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**Shell Oil Products US**

July 2, 2004

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

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SHELL OIL PRODUCTS US

**Subject: Shell-branded Service Station**  
230 West MacArthur Boulevard  
Oakland, California

Dear Mr. Hwang:

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

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

Sincerely,

**Shell Oil Products US**

A handwritten signature in cursive script that reads "Karen Petryna".

Karen Petryna  
Sr. Environmental Engineer

July 2, 2004

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

Re: **Subsurface Investigation Report**  
Shell-branded Service Station  
230 West MacArthur Boulevard  
Oakland, California  
Incident #98995741  
Cambria Project #246-0902-007



Dear Mr. Hwang:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), Cambria Environmental Technology, Inc. (Cambria) is submitting this *Subsurface Investigation Report* of sampling activities conducted March 24, 2004, as outlined in Cambria's October 31, 2002 *Sensitive Receptor Survey, Conduit Study Report, and Subsurface Investigation Work Plan*. The investigation was conducted in response to the findings of the report, and to assess whether hydrocarbons and methyl tertiary butyl ether (MTBE) in groundwater have impacted off-site soil and groundwater. After waiting over 60 days for a written approval of the work plan from the Alameda County Health Care Services Agency (ACHCSA), Cambria completed the proposed soil borings. The soil borings could not be advanced in the locations in the street as originally proposed in the work plan due to the presence of subsurface utilities, so the borings were advanced in the sidewalk instead. Presented below are summaries of the site background, investigation procedures, investigation results, and conclusions.

## SITE BACKGROUND


**Site Location:** This operating Shell-branded service station is located at the northwest corner of West MacArthur Boulevard and Piedmont Avenue in Oakland, California (Figures 1 and 2). There are currently three underground storage tanks (USTs) on site. The site is surrounded by commercial properties. A former Gulf service station, later a Vogue Tyres store and currently an auto repair shop, is located immediately northwest of the site.

**Cambria  
Environmental  
Technology, Inc.**

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**1986 Site Investigation:** In April 1986, Emcon Associates of San Jose, California drilled four exploratory borings (S-A through S-D) within the tank complex to a total depth of 20.5 feet below grade (fbg). Groundwater was encountered at approximately 13 fbg. Soil sampling results indicated that hydrocarbon concentrations ranged from 1,200 to 5,700 parts per million (ppm) at depths of 8 to 15 fbg.

**1986 Additional Site Assessment:** In December 1986, W.W. Irwin, Inc. analyzed soil gas vapors from 38 probe holes located throughout the entire site. The highest hydrocarbon concentrations were reportedly discovered in the area of the tank complex and dispenser islands. The report for this investigation could not be located at this time.



**1987 Recovery Well Installation:** In March 1987, Wayne Perry Construction, Inc. (Wayne Perry) installed three 4-inch-diameter, 13-foot-deep, soil-vapor recovery wells (VR-1, VR-2, and VR-3). The soil venting system utilized an activated carbon scrubber that operated between April and November 1987. On August 28, 1987, soil borings B-1 and B-2 were installed to determine the degree of contamination remaining in the soil. The maximum total hydrocarbon concentration, 1870 ppm, was detected in boring B-1 at a depth of 8 fbg. Wayne Perry concluded that prolonged venting reduced hydrocarbon concentrations. However, once the venting system stopped, hydrocarbon concentrations in soil vapor increased. Wayne Perry's January 26, 1988 *Review of Venting Operations* documents these activities.

**1987 UST Removal:** On November 2, 1987, the USTs were removed and soil samples (A1, A-2, B-1, B-2, C-1, C-2, D-1, D-2) were collected in native soil from the bottom of the 15-foot deep UST excavation and soil stockpile. Hydrocarbon concentrations ranged from 8.6 to 480 ppm, as documented in Kaprealian Associates December 1, 1987 *Soil Sampling Investigation* report. New USTs were installed in the same excavation.

**1988 Soil and Groundwater Investigation:** On July 11 and 12, 1988, Ensco Environmental Services Inc. (Ensco) of Fremont, California drilled three exploratory borings at the site and converted them to monitoring wells MW-1 through MW-3. MW-1 was completed to 31.5 fbg, and MW-2 and MW-3 were completed to 30 fbg. Total petroleum hydrocarbons as gasoline (TPHg) was only detected in MW-3 at 20.5 fbg at a concentration of 278 ppm. Benzene was not detected in any soil samples collected during this investigation. Ensco's September 30, 1988, *Soil and Groundwater Investigation* report documents this investigation's results.

**1989 Phase II Supplemental Soil Investigation:** On August 16, 1989, Ensco advanced three soil borings (SB-1, SB-2, and SB-3) to investigate possible hydrocarbon impacts to soil adjacent to the pump islands. The maximum TPHg concentration was 490 ppm in boring SB-3 at a depth of 15.5 fbg. Benzene was not detected in any soil samples collected during this investigation. Investigation results were documented in Ensco's October 9, 1989 *September Quarterly Report*.

**1989 Phase II Shallow Groundwater Survey:** On October 10, 1989, Ensco subcontractor NET Pacific of Santa Rosa, California advanced three probes (GS-1, GS-2, and GS-3) to sample the shallow groundwater adjacent to the pump islands. TPHg was detected in samples GS-2 and GS-3 at concentrations of 5,600 parts per billion (ppb) and 8,800 ppb, respectively. Benzene was detected in samples GS-2 and GS-3 at concentrations of 340 ppb and 380 ppb, respectively. TPHg and benzene, toluene, ethylbenzene, or total xylenes (BTEX) were not detected in sample GS-1. Ensco's January 19, 1990, *December Quarterly Report* documents investigation results.


**1990 Well Installation:** On January 9, 1990, Ensco drilled one exploratory boring at the site and converted it to monitoring well MW-4. Well MW-4 was screened from 25 to 15 fbg. Ensco's March 29, 1990 *March Quarterly Report* documented the well installation activities.

**1990 Shallow Groundwater Investigation:** On May 19, 1990, Exceltech subcontractor CHIPS Environmental Consulting, Inc. advanced six probes (Probe 1 through Probe 6) in the sidewalk along MacArthur Boulevard and collected shallow groundwater samples. TPHg was detected in Probe 2 and Probe 6 at concentrations of 25,000 ppb and 31,000 ppb, respectively. Benzene was detected in concentrations up to 430 ppb (in Probe 6). Investigation results were documented in Exceltech's July 3, 1990 *June Quarterly Report*.

**1998 Dispenser/Turbine Sump Upgrades:** In February 1998, Paradiso Mechanical of San Leandro, California upgraded fuel-related equipment at the service station. Secondary containment was added to the existing dispensers and to the turbine sumps above the USTs. Cambria inspected the dispenser and tank pit areas. Based on Cambria's February 3, 1998 telephone conversation with Leroy Griffin, the City of Oakland did not require sampling at dispensers during 1998 upgrade projects unless there was evidence of hydrocarbons. No field indications of hydrocarbons, such as staining or odor, were observed during the site visit. Therefore, no sampling was required at that time.

**2002 Sensitive Receptor Survey (SRS), Conduit Study Report, and Subsurface Investigation Work Plan:** Cambria completed a joint conduit study and SRS for the site, which was included in our October 31, 2002 *Sensitive Receptor Survey, Conduit Study Report, and Subsurface Investigation Work Plan*. The findings of the conduit study showed that a storm drain located just west of the site, along West MacArthur Boulevard, might intersect groundwater and that the conduit backfill material may act as a preferential pathway for contaminant migration. The SRS showed two wells of unknown use located approximately ½-mile downgradient of the site, and one well of unknown use located approximately 1,500 feet upgradient of the site. Neither of these wells is likely to be impacted by petroleum hydrocarbons or fuel oxygenates originating from the subject site. Additionally, Cambria found that the nearest surface water body is Glen Echo Creek, located approximately 600 feet south of the site. Since calculated groundwater flow direction at the site has been to the west-southwest, petroleum hydrocarbons and fuel oxygenates

from the site are not expected to impact Glen Echo Creek. In this report, Cambria included an investigation work plan to advance two soil borings adjacent to the storm drain to evaluate the migration of any contaminants off site.



**2003 SRS:** In October 2003, Cambria completed an SRS at Shell's request. The SRS targeted the following as potential sensitive receptors: basements within 200 feet, surface water and sensitive habitats within 500 feet, hospitals, residential care and childcare facilities within 1,000 feet, and water wells within ½ mile. No basements were observed within 200 feet, nor were any surface water or sensitive habitats observed within 500 feet. Hospitals and educational, childcare and residential care facilities were identified at approximately 150, 450, and 825 feet from the site. Snow White Day Care (214 West MacArthur Boulevard) is located approximately 150 feet from the site. Kaiser Permanente Hospital (280 West MacArthur Boulevard) is located approximately 450 feet from the site. National Hispanic University (262 Grand Avenue) is located approximately 825 feet from the site.

No water wells in addition to those mentioned above were identified within ½ mile of the site.

**Groundwater Monitoring:** Blaine Tech Services, Inc. of San Jose, California has performed quarterly groundwater monitoring at the site since July 1988. Depth to water has ranged historically between 11.03 and 19.59 fbg. Historical groundwater elevations in site wells have ranged between 55.09 and 65.31 feet above mean sea level (msl). During the first quarter of 2004 monitoring and sampling event, the depth to water in the wells ranged from 12.04 to 13.78 fbg, and the groundwater elevations ranged from 62.20 to 65.31 feet above msl. The groundwater flow direction, as calculated from depth to water measurements in on-site monitoring wells, is typically toward the west to southwest, but has occasionally ranged to the northwest.

During the fourth quarter of 2003, coordinated monitoring and sampling began with the adjacent former gas station (currently Oakland Auto Works) at 240 West MacArthur Boulevard.

## INVESTIGATION PROCEDURES


As proposed in Cambria's October 31, 2002 *Sensitive Receptor Survey, Conduit Study Report, and Subsurface Investigation Work Plan*, two soil borings were advanced to 20 fbg, adjacent to the storm drain located just west of the site (Figure 2). However, due to the presence of subsurface utilities, the borings could not be advanced in the locations in the street as proposed in the work plan. The borings were advanced in the sidewalk instead. The borings were advanced by direct-push using a Geoprobe® drill rig and were continuously logged for lithologic description to the total depth explored. Soil samples were collected for chemical analysis at

5-foot intervals and at the depth of first-encountered groundwater. Additionally, one grab groundwater sample was collected from each boring for chemical analysis.

