Denis L. Brown

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

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

Re: Shell-branded Service Station
105 Fifth Street
Oakland, California
SAP Code 135700
Incident No. 98995757
ACHCSA Case No. RO-0487

Dear Mr. Wickham:

The attached document is provided for your review and comment. 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,

Denis L. Brown
Project Manager

CAMBRIA

December 11, 2006

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

Re: **Fourth Quarter Groundwater Monitoring Report, Risk Evaluation, And Site Conceptual Model**
Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident No. 98995757
SAP Code 135700
Cambria Project No. 248-0472-007
ACHCSA Case No. RO-0487

Dear Mr. Wickham:

Cambria Environmental Technology, Inc. (Cambria) prepared this document on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to present the fourth quarter monitoring results, and to respond to the October 11, 2006 correspondence from the Alameda County Health Care Services Agency (ACHCSA). Presented below are a summary of site conditions (including the fourth quarter monitoring results), site investigation history, the risk evaluation, and the site conceptual model (SCM).

SITE BACKGROUND

Location and Current Use: The site is an active Shell Service Station located on the corner of Fifth Street and Oak Street in Oakland, California (Figure 1). Currently, the site consists of a kiosk, four underground storage tanks (USTs), and two dispenser islands (see Figure 2). The area surrounding the site is of mixed commercial and residential use.

Local Hydrogeology: According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report,* (California Regional Water Quality Control Board – San Francisco Bay Region, June 1999), the site is located within the Oakland Sub-Area of the San Francisco Basin of the East Bay Plain. The Oakland Sub-Area contains a sequence of alluvial fans. The alluvial fill is thickness ranges from 300 to 700 feet deep. There are no well-defined aquitards such as the estuarine muds. The largest and deepest wells in this Sub-Area historically pumped 1 to 2 million gallons per day at depths greater than 200 feet. Overall, sustainable yields are low due to low recharge potential. The Merritt sand in west Oakland was an important part of the early water supply for Oakland. It is shallow (up to 60 feet), and before the turn of the century, septic systems contaminated the water supply wells.

Cambria Environmental Technology, Inc.

270 Perkins Street
Sonoma, CA 95476
Tel (707) 935-4850
Fax (707) 935-6649

Throughout most of the Alameda County portion of the East Bay Plain, from Hayward north to Albany, water level contours show that the direction of groundwater flow is from east to west or from the Hayward Fault to San Francisco Bay. Groundwater flow direction generally correlates to topography. Flow direction and velocity are also influenced by buried stream channels that typically are oriented in an east-west direction.

The site elevation is approximately 15 feet above mean sea level. Primary surface water bodies in the vicinity of the site are the San Francisco Bay, which is located approximately 3.5 miles west of the site, the Oakland Inner Harbor approximately 1,750 feet south of the site, and Lake Merritt, a tidal lake, approximately 2,300 feet northeast of the site.

Groundwater Depth and Flow Direction: Since groundwater monitoring began in July 1999, static depth to groundwater has ranged from approximately 4.5 to 6.5 feet below grade (fbg). Based on quarterly groundwater monitoring data, the local groundwater gradient is generally to the southeast. The fourth quarter groundwater gauging data was used to create a groundwater contour and chemical concentration map (Figure 2) which again shows flow to the southeast. In their October 2006 letter, ACHCSA asked us to re-evaluate the flow direction omitting data from the tank backfill well (T-1) and from well MW-4. Figures 3 through 6 depict the groundwater flow direction throughout the past four sample events without using data from these two wells. The revised contour maps show groundwater flow to the south-southeast at an average hydraulic gradient of 0.0065. The Fourth Quarter Groundwater Monitoring Report, which includes the historical groundwater gauging and monitoring data, is included as Attachment A.

Soil Lithology: United States Geological Survey (USGS) publications and maps indicate that the site area is underlain by Holocene and Pleistocene Era Merritt Sand (symbol Q_{ms}) (*Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California, USGS,* R.W. Graymer, 2000). USGS describes Merritt Sand (Holocene and Pleistocene) as fine-grained, very well sorted well drained eolian deposits of western Alameda County. The Merritt Sand outcrops in three large areas in Oakland and Alameda. Previously thought to be only of Pleistocene age, the Merritt Sand is probably time-correlative with unit Q_{ds}, based on similar interfingering with Holocene bay mud (Q_{hmb}) and presumably similar depositional environments associated with long-term sea-level fluctuations. The Merritt Sand displays different morphology from unit Q_{ds}, however, forming large sheets up to 15 meters high with yardang morphology.

Based on prior investigation data, the site is underlain primarily by sand, silty sand, and clayey sand to a total explored depth of 25.5 fbg. Minor edits and corrections have been made to several boring logs, including the log of well MW-4, whose graphic representation and USCS designation near the bottom of the boring did not match the lithologic description of the material. Boring logs are presented as Attachment B.

PREVIOUS WORK

November 1996 Dispenser Soil Sampling: During November and December 1996, contractors Armer/Norman & Associates of Walnut Creek, California (Armer/Norman) removed five gasoline dispensers, two diesel dispensers, associated active piping, and inactive piping to a former diesel fuel dispenser. All dispensers and associated active piping were replaced with additional secondary containment. On November 27, 1996, Cambria collected eight soil samples (D-1 through D-8) beneath the seven dispenser locations and the inactive diesel fuel piping (Figure 2). Total petroleum hydrocarbons as gasoline (TPHg) was detected in all eight soil samples at a maximum concentration of 3,500 parts per million (ppm) in sample D-8 at 5 fbg. Total petroleum hydrocarbons as diesel (TPHd) was detected in three soil samples at a maximum concentration of 14,000 ppm in sample D-7 at 5 fbg. Benzene was detected in four soil samples at a maximum concentration of 21 ppm in sample D-1 at 5 fbg. Methyl tertiary butyl ether (MTBE) was detected in two soil samples at maximum concentrations of 26 ppm in sample D-1 at 5 fbg. Table 1 presents the soil analytical data. Detailed results are presented in Cambria's August 7, 1997 *Dispenser Soil Sampling and Stockpile Disposal Report.*

Based on the dispenser soil sampling results, Cambria filed a December 5, 1996 *Underground Storage Tank Unauthorized Release Site Report* with the Alameda County Health Care Services Agency (ACHCSA), on Shell's behalf.

February 1998 Upgrade Activities: In February 1998, contractors Paradiso Mechanical of San Leandro, California installed secondary containment around the underground storage tank (UST) turbine sumps. Since the dispensers had previously been upgraded with secondary containment, no additional dispenser upgrade activities were performed. Cambria inspected the UST pit on February 26, 1998, and did not observe any field indications of hydrocarbon impact (such as staining or odors). No soil samples were collected. This information was presented in the site summary section of Cambria's May 26, 1998 *Subsurface Investigation Workplan.*

July 1998 Subsurface Investigation: On July 23, 1998, Cambria advanced two soil borings northwest of the existing dispensers (SB-1 and SB-2) and three borings southeast of the dispensers (SB-3 through SB-5) to depths of between 11 and 12 fbg. TPHg was detected in two soil samples at a maximum concentration of 2.8 ppm in sample SB-3-5.0 at 5 fbg. TPHd was detected in soil samples from all five borings at a maximum concentration of 15 ppm in SB-3-5.0 at 5 fbg. No benzene was detected in any of the soil samples collected from borings SB-1 through SB-5. MTBE was detected in two soil samples at a maximum concentration of 0.48 ppm in SB-5-5.0 at 5 fbg.

Groundwater was first encountered at depths between 6 and 9 fbg. TPHg was detected in grab groundwater samples collected from four of the soil borings at a maximum concentration of 90,000 parts per billion (ppb) in sample SB-3. TPHd was detected in all of the grab groundwater samples at a maximum concentration of 27,000 ppb in SB-4. Benzene was detected in all of the grab groundwater samples at a maximum concentration of 1,300 ppb in SB-3. MTBE was detected in three of the grab groundwater samples at a maximum concentration of 4,100 ppb in SB-4.

Soil and grab groundwater analytical data are summarized in Tables 1 and 2, respectively. Soil boring locations are presented in Figure 2, and boring logs are included in Attachment B. Complete investigation results are presented in Cambria's November 18, 1998 *Subsurface Investigation Report.*

May 1999 Monitoring Well Installations: On May 14, 1999, Cambria installed groundwater monitoring wells MW-1, MW-2, and MW-3 to depths of between 24 and 25 fbg. Soil and groundwater samples were analyzed for TPHg, benzene, ethylbenzene, toluene, and total xylenes (BTEX), and MTBE. Groundwater was encountered at depths of between 12.5 and 15.8 fbg.

Soil samples collected from MW-1 did not contain any TPHg, BTEX, or MTBE. Soil samples collected from MW-3 contained only MTBE at a maximum concentration of 20.4 ppm, by EPA Method 8020, at 11.5 fbg (MW3-11.5'). The result of confirmation analysis by EPA Method 8260 in this sample was 8.83 ppm MTBE. TPHg was detected in only in sample MW2-5.5' at 1,700 ppm. Benzene was detected only in MW2-10.5' at 0.0369 ppm. All soil samples collected from MW-2 contained MTBE by EPA Method 8020, at a maximum concentration of 13.2 ppm in MW2-5.5'. The result of confirmation analysis by EPA Method 8260 in this sample was 21.5 ppb.

Groundwater samples collected from MW-1 were below the laboratory reporting limits for all analytes. Maximum TPHg and benzene concentrations were detected in MW-2 at 13,800 and 1,790 ppb, respectively. A maximum MTBE concentration of 324,000 ppb was detected in MW-3, by EPA Method 8260.

Soil and groundwater analytical data are presented in Tables 1 and 2, respectively. Well locations are shown on Figure 2. Boring logs and well construction details are presented in Attachment B. Site investigation results are presented in Cambria's October 7, 1999 *Monitoring Well Installation Report.*

2000-2001 Periodic Dual-phase Vacuum Extraction (DVE): Periodic DVE was performed at the site from April to October 2000 and once in March 2001. Mobile DVE is the process of applying a high vacuum through and airtight well seal to simultaneously extract soil vapors from the

vadose zone and enhance groundwater extraction (GWE) from the saturated zone. Between April 2000 and March 2001, the DVE process removed an estimated 14.59 pounds (lbs) of TPHg, 0.048 lbs of benzene, and 14.50 lbs of MTBE from monitoring wells MW-2 and MW-3. DVE events were discontinued due to limited chemical recovery. Periodic DVE aqueous and vapor phase mass removal data are presented in Tables 3 and 4, respectively.

February 2001 Offsite Investigation: On February 12, 2001, Cambria advanced three soil borings (SB-6, SB-7, and MW-4) to 25 fbg and converted MW-4 to a monitoring well. Soil and grab groundwater samples were analyzed for TPHg, BTEX, and MTBE, and grab groundwater samples were additionally analyzed for TPHd. No analytes were detected in soil samples collected from borings SB-6, SB-7 or MW-4. No TPHg, BTEX or MTBE were detected in grab groundwater samples collected from SB-6, SB-7, or MW-4. 1,400 ppb TPHd was detected in grab groundwater collected from SB-7 at approximately 10 fbg. Soil and groundwater analytical data are summarized in Tables 1 and 2, respectively. Soil boring and monitoring well locations are shown on Figure 2. Boring logs and well construction details are presented in Attachment B. Cambria's June 7, 2001 *Offsite Subsurface Investigation* report presents the results of this investigation.

March 2001 DVE Test: On March 20, 2001, Cambria performed individual short-term DVE testing on MW-2 and MW-3. Groundwater was also extracted from tank backfill well T-1, using a vacuum truck, on March 21, 2001. DVE was performed for approximately 3 hours on each well, at two different extraction rates. The total estimated groundwater-phase mass removed from MW-2, MW-3, and T-1 was 0.132 lbs TPHg, 0.001 lbs benzene, and 4.84 lbs MTBE. The total estimated vapor-phase mass removed from MW-2 and MW-3 was 3.24 lbs TPHg, 0.006 lbs benzene, and 0.476 lbs MTBE. Vacuum influence and groundwater influence were monitored, but not detected, in surrounding wells during DVE testing. The groundwater yield during DVE testing was approximately 769 gallons, which equates to an average flow rate of 2.14 gallons per minute (gpm). Based on the DVE test results, Cambria concluded that vapor-phase petroleum hydrocarbon recovery would be possible, but not cost-effective. Cambria also concluded that liquid-phase petroleum hydrocarbon recovery was feasible, and recommended semi-monthly GWE from T-1, using a vacuum truck. Groundwater and vapor extraction mass removal data are presented in Tables 5 and 6, respectively. Cambria's July 17, 2001 *Dual-phase Vacuum Extraction Test Report* documents the test procedures and results.

2001 Area Well Survey: Cambria identified two potential receptor wells through California Department of Water Resources (DWR) records. One well of unknown use is located within a 1/2-mile radius of the subject site, and one irrigation well is located just outside the 1/2-mile study area. Well number 1 is of unknown use, and is located approximately 2,400 feet north (up-gradient) of the site. Although no proposed use was indicated on the well driller's log, the well is labeled "MW-6" by the driller, and it is located next to an automobile dealership. It appears

likely that this well is used for groundwater monitoring. Well number 2 is used for irrigation, and is located approximately 3,000 feet northwest (up-gradient) of the site. Given the observed groundwater flow direction and the distance to potential receptor wells, they are highly unlikely to be impacted by the relatively minor petroleum hydrocarbon constituents remaining in soil and groundwater at the site. The well locations are shown on Figure 1, and well information is summarized in Table 7. Cambria's June 7, 2001 report entitled *Offsite Subsurface Investigation* presents the results of the well survey, including the DWR reports.

2001 Conduit Study: Cambria performed a site reconnaissance and reviewed City of Oakland engineering maps to identify utility conduits down-gradient of the site. A 12-inch diameter sanitary sewer main is located beneath Oak Street at approximately 6 fbg, and slopes to the southwest. An 8-inch diameter sanitary sewer main is located beneath Fifth Street, is sloped to the southeast, and joins the 12-inch sanitary sewer main at the intersection of Oak Street and Fifth Street. A 24-inch diameter storm drain conduit is also located beneath Oak Street, at approximately 6 fbg, and is sloped to the southwest. Since static groundwater levels at the site are shallow, permeable backfill material in sewer and storm drain trenches may be acting as preferential pathways for groundwater flow. Storm drain and sanitary sewer locations are shown on Figure 2. Cambria's June 7, 2001 report entitled *Offsite Subsurface Investigation* presents the results of the conduit study.

November 2001 – June 2006 Periodic GWE: Beginning in November 2001, Phillips Services Corporation of Benicia, California conducted semi-monthly mobile GWE events from tank backfill well T-1. Mobile GWE vacuum operations consist of lowering dedicated stingers into selected monitoring wells and extracting fluids using a vacuum truck. The volume of extracted fluid is recorded and used to calculate the quantity of aqueous-phase hydrocarbon removed from the subsurface. These events were temporarily discontinued in April 2002 in anticipation of installing a fixed GWE system, and then resumed in May 2002 using vacuum trucks provided by Onyx Industrial Services of Benicia, California. Well MW-3 was added to the extraction program in June 2003, and well MW-2 was added in July 2003. Cambria obtained an encroachment permit from the City of Oakland and began including off-site well MW-6 in the extraction program on August 21, 2003. Extraction from well MW-6 was discontinued after the October 2, 2003 event due to low groundwater production. Due to minimal remaining MTBE concentrations, well T-1 was removed from the extraction program after the September 18, 2003 event and well MW-2 was removed after the November 20, 2003 event. Based on the low MTBE concentration in MW-3 during the first quarter 2005 (180 ppb on April 15, 2005), Cambria reduced periodic GWE frequency from semi-monthly to monthly in July 2005. T-1 was added to the program again as of October 17, 2005. Periodic GWE was discontinued in June 2006, with concurrence from the ACHCSA. As of June 6, 2006, a total of 197,294 gallons of water was extracted by periodic GWE, resulting in the removal of an estimated 8.57 lbs of TPHg, 0.23 lbs of benzene, and 66.23 lbs of MTBE. Table 8 presents mass removal data from the periodic GWE events.

March 2002 Subsurface Investigation: On March 7, 2002, Cambria advanced offsite Geoprobe® borings SB-8 through SB-12, to depths ranging from 14 to 22 fbg. On March 8, 2002, Cambria installed onsite groundwater monitoring well MW-5 to a total depth of 24 fbg. Selected soil and groundwater samples were analyzed for TPHg, BTEX, and MTBE.

No analytes were detected in soil samples from offsite borings SB-8, SB-10, SB-11, or SB-12. Only TPHg and MTBE were detected in a soil sample collected from SB-9 at 7.5 fbg (SB-9-7.5), at concentrations of 5.0 and 5.4 ppm, respectively. Two soil samples from MW-5 contained TPHg; the maximum TPHg concentration of 300 ppm was detected in MW-5-5.0 from 5 fbg. Benzene was detected in sample MW-5-5.0 from 5 fbg, at a concentration of 0.039 ppm. MTBE was not detected in any other soil samples.

Grab groundwater samples were collected from all offsite soil borings. TPHg was detected in two samples at a maximum concentration of 170 ppb in SB-8. Benzene was not detected in any of the grab groundwater samples. MTBE was detected in four samples at a maximum concentration of 7,900 in the sample from SB-10.

Based on the results of this investigation, Cambria noted that upgradient definition is provided by non-detection of MTBE and benzene in groundwater at well MW-1 and soil boring SB-8, and downgradient definition is provided by non-detection of MTBE and benzene in groundwater at MW-4, SB-6, and SB-7, and significant lateral attenuation from SB-10 to SB-12. Cambria recommended installing a well (MW-6) near SB-12 to monitor potential migration to the nearest sensitive receptor. Cambria also noted that concentrations of MTBE and benzene in groundwater in MW-5 are significantly lower than in MW-2, MW-3, and T-1, indicating that the dispensers are not acting as a source of these constituents in groundwater.

Soil and groundwater analytical data are summarized in Tables 1 and 2, respectively. Soil boring and monitoring well locations are shown on Figure 2. Boring logs and well construction details are presented in Attachment B. Cambria's May 6, 2002 *Subsurface Investigation Report/Second Quarter 2002 Monitoring Report/Groundwater Extraction Evaluation Report* presents the results of this investigation and the mass transport estimate discussion.

August 2002 Well Installation: On August 1, 2002, Cambria installed groundwater monitoring well MW-6 to a depth of 24 fbg. Soil samples collected from MW-6 did not contain any TPHg, BTEX, or MTBE at concentrations above the laboratory reporting limits. Soil analytical data are presented in Table 1 and the well location is shown on Figure 2. The boring log and well construction details are presented in Attachment B. Site investigation results are presented in Miller Brooks Environmental, Inc.'s (Miller Brooks) September 16, 2002 *Well Installation Report.*

2005 Sensitive Receptor Survey Update: At Shell's request, Delta Environmental Consultants, Inc. (Delta) conducted a sensitive receptor survey in 2005. They did not identify any additional potential receptor wells within a 1/2-mile radius of the site. Delta's study area was larger, however, and they identified a drinking water well and an industrial well approximately 4,488 and 5,546 feet north of the site, respectively. Based on the distance and location relative to the site, these wells are extremely unlikely to be impacted by petroleum hydrocarbon constituents in soil and groundwater originating at the site.

1999 - Present Groundwater Monitoring: Quarterly groundwater monitoring has been conducted at the site since July 1999. Maximum historical groundwater concentrations are 13,800 ppb TPHg (well MW-2/July 23, 1999), 3,700 ppb TPHd (T-1/July 10, 2002), 1,790 ppb benzene (MW-2/July 23, 1999), 324,000 ppb MTBE by EPA Method 8260B (MW-3/July 23, 1999), and 24,000 ppb tert butyl alcohol (TBA) (MW-3/April 30, 2003). In the most recent groundwater monitoring event (October 11, 2006), maximum groundwater concentrations were 1,800 ppb TPHg in MW-2, 1,540 ppb TPHd in T-1, 13.3 ppb benzene in MW-2, and 673 ppb MTBE in MW-6, and 570 ppb TBA in MW-2. Since TBA in well MW-4 are again below the method detection limit of 10 ppb, the third quarter 2006 result of 44.8 ppb was anomalous, and in our opinion, did not represent migration of TBA from the site. The fourth quarter 2006 monitoring data is presented on Figure 2. Isoconcentration contours current concentrations of TPHd, TPHg, benzene, and MTBE are presented on Figures 7 through 10, respectively.

RISK EVALUATION

In order to evaluate potential risks to human health and the environment posed by the residual soil and groundwater impacts at the site, Cambria compared the maximum concentrations of COCs in historical soil and current groundwater samples to the Environmental Screening Levels (ESLs) published in San Francisco Bay RWQCB's *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater* (Interim Final – February 2005). The nearest receptor offsite has been identified as the marine surface water body, Oakland Inner Harbor, located approximately 1,750 feet south (downgradient) of the site, which flows into the San Francisco Bay (3.5 miles south of the site). The site is a commercial property bounded by commercial businesses immediately adjacent (southwest) and downgradient of the site, along Oak Street. The surrounding areas are a mix of commercial and residential use, and it is unlikely that the subject property use, or local land use, will change from commercial to residential use in the foreseeable future. Although groundwater in this area cannot be precluded from being a potential future source of drinking water, it is not currently a source of drinking water. Given the mostly commercial nature of the local land use, the proximity to Oakland Inner Harbor and San Francisco Bay, and the shallow groundwater depth, it is unlikely that the first water-bearing zone would be used as a source of drinking water in the foreseeable future. Further, in accordance

with the June 1999 California Regional Water Quality Control Board, San Francisco Bay Region Groundwater Committee "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report for Alameda and Contra Costa Counties, CA", the City of Oakland (among other cities) does not have plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity. Because of this, groundwater ingestion is not considered a completed exposure pathway. Thus, the ESLs for sites where groundwater is NOT a current or potential source of drinking water are used to evaluate potential risk. With the elimination of groundwater ingestion, the remaining exposure scenarios include inhalation of vapors to indoor air by commercial workers, dermal contact, ingestion of soil, and inhalation of vapors during construction work, and potential migration to surface water body receptors. Each is discussed below.

Evaluation of Risk to Onsite Commercial Workers – Indoor Air: Historical soil sample results (Table 1) indicate that most of the historic impact to soil at this site is in the vicinity of the dispenser islands. Given that the vadose zone is very thin (depth to groundwater ranges from 4.5 to 6.5 fbg), only the 5fbg soil samples are used and compared against Table B of the ESL document for shallow soils. Most of the 5fbg soil samples collected from beneath the dispensers in November 1996 exceed the Table B ESL for TPHg, and the Table E-1b ESLs for benzene, and MTBE by an order of magnitude. The concentrations directly beneath the dispensers are not uncommon at gasoline service stations and given the 10 years since sample collection, these concentrations have likely attenuated, particularly since associated groundwater concentrations show evidence of attenuation and biodegradation. Since the air-exchange from customers entering and exiting the kiosk during all business hours would not allow for significant buildup of vapors from subsurface migration, inhalation risk from vapor intrusion is considered to be very low. In addition, remaining benzene concentrations in groundwater are very low (less than 15 ppb), and MTBE and TBA do not pose vapor intrusion risk because these constituents do not readily volatilize from the aqueous phase. Because the site is an operating service station and is expected to continue to operate into the foreseeable future, additional investigation of subsurface vapor migration to onsite commercial indoor air is not recommended unless site use changes.

