
03/05/03	MW-2	647	5,634	03/05/03	62,000	0.33473	2.83863	13,000	0.07018	0.41784	21,000	0.11337	1.04308
04/08/03	MW-2	434	6,068	03/05/03	62,000	0.22453	3.06316	13,000	0.04708	0.46491	21,000	0.07605	1.11913
05/06/03	MW-2	736	6,804	03/05/03	62,000	0.38077	3.44393	13,000	0.07984	0.54475	21,000	0.12897	1.24810
06/06/03	MW-2	348	7,152	03/05/03	62,000	0.18004	3.62397	13,000	0.03775	0.58250	21,000	0.06098	1.30908
07/14/03	MW-2	391	7,543	06/24/03	19,000	0.06199	3.68596	9,500	0.03100	0.61350	14,000	0.04568	1.35475
08/12/03	MW-2	591	8,134	06/24/03	19,000	0.09370	3.77966	9,500	0.04685	0.66035	14,000	0.06904	1.42380
09/12/03	MW-2	399	8,533	06/24/03	19,000	0.06326	3.84292	9,500	0.03163	0.69198	14,000	0.04661	1.47041
10/10/03	MW-2	837	9,370	09/25/03	65,000	0.45397	4.29689	24,000	0.16762	0.85960	19,000	0.13270	1.60311
11/12/03	MW-2	259	9,629	09/25/03	65,000	0.14048	4.43737	24,000	0.05187	0.91147	19,000	0.04106	1.64417
12/05/03	MW-2	727	10,356	09/25/03	65,000	0.39431	4.83168	24,000	0.14559	1.05706	19,000	0.11526	1.75943
01/02/04	MW-2	1,168	11,524	12/15/03	67,000	0.65300	5.48468	18,000	0.17543	1.23249	11,000	0.10721	1.86664
02/03/04	MW-2	962	12,486	12/15/03	67,000	0.53783	6.02251	18,000	0.14449	1.37698	11,000	0.08830	1.95494
03/02/04	MW-2	343	12,829	12/15/03	67,000	0.19176	6.21427	18,000	0.05152	1.42850	11,000	0.03148	1.98642
03/16/04	MW-2	856	13,685	03/04/04	72,000	0.51428	6.72855	27,000	0.19285	1.62136	13,000	0.09286	2.07928
04/06/04	MW-2	652	14,337	03/04/04	72,000	0.39172	7.12026	27,000	0.14689	1.76825	13,000	0.07073	2.15001
04/28/04	MW-2	400	14,737	03/04/04	72,000	0.24032	7.36058	27,000	0.09012	1.85837	13,000	0.04339	2.19340
05/04/04	MW-2	700	15,437	03/04/04	72,000	0.42056	7.78114	27,000	0.15771	2.01608	13,000	0.07593	2.26933
05/11/04	MW-2	600	16,037	03/04/04	72,000	0.36048	8.14161	27,000	0.13518	2.15126	13,000	0.06509	2.33442

**Table 2: Mobile Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98996068, 1784 150th Avenue, San Leandro, CA**

Date Purged	Well ID	Cumulative			TPPH			Benzene			MTBE		
		Volume Pumped	Volume Pumped	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE To Date (pounds)
05/18/04	MW-2	1,169	17,206	03/04/04	72,000	0.70233	8.84394	27,000	0.26337	2.41463	13,000	0.12681	2.46122
05/25/04	MW-2	867	18,073	03/04/04	72,000	0.52089	9.36483	27,000	0.19533	2.60996	13,000	0.09405	2.55527
06/02/04	MW-2	1,533	19,606	05/27/04	74,000	0.94660	10.31143	6,000	0.07675	2.68671	19,000	0.24305	2.79832
06/08/04	MW-2	809	20,415	05/27/04	74,000	0.49954	10.81097	6,000	0.04050	2.72722	19,000	0.12826	2.92658
06/15/04	MW-2	1,462	21,877	05/27/04	74,000	0.90276	11.71373	6,000	0.07320	2.80041	19,000	0.23179	3.15837
06/22/04	MW-2	1,720	23,597	05/27/04	74,000	1.06207	12.77580	6,000	0.08611	2.88653	19,000	0.27269	3.43106
06/29/04	MW-2	1,100	24,697	05/27/04	74,000	0.67923	13.45503	6,000	0.05507	2.94160	19,000	0.17440	3.60546
07/06/04	MW-2	1,595	26,292	05/27/04	74,000	0.98488	14.43992	6,000	0.07986	3.02145	19,000	0.25288	3.85834
07/16/04	MW-2	1,643	27,935	05/27/04	74,000	1.01452	15.45444	6,000	0.08226	3.10371	19,000	0.26049	4.11882
07/20/04	MW-2	1,578	29,513	05/27/04	74,000	0.97439	16.42883	6,000	0.07900	3.18272	19,000	0.25018	4.36900
07/27/04	MW-2	1,660	31,173	05/27/04	74,000	1.02502	17.45385	6,000	0.08311	3.26583	19,000	0.26318	4.63218
08/10/04	MW-2	28	31,201	05/27/04	74,000	0.01729	17.47114	6,000	0.00140	3.26723	19,000	0.00444	4.63662
08/24/04	MW-2	1,273	32,474	05/27/04	74,000	0.78606	18.25719	6,000	0.06373	3.33096	19,000	0.20182	4.83845
03/23/04	MW-11	142	142	03/04/04	68,000	0.08057	0.08057	5,300	0.00628	0.00628	8,300	0.00983	0.00983
04/20/04	MW-11	122	264	03/04/04	68,000	0.06922	0.14980	5,300	0.00540	0.01168	8,300	0.00845	0.01828
04/28/04	MW-11	101	365	03/04/04	68,000	0.05731	0.20711	5,300	0.00447	0.01614	8,300	0.00700	0.02528
05/04/04	MW-11	216	581	03/04/04	68,000	0.12256	0.32967	5,300	0.00955	0.02569	8,300	0.01496	0.04024
05/11/04	MW-11	268	849	03/04/04	68,000	0.15207	0.48174	5,300	0.01185	0.03755	8,300	0.01856	0.05880
05/18/04	MW-11	200	1,049	03/04/04	68,000	0.11348	0.59522	5,300	0.00885	0.04639	8,300	0.01385	0.07265
05/25/04	MW-11	60	1,109	03/04/04	68,000	0.03404	0.62926	5,300	0.00265	0.04905	8,300	0.00416	0.07681
06/02/04	MW-11	100	1,209	05/27/04	86,000	0.07176	0.70103	8,500	0.00709	0.05614	25,000	0.02086	0.09767
06/08/04	MW-11	250	1,459	05/27/04	86,000	0.17940	0.88043	8,500	0.01773	0.07387	25,000	0.05215	0.14982
06/15/04	MW-11	150	1,609	05/27/04	86,000	0.10764	0.98807	8,500	0.01064	0.08451	25,000	0.03129	0.18111
06/22/04	MW-11	50	1,659	05/27/04	86,000	0.03588	1.02395	8,500	0.00355	0.08806	25,000	0.01043	0.19154
06/29/04	MW-11	100	1,759	05/27/04	86,000	0.07176	1.09571	8,500	0.00709	0.09515	25,000	0.02086	0.21240
07/06/04	MW-11	52	1,811	05/27/04	86,000	0.03732	1.13303	8,500	0.00369	0.09884	25,000	0.01085	0.22325
07/16/04	MW-11	100	1,911	05/27/04	86,000	0.07176	1.20479	8,500	0.00709	0.10593	25,000	0.02086	0.24411
07/20/04	MW-11	50	1,961	05/27/04	86,000	0.03588	1.24067	8,500	0.00355	0.10948	25,000	0.01043	0.25454

CAMBRIA

**Table 2: Mobile Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98996068, 1784 150th Avenue, San Leandro, CA**

Cumulative						<u><b>TPPH</b></u>			<u><b>Benzene</b></u>			<u><b>MTBE</b></u>		
Date	Well	Volume Pumped	Volume Pumped	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE To Date (pounds)	
Purged	ID	(gal)	(gal)											
07/27/04	MW-11	50	2,011	05/27/04	86,000	0.03588	1.27655	8,500	0.00355	0.11302	25,000	0.01043	0.26497	
08/10/04	MW-11	15	2,026	05/27/04	86,000	0.01076	1.28732	8,500	0.00106	0.11409	25,000	0.00313	0.26810	
08/24/04	MW-11	80	2,106	05/27/04	86,000	0.05741	1.34473	8,500	0.00567	0.11976	25,000	0.01669	0.28479	
<b>Total Gallons Extracted:</b>		<b>34,580</b>			<b>Total Pounds Removed:</b> 19.60192			<b>3.45072</b>			<b>5.12324</b>			
					<b>Total Gallons Removed:</b> 3.21343			<b>0.47270</b>			<b>0.82633</b>			

### **Abbreviations & Notes:**

TPPH = Total purgeable hydrocarbons as gasoline

**MTBE = Methyl tert-butyl ether**

ppb = Parts per billion

gal = Gallon

**Mass removed based on the formula: volume extracted (gal) x Concentration ( $\mu\text{g/L}$ ) x ( $\text{g}/10^6\text{ }\mu\text{g}$ ) 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, benzene, and MTBE analyzed by EPA Method 8260

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 Onyx. Water disposed of at a Martinez Refinery.

CAMBRIA

**Table 3. Temporary Groundwater Extraction System Mass Removal Data, Shell-branded Service Station, 1784 150th Ave, San Leandro, CA**

Date Baker Tank Purged	Extraction Well	Purged Volume (gal)	Cumulative Volume Pumped (gal)	Estimated System Flow Rate (gpm)	Sample Date	TPHg Concentration (ppb)	TPHg Removed (pounds)	Cumulative TPHg Removed (pounds)	Benzene Concentration (ppb)	Benzene removed (ppb)	Cumulative Benzene Removed (ppb)	MTBE Concentration (ppb)	MTBE Removed (pounds)	Cumulative MTBE Removed (pounds)
09/15/04	MW-2	385	385	0.05	5/27/2004 <sup>1</sup>	74,000	0.238	0.238	6,000	0.019	0.019	19,000	0.061	0.061
09/24/04	MW-2	653	1,038	0.05	9/24/2004 <sup>2</sup>	<100	0.202	0.440	<1.0	0.016	0.036	130	0.052	0.113
10/14/04	MW-2	0	1,038	0.00	10/14/04	360	0.000	0.440	<2.5	0.000	0.036	330	0.000	0.113
10/28/04	MW-2	2,958	3,996	0.15			0.009	0.448		0.00003	0.036		0.008	0.121
<b>November 2004 Dual-Phase Extraction</b>														
11/11/04	MW-2	7,445	11,441	1.85	11/22/2004 <sup>3</sup>	8,800	0.55	1.00	1,200	0.075	0.110	2,200	0.14	0.258
11/13/04	MW-1	5,714	17,155	3.34	11/22/2004 <sup>3</sup>	100,000	4.77	5.76	2,500	0.119	0.229	130	0.006	0.264
01/26/05	MW-11	4,845	22,000	0.05	1/14/05	96,000	3.88	9.64	8,300	0.336	0.565	20,000	0.809	1.07
02/18/05	MW-11	4,809	26,809	0.15	2/17/05	11,000	0.441	10.1	520	0.021	0.586	270	0.011	1.08
03/02/05	MW-11	5,746	32,555	0.33	3/1/05	83,000	3.98	14.1	7,700	0.369	0.955	18,000	0.863	1.95
03/16/05	MW-11	5,022	37,577	0.25			3.48	17.5		0.323	1.28		0.754	2.70
03/30/05	MW-11	4,725	42,302	0.23			3.27	20.8		0.304	1.58		0.710	3.41
04/06/05	MW-11	5,022	47,324	0.50			3.48	24.3		0.323	1.90		0.754	4.16
04/13/05	MW-11	540	47,864	0.05	4/14/05	120,000	0.541	24.8	3,400	0.015	1.92	8,500	0.038	4.20
<b>Total Gallons Extracted:</b>						<b>47,864</b>	<b>Total Pounds Removed:</b>	<b>24.8</b>	<b>Total Pounds Removed:</b>	<b>1.92</b>	<b>Total Pounds Removed:</b>	<b>4.20</b>		
							<b>Total Gallons Removed:</b>	<b>4.07</b>	<b>Total Gallons Removed:</b>	<b>0.263</b>	<b>Total Gallons Removed:</b>	<b>0.678</b>		

#### **Abbreviations & Notes:**

TPHg = Total purgeable hydrocarbons as gasoline

MTBE = Methyl tertiary butyl ether

ppb = Parts per billion, equivalent to  $\mu\text{g/L}$

$\mu\text{g/L}$  = Micrograms per liter

L = Liter

gal = Gallon

**g = Gram**

NA = Not Available

## Extracted groundwater transported by Onyx-Indus

TPHg, benzene, and MTBE analyzed by EPA Method 8260

- TPHg, benzene, and MTBE concentration from 2Q04 groundwater monitoring event.
  - TPHg, benzene, and MTBE concentration from 3Q04 groundwater monitoring event.
  - TPHg, benzene, and MTBE concentration from 4Q04 groundwater monitoring event.

When constituents are not detected, the concentration is assumed to be equal to half the detection limit in subsequent calculations.