The procedures for this subsurface investigation, described in Cambria's proposed work plan, are summarized below. Analytical results for soil and groundwater are summarized in Tables 1 and 2, respectively, and laboratory analytical reports are presented as Attachment A. The drilling permits and boring logs are presented as Attachments B and C, respectively. Soil disposal confirmation and Cambria's standard field procedures for Geoprobe® soil sampling are presented in Attachments D and E, respectively.



- Personnel Present:** Stewart A. Dalie IV, Staff Scientist, of Cambria  
Don Pearson, of Gregg Drilling and Testing Inc. (Gregg) of  
Martinez, California  
Sergio Yruel, of Cruz Brothers Utility Locating Services Inc., of  
Scotts Valley, California
- Permits:** Alameda County Public Works soil borings permit #W04-0256  
and City of Oakland excavation permit #X0200345  
(Attachment B).
- Drilling Company:** Gregg (C-57 License # 485-165)
- Drilling Dates:** March 24, 2004
- Drilling Method:** Direct-push Geoprobe® drill rig
- Number of Borings:** Two borings: SB-1 and SB-2 (Figure 2)
- Boring Depths:** Soil borings SB-1 and SB-2 were advanced to a depth of 20 fbg  
(Attachment C).
- Sediment Lithology:** Soils beneath the site consist primarily of interbedded silts,  
clays, sands and gravels to the total explored depth of 20 fbg.
- Groundwater Depths:** Groundwater was first encountered in the borings at 17 fbg.  
Water levels in both borings almost instantaneously rose above  
the first-encountered water level to approximately 12.5 fbg in  
boring SB-1 and 10.7 fbg in boring SB-2. Water samples from  
borings SB-1 and SB-2 were collected with a stainless steel  
bailer and Teflon string through the open borehole. The bailer  
was decontaminated between each boring location.

- 
- Chemical Analyses:** State-approved laboratory Severn Trent Laboratories Inc. of Pleasanton, California analyzed soil and grab groundwater samples from the borings for TPHg, MTBE, and BTEX by EPA Method 8260B.
- Soil Stockpile Analysis:** To characterize stockpiled soil for disposal, four brass tubes of soil were collected from the stockpiled soil and then composited by the analytical laboratory. The composite sample was analyzed for TPHg and BTEX by modified EPA Method 8260 and for total threshold limit concentration lead.
- Backfill Method:** The borings were backfilled via tremie-pipe method with cement grout to match the existing grade.
- Soil Handling:** Soil cuttings produced from the borings were stockpiled at the former Shell-branded site. The cuttings were transported to Forward Landfill in Manteca, California for disposal on April 8, 2004. The disposal confirmation report is included as Attachment D.

## INVESTIGATION RESULTS

**Analytical Results for Soil Sampling:** MTBE was detected in only two soil samples, (SB-1-15' and SB-2-17') at concentrations of 0.0078 ppm and 0.0099 ppm, respectively. TPHg was detected in only three soil samples (SB-1-17', SB-1-19.5', and SB-2-19.5') at concentrations of 12 ppm, 43 ppm, and 10 ppm, respectively. All soil samples with detectable TPHg and/or MTBE concentrations were from saturated soils or from within the capillary fringe. The laboratory report noted that the hydrocarbons reported in the gasoline range did not match the laboratory's gasoline standard. BTEX was not detected in any soil sample collected during this investigation. Soil sampling results are summarized in Table 1, and certified laboratory analytical results are included as Attachment A.

**Analytical Results for Grab Groundwater Sampling:** MTBE was detected in both grab groundwater samples SB-1-W, and SB-2-W at concentrations of 110 ppb and 320 ppb, respectively. TPHg was detected in both grab groundwater samples SB-1-W, and SB-2-W at concentrations of 10,000 ppb and 520 ppb, respectively. Benzene was detected in both grab groundwater samples SB-1-W, and SB-2-W at concentrations of 430 ppb and 4.9 ppb, respectively. Toluene, ethylbenzene, and total xylenes were detected only in grab groundwater

sample SB-1-W at concentrations of 75 ppb, 98 ppb, and 44 ppb, respectively. Grab groundwater sampling results are summarized in Table 2, and certified laboratory analytical results are included in Attachment A.

## CONCLUSIONS

Because groundwater was encountered at approximately 17 fbg during the current investigation, the soil samples that contained detectable TPHg and/or MTBE concentrations were from saturated soils or from within the capillary fringe, so results are likely indicative of chemical concentrations in groundwater rather than in soil.

The results of this investigation and of quarterly monitoring and sampling indicate that the highest TPHg and MTBE concentrations in groundwater are localized near the western corner of the Shell site. Groundwater concentrations of MTBE appear to be decreasing with distance from the Shell site.

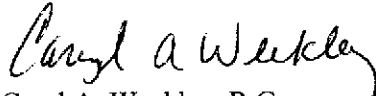
Cambria will continue coordinated quarterly monitoring and sampling of all wells during 2004 to capture any variations in the groundwater flow direction and to monitor petroleum hydrocarbon and fuel oxygenate concentrations in groundwater.

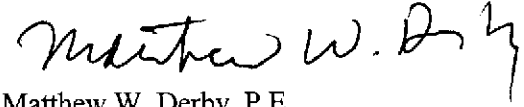


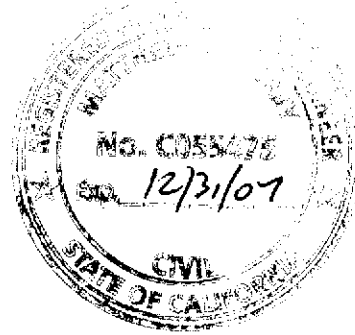
**CLOSING**

Please call Caryl Weekley at (510) 420-3324 if you have any questions or comments.

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

  
Caryl A. Weekley, R.G.  
Senior Project Geologist

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



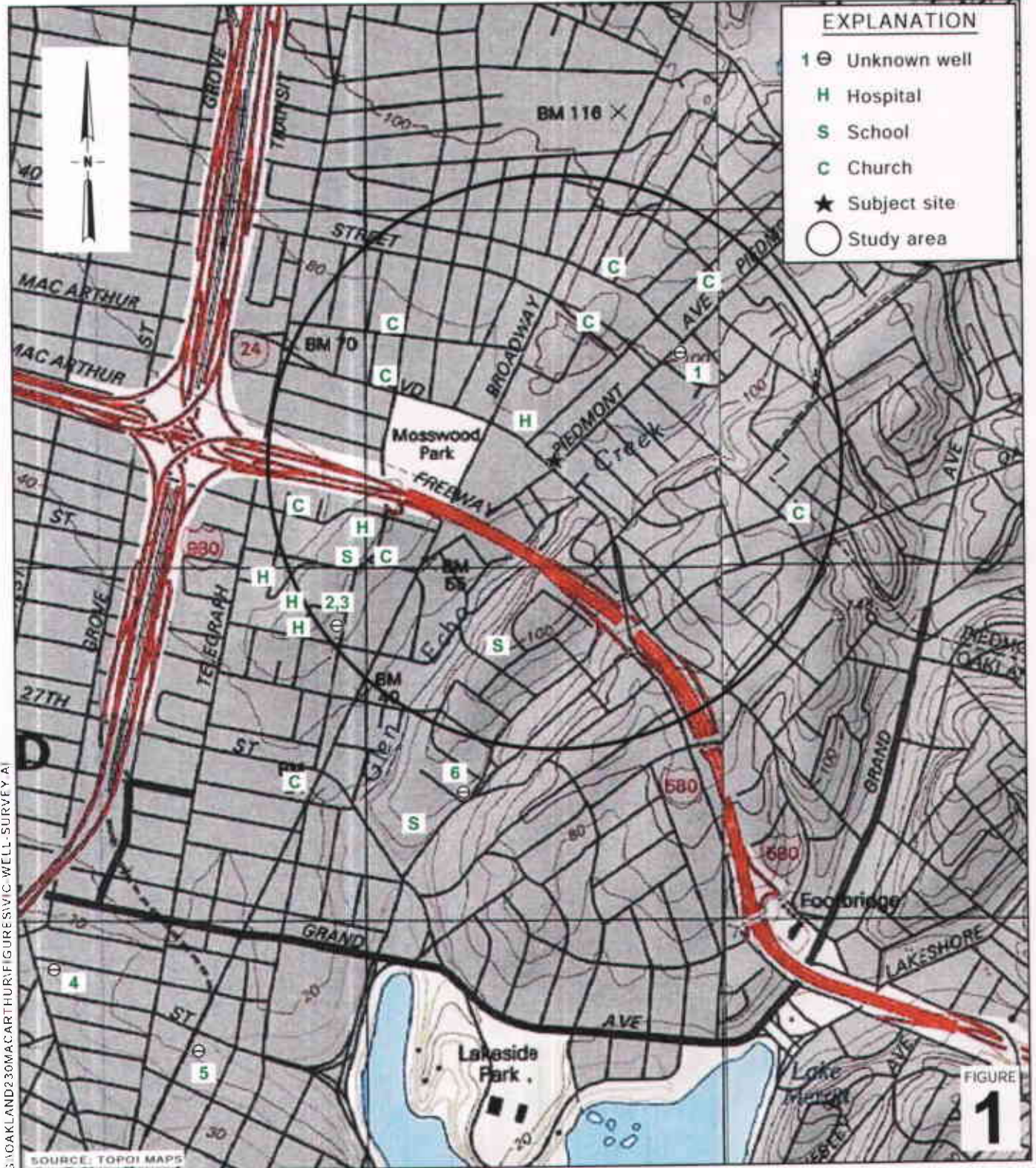
Figures:           1 - Vicinity/Area Well Survey Map  
                      2 - Soil Boring Location Map

Tables:            1 - Historical Soil Analytical Data  
                      2 - Historical Grab Groundwater Analytical Data

Attachments:   A - Certified Laboratory Analytical Reports  
                      B - Permits  
                      C - Boring logs  
                      D - Soil Disposal Confirmation Report  
                      E - Standard Field Procedures for Geoprobe® Soil Sampling

cc:                Karen Petryna, Shell Oil Products US, 20945 Wilmington, Carson CA 90810  
                      Bruce Ruttger, Stellar Environmental Solutions, 2198 6<sup>th</sup> Street, Berkeley, CA 94710