Evaluation of Risk to Onsite Construction Workers: Petroleum impacted soil needs to be evaluated in relation to its potential for risk to construction workers that may come into contact with the impacted soils onsite. Table A, below, presents the maximum concentrations of COCs in the vadose zone soils around the dispensers from 1996 and the applicable ESLs for protection of the occasional construction worker coming in contact with impacted soil at this site.

TABLE A

Constituents of Concern	Maximum Concentrations in Vadose Zone Soils (Sample ID)/November 1996 Units in mg/kg	ESLs for Protection of Construction Worker (Table K-3) Units in mg/kg
TPHg	3,500 (D-8)	6,000
Benzene	**21** (D-1)	16
Toluene	25 (D-8)	650
Ethylbenzene	42 (D-8)	400
Xylenes	210 (D-2)	420
MTBE	26 (D-1)	2,500
TPHd	**14,000** (D-7)	6,000

Based on the above data, only benzene and TPHd exceed the ESL's for construction worker. Since these samples were collected 10 years ago, natural attenuation has likely reduced the residual concentrations of these constituents. Further, any worker doing trenching or excavating at a gasoline station would be properly trained and prepared for encountering potentially-impacted soil, and would wear personal protective equipment, as necessary. Therefore, so long as the site remains in use as a service station, the residual impacted soils do not appear to pose a significant threat to construction workers that may occasionally come in contact with the potentially-impacted soils onsite, and any work at this site would require the use of contractors with the appropriate health and safety training to perform the work. At this time, no further investigation associated with the residual soil impact near the dispensers is proposed.

Evaluation of Risk to Offsite Receptors from Impacted Groundwater: To evaluate whether current groundwater concentrations leaving the site pose a threat to receptors, Table B, below, presents the current (October 2006) concentrations of detectable COC's in shallow groundwater at MW-6 in comparison to the ESLs presented on Table B of the SFBRWQCB ESL document where groundwater is not a current or potential source of drinking water. MW-6 was selected for evaluation because it is located downgradient of the source area, and represents concentrations leaving the site.

TABLE B

Constituents of Concern	Maximum Concentrations in Groundwater MW-6/October 2006 Units in µg/l	ESLs Where Groundwater is NOT a Current or Potential Source of Drinking Water (Table B) Units in µg/l
TPHg	**785**	500
TPHd	54.8	640
MTBE	673	1,800

Based on the data in Table B, with the exception of the TPHg results, the fourth quarter 2006 concentrations of COC's reported in downgradient well MW-6 do not exceed the ESLs for TPHd or MTBE. The concentration of TPHg only slightly exceeds its ESL, and, based on conversations with the analytical laboratory, the TPHg value includes MTBE in the calculation of the total concentration reported. Thus, the TPHg result most likely reflects primarily MTBE, which has an ESL of 1,800 µg/l. Current MTBE concentrations are well below the MTBE ESL and have shown a declining trend since early 2003. Thus, the groundwater conditions at this site do not appear to pose a threat to offsite receptors. However, the presence of the storm drain running down Oak Street is a potential preferential pathway, which may act to enhance migration of contaminants toward the Oakland Inner Harbor. Further evaluation of the threat to a marine surface water body is prudent.

Evaluation of Risk to Marine Surface Water Body from Impacted Groundwater: Although the site is located approximately 1,750 feet from the nearest surface water body, the utilities within Oak Street may provide a preferential pathway for contaminant migration. Instead of modeling migration and attenuation of the constituents, we will directly compare the site data to the applicable surface water ESLs. If the site groundwater discharged directly to the marine surface water body, Table C, below, compares the maximum concentrations from the fourth quarter 2006 sample event to the various ESLs for protection of marine habitat (Table F-2b).

TABLE C

Constituents of Concern	Maximum Concentrations in Site Groundwater October 2006 Units in µg/l	ESLs for Protection of Surface Water Bodies – Marine Habitat (Table F-2b) Units in µg/l		
		Nuisance Odors	Chronic Toxicity	Bioaccumulation
TPHg	1,800 (MW-2)	5,000	3,700	---
Benzene	13.3 (MW-2)	2,000	350	71
Toluene	<0.5 (all wells)	40	2,500	200,000
Ethylbenzene	12.6 (MW-5)	30	290	29,000
Xylenes	<0.5 (all wells)	530	100	---
MTBE	**673** (MW-6)	**180**	8,000	---
TBA	570 (MW-2)	50,000	18,000	---
TPHd	**1,540** (T-1)	2,500	**640**	---

Based on the data in Table C, if the maximum concentrations of constituents from the site wells were discharged directly into a marine surface water body, only MTBE exceeds the nuisance odor threshold and TPHd exceeds the chronic toxicity ESL. If you compare the average concentrations from the site instead of the maximum (assuming that the detection limit is the concentration for those samples reported below the detection limit) the average MTBE concentration of the seven wells is 142.5 µg/l and the average TPHd concentration of the seven site wells is 391 µg/l, both of which are below the ESLs that were exceeded by the individual maximum concentrations. In addition, considerable mixing/dilution with storm drain waters and/or marine waters would significantly reduce MTBE levels discharging below grade and into the bay.

As demonstrated by the groundwater monitoring data in Attachment A, the concentrations of MTBE in well MW-6 are rapidly decreasing by natural attenuation processes. Continued decreasing concentrations are anticipated. Although the storm drain in Oak Street may assist with the migration of MTBE toward the surface water body, a hypothetical exceedance of the nuisance odor threshold alone should not warrant further investigation or remediation, especially given the declining trends and lack of ecological risk.

The TPHd concentrations observed in well T-1 appear to fluctuate over time. However, concentrations of TPHd in well MW-6 more accurately represent the offsite concentrations near the preferential pathway. Concentrations of TPHd in MW-6 have never exceeded the chronic

toxicity ESL of 640 µg/l. Thus, further investigation or remediation of TPHd as a potential threat to marine surface water body is not proposed.

Risk Evaluation Summary: Historical shallow soil data near the dispensers indicates that there may be a potential for subsurface migration of vapors to indoor commercial air. However, these historic soil concentrations have likely attenuated over the past 10 years (demonstrated by associated declining groundwater concentrations), and so long as the site operates as a gasoline service station, further evaluation does not appear warranted. Similarly, the dispenser soil samples also indicate a potential risk to onsite commercial workers that may come in contact with the soils. As an operating service station, any commercial workers would be adequately trained for, and expect to encounter petroleum-impacted soils. Since the groundwater in the area is not currently used as drinking water source, nor will it likely be used for drinking water in the future, drinking water ESLs do not apply. Based on the risk evaluation and the discussions presented above, the current groundwater concentrations do not pose a significant risk to onsite or offsite receptors. Owing to declining trends in contaminant concentrations, particularly MTBE (the primary constituent of concern), no further investigation or remediation is proposed.

SITE CONCEPTUAL MODEL

Site Address:	105 5th Street	**Incident Number:**	98995757
City:	Oakland, CA	**Regulator:**	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
1	**Hydrocarbon Source**	
1.1	Identify/Describe Release Source and Volume (if known)	On November 27, 1996, Cambria collected soil samples from beneath the seven dispenser locations and the inactive diesel fuel piping prior to replacement. Analytical results indicated the presence of hydrocarbons. Cambria filed an *Underground Storage Tank Unauthorized Release Site Report* with the ACHCSA on December 5, 1996. The volume of the release is unknown.
1.2	Discuss Steps Taken to Stop Release	In November 1996, five gasoline dispensers, two diesel dispensers, and associated piping were removed and replaced with additional secondary containment.
2	**Site Characterization**	
2.1	Current Site Use/Status	The site is an active Shell-branded service station located at the corner of the Fifth Street and Oak Street in Oakland, California. The area surrounding the site is of mixed commercial and residential use. The service station layout consists of a kiosk, four USTs, and two dispenser islands.

Site Address:	105 5th Street	Incident Number:	98995757
City:	Oakland, CA	Regulator:	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
2.2	Soil Definition Status	TPHg, BTEX and MTBE were not detected in any soil samples from wells MW-1, MW-4, and MW-6, or from borings SB-6, SB-7, SB-8, SB-10, SB-11, and SB-12. In general TPHg and BTEX were detected near the dispensers and downgradient from them. TPHg was detected in all the dispenser soil samples, SB-3, SB-4, MW-5, MW-2, and SB-9, at a maximum concentration of 3,500 ppm in D-8. Benzene was detected in D-D-1, D-2, D-5, D-8, MW-5, and MW-2, at a maximum concentration of 21 ppm in D-1. MTBE was generally detected around the center and southern dispensers, and south to southeast of them (D-1, D-3, SB-4, SB-5, MW-2, MW-3, and SB-9), at a maximum concentration of 26 ppm by EPA Method 8020, in D-1. TPHg, benzene, and MTBE are generally defined vertically and laterally in soil beneath the site.
2.3	Separate-Phase Hydrocarbon Definition Status	No SPH has been reported at the site.
2.4	Groundwater Definition Status (BTEX)	BTEX are defined by non-detection of contaminants in groundwater in the upgradient direction by well MW-1, and in the downgradient direction by well MW-4. BTEX are defined cross-gradient to the south by non-detection in MW-3 and MW-6 (see benzene isoconcentration contour map – Figure 9). As discussed in the risk evaluation and depicted by Figures 7 and 8, TPHd and TPHg are delineated to the extent necessary to determine risk to receptors. Vertical delineation of petroleum hydrocarbons beyond what has been performed to date is not warranted because gasoline constituents do not sink within an aquifer without being drawn down, and no nearby extraction wells have been identified in the area.
2.5	BTEX Plume Stability and Concentration Trends	The BTEX plume is shrinking. BTEX concentrations in wells MW-2, MW-5 and T-1 exhibit decreasing trends over time; the remaining wells either do not contain BTEX, or contain BTEX at levels below the typically elevated reporting limits for these constituents.

Site Address:	105 5th Street	Incident Number:	98995757
City:	Oakland, CA	Regulator:	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
2.6	Groundwater Definition Status (MTBE)	MTBE is defined by non-detection of contaminants in groundwater in the upgradient direction by well MW-1, and in the downgradient direction by well MW-4. MTBE is present in onsite wells MW-2, MW-3, MW-5, and T-1, and in offsite well MW-6. Therefore, MTBE in groundwater is not defined to method detection limits. However, as discussed in the risk evaluation text, it appears that MTBE in the shallow groundwater is delineated to the extent necessary to determine risk to applicable receptors. An isoconcentration contour map for MTBE is presented as Figure 10, for reference. Vertical delineation of MTBE beyond what has already been conducted is not deemed necessary because there are no known or potential receptors for the deeper groundwater in this area, and attenuation is occurring, as discussed below.
2.7	MTBE Plume Stability and Concentration Trends	MTBE concentrations in wells MW-2, MW-3, MW-5, MW-6, and T-1 exhibit decreasing trends. The current maximum MTBE concentration is 673 ppb in well MW-6, offsite. Cambria asserts that the MTBE plume is shrinking, and that the microbial activity in well MW-3 has significantly increased the rate of degradation at that location such that concentrations in well MW-3 are now less than MW-6. The 4Q06 concentration for MW-3 is 269 ppb compared to a maximum of 324,000 ppb, historically, in this well. The microbial degradation of MTBE is demonstrated not only by the declining concentration trends, but also by the observed increase and then decreasing concentrations of TBA, which is a result of biodegradation of MTBE. Once the MTBE is depleted, the TBA will rapidly degrade. The County asked that the TBA detected in well MW-4 during the second quarter 2006 sample event be discussed. Because TBA was not present in that location previously, and the third quarter sample event again showed that well to be below detection limit for TBA, and also because MTBE from the site has never been detected at that location, Cambria asserts that the TBA in MW-4 in July 2006 represents an anomalous result and does not represent migration of site contaminants to MW-4. Because the groundwater in this area is not in use and there are no plans to use groundwater for municipal purposes, and because of the declining concentrations, additional vertical assessment does not appear to be necessary.

Site Address:	105 5th Street	Incident Number:	98995757
City:	Oakland, CA	Regulator:	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
2.8	Groundwater Flow Direction, Depth Trends and Gradient Trends	Groundwater depths have historically ranged between approximately 4.5 and 6.5 fbg. Groundwater flow direction using all site wells is observed to be to the southeast with a gradient of approximately 0.01 to 0.02 feet/foot. Based on the re-evaluation of groundwater flow without using data from wells T-1 and MW-4, the flow direction is basically to the south and the gradient is less steep at approximately 0.0065 feet/foot.
2.9a	Regional Geology	According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report,* (California Regional Water Quality Control Board – San Francisco Bay Region, June 1999), the site is located within the Oakland Sub-Area of the San Francisco Basin of the East Bay Plain. The Oakland Sub-Area contains a sequence of alluvial fans. The alluvial fill is thickness ranges from 300 to 700 feet deep. There are no well-defined aquitards such as the estuarine muds. The largest and deepest wells in this Sub-Area historically pumped 1 to 2 million gallons per day at depths greater than 200 feet. Overall, sustainable yields are low due to low recharge potential. The Merritt sand in west Oakland was an important part of the early water supply for Oakland. It is shallow (up to 60 feet), and before the turn of the century, septic systems contaminated the water supply wells. Throughout most of the Alameda County portion of the East Bay Plain, from Hayward north to Albany, water level contours show that the direction of groundwater flow is from east to west or from the Hayward Fault to San Francisco Bay. Groundwater flow direction generally correlates to topography. Flow direction and velocity are also influenced by buried stream channels that typically are oriented in an east-west direction.
2.9b	Topography	The site elevation is approximately 15 feet above mean sea level. The site vicinity is relatively flat, but local topography slopes toward the San Francisco Bay.

Site Address:	105 5th Street	Incident Number:	98995757
City:	Oakland, CA	Regulator:	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
2.9c	Stratigraphy and Hydrogeology	United States Geological Survey (USGS) publications and maps indicate that the site area is underlain by Holocene and Pleistocene era Merritt Sand (symbol Q_{ms}) (*Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California, USGS,* R.W. Graymer, 2000). USGS describes Merritt sand (Holocene and Pleistocene) as fine-grained, very well sorted well drained eolian deposits of western Alameda County. The Merritt sand outcrops in three large areas in Oakland and Alameda. Previously thought to be only of Pleistocene age, the Merritt sand is probably time-correlative with unit Q_{ds}, based on similar interfingering with Holocene bay mud (Q_{hmb}) and presumably similar depositional environments associated with long-term sea-level fluctuations. The Merritt sand displays different morphology from unit Q_{ds}, however, forming large sheets up to 15 meters high with yardang morphology. Based on prior investigation data, the site is underlain primarily by sand, silty sand, and clayey sand to a total explored depth of 25.5 fbg.
2.10	Preferential Pathways Analysis	In 2001, Cambria performed a site reconnaissance and reviewed City of Oakland engineering maps to identify utility conduits downgradient of the site. A 12-inch diameter sanitary sewer main is located beneath Oak Street at approximately 6 fbg, and slopes to the southwest. An 8-inch diameter sanitary sewer main is located beneath Fifth Street, is sloped to the southeast, and joins the 12-inch sanitary sewer main at the intersection of Oak Street and Fifth Street. A 24-inch diameter storm drain conduit is also located beneath Oak Street, at approximately 6 fbg, and is sloped to the southwest. Since static groundwater levels at the site are shallow, permeable backfill material in sewer and storm drain trenches could potentially be acting as a preferential pathway for groundwater flow.
2.11	Other Pertinent Issues	None.
3	**Remediation Status**	
3.1	Remedial Actions Taken	Mobile DVE was performed at the site from April 2000 to October 2000 and once in March 2001. DVE was discontinued due to limited chemical recovery.

Site Address:	105 5th Street	Incident Number:	98995757
City:	Oakland, CA	Regulator:	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
		Cambria performed a DVE test on wells MW-2 and MW-3 on March 20, 2001. In addition, groundwater was extracted from T-1 on March 21, 2001. Periodic GWE was initiated from tank backfill well T-1 beginning in November 2001 and was suspended in April 2002 due to anticipated permanent GWE system construction. Periodic GWE events resumed in June 2002 when system construction was put on hold. Various combinations of wells T-1, MW-2, MW-3 and MW-6 were targeted between June 2002 to June 2006 when discontinued due to low recovery and effectiveness.
3.2	Area Remediated	Remedial effort has primarily focused on MW-2, MW-3, and T-1. Periodic GWE from MW-6 was conducted briefly, but was discontinued due to low groundwater recovery from the well.
3.3	Remediation Effectiveness	As a combined result of the remedial actions described above, through June 2006, more than 20 lbs TPHg, 0.28 lbs benzene, and 80.0 lbs MTBE were removed from soil and groundwater at the site. Periodic extraction from source area wells effectively reduced sour area concentrations, which limited the migration of MTBE offsite, as evidenced by the much lower concentrations of MTBE in offsite, downgradient well MW-6. Well MW-6 shows a historical maximum concentration of only 5,900 ppb in April 2003, with declining concentrations observed ever since. The active remedial efforts at this were adequate to allow natural attenuation processes to take over and continue to reduce concentrations without active remediation.

4	Well and Sensitive Receptor Survey	
4.1	Designated Beneficial Water Use	The SFBRWQCB basin plan denotes existing beneficial uses of municipal and domestic supply (MUN), industrial process supply (PROC), industrial service supply (IND), and agricultural supply (AGR) for the East Bay Plain groundwater basin. However, based on the *Final Report, June 1999 East Bay Plain Groundwater Basin Beneficial Use Evaluation Report* by the California Regional Water Quality Control Board San Francisco Bay Region Groundwater Committee, the city of Oakland does not have "any plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity."
4.2	Shallow Groundwater Use	No shallow production wells have been identified within a ½-mile radius of the site.
4.3	Deep Groundwater Use	Deep groundwater use in the site vicinity is unknown. An irrigation well was identified approximately 3,000 feet northwest of the site, but the location and status of this well has not been verified.
4.4	Well Survey Results	Cambria conducted a well survey in 2001 at the request of Shell. Review of the California DWR well logs identified a well of unknown use (but believed to be a groundwater monitoring well) approximately 2,400 feet north (upgradient) of the site, and an irrigation well approximately 3,000 feet northwest (upgradient) of the site. The status and use of the irrigation well is unknown. No public water supply wells were identified within a ½-mile radius of the site. Delta's 2005 sensitive receptor survey did not identify any other potential receptor wells within a ½-mile radius of the site.
4.5	Likelihood of Impact to Wells	Due to both distance and location, it is unlikely that chemicals originating from the site will affect any identified wells.
4.6	Likelihood of Impact to Surface Water	The nearest surface water body is the Oakland Inner Harbor, located approximately 1,750 feet southwest of the site. Lake Merritt is located approximately 2,300 feet northeast of the site, and there is a natural drainage (Lake Merritt Channel) from Lake Merritt to the Oakland Inner Harbor. Impact to Lake Merritt is unlikely due to the distance and direction from the site (2,300 feet cross gradient). Impact to the Lake Merritt Channel is unlikely since all petroleum constituents are defined in the direction of the channel by MW-4. Impact to the Oakland Inner Harbor is unlikely due to the concentrations detected in groundwater beneath Oak Street the distance from the site (1,750 feet). A risk-based

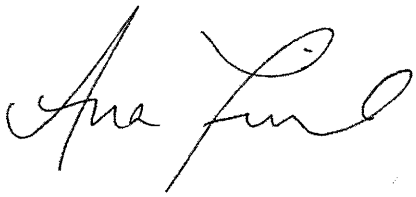
		evaluation of the potential for impact to the Oakland Inner Harbor is discussed in the Risk Evaluation text of this document. This discussion demonstrated that the actual threat to the marine surface water body (Oakland Inner Harbor) is minimal. Future impact to that receptor is even less likely since significant attenuation of MTBE concentrations is occurring.
5	**Risk Assessment**	
5.1	Site Conceptual Exposure Model (current and future uses)	The site is currently an active gasoline service station surrounded by mixed commercial and residential property. The nearest residences are located approximately 200 feet southwest of the station above a commercial business. The site land use is not expected to change from commercial to residential.
5.2	Exposure Pathways	The completed potential exposure pathways for this site include (1) exposure to surface and subsurface soils by construction workers near the dispensers or sewer piping, (2) inhalation of COCs volatilized to indoor air from impacted soil or groundwater on site by the commercial occupants of the site, and (3) lateral migration of impacted shallow groundwater to surface water.
5.3	Risk Assessment Status	An evaluation of risk was performed using historical soil and current groundwater data for the site in comparison to Environmental Screening Levels published by the SFBRWQCB (February 2005). The results showed potential indoor air risks from migration of vapors from shallow soils based on historical soil data from beneath the dispenser islands and potential risks to onsite construction workers based on contact with soil near the dispensers (historical soil data). The current groundwater concentrations do not exceed any of the ESLs presented for sites where groundwater is not a current or potential future source of drinking water. Preferential migration of constituents along the utilities within Oak Street were further evaluated. The risk evaluation concluded that the groundwater conditions are not a likely threat to downgradient surface water bodies, based on declining trends and likely attenuation with distance.
5.4	Identified Human Exceedances	Historical soil concentrations beneath the dispensers suggest a potential threat to onsite commercial workers based on migration of volatile constituents; however, given the air exchange in the kiosk, impact from subsurface vapors is unlikely. Also, any construction workers doing construction at an active gas station is required to be properly trained to encounter impacted soils, thus, no human exceedances were identified.
5.5	Identified Ecological Exceedances	Cambria evaluated the risk of direct discharge of current site groundwater to a marine surface water body in order to address the potential preferential migration of contaminants along utility pathways to the Oakland Inner Harbor. A

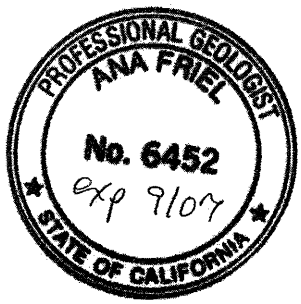
		comparison of current maximum concentrations at the site with the surface water ESLs showed only minor exceedances for TPHd and MTBE. Given the current attenuation of MTBE and distance to the surface water body, MTBE is unlikely to actually reach the surface water body at concentrations above the ESLs and given the concentrations of TPHd in MW-6 (the most downgradient well located adjacent to the utility pathway), TPHd in the street is already below the applicable surface water body ESL. Thus, no ecological exceedances were identified.
6	**Additional Recommended Data or Tasks**	
6.1	Continue monitoring for a complete hydrologic cycle after periodic GWE was discontinued to monitor for potential "rebound" concentrations. If groundwater concentrations continue to decline, the site should be considered for Case Closure.	

CLOSING

If you have any questions regarding the contents of this document, please call Ana Friel at (707) 268-3812.

Sincerely,
Cambria Environmental Technology, Inc.





