Mr. Barney Chan Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577 #113/RD

February 25, 2002

Re:

**Underground Storage Tank Closure Report** 

Shell-branded Service Station 4411 Foothill Boulevard Oakland, California Incident #98995756 Cambria Project #244-0897



Dear Mr. Chan,



Cambria Environmental Technology, Inc. (Cambria) is submitting the results of sampling activities performed at the referenced site on behalf of Equiva Services LLC (Equiva). The sampling, directed by the City of Oakland Fire Service Agency, was conducted in conjunction with removal of the gasoline underground storage tanks (USTs), dispensers, product piping, and associated over-excavation. Summarized below are the site background, UST and piping removal activities, over-excavation activities, hydraulic hoist removal activities, findings, conclusions, and recommendations.

#### BACKGROUND

Site Description: The site is a former Shell-branded service station located on the southwest corner of the intersection of Foothill Boulevard and High Street in Oakland, California (Figures 1, 2, and 3). The neighborhood in the vicinity of the site is mixed commercial and residential, with gasoline service stations occupying the northeastern and northwestern corners of the intersection. Fremont High School is located on the southeastern intersection corner.

Several phases of assessment and equipment removal sampling have been performed at the site. Soil boring, well, and sample locations from this previous work are shown on Figure 4. Sample results from the previous work are summarized in Table 1.

Oakland, CA San Ramon, CA Sonoma, CA

Cambria Environmental Technology, Inc.

1144 65th Street Suite B Oakland, CA 94608 Tel (510) 420-0700 Fax (510) 420-9170 1992 Waste Oil Tank Removal: The environmental investigation at this site was initiated in November 1992, following the removal of an underground waste-oil tank. A soil sample was collected at the bottom of the excavation at a depth of approximately 11 feet below grade (fbg). No total petroleum hydrocarbons as gasoline (TPHg), diesel (TPHd), benzene, toluene, ethylbenzene, xylenes (BTEX), oil and grease, halogentated volatile organics compounds or

metals were detected in the sample. Total lead was detected at 6.7 parts per million (ppm), which likely represents the background concentration in the local soil. Details of the waste oil tank removal and sampling activities are presented in the GeoStrategies Inc. (GeoStrategies) report dated March 26, 1992.

1992 Monitoring Well Installation: A single monitoring well (S-1) was installed in the vicinity of the waste-oil tank location. Details of this well installation are presented in GeoStrategies' Monitoring Well Installation Report dated January 19, 1993.

1993 Monitoring Well Installations: Monitoring wells S-2 and S-3 were installed by Hydro Environmental Technologies Inc. (HETI) on May 21, 1993. Details of the well installations are presented in HETI's report dated July 22, 1993.

1995 Soil and Groundwater Investigation: Pacific Environmental Group (PEG) of San Jose, California conducted a geoprobe investigation in June 1995. The investigation consisted of advancing eight onsite soil borings and two offsite borings for the collection of soil and groundwater samples. Details of this investigation are presented in PEG's Site Investigation report dated September 12, 1995.

1998 Product Equipment Upgrades: Paradiso Mechanical (Paradiso) of San Leandro, California upgraded the service station in November 1998 by adding secondary containment to the gasoline turbines and dispensers. Details of dispenser upgrade and sampling activities are presented in Cambria's Dispenser Soil Sampling Report dated November 30, 1998.

January 1999 Letter Response and Work Plan: In response to the Alameda County Health Care Services Agency (ACHCSA) letter to Equiva dated December 7, 1998, Cambria prepared a Letter Response and Work Plan dated January 11, 1999. In the January 1999 work plan, Cambria proposed an additional onsite groundwater monitoring well (S-4) and enhanced groundwater oxygenation via hydrogen peroxide injection into existing site wells.

March 1999 Work Plan Addendum: Additional information regarding the location of proposed well S-4 and the use of hydrogen peroxide was requested by the ACHCSA in a phone conversation with Cambria on February 1, 1999. As a result, Cambria submitted a Work Plan Addendum dated March 18, 1999. In the March 1999 addendum, Cambria proposed that well S-4 be located between the station building and the nearest dispenser-island to the north. Due to the lack of requested response from the Hayward Fire Department on the safety of hydrogen peroxide use, Cambria also proposed the application of oxygen releasing compound (ORC) in lieu of hydrogen peroxide.