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G:\OAKLAND\230MACARTHUR\FIGURE\VIC WELL SURVEY A

**Shell-branded Service Station**  
 230 West MacArthur Boulevard  
 Oakland, California  
 Incident #98995741



C A M B R I A

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

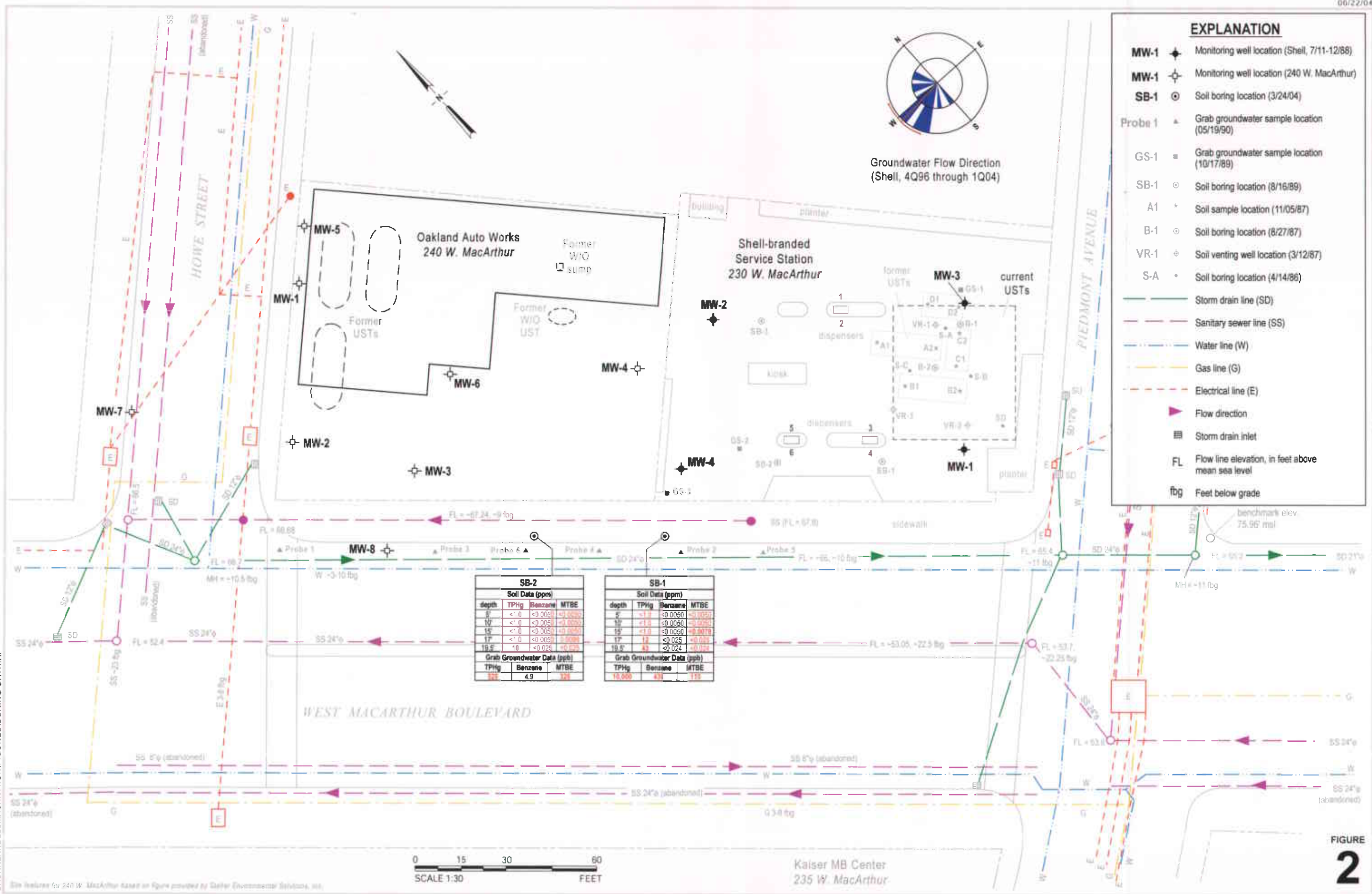


FIGURE 2

G:\OAKLAND\230MACARTHUR\FIGURES\BORING DATA.A1

Site features for 240 W. MacArthur based on figures provided by Duffer Environmental Services, Inc.

# CAMBRIA

**Table 1. Historic Soil Analytical Data - Shell-branded Service Station - Incident # 98995741, 230 W. MacArthur Boulevard, Oakland, California**

Sample ID	Date	Depth (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Total		Lead	Organic Lead
							Xylenes	MTBE		
			← (ppm) →							
S-A	4/14/1986	4 - 5.5	17 <sup>a</sup>	---	---	---	---	---	---	---
S-A	4/14/1986	8.5 - 10	1,200 <sup>a</sup>	---	---	---	---	---	---	---
S-A	4/14/1986	11 - 12.5	4,300 <sup>a</sup>	---	---	---	---	---	---	---
S-A	4/14/1986	13.5 - 15	ND <sup>a</sup>	---	---	---	---	---	---	---
S-B	4/14/1986	5 - 6.5	36 <sup>a</sup>	---	---	---	---	---	---	---
S-B	4/14/1986	8 - 9.5	78 <sup>a</sup>	---	---	---	---	---	---	---
S-B	4/14/1986	12 - 13	6.4 <sup>a</sup>	---	---	---	---	---	11.0 <sup>b</sup>	---
S-C	4/14/1986	4 - 5.5	ND <sup>a</sup>	---	---	---	---	---	---	---
S-C	4/14/1986	7 - 8.5	ND <sup>a</sup>	---	---	---	---	---	---	---
S-C	4/14/1986	11 - 12.5	ND <sup>a</sup>	---	---	---	---	---	---	---
S-C	4/14/1986	13.5 - 15	5700 <sup>a</sup>	---	---	---	---	---	---	---
S-D	4/14/1986	Composite <sup>c</sup>	571 <sup>a</sup>	---	---	---	---	---	---	---
B-1 @ 4'	8/28/1987	4	412	<0.05	<0.05	<0.1	5.4	---	65.9 <sup>d</sup>	---
B-1 @ 6'	8/28/1987	6	1,440	<0.05	<0.05	<0.1	130	---	26.4 <sup>d</sup>	---
B-1 @ 8'	8/28/1987	8	1,870	<0.05	4.3	14	325	---	14.3 <sup>d</sup>	---
B-1 @ 10'	8/28/1987	10	<10	<0.05	<0.05	<0.1	<0.1	---	<5 <sup>d</sup>	---
B-1 @ 12'	8/28/1987	12	122	0.60	0.36	0.38	0.33	---	<5 <sup>d</sup>	---
B-1 @ 14'	8/28/1987	14	52	<0.05	<0.05	<0.1	<0.1	---	<5 <sup>d</sup>	---

# CAMBRIA

**Table 1. Historic Soil Analytical Data - Shell-branded Service Station - Incident # 98995741, 230 W. MacArthur Boulevard, Oakland, California**

Sample ID	Date	Depth (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Total		Lead	Organic Lead
							Xylenes	MTBE		
							(ppm)			
B-2 @ 5'	8/28/1987	5	<10	<0.05	1.5	5.7	<0.1	---	<5 <sup>d</sup>	---
B-2 @ 6-7'	8/28/1987	6 - 7	<10	<0.05	0.37	0.55	<0.1	---	<5 <sup>d</sup>	---
B-2 @ 8-9'	8/28/1987	8 - 9	<10	0.5	0.4	0.3	<0.1	---	<5 <sup>d</sup>	---
B-2 @ 10'	8/28/1987	10	<10	<0.05	<0.05	<0.1	<0.1	---	<5 <sup>d</sup>	---
B-2 @ 12'	8/28/1987	12	<10	<0.05	<0.05	<0.1	<0.1	---	<5 <sup>d</sup>	---
A1	11/2/1987	15.0	<b>380</b>	<b>1.6</b>	<b>2.2</b>	---	<b>55</b>	---	---	---
A2	11/2/1987	15.0	<b>310</b>	<b>1.3</b>	<b>1.3</b>	---	<b>33</b>	---	---	---
B1	11/2/1987	15.0	<b>480</b>	<b>4.3</b>	<b>0.5</b>	---	<b>22</b>	---	---	---
B2	11/2/1987	15.0	<b>9.1</b>	<b>1.6</b>	<b>0.3</b>	---	<b>0.1</b>	---	---	---
C1	11/2/1987	15.0	<b>12</b>	<b>1.5</b>	<0.1	---	<b>1.1</b>	---	---	---
C2	11/2/1987	15.0	<b>170</b>	<b>4.1</b>	<0.1	---	<b>2.4</b>	---	---	---
D1	11/2/1987	15.0	<b>8.6</b>	<0.1	<0.1	---	<0.1	---	---	---
D2	11/2/1987	15.0	<b>44</b>	<0.1	<0.1	---	<b>5.3</b>	---	---	---
MW1-2	7/11/1988	10	<10	<0.003	<b>0.0116</b>	<0.003	<0.003	---	---	---
MW1-3	7/11/1988	15	<10	<0.003	<b>0.0129</b>	<0.003	<b>0.0051</b>	---	---	---
MW1-4	7/11/1988	20	<10	<0.003	<b>0.023</b>	<0.003	<0.003	---	---	---
MW2-1	7/11/1988	5	<10	<0.003	<b>0.0161</b>	<0.003	<0.003	---	---	---
MW2-2	7/11/1988	10	<10	<0.003	<b>0.0093</b>	<0.003	<0.003	---	---	---
MW2-3	7/11/1988	15	<10	<0.003	<b>0.01</b>	<0.003	<0.003	---	---	---
MW3-1	7/12/1988	10	<b>278</b>	<0.05	<b>0.388</b>	<0.003	<b>0.411</b>	---	<b>11<sup>e</sup></b>	---
MW3-2	7/12/1988	15	<10	<0.003	<b>0.0367</b>	<0.003	<0.003	---	<b>8.3<sup>e</sup></b>	---

# CAMBRIA

**Table 1. Historic Soil Analytical Data - Shell-branded Service Station - Incident # 98995741, 230 W. MacArthur Boulevard, Oakland, California**