Ana Friel, PG
Associate Geologist

Figures:
1 - Vicinity Map
2 - Groundwater Contour and Chemical Concentration Map – October 11, 2006
3 - Groundwater Elevation Contour Map – 1Q06 Revised
4 - Groundwater Elevation Contour Map – 2Q06 Revised
5 - Groundwater Elevation Contour Map – 3Q06 Revised
6 - Groundwater Elevation Contour Map – 4Q06 Revised
7 - TPHd Isoconcentration Contour Map – October 2006
8 - TPHg Isoconcentration Contour Map – October 2006
9 - Benzene Isoconcentration Contour Map – October 2006
10 - MTBE Isoconcentration Contour Map – October 2006

Tables:
1 - Historical Soil Analytical Data
2 - Historical Groundwater Analytical Data
3 - Periodic DVE - Aqueous-phase Mass Removal Data
4 - Periodic DVE - Vapor-phase Mass Removal Data
5 - Groundwater Extraction - Mass Removal Data
6 - Vapor Extraction - Mass Removal Data
7 - Well Survey Results
8 - Periodic Groundwater Extraction - Mass Removal Data

Attachments:
A - Blaine Tech Groundwater Monitoring Report – Fourth Quarter 2006
B - Boring Logs

cc: Denis Brown, Shell Oil Products US, 20945 S. Wilmington Ave., Carson, CA 90810
Arthur R. and Mary A. Hansen, Trs., et al, 820 Loyola Drive, Los Altos, CA 94024

K:\Oakland 105 Fifth\Reports\2006 Dec 4Q06, RBCA & SCM\signature page 105 RBCA & SCM Dec 2006 RPT.doc

07/06/06

G:\OAKLAND 105 5TH\FIGURES\VIC-WELL-SURVEY.AI

FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

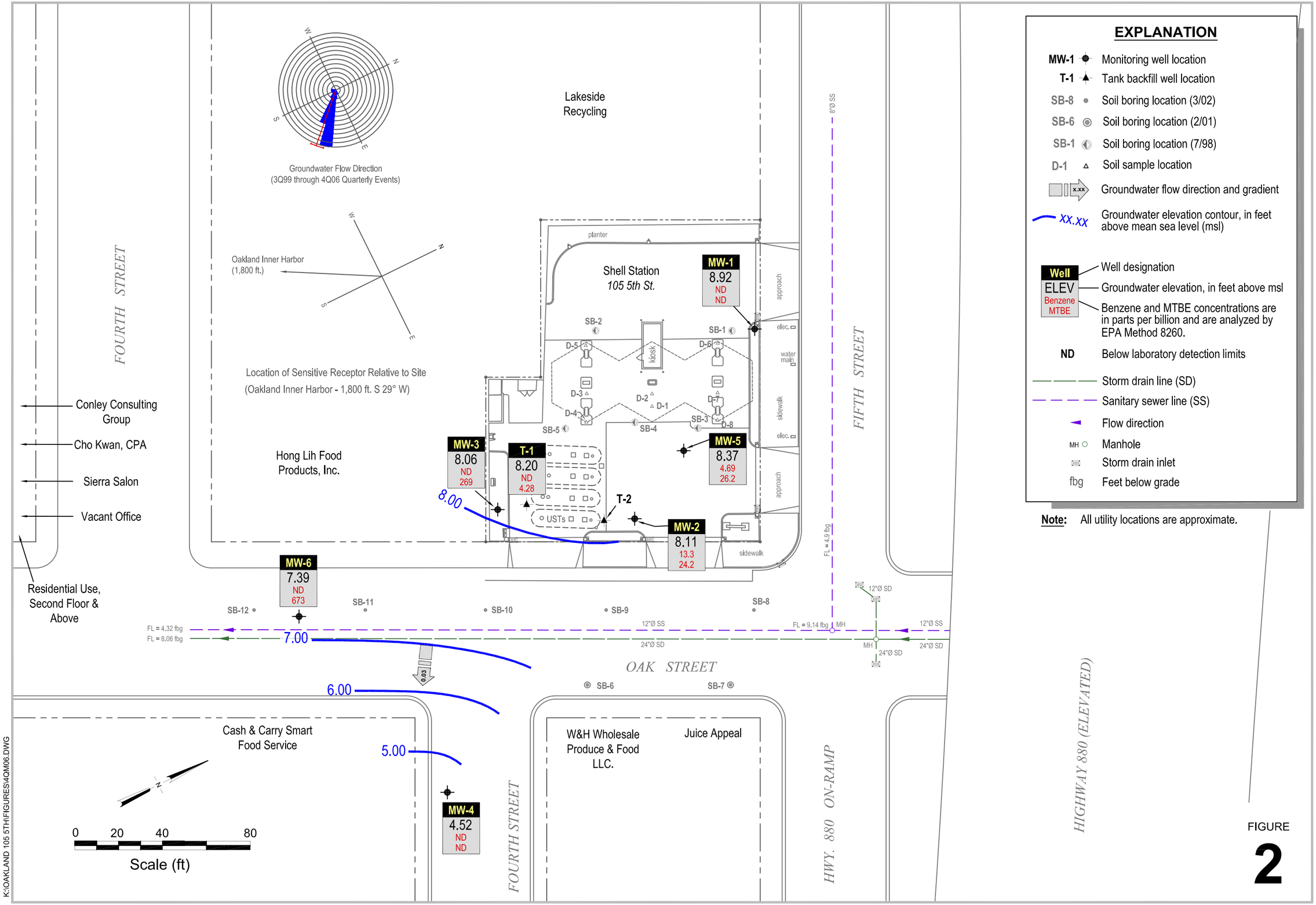
Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident No.98995757

CAMBRIA

Vicinity Map

(1/2 Mile Radius)

11/21/06



EXPLANATION

- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-8 — Soil boring location (3/02)
- SB-6 — Soil boring location (2/01)
- SB-1 — Soil boring location (7/98)
- D-1 — Soil sample location
- Groundwater flow direction and gradient
- xx.xx — Groundwater elevation contour, in feet above mean sea level (msl)

Well
ELEV
Benzene
MTBE

- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.
- ND — Below laboratory detection limits
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade

Note: All utility locations are approximate.

Groundwater Contour and Chemical Concentration Map

October 11, 2006

CAMBRIA

Shell-branded Service Station

105 Fifth Street
Oakland, California

FIGURE
2

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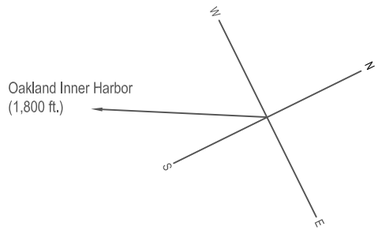
12/01/06



Oakland Inner Harbor
(1,800 ft.)

Location of Sensitive Receptor Relative to Site
(Oakland Inner Harbor - 1,800 ft. S 29° W)

FOURTH STREET

FIFTH STREET

8"Ø SS

planter

Shell Station
105 5th Street

MW-1
9.33
<0.500
<0.500

SB-2 SB-1 D-5 D-6 kiosk D-3 D-2 D-1 D-7 D-4 D-8 SB-3 SB-4 SB-5

9.00

0.007

T-1*
8.40
<0.500
18.5

8.50

MW-5
8.68
0.840
45.2

T-2

MW-3
8.33
<0.500
2,150

8.00

MW-2
8.42
18.9
47.7

sidewalk

FL = 4.9 fbg

approach

elec.

water main

sidewalk

elec.

approach

MW-6
7.64
<0.500
1,270

SB-12 SB-11 SB-10 SB-9 SB-8

12"Ø SD

FL = 4.32 fbg
FL = 8.06 fbg

12"Ø SS
24"Ø SD

FL = 9.14 fbg MH

MH

12"Ø SS
24"Ø SD
24"Ø SD

OAK STREET

SB-6 SB-7

MW-4*
7.37
<0.500
<0.500

FOURTH STREET

HWY. 880 ON-RAMP

HIGHWAY 880 (ELEVATED)

0 20 40 80
Scale (ft)

EXPLANATION

- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-1 — Soil boring location (7/98)
- SB-6 — Soil boring location (2/01)
- SB-8 — Soil boring location (3/02)
- D-1 — Soil sample location
- Groundwater flow direction and gradient
- xx.xx — Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred
- Well / ELEV / Benzene / MTBE — Well designation; Groundwater elevation, in feet above msl; Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade
- * — Not used in contouring

Note: All utility locations are approximate.

Groundwater Elevation Contour Map - 1Q06 Revised

January 24, 2006

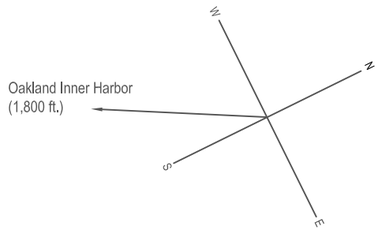
CAMBRIA

Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident No.98995757

FIGURE
3

K:\OAKLAND 105 5TH\FIGURES\1QM06 recontour.DWG

12/01/06



Oakland Inner Harbor
(1,800 ft.)

Location of Sensitive Receptor Relative to Site
(Oakland Inner Harbor - 1,800 ft. S 29° W)

FOURTH STREET

FIFTH STREET

8"Ø SS

Shell Station
105 5th St.

planter

approach

elec.

water main

sidewalk

kiosk

SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11 SB-12

D-1 D-2 D-3 D-5 D-6 D-7 D-8

USTs

sidewalk

MW-1
9.79
<0.500
<0.500

MW-2
8.85
23.5
61.0

MW-3
8.76
<0.500
1,720

MW-4*
6.17
<0.500
<0.500

MW-5
9.15
3.00
45.8

MW-6
7.98
<0.500
1,300

T-1*
8.74
<0.500
5.29

T-2

9.50

9.00

8.50

0.007

FL = 4.9 fbg

FL = 4.32 fbg

FL = 8.06 fbg

FL = 9.14 fbg

12"Ø SD

12"Ø SS

24"Ø SD

MH

OAK STREET

FOURTH STREET

HWY. 880 ON-RAMP

HIGHWAY 880 (ELEVATED)

N

0 20 40 80

Scale (ft)

EXPLANATION

- **MW-1** — Monitoring well location
- **T-1** — Tank backfill well location
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- **SB-6** — Soil boring location (2/01)
- **SB-1** — Soil boring location (7/98)
- **D-1** — Soil sample location
- Groundwater flow direction and gradient (x.xx)
- xx.xx — Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred
- Well / ELEV / Benzene / MTBE — Well designation; Groundwater elevation, in feet above msl; Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade
- * — Not used in contouring

Note: All utility locations are approximate.

Groundwater Elevation Contour Map - 2Q06 Revised

April 14, 2006

CAMBRIA

Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident No.98995757

FIGURE
4

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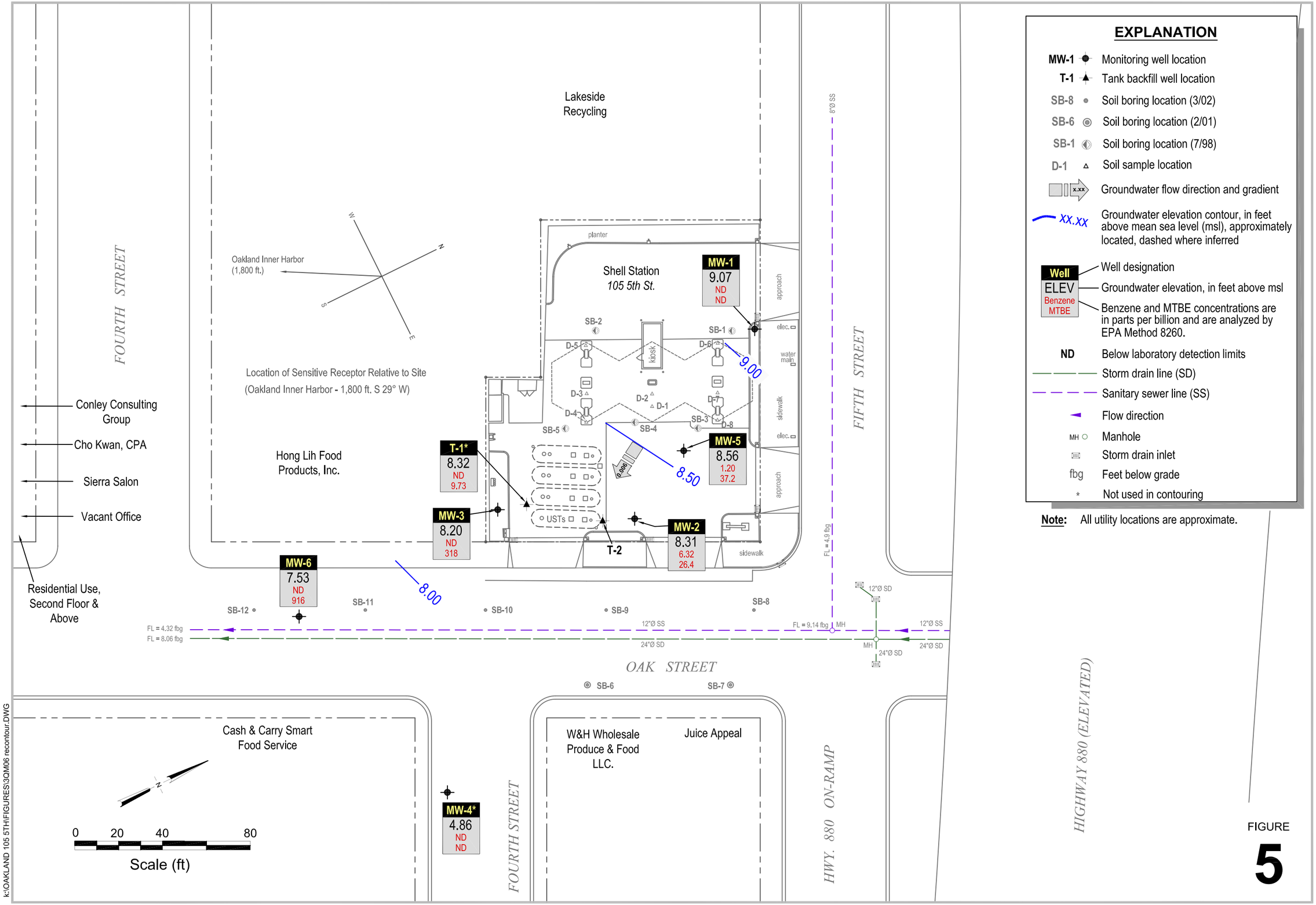
12/01/06

Groundwater Elevation Contour Map - 3Q06 Revised

July 25, 2006



EXPLANATION

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- ND — Below laboratory detection limits
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade
- * — Not used in contouring

Note: All utility locations are approximate.

CAMBRIA

Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident No.98995757

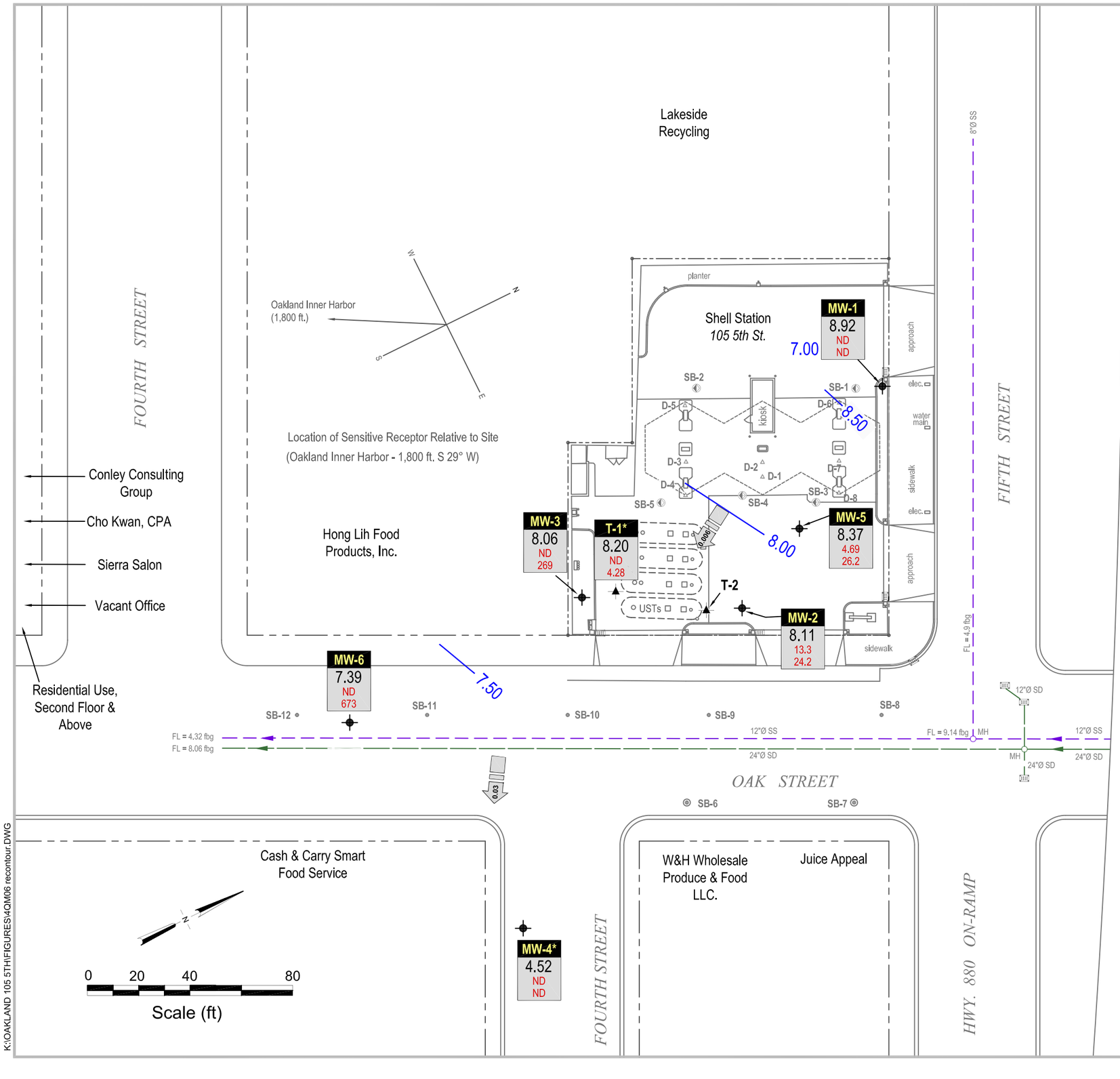
FIGURE
5

k:\OAKLAND 105 5TH\FIGURES\3QM06 recontour.DWG

11/22/06

Groundwater Elevation Contour Map - 4Q06 Revised

October 11, 2006



EXPLANATION

- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-8 — Soil boring location (3/02)
- SB-6 — Soil boring location (2/01)
- SB-1 — Soil boring location (7/98)
- D-1 — Soil sample location
- x.xx — Groundwater flow direction and gradient
- xx.xx — Groundwater elevation contour, in feet above mean sea level (msl)

Well
ELEV
Benzene
MTBE

- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.
- ND — Below laboratory detection limits
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade
- * — Not used in contouring

Note: All utility locations are approximate.

FIGURE

6

Shell-branded Service Station

105 Fifth Street

Oakland, California

CAMBRIA

K:\OAKLAND 105 5TH\FIGURES\4QM06 recontour.DWG

11/21/06

TPHd Isoconcentration Contour Map

October 11, 2006

EXPLANATION

- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-8 — Soil boring location (3/02)
- SB-6 — Soil boring location (2/01)
- SB-1 — Soil boring location (7/98)
- D-1 — Soil sample location
- TPHd isoconcentration contour
- MW-5 / 172 — Well designation; TPHd concentrations are in parts per billion and are analyzed by EPA Method 8260.
- ND — Below laboratory detection limits
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade

Note: All utility locations are approximate.

FIGURE **7**

Shell-branded Service Station
105 Fifth Street
Oakland, California

CAMBRIA

K:\OAKLAND 105 5TH\FIGURES\TPHd Iso 10_06.DWG

Scale (ft): 0, 20, 40, 80

Lakeside Recycling

Shell Station
105 5th St.

MW-1 <50

Oakland Inner Harbor (1,800 ft.)

Location of Sensitive Receptor Relative to Site
(Oakland Inner Harbor - 1,800 ft. S 29° W)

Hong Lih Food Products, Inc.

T-1 1,540

MW-2 585

MW-3 620

T-2

USTs

MW-4 218

MW-6 54.8

SB-1, SB-2, SB-3, SB-4, SB-6, SB-7, SB-8, SB-9, SB-10, SB-11, SB-12

D-1, D-2, D-3, D-5, D-6, D-7, D-8

500

50

FL = 4.32 fbg
FL = 8.06 fbg
FL = 9.14 fbg
FL = 4.9 fbg

12"Ø SS
24"Ø SD
12"Ø SD
MH

planter
approach
elec.
water main
sidewalk
trash
sidewalk

FOURTH STREET
FIFTH STREET
OAK STREET
HWY. 880 ON-RAMP
HIGHWAY 880 (ELEVATED)

Conley Consulting Group
Cho Kwan, CPA
Sierra Salon
Vacant Office
Residential Use, Second Floor & Above

Cash & Carry Smart Food Service
W&H Wholesale Produce & Food LLC.
Juice Appeal

11/21/06

TPHg Isoconcentration Contour Map

October 11, 2006

EXPLANATION

- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-8 — Soil boring location (3/02)
- SB-6 — Soil boring location (2/01)
- SB-1 — Soil boring location (7/98)
- D-1 — Soil sample location
- TPHg isoconcentration contour
- MW-5 / 146 — Well designation; TPHg concentrations are in parts per billion and are analyzed by EPA Method 8260.
- ND — Below laboratory detection limits
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade

Note: All utility locations are approximate.

Lakeside Recycling

Oakland Inner Harbor (1,800 ft.)

Location of Sensitive Receptor Relative to Site (Oakland Inner Harbor - 1,800 ft. S 29° W)

Shell Station
105 5th St.

MW-1 <50

MW-5 146

T-1 <50

T-2

MW-2 1,800

MW-3 485

MW-4 <50

MW-6 785

SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11 SB-12

D-1 D-2 D-3 D-4 D-5 D-6 D-7

planter, kiosk, USTs, approach, elec., water main, sidewalk

FOURTH STREET

FIFTH STREET

OAK STREET

HWY. 880 ON-RAMP

HIGHWAY 880 (ELEVATED)

8"Ø SS

FL = 4.9 fbg

FL = 4.32 fbg

FL = 8.06 fbg

FL = 9.14 fbg

12"Ø SS

24"Ø SD

MH

500

50

Conley Consulting Group

Cho Kwan, CPA

Sierra Salon

Vacant Office

Residential Use, Second Floor & Above

Cash & Carry Smart Food Service

W&H Wholesale Produce & Food LLC.

Juice Appeal

0 20 40 80

Scale (ft)

FIGURE

8

Shell-branded Service Station

105 Fifth Street

Oakland, California

CAMBRIA

K:\OAKLAND 105 5TH\FIGURES\TPHg Iso 10_06.DWG

11/21/06

Benzene Isoconcentration Contour Map

October 11, 2006

Lakeside Recycling

FOURTH STREET

FIFTH STREET

8"Ø SS

Oakland Inner Harbor (1,800 ft.)

Location of Sensitive Receptor Relative to Site
(Oakland Inner Harbor - 1,800 ft. S 29° W)

Conley Consulting Group

Cho Kwan, CPA

Sierra Salon

Vacant Office

Residential Use, Second Floor & Above

Hong Lih Food Products, Inc.