Mass removed (pounds) based on the formula: volume(gal) x concentration( $\mu\text{g/L}$ ) x ( $\text{g}/10^6 \mu\text{g}$ ) x (pound/453.6g) x (3.785 L/gal)

Volume removed (gallons) based on the formula: [(mass(pounds) x 453.6(g/pound) x (gal/3.785L) x (L/1000cm<sup>3</sup>)] / density(g/cm<sup>3</sup>)

Density inputs: TPHg = 0.73 g/cc, benzene = 0.88 g/cc, MTBE = 0.74 g/cc

G:\San Leandro 1784 150th\Remediation\DPETest Nov04\Report May05\DPETest Data Tables Nov04

Tbl3 GWE data

CAMBRIA

**Table 4. Soil Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident# 98996068, 1784 150th Ave, San Leandro, CA**

Date/Time	Hour Meter (hours)	Cumulative Operation (hours)	Well Head				Hydrocarbon Concentrations			TPHg		Benzene		MTBE	
			Vacuum Gage(in WC)		Flow Rate (ACFM)		TPHg	Benzene	MTBE	Removal Rate (#/hour)	Cumulative Removed (#)	Removal Rate (#/hour)	Cumulative Removed (#)	Removal Rate (#/hour)	Cumulative Removed (#)
			Abs(in WC)	(SCFM)	(Concentrations in ppmv)										
<b>Well MW-11</b>															
11/8/2004 13:15	2556.6	0.0	29.6	377.2	59.0	54.7	5,300	<3.1	<1.4	3.88	0.00	0.001	0.000	0.000	0.000
13:45	2557.1	0.5	61.6	345.2	130.0	110.3	4,700			7.82	3.91	0.002	0.001	0.001	0.000
14:15	2557.6	1.0	46.7	360.1	130.0	115.1	9,900			8.15	7.98	0.002	0.002	0.001	0.001
14:45	2558.1	1.5	39.7	367.1	90.0	81.2	10,650			5.75	10.9	0.002	0.003	0.001	0.001
15:15	2558.6	2.0	70.0	336.8	130.0	107.6	5,100			11.9	16.8	0.016	0.011	0.002	0.002
15:45	2559.1	2.5	22.0	384.8	36.0	34.1	10,400			3.78	18.7	0.005	0.013	0.001	0.003
16:15	2559.7	3.1	22.5	384.3	130.0	122.8	8,300	12	<2.8	13.6	26.9	0.018	0.024	0.002	0.004
11/9/2004 7:45	2575.6	19.0	22.0	384.8	71.0	67.2				5.34	112	0.008	0.148	0.001	0.017
8:15	2576.1	19.5	20.0	386.8	80.0	76.1	3,600	7.2	<1.4	3.66	114	0.007	0.152	0.001	0.018
8:45	2576.6	20.0	21.0	385.8	27.0	25.6	230			1.23	114	0.002	0.153	0.0002	0.018
9:15	2577.1	20.5	20.0	386.8	57.0	54.2	250			2.61	116	0.005	0.155	0.0005	0.018
9:45	2577.6	21.0	20.0	386.8	25.0	23.8	305			1.14	116	0.002	0.156	0.0002	0.018
10:15	2578.1	21.5	39.0	367.8	5.0	4.5	318			0.218	116	0.000	0.156	0.00004	0.018
10:45	2578.6	22.0	40.0	366.8	9.2	8.3	375			0.333	116	0.001	0.157	0.0002	0.018
11:15	2579.1	22.5	39.5	367.3	8.5	7.7	408			0.308	117	0.001	0.157	0.0002	0.018
11:45	2579.6	23.0	24.0	382.8	14.0	13.2	395			0.528	117	0.001	0.158	0.0003	0.019
12:15	2580.1	23.5	24.0	382.8	21.0	19.8	408			0.792	117	0.002	0.159	0.001	0.019
12:45	2580.6	24.0	25.0	381.8	29.0	27.2	3,000	8.5	2.1	1.09	118	0.003	0.160	0.001	0.019
13:15	2581.1	24.5	24.5	382.3	29.5	27.7	405			1.11	118	0.003	0.162	0.001	0.019
11/10/2004 7:30	2599.9	43.3	22.5	384.3	32.6	30.8				0.885	135	0.003	0.210	0.001	0.031
8:00	2600.4	43.8	22.0	384.8	34.0	32.2	25			0.559	135	0.002	0.211	0.0005	0.031
8:30	2600.9	44.3	24.0	382.8	37.0	34.8	1,300	5.2	1.2	0.605	136	0.002	0.212	0.001	0.032
9:00	2601.4	44.8	23.0	383.8	29.0	27.4	230			0.475	136	0.002	0.213	0.0004	0.032
9:30	2602.0	45.4	5.3	401.5	85.0	83.9				1.46	137	0.005	0.216	0.001	0.032
10:00	2602.5	45.9	5.8	401.0	130.0	128.1				2.23	138	0.008	0.220	0.002	0.033
11:00	2603.5	46.9	2.2	404.6	20.0	19.9	220			0.984	139	0.003	0.223	0.001	0.035
12:00	2604.5	47.9	2.2	404.6	54.0	53.7	1,200			2.66	141	0.008	0.231	0.004	0.039
12:30	2605.0	48.4	2.2	404.6	54.0	53.7	3,700	13	6.0	2.66	143	0.008	0.236	0.004	0.041
										0.654	143	0.002	0.236	0.001	0.041
										0.654	143	0.002	0.237	0.001	0.041
11/11/2004 7:15	2624.2	64.6	2.0	404.8	11.1	11.0	2,830			0.001	143	0.00002	0.237	0.00001	0.041
8:00	2625.0	65.4	1.7	405.1	12.0	12.0	<5			0.001	143	0.00002	0.237	0.00001	0.041
8:30	2625.5	65.9	1.7	405.1	12.3	12.2	<14	<0.31	<0.14	0.001	143	0.00002	0.237	0.00001	0.041
9:30	2626.5	66.9	1.7	405.2	13.1	13.0				0.001	143	0.00002	0.237	0.00001	0.041
10:00	2627.1	67.5	1.7	405.1	13.1	13.0				0.001	143	0.00002	0.237	0.00001	0.041
11/12/2004 11:15	2629.1	67.5	15.5	391.3	76.6	73.7	2,950			5.023	143	0.013	0.237	0.005	0.041
11:30	2629.4	67.8	12.5	394.3	74.5	72.2	5,100	14	5.7	4.923	145	0.012	0.241	0.005	0.043

# CAMBRIA

**Table 4. Soil Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident# 98996068, 1784 150th Ave, San Leandro, CA**

Date/Time	Hour Meter (hours)	Cumulative Operation (hours)	Well Head				Hydrocarbon Concentrations			TPHg		Benzene		MTBE	
			Vacuum		Flow Rate		TPHg	Benzene	MTBE	Removal Rate (#/hour)	Cumulative Removed (#)	Removal Rate (#/hour)	Cumulative Removed (#)	Removal Rate (#/hour)	Cumulative Removed (#)
			Gage(in WC)	Abs(in WC)	(ACFM)	(SCFM)	(Concentrations in ppmv)								
11:45	2629.7	68.1	20.7	386.1	45.1	42.8	2,760			2.918	145	0.007	0.243	0.003	0.044
14:30	2632.5	70.9	10.4	396.4	17.7	17.2	1,547			1.176	149	0.003	0.251	0.001	0.047
11/13/2004 4:30	2646.3	84.7	10.4	396.4	17.7	17.2				1.176	165	0.003	0.291	0.001	0.063
<b>Well MW-2</b>															
11/10/2004 12:30	2605.0	0.0								0.000	0.000	0.00000	0.00000	0.00000	0.00000
13:00	2605.5	0.5	3.1	403.7	15.2	15.1	20			0.018	0.009	0.00003	0.00001	0.00001	0.00001
13:30	2606.0	1.0	3.1	403.8	15.4	15.3	88	<0.31	<0.14	0.018	0.018	0.00003	0.00003	0.00001	0.00001
14:00	2606.5	1.5	4.8	402.0	22.1	21.8	76			0.026	0.031	0.00004	0.00005	0.00002	0.00002
14:20	2606.9	1.9	11.9	394.9	37.1	36.0				0.042	0.048	0.00007	0.00008	0.00003	0.00003
14:40	2607.2	2.2	7.5	399.3	28.3	41.5	50			0.014	0.052	0.00008	0.00010	0.00004	0.00004
14:50	2607.4	2.4	16.6	390.2	41.5	25.3	47			0.008	0.054	0.00005	0.00011	0.00002	0.00005
15:00	2607.5	2.5	6.7	400.1	25.3	24.9				0.008	0.054	0.00005	0.00011	0.00002	0.00005
15:30	2608.0	3.0	6.7	400.1	25.3	24.9	25	<0.31	<0.14	0.008	0.058	0.00005	0.00014	0.00002	0.00006
11/11/2004 10:00	2627.1	3.0	7.6	399.2	21.9	21.5	<5			0.007	0.058	0.00004	0.00014	0.00002	0.00006
12:00	2629.1	5.0	7.6	399.2	21.9	21.5				0.007	0.073	0.00004	0.00022	0.00002	0.00010
<b>Total Pounds Removed:</b>											<b>TPHg = 165</b>	<b>Benzene = 0.292</b>	<b>MTBE = 0.064</b>		

**Abbreviations and Notes:**

ACFM = Actual cubic feet per minute

SCFM = Standard cubic feet per minute.

SCFM = (ACFM) (Applied Absolute Vacuum / Atmospheric Absolute Vacuum)

ppmv = Parts per million by volume

# = Pounds

TPHg, Benzene, and MTBE analyzed by EPA Method 8260 respectively from 1 liter teflar 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 = Laboratory analytical concentration (ppmv) x wellhead flow rate (scfm) x (1lb-mole/386ft<sup>3</sup>) 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

*Italicized* Hour Meter data is calculated from Date/Time data

*Italicized* TPHg Concentration data is field measured data

*Italicized* vacuum and flow data are estimates (data not collected or measurable at time).

**ATTACHMENT A**

**Historical Soil Analytical Data**

**Table 1. Soil Analytical Results - Shell-branded Service Station, 1784 150th St., San Leandro, California - Incident #98996068**

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol
			(fbg)	(Concentrations in mg/kg)												
BH-A <sup>a,b</sup>	3/5/1990	5.0	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-A <sup>a,b</sup>	3/5/1990	15.7	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-A <sup>a,b,c</sup>	3/5/1990	24.7	<1	<b>0.020</b>	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-A <sup>a,d</sup>	3/5/1990	29.2	<b>35</b>	<b>0.23</b>	<b>0.20</b>	<0.0025	<b>0.64</b>	---	---	---	---	---	---	---	---	---
BH-A <sup>a,b</sup>	3/5/1990	41.2	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-B <sup>b</sup>	2/4/1992	11.5	<1	<b>0.0026</b>	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-B	2/4/1992	16.5	<1	<b>0.0058</b>	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-B <sup>b,c</sup>	2/4/1992	21.5	<b>79</b>	<b>0.20</b>	<b>0.60</b>	<b>1.0</b>	<b>4.1</b>	---	---	---	---	---	---	---	---	---
BH-B	2/4/1992	26.5	<b>74</b>	<b>0.59</b>	<b>0.91</b>	<b>1.5</b>	<b>3.9</b>	---	---	---	---	---	---	---	---	---
BH-C <sup>b</sup>	2/5/1992	11.5	<1	<b>0.0042</b>	<b>0.0029</b>	<b>0.0039</b>	<0.0025	---	---	---	---	---	---	---	---	---
BH-C <sup>b</sup>	2/5/1992	21.5	<1	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-C <sup>b,f</sup>	2/5/1992	26.5	<b>3.9</b>	<0.0025	<0.0025	<0.0025	<b>0.0054</b>	---	---	---	---	---	---	---	---	---
BH-C	2/5/1992	31.5	<b>68</b>	<0.05	<0.05	<0.05	<b>0.17</b>	---	---	---	---	---	---	---	---	---
BH-1-21	6/6/1994	21	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---
BH-2-20	6/6/1994	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---
BH-3-16 <sup>b</sup>	6/6/1994	16	<1.0	<b>0.013</b>	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---
BH-4-20.6	6/7/1994	20.6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---
BH-5-15.6	6/7/1994	15.6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---
BH-6-20.5	6/7/1994	20.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---
BH-7-15.8	2/14/1995	15.8	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-8-16.0	2/14/1995	16.0	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-9-19.5	2/14/1995	19.5	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	---	---	---	---	---	---	---	---	---
BH-10-15.2	3/3/1995	15.2	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---	---	---
SVS-3	7/18-19/96	16-18	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---
SVS-5	7/18-19/96	4-6	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---
SVS-5	7/18-19/96	8-10	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---
SVS-5	7/18-19/96	18-20	<b>1.1</b>	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---
SVS-9	7/18-19/96	3-5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---
SVS-9	7/18-19/96	8-10	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---

**Table 1. Soil Analytical Results - Shell-branded Service Station, 1784 150th St., San Leandro, California - Incident #98996068**

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DiPE	TAME	1,2-DCA	EDB	Ethanol
		(fbg)	(Concentrations in mg/kg)													
SVS-9	7/18-19/96	16-18	<1.0	<0.005	<0.005	<0.005	<0.005	<0.025	---	---	---	---	---	---	---	---
Disp-A	12/4/1997	2.0	<b>3.1</b>	<0.005	<b>0.037</b>	<b>0.022</b>	<0.01	<b>0.019</b>	---	---	---	---	---	---	---	---
Disp-A, 4.5	12/4/1997	4.5	<b>6.3</b>	<b>0.096</b>	<b>0.012</b>	<b>0.46</b>	<b>0.037</b>	<b>0.056</b>	---	---	---	---	---	---	---	---
Disp-B	12/4/1997	2.0	<b>130</b>	<1	<1	<1	<2	<1	---	---	---	---	---	---	---	---
Disp-B, 4.5	12/4/1997	4.5	<b>1.0</b>	<b>0.045</b>	<0.005	<b>0.064</b>	<b>0.32</b>	<0.03	---	---	---	---	---	---	---	---
Disp-C	12/4/1997	2.0	<b>190</b>	<b>1.8</b>	<b>2.1</b>	<b>3.6</b>	<b>20</b>	<b>1.4</b>	---	---	---	---	---	---	---	---
Disp-C, 4.5 <sup>b</sup>	12/4/1997	4.5	<b>590</b>	<0.5	<b>0.98</b>	<b>2.3</b>	<b>3.1</b>	<0.5	---	---	---	---	---	---	---	---
Disp-D	12/4/1997	2.0	<b>3.8</b>	<b>0.11</b>	<0.005	<b>0.15</b>	<b>0.17</b>	<b>0.11</b>	---	---	---	---	---	---	---	---
Disp-D, 4.5	12/4/1997	4.5	<b>1.4</b>	<b>0.027</b>	<0.005	<b>0.036</b>	<b>0.178</b>	<b>0.005</b>	---	---	---	---	---	---	---	---
SVS-11-5.5	11/10/1998	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-11-6	11/10/1998	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-11-9.5	11/10/1998	9.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-11-10	11/10/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-11-15	11/10/1998	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-11-15.5	11/10/1998	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-11-19	11/10/1998	19	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-11-19.5	11/10/1998	19.5	<b>1.6</b>	<b>0.0050</b>	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-14-5	11/11/1998	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-14-5.5	11/11/1998	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-14-10	11/11/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-14-10.5	11/11/1998	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-14-15	11/11/1998	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-14-15.5	11/11/1998	15.5	<1.0	<0.0050	<b>0.006</b>	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-14-19	11/11/1998	19	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<b>0.029</b>	<25	---	---	---	---	---	---	---
SVS-14-19.5	11/11/1998	19.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-15-4.5	11/11/1998	4.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-15-5	11/11/1998	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-15-10	11/11/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-15-10.5	11/11/1998	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-15-15	11/11/1998	15	<1.0	<0.0050	<0.0050	<0.0050	<b>0.013</b>	<0.025	---	---	---	---	---	---	---	---
SVS-15-15.5	11/11/1998	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-15-19.5	11/11/1998	19.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-15-20	11/11/1998	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---

**Table 1. Soil Analytical Results - Shell-branded Service Station, 1784 150th St., San Leandro, California - Incident #98996068**