Sample ID	Date	Depth (feet)	TPHg	←----- (ppm) -----→				Total Xylenes	MTBE	Lead	Organic Lead
				Benzene	Toluene	Ethylbenzene					
MW3-3	7/12/1988	20	<10	<0.003	<b>0.0304</b>	<b>0.0076</b>	<0.003	---	---	---	
SB1-1	8/16/1989	5	<1.0	<0.05	<0.1	<0.1	<0.1	---	---	---	
SB1-2	8/16/1989	10	<1.0	<0.05	<0.1	<0.1	<0.1	---	---	---	
SB1-3	8/16/1989	15	<1.0	<0.05	<0.1	<0.1	<0.1	---	---	---	
SB1 (composite)	8/16/1989	Composite	---	---	---	---	---	---	<b>4.5<sup>a</sup></b>	<0.05	
SB2-1	8/16/1989	5.5	<1.0	<0.05	<0.1	<0.1	<0.1	---	---	---	
SB2-2	8/16/1989	10.5	<1.0	<0.05	<0.1	<0.1	<0.1	---	---	---	
SB2-3	8/16/1989	15.5	<b>490</b>	<0.05	<b>0.28</b>	<b>1.3</b>	<b>1</b>	---	---	---	
SB2 (composite)	8/16/1989	Composite	---	---	---	---	---	---	<b>2.5<sup>a</sup></b>	<0.05	
SB3-1	8/16/1989	4.5	<b>6.6</b>	<0.05	<b>0.26</b>	<b>0.14</b>	<b>0.63</b>	---	---	---	
SB3-2	8/16/1989	9.5	<1.0	<0.05	<0.1	<0.1	<0.1	---	---	---	
SB3-3	8/16/1989	15.5	<1.0	<0.05	<0.1	<0.1	<0.1	---	---	---	
SB3 (composite)	8/16/1989	Composite	---	---	---	---	---	---	<b>5.5<sup>a</sup></b>	<0.05	
SB-1-5'	3/24/2004	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	
SB-1-10'	3/24/2004	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	
SB-1-15'	3/24/2004	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<b>0.0078</b>	---	---	
SB-1-17'	3/24/2004	17	<b>12</b>	<0.025	<0.025	<0.025	<0.025	<0.025	---	---	
SB-1-19.5'	3/24/2004	19.5	<b>43</b>	<0.024	<0.024	<0.024	<0.024	<0.024	---	---	
SB-2-5'	3/24/2004	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	
SB-2-10'	3/24/2004	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	
SB-2-15'	3/24/2004	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	

**Table 1. Historic Soil Analytical Data - Shell-branded Service Station - Incident # 98995741, 230 W. MacArthur Boulevard, Oakland, California**

Sample ID	Date	Depth (feet)	← (ppm) →							
			TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead	Organic Lead
SB-2-17'	3/24/2004	17	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<b>0.0099</b>	---	---
SB-2-19.5'	3/24/2004	19.5	<b>10</b>	<0.025	<0.025	<0.025	<0.025	<0.025	---	---

**Abbreviations and Notes:**

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA method 8260B (before 2004, analyzed by EPA method 8015).

Benzene, ethylbenzene, toluene, total xylenes by EPA method 8260B (before 2004, analyzed by EPA method 8020).

MTBE = Methyl tert-butyl ether by EPA method 8260B.

Organic lead analyzed by Cal LUFT Manual, 12/87

ppm = Parts per million (milligrams per kilogram).

ND = Below detection limit

<x = Below detection limit of x ppm

--- = Not analyzed

a = Analytical method is unknown

b = Total lead analyzed by unknown method

c = Composite of four samples taken from depths of 4 - 5 fbg, 7 - 8.5 fbg, 11 - 12.5 fbg, and 13.5 - 15 fbg

d = Lead analyzed by EPA method 7421

e = Total lead analyzed by EPA method 7240

# CAMBRIA

**Table 2. Historical Grab Groundwater Analytical Data - Shell-branded Service Station - 230 W. MacArthur Boulevard, Oakland, California - Incident # 98995741**

Sample ID	Date	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
GS-1 <sup>a</sup>	10/17/1989	<50 <sup>b</sup>	<0.5 <sup>b</sup>	<0.5 <sup>b</sup>	<0.6 <sup>b</sup>	<1.5 <sup>b</sup>	---
GS-2 <sup>a</sup>	10/17/1989	5,600 <sup>b</sup>	340 <sup>b</sup>	27 <sup>b</sup>	1,200 <sup>b</sup>	62 <sup>b</sup>	---
GS-3 <sup>a</sup>	10/17/1989	8,800 <sup>b</sup>	380 <sup>b</sup>	6 <sup>b</sup>	580 <sup>b</sup>	42 <sup>b</sup>	---
Probe 1	5/19/1990	<50	<0.5	<0.5	<0.5	<0.5	---
Probe 2	5/19/1990	25,000	280	290	160	470	---
Probe 3	5/19/1990	<50	<0.5	<0.5	<0.5	<0.5	---
Probe 4	5/19/1990	<50	5	<0.5	2	<0.5	---
Probe 5	5/19/1990	<50	1	2	1	4	---
Probe 6	5/19/1990	31,000	430	600	240	1,400	---
SB-1-W	3/24/2004	10,000	430	75	98	44	110
SB-2-W	3/24/2004	520	4.9	<1.0	<1.0	<2.0	320

**Abbreviations and Notes:**

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA method 8260B; before 2004, analyzed by EPA method 8015.

Benzene, ethylbenzene, toluene, total xylenes analyzed by EPA method 8260B; before 2004, analyzed by EPA method 8020.

MTBE = Methyl tert-butyl ether analyzed by EPA method 8260B.

ppb = Parts per billion

<x = Below detection limit of x ppm

--- = Not analyzed

a = Sample taken from temporary well

b = Analyzed by unknown method



**ATTACHMENT A**

**Certified Laboratory Analytical Reports**

**Cambria Environmental Emeryville**

April 09, 2004

5900 Hollis Street, Ste. A  
Emeryville, CA 94608

Attn.: Caryl Weekley

Project#: 246-0902=007

Project: 98995741

Site: 230 W. MacArthur, Oakland, CA

Dear Ms. Weekley,

Attached is our report for your samples received on 03/26/2004 16:30

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

Please note that any unused portion of the samples will be discarded after 05/10/2004 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

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

Sincerely,



Vincent Vancil  
Project Manager

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
SB-1-5'	03/24/2004 09:15	Soil	1
SB-1-10'	03/24/2004 10:15	Soil	2
SB-1-15'	03/24/2004 10:25	Soil	3
SB-1-17'	03/24/2004 10:30	Soil	4
SB-1-19.5'	03/24/2004 10:40	Soil	5
SB-2-5'	03/24/2004 09:30	Soil	7
SB-2-10'	03/24/2004 12:30	Soil	8
SB-2-15'	03/24/2004 12:45	Soil	9
SB-2-17'	03/24/2004 12:50	Soil	10
SB-2-19.5'	03/24/2004 13:00	Soil	11

Sewern Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/08/2004 16:07

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

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

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-1-5	Lab ID:	2004-03-0880 - 1
Sampled:	03/24/2004 09:15	Extracted:	4/1/2004 21:23
Matrix:	Soil	QC Batch#:	2004/04/01-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/01/2004 21:23	
Benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 21:23	
Toluene	ND	0.0050	mg/Kg	1.00	04/01/2004 21:23	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 21:23	
Total xylenes	ND	0.0050	mg/Kg	1.00	04/01/2004 21:23	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	04/01/2004 21:23	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	94.3	70-121	%	1.00	04/01/2004 21:23	
Toluene-d8	92.8	81-117	%	1.00	04/01/2004 21:23	

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Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-1-10	Lab ID:	2004-03-0880 - 2
Sampled:	03/24/2004 10:15	Extracted:	4/1/2004 22:19
Matrix:	Soil	QC Batch#:	2004/04/01-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/01/2004 22:19	
Benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:19	
Toluene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:19	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:19	
Total xylenes	ND	0.0050	mg/Kg	1.00	04/01/2004 22:19	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	04/01/2004 22:19	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	92.4	70-121	%	1.00	04/01/2004 22:19	
Toluene-d8	97.4	81-117	%	1.00	04/01/2004 22:19	

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Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-1-15	Lab ID:	2004-03-0880 - 3
Sampled:	03/24/2004 10:25	Extracted:	4/1/2004 22:37
Matrix:	Soil	QC Batch#:	2004/04/01-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/01/2004 22:37	
Benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:37	
Toluene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:37	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:37	
Total xylenes	ND	0.0050	mg/Kg	1.00	04/01/2004 22:37	
Methyl tert-butyl ether (MTBE)	0.0078	0.0050	mg/Kg	1.00	04/01/2004 22:37	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	92.9	70-121	%	1.00	04/01/2004 22:37	
Toluene-d8	87.9	81-117	%	1.00	04/01/2004 22:37	

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

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Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s): 5030B	Test(s): 8260B
Sample ID: SB-1-17	Lab ID: 2004-03-0880 - 4
Sampled: 03/24/2004 10:30	Extracted: 4/2/2004 01:23
Matrix: Soil	QC Batch#: 2004/04/01-2A.69
Analysis Flag: o ( See Legend and Note Section )	

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	12	4.9	mg/Kg	4.90	04/02/2004 01:23	g
Benzene	ND	0.025	mg/Kg	4.90	04/02/2004 01:23	
Toluene	ND	0.025	mg/Kg	4.90	04/02/2004 01:23	
Ethyl benzene	ND	0.025	mg/Kg	4.90	04/02/2004 01:23	
Total xylenes	ND	0.025	mg/Kg	4.90	04/02/2004 01:23	
Methyl tert-butyl ether (MTBE)	ND	0.025	mg/Kg	4.90	04/02/2004 01:23	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	102.7	70-121	%	4.90	04/02/2004 01:23	
Toluene-d8	84.3	81-117	%	4.90	04/02/2004 01:23	

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Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-1-19.5	Lab ID:	2004-03-0880 - 5
Sampled:	03/24/2004 10:40	Extracted:	4/2/2004 01:41
Matrix:	Soil	QC Batch#:	2004/04/01-2A.69
Analysis Flag: o ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	43	4.8	mg/Kg	4.76	04/02/2004 01:41	g
Benzene	ND	0.024	mg/Kg	4.76	04/02/2004 01:41	
Toluene	ND	0.024	mg/Kg	4.76	04/02/2004 01:41	
Ethyl benzene	ND	0.024	mg/Kg	4.76	04/02/2004 01:41	
Total xylenes	ND	0.024	mg/Kg	4.76	04/02/2004 01:41	
Methyl tert-butyl ether (MTBE)	ND	0.024	mg/Kg	4.76	04/02/2004 01:41	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	98.8	70-121	%	4.76	04/02/2004 01:41	
Toluene-d8	95.6	81-117	%	4.76	04/02/2004 01:41	