Shell Station
105 5th St.

planter

approach

elec.

water main

sidewalk

kiosk

SB-1 SB-2 SB-3 SB-4 SB-5 SB-8 SB-9 SB-10 SB-11 SB-12

D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8

MW-1 <0.5

MW-2 13.3

MW-3 <0.5

MW-4 <0.50

MW-5 4.69

MW-6 <0.5

T-1 <0.5

T-2

USTs

sidewalk

FL = 4.9 fbg

FL = 4.32 fbg

FL = 8.06 fbg

FL = 9.14 fbg

12"Ø SD

12"Ø SS

24"Ø SD

MH

OAK STREET

SB-6 SB-7

Cash & Carry Smart Food Service

W&H Wholesale Produce & Food LLC.

Juice Appeal

FOURTH STREET

HWY. 880 ON-RAMP

HIGHWAY 880 (ELEVATED)

0 20 40 80

Scale (ft)

EXPLANATION

- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-8 — Soil boring location (3/02)
- SB-6 — Soil boring location (2/01)
- SB-1 — Soil boring location (7/98)
- D-1 — Soil sample location
- Benzene isoconcentration contour
- MW-5 / 4.69 — Well designation
- Benzene concentrations are in parts per billion and are analyzed by EPA Method 8260.
- ND — Below laboratory detection limits
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade

Note: All utility locations are approximate.

FIGURE

9

Shell-branded Service Station
105 Fifth Street
Oakland, California

CAMBRIA

K:\OAKLAND 105 5TH\FIGURES\Benzene Iso 10_06.DWG

11/21/06

MTBE Isoconcentration Contour Map

October 11, 2006

Lakeside Recycling

FOURTH STREET

FIFTH STREET

8"Ø SS

Oakland Inner Harbor (1,800 ft.)

Location of Sensitive Receptor Relative to Site
(Oakland Inner Harbor - 1,800 ft. S 29° W)

Conley Consulting Group

Cho Kwan, CPA

Sierra Salon

Vacant Office

Residential Use, Second Floor & Above

Hong Lih Food Products, Inc.

Shell Station
105 5th St.

planter

approach

elec.

water main

sidewalk

kiosk

USTs

MW-1 <0.5

MW-2 24.2

MW-3 269

MW-4 <0.5

MW-5 26.2

MW-6 673

T-1 4.28

T-2

SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11 SB-12

D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8

5 50 500

FL = 4.9 fbg

FL = 4.32 fbg

FL = 8.06 fbg

FL = 9.14 fbg

12"Ø SS

24"Ø SD

12"Ø SD

MH

OAK STREET

Cash & Carry Smart Food Service

W&H Wholesale Produce & Food LLC.

Juice Appeal

HWY. 880 ON-RAMP

HIGHWAY 880 (ELEVATED)

0 20 40 80

Scale (ft)

EXPLANATION

- MW-1 — Monitoring well location
- T-1 — Tank backfill well location
- SB-8 — Soil boring location (3/02)
- SB-6 — Soil boring location (2/01)
- SB-1 — Soil boring location (7/98)
- D-1 — Soil sample location
- MTBE isoconcentration contour
- MW-5 / 26.2 — Well designation; MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.
- ND — Below laboratory detection limits
- Storm drain line (SD)
- Sanitary sewer line (SS)
- Flow direction
- MH — Manhole
- Storm drain inlet
- fbg — Feet below grade

Note: All utility locations are approximate.

FIGURE **10**

Shell-branded Service Station
105 Fifth Street
Oakland, California

CAMBRIA

K:\OAKLAND 105 5TH\FIGURES\MTBE Iso 10_06.DWG

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Sample ID	Depth (fbg)	Date Sampled	TPHg (ppm)	TPHd (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	MTBE (ppm)
1996 Dispenser Soil Sampling									
D-1	5	11/27/1996	**2,500**	**1,400**	**21**	**6.7**	**33**	**49**	**(26)**
D-2	5	11/27/1996	**3,200**	---	**6.4**	**22**	**36**	**210**	(<19)
D-3	5	11/27/1996	**23**	**11**	<0.025	**0.064**	**0.15**	**1.6**	**(0.30)**
D-4	5	11/27/1996	**1,900**	---	<2.5	**3.6**	**12**	**85**	(<12)
D-5	5	11/27/1996	**1.0**	---	**0.0064**	<0.0050	<0.0050	<0.0050	(<0.025)
D-6	5	11/27/1996	**1,900**	---	<1.0	**1.6**	**8.7**	**75**	(<5.0)
D-7	5	11/27/1996	**1,600**	**14,000**	<2.5	**11**	**21**	**65**	(<12)
D-8	5	11/27/1996	**3,500**	---	**5.4**	**25**	**42**	**180**	(<19)
1998 Soil Borings									
SB-1-5.0	5	7/23/1998	<1.0	**1.3**	<0.0050	<0.0050	<0.0050	<0.0050	(<0.025)
SB-2-5.0	5	7/23/1998	<1.0	**1.1**	<0.0050	<0.0050	<0.0050	<0.0050	(<0.025)
SB-3-5.0	5	7/23/1998	**2.8**	**15**	<0.0050	<0.0050	**0.0080**	**0.014**	(<0.025)
SB-4-5.0	5	7/23/1998	**1.3**	**2.5**	<0.0050	**0.0063**	**0.012**	**0.038**	**(0.13)**
SB-5-5.0	5	7/23/1998	<1.0	**8.4**	<0.0050	<0.0050	<0.0050	<0.0050	**(0.48)**
1999 Monitoring Well Installation									
MW1-5.5'	5.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	(<0.0100)
MW1-10.5'	10.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	(<0.0100)
MW1-15.5'	15.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	(<0.0100)
MW1-20.5'	20.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	(<0.0100)
MW1-25.5'	25.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	(<0.0100)
MW2-5.5'	5.5	5/14/1999	**1,700**	---	<2.0	<2.0	**8.52**	**5.32**	**13.2 (21.5)**
MW2-10.5'	10.5	5/14/1999	<2.0	---	**0.0369**	<0.0100	<0.0100	<0.0200	**(2.13)**
MW2-15.5'	15.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	**(0.0219)**
MW2-20.5'	20.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	**(0.0421)**
MW2-25.5'	25.5	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	**(0.0254)**
MW3-6.5'	6.5	5/14/1999	<20.0	---	<0.100	<0.100	<0.100	<0.200	**(19.2)**
MW3-11.5'	11.5	5/14/1999	<20.0	---	<0.100	<0.100	<0.100	<0.200	**8.83 (20.4)**
MW3-16.5'	16.5	5/14/1999	<20.0	---	<0.100	<0.100	<0.100	<0.200	**(9.14)**
MW3-21.5'	21.5	5/14/1999	<2.0	---	<0.0100	<0.0100	<0.0100	<0.0200	**(1.18)**
MW3-25'	25	5/14/1999	<0.400	---	<0.00200	<0.00200	<0.00200	<0.00400	**(0.201)**
2001 Monitoring Well Installation and Soil Borings									
MW-4-5	5	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
MW-4-10.0	10	2/12/2001	<1.0	---	<0.050	<0.0050	<0.0050	<0.0050	<0.0050
MW-4-15.0	15	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
MW-4-20.0	20	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Table 1. Historical Soil Analytical Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Sample ID	Depth (fbg)	Date Sampled	TPHg (ppm)	TPHd (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	MTBE (ppm)
SB-6-5.0	5	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-6-10.0	10	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-6-15.0	15	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.05	<0.0050
SB-6-20.0	20	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-7-5.0	5	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-7-10.0	10.5	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-7-15.0	15	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-7-20.0	20	2/12/2001	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
2002 Soil Borings and Monitoring Well Installation									
SB-8-8.0	8	3/7/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
SB-9-7.5	7.5	3/7/2002	**5.0**	---	<0.05	<0.05	<0.05	<0.05	**5.4**
SB-10-8.0	8	3/7/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
SB-11-7.5	7.5	3/7/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
SB-12-8.0	8	3/7/2002	<1.0	--- ---	<0.005	<0.005	<0.005	<0.005	<0.5
MW-5-5.0	5	3/8/2002	**300**	---	**0.039**	**0.039**	**2.9**	**6.0**	<0.5
MW-5-10.0	10	3/8/2002	<1.0	---	<0.005	<0.005	**0.0096**	**0.016**	<0.5
MW-5-15.0	15	3/8/2002	**9.6**	---	<0.005	<0.005	**0.15**	**0.39**	<0.5
MW-5-20.0	20	3/8/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
MW-5-23.5	23.5	3/8/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
MW-6-5.5	5.5	8/1/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
MW-6-10.5	10.5	8/1/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
MW-6-15.5	15.5	8/1/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
MW-6-20.5	20.5	8/1/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5
MW-6-23.0	23	8/1/2002	<1.0	---	<0.005	<0.005	<0.005	<0.005	<0.5

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline

TPHd = Total petroleum hydrocarbons as diesel

MTBE = Methyl tertiary butyl ether

fbg = Feet below grade

ppm = Parts per million; equivalent to mg/L

mg/L = Miligrams per liter

<x = Not detected at laboratory reporting limit of x ppm.

--- = Not analyzed

TPHg analyzed by EPA Method 8015M in 1996-1999; analyzed by EPA Method 8260 in 2001-2002.

TPHd analyzed by EPA Method 8015M.

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8020 in 1996-1999; analyzed by EPA Method 8260 in 2001-2002.

MTBE analyzed by EPA Method 8260; results in parentheses analyzed by EPA Method 8020.

Table 2. Historical Groundwater Analytical Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Sample ID	Depth (fbg)	Date Sampled	TPHd (ppb)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)
1998 Soil Borings									
SB-1	--	7/23/1998	**99**	**380**	**1.1**	<0.50	**4.4**	**14**	(<2.5)
SB-2	--	7/23/1998	**190**	<50	**0.55**	<0.50	<0.50	**1.4**	(<2.5)
SB-3	--	7/23/1998	**5,500**	**90,000**	**1,300**	**490**	**3,500**	**13,000**	**(1,700)**
SB-4	--	7/23/1998	**27,000**	**24,000**	**830**	<100	**1,000**	**2,700**	**(4,100)**
SB-5	--	7/23/1998	**260**	**96**	**0.62**	<0.50	<0.50	<0.50	**(39)**
1999 Monitoring Well Installations									
MW-1	6.45	7/23/1999	--	<50.0	<0.500	<0.500	<0.500	<0.500	(<2.50)
MW-2	5.98	7/23/1999	--	**13,800**	**1,790**	<100	<100	**682**	**29,400**
MW-3	6.43	7/23/1999	--	**128**	<0.500	<0.500	<0.500	<0.500	**324,000**
2001 Soil Borings and Monitoring Well Installation									
MW-4-10W	10	2/12/2001	<50.0	<50.0	<0.50	<0.50	<0.50	<0.50	<0.50
SB-6-10.0	10	2/12/2001	<50.0	<50.0	<0.50	<0.50	<0.50	<0.50	<0.50
SB-7-10.0	10	2/12/2001	**1,400.0**	<50.0	<0.50	<0.50	<0.50	<0.50	<0.50
2002 Soil Borings									
SB-8-H2O	14	3/7/2002	--	**170**	<0.50	<0.50	<0.50	<0.50	<5.0
SB-9-H2O	16	3/7/2002	--	<500	<5.0	<5.0	<5.0	<5.0	**1,400**
SB-10-H2O	18	3/7/2002	--	<500	<5.0	<5.0	<5.0	<5.0	**7,900**
SB-11-H2O	20	3/7/2002	--	**110**	<0.50	<0.50	<0.50	<0.50	**710**
SB-12-H2O	22	3/7/2002	--	<50	<0.50	<0.50	<0.50	<0.50	**31**

Abbreviations and Notes:

TPHd = Total petroleum hydrocarbons as diesel
TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
fbg = Feet below grade
ppb = Parts per billion, equivalent to µg/L
µg/L = Micrograms per liter
-- = Not applicable or not analyzed
<x = Not detected at laboratory reporting limit x

TPHd analyzed by EPA Method 8015M.
TPHg analyzed by EPA Method 8015M in 1998-1999; analyzed by EPA Method 8260B in 2001-2002.
Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8020 in 1998-1999; analyzed by EPA Method 8260B in 2001-2002.
MTBE analyzed by EPA Method 8060B; results in parentheses analyzed by EPA Method 8020.

Table 3: Periodic DVE - Aqueous-phase Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

					TPHg			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPHg Concentration (ppb)	TPHg Removed (pounds)	TPHg 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)
04/21/00	MW-2	150	150	04/07/00	4,940	0.00618	0.00618	659	0.00082	0.00082	41,800	0.05232	0.05232
04/28/00	MW-2	100	250	04/07/00	4,940	0.00412	0.01031	659	0.00055	0.00137	41,800	0.03488	0.08720
05/05/00	MW-2	310	560	04/07/00	4,940	0.01278	0.02308	659	0.00170	0.00308	41,800	0.10813	0.19532
05/12/00	MW-2	350	910	04/07/00	4,940	0.01443	0.03751	659	0.00192	0.00500	41,800	0.12208	0.31740
06/02/00	MW-2	257	1,167	04/07/00	4,940	0.01059	0.04811	659	0.00141	0.00642	41,800	0.08964	0.40704
07/06/00	MW-2	334	1,501	04/07/00	4,940	0.01377	0.06187	659	0.00184	0.00825	41,800	0.11650	0.52354
09/12/00	MW-2	312	1,813	07/26/00	5,010	0.01304	0.07492	409	0.00106	0.00932	54,300	0.14137	0.66491
10/26/00	MW-2	56	1,869	07/26/00	5,010	0.00234	0.07726	409	0.00019	0.00951	54,300	0.02537	0.69028
04/21/00	MW-3	100	100	04/07/00	<1,000	0.00042	0.00042	853	0.00071	0.00071	283,000	0.23615	0.23615
04/28/00	MW-3	100	200	04/07/00	<1,000	0.00042	0.00083	853	0.00071	0.00142	283,000	0.23615	0.47229
05/05/00	MW-3	50	250	04/07/00	<1,000	0.00021	0.00104	853	0.00036	0.00178	283,000	0.11807	0.59036
05/12/00	MW-3	150	400	04/07/00	<1,000	0.00063	0.00167	853	0.00107	0.00285	283,000	0.35422	0.94458
06/02/00	MW-3	550	950	04/07/00	<1,000	0.00229	0.00396	853	0.00391	0.00676	283,000	1.29880	2.24338
07/06/00	MW-3	528	1,478	04/07/00	<1,000	0.00220	0.00617	853	0.00376	0.01052	283,000	1.24685	3.49023
08/16/00	MW-3	849	2,327	07/26/00	<20,000	0.07084	0.07701	<200	0.00071	0.01123	**320,000**	2.26699	5.75722
09/12/00	MW-3	188	2,515	07/26/00	<20,000	0.01569	0.09270	<200	0.00016	0.01139	**320,000**	0.50200	6.25922
10/26/00	MW-3	156	2,671	07/26/00	<20,000	0.01302	0.10571	<200	0.00013	0.01152	**320,000**	0.41655	6.67577
Total Gallons Extracted:			**4,540**		**Total Pounds Removed:**		**0.18297**			**0.02103**			**7.36605**
					Total Gallons Removed:		**0.03000**			**0.00288**			**1.18807**

Abbreviations & Notes:

TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
ppb = Parts per billion
gal = Gallon
a = Concentrations for tank backfill well T-1 estimated from nearest monitoring well MW-3.
b = Tank backfill well T-1 sampled for BTEX (including benzene) on 1/2/03.

Table 3: Periodic DVE - Aqueous-phase Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x ($g/10^6 \mu g$) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPHg and benzene analyzed by EPA Method 8015/8020 or equivalent.
MTBE analyzed by EPA Method 8260 in bold font, all other results analyzed by EPA Method 8020.
Concentrations based on most recent groundwater monitoring results
Groundwater extracted by vacuum trucks provided by Phillips Services Corporation and/or Onyx Industrial Services. Water disposed of at a Martinez Refinery.
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.

Table 4: Periodic DVE - Vapor-phase Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPPH TPHg Removal Rate (#/hour)	TPPH Cumulative TPHg Removed (#)	Benzene Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
04/21/00	MW-2	1.00	9.0	1,949	52	836	0.234	0.234	0.006	0.006	0.103	0.103
06/02/00	MW-2	3.50	0.4	30	6.51	108	0.000	0.235	0.000	0.006	0.001	0.105
07/06/00	MW-2	4.00	0.7	<567	<6.3	647	0.003	0.246	0.000	0.006	0.006	0.130
08/16/00	MW-2	3.00	8.6	13,654	<39	1,861	1.570	4.955	0.002	0.012	0.219	0.787
09/12/00	MW-2	4.00	7.6	12,100	<31.4	6,410	1.229	9.872	0.001	0.018	0.666	3.452
10/26/00	MW-2	1.50	5.5	35.1	0.562	41.0	0.003	9.876	0.000	0.018	0.003	3.457
03/20/01	MW-2	2.75	15.8	4,800	11.4	375	0.822	12.136	0.002	0.023	0.075	3.664
04/21/00	MW-3	1.00	7.0	<28	<0.31	594	0.001	0.001	0.000	0.000	0.057	0.057
06/02/00	MW-3	4.25	0.3	<14.2	0.36	608	0.000	0.001	0.000	0.000	0.002	0.067
07/06/00	MW-3	4.00	0.7	38	4.4	133	0.000	0.003	0.000	0.000	0.001	0.073
08/16/00	MW-3	6.75	7.0	<1,416	<15.7	3,333	0.066	0.450	0.001	0.005	0.319	2.227
09/12/00	MW-3	4.00	7.6	<1,420	<15.7	1,850	0.072	0.739	0.001	0.008	0.192	2.996
10/26/00	MW-3	4.00	7.2	<2,840	<31.4	531	0.137	1.285	0.001	0.013	0.052	3.205
03/20/01	MW-3	2.83	10.6	2,400	1.75	640	0.347	2.268	0.000	0.014	0.095	3.474
Total Pounds Removed:							**TPHg = 14.404**		**Benzene = 0.037**		**MTBE = 7.138**	

Table 4: Periodic DVE - Vapor-phase Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Abbreviations and Notes:

CFM = Cubic feet per minute

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

ppmv = Parts per million by volume

= Pounds

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

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

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

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

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

Table 5: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
					TPPH			**Benzene**			**MTBE**		
03/20/01	MW-2	**Dual-phase Vacuum Extraction (DVE) Pilot Test using a RSI V3 Internal Combustion Engine with Bioslurp Tank**											
13:15	RPM=2000	12	12	GPM	**2,300**	0.000	0.000	**49**	0.000	0.000	**12,000**	0.001	0.000
13:20					2,300			49			12,000		
13:25					2,300			49			12,000		
14:45					2,300			49			12,000		
15:00	RPM=1500	138	150	3.07	2,300	0.003	0.003	49	0.000	0.000	12,000	0.014	0.014
15:05					2,300			49			12,000		
15:10					2,300			49			12,000		
15:15					2,300			49			12,000		
15:30		82	232	2.73	2,300	0.002	0.004	49	0.000	0.000	12,000	0.008	0.022
15:45		33	265	2.20	2,300	0.001	0.005	49	0.000	0.000	12,000	0.003	0.025
16:00		16	281	1.07	2,300	0.000	0.005	49	0.000	0.000	12,000	0.002	0.027
03/20/01	MW-3	**Dual-phase Vacuum Extraction (DVE) Pilot Test using a RSI V3 Internal Combustion Engine with Bioslurp Tank**											
9:10	RPM=2000			GPM	<10,000			<100			190,000		
9:15					<10,000			<100			190,000		
9:20		350	350	35.0	**<10,000***	0.015	0.000	**<100***	0.000	0.000	**190,000**	0.555	0.00
9:50					<10,000			<100			190,000		
10:00		30	380	0.75	<10,000*	0.001	0.001	<100*	0.000	0.000	190,000	0.048	0.05
10:15		32	412	2.13	<10,000*	0.001	0.003	<100*	0.000	0.000	190,000	0.051	0.10
10:30	RPM=1500				<10,000			<100			190,000		
10:35					<10,000			<100			190,000		
10:40					<10,000			<100			190,000		
10:45					<10,000			<100			190,000		
11:15		36	448	0.60	<10,000*	0.002	0.004	<100*	0.000	0.000	190,000	0.057	0.16
11:30					<10,000			<100			190,000		
11:45		18	466	0.60	<10,000*	0.001	0.005	<100*	0.000	0.000	190,000	0.029	0.18
12:00		22	488	1.47	<10,000*	0.001	0.006	<100*	0.000	0.000	190,000	0.035	0.22
03/21/01	T-1	2,900	2,900	03/20/01	**<10,000***	0.121	0.121	<100*	0.001	0.001	190,000	4.60	4.60
Total Gallons Extracted:		3,669			Total Pounds Removed:		0.182			0.001			4.84
					Total Gallons Removed:		0.022			0.000			0.781

Table 5: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
µg/L = Micrograms per liter
ppb = Parts per billion, equivalent to µg/L
L = Liter
gal = Gallon
g = Gram
<n = Detection limit provided by analytical method
* = 1/2 the detection limit concentration is used for mass removal calculation.
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x ($g/10^6 \mu g$) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPPH, benzene analyzed by EPA Method 8015/8020
MTBE analyzed by EPA Method 8260 in bold font, all other MTBE analyzed by EPA Method 8020
Concentrations based on most recent groundwater monitoring results
Groundwater extracted by vacuum trucks provided by ACTI. Water disposed of at a Martinez Refinery.