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol
			(fbg)	(Concentrations in mg/kg)												
SVS-16-5	11/11/1998	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
SVS-16-5.5	11/11/1998	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.025	---	---	---	---	---	---	---
SVS-16-10	11/11/1998	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.025	---	---	---	---	---	---	---
SVS-16-10.5	11/11/1998	10.5	<1.0	<0.0050	<0.0050	<0.0050	<b>0.0093</b>	<b>0.026</b>	---	---	---	---	---	---	---	---
SVS-16-15	11/11/1998	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.025	---	---	---	---	---	---	---
SVS-16-15.5	11/11/1998	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.025	---	---	---	---	---	---	---
MW-5-515.5	10/24/2001	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-6-5.5	10/24/2001	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<b>0.012</b>	---	---	---	---	---	---	---
MW7@5'	10/3/2002	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW7@10'	10/3/2002	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW7@15'	10/3/2002	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW7@20'	10/3/2002	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW7@25'	10/3/2002	25	<b>11</b>	<0.0050	<b>0.0060</b>	<b>0.086</b>	<b>0.13</b>	---	<0.5	---	---	---	---	---	---	---
MW7@30'	10/3/2002	30	<b>68</b>	<0.025	<b>0.19</b>	<b>0.89</b>	<b>3.7</b>	---	<0.5	---	---	---	---	---	---	---
MW7@32'	10/3/2002	32	<b>1.2</b>	<0.0050	<b>0.0069</b>	<b>0.025</b>	<b>0.11</b>	---	<0.5	---	---	---	---	---	---	---
MW8@5'	10/4/2002	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW8@10'	10/4/2002	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW8@15'	10/4/2002	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW8@20'	10/4/2002	20	<b>1.2</b>	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.5	---	---	---	---	---	---	---
MW8@25'	10/4/2002	25	<b>140</b>	<b>0.072</b>	<b>0.15</b>	<b>1.5</b>	<b>5.8</b>	---	<0.5	---	---	---	---	---	---	---
SB9@22	10/4/2002	22	1.1	<0.0050	<0.0050	<b>0.016</b>	<b>0.088</b>	---	<0.5	---	---	---	---	---	---	---
SB-10-10'	6/23/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-10-20'	6/23/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-10-22'	6/23/2003	22	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-10-25'	6/23/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-10-30	6/23/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-10-37'	6/23/2003	37	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-10-39.5'	6/23/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-11-10'	6/24/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
SB-11-15'	6/24/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---

**Table 1. Soil Analytical Results - Shell-branded Service Station, 1784 150th St., San Leandro, California - Incident #98996068**

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol	
			(fbg)	(Concentrations in mg/kg)													
SB-11-20'	6/24/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-11-24'	6/24/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-11-28'	6/24/2003	28	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-11-30'	6/24/2003	30	650	<0.50	<0.50	3.5	9.9	---	<0.50	---	---	---	---	---	---	---	
SB-12-10'	6/24/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-12-20'	6/24/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-12-25'	6/24/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-12-30'	6/24/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-12-35'	6/24/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-12-39.5'	6/24/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-13-10'	6/23/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-13-20'	6/23/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-13-24'	6/23/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-13-30'	6/23/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-13-35'	6/23/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-13-39.5'	6/23/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-14-10'	6/24/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-14-20'	6/24/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-14-24'	6/24/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-14-30'	6/24/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-14-35'	6/24/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-14-39.5'	6/24/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-15-10'	6/26/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-15-15'	6/26/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-15-20'	6/26/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-15-22.5'	6/26/2003	22.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-15-35'	6/26/2003	35	1.4	0.10	<0.0050	0.030	0.0055	---	<0.0050	---	---	---	---	---	---	---	
SB-16-10'	6/23/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-16-20'	6/23/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-16-24'	6/23/2003	24	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-16-28'	6/23/2003	28	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-16-35'	6/23/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	
SB-16-39.5'	6/23/2003	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---	

**Table 1.** Soil Analytical Results - Shell-branded Service Station, 1784 150th St., San Leandro, California - Incident #98996068

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol
		(fbg)		(Concentrations in mg/kg)												
MW-9-5'	11/19/2003	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-9-10'	11/19/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-9-15'	11/19/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-9-20'	11/19/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-9-25'	11/19/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-9-30'	11/19/2003	30	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-9-35'	11/19/2003	35	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-10-5'	11/20/2003	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-10-10'	11/20/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-10-15'	11/20/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-10-20'	11/20/2003	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-10-25'	11/20/2003	25	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-10-30'	11/20/2003	30	14	<0.023	<0.023	<0.023	<0.023	---	<0.023	---	---	---	---	---	---	---
MW-10-31.5'	11/20/2003	31.5	230	<0.50	<0.50	2.2	1.5	---	<0.50	---	---	---	---	---	---	---
MW-11-5'	11/20/2003	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-11-10'	11/20/2003	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-11-15'	11/20/2003	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	---	---	---	---	---	---	---
MW-11-20'	11/20/2003	20	1.8	<0.0050	<0.0050	0.0084	0.013	---	0.039	---	---	---	---	---	---	---
MW-11-24.5'	11/20/2003	24.5	330	<0.50	1.6	4.8	29	---	1.4	---	---	---	---	---	---	---
SB-17-5'	9/13/2004	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-17-10'	9/13/2004	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-17-15'	9/13/2004	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-17-20'	9/13/2004	20.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-17-25'	9/13/2004	25.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-17-35.5'	9/13/2004	35.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-18-5'	9/13/2004	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-18-10'	9/13/2004	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-18-15'	9/13/2004	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-18-20'	9/13/2004	20.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-18-25'	9/13/2004	25.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1
SB-18-30'	9/13/2004	30.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.10	<0.0050	<0.10	<0.0050	<0.0050	<0.0050	<0.1

**Table 1. Soil Analytical Results - Shell-branded Service Station, 1784 150th St., San Leandro, California - Incident #98996068**

Sample ID	Date	Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	ETBE	DIPE	TAME	1,2-DCA	EDB	Ethanol
(fbg) ←————— (Concentrations in mg/kg) —————→																

**Abbreviations:**

TPHg = Total petroleum hydrocarbons as gasoline. From 1990 through 1998, analyzed by modified EPA Method 8015; from 2001 through 2004, analyzed by EPA Method 8260B.

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8020 from 1990 through 1998; from 2001 through 2004, analyzed by EPA Method 8260B.

MTBE = Methyl tert-butyl ether analyzed by EPA Method 8020 or EPA Method 8260 (as indicated).

TBA = Tert-Butyl alcohol, analyzed by EPA Method 8260B.

ETBE = Ethyl tert butyl ether, analyzed by EPA Method 8260B.

DIPE = Di-isopropyl Ether, analyzed by EPA Method 8260B.

TAME = tert-Amyl methyl ether, analyzed by EPA Method 8260B.

1,2-DCA = 1,2-dichloroethane

EDB = Ethyl di-bromide, analyzed by EPA Method 8260B.

Ethanol analyzed by EPA Method 8260B.

fbg = Feet below grade

mg/kg = Milligrams per kilogram

<n = Below detection limit of n mg/kg

--- = Not analyzed

**Notes:**

a = Petroleum oil and grease analyzed by American Public Health Association Standard Method 503E; no detections above 100 ppm detection limit. Total oil and grease analyzed by American Public Health Association Standard Method 503E; no detections above 50 ppm detection limit.

b = Analyzed for halogenated volatile organic compounds by EPA Method 8010; none detected.

c = Total petroleum hydrocarbons as diesel (TPHd) and total petroleum hydrocarbons as motor oil (TPHmo) analyzed by modified EPA Method 8015; no TPHd detected at 1 ppm limit; no TPHmo detected at 10 ppm limit.

e = TPHd detected at 23 ppm by modified EPA Method 8015; lab characterized detected compounds as hydrocarbons lighter than diesel.

f = TPHd detected at 4.9 ppm by modified EPA Method 8015; lab characterized detected compounds as hydrocarbons lighter than diesel.

g = Analyzed for volatile organic compounds by EPA Method 8010; none detected above detection limits ranging from 0.005 to 0.050 ppm.

h = Sample saturated with perched water from beneath dispenser.

**ATTACHMENT B**

**Historical Groundwater Monitoring Data**

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
---------	------	----------------	----------------	-------------	-------------	-------------	-------------	------------------------	------------------------	----------------	----------------	----------------	---------------	-------------------	---------------	--------------	----------------------------	--------------------------	---------------------------	------------------------

MW-1	03/08/1990	510	120	1.5	0.8	<0.5	5.4	NA	49.13	25.29	23.84	NA	NA							
MW-1	06/12/1990	390	100	86	1.3	0.7	6.2	NA	49.13	25.85	23.28	NA	NA							
MW-1	09/13/1990	100	130	56	0.75	2.4	2.8	NA	49.13	27.49	21.64	NA	NA							
MW-1	12/18/1990	480	<50	54	1.7	3.3	3.7	NA	49.13	27.41	21.72	NA	NA							
MW-1	03/07/1991	80	<50	266	<0.5	1.2	<1.5	NA	49.13	25.79	23.34	NA	NA							
MW-1	06/07/1991	510	<50	130	3.8	6.1	11	NA	49.13	25.64	23.49	NA	NA							
MW-1	09/17/1991	330	120a	67	<0.5	3.0	2.2	NA	49.13	27.54	21.59	NA	NA							
MW-1	12/09/1991	140a	80	<0.5	<0.5	1.7	4.7	NA	49.13	27.81	21.32	NA	NA							
MW-1	02/13/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	25.57	23.56	NA	NA
MW-1	02/24/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	22.83	26.30	NA	NA
MW-1	02/27/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	23.09	26.04	NA	NA
MW-1	03/01/1992	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	49.13	23.26	25.87	NA	NA							
MW-1	06/03/1992	1,500	NA	520	180	72	230	NA	49.13	24.64	24.49	NA	NA							
MW-1	09/01/1992	130	NA	16	1.4	1.8	3.4	NA	49.13	26.74	22.39	NA	NA							
MW-1	10/06/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	27.18	21.95	NA	NA
MW-1	11/11/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	27.99	21.14	NA	NA
MW-1	12/04/1992	150	NA	360	0.7	1.8	2.1	NA	49.13	27.14	21.99	NA	NA							
MW-1	01/22/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	20.09	29.04	NA	NA
MW-1	02/10/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	24.26	24.87	NA	NA
MW-1	03/03/1993	<50	NA	1.5	<0.5	<0.5	<0.5	NA	49.13	20.50	28.63	NA	NA							
MW-1	05/11/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	21.70	27.43	NA	NA
MW-1	06/17/1993	1,600	NA	340	120	120	440	NA	49.13	22.42	26.71	NA	NA							
MW-1	09/10/1993	2,600	NA	670	340	310	730	NA	49.13	24.11	25.02	NA	NA							
MW-1	12/13/1993	11,000	NA	470	320	380	2,300	NA	49.13	23.73	25.40	NA	NA							
MW-1	03/03/1994	16,000	NA	700	690	480	3,200	NA	49.13	22.08	27.05	NA	NA							
MW-1	06/06/1994	7,500	NA	420	280	200	1,000	NA	49.13	23.10	26.03	NA	NA							
MW-1	09/12/1994	1,200	NA	110	21	3.3	420	NA	49.13	25.19	23.94	NA	NA							
MW-1	12/19/1994	4,600	NA	470	330	230	1,300	NA	49.13	23.06	26.07	NA	NA							
MW-1	02/28/1995	500	NA	59	32	6.8	68	NA	49.13	20.90	28.23	NA	NA							
MW-1	03/24/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	18.28	30.85	NA	NA
MW-1	06/26/1995	5,500	NA	740	420	300	1,800	NA	49.13	20.40	28.73	NA	NA							
MW-1	09/13/1995	84,000	NA	1,900	2,600	3,000	14,000	NA	49.13	22.62	26.51	NA	NA							
MW-1	12/19/1995	80,000	NA	660	350	170	18,000	NA	49.13	22.10	27.03	NA	NA							

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-1	03/07/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	18.83	30.34	0.05	NA
MW-1	06/28/1996	270,000	NA	2,800	820	1,000	16,000	<0.5	NA	NA	NA	NA	NA	NA	NA	49.13	21.46	27.67	NA	NA
MW-1 (D)	06/28/1996	790,000	NA	2,200	780	1,000	13,000	15,000	NA	NA	NA	NA	NA	NA	NA	49.13	21.46	27.67	NA	NA
MW-1	09/26/1996	29,000	NA	1,100	260	270	1,900	<1,000	NA	NA	NA	NA	NA	NA	NA	49.13	23.57	25.57	0.01	NA
MW-1	09/26/1996	25,000	NA	1,200	320	240	1,900	<1,000	NA	NA	NA	NA	NA	NA	NA	49.13	NA	NA	NA	NA
MW-1	12/10/1996	13,000	NA	510	240	230	1,200	100	NA	NA	NA	NA	NA	NA	NA	49.13	21.43	27.70	NA	1.0
MW-1 (D)	12/10/1996	8,400	NA	420	130	140	680	81	NA	NA	NA	NA	NA	NA	NA	49.13	21.43	27.70	NA	1.0
MW-1	03/10/1997	4,200	NA	13	8.8	16	74	<12	NA	NA	NA	NA	NA	NA	NA	49.13	20.08	29.05	NA	2.0
MW-1 (D)	03/10/1997	5,100	NA	12	8.9	17	79	<25	NA	NA	NA	NA	NA	NA	NA	49.13	20.08	29.05	NA	2.0
MW-1	06/30/1997	5,700	NA	320	120	140	700	47	NA	NA	NA	NA	NA	NA	NA	49.13	21.68	27.45	NA	1.6
MW-1 (D)	06/30/1997	5,300	NA	300	95	120	580	45	NA	NA	NA	NA	NA	NA	NA	49.13	21.68	27.45	NA	1.6
MW-1	09/12/1997	6,300	NA	120	26	82	260	30	NA	NA	NA	NA	NA	NA	NA	49.13	21.78	27.35	NA	2.1
MW-1 b	12/18/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.13	20.78	28.35	NA	1.3
MW-1	02/02/1998	84	NA	5.1	<0.50	<0.50	2.1	2.5	NA	NA	NA	NA	NA	NA	NA	49.13	19.65	29.48	NA	2.0
MW-1	06/24/1998	13,000	NA	3,000	260	410	1,400	<250	NA	NA	NA	NA	NA	NA	NA	49.13	19.65	29.48	NA	2.5
MW-1 (D)	06/24/1998	12,000	NA	3,800	250	47	1,400	710	NA	NA	NA	NA	NA	NA	NA	49.13	19.65	29.48	NA	2.5
MW-1	08/26/1998	3,100	NA	1,200	27	170	50	88	NA	NA	NA	NA	NA	NA	NA	49.13	20.49	28.64	NA	2.1
MW-1	12/23/1998	45,000	NA	5,300	220	1,000	3,600	970	NA	NA	NA	NA	NA	NA	NA	49.13	21.22	27.91	NA	3.8
MW-1	03/01/1999	22,300	NA	2,540	436	753	3,370	<400	NA	NA	NA	NA	NA	NA	NA	49.13	19.27	29.86	NA	1.8
MW-1	06/14/1999	18,800	NA	6,820	210	436	958	1,360	NA	NA	NA	NA	NA	NA	NA	49.13	20.80	28.33	NA	2.2
MW-1	09/28/1999	21,500	NA	7,470	281	467	927	1,800	NA	NA	NA	NA	NA	NA	NA	49.13	22.55	26.58	NA	2.0
MW-1	12/08/1999	22,300	NA	6,140	135	256	367	232	NA	NA	NA	NA	NA	NA	NA	49.13	23.12	26.01	NA	2.1
MW-1	03/14/2000	6,690	NA	1,880	63.5	134	307	460	NA	NA	NA	NA	NA	NA	NA	49.13	18.87	30.26	NA	2.3
MW-1	06/28/2000	8,080	NA	2,690	85.1	149	514	701	NA	NA	NA	NA	NA	NA	NA	49.13	21.12	28.01	NA	2.4
MW-1	09/06/2000	17,800	NA	7,390	212	329	1,270	<1,000	NA	NA	NA	NA	NA	NA	NA	49.13	21.90	27.23	NA	3.0
MW-1	12/14/2000	8,900	NA	4,870	79.2	106	370	1,840	673*	NA	NA	NA	NA	NA	NA	49.13	22.60	26.53	NA	2.0
MW-1	03/05/2001	7,520	NA	2,120	66.0	107	129	668	NA	NA	NA	NA	NA	NA	NA	49.13	20.06	29.07	NA	0.4
MW-1	06/11/2001	30,000	NA	7,400	390	600	2,300	NA	170	NA	NA	NA	NA	NA	NA	49.13	22.39	26.74	NA	1.6
MW-1	09/12/2001	23,000	NA	7,500	120	280	910	NA	320	NA	NA	NA	NA	NA	NA	49.13	23.37	25.76	NA	2.2
MW-1	12/27/2001	16,000	NA	2,400	190	330	1,500	NA	350	NA	NA	NA	NA	NA	NA	49.13	20.97	28.16	NA	1.3
MW-1	02/27/2002	26,000	NA	6,100	330	510	2,000	NA	210	NA	NA	NA	NA	NA	NA	49.10	20.47	28.63	NA	1.3
MW-1	06/18/2002	29,000	NA	8,100	280	510	1,800	NA	140	NA	NA	NA	NA	NA	NA	49.10	21.99	27.11	NA	2.2
MW-1	09/18/2002	34,000	NA	5,900	350	700	3,000	NA	<250	NA	NA	NA	NA	NA	NA	49.10	23.21	25.89	NA	0.8