#### TANK AND PIPING REMOVAL ACTIVITIES

Personnel Present	Title	Organization
Keith L. Matthews	Inspector	City of Oakland Fire Service Agency
Jacquelyn Jones	Project Geologist	Cambria
Myron Olson	Staff Engineer	Cambria
Mark Freitas	Foreman	Paradiso
Mike Peña	Operator	Paradiso
Candido Dominguez	Assistant	Paradiso
Ron Evans	Lab Director	Mobile Chem Labs Inc.



UST Removal and Dispenser/Piping Soil Sampling Date: December 11, 2001.

Tanks Removed: Paradiso removed three 10,000-gallon fiberglass gasoline USTs and associated product piping on December 11, 2001.

Tank Removal Observations: Under close inspection, no holes, cracks, or failures were visible on the walls of the removed USTs. Groundwater was visible in the tank pit after the tanks were removed, although no sheen was observed. The 12-foot deep, 10-inch diameter tank backfill well Bwake located within the UST backfill material, and was completely destroyed by Paradiso when the backfill material was removed from around the USTs prior to tank removal.

Tank Pit and Dispenser Soil and Groundwater Sampling: On December 11, 2001, soil and groundwater sampling was performed under the direction of Keith Matthews of the City of Oakland Fire Service Agency. Cambria collected soil samples from six locations in the UST excavation and from selected locations under the dispensers and product piping. Cambria also collected one groundwater sample (TW) from the UST pit. The soil and groundwater sampling locations are shown on Figure 2. Cambria's Standard Tank Removal Sampling Procedures are presented as Attachment A and our Standard Piping and Dispenser Removal Sampling Procedures are presented as Attachment B.

Soil and Groundwater Sampling Chemical Analyses: All soil and groundwater samples from the UST excavation and from underneath the piping were collected by Cambria and analyzed onsite by Mobile Chem Labs Inc. of Lafayette, CA. Soil and groundwater samples were analyzed using EPA Methods 5030 and TPH LUFT with Method 8020 used for MTBE and BTEX distinction. Soil samples D-1-4.5 and D-2-4 were analyzed using EPA Method 8260B by Kiff Analytical LLC (Kiff) of Davis, CA. Laboratory analytical data for soil and groundwater is summarized in Tables 2 and 3 respectively. Laboratory analytical reports and chain of custody records are presented as Attachment C.

*UST Disposal:* The removed USTs were manifested and transported by Ecology Control Industries, Inc. to their facility for proper destruction.

**Soil Handling:** The soil stockpile generated during UST closure activities was sampled, profiled, and disposed of in accordance with Equiva procedures. Soil disposal confirmation is presented as Attachment D.

### **OVER-EXCAVATION ACTIVITIES**



Personnel Present	Title	Organization
Barney Chan	Inspector	ACHCSA
Perry Pineda	Construction Engineer	Equiva
James Loetterle	Project Geologist	Cambria
Myron Olson	Staff Engineer	Cambria
Mark Freitas	Foreman	Paradiso
Mike Peña	Operator	Paradiso
Candido Dominguez	Assistant	Paradiso
Ron Evans	Lab Director	Mobile Chem Labs Inc.

Over-Excavation and Sampling Date: January 2-4, and 7, 2002.

Work Plan Approval: Cambria submitted a Corrective Action Plan (CAP) to the ACHCSA on November 12, 2001. The CAP recommended onsite over-excavation and was approved in an ACHCSA letter dated November 19, 2001.