Table 6: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPPH: TPHg Removal Rate (#/hour)	TPPH: Cumulative TPHg Removed (#)	Benzene: Benzene Removal Rate (#/hour)	Benzene: Cumulative Benzene Removed (#)	MTBE: MTBE Removal Rate (#/hour)	MTBE: Cumulative MTBE Removed (#)
03/20/01	MW-2	**Dual-phase Vacuum Extraction (DVE) Pilot Test using a RSI V3 Internal Combustion Engine with Bioslurp Tank**										
13:15	RPM=2000	0.000	10	10,770			0.575	0.000	0.001	0.000	0.030	0.000
13:20		0.083	13	**4,300**	**9.8**	**220**	0.747	0.062	0.002	0.000	0.039	0.003
13:25		0.083	7	32,400			0.402	0.095	0.001	0.000	0.021	0.005
14:45		1.33	5	13,530			0.287	0.478	0.001	0.001	0.015	0.025
15:00	RPM=1500	0.250	7	26,300			0.496	0.602	0.001	0.001	0.051	0.038
15:05		0.083	9	22,000			0.638	0.655	0.001	0.001	0.065	0.043
15:10		0.083	19	12,000			1.35	0.766	0.003	0.002	0.138	0.055
15:15		0.003	20	9,940			1.42	0.771	0.003	0.002	0.145	0.055
15:30		0.250	20	13,770			1.42	1.13	0.003	0.002	0.145	0.091
15:45		0.250	28	33,400			1.98	1.62	0.004	0.004	0.203	0.142
16:00		0.250	36	**5,300**	**13**	**530**	2.55	2.26	0.006	0.005	0.261	0.207
03/20/01	MW-3	**Dual-phase Vacuum Extraction (DVE) Pilot Test using a RSI V3 Internal Combustion Engine with Bioslurp Tank**										
9:10	RPM=2000	0.000	0				0.000	0.000	0.000	0.000	0.000	0.000
9:15		0.083	0	**2,600**	**1.2**	**690**	0.000	0.000	0.000	0.000	0.000	0.000
9:20		0.083	0				0.000	0.000	0.000	0.000	0.000	0.000
9:50		0.500	5				0.174	0.087	0.000	0.000	0.047	0.024
10:00		0.167	13	4,340			0.452	0.162	0.000	0.000	0.123	0.044
10:15		0.250	11	4,670			0.382	0.258	0.000	0.000	0.104	0.070
10:30	RPM=1500	0.250	10	23,300			0.294	0.331	0.000	0.000	0.081	0.090
10:35		0.083	13	20,570			0.382	0.363	0.000	0.000	0.105	0.099
10:40		0.083	14	22,000			0.412	0.397	0.000	0.000	0.113	0.108
10:45		0.083	17	23,000			0.500	0.439	0.000	0.000	0.137	0.120
11:15		0.500	8	20,000			0.235	0.556	0.000	0.000	0.065	0.152
11:30		0.250	16	18,700			0.471	0.674	0.000	0.001	0.129	0.184
11:45		0.250	21	20,370			0.618	0.829	0.001	0.001	0.169	0.227
12:00		0.250	21	**2,200**	**2.3**	**590**	0.618	0.983	0.001	0.001	0.169	0.269
Total Pounds Removed							TPHg =	3.24	Benzene =	0.006	MTBE =	0.476

Table 6: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Abbreviations and Notes:

CFM = Cubic feet per minute

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

ppmv = Parts per million by volume

= Pounds

Bold = Lab Analytical Concentration, Grayscale = Horiba Organic Vapor Analyzer (OVA) Concentration

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

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

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

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

Table 7. Well Survey Results - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

Location	Well ID	Date Installed	Well Use	Total Depth (fbg)	Well Diameter (inches)	Screened Interval (fbg)	Approximate Distance from Site
1	1S4W-35G7	March 1, 1988	UNK	44	4	20-44	2,400
2	1S4W-35F12	September 23, 1990	IRR	470	6	180-470	3,000

Abbreviations & Notes:

Location = Column number refers to map location on Figure 1 - Site Vicinity and Well Survey Map.
Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California.
UNK = Unknown.
IRR = Irrigation
fbg = Feet below grade
Well Locations provided by the State of California Department of Water Resources.

Table 8: Periodic Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

					TPHg			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPHg Concentration (ppb)	TPHg Removed (pounds)	TPHg 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)
07/29/03	MW-2	500	500	07/22/03	2,300	0.00960	0.00960	76	0.00032	0.00032	3,700	0.01544	0.01544
08/09/03	MW-2	250	750	07/22/03	2,300	0.00480	0.01439	76	0.00016	0.00048	3,700	0.00772	0.02316
08/21/03	MW-2	150	900	07/22/03	2,300	0.00288	0.01727	76	0.00010	0.00057	3,700	0.00463	0.02779
09/04/03	MW-2	687	1,587	07/22/03	2,300	0.01318	0.03046	76	0.00044	0.00101	3,700	0.02121	0.04900
09/18/03	MW-2	200	1,787	07/22/03	2,300	0.00384	0.03430	76	0.00013	0.00113	3,700	0.00617	0.05517
10/02/03	MW-2	234	2,021	07/22/03	2,300	0.00449	0.03879	76	0.00015	0.00128	3,700	0.00722	0.06240
10/16/03	MW-2	250	2,271	10/09/03	150	0.00031	0.03910	3.9	0.00001	0.00129	210	0.00044	0.06283
11/06/03	MW-2	250	2,521	10/09/03	150	0.00031	0.03941	3.9	0.00001	0.00130	210	0.00044	0.06327
11/20/03	MW-2	275	2,796	10/09/03	150	0.00034	0.03976	3.9	0.00001	0.00131	210	0.00048	0.06375
05/27/03	MW-3	0	0	04/30/03	<25,000	0.00000	0.00000	<250	0.00000	0.00000	14,000	0.00000	0.00000
06/10/03	MW-3	200	200	04/30/03	<25,000	0.02086	0.02086	<250	0.00021	0.00021	14,000	0.02336	0.02336
06/24/03	MW-3	800	1,000	04/30/03	<25,000	0.08344	0.10430	<250	0.00083	0.00104	14,000	0.09346	0.11682
07/09/03	MW-3	990	1,990	04/30/03	<25,000	0.10326	0.20757	<250	0.00103	0.00208	14,000	0.11565	0.23247
07/29/03	MW-3	600	2,590	07/22/03	<5,000	0.01252	0.22008	<50	0.00013	0.00220	17,000	0.08511	0.31759
08/09/03	MW-3	500	3,090	07/22/03	<5,000	0.01043	0.23051	<50	0.00010	0.00231	17,000	0.07093	0.38851
08/21/03	MW-3	250	3,340	07/22/03	<5,000	0.00522	0.23573	<50	0.00005	0.00236	17,000	0.03546	0.42398
09/04/03	MW-3	687	4,027	07/22/03	<5,000	0.01433	0.25006	<50	0.00014	0.00250	17,000	0.09745	0.52143
09/18/03	MW-3	600	4,627	07/22/03	<5,000	0.01252	0.26258	<50	0.00013	0.00263	17,000	0.08511	0.60654
10/02/03	MW-3	233	4,860	07/22/03	<5,000	0.00486	0.26744	<50	0.00005	0.00267	17,000	0.03305	0.63959
10/16/03	MW-3	604	5,464	10/09/03	<5,000	0.01260	0.28004	<50	0.00013	0.00280	14,000	0.07056	0.71015
11/06/03	MW-3	459	5,923	10/09/03	<5,000	0.00958	0.28961	<50	0.00010	0.00290	14,000	0.05362	0.76378
11/20/03	MW-3	322	6,245	10/09/03	<5,000	0.00672	0.29633	<50	0.00007	0.00296	14,000	0.03762	0.80139
12/04/03	MW-3	590	6,835	10/09/03	<5,000	0.01231	0.30864	<50	0.00012	0.00309	14,000	0.06892	0.87032
12/18/03	MW-3	561	7,396	10/09/03	<5,000	0.01170	0.32034	<50	0.00012	0.00320	14,000	0.06554	0.93585
01/02/04	MW-3	496	7,892	10/09/03	<5,000	0.01035	0.33069	<50	0.00010	0.00331	14,000	0.05794	0.99380
01/15/04	MW-3	578	8,470	01/05/04	<5,000	0.01206	0.34274	<50	0.00012	0.00343	4,700	0.02267	1.01646
02/05/04	MW-3	475	8,945	01/05/04	<5,000	0.00991	0.35265	<50	0.00010	0.00353	4,700	0.01863	1.03509
02/19/04	MW-3	650	9,595	01/05/04	<5,000	0.01356	0.36621	<50	0.00014	0.00366	4,700	0.02549	1.06059

Table 8: Periodic Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

					TPHg			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPHg Concentration (ppb)	TPHg Removed (pounds)	TPHg 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)
03/04/04	MW-3	592	10,187	01/05/04	<5,000	0.01235	0.37856	<50	0.00012	0.00379	4,700	0.02322	1.08380
03/18/04	MW-3	631	10,818	01/05/04	<5,000	0.01316	0.39173	<50	0.00013	0.00392	4,700	0.02475	1.10855
04/01/04	MW-3	532	11,350	01/05/04	<5,000	0.01110	0.40282	<50	0.00011	0.00403	4,700	0.02086	1.12941
04/15/04	MW-3	592	11,942	04/12/04	<25,000	0.06175	0.46457	<250	0.00062	0.00465	23,000	0.11362	1.24303
05/06/04	MW-3	552	12,494	04/12/04	<25,000	0.05758	0.52215	<250	0.00058	0.00522	23,000	0.10594	1.34897
05/20/04	MW-3	432	12,926	04/12/04	<25,000	0.04506	0.56721	<250	0.00045	0.00567	23,000	0.08291	1.43188
06/04/04	MW-3	614	13,540	04/12/04	<25,000	0.06404	0.63125	<250	0.00064	0.00631	23,000	0.11784	1.54972
06/17/04	MW-3	447	13,987	04/12/04	<25,000	0.04662	0.67787	<250	0.00047	0.00678	23,000	0.08579	1.63551
07/01/04	MW-3	569	14,556	04/12/04	<25,000	0.05935	0.73722	<250	0.00059	0.00737	23,000	0.10920	1.74471
07/15/04	MW-3	664	15,220	07/02/04	<10,000	0.02770	0.76493	<100	0.00028	0.00765	18,000	0.09973	1.84444
08/05/04	MW-3	625	15,845	07/02/04	<10,000	0.02608	0.79100	<100	0.00026	0.00791	18,000	0.09387	1.93832
08/20/04	MW-3	676	16,521	07/02/04	<10,000	0.02820	0.81921	<100	0.00028	0.00819	18,000	0.10153	2.03985
09/02/04	MW-3	780	17,301	07/02/04	<10,000	0.03254	0.85175	<100	0.00033	0.00852	18,000	0.11715	2.15700
09/16/04	MW-3	635	17,936	07/02/04	<10,000	0.02649	0.87824	<100	0.00026	0.00878	18,000	0.09538	2.25238
10/07/04	MW-3	519	18,455	07/02/04	<10,000	0.02165	0.89990	<100	0.00022	0.00900	18,000	0.07795	2.33033
10/21/04	MW-3	622	19,077	10/08/04	<10,000	0.02595	0.92585	<100	0.00026	0.00926	29,000	0.15052	2.48085
11/04/04	MW-3	681	19,758	10/08/04	<10,000	0.02841	0.95426	<100	0.00028	0.00954	29,000	0.16479	2.64564
11/18/04	MW-3	1,500	21,258	10/08/04	<10,000	0.06258	1.01684	<100	0.00063	0.01017	29,000	0.36298	3.00862
12/02/04	MW-3	718	21,976	10/08/04	<10,000	0.02996	1.04680	<100	0.00030	0.01047	29,000	0.17375	3.18237
12/16/04	MW-3	876	22,852	10/08/04	<10,000	0.03655	1.08335	<100	0.00037	0.01083	29,000	0.21198	3.39435
01/06/05	MW-3	696	23,548	10/08/04	<10,000	0.02904	1.11239	<100	0.00029	0.01112	29,000	0.16842	3.56277
01/20/05	MW-3	663	24,211	01/10/05	<10,000	0.02766	1.14005	<100	0.00028	0.01140	13,000	0.07192	3.63469
02/03/05	MW-3	288	24,499	01/10/05	<10,000	0.01202	1.15206	<100	0.00012	0.01152	13,000	0.03124	3.66593
02/20/05	MW-3	266	24,765	01/10/05	<10,000	0.01110	1.16316	<100	0.00011	0.01163	13,000	0.02885	3.69479
03/03/05	MW-3	614	25,379	01/10/05	<10,000	0.02562	1.18878	<100	0.00026	0.01189	13,000	0.06660	3.76139
03/17/05	MW-3	528	25,907	01/10/05	<10,000	0.02203	1.21081	<100	0.00022	0.01211	13,000	0.05728	3.81867
04/06/05	MW-3	651	26,558	01/10/05	<10,000	0.02716	1.23797	<100	0.00027	0.01238	13,000	0.07062	3.88928
04/21/05	MW-3	698	27,256	04/15/05	510	0.00297	1.24094	140	0.00082	0.01320	180	0.00105	3.89033
05/05/05	MW-3	435	27,691	04/15/05	510	0.00185	1.24279	140	0.00051	0.01370	180	0.00065	3.89099

Table 8: Periodic Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

					TPHg			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPHg Concentration (ppb)	TPHg Removed (pounds)	TPHg 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)
05/19/05	MW-3	641	28,332	04/15/05	510	0.00273	1.24552	140	0.00075	0.01445	180	0.00096	3.89195
06/02/05	MW-3	687	29,019	04/15/05	510	0.00292	1.24844	140	0.00080	0.01525	180	0.00103	3.89298
06/16/05	MW-3	658	29,677	04/15/05	510	0.00280	1.25124	140	0.00077	0.01602	180	0.00099	3.89397
07/07/05	MW-3	600	30,277	04/15/05	510	0.00255	1.25380	140	0.00070	0.01672	180	0.00090	3.89487
08/12/05	MW-3	607	30,884	07/15/05	<2,500	0.00317	1.25696	<25	0.00003	0.01676	3,700	0.01874	3.91361
09/19/05	MW-3	408	31,292	07/15/05	<2,500	0.00213	1.25909	<25	0.00002	0.01678	3,700	0.01260	3.92621
10/17/05	MW-3	1,361	32,653	10/20/05	<2,500	0.00710	1.26619	<25	0.00007	0.01685	2,600	0.02953	3.95573
11/14/05	MW-3	961	33,614	10/20/05	<2,500	0.00501	1.27120	<25	0.00005	0.01690	2,600	0.02085	3.97658
12/19/05	MW-3	1,347	34,961	10/20/05	<2,500	0.00702	1.27822	<25	0.00007	0.01697	2,600	0.02922	4.00581
01/19/06	MW-3	534	35,495	01/24/06	3,050	0.01359	1.29181	<0.500	0.00000	0.01697	2,150	0.00958	4.01539
04/13/06	MW-3	890	36,385	04/14/06	2,070	0.01537	1.30719	<0.500	0.00000	0.01697	1,720	0.01277	4.02816
05/24/06	MW-3	925	37,310	04/14/06	2,070	0.01598	1.32316	<0.500	0.00000	0.01697	1,720	0.01328	4.04144
08/21/03	MW-6	50	50	07/22/03	<500	0.00010	0.00010	<5.0	0.00000	0.00000	1,300	0.00054	0.00054
09/04/03	MW-6	683	733	07/22/03	<500	0.00142	0.00153	<5.0	0.00001	0.00002	1,300	0.00741	0.00795
10/02/03	MW-6	234	967	07/22/03	<500	0.00049	0.00202	<5.0	0.00000	0.00002	1,300	0.00254	0.01049
10/16/03	MW-6	0	967	10/09/03	<1,000	0.00000	0.00202	<10	0.00000	0.00002	3,000	0.00000	0.01049
11/26/01	T-1[a]	2,700	2,700	10/23/01	<50,000	0.56324	0.56324	<250	0.00282	0.00282	180,000	4.05536	4.05536
12/10/01	T-1[a]	2,750	5,450	10/23/01	<50,000	0.57367	1.13692	<250	0.00287	0.00568	180,000	4.13046	8.18581
12/26/01	T-1[a]	2,800	8,250	10/23/01	<50,000	0.58410	1.72102	<250	0.00292	0.00861	180,000	4.20556	12.39137
01/09/02	T-1	5,184	13,434	01/07/02	<20,000	0.43257	2.15359	310	0.01341	0.02201	92,000	3.97966	16.37103
01/23/02	T-1	4,250	17,684	01/07/02	<20,000	0.35464	2.50823	310	0.01099	0.03301	92,000	3.26264	19.63367
02/06/02	T-1	4,000	21,684	01/07/02	<20,000	0.33377	2.84200	310	0.01035	0.04336	92,000	3.07072	22.70439
02/20/02	T-1	3,000	24,684	01/07/02	<20,000	0.25033	3.09233	310	0.00776	0.05112	92,000	2.30304	25.00743
03/06/02	T-1	4,500	29,184	01/07/02	<20,000	0.37550	3.46783	310	0.01164	0.06276	92,000	3.45456	28.46200
03/20/02	T-1	5,000	34,184	01/07/02	<20,000	0.41722	3.88505	310	0.01293	0.07569	92,000	3.83840	32.30040
04/03/02	T-1	5,200	39,384	01/07/02	<20,000	0.43391	4.31896	310	0.01345	0.08914	92,000	3.99194	36.29234
04/17/02	T-1	4,800	44,184	04/12/02	<5,000	0.10013	4.41909	230	0.00921	0.09835	57,000	2.28302	38.57536

Table 8: Periodic Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

					TPHg			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPHg Concentration (ppb)	TPHg Removed (pounds)	TPHg 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)
06/03/02	T-1	3,539	47,723	04/12/02	<5,000	0.07383	4.49291	230	0.00679	0.10515	57,000	1.68325	40.25861
06/17/02	T-1	5,000	52,723	04/12/02	<5,000	0.10430	4.59722	230	0.00960	0.11474	57,000	2.37814	42.63675
07/01/02	T-1	2,873	55,596	04/12/02	<5,000	0.05993	4.65715	230	0.00551	0.12026	57,000	1.36648	44.00323
07/15/02	T-1	4,000	59,596	07/10/02	<20,000	0.33377	4.99093	260	0.00868	0.12893	69,000	2.30304	46.30627
08/12/02	T-1	3,900	63,496	07/10/02	<20,000	0.32543	5.31636	260	0.00846	0.13739	69,000	2.24547	48.55174
08/26/02	T-1	2,367	65,863	07/10/02	<20,000	0.19751	5.51387	260	0.00514	0.14253	69,000	1.36283	49.91456
09/09/02	T-1	1,959	67,822	07/10/02	<20,000	0.16347	5.67733	260	0.00425	0.14678	69,000	1.12791	51.04248
09/23/02	T-1	5,000	72,822	07/10/02	<20,000	0.41722	6.09455	260	0.01085	0.15763	69,000	2.87880	53.92128
10/09/02	T-1	4,500	77,322	07/10/02	<20,000	0.37550	6.47005	260	0.00976	0.16739	69,000	2.59092	56.51220
10/22/02	T-1	4,500	81,822	10/15/02	<5,000	0.09387	6.56392	150	0.00563	0.17302	29,000	1.08894	57.60114
11/05/02	T-1	2,384	84,206	10/15/02	<5,000	0.04973	6.61365	150	0.00298	0.17601	29,000	0.57690	58.17804
11/19/02	T-1	4,375	88,581	10/15/02	<5,000	0.09127	6.70492	150	0.00548	0.18148	29,000	1.05869	59.23673
12/09/02	T-1	2,341	90,922	10/15/02	<5,000	0.04884	6.75376	150	0.00293	0.18441	29,000	0.56649	59.80322
12/23/02	T-1	2,341	93,263	10/15/02	<5,000	0.04884	6.80259	150	0.00293	0.18734	29,000	0.56649	60.36971
01/06/03	T-1[b]	2,341	95,604	10/15/02	<5,000	0.04884	6.85143	1.5	0.00003	0.18737	29,000	0.56649	60.93620
01/28/03	T-1[b]	4,500	100,104	10/15/02	<5,000	0.09387	6.94530	1.5	0.00006	0.18743	29,000	1.08894	62.02514
02/10/03	T-1	4,500	104,604	01/29/03	1,300	0.04881	6.99411	67	0.00252	0.18994	820	0.03079	62.05593
03/10/03	T-1	3,539	108,143	01/29/03	1,300	0.03839	7.03250	67	0.00198	0.19192	820	0.02422	62.08014
04/08/03	T-1	300	108,443	01/29/03	1,300	0.00325	7.03576	67	0.00017	0.19209	820	0.00205	62.08219
05/05/03	T-1	3,500	111,943	04/30/03	360	0.01051	7.04627	45	0.00131	0.19340	89	0.00260	62.08479
05/27/03	T-1	4,500	116,443	04/30/03	360	0.01352	7.05979	45	0.00169	0.19509	89	0.00334	62.08814
06/10/03	T-1	4,600	121,043	04/30/03	360	0.01382	7.07361	45	0.00173	0.19682	89	0.00342	62.09155
06/24/03	T-1	1,428	122,471	04/30/03	360	0.00429	7.07790	45	0.00054	0.19736	89	0.00106	62.09261
07/09/03	T-1	2,600	125,071	04/30/03	360	0.00781	7.08571	45	0.00098	0.19833	89	0.00193	62.09454
07/29/03	T-1	2,492	127,563	07/22/03	1,200	0.02495	7.11066	170	0.00354	0.20187	150	0.00312	62.09766
08/09/03	T-1	2,082	129,645	07/22/03	1,200	0.02085	7.13151	170	0.00295	0.20482	150	0.00261	62.10027
08/21/03	T-1	2,500	132,145	07/22/03	1,200	0.02503	7.15654	170	0.00355	0.20837	150	0.00313	62.10340
09/04/03	T-1	687	132,832	07/22/03	1,200	0.00688	7.16342	170	0.00097	0.20934	150	0.00086	62.10426
09/18/03	T-1	1,000	133,832	07/22/03	1,200	0.01001	7.17343	170	0.00142	0.21076	150	0.00125	62.10551

Table 8: Periodic Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California

					TPHg			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPHg Concentration (ppb)	TPHg Removed (pounds)	TPHg 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)
10/17/05	T-1	4,000	137,832	10/20/05	300	0.01001	7.18345	<0.50	0.00001	0.21077	11.0	0.00037	62.10588
11/14/05	T-1	3,500	141,332	10/20/05	300	0.00876	7.19221	<0.50	0.00001	0.21078	11.0	0.00032	62.10620
12/19/05	T-1	3,700	145,032	10/20/05	300	0.00926	7.20147	<0.50	0.00001	0.21079	11.0	0.00034	62.10654
01/19/06	T-1	3,800	148,832	01/24/06	<50.0	0.00079	7.20226	<0.500	0.00001	0.21079	18.5	0.00059	62.10712
04/13/06	T-1	1,600	150,432	04/14/06	<50.0	0.00033	7.20260	<0.500	0.00000	0.21080	5.29	0.00007	62.10719
05/24/06	T-1	1,800	152,232	04/14/06	<50.0	0.00038	7.20297	<0.500	0.00000	0.21080	5.29	0.00008	62.10727
Total Gallons Extracted:			**193,305**		**Total Pounds Removed:**		**8.56791**			**0.22910**			**66.22295**
					Total Gallons Removed:		**1.40458**			**0.03138**			**10.68112**

Abbreviations & Notes:

TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary-butyl ether
ppb = Parts per billion
gal = Gallon
a = Concentrations for tank backfill well T-1 estimated from nearest monitoring well MW-3.
b = Tank backfill well T-1 sampled for BTEX (including benzene) on 1/2/03.
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10^6µg) 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)
TPHg and benzene analyzed by EPA Method 8015/8020 or equivalent.
MTBE analyzed by EPA Method 8260.
Concentrations based on most recent groundwater monitoring results
Groundwater extraction volumes are estimates based on a total volume extracted at a given event.
Groundwater extracted by vacuum trucks provided by Phillips Services Corporation and/or Onyx Industrial Services. Water disposed of at a Martinez Refinery.
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.

ATTACHMENT A

Groundwater Monitoring Data

BLAINE
TECH SERVICES INC.