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-1	12/27/2002	7,500	NA	1,200	30	120	410	NA	230	<5.0	<5.0	<5.0	31	<5.0	49.10	20.10	29.00	NA	0.6	
MW-1	03/05/2003	17,000	NA	1,600	88	400	1,400	NA	230	NA	NA	<10	290	<10	NA	49.10	21.05	28.05	NA	1.7
MW-1	06/24/2003	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.10	NA	NA	NA	NA
MW-1	06/25/2003	14,000	NA	5,300	250	440	2,100	NA	100	NA	NA	<200	<500	<50	NA	49.10	21.93	27.17	NA	0.9
MW-1	09/25/2003	33,000	NA	7,700	250	860	3,400	NA	130	NA	NA	<200	<500	<50	NA	49.10	23.21	25.89	NA	1.7
MW-1	12/15/2003	63,000	NA	14,000	360	1,300	3,900	NA	150	NA	NA	<400	<1000	<100	NA	49.10	22.08	27.02	NA	1.5
MW-1	03/04/2004	28,000	NA	8,000	180	640	2,100	NA	79	NA	NA	<200	<500	<50	NA	49.10	19.85	29.25	NA	0.2
MW-1	05/27/2004	33,000	NA	8,700	260	840	2,700	NA	81	NA	NA	<200	<500	<50	NA	49.10	22.15	26.95	NA	0.2
MW-1	09/24/2004	26,000	NA	5,700	210	830	2,900	NA	<50	<200	<200	<200	<500	<50	<50	49.10	23.69	25.41	NA	1.5
MW-1	11/22/2004	100,000	NA	2,500	920	4,100	22,000	NA	130	NA	NA	<200	<500	<50	NA	49.10	23.19	25.91	NA	NA
MW-1	03/02/2005	110,000	NA	1,300	670	4,000	23,000	NA	87	NA	NA	<100	<500	<25	NA	49.10	19.35	29.75	NA	NA
MW-2	02/13/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	22.22	23.61	NA	NA
MW-2	02/24/1992	17,000	2,700a	6,200	1,600	550	1,900	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.61	26.22	NA	NA
MW-2	02/27/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.92	25.91	NA	NA
MW-2	03/01/1992	86,000	1,000a	30,000	34,000	2,300	16,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	21.11	24.72	NA	NA
MW-2	06/03/1992	87,000	NA	28,000	18,000	2,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	21.58	24.25	NA	NA
MW-2	09/01/1992	110,000	NA	21,000	13,000	1,900	7,800	NA	NA	NA	NA	NA	NA	NA	NA	45.83	23.46	22.37	NA	NA
MW-2	10/06/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	23.99	21.84	NA	NA
MW-2	11/11/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	24.25	21.58	NA	NA
MW-2	12/04/1992	42,000	NA	15,000	2,400	960	2,900	NA	NA	NA	NA	NA	NA	NA	NA	45.83	23.89	21.94	NA	NA
MW-2	01/22/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.03	28.80	NA	NA
MW-2	02/10/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	18.08	27.75	NA	NA
MW-2	03/03/1993	160,000	NA	36,000	3,800	32,000	21,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.28	28.55	NA	NA
MW-2 (D)	03/03/1993	150,000	NA	31,000	3,100	20,000	14,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.28	28.55	NA	NA
MW-2	05/11/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	18.41	27.42	NA	NA
MW-2	06/17/1993	65,000	NA	34,000	15,000	3,200	11,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.06	26.77	NA	NA
MW-2 (D)	06/17/1993	62,000	NA	28,000	14,000	2,700	10,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.06	26.77	NA	NA
MW-2	09/10/1993	72,000	NA	24,000	16,000	2,300	11,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	20.88	24.95	NA	NA
MW-2 (D)	09/10/1993	71,000	NA	23,000	15,000	2,300	10,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	20.88	24.95	NA	NA
MW-2	12/13/1993	19,000	NA	5,400	4,900	680	3,100	NA	NA	NA	NA	NA	NA	NA	NA	45.83	20.42	25.41	NA	NA
MW-2 (D)	12/13/1993	17,000	NA	6,200	5,500	720	3,500	NA	NA	NA	NA	NA	NA	NA	NA	45.83	20.42	25.41	NA	NA
MW-2	03/03/1994	110,000	NA	21,000	24,000	2,000	13,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	18.48	27.35	NA	NA

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	Dipe	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-2 (D)	03/03/1994	93,000	NA	19,000	22,000	1,800	12,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	18.48	27.35	NA	NA
MW-2	06/06/1994	10,000	NA	1,900	3,300	2,500	13,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	20.26	25.57	NA	NA
MW-2 (D)	06/06/1994	99,000	NA	9,900	12,000	2,400	12,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	20.26	25.57	NA	NA
MW-2	09/12/1994	160,000	NA	22,000	33,000	3,400	23,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	21.80	24.03	NA	NA
MW-2 (D)	09/12/1994	150,000	NA	23,000	34,000	3,500	23,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	21.80	24.03	NA	NA
MW-2	12/19/1994	80,000	NA	17,000	16,000	2,300	14,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.66	26.17	NA	NA
MW-2 (D)	12/19/1994	100,000	NA	28,000	26,000	3,400	20,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.66	26.17	NA	NA
MW-2	02/28/1995	100,000	NA	24,000	18,000	2,300	17,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.51	28.32	NA	NA
MW-2 (D)	02/28/1995	100,000	NA	31,000	21,000	3,200	18,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.51	28.32	NA	NA
MW-2	03/24/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	14.88	30.95	NA	NA
MW-2	06/26/1995	45,000	NA	14,000	12,000	1,500	7,500	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.58	28.25	NA	NA
MW-2 (D)	06/26/1995	68,000	NA	13,000	11,000	1,800	7,700	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.58	28.25	NA	NA
MW-2	09/13/1995	110,000	NA	19,000	19,000	2,800	15,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.28	26.55	NA	NA
MW-2 (D)	09/13/1995	120,000	NA	20,000	20,000	2,900	15,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	19.28	26.55	NA	NA
MW-2	12/19/1995	180,000	NA	18,000	29,000	4,100	24,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	18.61	27.22	NA	NA
MW-2 (D)	12/19/1995	160,000	NA	18,000	28,000	3,800	24,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	18.61	27.22	NA	NA
MW-2	03/06/1996	120,000	NA	28,000	15,000	3,900	17,000	NA	NA	NA	NA	NA	NA	NA	NA	45.83	15.41	30.42	NA	NA
MW-2	06/28/1996	96,000	NA	20,000	20,000	4,100	22,000	2,400	NA	NA	NA	NA	NA	NA	NA	45.83	17.84	27.99	NA	NA
MW-2	09/26/1996	87,000	NA	7,600	11,000	2,500	15,000	990	840	NA	NA	NA	NA	NA	NA	45.83	19.60	26.23	NA	NA
MW-2	12/10/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	18.15	27.88	0.25	NA
MW-2	03/10/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.02	28.97	0.20	NA
MW-2	06/30/1997	57,000	NA	3,600	4,600	1,300	9,700	2,300	NA	NA	NA	NA	NA	NA	NA	45.83	19.42	26.41	NA	2.4
MW-2	09/12/1997	88,000	NA	7,800	8,800	2,600	16,000	3,200	NA	NA	NA	NA	NA	NA	NA	45.83	19.40	26.43	NA	1.7
MW-2 (D)	09/12/1997	90,000	NA	8,300	9,400	2,700	17,000	3,400	NA	NA	NA	NA	NA	NA	NA	45.83	19.40	26.43	NA	1.7
MW-2 b	12/18/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.83	17.56	28.27	NA	1.3
MW-2	02/02/1998	<50	NA	0.6	1.9	0.93	6.0	9.3	NA	NA	NA	NA	NA	NA	NA	45.83	18.14	27.69	NA	2
MW-2 (D)	02/02/1998	56	NA	1.0	2.8	1.4	9.3	13	NA	NA	NA	NA	NA	NA	NA	45.83	18.14	27.69	NA	2
MW-2	06/24/1998	20,000	NA	<200	620	560	4,500	<1,000	NA	NA	NA	NA	NA	NA	NA	45.83	16.08	29.75	NA	2.4
MW-2	08/26/1998	22,000	NA	380	1,100	560	4,400	330	NA	NA	NA	NA	NA	NA	NA	45.83	19.25	26.58	NA	NA
MW-2 (D)	08/26/1998	11,000	NA	180	130	290	500	1,400	NA	NA	NA	NA	NA	NA	NA	45.83	19.25	26.58	NA	NA
MW-2	12/23/1998	100,000	NA	4,100	6,500	2,400	16,000	<500	NA	NA	NA	NA	NA	NA	NA	45.83	18.29	27.54	NA	3.8
MW-2	03/01/1999	50,800	NA	3,910	7,480	1,890	13,100	9,620	NA	NA	NA	NA	NA	NA	NA	45.83	22.81	23.02	NA	2.0
MW-2	06/14/1999	4,930	NA	128	270	139	1,040	2,200	2,540*	NA	NA	NA	NA	NA	NA	45.83	18.86	26.97	NA	1.6

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
---------	------	----------------	----------------	-------------	-------------	-------------	-------------	------------------------	------------------------	----------------	----------------	----------------	---------------	-------------------	---------------	--------------	----------------------------	--------------------------	---------------------------	------------------------

MW-2	09/28/1999	16,200	NA	647	1,070	542	4,130	5,320	4,790	NA	NA	NA	NA	NA	NA	45.83	21.41	24.42	NA	1.8
MW-2	12/08/1999	25,700	NA	1,670	2,110	977	6,600	6,190	5,970	NA	NA	NA	NA	NA	NA	45.83	21.89	23.94	NA	1.8
MW-2	03/14/2000	45,100	NA	2,070	4,710	1,920	12,800	16,700	18,300*	NA	NA	NA	NA	NA	NA	45.83	15.57	30.26	NA	2.0
MW-2	06/28/2000	52,100	NA	5,150	4,200	1,880	13,300	15,500	13,500*	NA	NA	NA	NA	NA	NA	45.83	17.79	28.04	NA	1.9
MW-2	09/06/2000	39,500	NA	4,490	3,290	2,100	14,000	18,500	9,060*	NA	NA	NA	NA	NA	NA	45.83	18.65	27.18	NA	3.5
MW-2	12/14/2000	209	NA	3.51	1.11	1.00	64.4	79.4	NA	NA	NA	NA	NA	NA	NA	45.83	19.00	26.83	NA	1.5
MW-2	03/05/2001	38,200	NA	2,010	927	1,250	8,300	13,100	15,400	NA	NA	NA	NA	NA	NA	45.83	16.66	29.17	NA	1.0
MW-2	06/11/2001	50,000	NA	4,400	2,200	1,800	11,000	NA	26,000	NA	NA	NA	NA	NA	NA	45.83	18.93	26.90	NA	1.7
MW-2	09/12/2001	59,000	NA	6,100	2,800	2,300	14,000	NA	21,000	NA	NA	NA	NA	NA	NA	45.83	19.85	25.98	NA	1.6
MW-2	12/27/2001	74,000	NA	8,600	2,500	2,500	17,000	NA	25,000	NA	NA	NA	NA	NA	NA	45.83	17.85	27.98	NA	2.6
MW-2	02/27/2002	70,000	NA	8,100	2,600	2,100	13,000	NA	32,000	NA	NA	NA	NA	NA	NA	45.79	17.15	28.64	NA	2.0
MW-2	06/18/2002	72,000	NA	9,500	3,000	2,200	13,000	NA	29,000	NA	NA	NA	NA	NA	NA	45.79	18.49	27.30	NA	0.6
MW-2	09/18/2002	48,000	NA	7,600	850	1,300	6,300	NA	8,700	NA	NA	NA	NA	NA	NA	45.79	19.95	25.84	NA	1.0
MW-2	12/27/2002	40,000	NA	5,900	1,200	1,400	7,800	NA	19,000	<50	<50	55	10,000	<50	<50	45.79	16.71	29.08	NA	1.0
MW-2	03/05/2003	62,000	NA	13,000	1,400	2,000	7,900	NA	21,000	NA	NA	<50	10,000	<50	NA	45.79	17.72	28.07	NA	1.4
MW-2	06/24/2003	19,000	NA	9,500	530	700	2,900	NA	14,000	NA	NA	<400	6,000	<100	NA	45.79	18.30	27.49	NA	1.4
MW-2	09/25/2003	65,000	NA	24,000	1,500	2,400	9,700	NA	19,000	NA	NA	<1,000	6,400	<250	NA	45.79	20.05	25.74	NA	1.3
MW-2	12/15/2003	67,000	NA	18,000	1,800	1,900	7,200	NA	11,000	NA	NA	<400	3,700	<100	NA	45.79	18.80	26.99	NA	0.1
MW-2	03/04/2004	72,000	NA	27,000	1,200	2,100	7,600	NA	13,000	NA	NA	<400	6,800	<100	NA	45.79	16.75	29.04	NA	0.2
MW-2	05/27/2004	74,000	NA	6,000	2,000	2,500	15,000	NA	19,000	NA	NA	<400	8,500	<100	NA	45.79	18.85	26.94	NA	0.8
MW-2	09/24/2004	<100	NA	<1.0	<1.0	<1.0	<2.0	NA	130	<4.0	<4.0	<4.0	46	19	<1.0	45.79	16.10	29.69	NA	5.1
MW-2	11/22/2004	8,800	NA	1,200	230	350	1,900	NA	2,200	NA	NA	<40	1,300	<10	NA	45.79	19.83	25.96	NA	0.3
MW-2	03/02/2005	960	NA	150	21	30	220	NA	630	NA	NA	<10	460	<2.5	NA	45.79	15.90	29.89	NA	0.5