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Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-2-5	Lab ID:	2004-03-0880 - 7
Sampled:	03/24/2004 09:30	Extracted:	4/1/2004 22:55
Matrix:	Soil	QC Batch#:	2004/04/01-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/01/2004 22:55	
Benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:55	
Toluene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:55	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 22:55	
Total xylenes	ND	0.0050	mg/Kg	1.00	04/01/2004 22:55	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	04/01/2004 22:55	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	92.8	70-121	%	1.00	04/01/2004 22:55	
Toluene-d8	99.9	81-117	%	1.00	04/01/2004 22:55	

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Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-2-10	Lab ID:	2004-03-0880 - 8
Sampled:	03/24/2004 12:30	Extracted:	4/1/2004 23:14
Matrix:	Soil	QC Batch#:	2004/04/01-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/01/2004 23:14	
Benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:14	
Toluene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:14	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:14	
Total xylenes	ND	0.0050	mg/Kg	1.00	04/01/2004 23:14	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	04/01/2004 23:14	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	93.6	70-121	%	1.00	04/01/2004 23:14	
Toluene-d8	93.3	81-117	%	1.00	04/01/2004 23:14	

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

Cambria Environmental Emeryville

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Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s): 5030B	Test(s): 8260B
Sample ID: SB-2-15	Lab ID: 2004-03-0880 - 9
Sampled: 03/24/2004 12:45	Extracted: 4/1/2004 23:32
Matrix: Soil	QC Batch#: 2004/04/01-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/01/2004 23:32	
Benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:32	
Toluene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:32	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:32	
Total xylenes	ND	0.0050	mg/Kg	1.00	04/01/2004 23:32	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	04/01/2004 23:32	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	93.4	70-121	%	1.00	04/01/2004 23:32	
Toluene-d8	92.2	81-117	%	1.00	04/01/2004 23:32	

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Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-2-17	Lab ID:	2004-03-0880 - 10
Sampled:	03/24/2004 12:50	Extracted:	4/1/2004 23:50
Matrix:	Soil	QC Batch#:	2004/04/01-2A-69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/01/2004 23:50	
Benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:50	
Toluene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:50	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/01/2004 23:50	
Total xylenes	ND	0.0050	mg/Kg	1.00	04/01/2004 23:50	
Methyl tert-butyl ether (MTBE)	0.0099	0.0050	mg/Kg	1.00	04/01/2004 23:50	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	96.0	70-121	%	1.00	04/01/2004 23:50	
Toluene-d8	96.1	81-117	%	1.00	04/01/2004 23:50	

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Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-2-19.5	Lab ID:	2004-03-0880 - 11
Sampled:	03/24/2004 13:00	Extracted:	4/2/2004 00:09
Matrix:	Soil	QC Batch#:	2004/04/01-02.69
Analysis Flag: 0 ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	10	5.0	mg/Kg	4.95	04/02/2004 00:09	g
Benzene	ND	0.025	mg/Kg	4.95	04/02/2004 00:09	
Toluene	ND	0.025	mg/Kg	4.95	04/02/2004 00:09	
Ethyl benzene	ND	0.025	mg/Kg	4.95	04/02/2004 00:09	
Total xylenes	ND	0.025	mg/Kg	4.95	04/02/2004 00:09	
Methyl tert-butyl ether (MTBE)	ND	0.025	mg/Kg	4.95	04/02/2004 00:09	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	101.1	70-121	%	4.95	04/02/2004 00:09	
Toluene-d8	94.7	81-117	%	4.95	04/02/2004 00:09	

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Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report					
Prep(s): 5030B		Soil		Test(s): 8260B	
Method Blank				QC Batch # 2004/04/01-02.69	
MB: 2004/04/01-02.69-029				Date Extracted: 04/01/2004 18:29	
Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1000	ug/Kg	04/01/2004 18:29	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/Kg	04/01/2004 18:29	
Benzene	ND	5.0	ug/Kg	04/01/2004 18:29	
Toluene	ND	5.0	ug/Kg	04/01/2004 18:29	
Ethyl benzene	ND	5.0	ug/Kg	04/01/2004 18:29	
Total xylenes	ND	5.0	ug/Kg	04/01/2004 18:29	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	96.6	70-121	%	04/01/2004 18:29	
Toluene-d8	95.4	81-117	%	04/01/2004 18:29	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/08/2004 16:07

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report		
Prep(s): 5030B		Test(s): 8260B
Method Blank	Soil	QC Batch # 2004/04/01-2A.69
MB: 2004/04/01-2A.69-029		Date Extracted: 04/01/2004 18:29

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1.000	mg/Kg	04/01/2004 18:29	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	04/01/2004 18:29	
Benzene	ND	0.0050	mg/Kg	04/01/2004 18:29	
Toluene	ND	0.0050	mg/Kg	04/01/2004 18:29	
Ethyl benzene	ND	0.0050	mg/Kg	04/01/2004 18:29	
Total xylenes	ND	0.0050	mg/Kg	04/01/2004 18:29	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	96.6	70-121	%	04/01/2004 18:29	
Toluene-d8	95.4	81-117	%	04/01/2004 18:29	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/08/2004 16:07

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

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

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report									
Prep(s): 5030B					Test(s): 8260B				
Laboratory Control Spike			Soil			QC Batch # 2004/04/01-02.69			
LCS	2004/04/01-02.69-053		Extracted: 04/01/2004			Analyzed: 04/01/2004 17:53			
LCSD	2004/04/01-02.69-011		Extracted: 04/01/2004			Analyzed: 04/01/2004 18:11			

Compound	Conc. ug/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	56.1	55.8	50.0	112.2	111.6	0.5	65-165	20		
Benzene	49.5	50.3	50.0	99.0	100.6	1.6	69-129	20		
Toluene	50.6	51.2	50.0	101.2	102.4	1.2	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	463	452	500	92.6	90.4		70-121			
Toluene-d8	470	465	500	94.0	93.0		81-117			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/08/2004 16:07



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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

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

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report			
Prep(s): 5030B		Test(s): 8260B	
Laboratory Control Spike		Soil	QC Batch # 2004/04/01-2A.69
LCS	2004/04/01-2A.69-053	Extracted: 04/01/2004	Analyzed: 04/01/2004 17:53
LCSD	2004/04/01-2A.69-011	Extracted: 04/01/2004	Analyzed: 04/01/2004 18:11

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	0.0561	0.0558	0.05	112.2	111.6	0.5	65-165	20		
Benzene	0.0495	0.0503	0.05	99.0	100.6	1.6	69-129	20		
Toluene	0.0506	0.0512	0.05	101.2	102.4	1.2	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	463	452	500	92.6	90.4		70-121			
Toluene-d8	470	465	500	94.0	93.0		81-117			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/08/2004 16:07

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

Cambria Environmental Emeryville  
Attn.: Caryl Weekley  
  
5900 Hollis Street, Ste. A  
Emeryville, CA 94608  
Phone: (510) 420-3324 Fax: (510) 420-9170  
  
Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report			
Prep(s): 5030B			Test(s): 8260B
<b>Matrix Spike ( MS / MSD )</b>	<b>Soil</b>	<b>QC Batch # 2004/04/01-02-69</b>	
SB-1-5 >> MS		Lab ID:	2004-03-0880 - 001
MS: 2004/04/01-02-69-042	Extracted: 04/01/2004	Analyzed:	04/01/2004 21:42
		Dilution:	1.00
MSD: 2004/04/01-02-69-056	Extracted: 04/01/2004	Analyzed:	04/01/2004 22:00
		Dilution:	1.00

Compound	Conc. ug/Kg			Spk.Level ug/Kg	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	54.3	48.7	ND	46.9	115.8	100.6	14.0	65-165	20		
Benzene	47.4	50.9	ND	46.9	101.1	105.2	4.0	69-129	20		
Toluene	47.1	50.9	ND	46.9	100.4	105.2	4.7	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	469	442		500	93.8	88.4		70-121			
Toluene-d8	469	472		500	93.8	94.3		81-117			

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report			
Prep(s): 5030B			Test(s): 8260B
<b>Matrix Spike ( MS / MSD )</b>	<b>Soil</b>		<b>QC Batch # 2004/04/01-2A.69</b>
SB-1-5 >> MS			Lab ID: 2004-03-0880 - 001
MS: 2004/04/01-2A.69-042	Extracted: 04/01/2004		Analyzed: 04/01/2004 21:42
			Dilution: 1.00
MSD: 2004/04/01-2A.69-056	Extracted: 04/01/2004		Analyzed: 04/01/2004 22:00
			Dilution: 1.00

Compound	Conc. mg/Kg			Spk.Level mg/Kg	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	0.0543	0.0487	ND	0.046904	115.8	100.5	14.1	65-165	20		
Benzene	0.0474	0.0509	ND	0.046904	101.1	105.2	4.0	69-129	20		
Toluene	0.0471	0.0509	ND	0.046904	100.4	105.2	4.7	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	469	442		500	93.8	88.4		70-121			
Toluene-d8	469	472		500	93.8	94.3		81-117			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/08/2004 16:07

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

**Legend and Notes**

**Analysis Flag**

o

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

**Result Flag**

g

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

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/08/2004 16:07

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
SB-1-W	03/24/2004 11:00	Water	6
SB-2-W	03/24/2004 13:15	Water	12

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/05/2004 13:09

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

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

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SB-1-W	Lab ID:	2004-03-0880 - 6
Sampled:	03/24/2004 11:00	Extracted:	4/1/2004 09:56
Matrix:	Water	QC Batch#:	2004/04/01-1C.66
Analysis Flag: o ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	10000	250	ug/L	5.00	04/01/2004 09:56	
Benzene	430	2.5	ug/L	5.00	04/01/2004 09:56	
Toluene	75	2.5	ug/L	5.00	04/01/2004 09:56	
Ethylbenzene	98	2.5	ug/L	5.00	04/01/2004 09:56	
Total xylenes	44	5.0	ug/L	5.00	04/01/2004 09:56	
Methyl tert-butyl ether (MTBE)	110	2.5	ug/L	5.00	04/01/2004 09:56	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	107.1	76-130	%	5.00	04/01/2004 09:56	
Toluene-d8	101.7	78-115	%	5.00	04/01/2004 09:56	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/05/2004 13:09