GROUNDWATER SAMPLING SPECIALISTS
SINCE 1985

November 3, 2006

Denis Brown
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

Fourth Quarter 2006 Groundwater Monitoring at
Shell-branded Service Station
105 5th Street
Oakland, CA

Monitoring performed on October 11, 2006

Groundwater Monitoring Report **061011-EM-1**

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

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

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

WELL CONCENTRATIONS
Shell-branded Service Station
105 5th Street
Oakland, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.22	17.56	-5.34	NA
MW-1	07/23/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	<2.00	NA	NA	NA	NA	NA	NA	NA	12.22	6.45	5.77	NA
MW-1	11/01/1999	100	NA	15.6	3.12	4.04	12.6	6.69	NA	NA	NA	NA	NA	NA	NA	NA	12.22	6.59	5.63	0.5/0.7
MW-1	01/05/2000	<50.0	<20.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	12.22	6.38	5.84	1.2/1.4
MW-1	04/07/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	12.22	5.83	6.39	1.6/2.4
MW-1	07/26/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	12.22	6.10	6.12	1.1/1.4
MW-1	10/28/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	12.22	14.08	-1.86	2.2/2.7
MW-1	01/30/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	12.22	10.71	1.51	1.2/1.6
MW-1	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	12.22	6.61	5.61	2.4/4.4
MW-1	07/09/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	12.22	6.31	5.91	1.4/3.4
MW-1	10/23/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	12.22	6.24	5.98	2.6/4.1
MW-1	01/07/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	12.22	5.25	6.97	NA
MW-1	04/12/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	14.92	5.54	9.38	NA
MW-1	07/10/2002	<50	74	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	14.92	5.98	8.94	NA
MW-1	10/15/2002	<50	51	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	14.92	5.46	9.46	NA
MW-1	01/29/2003	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	14.92	5.03	9.89	NA
MW-1	04/30/2003	<50	110	<0.50	<0.50	<0.50	<1.0	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	14.92	4.70	10.22	NA
MW-1	07/22/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	6.05	8.87	NA
MW-1	10/09/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	6.13	8.79	NA
MW-1	01/05/2004	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	5.44	9.48	NA
MW-1	04/12/2004	<50	1,000 c	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	5.75	9.17	NA
MW-1	07/02/2004	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	5.93	8.99	NA
MW-1	10/08/2004	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	5.94	8.98	NA
MW-1	01/10/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	5.17	9.75	NA
MW-1	04/15/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	5.45	9.47	NA
MW-1	07/15/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	5.93	8.99	NA
MW-1	10/20/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	14.92	6.21	8.71	NA
MW-1	01/24/2006	<50.0	<105	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	NA	NA	NA	NA	NA	NA	14.92	5.59	9.33	NA
MW-1	04/14/2006	<50.0	<50.0 h	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	NA	NA	NA	NA	NA	NA	14.92	5.13	9.79	NA
MW-1	07/25/2006	<50.0	<94.3	<0.500	0.770	<0.500	<0.500	NA	<0.500	NA	NA	NA	NA	NA	NA	NA	14.92	5.85	9.07	NA
MW-1	**10/11/2006**	**<50.0**	**<46.9 h**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**NA**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**<10.0**	**NA**	**NA**	**NA**	**14.92**	**6.00**	**8.92**	**NA**
MW-2	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.87	18.24	-7.37	NA
MW-2	07/23/1999	13,800	NA	1,790	<100	<100	682	29,900	29,400	NA	NA	NA	NA	NA	NA	NA	10.87	5.98	4.89	NA

WELL CONCENTRATIONS
Shell-branded Service Station
105 5th Street
Oakland, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-3	04/07/2000	<1,000	264	853	<10.0	<10.0	<10.0	283,000	196,000a	NA	NA	NA	NA	NA	NA	NA	11.27	5.91	5.36	04/0.2
MW-3	07/26/2000	<20,000	585	<200	<200	<200	<200	437,000	320,000	NA	NA	NA	NA	NA	NA	NA	11.27	5.83	5.44	1.9/1.7
MW-3	10/28/2000	<12,500	441	<125	<125	<125	<125	266,000	308,000	NA	NA	NA	NA	NA	NA	NA	11.27	17.51	-6.24	1.1/1.4
MW-3	01/30/2001	<5,000	555	<50.0	<50.0	<50.0	<50.0	248,000	167,000a	NA	NA	NA	NA	NA	NA	NA	11.27	11.43	-0.16	2.0/2.2
MW-3	04/17/2001	<5,000	347	<50.0	<50.0	<50.0	<50.0	134,000	133,000	NA	NA	NA	NA	NA	NA	NA	11.27	6.57	4.70	1.3/1.2
MW-3	07/09/2001	<20,000	250	<200	<200	<200	<200	NA	170,000	NA	NA	NA	NA	NA	NA	NA	11.27	6.12	5.15	1.2/1.9
MW-3	10/23/2001	<50,000	260	<250	<250	<250	<250	NA	180,000	<250	<250	<250	53,000	NA	NA	<5,000	11.27	6.25	5.02	2.2/1.6
MW-3	01/07/2002	<10,000	160	<100	<100	<100	<100	NA	96,000	NA	NA	NA	NA	NA	NA	NA	11.27	5.29	5.98	NA
MW-3	04/12/2002	<10,000	87	<100	<100	<100	<100	NA	78,000	NA	NA	NA	NA	NA	NA	NA	13.96	5.43	8.53	NA
MW-3	07/10/2002	<20,000	150	<200	<200	<200	<200	NA	64,000	NA	NA	NA	NA	NA	NA	NA	13.96	6.33	7.63	NA
MW-3	10/15/2002	<10,000	120	<100	<100	<100	<100	NA	44,000	<100	NA	<100	9,100	<100	<100	NA	13.96	5.96	8.00	NA
MW-3	01/02/2003	NA	NA	<5.0	<5.0	<5.0	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.96	5.40	8.56	NA
MW-3	01/29/2003	<2,500	96	<25	<25	<25	<25	NA	19,000	<25	NA	<25	14,000	<25	<25	NA	13.96	5.68	8.28	NA
MW-3	04/30/2003	<25,000	360	<250	<250	<250	<500	NA	14,000	<1,000	NA	<1,000	24,000	<250	<250	NA	13.96	5.34	8.62	NA
MW-3	07/22/2003	<5,000	230 c	<50	<50	<50	<100	NA	17,000	<200	NA	<200	21,000	<50	<50	NA	13.96	6.15	7.81	NA
MW-3	10/09/2003	<5,000	150 c	<50	<50	<50	<100	NA	14,000	<200	NA	<200	11,000	<50	<50	NA	13.96	5.98	7.98	NA
MW-3	01/05/2004	<5,000	790 c	<50	<50	<50	<100	NA	4,700	<200	NA	<200	11,000	<50	<50	NA	13.96	5.45	8.51	NA
MW-3	04/12/2004	<25,000	270 c	<250	<250	<250	<500	NA	23,000	<1,000	NA	<1,000	12,000	<250	<250	NA	13.96	5.66	8.30	NA
MW-3	07/02/2004	<10,000	280 c	<100	<100	<100	<200	NA	18,000	<400	NA	<400	4,500	120	<100	NA	13.96	5.85	8.11	NA
MW-3	10/08/2004	<10,000	250 c	<100	<100	<100	<200	NA	29,000	<400	NA	<400	14,000	<100	<100	NA	13.96	5.88	8.08	NA
MW-3	01/10/2005	<10,000	220 c	<100	<100	<100	<200	NA	13,000	<400	NA	<400	17,000	<100	<100	NA	13.96	5.20	8.76	NA
MW-3	04/15/2005	510	530 c	140	<5.0	<5.0	<10	NA	180	<20	NA	<20	1,600	<5.0	<5.0	NA	13.96	5.51	8.45	NA
MW-3	07/15/2005	<2,500	100 c	<25	42	<25	62	NA	3,700	<100	<100	<100	5,300	<25	<25	NA	13.96	5.75	8.21	NA
MW-3	10/20/2005	<2,500	250 c	<25	<25	<25	<50	NA	2,600	NA	NA	NA	6,300	NA	NA	NA	13.96	6.22	7.74	NA
MW-3	01/24/2006	3,050	414 f	<0.500	<0.500	<0.500	<0.500	NA	2,150	NA	NA	NA	5,510	NA	NA	NA	13.96	5.63	8.33	NA
MW-3	04/14/2006	2,070	762 h	<0.500	<0.500	<0.500	<0.500	NA	1,720	NA	NA	NA	3,240	NA	NA	NA	13.96	5.20	8.76	NA
MW-3	07/25/2006	403	332	<0.500	<0.500	<0.500	<0.500	NA	318	<0.500	<0.500	<0.500	1,110	<0.500	<0.500	NA	13.96	5.76	8.20	NA
MW-3	**10/11/2006**	**485**	**620 h**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**NA**	**269**	**<0.500**	**<0.500**	**<0.500**	**552**	**NA**	**NA**	**NA**	**13.96**	**5.90**	**8.06**	**NA**
MW-4	03/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.50	8.21	1.29	NA
MW-4	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	NA	9.50	5.08	4.42	2.4/2.6
MW-4	07/09/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	9.50	4.64	4.86	2.0/1.5
MW-4	10/23/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	9.50	7.90	1.60	2.8/1.8
MW-4	01/07/2002	<50	64	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	9.50	5.00	4.50	NA

WELL CONCENTRATIONS
Shell-branded Service Station
105 5th Street
Oakland, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-5	07/15/2005	<50	63 d	3.6	<0.50	3.4	<1.0	NA	99	<2.0	<2.0	<2.0	120	NA	NA	NA	14.78	6.31	8.47	NA
MW-5	10/20/2005	160	120 c	5.1	<0.50	17	1.4	NA	79	NA	NA	NA	NA	NA	NA	NA	14.78	6.66	8.12	NA
MW-5	01/24/2006	<50.0	<105	0.840	<0.500	3.53	<0.500	NA	45.2	NA	NA	NA	NA	NA	NA	NA	14.78	6.10	8.68	NA
MW-5	04/14/2006	<50.0	89.2 h	3.00	<0.500	2.70	<0.500	NA	45.8	NA	NA	NA	24.6	NA	NA	NA	14.78	5.63	9.15	NA
MW-5	07/25/2006	59.2	109	1.20	<0.500	3.48	<0.500	NA	37.2	<0.500	<0.500	<0.500	54.2	NA	NA	NA	14.78	6.22	8.56	NA
MW-5	**10/11/2006**	**146**	**172 h**	**4.69**	**<0.500**	**12.6**	**<0.500**	**NA**	**26.2**	**<0.500**	**<0.500**	**<0.500**	**22.7**	**NA**	**NA**	**NA**	**14.78**	**6.41**	**8.37**	**NA**
MW-6	09/25/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.91	5.50	7.41	NA
MW-6	10/15/2002	<500	72	<5.0	<5.0	<5.0	<5.0	NA	2,600	NA	NA	NA	NA	NA	NA	NA	12.91	5.45	7.46	NA
MW-6	01/29/2003	<250	350	<2.5	<2.5	<2.5	<2.5	NA	1,600	NA	NA	NA	NA	NA	NA	NA	12.91	5.20	7.71	NA
MW-6	04/30/2003	<2,500	220	<25	<25	<25	<50	NA	5,900	NA	NA	NA	NA	NA	NA	NA	12.91	5.11	7.80	NA
MW-6	07/22/2003	<500	<50	<5.0	<5.0	<5.0	<10	NA	1,300	NA	NA	NA	NA	NA	NA	NA	12.91	5.46	7.45	NA
MW-6	10/09/2003	<1,000	<50	<10	<10	<10	<20	NA	3,000	NA	NA	NA	NA	NA	NA	NA	12.91	5.51	7.40	NA
MW-6	01/05/2004	<2,500	78 c	<25	<25	<25	<50	NA	3,600	NA	NA	NA	NA	NA	NA	NA	12.91	5.11	7.80	NA
MW-6	04/12/2004	<2,500	<50	<25	<25	<25	<50	NA	4,300	NA	NA	NA	NA	NA	NA	NA	12.91	5.30	7.61	NA
MW-6	07/02/2004	<2,500	<50	<25	<25	<25	<50	NA	2,900	<100	<100	<100	<250	NA	NA	NA	12.91	5.36	7.55	NA
MW-6	10/08/2004	<2,500	<50	<25	<25	<25	<50	NA	3,100	NA	NA	NA	NA	NA	NA	NA	12.91	5.43	7.48	NA
MW-6	01/10/2005	<1,000	<50	<10	<10	<10	<20	NA	2,600	NA	NA	NA	NA	NA	NA	NA	12.91	5.00	7.91	NA
MW-6	04/15/2005	210	100 d	11	<0.50	19	3.4	NA	180	NA	NA	NA	NA	NA	NA	NA	12.91	5.29	7.62	NA
MW-6	07/15/2005	<1,000	<50	<10	<10	<10	<20	NA	1,200	<20	<40	<40	<100	NA	NA	NA	12.91	5.47	7.44	NA
MW-6	10/20/2005	<1,000	<50	<10	<10	<10	<20	NA	1,800	NA	NA	NA	NA	NA	NA	NA	12.91	5.65	7.26	NA
MW-6	01/24/2006	1,690	<111	<0.500	<0.500	<0.500	<0.500	NA	1,270	NA	NA	NA	NA	NA	NA	NA	12.91	5.27	7.64	NA
MW-6	04/14/2006	1,200	<50.0 h	<0.500	<0.500	<0.500	<0.500	NA	1,300	NA	NA	NA	NA	NA	NA	NA	12.91	4.93	7.98	NA
MW-6	07/25/2006	<50.0	<94.3	<0.500	<0.500	<0.500	<0.500	NA	916	<0.500	<0.500	<0.500	<10.0	NA	NA	NA	12.91	5.38	7.53	NA
MW-6	**10/11/2006**	**785**	**54.8 h**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**NA**	**673**	**<0.500**	**<0.500**	**<0.500**	**<10.0**	**NA**	**NA**	**NA**	**12.91**	**5.52**	**7.39**	**NA**
T-1	01/07/2002	<20,000	2,600	310	<200	<200	<200	NA	92,000	NA	NA	NA	NA	NA	NA	NA	NA	4.86	NA	NA
T-1	04/12/2002	<5,000	1,000	230	<50	<50	<50	NA	57,000	NA	NA	NA	NA	NA	NA	NA	NA	5.05	NA	NA
T-1	07/10/2002	<20,000	3,700	260	<200	<200	<200	NA	69,000	NA	NA	NA	NA	NA	NA	NA	NA	5.84	NA	NA
T-1	10/15/2002	<5,000	2,100	150	62	<50	75	NA	29,000	NA	NA	NA	NA	NA	NA	NA	NA	5.77	NA	NA
T-1	01/02/2003	NA	NA	1.5	<0.50	<0.50	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.10	NA	NA
T-1	01/29/2003	1,300	1,200	67	6.5	<2.0	5.2	NA	820	NA	NA	NA	NA	NA	NA	NA	NA	5.49	NA	NA
T-1	04/30/2003	360	1,000	45	0.60	<0.50	2.3	NA	89	NA	NA	NA	NA	NA	NA	NA	NA	4.91	NA	NA
T-1	07/22/2003	1,200	940 c	170	4.8	<2.5	18	NA	150	NA	NA	NA	NA	NA	NA	NA	NA	5.70	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
105 5th Street
Oakland, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 9, 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 July 9, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether, analyzed by EPA Method 8260B
ETBE = Ethyl tertiary butyl ether, analyzed by EPA Method 8260B
TAME = Tertiary amyl methyl ether, analyzed by EPA Method 8260B
TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B
1,2-DCA = 1,2-dichloroethane, analyzed by EPA Method 8260B
EDB = 1,2-dibromomethane or ethlyene dibromide, analyzed by EPA Method 8260B
TOC = Top of Casing Elevation
GW = Groundwater
DO = Dissolved Oxygen
ug/L = Parts per billion
ppm = Parts per million
MSL = Mean sea level
ft. = Feet
<n = Below detection limit
NA = Not applicable
n/n = Pre-purge/Post-purge

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

October 27, 2006

Client: Cambria Env. Tech. (Sonoma) / SHELL (13674)
270 Perkins Street
Sonoma, CA 95476
Attn: Ana Friel

Work Order: NPJ1878
Project Name: 105 Fifth Street, Oakland, CA
Project Nbr: SAP 135700
P/O Nbr: 98995757
Date Received: 10/14/06

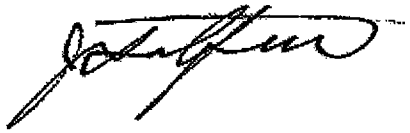
SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-1	NPJ1878-01	10/11/06 10:00
MW-2	NPJ1878-02	10/11/06 11:55
MW-3	NPJ1878-03	10/11/06 12:00
MW-4	NPJ1878-04	10/11/06 10:45
MW-5	NPJ1878-05	10/11/06 10:25
MW-6	NPJ1878-06	10/11/06 09:40
T-1	NPJ1878-07	10/11/06 12:05

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Additional Laboratory Comments:
Revised Report 10-27-06jh 4 Additonal Oxygenates were requested and reported.
California Certification Number: 01168CA

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

Report Approved By:



Jim Hatfield
Project Management

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Cambria Env. Tech. (Sonoma) / SHELL (13674)	Work Order:	NPJ1878
	270 Perkins Street	Project Name:	105 Fifth Street, Oakland, CA
	Sonoma, CA 95476	Project Number:	SAP 135700
Attn	Ana Friel	Received:	10/14/06 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPJ1878-03 (MW-3 - Water) Sampled: 10/11/06 12:00								
Volatile Organic Compounds by EPA Method 8260B								
Tert-Amyl Methyl Ether	ND		ug/L	0.500	1	10/19/06 22:06	SW846 8260B	6103833
Benzene	ND		ug/L	0.500	1	10/19/06 22:06	SW846 8260B	6103833
Ethyl tert-Butyl Ether	ND		ug/L	0.500	1	10/19/06 22:06	SW846 8260B	6103833
Diisopropyl Ether	ND		ug/L	0.500	1	10/19/06 22:06	SW846 8260B	6103833
Ethylbenzene	ND		ug/L	0.500	1	10/19/06 22:06	SW846 8260B	6103833
Methyl tert-Butyl Ether	**269**		ug/L	2.50	5	10/20/06 10:05	SW846 8260B	6104085
Tertiary Butyl Alcohol	**552**		ug/L	10.0	1	10/19/06 22:06	SW846 8260B	6103833
Toluene	ND		ug/L	0.500	1	10/19/06 22:06	SW846 8260B	6103833
Xylenes, total	ND		ug/L	0.500	1	10/19/06 22:06	SW846 8260B	6103833
Surr: 1,2-Dichloroethane-d4 (70-130%)	*88 %*					*10/19/06 22:06*	*SW846 8260B*	*6103833*
Surr: 1,2-Dichloroethane-d4 (70-130%)	*88 %*					*10/20/06 10:05*	*SW846 8260B*	*6104085*
Surr: Dibromofluoromethane (79-122%)	*93 %*					*10/19/06 22:06*	*SW846 8260B*	*6103833*
Surr: Dibromofluoromethane (79-122%)	*95 %*					*10/20/06 10:05*	*SW846 8260B*	*6104085*
Surr: Toluene-d8 (78-121%)	*96 %*					*10/19/06 22:06*	*SW846 8260B*	*6103833*
Surr: Toluene-d8 (78-121%)	*98 %*					*10/20/06 10:05*	*SW846 8260B*	*6104085*
Surr: 4-Bromofluorobenzene (78-126%)	*102 %*					*10/19/06 22:06*	*SW846 8260B*	*6103833*
Surr: 4-Bromofluorobenzene (78-126%)	*99 %*					*10/20/06 10:05*	*SW846 8260B*	*6104085*
Purgeable Petroleum Hydrocarbons								
Gasoline Range Organics	**485**		ug/L	50.0	1	10/19/06 22:06	CA LUFT GC/MS	6103833
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
Diesel	**620**		ug/L	47.2	1	10/18/06 22:53	SW846 8015B	6103048
Surr: o-Terphenyl (55-150%)	*68 %*					*10/18/06 22:53*	*SW846 8015B*	*6103048*
Sample ID: NPJ1878-04 (MW-4 - Water) Sampled: 10/11/06 10:45								
Volatile Organic Compounds by EPA Method 8260B								
Tert-Amyl Methyl Ether	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Benzene	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Ethyl tert-Butyl Ether	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Diisopropyl Ether	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Ethylbenzene	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Methyl tert-Butyl Ether	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Tertiary Butyl Alcohol	ND		ug/L	10.0	1	10/19/06 22:31	SW846 8260B	6103833
Toluene	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Xylenes, total	ND		ug/L	0.500	1	10/19/06 22:31	SW846 8260B	6103833
Surr: 1,2-Dichloroethane-d4 (70-130%)	*90 %*					*10/19/06 22:31*	*SW846 8260B*	*6103833*
Surr: Dibromofluoromethane (79-122%)	*98 %*					*10/19/06 22:31*	*SW846 8260B*	*6103833*
Surr: Toluene-d8 (78-121%)	*96 %*					*10/19/06 22:31*	*SW846 8260B*	*6103833*
Surr: 4-Bromofluorobenzene (78-126%)	*107 %*					*10/19/06 22:31*	*SW846 8260B*	*6103833*
Purgeable Petroleum Hydrocarbons								
Gasoline Range Organics	ND		ug/L	50.0	1	10/19/06 22:31	CA LUFT GC/MS	6103833
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
Diesel	**218**		ug/L	52.1	1	10/18/06 23:12	SW846 8015B	6103048

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Cambria Env. Tech. (Sonoma) / SHELL (13674)	Work Order:	NPJ1878
	270 Perkins Street	Project Name:	105 Fifth Street, Oakland, CA
	Sonoma, CA 95476	Project Number:	SAP 135700
Attn	Ana Friel	Received:	10/14/06 08:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPJ1878-06 (MW-6 - Water) - cont. Sampled: 10/11/06 09:40								
Purgeable Petroleum Hydrocarbons								
Gasoline Range Organics	**785**		ug/L	50.0	1	10/19/06 23:21	CA LUFT GC/MS	6103833
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
Diesel	**54.8**		ug/L	47.2	1	10/18/06 23:48	SW846 8015B	6103048
Surr: o-Terphenyl (55-150%)	*76 %*					*10/18/06 23:48*	*SW846 8015B*	*6103048*
Sample ID: NPJ1878-07 (T-1 - Water) Sampled: 10/11/06 12:05								
Volatile Organic Compounds by EPA Method 8260B								
Tert-Amyl Methyl Ether	**2.30**		ug/L	0.500	1	10/19/06 23:46	SW846 8260B	6103833
Benzene	ND		ug/L	0.500	1	10/19/06 23:46	SW846 8260B	6103833
Ethyl tert-Butyl Ether	**1.93**		ug/L	0.500	1	10/19/06 23:46	SW846 8260B	6103833
Diisopropyl Ether	**1.22**		ug/L	0.500	1	10/19/06 23:46	SW846 8260B	6103833
Ethylbenzene	ND		ug/L	0.500	1	10/19/06 23:46	SW846 8260B	6103833
Methyl tert-Butyl Ether	**4.28**		ug/L	0.500	1	10/20/06 09:40	SW846 8260B	6104085
Tertiary Butyl Alcohol	**91.6**		ug/L	10.0	1	10/19/06 23:46	SW846 8260B	6103833
Toluene	ND		ug/L	0.500	1	10/19/06 23:46	SW846 8260B	6103833
Xylenes, total	ND		ug/L	0.500	1	10/19/06 23:46	SW846 8260B	6103833
Surr: 1,2-Dichloroethane-d4 (70-130%)	*92 %*					*10/19/06 23:46*	*SW846 8260B*	*6103833*
Surr: 1,2-Dichloroethane-d4 (70-130%)	*90 %*					*10/20/06 09:40*	*SW846 8260B*	*6104085*
Surr: Dibromofluoromethane (79-122%)	*99 %*					*10/19/06 23:46*	*SW846 8260B*	*6103833*
Surr: Dibromofluoromethane (79-122%)	*101 %*					*10/20/06 09:40*	*SW846 8260B*	*6104085*
Surr: Toluene-d8 (78-121%)	*101 %*					*10/19/06 23:46*	*SW846 8260B*	*6103833*
Surr: Toluene-d8 (78-121%)	*96 %*					*10/20/06 09:40*	*SW846 8260B*	*6104085*
Surr: 4-Bromofluorobenzene (78-126%)	*100 %*					*10/19/06 23:46*	*SW846 8260B*	*6103833*
Surr: 4-Bromofluorobenzene (78-126%)	*100 %*					*10/20/06 09:40*	*SW846 8260B*	*6104085*
Purgeable Petroleum Hydrocarbons								
Gasoline Range Organics	ND		ug/L	50.0	1	10/19/06 23:46	CA LUFT GC/MS	6103833
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
Diesel	**1540**		ug/L	55.6	1	10/19/06 00:06	SW846 8015B	6103048
Surr: o-Terphenyl (55-150%)	*73 %*					*10/19/06 00:06*	*SW846 8015B*	*6103048*