MW-3	02/13/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	27.97	24.00	NA	NA
MW-3	02/24/1992	4,500	1,300a	97	<5	78	18	NA	51.97	25.60	26.37	NA	NA							
MW-3	02/27/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	25.88	26.09	NA	NA
MW-3	03/01/1992	2,200	440	69	<0.5	<0.5	<0.5	NA	51.97	26.00	25.97	NA	NA							
MW-3	06/03/1992	4,100	NA	13	72	44	65	NA	51.97	27.70	24.27	NA	NA							
MW-3	09/01/1992	1,900	NA	20	6.8	5.5	<5	NA	51.97	29.46	22.51	NA	NA							
MW-3 (D)	09/01/1992	1,900	NA	21	6.6	3.4	<5	NA	51.97	29.46	22.51	NA	NA							
MW-3	10/06/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	30.01	21.96	NA	NA
MW-3	11/11/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	30.26	21.71	NA	NA
MW-3	12/04/1992	2,400	NA	8.2	<5	<5	<5	NA	51.97	29.93	22.04	NA	NA							

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-3 (D)	12/04/1992	2,100	NA	11	<0.5	5.7	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	51.97	29.93	22.04	NA	NA
MW-3	01/22/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	22.76	29.21	NA	NA
MW-3	02/10/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	21.40	30.57	NA	NA
MW-3	03/03/1993	5,100	NA	63	61	75	150	NA	NA	NA	NA	NA	NA	NA	NA	51.97	23.08	28.89	NA	NA
MW-3	05/11/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	24.51	27.46	NA	NA
MW-3	06/17/1993	4,000	NA	94	140	82	150	NA	NA	NA	NA	NA	NA	NA	NA	51.97	25.21	26.76	NA	NA
MW-3	09/10/1993	3,200	NA	140	12.5	12.5	12.5	NA	NA	NA	NA	NA	NA	NA	NA	51.97	26.85	25.02	NA	NA
MW-3	12/13/1993	6,200	NA	<12.5	<12.5	<12.5	<12.5	NA	NA	NA	NA	NA	NA	NA	NA	51.97	26.52	25.45	NA	NA
MW-3	03/03/1994	4,500	NA	73	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	51.97	24.50	27.47	NA	NA
MW-3	06/06/1994	3,200	NA	<0.5	<0.5	3.1	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	51.97	26.33	25.64	NA	NA
MW-3	09/12/1994	3,900	NA	<0.5	<0.5	9.6	4.1	NA	NA	NA	NA	NA	NA	NA	NA	51.97	27.98	23.99	NA	NA
MW-3	12/19/1994	2,400	NA	21	22	4.2	2.6	NA	NA	NA	NA	NA	NA	NA	NA	51.97	25.63	26.34	NA	NA
MW-3	02/28/1995	4,000	NA	58	<0.5	7.1	3.5	NA	NA	NA	NA	NA	NA	NA	NA	51.97	23.45	28.52	NA	NA
MW-3	03/24/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	21.07	30.90	NA	NA
MW-3	06/26/1995	3,900	NA	8.1	<0.5	12	2.4	NA	NA	NA	NA	NA	NA	NA	NA	51.97	23.64	28.33	NA	NA
MW-3	09/13/1995	4,100	NA	58	5.5	5.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	51.97	25.40	26.57	NA	NA
MW-3	12/19/1995	3,600	NA	<0.5	4.3	2.1	1.1	NA	NA	NA	NA	NA	NA	NA	NA	51.97	24.53	27.44	NA	NA
MW-3	03/07/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	21.59	30.41	0.04	NA
MW-3	06/28/1996	2,400	NA	55	<0.5	<0.5	11	120	NA	NA	NA	NA	NA	NA	NA	51.97	23.95	28.02	NA	NA
MW-3	09/26/1996	2,500	NA	<5.0	<5.0	<5.0	<5.0	160	NA	NA	NA	NA	NA	NA	NA	51.97	25.89	26.08	NA	NA
MW-3	12/10/1996	1,600	NA	28	4.2	<2.0	3.9	110	NA	NA	NA	NA	NA	NA	NA	51.97	24.22	27.75	NA	0.8
MW-3	03/10/1997	130	NA	<0.50	<0.50	<0.50	1.4	4.2	NA	NA	NA	NA	NA	NA	NA	51.97	23.05	28.92	NA	2.8
MW-3	06/30/1997	1,200	NA	21	2.3	<2.0	<2.0	69	NA	NA	NA	NA	NA	NA	NA	51.97	24.34	27.63	NA	2.3
MW-3	09/12/1997	440	NA	8.3	0.82	<0.50	1.9	3.4	NA	NA	NA	NA	NA	NA	NA	51.97	24.47	27.50	NA	1.9
MW-3 b	12/18/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.97	23.54	28.43	NA	0.8
MW-3	02/02/1998	400	NA	9.3	0.68	<0.50	<0.50	9	NA	NA	NA	NA	NA	NA	NA	51.97	21.92	30.05	NA	1.5
MW-3	06/24/1998	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	51.97	22.35	29.62	NA	1.9
MW-3	08/26/1998	140	NA	7.4	<0.50	<0.50	2.5	13	NA	NA	NA	NA	NA	NA	NA	51.97	23.45	28.52	NA	1.3
MW-3	12/23/1998	1,200	NA	50	<2.0	<2.0	<2.0	69	NA	NA	NA	NA	NA	NA	NA	51.97	24.01	27.96	NA	4.2
MW-3	03/01/1999	2,550	NA	<0.500	<0.500	<0.500	0.658	32.4	NA	NA	NA	NA	NA	NA	NA	51.97	22.08	29.89	NA	2.0
MW-3	06/14/1999	514	NA	18.1	0.728	<0.500	<0.500	15.9	NA	NA	NA	NA	NA	NA	NA	51.97	23.15	28.82	NA	1.7
MW-3	09/28/1999	1,180	NA	<1.00	<1.00	<1.00	<1.00	<10.0	NA	NA	NA	NA	NA	NA	NA	51.97	25.36	26.61	NA	1.2
MW-3	12/08/1999	1,740	NA	71.5	23.0	24.2	61.3	103	NA	NA	NA	NA	NA	NA	NA	51.97	25.75	26.22	NA	2.0

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
---------	------	----------------	----------------	-------------	-------------	-------------	-------------	------------------------	------------------------	----------------	----------------	----------------	---------------	-------------------	---------------	--------------	----------------------------	--------------------------	---------------------------	------------------------

MW-3	03/14/2000	1,410	NA	5.63	35.6	<5.00	8.41	38.7	NA	NA	NA	NA	NA	NA	NA	51.97	21.64	30.33	NA	2.1
MW-3	06/26/2000	2,460	NA	<5.00	9.48	<5.00	28.4	64.0	NA	NA	NA	NA	NA	NA	NA	51.97	23.84	28.13	NA	2.87
MW-3	09/06/2000	887	NA	<1.00	<1.00	<1.00	<1.00	<10.0	NA	NA	NA	NA	NA	NA	NA	51.97	24.73	27.24	NA	2.0
MW-3	12/14/2000	955	NA	25.4	1.96	<0.500	1.13	10.2	NA	NA	NA	NA	NA	NA	NA	51.97	25.45	26.52	NA	2.1
MW-3	03/05/2001	2,100	NA	4.90	56.5	<2.00	3.62	261	NA	NA	NA	NA	NA	NA	NA	51.97	22.83	29.14	NA	0.8
MW-3	06/11/2001	2,000	NA	1.0	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	51.97	25.20	26.77	NA	0.7
MW-3	09/12/2001	1,500	NA	0.50	0.54	<0.50	1.8	NA	<5.0	NA	NA	NA	NA	NA	NA	51.97	26.15	25.82	NA	1.5
MW-3	12/27/2001	2,100	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	51.97	23.67	28.30	NA	1.9
MW-3	02/27/2002	2,300	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	51.92	23.23	28.69	NA	1.5
MW-3	06/18/2002	2,000	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	51.92	24.74	27.18	NA	2.0
MW-3	09/18/2002	2,600	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	51.92	26.05	25.87	NA	1.4
MW-3	12/27/2002	Well inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	NA	NA	NA	NA
MW-3	03/05/2003	2,300	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	<2.0	<50	13	NA	51.92	23.84	28.08	NA	1.3
MW-3	06/24/2003	Well Inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	NA	NA	NA	NA
MW-3	06/25/2003	1,800 c	NA	0.71	<0.50	<0.50	<1.0	NA	0.54	NA	NA	<2.0	<5.0	1.1	NA	51.92	24.48	27.44	NA	1.3
MW-3	09/25/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	25.99	25.93	NA	NA
MW-3	12/15/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	24.94	26.98	NA	NA
MW-3	03/04/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	22.50	29.42	NA	NA
MW-3	05/27/2004	2,500	NA	<0.50	<0.50	<0.50	<1.0	NA	1.1	NA	NA	<2.0	<5.0	0.82	NA	51.92	24.94	26.98	NA	0.5
MW-3	09/24/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	26.55	25.37	NA	NA
MW-3	11/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	25.92	26.00	NA	NA
MW-3	03/02/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.92	22.12	29.80	NA	NA

MW-4	03/24/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	40.51	9.16	31.35	NA	NA
MW-4	06/26/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	40.51	12.06	28.45	NA	NA
MW-4	09/13/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	40.51	13.90	26.61	NA	NA
MW-4	12/19/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	40.51	12.90	27.61	NA	NA
MW-4	03/06/1996	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	40.51	9.63	30.88	NA	NA
MW-4	06/28/1996	40	NA	<0.5	0.59	0.97	3.8	26	NA	NA	NA	NA	NA	NA	NA	40.51	12.30	28.21	NA	NA
MW-4	09/26/1996	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	14.12	26.39	NA	NA
MW-4	12/10/1996	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	12.31	28.20	NA	1.2
MW-4	03/10/1997	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	40.51	11.34	29.17	NA	NA
MW-4	06/30/1997	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	13.80	26.71	NA	1.9

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-4	09/12/1997	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	13.99	26.52	NA	1.7
MW-4 b	12/18/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.51	12.02	28.49	NA	1.8
MW-4	02/02/1998	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	11.23	29.28	NA	1
MW-4	06/24/1998	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	10.58	29.93	NA	1.9
MW-4	08/26/1998	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	11.75	28.76	NA	1.2
MW-4	12/23/1998	<50	NA	0.60	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	40.51	12.41	28.10	NA	4.2
MW-4	03/01/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.00	NA	NA	NA	NA	NA	NA	NA	40.51	10.38	30.13	NA	2.1
MW-4	06/14/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	40.51	11.91	28.60	NA	2.4
MW-4	09/28/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	NA	NA	40.51	10.19	30.32	NA	2.2
MW-4	12/08/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	40.51	10.67	29.84	NA	1.8
MW-4	03/14/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	40.51	9.95	30.56	NA	2.5
MW-4	06/28/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	40.51	12.22	28.29	NA	0.9
MW-4	09/06/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.51	13.17	27.34	NA	3.0
MW-4	12/14/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.51	8.65	31.86	NA	NA
MW-4	03/05/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.51	11.07	29.44	NA	NA
MW-4	06/11/2001	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	40.51	13.62	26.89	NA	1.3
MW-4	09/12/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.51	14.61	25.90	NA	NA
MW-4	12/27/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.51	12.19	28.32	NA	NA
MW-4	02/27/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	11.64	28.81	NA	NA
MW-4	06/18/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	40.45	13.22	27.23	NA	0.6
MW-4	09/18/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	14.46	25.99	NA	NA
MW-4	12/27/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	11.23	29.22	NA	NA
MW-4	03/05/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	12.22	28.23	NA	NA
MW-4	06/24/2003	57 c	NA	<0.50	<0.50	<0.50	<1.0	NA	12	NA	NA	NA	NA	NA	NA	40.45	12.79	27.66	NA	1.6
MW-4	09/25/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	14.45	26.00	NA	NA
MW-4	12/15/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	13.24	27.21	NA	NA
MW-4	03/04/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	10.93	29.52	NA	NA
MW-4	05/27/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	40.45	13.42	27.03	NA	0.5
MW-4	09/24/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	15.11	25.34	NA	NA
MW-4	11/22/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	14.42	26.03	NA	NA
MW-4	03/02/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.45	10.17	30.28	NA	NA
MW-5	01/29/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.46	12.82	28.64	NA	NA