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s): 5030B	Test(s): 8260B
Sample ID: SB-2-W	Lab ID: 2004-03-0880 - 12
Sampled: 03/24/2004 13:15	Extracted: 4/1/2004 10:21
Matrix: Water	QC Batch#: 2004/04/01-1C-66
Analysis Flag: o ( See Legend and Note Section )	

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	520	100	ug/L	2.00	04/01/2004 10:21	
Benzene	4.9	1.0	ug/L	2.00	04/01/2004 10:21	
Toluene	ND	1.0	ug/L	2.00	04/01/2004 10:21	
Ethylbenzene	ND	1.0	ug/L	2.00	04/01/2004 10:21	
Total xylenes	ND	2.0	ug/L	2.00	04/01/2004 10:21	
Methyl tert-butyl ether (MTBE)	320	1.0	ug/L	2.00	04/01/2004 10:21	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	124.4	76-130	%	2.00	04/01/2004 10:21	
Toluene-d8	106.7	78-115	%	2.00	04/01/2004 10:21	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/05/2004 13:09

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report					
Prep(s): 5030B		Water		Test(s): 8260B	
Method Blank				QC Batch # 2004/04/01-1C.66	
MB: 2004/04/01-1C.66-030				Date Extracted: 04/01/2004 08:30	
Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	04/01/2004 08:30	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	04/01/2004 08:30	
Benzene	ND	0.5	ug/L	04/01/2004 08:30	
Toluene	ND	0.5	ug/L	04/01/2004 08:30	
Ethylbenzene	ND	0.5	ug/L	04/01/2004 08:30	
Total xylenes	ND	1.0	ug/L	04/01/2004 08:30	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	100.2	76-130	%	04/01/2004 08:30	
Toluene-d8	102.2	78-115	%	04/01/2004 08:30	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/05/2004 13:09



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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report										
Prep(s): 5030B						Test(s): 8260B				
Laboratory Control Spike				Water			QC Batch # 2004/04/01-1C-66			
LCS	2004/04/01-1C-66-042		Extracted: 04/01/2004			Analyzed: 04/01/2004 07:42				
LCSD	2004/04/01-1C-66-006		Extracted: 04/01/2004			Analyzed: 04/01/2004 08:06				
Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	24.2	24.7	25	96.8	98.8	2.0	65-165	20		
Benzene	25.7	28.0	25	102.8	112.0	8.6	69-129	20		
Toluene	26.4	25.3	25	105.6	101.2	4.3	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	459	497	500	91.8	99.4		76-130			
Toluene-d8	502	528	500	100.4	105.6		78-115			

Sewern Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/05/2004 13:09

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

Cambria Environmental Emeryville

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Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

**Legend and Notes**

**Analysis Flag**

o

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

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/05/2004 13:09

LAB: STL San Francisco

# SHELL Chain Of Custody Record

84259

Lab Identification (if necessary)

Address: 1220 Country Lane

City, State, Zip: Pleasanton CA, 94566

Shell Project Manager to be invoiced:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- CHRYSLER HOUSTON

Karen Patryna

**2004-03-0880**

INCIDENT NUMBER (S&E ONLY)

9 8 9 9 5 7 4 1

DATE: 3/24/04

SAP or CRMT NUMBER (TS/CRMT)

1 3 5 6 7 6

Page 1 of 2

SAMPLING COMPANY: <b>Cambria Environmental</b>		LAB CODE: <b>CETO</b>	SITE ADDRESS (Street and City): <b>230 W. MacArthur, Oakland, CA</b>		GLOBAL ID NO.: <b>T0600101240</b>
ADDRESS: <b>6900 Hollis St. Ste A, Emeryville, CA</b>		SEP DELIVERABLE TO (Responsible Party or Designer): <b>shelacklandef@cambria-env.com</b>		PHONE NO.: <b>510-420-3339</b>	EMAIL: <b>sdalia@cambria-env.com</b>
PROJECT CONTACT (Name and E-Box): <b>Caryl Weekley</b>		CONSULTANT PROJECT NO.: <b>246-0902-007</b>		LAB USE ONLY:	
TELEPHONE: <b>510-420-3324</b>	FAX: <b>510-420-9170</b>	EMAIL: <b>cweekley@cambria-env.com</b>			

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

LA - RWQCB REPORT FORM  UST AGENCY:

GDMS MTBE CONFIRMATION: HIGHEST \_\_\_\_\_ HIGHEST per BORING \_\_\_\_\_ ALL \_\_\_\_\_

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

Please cc results to sdalia@cambria-env.com & cweekley@cambria-env.com

REQUESTED ANALYSIS

CA #	US	Field Sample Identification				TPH - Gas, Purgeable	BTEX	TBA	MTBE (92808 - 0.5ppb RL)	TAME, DIFE, ETBE (see notes)	Ethanol (92508)	Methanol	EDB & 1,2-DCA (92608)	EPA 8095 Extractor for Volatiles	VOCs: Halogenated/Aromatic (90218)	TRPH (918.1)	Vapor VOCs: BTEX/MTBE (T0-15)	Vapor VOCs: Full List (T0-45)	Vapor TPH (ASTM 3418c)	Vapor Fixed Gases: (ASTM D1946)	Test for Disposal (48 - )	Test for Disposal, see attached	TPH - Diesel, Extractable (9015m)	MTBE (92608) Confirmation, See Note	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes 2.00C On site, Field point ID	TEMPERATURE ON RECEIPT C	
		DATE	TIME	MATRIX	NO. OF CONT.																						
		SB-1-5'	3/24/04	9:55	Soil	1	X	X	X																		
		SB-1-10'		10:05		1																					
		SB-1-15'		10:05		1																					
		SB-1-17.5'		10:30		1																					
		SB-1-19.5'		10:45		1																					
		SB-1-W		11:00	H <sub>2</sub> O	4																					

Requested by (Signature): <i>[Signature]</i>	Received by (Signature): <i>[Signature]</i>	Date: 3/24/04	Time: 8
Requested by (Signature): <i>[Signature]</i>	Received by (Signature): <i>[Signature]</i>	Date: 3/26/04	Time: 15:45
Requested by (Signature): <i>[Signature]</i>	Received by (Signature): <i>[Signature]</i>	Date: 3/26/04	Time: 16:30

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

C&D Graphix (714) 992-9700

Lab Identification (if necessary):

Address: 1220 Quarry Lane

City, State, Zip: Pleasanton CA, 94566

Shell Project Manager to be Invoiced:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- NORTH HOUSTON

Karen Petryna

INCIDENT NUMBER (SEE ONLY)

9 8 9 9 5 7 4 1

DATE: 3/24/04

SAP or CRMT NUMBER (TS/CRMT)

1 3 5 6 7 6

Page 2 of 2

SAMPLING COMPANY: <b>Cambria Environmental</b>		LOG CODE: <b>CETO</b>	SITE ADDRESS (Street and City): <b>230 W. MacArthur, Oakland, CA</b>		GLOBAL ID NO.: <b>T0600101240</b>
ADDRESS: <b>5900 Hollis St. Ste A, Emeryville, CA</b>		EDF DELIVERABLE TO (Responsible Party or Design):		PHONE NO.:	CONSULTANT PROJECT NO.:
PROJECT CONTACT (Please copy or PDF Report to): <b>Caryl Wackley</b>		shelloakland@cambria-env.com		510-420-3338	schlis@cambria-env.com
TELEPHONE: <b>510-420-3324</b>	FAX: <b>510-420-3170</b>	EMAIL: <b>cwackley@cambria-env.com</b>		SAMPLER NAME(S) (Print): <b>Stu Dale</b>	
					LAB USE ONLY

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

LA - RWQCB REPORT FORM  UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST \_\_\_\_\_ HIGHEST PER BORING \_\_\_\_\_ ALL \_\_\_\_\_

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

Please cc results to sdale@cambria-env.com & cwackley@cambria-env.com

REQUESTED ANALYSIS

LA USE ONLY	Field Sample Identification				TPH - Gas, Purgeable	BTEX	TBA	MTBE (B2608 - 0.5ppb RL)	TAME, DIPN, ETBE (see notes)	Ethanol (B2608)	Methanol	EDB & 1,2-DCA (B2608)	EPA 6005 Extraction for Volatiles	VOCs Halogenated/Aromatic (B021B)	TRPH (B18.1)	Vapor VOCs BTEX / MTBE (T0-15)	Vapor VOCs Full List (T0-15)	Vapor TPH (ASTM 3416m)	Vapor Fixed Gases (ASTM D1946)	Test for Disposal (48-)	Test for Disposal, see attached	TPH - Diesel, Extractable (B015m)	MTBE (B2608) Confirmation, See Note	FIELD NOTES:	
	DATE	TIME	MATRIX	NO. OF COFT.																				Container/Preservative or PID Readings or Laboratory Notes	
	SB-2-5'	3/24/04	9:30	Soil	1	X	X	X																	ON ICE FIELD PID ID TEMPERATURE ON RECEIPT C° SB-2
	SB-2-10'		12:30																						
	SB-2-15'		12:45																						
	SB-2-17'		1:00																						
	SB-2-19.5'		1:00																						
	SB-2-W		10	1:30	4000																				

Requested by (Signature): <i>[Signature]</i>	Received by (Signature): <i>[Signature]</i>	Date: 3/24/04	Time: 8:00 AM
Requested by (Signature): <i>[Signature]</i>	Received by (Signature): <i>[Signature]</i>	Date: 3/26/04	Time: 14:45
Requested by (Signature): <i>[Signature]</i>	Received by (Signature): <i>[Signature]</i>	Date: 3/29/04	Time: 10:00

**Cambria Environmental Emeryville**

April 02, 2004

5900 Hollis Street, Ste. A  
Emeryville, CA 94608

Attn.: Caryl Weekley

Project#: 246-0902=007

Project: 98995741

Site: 230 W. MacArthur, Oakland, CA

Dear Ms. Weekley,

Attached is our report for your samples received on 03/26/2004 16:30

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

Please note that any unused portion of the samples will be discarded after 05/10/2004 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

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

Sincerely,



Vincent Vancil  
Project Manager

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* [www.stl-inc.com](http://www.stl-inc.com) \* CA DHS ELAP# 2496

**Total Lead**

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
SP-1A,B,C,D	03/24/2004 07:00	Soil	1