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Client	Cambria Env. Tech. (Sonoma) / SHELL (13674)	Work Order:	NPJ1878
	270 Perkins Street	Project Name:	105 Fifth Street, Oakland, CA
	Sonoma, CA 95476	Project Number:	SAP 135700
Attn	Ana Friel	Received:	10/14/06 08:45

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6103833-BLK1						
Tert-Amyl Methyl Ether	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Benzene	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Ethyl tert-Butyl Ether	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Diisopropyl Ether	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Ethylbenzene	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Methyl tert-Butyl Ether	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Methyl tert-Butyl Ether	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Tertiary Butyl Alcohol	<5.06		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Toluene	<0.200		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Xylenes, total	<0.350		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Surrogate: 1,2-Dichloroethane-d4	91%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: 1,2-Dichloroethane-d4	91%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: Dibromofluoromethane	94%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: Dibromofluoromethane	94%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: Toluene-d8	100%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: Toluene-d8	100%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: 4-Bromofluorobenzene	104%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: 4-Bromofluorobenzene	104%			6103833	6103833-BLK1	10/19/06 20:26
6104085-BLK1						
Benzene	<0.200		ug/L	6104085	6104085-BLK1	10/20/06 09:15
Ethylbenzene	<0.200		ug/L	6104085	6104085-BLK1	10/20/06 09:15
Methyl tert-Butyl Ether	<0.200		ug/L	6104085	6104085-BLK1	10/20/06 09:15
Toluene	<0.200		ug/L	6104085	6104085-BLK1	10/20/06 09:15
Xylenes, total	<0.350		ug/L	6104085	6104085-BLK1	10/20/06 09:15
Surrogate: 1,2-Dichloroethane-d4	97%			6104085	6104085-BLK1	10/20/06 09:15
Surrogate: Dibromofluoromethane	103%			6104085	6104085-BLK1	10/20/06 09:15
Surrogate: Toluene-d8	98%			6104085	6104085-BLK1	10/20/06 09:15
Surrogate: 4-Bromofluorobenzene	105%			6104085	6104085-BLK1	10/20/06 09:15
Purgeable Petroleum Hydrocarbons						
6103833-BLK1						
Gasoline Range Organics	<50.0		ug/L	6103833	6103833-BLK1	10/19/06 20:26
Surrogate: 1,2-Dichloroethane-d4	91%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: Dibromofluoromethane	94%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: Toluene-d8	100%			6103833	6103833-BLK1	10/19/06 20:26
Surrogate: 4-Bromofluorobenzene	104%			6103833	6103833-BLK1	10/19/06 20:26
Extractable Petroleum Hydrocarbons with Silica Gel Treatment						
6103048-BLK1						
Diesel	<33.0		ug/L	6103048	6103048-BLK1	10/17/06 23:29

Client	Cambria Env. Tech. (Sonoma) / SHELL (13674)	Work Order:	NPJ1878
	270 Perkins Street	Project Name:	105 Fifth Street, Oakland, CA
	Sonoma, CA 95476	Project Number:	SAP 135700
Attn	Ana Friel	Received:	10/14/06 08:45

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6103833-BS1								
Tert-Amyl Methyl Ether	50.0	47.2		ug/L	94%	56 - 145	6103833	10/19/06 19:36
Benzene	50.0	48.6		ug/L	97%	79 - 123	6103833	10/19/06 19:36
Ethyl tert-Butyl Ether	50.0	46.1		ug/L	92%	64 - 141	6103833	10/19/06 19:36
Diisopropyl Ether	50.0	46.8		ug/L	94%	73 - 135	6103833	10/19/06 19:36
Ethylbenzene	50.0	49.8		ug/L	100%	79 - 125	6103833	10/19/06 19:36
Methyl tert-Butyl Ether	50.0	47.2		ug/L	94%	66 - 142	6103833	10/19/06 19:36
Methyl tert-Butyl Ether	50.0	47.2		ug/L	94%	66 - 142	6103833	10/19/06 19:36
Tertiary Butyl Alcohol	500	454		ug/L	91%	42 - 154	6103833	10/19/06 19:36
Toluene	50.0	51.0		ug/L	102%	78 - 122	6103833	10/19/06 19:36
Xylenes, total	150	153		ug/L	102%	79 - 130	6103833	10/19/06 19:36
Surrogate: 1,2-Dichloroethane-d4	50.0	43.9			88%	70 - 130	6103833	10/19/06 19:36
Surrogate: 1,2-Dichloroethane-d4	50.0	43.9			88%	70 - 130	6103833	10/19/06 19:36
Surrogate: Dibromofluoromethane	50.0	49.1			98%	79 - 122	6103833	10/19/06 19:36
Surrogate: Dibromofluoromethane	50.0	49.1			98%	79 - 122	6103833	10/19/06 19:36
Surrogate: Toluene-d8	50.0	49.3			99%	78 - 121	6103833	10/19/06 19:36
Surrogate: Toluene-d8	50.0	49.3			99%	78 - 121	6103833	10/19/06 19:36
Surrogate: 4-Bromofluorobenzene	50.0	50.2			100%	78 - 126	6103833	10/19/06 19:36
Surrogate: 4-Bromofluorobenzene	50.0	50.2			100%	78 - 126	6103833	10/19/06 19:36
6104085-BS1								
Benzene	50.0	47.4		ug/L	95%	79 - 123	6104085	10/20/06 08:24
Ethylbenzene	50.0	45.6		ug/L	91%	79 - 125	6104085	10/20/06 08:24
Methyl tert-Butyl Ether	50.0	44.9		ug/L	90%	66 - 142	6104085	10/20/06 08:24
Toluene	50.0	47.4		ug/L	95%	78 - 122	6104085	10/20/06 08:24
Xylenes, total	150	140		ug/L	93%	79 - 130	6104085	10/20/06 08:24
Surrogate: 1,2-Dichloroethane-d4	50.0	42.4			85%	70 - 130	6104085	10/20/06 08:24
Surrogate: Dibromofluoromethane	50.0	47.2			94%	79 - 122	6104085	10/20/06 08:24
Surrogate: Toluene-d8	50.0	49.1			98%	78 - 121	6104085	10/20/06 08:24
Surrogate: 4-Bromofluorobenzene	50.0	49.3			99%	78 - 126	6104085	10/20/06 08:24
Purgeable Petroleum Hydrocarbons								
6103833-BS1								
Gasoline Range Organics	3050	2730		ug/L	90%	67 - 130	6103833	10/19/06 19:36
Surrogate: 1,2-Dichloroethane-d4	50.0	43.9			88%	70 - 130	6103833	10/19/06 19:36
Surrogate: Dibromofluoromethane	50.0	49.1			98%	70 - 130	6103833	10/19/06 19:36
Surrogate: Toluene-d8	50.0	49.3			99%	70 - 130	6103833	10/19/06 19:36
Surrogate: 4-Bromofluorobenzene	50.0	50.2			100%	70 - 130	6103833	10/19/06 19:36
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
6103048-BS1								
Diesel	1000	845		ug/L	84%	49 - 118	6103048	10/17/06 23:47

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Client	Cambria Env. Tech. (Sonoma) / SHELL (13674)	Work Order:	NPJ1878
	270 Perkins Street	Project Name:	105 Fifth Street, Oakland, CA
	Sonoma, CA 95476	Project Number:	SAP 135700
Attn	Ana Friel	Received:	10/14/06 08:45

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
6103833-MS1										
Tert-Amyl Methyl Ether	ND	43.1		ug/L	50.0	86%	45 - 155	6103833	NPJ1917-08	10/20/06 18:27
Benzene	ND	47.3		ug/L	50.0	95%	71 - 137	6103833	NPJ1917-08	10/20/06 18:27
Ethyl tert-Butyl Ether	ND	43.1		ug/L	50.0	86%	57 - 148	6103833	NPJ1917-08	10/20/06 18:27
Diisopropyl Ether	ND	44.3		ug/L	50.0	89%	67 - 143	6103833	NPJ1917-08	10/20/06 18:27
Ethylbenzene	ND	46.9		ug/L	50.0	94%	72 - 139	6103833	NPJ1917-08	10/20/06 18:27
Methyl tert-Butyl Ether	ND	42.5		ug/L	50.0	85%	55 - 152	6103833	NPJ1917-08	10/20/06 18:27
Methyl tert-Butyl Ether	ND	42.5		ug/L	50.0	85%	55 - 152	6103833	NPJ1917-08	10/20/06 18:27
Tertiary Butyl Alcohol	ND	499		ug/L	500	100%	19 - 183	6103833	NPJ1917-08	10/20/06 18:27
Toluene	ND	46.9		ug/L	50.0	94%	73 - 133	6103833	NPJ1917-08	10/20/06 18:27
Xylenes, total	ND	142		ug/L	150	95%	70 - 143	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: 1,2-Dichloroethane-d4		45.2		ug/L	50.0	90%	70 - 130	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: 1,2-Dichloroethane-d4		45.2		ug/L	50.0	90%	70 - 130	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: Dibromofluoromethane		49.2		ug/L	50.0	98%	79 - 122	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: Dibromofluoromethane		49.2		ug/L	50.0	98%	79 - 122	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: Toluene-d8		49.7		ug/L	50.0	99%	78 - 121	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: Toluene-d8		49.7		ug/L	50.0	99%	78 - 121	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: 4-Bromofluorobenzene		47.9		ug/L	50.0	96%	78 - 126	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: 4-Bromofluorobenzene		47.9		ug/L	50.0	96%	78 - 126	6103833	NPJ1917-08	10/20/06 18:27
6104085-MS1										
Benzene	ND	50.8		ug/L	50.0	102%	71 - 137	6104085	NPJ1917-02	10/20/06 17:37
Ethylbenzene	ND	50.4		ug/L	50.0	101%	72 - 139	6104085	NPJ1917-02	10/20/06 17:37
Methyl tert-Butyl Ether	ND	44.5		ug/L	50.0	89%	55 - 152	6104085	NPJ1917-02	10/20/06 17:37
Toluene	ND	51.1		ug/L	50.0	102%	73 - 133	6104085	NPJ1917-02	10/20/06 17:37
Xylenes, total	ND	156		ug/L	150	104%	70 - 143	6104085	NPJ1917-02	10/20/06 17:37
Surrogate: 1,2-Dichloroethane-d4		44.9		ug/L	50.0	90%	70 - 130	6104085	NPJ1917-02	10/20/06 17:37
Surrogate: Dibromofluoromethane		49.1		ug/L	50.0	98%	79 - 122	6104085	NPJ1917-02	10/20/06 17:37
Surrogate: Toluene-d8		49.6		ug/L	50.0	99%	78 - 121	6104085	NPJ1917-02	10/20/06 17:37
Surrogate: 4-Bromofluorobenzene		48.6		ug/L	50.0	97%	78 - 126	6104085	NPJ1917-02	10/20/06 17:37
Purgeable Petroleum Hydrocarbons										
6103833-MS1										
Gasoline Range Organics	ND	2280		ug/L	3050	75%	60 - 140	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: 1,2-Dichloroethane-d4		45.2		ug/L	50.0	90%	0 - 200	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: Dibromofluoromethane		49.2		ug/L	50.0	98%	0 - 200	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: Toluene-d8		49.7		ug/L	50.0	99%	0 - 200	6103833	NPJ1917-08	10/20/06 18:27
Surrogate: 4-Bromofluorobenzene		47.9		ug/L	50.0	96%	0 - 200	6103833	NPJ1917-08	10/20/06 18:27

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Client	Cambria Env. Tech. (Sonoma) / SHELL (13674)	Work Order:	NPJ1878
	270 Perkins Street	Project Name:	105 Fifth Street, Oakland, CA
	Sonoma, CA 95476	Project Number:	SAP 135700
Attn	Ana Friel	Received:	10/14/06 08:45

PROJECT QUALITY CONTROL DATA
Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
6103833-MSD1												
Tert-Amyl Methyl Ether	ND	44.7		ug/L	50.0	89%	45 - 155	4	24	6103833	NPJ1917-08	10/20/06 18:52
Benzene	ND	49.9		ug/L	50.0	100%	71 - 137	5	23	6103833	NPJ1917-08	10/20/06 18:52
Ethyl tert-Butyl Ether	ND	44.4		ug/L	50.0	89%	57 - 148	3	22	6103833	NPJ1917-08	10/20/06 18:52
Diisopropyl Ether	ND	46.0		ug/L	50.0	92%	67 - 143	4	22	6103833	NPJ1917-08	10/20/06 18:52
Ethylbenzene	ND	48.4		ug/L	50.0	97%	72 - 139	3	23	6103833	NPJ1917-08	10/20/06 18:52
Methyl tert-Butyl Ether	ND	45.8		ug/L	50.0	92%	55 - 152	7	27	6103833	NPJ1917-08	10/20/06 18:52
Methyl tert-Butyl Ether	ND	45.8		ug/L	50.0	92%	55 - 152	7	27	6103833	NPJ1917-08	10/20/06 18:52
Tertiary Butyl Alcohol	ND	546		ug/L	500	109%	19 - 183	9	39	6103833	NPJ1917-08	10/20/06 18:52
Toluene	ND	49.3		ug/L	50.0	99%	73 - 133	5	25	6103833	NPJ1917-08	10/20/06 18:52
Xylenes, total	ND	146		ug/L	150	97%	70 - 143	3	27	6103833	NPJ1917-08	10/20/06 18:52
Surrogate: 1,2-Dichloroethane-d4		45.7		ug/L	50.0	91%	70 - 130			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: 1,2-Dichloroethane-d4		45.7		ug/L	50.0	91%	70 - 130			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: Dibromofluoromethane		47.6		ug/L	50.0	95%	79 - 122			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: Dibromofluoromethane		47.6		ug/L	50.0	95%	79 - 122			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: Toluene-d8		49.4		ug/L	50.0	99%	78 - 121			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: Toluene-d8		49.4		ug/L	50.0	99%	78 - 121			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: 4-Bromofluorobenzene		48.0		ug/L	50.0	96%	78 - 126			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: 4-Bromofluorobenzene		48.0		ug/L	50.0	96%	78 - 126			6103833	NPJ1917-08	10/20/06 18:52
6104085-MSD1												
Benzene	ND	47.4		ug/L	50.0	95%	71 - 137	7	23	6104085	NPJ1917-02	10/20/06 18:02
Ethylbenzene	ND	50.0		ug/L	50.0	100%	72 - 139	0.8	23	6104085	NPJ1917-02	10/20/06 18:02
Methyl tert-Butyl Ether	ND	43.7		ug/L	50.0	87%	55 - 152	2	27	6104085	NPJ1917-02	10/20/06 18:02
Toluene	ND	49.8		ug/L	50.0	100%	73 - 133	3	25	6104085	NPJ1917-02	10/20/06 18:02
Xylenes, total	ND	152		ug/L	150	101%	70 - 143	3	27	6104085	NPJ1917-02	10/20/06 18:02
Surrogate: 1,2-Dichloroethane-d4		48.2		ug/L	50.0	96%	70 - 130			6104085	NPJ1917-02	10/20/06 18:02
Surrogate: Dibromofluoromethane		46.5		ug/L	50.0	93%	79 - 122			6104085	NPJ1917-02	10/20/06 18:02
Surrogate: Toluene-d8		51.0		ug/L	50.0	102%	78 - 121			6104085	NPJ1917-02	10/20/06 18:02
Surrogate: 4-Bromofluorobenzene		49.0		ug/L	50.0	98%	78 - 126			6104085	NPJ1917-02	10/20/06 18:02
Purgeable Petroleum Hydrocarbons												
6103833-MSD1												
Gasoline Range Organics	ND	2430		ug/L	3050	80%	60 - 140	6	40	6103833	NPJ1917-08	10/20/06 18:52
Surrogate: 1,2-Dichloroethane-d4		45.7		ug/L	50.0	91%	0 - 200			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: Dibromofluoromethane		47.6		ug/L	50.0	95%	0 - 200			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: Toluene-d8		49.4		ug/L	50.0	99%	0 - 200			6103833	NPJ1917-08	10/20/06 18:52
Surrogate: 4-Bromofluorobenzene		48.0		ug/L	50.0	96%	0 - 200			6103833	NPJ1917-08	10/20/06 18:52

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Cambria Env. Tech. (Sonoma) / SHELL (13674)	Work Order:	NPJ1878
	270 Perkins Street	Project Name:	105 Fifth Street, Oakland, CA
	Sonoma, CA 95476	Project Number:	SAP 135700
Attn	Ana Friel	Received:	10/14/06 08:45

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	Matrix	Analyte
CA LUFT GC/MS	Water	Gasoline Range Organics
SW846 8015B	Water	Diesel

TestAmerica
ANALYTICAL TESTING CORPORATION

Nashville Division

COOLER RECEIPT FORM **BC#**

Cooler Received/Opened On 10/14/2006 @ 0845

1. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below: 1Z 97E 15W 44 4109 6424

Fed-Ex (UPS) Velocity DHL Route Off-street Misc.

2. Temperature of representative sample or temperature blank when opened: 2.5 Degrees Celsius
(indicate IR Gun ID#)

NA A00466 A00750 A01124 100190 101282 (Raynger ST)

3. Were custody seals on outside of cooler?..... YES..(NO)...NA

a. If yes, how many and where: NA

4. Were the seals intact, signed, and dated correctly?..... YES....NO..(NA)

5. Were custody papers inside cooler?..... YES..(NO)..NA

I certify that I opened the cooler and answered questions 1-5 (intial)..... RW

6. Were custody seals on containers: YES (NO) and Intact YES NO (NA)

were these signed, and dated correctly?..... YES...NO...NA

7. What kind of packing material used? Bubblewrap Peanuts Vermiculite Foam Insert

Plastic bag Paper Other_____ None

8. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

9. Did all containers arrive in good condition (unbroken)?..... (YES)...NO...NA

10. Were all container labels complete (#, date, signed, pres., etc)?..... YES...NO...NA

11. Did all container labels and tags agree with custody papers?..... YES...NO...NA

12. a. Were VOA vials received?..... YES...NO...NA

b. Was there any observable head space present in any VOA vial?..... YES...(NO)..NA

I certify that I unloaded the cooler and answered questions 6-12 (intial)..... CC

13. a. On preserved bottles did the pH test strips suggest that preservation reached the correct pH level? YES...NO...(NA)

b. Did the bottle labels indicate that the correct preservatives were used..... YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

14. Was residual chlorine present?..... YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 13-14 (intial)..... CC

15. Were custody papers properly filled out (ink, signed, etc)?..... YES...NO...NA

16. Did you sign the custody papers in the appropriate place?..... YES...NO...NA

17. Were correct containers used for the analysis requested?..... YES...NO...NA

18. Was sufficient amount of sample sent in each container?..... YES...NO...NA

I certify that I entered this project into LIMS and answered questions 15-18 (intial)..... CC

I certify that I attached a label with the unique LIMS number to each container (intial)..... CC

19. Were there Non-Conformance issues at login YES (NO) Was a PIPE generated YES (NO) #_____

BIS = Broken in shipment

WELLHEAD INSPECTION CHECKLIST

Client Shell Date 10/11/06

Site Address 105 5th St, Oakland

Job Number ~~06104106~~ 06101em1 Technician F Mora

Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12"or less)	WELL IS MARKED WITH THE WORDS "MONITORING WELL" (12"or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1	✓	✓	✓							
MW-2	✓	✓	✓							
MW-3	✓	✓	✓							
MW-4		✓	✓							X
MW-5		✓	✓			X	X			X
MW-6		✓	✓							X
T-1	vault	NO								

NOTES: apron cracked MW 6 + 5

MW-5 need to replace 4" cap (Crane on hand) + lock

MW-4 - bad ground seal

SHELL WELL MONITORING DATA SHEET

BTS #: 061011em1	Site: 98995757
Sampler: E Morse	Date: 10/11/06
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 23.60	Depth to Water (DTW): 6.00
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.52	

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other______

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

11.4 (Gals.) X 3 = 34.2 Gals.
1 Case Volume — Specified Volumes — Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
949	69.9	7.2	551	14	12.0	
951	70.2	7.2	480	12	24.0	
953	70.5	7.1	469	12	36.0	
	Briefly waited for 80%					

Did well dewater? Yes (No) Gallons actually evacuated: 36.0

Sampling Date: 10/11/06 Sampling Time: 1000 Depth to Water: 9.52

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

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 060llem1	Site: 98995757
Sampler: E Morse	Date: 10/11/06
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 24.84	Depth to Water (DTW): 5.90
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.68	

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

Sampling Method: ✕ Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other:

12.3 (Gals.) X 3 = 36.9 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1057	64.8	6.9	1055	110	12.5	
1100	65.3	7.0	1020	42	~~12~~ 250	
1102	65.6	7.0	997	30	37.5	
not @		80%				

Did well dewater? Yes (No) Gallons actually evacuated: 37.5

Sampling Date: 10/11/06 Sampling Time: 1200 Depth to Water: 6.41

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

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 061011emi	Site: 98995757
Sampler: E Morse	Date: 10/11/06
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 24.15	Depth to Water (DTW): 6.41
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.96	

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

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

11.5 (Gals.) X 3 = 34.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1008	71.7	6.8	588	10	12.0	
1010	72.0	6.7	600	9	24.0	
1012	71.8	6.8	615	11	36.0	
Waited for			80%			

Did well dewater? Yes No Gallons actually evacuated: 36.0

Sampling Date: 10/11/06 Sampling Time: 1025 Depth to Water: 9.96

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

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 06101em1	Site: 98995757
Sampler: E. Morse	Date: 10/11/06
Well I.D.: T-1	Well Diameter: 2 3 4 6 8 (12)
Total Well Depth (TD): 11.56	Depth to Water (DTW): 5.65
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.83	

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

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

34.7 (Gals.) X 3 = 104.1 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

5.87

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1133	72.5	7.1	959	5	35.0	
1140	72.9	7.1	905	4	70.0	
1147	73.3	7.0	901	4	105	