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-5	02/27/2002	190	NA	<0.50	<0.50	0.85	1.5	NA	<5.0	NA	NA	NA	NA	NA	NA	41.46	12.85	28.61	NA	1.9
MW-5	06/18/2002	650	NA	1.4	3.0	52	28	NA	<0.50	NA	NA	NA	NA	NA	NA	41.46	13.65	27.81	NA	0.8
MW-5	09/18/2002	390	NA	0.72	0.51	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	41.46	15.57	25.89	NA	1.1
MW-5	12/27/2002	380	NA	<0.50	<0.50	0.56	<0.50	NA	<0.50	<2.0	<2.0	<2.0	<50	<2.0	<2.0	41.46	12.51	28.95	NA	1.9
MW-5	03/05/2003	290	NA	<0.50	1.7	9.4	22	NA	<5.0	NA	NA	NA	NA	NA	NA	41.46	13.39	28.07	NA	2.6
MW-5	06/24/2003	220	NA	<0.50	1.0	19	1.3	NA	<0.50	NA	NA	NA	NA	NA	NA	41.46	13.91	27.55	NA	1.7
MW-5	09/25/2003	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.46	15.58	25.88	NA	2.1
MW-5	12/15/2003	200 c	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.46	14.45	27.01	NA	0.21
MW-5	03/04/2004	170 c	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.46	12.52	28.94	NA	0.1
MW-5	05/27/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.46	14.49	26.97	NA	0.5
MW-5	09/24/2004	<50	NA	0.71	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	41.46	16.08	25.38	NA	1.7
MW-5	11/22/2004	<50 d	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.46	15.48	25.98	NA	0.3
MW-5	03/02/2005	190	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	<2.0	<10	<0.50	NA	41.46	11.52	29.94	NA	0.4
MW-6	01/29/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.50	3.88	37.62	NA	NA
MW-6	01/31/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.50	12.43	29.07	NA	NA
MW-6	02/27/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	41.50	12.82	28.68	NA	4.1
MW-6	06/18/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	41.50	4.26	37.24	NA	3.9
MW-6	09/18/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	41.50	5.26	36.24	NA	4.2
MW-6	12/27/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<2.0	<2.0	<2.0	<50	<2.0	<2.0	41.50	12.11	29.39	NA	3.0
MW-6	03/05/2003	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	41.50	13.47	28.03	NA	4.9
MW-6	06/24/2003	<50	NA	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	41.50	13.71	27.79	NA	5.8
MW-6	09/25/2003	Well inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.50	NA	NA	NA	NA
MW-6	12/15/2003	<50	NA	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	41.50	13.17	28.33	NA	5.7
MW-6	03/04/2004	<50	NA	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	41.50	11.15	30.35	NA	1.0
MW-6	05/27/2004	<50	NA	0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.50	13.68	27.82	NA	1.0
MW-6	09/24/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.50	10.71	30.79	NA	3.1
MW-6	11/22/2004	<50 d	NA	0.65	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.50	7.60	33.90	NA	6.5
MW-6	03/02/2005	<100	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	<2.0	<10	<0.50	NA	41.50	6.77	34.73	NA	6.2
MW-7	10/21/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44.45	18.90	25.55	NA	NA
MW-7	12/27/2002	49,000	NA	830	980	2,000	5,200	NA	<10	<10	<10	<10	<100	<10	<10	44.45	15.43	29.02	NA	2.1
MW-7	03/05/2003	32,000	NA	370	490	1,600	2,900	NA	<100	NA	NA	NA	NA	NA	NA	44.45	16.34	28.11	NA	2.6

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-7	06/24/2003	Well inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44.45	NA	NA	NA	NA
MW-7	09/25/2003	8,700	NA	57	34	450	290	NA	<5.0	NA	NA	NA	NA	NA	NA	44.45	18.36	26.09	NA	1.2
MW-7	12/15/2003	27,000	NA	170	260	1,200	1,500	NA	<10	NA	NA	NA	NA	NA	NA	44.45	17.44	27.01	NA	1.3
MW-7	03/04/2004	13,000	NA	200	190	1,200	1,200	NA	<5.0	NA	NA	NA	NA	NA	NA	44.45	15.45	29.00	NA	0.1
MW-7	05/27/2004	16,000	NA	76	56	860	420	NA	<5.0	NA	NA	NA	NA	NA	NA	44.45	17.50	26.95	NA	0.5
MW-7	09/24/2004	8,400	NA	26	14	340	200	NA	<5.0	<20	<20	<20	<50	NA	NA	44.45	18.94	25.51	NA	1.1
MW-7	11/22/2004	14,000	NA	92	60	790	730	NA	<5.0	NA	NA	NA	NA	NA	NA	44.45	18.47	25.98	NA	0.2
MW-7	03/02/2005	13,000	NA	130	140	740	980	NA	<10	NA	NA	<20	<100	<5.0	NA	44.45	14.53	29.92	NA	0.7
MW-8	10/21/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.27	17.70	25.57	NA	NA
MW-8	12/27/2002	30,000	NA	280	220	2,000	5,300	NA	<10	<10	<10	<10	<100	<10	<10	43.27	14.25	29.02	NA	1.2
MW-8	03/05/2003	30,000	NA	220	150	2,100	4,200	NA	<100	NA	NA	NA	NA	NA	NA	43.27	15.36	27.91	NA	1.3
MW-8	06/24/2003	Well Inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.27	NA	NA	NA	NA
MW-8	09/25/2003	26,000	NA	240	53	1,600	2,600	NA	<50	NA	NA	NA	NA	NA	NA	43.27	17.43	25.84	NA	1.0
MW-8	12/15/2003	38,000	NA	290	140	2,200	5,200	NA	<13	NA	NA	NA	NA	NA	NA	43.27	16.24	27.03	NA	0.4
MW-8	03/04/2004	19,000	NA	180	95	1,400	3,900	NA	<13	NA	NA	NA	NA	NA	NA	43.27	14.63	28.64	NA	0.1
MW-8	05/27/2004	19,000	NA	230	41	1,100	2,200	NA	<13	NA	NA	NA	NA	NA	NA	43.27	16.41	26.86	NA	0.5
MW-8	09/24/2004	21,000	NA	270	42	1,200	2,600	NA	<13	<50	<50	<50	<130	NA	NA	43.27	18.10	25.17	NA	0.7
MW-8	11/22/2004	24,000	NA	200	64	1,400	4,100	NA	<13	NA	NA	NA	NA	NA	NA	43.27	17.28	25.99	NA	1.0
MW-8	03/02/2005	16,000	NA	100	44	890	2,300	NA	<10	NA	NA	<20	<100	<5.0	NA	43.27	13.35	29.92	NA	0.6
MW-9	12/10/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.65	15.15	26.50	NA	NA
MW-9	12/15/2003	<50	NA	<0.50	<0.50	<0.50	1.3	NA	2.5	NA	NA	NA	NA	NA	NA	41.65	14.48	27.17	NA	0.9
MW-9	03/04/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.65	12.15	29.50	NA	0.2
MW-9	05/27/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.65	14.55	27.10	NA	0.5
MW-9	09/24/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	41.65	16.37	25.28	NA	1.0
MW-9	11/22/2004	<50 d	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	41.65	15.62	26.03	NA	0.3
MW-9	03/02/2005	100	NA	<0.50	<1.0	1.4	3.8	NA	<1.0	NA	NA	<2.0	<10	<0.50	NA	41.65	11.40	30.25	NA	0.4
MW-10	12/10/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50.64	24.33	26.31	NA	NA
MW-10	12/15/2003	6,400	NA	3.1	<1.0	33	20	NA	<1.0	NA	NA	<4.0	<10	<1.0	NA	50.64	23.58	27.06	NA	0.3
MW-10	03/04/2004	1,400	NA	1.2	<1.0	16	3.4	NA	<1.0	NA	NA	<4.0	<10	<1.0	NA	50.64	21.20	29.44	NA	0.1
MW-10	05/27/2004	810	NA	<1.0	<1.0	8.3	<2.0	NA	<1.0	NA	NA	<4.0	<10	<1.0	NA	50.64	23.63	27.01	NA	0.5

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
MW-10	09/24/2004	790	NA	1.2	<1.0	7.3	<2.0	NA	<1.0	<4.0	<4.0	<4.0	<10	<1.0	<1.0	50.64	25.30	25.34	NA	1.5
MW-10	11/22/2004	1,100	NA	1.1	<0.50	17	<1.0	NA	<0.50	NA	NA	<2.0	<5.0	<0.50	NA	50.64	24.62	26.02	NA	0.4
MW-10	03/02/2005	920	NA	0.60	<1.0	3.5	<1.0	NA	<1.0	NA	NA	<2.0	<10	<0.50	NA	50.64	20.72	29.92	NA	0.4
MW-11	12/10/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.58	19.10	26.48	NA	NA
MW-11	12/15/2003	110,000	NA	9,900	3,300	3,900	23,000	NA	20,000	NA	NA	<800	18,000	<200	NA	45.58	18.50	27.08	NA	0.3
MW-11	03/04/2004	68,000	NA	5,300	3,000	3,600	23,000	NA	8,300	NA	NA	<200	12,000	<50	NA	45.58	16.67	28.91	NA	0.1
MW-11	05/27/2004	86,000	NA	8,500	3,200	13,000	22,000	NA	25,000	NA	NA	<400	18,000	<100	NA	45.58	18.60	26.98	NA	1.6
MW-11	09/24/2004	63,000	NA	7,200	2,000	3,000	15,000	NA	26,000	<400	<400	<400	17,000	<100	<100	45.58	20.22	25.36	NA	2.2
MW-11	11/22/2004	96,000	NA	7,100	3,700	2,800	15,000	NA	20,000	NA	NA	<400	14,000	<100	NA	45.58	19.56	26.02	NA	0.3
MW-11	03/02/2005	63,000	NA	6,200	6,800	2,200	15,000	NA	16,000	NA	NA	<200	7,800	<50	NA	45.58	15.75	29.83	NA	4.6

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**1784 150th Avenue**  
**San Leandro, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)
---------	------	----------------	----------------	-------------	-------------	-------------	-------------	------------------------	------------------------	----------------	----------------	----------------	---------------	-------------------	---------------	--------------	----------------------------	--------------------------	---------------------------	------------------------

Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to June 11, 2001, analyzed by EPA Method 8015.

TEPH = Total petroleum hydrocarbons as diesel by modified EPA Method 8015.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to June 11, 2001, analyzed by EPA Method 8020.

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether, analyzed by EPA Method 8260

ETBE = Ethyl tertiary butyl ether, analyzed by EPA Method 8260

TAME = Tertiary amyl methyl ether, analyzed by EPA Method 8260

TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260

1,2-DCA = 1,2-dichloroethane, analyzed by EPA Method 8260

EDB = 1,2-dibromomethane or ethlyene dibromide, analyzed by EPA Method 8260

TOC = Top of Casing Elevation

SPH = Separate-Phase Hydrocarbons

GW = Groundwater

DO = Dissolved Oxygen

ug/L = Parts per billion

ppm = Parts per million

MSL = Mean sea level

ft. = Feet

<n = Below detection limit

(D) = Duplicate sample

NA = Not applicable

Notes:

a = Chromatogram pattern indicates an unidentified hydrocarbon.

b = Samples not analyzed due to laboratory oversight.

c = Hydrocarbon does not match pattern of laboratory's standard.

d = The concentration reported reflects individual or discrete unidentified peaks not matching a typical fuel pattern.

\* = Sample analyzed out of EPA recommended hold time.

Site surveyed January 23, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.

Survey data for wells MW-7 and MW-8 provided by Cambria Environmental Technology.

Wells MW-9, MW-10, and MW-11 surveyed December 11, 2003 by Virgil Chavez Land Surveying of Vallejo, CA.

**ATTACHMENT C**

**Field Data Sheets**

CAMBRIA

## **DVE TEST DATA FORM**

**Site Address:** 1784 150th Ave, San Leandro  
**Project No.** 246-0612-009  
**Incident No.** 98996068

Date: 11/20/04  
Technician: Mark & Trey  
Project Mgr: Jason

MAY - 1

#### NOTES.

## **DVE TEST DATA FORM**

CAMBRIA

**Site Address:** 1784 150th Ave, San Leandro

**Project No.** 248-0612-009

**Incident No.** 98996068

Date

Techpicjapan

### **Project Mar:**

190

Three

NOTES: Air Compressor off on arrival - turned on @ 9:00 AM

CAMBRIA

## DVE TEST DATA FORM

**Site Address:** 1784 150th Ave, San Leandro  
**Project No.** 246-0612-009  
**Incident No.** 98996068

Date: 11/10/04  
Technician: Trey  
Project Mgr: Jason

— 1 —

NOTES: disconnected pump @ 8' is to install 2" Grundfos pump-started @ 28' 45"

Knick out changed @ 9:30 am - had hair left in

Pump burst out around 9:15; New pump in at 10:45

\* Air flow stops next

# CAMBRIA

## **DVE TEST DATA FORM**

**Site Address:** 1784-150th Ave, San Leandro

**Project No.** 246-0612-009

Incident No. 98996968

Date

1105

150

### **Technicians:**

Jason

NOTES: Baker tank empty w/ totalizer @ 7672

# CAMBRIA

## **DVE TEST DATA FORM**

**Site Address:** 1784 150th Ave, San Leandro  
**Project No.:** 246-0612-009  
**Incident No.:** 9899868

Date: 11/12/04  
Technician: Marc  
Project Mgr: Jason

**NOTES:** \_\_\_\_\_

**ATTACHMENT D**

**Laboratory Analytical Reports**

**Cambria Environmental Emeryville**

**November 19, 2004**

5900 Hollis Street, Ste. A  
Emeryville, CA 94608

Attn.: Trey Jackson

Project#: 246-0612-009

Project: 98996068

Site: 1784 150th Ave, San Leandro

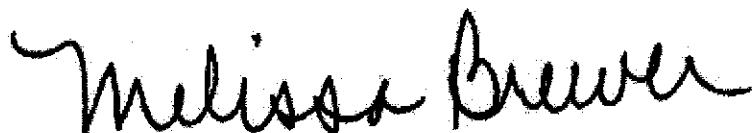
Attached is our report for your samples received on 11/09/2004 10:10  
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after  
12/24/2004 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: [mbrewer@stl-inc.com](mailto:mbrewer@stl-inc.com)

Sincerely,



Melissa Brewer  
Project Manager

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-11-A	11/08/2004 13:15	Air	1
MW-11-B	11/08/2004 16:30	Air	2
MW-11-C	11/09/2004 08:15	Air	3

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

Prep(s): 5030B

Test(s): 8260B

Sample ID: MW-11-A

Lab ID: 2004-11-0286-1

Sampled: 11/08/2004 13:15

Extracted: 11/10/2004 14:37

Matrix: Air

QC Batch#: 2004/11/10-2C.64

Analysis Flag: ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	5300	140	ppmv	10.00	11/10/2004 14:37	
Benzene	ND	3.1	ppmv	10.00	11/10/2004 14:37	
Toluene	ND	2.6	ppmv	10.00	11/10/2004 14:37	
Ethylbenzene	ND	2.3	ppmv	10.00	11/10/2004 14:37	
Total xylenes	2.4	2.3	ppmv	10.00	11/10/2004 14:37	
Methyl tert-butyl ether (MTBE)	ND	1.4	ppmv	10.00	11/10/2004 14:37	
<i>Surrogate(s)</i>						
1,2-Dichloroethane-d4	94.6	76-130	%	10.00	11/10/2004 14:37	
Toluene-d8	90.0	78-115	%	10.00	11/10/2004 14:37	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-11-B	Lab ID:	2004-11-0286-2
Sampled:	11/08/2004 16:30	Extracted:	11/10/2004 18:36
Matrix:	Air	QC Batch#:	2004/11/10-3B-68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	8300	280	ppmv	20.00	11/10/2004 18:36	
Benzene	12	6.2	ppmv	20.00	11/10/2004 18:36	
Toluene	ND	5.2	ppmv	20.00	11/10/2004 18:36	
Ethylbenzene	8.6	4.6	ppmv	20.00	11/10/2004 18:36	
Total xylenes	12	4.6	ppmv	20.00	11/10/2004 18:36	
Methyl tert-butyl ether (MTBE)	ND	2.8	ppmv	20.00	11/10/2004 18:36	
<i>Surrogate(s)</i>						
1,2-Dichloroethane-d4	101.3	76-130	%	20.00	11/10/2004 18:36	
Toluene-d8	92.1	78-115	%	20.00	11/10/2004 18:36	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-11-C	Lab ID:	2004-11-0286 - 3
Sampled:	11/09/2004 08:15	Extracted:	11/10/2004 15:22
Matrix:	Air	QC Batch#:	2004/11/10-2C.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	3600	140	ppmv	10.00	11/10/2004 15:22	
Benzene	7.2	3.1	ppmv	10.00	11/10/2004 15:22	
Toluene	7.0	2.6	ppmv	10.00	11/10/2004 15:22	
Ethylbenzene	8.1	2.3	ppmv	10.00	11/10/2004 15:22	
Total xylenes	21	2.3	ppmv	10.00	11/10/2004 15:22	
Methyl tert-butyl ether (MTBE)	ND	1.4	ppmv	10.00	11/10/2004 15:22	
<i>Surrogate(s)</i>						
1,2-Dichloroethane-d4	97.9	76-130	%	10.00	11/10/2004 15:22	
Toluene-d8	97.6	78-115	%	10.00	11/10/2004 15:22	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch #: 2004/11/10-2C.64