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

03/31/2004 09:42

Page 1 of 4

**Total Lead**

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	3050B	Test(s):	6010B
Sample ID:	SP-1A,B,C,D	Lab ID:	2004-03-0869-1
Sampled:	03/24/2004 07:00	Extracted:	3/29/2004 13:01
Matrix:	Soil	QC Batch#:	2004/03/29-06:15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Lead	3.9	1.0	mg/Kg	1.00	03/30/2004 10:28	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

03/31/2004 09:42

**Total Lead**

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report	
Prepts): 3050B	Test(s): 6010B
Method Blank	Soil
MB: 2004/03/29-06:15-030	QC Batch # 2004/03/29-06:15
	Date Extracted: 03/29/2004 13:01

Compound	Conc.	RL	Unit	Analyzed	Flag
Lead	ND	1.0	mg/Kg	03/30/2004 08:26	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

03/31/2004 09:42



**Total Lead**

Cambria Environmental Emeryville

Attn.: Caryl Weekley

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

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report										
Prep(s): 3050B						Test(s): 6010B				
Laboratory Control Spike				Soil			QC Batch # 2004/03/29-06.15			
LCS	2004/03/29-06.15-031			Extracted: 03/29/2004			Analyzed: 03/30/2004 08:30			
LCSD	2004/03/29-06.15-032			Extracted: 03/29/2004			Analyzed: 03/30/2004 08:34			
Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Lead	88.8	87.8	100.0	88.8	87.8	1.1	80-120	20		

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

03/31/2004 09:42

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
SP-1	03/24/2004 07:00	Soil	1

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/02/2004 12:26

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	SP-1	Lab ID:	2004-03-0869 - 1
Sampled:	03/24/2004 07:00	Extracted:	3/31/2004 19:32
Matrix:	Soil	QC Batch#:	2004/03/31-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	03/31/2004 19:32	
Benzene	ND	0.0050	mg/Kg	1.00	03/31/2004 19:32	
Toluene	ND	0.0050	mg/Kg	1.00	03/31/2004 19:32	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	03/31/2004 19:32	
Total xylenes	ND	0.0050	mg/Kg	1.00	03/31/2004 19:32	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	94.9	70-121	%	1.00	03/31/2004 19:32	
Toluene-d8	95.8	81-117	%	1.00	03/31/2004 19:32	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/02/2004 12:26

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

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

Project: 246-0902=007  
98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report					
Prep(s): 5030B				Test(s): 8260B	
Method Blank		Soil		QC Batch # 2004/03/31-2A.69	
MB: 2004/03/31-2A.69-058				Date Extracted: 03/31/2004 18:58	

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	03/31/2004 18:58	
Benzene	ND	0.0050	mg/Kg	03/31/2004 18:58	
Toluene	ND	0.0050	mg/Kg	03/31/2004 18:58	
Ethyl benzene	ND	0.0050	mg/Kg	03/31/2004 18:58	
Total xylenes	ND	0.0050	mg/Kg	03/31/2004 18:58	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	95.8	70-121	%	03/31/2004 18:58	
Toluene-d8	87.2	81-117	%	03/31/2004 18:58	

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

Cambria Environmental Emeryville

Attn.: Caryl Weekley

5900 Hollis Street, Ste. A

Emeryville, CA 94608

Phone: (510) 420-3324 Fax: (510) 420-9170

Project: 246-0902=007

98995741

Received: 03/26/2004 16:30

Site: 230 W. MacArthur, Oakland, CA

Batch QC Report			
Prep(s): 5030B		Test(s): 8260B	
Laboratory Control Spike		Soil	QC Batch # 2004/03/31-2A.69
LCS	2004/03/31-2A.69-021	Extracted: 03/31/2004	Analyzed: 03/31/2004 18:21
LCSD	2004/03/31-2A.69-040	Extracted: 03/31/2004	Analyzed: 03/31/2004 18:40

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	0.0539	0.0552	0.05	107.8	110.4	2.4	69-129	20		
Toluene	0.0523	0.0533	0.05	104.6	106.6	1.9	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	460	439	500	92.0	87.8		70-121			
Toluene-d8	469	498	500	93.8	99.6		81-117			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

04/02/2004 12:26

# SHELL Chain Of Custody Record

84260

Lab Identification (if necessary):

Address: 1220 Quarry Lane

City, State, Zip: Pleasanton, CA, 94566

Shell Project Manager to be Invoiced:

SCIENCE & ENGINEERING  
 TECHNICAL SERVICES  
 CRMT HOUSTON

Karen Petryna

2004-03-0869

INCIDENT NUMBER (S/E ONLY)

9 8 9 9 5 7 4 1

SAP or CRMT NUMBER (TS/CRMT)

1 3 5 6 7 8

DATE: 3/24/04

Page 1 of 2

**SAMPLING COMPANY:** Cambria Environmental  
**ADDRESS:** 5900 Hollis St. Ste A, Emeryville, CA  
**PROJECT CONTACT (Company or PFI Representative):** Garyl Weekley  
**TELEPHONE:** 510-420-3324  
**FAX:** 510-420-9170  
**EMAIL:** cweekley@cambria-env.com

**LOG CODE:** CETO  
**SITE ADDRESS (Street and City):** 230 W. MacArthur, Oakland, CA  
**EDS DELIVERABLES TO (Responsible Party or Designator):** shellbaklanded@cambria-env.com  
**PHONE NO.:** 510-420-3339  
**EMAIL:** sdallis@cambria-env.com  
**CONSULTANT PROJECT NO.:** 246-0902-007

**GLOBAL ID NO.:** T0600101240  
**SAMPLER NAME(S) (Print):** Stu Dalle

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

IA - RWQCB REPORT FORM  UST AGENCY

**OC/MG/MTBE CONFIRMATION:** HIGHEST \_\_\_\_\_ HIGHEST per BORING \_\_\_\_\_ ALL \_\_\_\_\_

**SPECIAL INSTRUCTIONS OR NOTES:** CHECK BOX IF EDD IS NOT NEEDED   
 Please cc results to sdallis@cambria-env.com & cweekley@cambria-env.com

REQUESTED ANALYSIS

TPH - Gas, Purgeable	BTEX	TBA	MTBE (R260B - 0.5ppb RL)	TAME, DPE, ETBE (see notes)	Ethanol (R260B)	Methanol	EDB & 1,2-DCA (R260B)	EPA 5035 Extraction for Volatiles	VOCs Halogenated/Aromatic (R021B)	TRH (41B-1)	Vapor VOCs BTEX / MTBE (TO-15)	Vapor VOCs Full List (TO-15)	Vapor TPH (ASTM 3415m)	Vapor Fixed Gases (ASTM D1946)	Test for Disposal (4B)	Test for Disposal, see attached	TPH - Dies el, Extractable (R015m)	MTBE (R260B) Confirmation, See Note
X	X														X			
X	X														X			
X	X														X			
X	X														X			

FIELD NOTES:

Container/Preservative or PID Readings or Laboratory Notes  
 2.0°C  
 On ICE Field point ID

LA # / US	Field Sample Identification		SAMPLING		MATRIX	NO. OF CONT.
	DATE	TIME	DATE	TIME		
	SP-1A	3/24/04	7:00	3/24/04	Soil	1
	SP-1B	3/24/04	7:00	3/24/04	Soil	1
	SP-1C	3/24/04	7:00	3/24/04	Soil	1
	SP-1D	3/24/04	7:00	3/24/04	Soil	1

4 pt composite for waste individual

**Retrieved by (Signature):** [Signature] **Received by (Signature):** [Signature]  
**Retrieved by (Signature):** [Signature] **Safe Location:** Emeryville office refrigerator, Stewart Dalle  
**Retrieved by (Signature):** [Signature] **Retrieved by (Signature):** [Signature]  
**Date:** 3/24/04 **Time:** 8:00 AM  
**Date:** 3/26/04 **Time:** 14:45  
**Date:** 5/26/04 **Time:** 16:30

This information is business proprietary and confidential and must not be divulged or shared outside the company. The use of this information is strictly for the purpose of doing business with the Centralized Residual Management Team (CRMT). Upon termination of the relationship with the CRMT, this information is not to be forwarded, duplicated, shared or used for any purpose other than for the documentation of past actions.

## RESIDUAL MANAGEMENT PROCEDURE

ISSUED DATE: 08/01/01  
 CANCELS ISSUE:  
 ISSUED BY: LRR

RESIDUAL STREAM: SOIL WITH UNLEADED GASOLINE  
 VENDOR: ALLIED-BFI  
 LOCATION: ALLIED WASTE - MANTECA  
 9999 SOUTH AUSTIN ROAD  
 MANTECA, CA 95336

CALIFORNIA - TRANSPORTATION AND RETAIL

BTEX - EPA 8021B/8260B (IF BENZENE IS  $>$  OR  $=$  TO 10 MG/KG THEN TCLP BENZENE IS REQUIRED)

CAM METALS - TTLC METALS - **LEAD ONLY**

STLC ON ALL TTLC METALS 10 TIMES STLC MAXIMUM

TTLC LEAD  $>$  13 MG/KG REQUIRES ORGANIC LEAD ANALYSIS

IF ANY TTLC TOTAL METAL IS  $>$  OR  $=$  TO 20 TIMES TCLP REGULATORY LEVELS, TCLP IS REQUIRED

TOTAL PETROLEUM HYDROCARBONS, METHOD 418.1 OR **8015** - GASOLINE

~~MTBE METHOD 8260B (GC/MS)~~

AQUATIC BIOASSAY (FISH TOX) IS ONLY TO BE RUN ON SAMPLES  $>$  OR  $=$  TO 5000 PPM TPH. AQUATIC BIOASSAY (FISH TOX) = PART 800 OF STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER (15TH EDITION)

LABORATORY INSTRUCTIONS (MINIMUM GUIDELINES ONLY)

-ALTERNATE APPROVED TEST METHODS PER SW846 ARE ALSO ACCEPTABLE

-ALL REQUIRED TESTS ON COMPOSITE (**max 4-1**)

-LABORATORY IS TO SUPPLY QA/QC INFORMATION WITH ALL ANALYTICAL REPORTS

~~MAIL OR FAX ALL ANALYSIS TO THE CENTRALIZED RESIDUAL MANAGEMENT TEAM~~

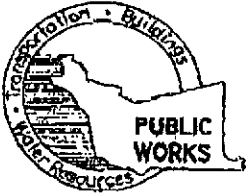
PROCEDURE ORIGINAL DATE: 08/01/01

PROCEDURE REVISED DATE: 08/01/01

**ATTACHMENT B**

**Permits**





ALAMEDA COUNTY PUBLIC WORKS AGENCY

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

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

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 230 W. McArthur
Oakland, CA