Did well dewater? Yes (No) Gallons actually evacuated: 105

Sampling Date: 10/11/06 Sampling Time: 1205 Depth to Water: 5.68

Sample I.D.: T-1 Laboratory: STL (Other TA)

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

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

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

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

ATTACHMENT B

Boring Log

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

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-1
JOB/SITE NAME	oak105	**DRILLING STARTED**	14-May-99
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	14-May-99
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	15.49' ft above msl
DRILLING METHOD	Hollow-stem auger		
BORING DIAMETER	10"	**SCREENED INTERVALS**	4 to 24 fbg
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	15.8 fbgNA ▽
REVIEWED BY	Darryk Ataide	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	DEPTH (fbg)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SAND; (SAND); brown; soft; 5% silt, 90% sand, 5% gravel; low plasticity; high estimated permeability.		Portland Type I/II
							Bentonite Seal
	2						Monterey Sand #3
	3				2 4' - 5% silt, 95% sand.		
0	6	MW-1@ 5.5	5				
					2 4' - 5% clay, 5% silt, 90% sand.		
	13						
	15						
3.5	20	MW-1 @10.5	10				
				SP			
	N/A						4"-diam., 0.010" Slotted Schedule 40 PVC
	N/A				@ 14' - color brown, orange, rust		
	N/A	MW-1 @15.5	15		▽		
	7						
	10						
0	20	MW-1 @20.5	20				
	3/18						
0		MW-1 @25.5	25			25.5	Bottom of Boring @ 25.5 fbg

WELL LOG (PID) \\10CAMENVDCSONOMA.SHELL\OAKLAND 105 FIFTHGINT\OAK105.GPJ DEFAULT.GDT 11/21/06

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

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-2
JOB/SITE NAME	oak105	**DRILLING STARTED**	14-May-99
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	14-May-99
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	13.92' ft above msl
DRILLING METHOD	Hollow-stem auger		
BORING DIAMETER	10"	**SCREENED INTERVALS**	4 to 24 fbg
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	14.0 fbgNA
REVIEWED BY	Darryk Ataide	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
							ASPHLAT	0.8
	4 4 6	MW-2 @5.5		5	ML		**Sandy SILT** (ML); black; soft; 60% silt, 40% sand; low plasiticity; high estimated permeability.	7.5
402	10 15 26	MW-2 @10.5		10	SP		**Silty SAND** (SP); grey-black; soft; moist, 30% silt, 70% sand; high plasiticity; high estimated permeability.	12.5
279	17 30 50	MW-2 @15.5		15	SP		**SAND** (SP); brown, rust, grey; soft; wet; 5% silt, 95% sand; low plasiticity; high estimated permeability. ▽	22.5
134	8 8 10	MW-2 @20.5		20				
9.4	2 2 3	MW-2 @25.5		25	GM		**Silty SAND** (ML); brown, rust; soft; wet; 5% clay, 15% silt, 80% sand; low plasiticity; high estimated permeability.	25.5
1.2								

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #3
- 4"-diam., 0.010" Slotted Schedule 40 PVC
- Bottom of Boring @ 25.5 fbg

WELL LOG (PID) \\10CAMENVDC\SSONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 11/21/06

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

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-3
JOB/SITE NAME	oak105	**DRILLING STARTED**	14-May-99
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	14-May-99
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	14.46' ft above msl
DRILLING METHOD	Hollow-stem auger (Limited Access Rig)		
BORING DIAMETER	10"	**SCREENED INTERVALS**	5 to 25 fbg
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	12.5 fbgNA
REVIEWED BY	Darryk Ataide	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
	N/A						**ASHPALT**	0.8
							Silty SAND (SM); black; soft; moist; 30% silt, 70% sand; low plasiticity; high estimated permeability.	
					SP			
	N/A			5				
	N/A							
28.7	N/A	MW-3 @6.5						
								7.5
							SAND (SP); brown rust; soft; moist; 5% silt, 95% sand; low plasiticity; high estimated permeability.	
	N/A			10				
	N/A							
71.1	N/A	MW-3 @11.5						
							▽	
	N/A			15			@ 15' - brown, grey, rust; soft-medium; wet.	
	N/A							
	N/A	MW-3 @18.5			SP			
							@ 17.5 - brown, grey, rust; medium; wet; 10% clay,10% silt, 80% sand; medium-high estimated permeability.	
	N/A			20				
	N/A							
57.1	N/A	MW-3 @21.5						
	N/A							
	N/A							
21.1	N/A	MW-3 @25.0		25				25.0

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #3
- 4"-diam., 0.010" Slotted Schedule 40 PVC
- Bottom of Boring @ 25 fbg

WELL LOG (PID) \\10CAMENVDC\SONOMA SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 11/21/06

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

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-4
JOB/SITE NAME	oak105	**DRILLING STARTED**	12-Feb-01
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	12-Feb-01
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	12.31' ft above msl
DRILLING METHOD	Hollow-stem auger		
BORING DIAMETER	8"	**SCREENED INTERVALS**	10 to 25 fbg
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	10.0 fbg (12-Feb-01) ▽
REVIEWED BY	S. Bork, RG# 5626	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
							ASPHALT	0.5
							FILL; brown; damp; 10% silt, 90% fine to medium grained sand.	
		MW-4-5.0		5	SP		**SAND** (SP); black; damp; 10% silt, 90% fine grained sand; no plasticity.	5.0
		MW-4-10.0		10	SM		▽ **Silty SAND**(SM); dark reddish brown; moist; 25% silt, 75% fine grained sand; oxidation; low plasticity.	10.0
		MW-4-15.0		15	SC		**Clayey SAND**(SC); greyish brown; wet; 20% clay, 80% fine grained sand; low to medium plasticity.	15.0
		MW-4-20.0		20	SM		**Silty SAND**(SM); grey; saturated; 5% clay, 15% silt, 80% fine grained sand; low plasticity.	20.0
				25				25.0

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #2/12
- 2"-diam., 0.020" Slotted Schedule 40 PVC
- Bottom of Boring @ 25 fbg

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 11/21/06

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Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-5
JOB/SITE NAME	oak105	**DRILLING STARTED**	08-Mar-02
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	08-Mar-02
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	29-Mar-02
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	15.05 ft above msl
DRILLING METHOD	Hollow-stem auger		
BORING DIAMETER	4"	**SCREENED INTERVALS**	4 to 24 fbg
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	10.0 fbg (08-Mar-02)
REVIEWED BY	D. Lundquist, PE	**DEPTH TO WATER (Static)**	5.96 fbg (12-Apr-02)

REMARKS Hand augered to 5 fbg. Located approximately 50' north of the UST complex.

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.5	Portland Type I/II Cement
							SAND (SP); black; soft; damp; 5% silt, 95% fine sand; strong odor; no plasticity.		Bentonite Seal
									Monterey Sand #2/12
		MW-5- 5.0		5	SP		@ 5 fbg- greenish black; damp; 15% silt, 85% fine sand; strong odor; no plasticity.		
								10.0	
		MW-5- 10.0		10			**Silty SAND** (SM); grayish brown; wet; 20% silt, 80% fine sand; odor; low plasticity.		
									4"-diam., 0.010" Slotted Schedule 40 PVC
		MW-5- 15.0		15			@ 15 fbg- reddish brown; wet; 5% clay, 20% silt, 75% fine sand; odor; low plasticity.		
					SM				
		MW-5- 20.0		20			@ 20 fbg- reddish dark brown.		
		MW-5- 23.5					@ 23.5 fbg- stiff; 20% silt, 80% sand; weathered sandstone fragments.	24.0	Bottom of Boring @ 24 fbg

WELL LOG (PID) W:\OCAMEN\VDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 11/21/06

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Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME Equiva Services LLC
JOB/SITE NAME oak105
LOCATION 105 Fifth Street, Oakland, California
PROJECT NUMBER 244-0472
DRILLER Gregg Drilling
DRILLING METHOD
BORING DIAMETER
LOGGED BY C. Empedocles
REVIEWED BY
REMARKS 5 ft north of northern dispenser.

BORING/WELL NAME SB-1
DRILLING STARTED 23-Jul-98
DRILLING COMPLETED 23-Jul-98
WELL DEVELOPMENT DATE (YIELD) NA
GROUND SURFACE ELEVATION Not Surveyed
TOP OF CASING ELEVATION NA
SCREENED INTERVAL NA
DEPTH TO WATER (First Encountered) 6.0 ft
DEPTH TO WATER (Static) NA

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	
					SM		**Silty SAND** (SM); brown; medium dense; moist; 5% clay, 15% silt, 80% clay; high estimated permeability.	5.0	Water encountered @ 6 ft.
				5					
					SM		dense, 5% clay, 20% silt, 75% sand.	10.0	
				10	SM			11.0	Bottom of Boring @ 11 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/08

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Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME Equiva Services LLC
JOB/SITE NAME oak105
LOCATION 105 Fifth Street, Oakland, California
PROJECT NUMBER 244-0472
DRILLER Gregg Drilling
DRILLING METHOD
BORING DIAMETER
LOGGED BY C. Empedocles
REVIEWED BY
REMARKS 5 ft north of western dispenser.

BORING/WELL NAME SB-2
DRILLING STARTED 23-Jul-98
DRILLING COMPLETED 23-Jul-98
WELL DEVELOPMENT DATE (YIELD) NA
GROUND SURFACE ELEVATION Not Surveyed
TOP OF CASING ELEVATION NA
SCREENED INTERVAL NA
DEPTH TO WATER (First Encountered) 9.0 ft
DEPTH TO WATER (Static) NA

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	
					SM		**Silty SAND** (SM); dark brown; medium dense; moist; 5% clay, 25% silt, 70% medium grained sand; high estimated permeability.	5.0	
				5					
					SM		wet.	10.0	Water encountered @ 9 ft.
				10	SM			11.0	Bottom of Boring @ 11 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-3
JOB/SITE NAME	oak105	**DRILLING STARTED**	23-Jul-98
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	23-Jul-98
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD		**TOP OF CASING ELEVATION**	NA
BORING DIAMETER		**SCREENED INTERVAL**	NA
LOGGED BY	C. Empedocles	**DEPTH TO WATER (First Encountered)**	9.0 ft ▽
REVIEWED BY		**DEPTH TO WATER (Static)**	NA ▼
REMARKS	5 ft south of northeast dispenser.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	
					SM		**Silty SAND** (SM); dark brown with green; medium dense; moist; 5% clay, 20% silt, 75% sand; high estimated permeability.	5.0	
				5					
					SM		▽		Water encountered @ 9 ft.
				10			light brown with green; wet.	10.0	
					SM			12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) \\10CAMEN\DCSONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-4
JOB/SITE NAME	oak105	**DRILLING STARTED**	23-Jul-98
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	23-Jul-98
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD		**TOP OF CASING ELEVATION**	NA
BORING DIAMETER		**SCREENED INTERVAL**	NA
LOGGED BY	C. Empedocles	**DEPTH TO WATER (First Encountered)**	9.0 ft ▽
REVIEWED BY		**DEPTH TO WATER (Static)**	NA ▼
REMARKS	15 ft northeast of southern dispenser.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	
					SM		**Silty SAND** (SM); dark brown; moist; 5% clay, 20% silt, 70% sand, 5% gravel; high estimated permeability.	5.0	
				5					
					SM		▽		Water encountered @ 9 ft.
				10			brown; wet.	10.0	
					SM			12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

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Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME Equiva Services LLC
JOB/SITE NAME oak105
LOCATION 105 Fifth Street, Oakland, California
PROJECT NUMBER 244-0472
DRILLER Gregg Drilling
DRILLING METHOD
BORING DIAMETER
LOGGED BY C. Empedocles
REVIEWED BY
REMARKS 5 ft south of southern dispenser.

BORING/WELL NAME SB-5
DRILLING STARTED 23-Jul-98
DRILLING COMPLETED 23-Jul-98
WELL DEVELOPMENT DATE (YIELD) NA
GROUND SURFACE ELEVATION Not Surveyed
TOP OF CASING ELEVATION NA
SCREENED INTERVAL NA
DEPTH TO WATER (First Encountered) 8.0 ft ▽
DEPTH TO WATER (Static) NA ▼

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	
					SM		**Silty SAND** (SM); dark brown; medium dense; moist; 5% clay, 20% silt, 70% sand, 5% gravel; high estimated permeability.	5.0	
				5					
					SM		▽		Water encountered @ 8 ft.
				10			brown; wet; 5% clay, 15% silt, 80% medium grained sand.	10.0	
					SM			12.0	Bottom of Boring @ 12 ft

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-6
JOB/SITE NAME	oak105	**DRILLING STARTED**	12-Feb-01
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	12-Feb-01
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	10.0 ft (12-Feb-01) ▽
REVIEWED BY	S. Bork, RG# 5626	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.3	
							FILL; dark brown; damp; 20% silt, 80% fine to medium grained sand; low plasticity.		
		SB-6-5.0		5	SP		**SAND** (SP); reddish brown; damp; 10% silt, 90% fine to medium grained sand; no plasticity.	5.0	
		SB-6-10.0		10	SM		▽ **Silty SAND** (SM); brown; moist; 25% silt, 75% fine grained sand; low plasticity.	10.0	Portland Type I/II
		SB-6-15.0		15	SC		**Clayey SAND** (SC); brown; wet; 20% clay, 80% fine grained sand; low to medium plasticity.	15.0	
		SB-6-20.0		20			@ 20 fbg - greyish brown; saturated; 25% clay, 10% silt, 65% fine grained sand.		
				25				25.0	Bottom of Boring @ 25 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-7
JOB/SITE NAME	oak105	**DRILLING STARTED**	12-Feb-01
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	12-Feb-01
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	10.0 ft (12-Feb-01) ▽
REVIEWED BY	S. Bork, RG# 5626	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.3	
							FILL; brown; damp; 20% silt, 80% fine to medium grained sand; low plasticity.		
		SB-7-5.0		5	SP		**SAND** (SP); reddish brown; damp; 10% silt, 90% fine to medium grained sand; no plasticity.	5.0	
		SB-7-10.0		10	SM		▽ **Silty SAND**(SM); brown; moist; 25% silt, 75% fine grained sand; low plasticity.	10.0	Portland Type I/II
		SB-7-15.0		15			@ 14 fbg - yellowish grey brown. **Clayey SAND**(SC); grey brown; moist; 20% clay, 80% fine grained sand; low to medium plasticity.	15.0	
		SB-7-20.0		20	SC		@ 20 fbg - saturated; 20% clay, 15% silt, 65% fine grained sand.		
				25				25.0	Bottom of Boring @ 25 ft

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Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-8
JOB/SITE NAME	oak105	**DRILLING STARTED**	07-Mar-02
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	07-Mar-02
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	9.0 ft (07-Mar-02) ▽
REVIEWED BY	S. Bork, RG# 5626	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	1.0	
					ML		**Gravelly SILT**(ML); grayish brown; damp; 70% silt, 10% fine sand, 20% fine subangular gravel; very strong odor; low plasticity.	3.0	
					SM		**Silty SAND**(SM); greenish brown; damp; 30% silt, 70% fine to medium sand; staining; strong odor; low plasticity.	5.0	
				5	SP		**SAND** (SP); grayish brown; damp to moist; 10% silt, 90% fine sand; odor; no plasticity.		◄ Portland Type I/II Cement
		SB-8-8.0					▽	9.0	
				10	SM		**Silty SAND**(SM); grayish brown; wet; 20% silt, 80% fine sand; odor; low plasticity.		
							@ 13 fbg- gray; stiff.	14.0	Bottom of Boring @ 14 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/8/06

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Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME Equiva Services LLC
JOB/SITE NAME oak105
LOCATION 105 Fifth Street, Oakland, California
PROJECT NUMBER 244-0472
DRILLER Gregg Drilling
DRILLING METHOD Hydraulic push
BORING DIAMETER 2"
LOGGED BY S. Couch
REVIEWED BY S. Bork, RG# 5626
REMARKS Hand augered to 5'.

BORING/WELL NAME SB-9
DRILLING STARTED 07-Mar-02
DRILLING COMPLETED 07-Mar-02
WELL DEVELOPMENT DATE (YIELD) NA
GROUND SURFACE ELEVATION Not Surveyed
TOP OF CASING ELEVATION NA
SCREENED INTERVAL NA
DEPTH TO WATER (First Encountered) 10.0 ft (07-Mar-02)
DEPTH TO WATER (Static) NA

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	1.0	Portland Type I/II Cement
					ML		**Gravelly SILT**(ML); grayish brown; damp; 65% silt, 15% fine sand, 20% fine subangular gravel; strong odor; low plasticity.	3.0	
					SM		**Silty SAND**(SM); light grayish brown; damp; 20% silt, 80% fine to medium sand; odor; low plasticity.	5.0	
		SB-9-7.5		5	SP		**SAND** (SP); grayish brown; damp to moist; 5% silt, 95% fine sand; no plasticity. @ 7 fbg- 10% silt, 90% fine sand.		
				10	SM		▽ **Silty SAND**(SM); grayish brown; wet; 25% silt, 75% fine sand; low plasticity. @ 12 fbg- brownish gray; 20% silt, 80% fine sand.	10.0	
				15	SP		**SAND** (SP); dark gray; wet; 90% sand, 10% silt; no plasticity.	14.0 16.0	Bottom of Boring @ 16 ft

WELL LOG (PID) \\110CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-10
JOB/SITE NAME	oak105	**DRILLING STARTED**	07-Mar-02
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	07-Mar-02
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	10.0 ft (07-Mar-02) ▽
REVIEWED BY	S. Bork, RG# 5626	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	1.0	
					ML		**Gravelly SILT**(ML); grayish brown; damp; 65% silt, 15% fine sand, 20% fine subangular gravel; low plasticity.	3.0	
					SM		**Silty SAND**(SM); light grayish brown; damp; 20% silt, 80% fine to medium sand; low plasticity.	5.0	
				5	SP		**SAND** (SP); grayish brown; damp; 5% silt, 95% fine sand; no plasticity.		
		SB-10-8.0					@ 8 fbg- 10% silt, 90% fine sand.		◄ Portland Type I/II Cement
				10			▽	10.0	
					SM		**Silty SAND**(SM); grayish brown; moist to wet; 20% silt, 80% fine sand; low plasticity.		
							@ 12 fbg- gray; 15% silt, 85% fine sand.	14.0	
				15	SP		**SAND** (SP); dark gray; wet; 90% sand, 10% silt; no plasticity.		
							@ 17 fbg- 100% sand.	18.0	Bottom of Boring @ 18 ft

WELL LOG (PID) \\10CAMENV\DC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

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Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-11
JOB/SITE NAME	oak105	**DRILLING STARTED**	07-Mar-02
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	07-Mar-02
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	10.0 ft (07-Mar-02) ▽
REVIEWED BY	S. Bork, RG# 5626	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	1.0	
					ML		**Gravelly SILT**(ML); grayish brown; damp; 65% silt, 15% fine sand, 20% fine subangular gravel; low plasticity.	3.0	
					SM		**Silty SAND**(SM); grayish brown; damp; 25% silt, 75% fine to medium sand; low plasticity.	5.0	
		SB-11-7.5		5	SP		**SAND** (SP); grayish brown; damp; 5% silt, 95% fine sand; no plasticity. @ 7 fbg- 10% silt, 90% fine sand.		
				10	SM		▽ **Silty SAND**(SM); grayish brown; moist to wet; 20% silt, 80% fine sand; low plasticity. @ 12 fbg- gray; 15% silt, 85% fine sand.	10.0 14.0	◄ Portland Type I/II Cement
				15	SP		**SAND** (SP); dark gray; wet; 95% sand, 5% silt; no plasticity. @ 16.5 fbg- 100% sand.		
				20				20.0	Bottom of Boring @ 20 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

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Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-12
JOB/SITE NAME	oak105	**DRILLING STARTED**	07-Mar-02
LOCATION	105 Fifth Street, Oakland, California	**DRILLING COMPLETED**	07-Mar-02
PROJECT NUMBER	244-0472	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	10.0 ft (07-Mar-02)
REVIEWED BY	S. Bork, RG# 5626	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	1.0	
					ML		**Gravelly SILT**(ML); grayish brown; damp; 70% silt, 10% fine sand, 20% fine subangular gravel; low plasticity.	3.0	
					SM		**Silty SAND**(SM); grayish brown; damp; 25% silt, 75% fine to medium sand; low plasticity.	5.0	
				5			**SAND** (SP); grayish brown; damp; 5% silt, 95% fine sand; no plasticity.		
		SB-12-8.0			SP				
				10			▽ **Silty SAND**(SM); grayish brown; moist to wet; 20% silt, 80% fine sand; low plasticity.	10.0	◄ Portland Type I/II Cement
					SM		@ 13 fbg- gray; stiff.	14.0	
				15			**SAND** (SP); dark gray; wet; 95% sand, 5% silt; no plasticity.		
					SP		@ 17 fbg- 100% sand.		
				20				22.0	Bottom of Boring @ 22 ft

WELL LOG (PID) \\10CAMENVDC\SONOMA.SHELL\OAKLAND 105 FIFTH\GINT\OAK105.GPJ DEFAULT.GDT 12/6/06

PROJECT NAME: SHELL SERVICE STATION		SITE LOCATION: 106 5TH STREET, OAKLAND, CALIFORNIA	
DRILLING COMPANY: GREGG DRILLING	DRILL RIG:	DRILL CREW: BOBBY, JOSE	DATE DRILLED: AUGUST 1, 2002
DRILLING METHOD: HOLLOW STEM AUGER	BORING DIAMETER (IN): 8	TOTAL DEPTH OF BORING (FT): 24.0	LOGGED BY: JAMES LOETTERLE
SAMPLING METHOD: SPLIT SPOON	HAMMER WEIGHT (LBS): 140	HAMMER DROP (IN): 18	REVIEWED BY: H. BAUER

DEPTH (FT)	SAMPLE LOCATION	SAMPLE ID	BLOWS PER 6 IN	PID (ppm)	GRAPHIC LOG	USCS SOIL GROUP	DESCRIPTION OF SUBSURFACE MATERIALS
0						SM	5-inch asphalt surface; hand-augered to 5 feet below ground surface.
5		MW-6-5.5	NM	NM			WELL-GRADED SAND with SILT: black-brown, moist, fine- to coarse-grained, (5% clay, 15% silt, 75% sand, 5% gravel), with angular fragments of rock and wood.
10		MW-6-10.5	NM	NM		SM	SILTY SAND: light brown, wet, fine-grained, (5% clay, 20% silt, 75% sand).
15		MW-6-15.5	NM	NM			Brown, (5% clay, 35% silt, 60% sand).
20		MW-6-20.5	NM	NM			SILTY SAND with CLAY: brown, wet, fine-grained, (15% clay, 40% silt, 45% sand).
		MW-6-24	NM	NM			Light brown.
25							Boring terminated at 24 feet below ground surface.
30							
35							
40							

NOTES:
= sample interval
= laboratory sample
▼ = groundwater observed
PID = photoionization detector
NM = not measured
NA = not applicable
ppm = parts per million

Mary Lou Hartmann(?) R.G. #6769

LOG OF BORING MW-6

PROJECT NUMBER 01-155-0305-01