MB: 2004/11/10-2C.64-048

Date Extracted: 11/10/2004 08:48

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	11/10/2004 08:48	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	11/10/2004 08:48	
Benzene	ND	0.5	ug/L	11/10/2004 08:48	
Toluene	ND	0.5	ug/L	11/10/2004 08:48	
Ethylbenzene	ND	0.5	ug/L	11/10/2004 08:48	
Total xylenes	ND	1.0	ug/L	11/10/2004 08:48	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	97.0	76-130	%	11/10/2004 08:48	
Toluene-d8	99.6	78-115	%	11/10/2004 08:48	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

**Method Blank**

Water

**QC Batch # 2004/11/10-3B.68**

MB: 2004/11/10-3B.68-009

Date Extracted: 11/10/2004 18:09

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	11/10/2004 18:09	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	11/10/2004 18:09	
Benzene	ND	0.5	ug/L	11/10/2004 18:09	
Toluene	ND	0.5	ug/L	11/10/2004 18:09	
Ethylbenzene	ND	0.5	ug/L	11/10/2004 18:09	
Total xylenes	ND	1.0	ug/L	11/10/2004 18:09	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	102.4	76-130	%	11/10/2004 18:09	
Toluene-d8	98.0	78-115	%	11/10/2004 18:09	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike****Water****QC Batch # 2004/11/10-2C.64**

LCS 2004/11/10-2C.64-001

Extracted: 11/10/2004

Analyzed: 11/10/2004 12:01

LCSD

Compound	Conc.	ug/L	Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	22.8		25	91.2			65-165	20		
Benzene	22.7		25	90.8			69-129	20		
Toluene	21.1		25	84.4			70-130	20		
<i>Surrogates(s)</i>										
1,2-Dichloroethane-d4	454		500	90.8			76-130			
Toluene-d8	494		500	98.8			78-115			

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike****Water****QC Batch # 2004/11/10-3B.68**

LCS 2004/11/10-3B.68-050

Extracted: 11/10/2004

Analyzed: 11/10/2004 17:50

LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	24.2		25	96.8			65-165	20		
Benzene	26.4		25	105.6			69-129	20		
Toluene	23.6		25	94.4			70-130	20		
<i>Surrogates(s)</i>										
1,2-Dichloroethane-d4	485		500	97.0			76-130			
Toluene-d8	516		500	103.2			78-115			

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Matrix Spike ( MS / MSD )

## Water

## QC Batch # 2004/11/10-2C.64

MS/MSD

Lab ID: 2004-11-0088 - 001

MS: 2004/11/10-2C.64-016

Extracted: 11/10/2004

Analyzed: 11/10/2004 11:16

MSD: 2004/11/10-2C.64-039

Extracted: 11/10/2004

Dilution: 1.00

Analyzed: 11/10/2004 11:39

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
Methyl tert-butyl ether	46.2	43.5	19.8	25	105.6	174.0	48.9	65-165	20		M4,R1
Benzene	23.0	23.4	ND	25	92.0	93.6	1.7	69-129	20		
Toluene	22.8	23.7	ND	25	91.2	94.8	3.9	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	482	484		500	96.4	96.8		76-130			
Toluene-d8	488	500		500	97.6	100.0		78-115			

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Matrix Spike (MS / MSD)****Water****QC Batch # 2004/11/10-3B 68**

MS/MSD

Lab ID: 2004-11-0187 - 001

MS: 2004/11/10-3B.68-044

Extracted: 11/10/2004

Analyzed: 11/10/2004 20:44

MSD: 2004/11/10-3B.68-003

Extracted: 11/10/2004

Analyzed: 11/10/2004 21:03

Dilution: 1.00

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	75.2	83.7	50.7	25	98.0	132.0	29.6	65-165	20		R1
Benzene	31.7	33.3	5.43	25	105.1	111.5	5.9	69-129	20		
Toluene	24.5	23.9	ND	25	98.0	95.6	2.5	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	518	562		500	103.6	112.4		76-130			
Toluene-d8	530	503		500	106.0	100.6		78-115			

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/09/2004 10:10

Site: 1784 150th Ave, San Leandro

---

**Legend and Notes**

---

**Analysis Flag**

**Result Flag**

M4

MS/MSD spike recoveries were above acceptance limits.  
See blank spike (LCS).

R1

Analyte RPD was out of QC limits.

## **SHELL Chain Of Custody Record**

45524

STL-San Francisco

1220 Quarry Lane  
Pleasanton, CA 94566  
(925) 484-1919 (925) 484-1096 fax

DISTRIBUTION: White with trial report, Green to Fox, Yellow and Pink to Chair

© San Leandro 1784 18081RWWmediation@PPE.Tech Nov 04 2019 DVE-STL COC Nov04 2019 STI

Invited Revision

卷之三

**Cambria Environmental Emeryville**

November 22, 2004

5900 Hollis Street, Ste. A  
Emeryville, CA 94608

Attn.: Trey Jackson

Project#: 246-0612-009

Project: 98996068

Site: 1784 150th Ave., San Leandro

Attached is our report for your samples received on 11/10/2004 13:40

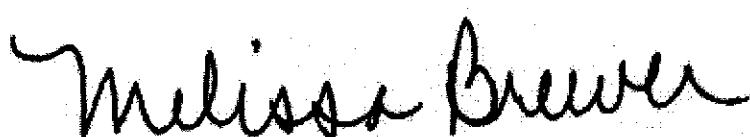
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 12/25/2004 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: [mbrewer@stl-inc.com](mailto:mbrewer@stl-inc.com)

Sincerely,



Melissa Brewer  
Project Manager

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-11-D	11/09/2004 12:45	Air	1
MW-11-E	11/10/2004 08:30	Air	2
MW-11-F	11/10/2004 12:30	Air	3
MW-2-A	11/10/2004 13:30	Air	4

## Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-11-D	Lab ID:	2004-11-0323 - 1
Sampled:	11/09/2004 12:45	Extracted:	11/11/2004 19:59
Matrix:	Air	QC Batch#:	2004/11/11-2A.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	3000	140	ppmv	10.00	11/11/2004 19:59	
Benzene	8.5	3.1	ppmv	10.00	11/11/2004 19:59	
Toluene	8.3	2.6	ppmv	10.00	11/11/2004 19:59	
Ethylbenzene	7.6	2.3	ppmv	10.00	11/11/2004 19:59	
Total xylenes	21	2.3	ppmv	10.00	11/11/2004 19:59	
Methyl tert-butyl ether (MTBE)	2.1	1.4	ppmv	10.00	11/11/2004 19:59	
<i>Surrogate(s)</i>						
1,2-Dichloroethane-d4	103.9	76-130	%	10.00	11/11/2004 19:59	
Toluene-d8	100.5	78-115	%	10.00	11/11/2004 19:59	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009

98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	<b>MW-11-E</b>	Lab ID:	2004-11-0323 - 2
Sampled:	11/10/2004 08:30	Extracted:	11/11/2004 11:37
Matrix:	Air	QC Batch#:	2004/11/11-1B.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	1300	14	ppmv	1.00	11/11/2004 11:37	
Benzene	5.2	0.31	ppmv	1.00	11/11/2004 11:37	
Toluene	6.2	0.26	ppmv	1.00	11/11/2004 11:37	
Ethylbenzene	5.7	0.23	ppmv	1.00	11/11/2004 11:37	
Total xylenes	20	0.23	ppmv	1.00	11/11/2004 11:37	
Methyl tert-butyl ether (MTBE)	1.2	0.14	ppmv	1.00	11/11/2004 11:37	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	108.4	76-130	%	1.00	11/11/2004 11:37	
Toluene-d8	98.6	78-115	%	1.00	11/11/2004 11:37	

## Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-11-F	Lab ID:	2004-11-0323 - 3
Sampled:	11/10/2004 12:30	Extracted:	11/11/2004 20:17
Matrix:	Air	QC Batch#:	2004/11/11-2A.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	3700	140	ppmv	10.00	11/11/2004 20:17	
Benzene	13	3.1	ppmv	10.00	11/11/2004 20:17	
Toluene	18	2.6	ppmv	10.00	11/11/2004 20:17	
Ethylbenzene	13	2.3	ppmv	10.00	11/11/2004 20:17	
Total xylenes	45	2.3	ppmv	10.00	11/11/2004 20:17	
Methyl tert-butyl ether (MTBE)	6.0	1.4	ppmv	10.00	11/11/2004 20:17	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	116.1	76-130	%	10.00	11/11/2004 20:17	
Toluene-d8	97.3	78-115	%	10.00	11/11/2004 20:17	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009

Received: 11/10/2004 13:40

98996068

Site: 1784 150th Ave., San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-2-A	Lab ID:	2004-11-0323 -4
Sampled:	11/10/2004 13:30	Extracted:	11/11/2004 12:14
Matrix:	Air	QC Batch#:	2004/11/11-1B.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	88	14	ppmv	1.00	11/11/2004 12:14	
Benzene	ND	0.31	ppmv	1.00	11/11/2004 12:14	
Toluene	0.49	0.26	ppmv	1.00	11/11/2004 12:14	
Ethylbenzene	0.91	0.23	ppmv	1.00	11/11/2004 12:14	
Total xylenes	3.8	0.23	ppmv	1.00	11/11/2004 12:14	
Methyl tert-butyl ether (MTBE)	ND	0.14	ppmv	1.00	11/11/2004 12:14	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	113.9	76-130	%	1.00	11/11/2004 12:14	
Toluene-d8	102.5	78-115	%	1.00	11/11/2004 12:14	

## Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2004/11/11-1B.68

MB: 2004/11/11-1B.68-022

Date Extracted: 11/11/2004 08:22

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	11/11/2004 08:22	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	11/11/2004 08:22	
Benzene	ND	0.5	ug/L	11/11/2004 08:22	
Toluene	ND	0.5	ug/L	11/11/2004 08:22	
Ethylbenzene	ND	0.5	ug/L	11/11/2004 08:22	
Total xylenes	ND	1.0	ug/L	11/11/2004 08:22	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	99.4	76-130	%	11/11/2004 08:22	
Toluene-d8	104.0	78-115	%	11/11/2004 08:22	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch #: 2004/11/11-2A.68

MB: 2004/11/11-2A.68-005

Date Extracted: 11/11/2004 18:05

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	11/11/2004 18:05	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	11/11/2004 18:05	
Benzene	ND	0.5	ug/L	11/11/2004 18:05	
Toluene	ND	0.5	ug/L	11/11/2004 18:05	
Ethylbenzene	ND	0.5	ug/L	11/11/2004 18:05	
Total xylenes	ND	1.0	ug/L	11/11/2004 18:05	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	98.0	76-130	%	11/11/2004 18:05	
Toluene-d8	99.2	78-115	%	11/11/2004 18:05	

## Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Laboratory Control Spike

Water

QC Batch # 2004/11/11-1B.68

LCS 2004/11/11-1B.68-003

Extracted: 11/11/2004

Analyzed: 11/11/2004 08:03

LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	18.5		25	74.0		65-165	20			
Benzene	20.9		25	83.6		69-129	20			
Toluene	20.9		25	83.6		70-130	20			
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	464		500	92.8		76-130				
Toluene-d8	540		500	108.0		78-115				

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike****Water****QC Batch # 2004/11/11-2A.68**

LCS 2004/11/11-2A.68-047

Extracted: 11/11/2004

Analyzed: 11/11/2004 17:47

LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	21.2		25	84.8			65-165	20		
Benzene	27.8		25	111.2			69-129	20		
Toluene	24.8		25	99.2			70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	448		500	89.6			76-130			
Toluene-d8	545		500	109.0			78-115			

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Matrix Spike ( MS / MSD )****Water****QC Batch # 2004/11/11-1B.68**

MS/MSD

Lab ID: 2004-11-0283 - 003

MS: 2004/11/11-1B.68-050

Extracted: 11/11/2004

Analyzed: 11/11/2004 12:50

MSD: 2004/11/11-1B.68-009

Extracted: 11/11/2004

Dilution: 1.00

Analyzed: 11/11/2004 13:09

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
Methyl tert-butyl ether	32.9	27.7	3.75	25	116.6	95.8	19.6	65-165	20		
Benzene	27.5	26.5	ND	25	110.0	106.0	3.7	69-129	20		
Toluene	25.8	22.5	ND	25	103.2	90.0	13.7	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	559	511		500	111.7	102.2		76-130			
Toluene-d8	536	522		500	107.3	104.4		78-115			

## Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Matrix Spike ( MS / MSD )

## Water

QC Batch # 2004/11/11-2A.68

MS/MSD

MS: 2004/11/11-2A.68-031

Extracted: 11/11/2004

Lab ID: 2004-11-0121 - 008

MSD: 2004/11/11-2A.68-049

Extracted: 11/11/2004

Analyzed: 11/11/2004 21:31

Dilution: 1.00

Analyzed: 11/11/2004 21:49

Dilution: 1.00

Compound	Conc. ug/L			Spk. Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
Methyl tert-butyl ether	30.6	23.5	ND	25	122.4	94.0	26.2	65-165	20		R1
Benzene	29.4	25.8	ND	25	117.6	103.2	13.0	69-129	20		
Toluene	25.7	23.1	ND	25	102.8	92.4	10.7	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	520	505		500	104.0	101.0		76-130			
Toluene-d8	504	506		500	100.8	101.2		78-115			

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009

98996068

Received: 11/10/2004 13:40

Site: 1784 150th Ave., San Leandro

**Legend and Notes****Result Flag****R1**

Analyte RPD was out of QC limits.