PERMIT NUMBER W04-0256
WELL NUMBER
APN

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL

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

B. WATER SUPPLY WELLS

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

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

- 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

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

E. CATHODIC

Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION

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

G. SPECIAL CONDITIONS #1

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

CLIENT

Name Shell Oil Products Co (US)
Address 20945 Wilburton
City Carson CA Zip 90810

APPLICANT

Name Cambria Environmental 510-420-9170
Address 3700 Hills St #26A Phone 510-470-3339
City Emeryville CA Zip 94608

TYPE OF PROJECT

Well Construction
Cathodic Protection
Water Supply
Monitoring
Geotechnical Investigation
General
Contamination
Well Destruction
2 soil borings

PROPOSED WATER SUPPLY WELL USE

New Domestic
Municipal
Industrial
Replacement Domestic
Irrigation
Other
SB-1
SB-2

DRILLING METHOD:

Mud Rotary
Cable
Air Rotary
Other
Auger
X (geoprobe)

DRILLER'S NAME Gregg Drilling & Testing

DRILLER'S LICENSE NO. C-57 485-165

WELL PROJECTS

Drill Hole Diameter
Casing Diameter
Surface Seal Depth
Maximum Depth
Owner's Well Number

GEOTECHNICAL PROJECTS

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

STARTING DATE 3/24/04

COMPLETION DATE 3/24/04

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

APPLICANT'S SIGNATURE Stewart A. Dale DATE 3/16/04

PLEASE PRINT NAME Stewart A. Dale Rev.9-18-02

APPROVED [Signature] DATE 3-17-04



# EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PAGE 2 of 2

ENM102075  
(New Well)

PERMIT NUMBER <b>X 0 2 0 0 3 4 5</b>		SITE ADDRESS/LOCATION <b>610 Market Street - Oakland, CA</b>	
APPROX. START DATE <b>4/16/02</b>	APPROX. END DATE <b>4/19/02</b>	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) <b>925-313-5800</b>	
CONTRACTOR'S LICENSE # AND CLASS <b>C-57-485165</b>		CITY BUSINESS TAX # <b>585033</b>	

ATTENTION:

- 1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # \_\_\_\_\_
- 2- 48 hours prior to starting work, you **MUST CALL (510) 238-3651** to schedule an inspection.
- 3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than \$500):

- I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).
- I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).
- I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).
- I am exempt under Sec. \_\_\_\_\_, B&PC for this reason \_\_\_\_\_

**8/1/4 ZAWCI 90217**

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # **WC 31506560** Company Name **Gregg Drilling and Testing**  
**CAW**

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars (\$100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

**WC 31506560**

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

**Jason Meke** **4/10/02**  
Signature of Permittee \_\_\_\_\_ Date \_\_\_\_\_  
 Agent for  Contractor  Owner

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) <input type="checkbox"/> YES <input type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) <input type="checkbox"/> YES <input type="checkbox"/> NO
ISSUED BY <b>[Signature]</b>		DATE ISSUED <b>4/10/02</b>	

**ATTACHMENT C**

**Boring Logs**



<b>CLIENT NAME</b>	Shell Oil Products Company (US)	<b>BORING/WELL NAME</b>	SB-1
<b>JOB/SITE NAME</b>	Shell-Branded Service Station	<b>DRILLING STARTED</b>	24-Mar-04
<b>LOCATION</b>	230 West MacArthur Boulevard, California	<b>DRILLING COMPLETED</b>	24-Mar-04
<b>PROJECT NUMBER</b>	246-0902-007	<b>WELL DEVELOPMENT DATE (YIELD)</b>	NA
<b>DRILLER</b>	Gregg Drilling	<b>GROUND SURFACE ELEVATION</b>	
<b>DRILLING METHOD</b>	Hydraulic push	<b>TOP OF CASING ELEVATION</b>	NA
<b>BORING DIAMETER</b>	3"	<b>SCREENED INTERVAL</b>	NA
<b>LOGGED BY</b>	Stewart A. Dalie IV	<b>DEPTH TO WATER (First Encountered)</b>	17.0 ft (24-Mar-04) ▼
<b>REVIEWED BY</b>	Matthew W. Derby P.E. # 55475	<b>DEPTH TO WATER (Static)</b>	12.5 ft (24-Mar-04) ▼
<b>REMARKS</b>	Hand augered and air knifed to approximately 8 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								<u>Concrete.</u>	1.0	
						ML		<u>Clayey SILT</u> ; (ML); Light brown; medium dense; dry; 25% clay, 75% silt.		
0			SB-1	5'	5			<u>Silty GRAVEL</u> ; (GM); Brown; medium dense; dry; 25% silt, 75% gravel.	5.0	
						GM				
0.4			SB-1	10'	10			<u>Clayey SAND</u> ; (SC); Brown; very dense; dry; 30% clay, 60% sand.	9.3	
						SC				
						CL		<u>Silty CLAY</u> ; (CL); Olive brown; very hard; dry; 85% clay, 35% silt.	11.0	
									13.0	
8			SB-1	15'	15			<u>Clayey SAND</u> ; (SC); Olive gray; very dense; damp; 35% clay, 55% sand, 10% gravel.		
						SC				
25			SB-1	17'	17			<u>Poorly Graded SAND</u> ; (SP); Olive gray; loose; wet; 100% sand.	17.0	
						SP				
341			SB-1	19.5'	20			<u>Well graded GRAVEL with Sand</u> ; (GW); Olive gray; very dense; wet; 40% sand, 60% gravel.	19.0	
						GW			20.0	
										Bottom of Boring @ 20 ft

WELL LOG (PID/TPHG): G:\0A29F3-1\GINT5\OAK 230.GPJ DEFAULT.GDT 4/19/04



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

# BORING/WELL LOG

<b>CLIENT NAME</b>	Shell Oil Products Company (US)	<b>BORING/WELL NAME</b>	SB-2
<b>JOB/SITE NAME</b>	Shell-Branded Service Station	<b>DRILLING STARTED</b>	24-Mar-04
<b>LOCATION</b>	230 West MacArthur Boulevard, California	<b>DRILLING COMPLETED</b>	24-Mar-04
<b>PROJECT NUMBER</b>	246-0902-007	<b>WELL DEVELOPMENT DATE (YIELD)</b>	NA
<b>DRILLER</b>	Gregg Drilling	<b>GROUND SURFACE ELEVATION</b>	
<b>DRILLING METHOD</b>	Hydraulic push	<b>TOP OF CASING ELEVATION</b>	NA
<b>BORING DIAMETER</b>	3"	<b>SCREENED INTERVAL</b>	NA
<b>LOGGED BY</b>	Stewart A. Dalie IV	<b>DEPTH TO WATER (First Encountered)</b>	17.0 ft (24-Mar-04) ▼
<b>REVIEWED BY</b>	Matthew W. Derby P.E. # 55475	<b>DEPTH TO WATER (Static)</b>	10.7 ft (24-Mar-04) ▼
<b>REMARKS</b>	Hand augered and air knifed to approximately 8 fbg.		

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							<b>Concrete.</b>	1.0	
					ML		<b>Clayey SILT:</b> (ML); Light olive brown; medium dense; dry; 30% clay, 70% silt.	4.5	
0			SB-2 5'	5	GM		<b>Silty GRAVEL:</b> (GM); Brown; medium dense; dry; 20% silt, 80% large gravel.	7.5	
					CL		<b>Silty CLAY:</b> (CL); Light yellowish brown with rust mottling; very stiff; dry; 55% clay, 45% silt.	10.8	
1.2			SB-2 10'	10	SC		<b>Clayey SAND:</b> (SC); Light yellowish brown; medium dense; dry; 45% clay, 55% sand.	14.0	
8			SB-2 15'	15	CL		<b>Silty CLAY:</b> (CL); Olive gray to brown; very stiff; dry; 75% clay, 25% silt.	16.5	
148			SB-2 17'	17	SP		<b>Poorly Graded SAND:</b> (SP); Olive gray; loose; wet; 100% sand.	19.0	
155			SB-2 19.5'	20	GW		<b>Well graded SAND with Gravel:</b> (GW); Olive gray; medium dense; wet; 55% sand, 45% gravel.	20.0	Bottom of Boring @ 20 ft

WELL LOG (PID/TPHG) G:\QA29F3-1\GINT5OAK 230.GPJ DEFAULT.GDT 4/19/04

**ATTACHMENT D**

**Soil Disposal Confirmation Report**



Hazardous Waste Hauler (Registration #2843)

8396 Elder Creek Rd. • Sacramento, CA 95828 • FAX (916) 381-1573

### Disposal Confirmation

Request for Transportation Received: \_\_\_\_\_ 04/07/04

#### Consultant Information

Company: Cambria Environmental  
 Contact: Stu Dalie  
 Phone: 510 420-3339  
 Fax: 510 420-9170

#### Site Information

Station #: N/A  
 Street Address: 230 W. McArthur Blvd  
 City, State, ZIP: Oakland, CA

Customer: Shell Oil Company RESA-0023-LDC  
 RIPR #: 33597  
 SAP # / Location: 135676  
 Incident #: 98995741  
 Location / WIC #: 204-55008-0703  
 Environmental Engineer: Perry Pineda

Material Description: Contaminated Soil  
 Estimated Quantity: 1 yards  
 Service Requested Date: \_\_\_\_\_

Disposal Facility: Forward Landfill  
 Contact: Joe Griffith  
 Phone: 800 204-4242  
 Approval #: 4357  
 Date of Disposal: 04/08/2004  
 Actual Tonnage: 0.17 Tons

Transporter: Manley & Sons Trucking, Inc.  
 Contact: Glenell Manley  
 Phone: 916 381-6864  
 Fax: 916 381-1573  
 Invoice: \_\_\_\_\_  
 Date of Invoice: \_\_\_\_\_

**ATTACHMENT E**

**Standard Field Procedures for Geoprobe® Soil Sampling**



# CAMBRIA

## STANDARD FIELD PROCEDURES FOR GEOPROBE® SOIL SAMPLING

This document describes Cambria Environmental Technology's standard field methods for GeoProbe® soil and ground water sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

### Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

### Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

### Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

### Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon® tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

# CAMBRIA

## Field Screening

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech® or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

## Grab Ground Water Sampling

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

## Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

## Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

F:\TEMPLATE\SOPS\GEOPROBE.WPD