STL-San Francisco

## SHELL Chain Of Custody Record

95563

1220 Quarry Lane  
Pleasanton, CA 94566  
(925) 484-1919 (925) 484-1086 fax

Shell Project Manager to be invoiced:

- SCIENCE & ENGINEERING  
 TECHNICAL SERVICES  
 CRMT/HOUSTRN

Karen Petrina

INCIDENT NUMBER (SIZE ONLY)	9	8	9	9	6	0	6	8
-----------------------------	---	---	---	---	---	---	---	---

DATE: 11/9/04

SAP or CRMT NUMBER (TS/CRMT)

2004-11-0323

11/10

PAGE: 1 of 1

SAMPLED COMPANY: CAMBRIA ENVIRONMENTAL TECHNOLOGY INC

ADDRESS: 5900 HOLLIS ST, Suite A, Emeryville, CA 94608

PROJECT CONTACT (Name/Ext/PDF Report):

Trey Jackson

TELEPHONE: (510) 420-3341	FAX: (510) 420-8170	EMAIL: Jackson@cambrria-env.com
---------------------------	---------------------	---------------------------------

TURNAROUND TIME (BUSINESS DAYS):

- 10 DAYS  5 DAYS  24 HOURS  48 HOURS  24 HOURS  LESS THAN 24 HOURS

- LA - PWOCCE REPORT FORMAT  UST AGENCY

GC/MS MTBE CONFIRMATION: HIGHEST HIGHEST per BORING ALL

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF ECO IS NOT NEEDED

LAB  
ONLY

## Field Sample Identification

SAMPLING  
DATE

TIME

MATRIX

NO. OF  
CONT.

## TPH - Pungable

## TPH - Extractable (SOLVENT)

## BTEX

## MTBE

## PAH

## 3 Compounds

## 1,2-DCA and ECA

## Ethanol

## Methanol

## VOCs by GC/MS

## Sent via E2TC

## Last

## Total BTEX

## UFTS

## Total sent to Lab

## CAMI

## Total sent to Lab

## Test for Disposal

TEMPERATURE ON RECEIPT: C

16

HW-11-D

11/11/04 12:45 Air

1

X

X

X

PAH

1,2-DCA and ECA

Ethanol

Methanol

VOCs by GC/MS

Sent via E2TC

Last

Total BTEX

UFTS

Total sent to Lab

CAMI

Total sent to Lab

Test for Disposal

HW-11-E

11/11/04 8:30 Air

1

X

X

X

PAH

1,2-DCA and ECA

Ethanol

Methanol

VOCs by GC/MS

Sent via E2TC

Last

Total BTEX

UFTS

Total sent to Lab

CAMI

Total sent to Lab

Test for Disposal

HW-11-F

11/11/04 12:30 Air

1

X

X

X

PAH

1,2-DCA and ECA

Ethanol

Methanol

VOCs by GC/MS

Sent via E2TC

Last

Total BTEX

UFTS

Total sent to Lab

CAMI

Total sent to Lab

Test for Disposal

HW-2-A

11/11/04 1:30 Air

1

X

X

X

PAH

1,2-DCA and ECA

Ethanol

Methanol

VOCs by GC/MS

Sent via E2TC

Last

Total BTEX

UFTS

Total sent to Lab

CAMI

Total sent to Lab

Test for Disposal

Reinforced by: (Signature)

Reinforced by: (Signature)

Reinforced by: (Signature)

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

SAS MIKE - WORLD COURIER

Newark/Harbor 1 STL-SF

Date: 11/10/04

Time: 1:40

Date: 11/10/04

Time: 1605

Date:

Time:

DocID: 174105-9102

**Cambria Environmental Emeryville**

November 23, 2004

5900 Hollis Street, Ste. A  
Emeryville, CA 94608

Attn.: Trey Jackson

Project#: 246-0612-009

Project: 98996068

Site: 1784 150th Ave, San Leandro

Attached is our report for your samples received on 11/11/2004 14:45

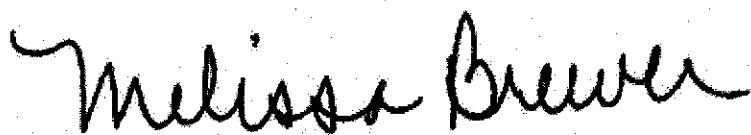
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 12/26/2004 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: [mbrewer@stl-inc.com](mailto:mbrewer@stl-inc.com)

Sincerely,



Melissa Brewer  
Project Manager

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009

98996068

Received: 11/11/2004 14:45

Site: 1784 150th Ave, San Leandro

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-2-B	11/10/2004 15:30	Air	1
MW-11-G	11/11/2004 08:30	Air	2

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/11/2004 14:45

Site: 1784 150th Ave, San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-2-B	Lab ID:	2004-11-0362 - 1
Sampled:	11/10/2004 15:30	Extracted:	11/13/2004 09:45
Matrix:	Air	QC Batch#:	2004/11/13-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	25	14	ppmv	1.00	11/13/2004 09:45	
Benzene	ND	0.31	ppmv	1.00	11/13/2004 09:45	
Toluene	ND	0.26	ppmv	1.00	11/13/2004 09:45	
Ethylbenzene	0.34	0.23	ppmv	1.00	11/13/2004 09:45	
Total xylenes	1.5	0.23	ppmv	1.00	11/13/2004 09:45	
Methyl tert-butyl ether (MTBE)	ND	0.14	ppmv	1.00	11/13/2004 09:45	
<i>Surrogate(s)</i>						
1,2-Dichloroethane-d4	98.8	76-130	%	1.00	11/13/2004 09:45	
Toluene-d8	96.6	78-115	%	1.00	11/13/2004 09:45	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/11/2004 14:45

Site: 1784 150th Ave, San Leandro

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-11-G	Lab ID:	2004-11-0362 - 2
Sampled:	11/11/2004 08:30	Extracted:	11/13/2004 10:08
Matrix:	Air	QC Batch#:	2004/11/13-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	14	ppmv	1.00	11/13/2004 10:08	
Benzene	ND	0.31	ppmv	1.00	11/13/2004 10:08	
Toluene	ND	0.26	ppmv	1.00	11/13/2004 10:08	
Ethylbenzene	ND	0.23	ppmv	1.00	11/13/2004 10:08	
Total xylenes	ND	0.23	ppmv	1.00	11/13/2004 10:08	
Methyl tert-butyl ether (MTBE)	ND	0.14	ppmv	1.00	11/13/2004 10:08	
<i>Surrogate(s)</i>						
1,2-Dichloroethane-d4	99.9	76-130	%	1.00	11/13/2004 10:08	
Toluene-d8	103.9	78-115	%	1.00	11/13/2004 10:08	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/11/2004 14:45

Site: 1784 150th Ave, San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2004/11/13-01.62

MB: 2004/11/13-01.62-018

Date Extracted: 11/13/2004 09:18

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	11/13/2004 09:18	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	11/13/2004 09:18	
Benzene	ND	0.5	ug/L	11/13/2004 09:18	
Toluene	ND	0.5	ug/L	11/13/2004 09:18	
Ethylbenzene	ND	0.5	ug/L	11/13/2004 09:18	
Total xylenes	ND	1.0	ug/L	11/13/2004 09:18	
<i>Surrogates(s)</i>					
1,2-Dichloroethane-d4	92.8	73-130	%	11/13/2004 09:18	
Toluene-d8	99.4	81-114	%	11/13/2004 09:18	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/11/2004 14:45

Site: 1784 150th Ave, San Leandro

Batch QC Report													
Prep(s): 5030B								Test(s): 8260B					
Laboratory Control Spike				Water				QC Batch # 2004/11/13-01.62					
LCS		2004/11/13-01.62-055				Extracted: 11/13/2004		Analyzed: 11/13/2004 08:55					
LCSD													
Compound	Conc.		ug/L		Exp.Conc.		Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD			LCS	LCSD	%	Rec.	RPD	LCS	LCSD		
Methyl tert-butyl ether (MTBE)	19.5			25.0	78.0			65-165	20				
Benzene	27.1			25.0	108.4			69-129	20				
Toluene	28.2			25.0	112.8			70-130	20				
<i>Surrogates(s)</i>													
1,2-Dichloroethane-d4	424			500	84.8			73-130					
Toluene-d8	503			500	100.6			81-114					

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/11/2004 14:45

Site: 1784 150th Ave, San Leandro

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Matrix Spike ( MS / MSD )

## Water

QC Batch #: 2004/11/13-01.62

MS/MSD

Lab ID: 2004-11-0120-003

MS: 2004/11/13-01.62-037

Extracted: 11/13/2004

Analyzed: 11/13/2004 11:37

MSD: 2004/11/13-01.62-014

Extracted: 11/13/2004

Dilution: 1.00

Analyzed: 11/13/2004 12:00

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	44.7	50.2	19.2	25.0	102.0	124.0	19.5	65-165	20		
Benzene	25.4	21.9	ND	25.0	101.6	87.6	14.8	69-129	20		
Toluene	28.6	26.4	ND	25.0	114.4	105.6	8.0	70-130	20		
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	489	499		500	97.7	99.8		73-130			
Toluene-d8	531	557		500	106.1	111.5		81-114			

STL-San Francisco

## **SHELL Chain Of Custody Record**

95611

1220 Quarry Lane  
Pleasanton, CA 94566

(925) 484-1919 (925) 484-1996 fax

## Shell Project Manager

Karen Petrina

INCIDENT NUMBER IS RE ONLY

9 8 9 9 5 0 6

DATE 11/10/04

PAGE 1

CH-STR-001654 Main title document, Committee to Review and Assess the

GI San Joaquin 1784 150th Remediation DPF Test NAVY/DOE ST COC NOVA/SHIST

1371家政師傅

ANSWERED BY THE CHURCH

**Cambria Environmental Emeryville**

November 24, 2004

5900 Hollis Street, Ste. A  
Emeryville, CA 94608

Attn.: Trey Jackson

Project#: 246-0612-009

Project: 98996068

Site: 1784 150th Ave., San Leandro

Attached is our report for your samples received on 11/12/2004 14:00

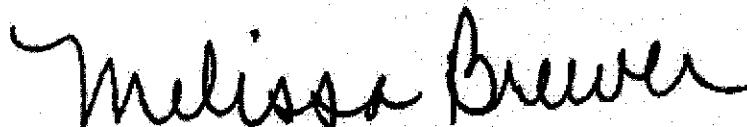
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after  
12/27/2004 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: [mbrewer@stl-inc.com](mailto:mbrewer@stl-inc.com)

Sincerely,



Melissa Brewer  
Project Manager

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/12/2004 14:00

Site: 1784 150th Ave., San Leandro

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-11-E	11/12/2004 11:30	Air	1

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/12/2004 14:00

Site: 1784 150th Ave., San Leandro

Prep(s): 5030B

Test(s): 8260B

Sample ID: MW-11-E

Lab ID: 2004-11-0421 - 1

Sampled: 11/12/2004 11:30

Extracted: 11/14/2004 11:29

Matrix: Air

QC Batch#: 2004/11/14-1E.62

Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	5100	140	ppmv	10.00	11/14/2004 11:29	
Benzene	14	3.1	ppmv	10.00	11/14/2004 11:29	
Toluene	25	2.6	ppmv	10.00	11/14/2004 11:29	
Ethylbenzene	15	2.3	ppmv	10.00	11/14/2004 11:29	
Total xylenes	63	2.3	ppmv	10.00	11/14/2004 11:29	
Methyl tert-butyl ether (MTBE)	5.7	1.4	ppmv	10.00	11/14/2004 11:29	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	101.6	76-130	%	10.00	11/14/2004 11:29	
Toluene-d8	90.6	78-115	%	10.00	11/14/2004 11:29	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/12/2004 14:00

Site: 1784 150th Ave., San Leandro

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch #: 2004/11/14-1E.62

MB: 2004/11/14-1E.62-002

Date Extracted: 11/14/2004 10:04

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	11/14/2004 10:04	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	11/14/2004 10:04	
Benzene	ND	0.5	ug/L	11/14/2004 10:04	
Toluene	ND	0.5	ug/L	11/14/2004 10:04	
Ethylbenzene	ND	0.5	ug/L	11/14/2004 10:04	
Total xylenes	ND	1.0	ug/L	11/14/2004 10:04	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	88.0	76-130	%	11/14/2004 10:04	
Toluene-d8	99.0	78-115	%	11/14/2004 10:04	

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/12/2004 14:00

Site: 1784 150th Ave., San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike****Water**

QC Batch # 2004/11/14-1E.62

LCS 2004/11/14-1E.62-001  
LCSD

Extracted: 11/14/2004

Analyzed: 11/14/2004 09:42

Compound	Conc.	ug/L	Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	22.5		25	90.0			65-165	20		
Benzene	22.5		25	90.0			69-129	20		
Toluene	26.4		25	105.6			70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	438		500	87.6			76-130			
Toluene-d8	483		500	96.6			78-115			

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/12/2004 14:00

Site: 1784 150th Ave., San Leandro

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Matrix Spike ( MS / MSD )****Water****QC Batch # 2004/11/14-1E.62**

MS/MSD

Lab ID: 2004-11-0227 - 002

MS: 2004/11/14-1E.62-036

Extracted: 11/14/2004

Analyzed: 11/14/2004 12:36

MSD: 2004/11/14-1E.62-058

Extracted: 11/14/2004

Dilution: 1.00

Analyzed: 11/14/2004 12:58

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	19.5	25.6	1.53	25	71.9	96.3	29.0	65-165	20		R1
Benzene	25.3	23.8	ND	25	101.2	95.2	6.1	69-129	20		
Toluene	26.9	26.1	ND	25	107.6	104.4	3.0	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	411	430		500	82.2	86.0		76-130			
Toluene-d8	524	513		500	104.8	102.6		78-115			

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

Cambria Environmental Emeryville

Attn.: Trey Jackson

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3341 Fax: (510) 420-9170

Project: 246-0612-009  
98996068

Received: 11/12/2004 14:00

Site: 1784 150th Ave., San Leandro

---

**Legend and Notes**

---

**Analysis Flag**

L2

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

**Result Flag**

R1

Analyte RPD was out of QC limits.

STL-San Francisco

## **SHELL Chain Of Custody Record**

956.83

1220 Quarry Lane  
Pleasanton, CA 94566  
(925) 484-1919 (925) 484-1096 fax

The logo consists of the words "Shell Project Management" in a bold, black, sans-serif font, enclosed within a thin black rectangular border.

Karen Petrina

2004-11-0421

INCIDENT NUMBER (SEE ONLY)							
9	8	9	9	6	0	6	8
SAP : CRNT NUMBER ITS CRNT							

DATE: 11/12/07

PAGE \_\_\_\_\_ of \_\_\_\_\_

Review of Modern Economics

*Mark Johnson*

Retrieved by [User]

905 Yukon

Generated by PIGS4U

• 1000 道 Java 面試題

SEARCHED BY (Signature) SAS MIKE - WORLD (purge)

Review by: [C. M. Hall](#)

*W. H. G.*

Chap. 10 • The U.S. Constitution and the Bill of Rights 301

Date: 11/20/4 Time: 1400

**Date:**

卷之三

卷之三

1400

5. *—* *—* *—* *—* *—*

1773