Over-Excavation Activities: Under the direction of Cambria, Paradiso excavated pits in the areas of the former USTs and the dispenser islands. Soil samples E-1 through E-19 were collected and submitted to Mobile Chem Labs for onsite analysis to aid in determining the extent of over-excavation. Barney Chan of the ACHCSA observed the excavation pits on January 3, 2002. Physical features such as sidewalks, stockpiles, and onsite access driveways limited the excavation extent. Confirmation soil samples C-1 through C-15 were collected from the excavation sidewalls. Final excavation depths were 11 fbg beneath dispensers 3 and 4, 12 fbg in the UST pit, and 13-14 fbg beneath dispensers 1 and 2. The final limits of over-excavation, and soil and groundwater sample locations are shown on Figure 2. Cambria's Excavation Sampling Procedures are presented as Attachment E. Approximately 1,250 cubic yards of soil were excavated from the around UST pit and beneath the dispenser islands.

During over-excavation activities, mobile vacuum trucks from Phillips Services Company (PSC) extracted groundwater from the UST pit. Approximately 16,000 gallons of groundwater was extracted from the UST pit and transported offsite.

After the final limits of over-excavation were attained and final confirmation soil samples were collected, a total of 810 pounds of powdered ORC was placed at the excavation bottom. The total was recommended by the ORC vendor, Regenesis, based on a 3,400 square foot excavation bottom. Given that the actual excavation bottom was approximately 2,300 square feet, an abundance of ORC was used. While onsite, the ACHCSA inspector recommended that more ORC be spread in the northern dispenser area than in other areas due to the relative degree of residual impact. To satisfy the request, approximately 300 pounds were spread in northern dispenser area, 270 pounds were spread in the UST area, and 240 pounds were spread in the western dispenser area.



Soil and Groundwater Sample Chemical Analyses: Cambria delivered over-excavation soil samples E-1 through E-19 and over-excavation groundwater sample TEW to Mobile Chem Labs Inc. for analysis. Mobile Chem Labs Inc. analyzed the samples for MTBE, TPHg, BTEX, TAME, ETBE, DIPE, TBA, and ethanol by EPA Methods 5030 and 8260. Kiff analyzed confirmation samples C-1 through C-15 for TPHg, BTEX, and MTBE by EPA Method 8260B. TPHg, BTEX and MTBE analytical results for soil and groundwater are summarized in Tables 2 and 3 respectively. Other analyte data are presented in the laboratory analytical reports with chain of custody records in Attachment C.

**Soil Handling:** The soil stockpile generated during over-excavation activities was sampled, profiled, and disposed of in accordance with Equiva procedures. Soil disposal confirmation is presented as Attachment D.

### HYDRAULIC HOIST REMOVAL ACTIVITIES

Personnel Present	Title	Organization
Keith L. Matthews	Inspector	City of Oakland Fire Service Agency
James Loetterle	Project Geologist	Cambria
Myron Olson	Staff Engineer	Cambria
Mark Freitas	Foreman	Paradiso
Mike Peña	Operator	Paradiso
Candido Dominguez	Assistant	Paradiso

Hydraulic Hoist Sampling Date: January 17, 2002.

Hydraulic Hoist Removal and Sampling Events: On January 17, 2002, Cambria collected soil samples from beneath the three hydraulic hoists located within the former station building. The hoists had been removed during the station building demolition that occurred prior to over-excavation activities. Upon arrival at the site for over-excavation activities on January 2, 2002, Cambria observed empty pits where the hydraulic hoists had been removed. Under the direction of Cambria, Paradiso excavated pits underneath each hoist location to approximately 7 fbg. Cambria collected soil samples from each pit, and then directed Paradiso to over-excavate the surrounding soil. Confirmation soil samples were collected beneath each hoist location at approximately 11 fbg. The soil stockpile created from the tank pull and over-excavation activities bounded the hydraulic hoist over-excavation pit on three sides and prevented further over-excavation. Soil sample results are summarized in Table 2 and the extent of over-excavation and soil sample locations are shown in Figure 2.



### **FINDINGS**

Soil Sampling Results: The maximum concentrations of oxygenates and hydrocarbons detected in the UST, dispenser, and product piping removal samples were 1.4 milligrams per kilogram (mg/kg) MTBE from sample D2-4', and both 1,000 mg/kg TPHg, and 1.4 mg/kg benzene from sample D1-4.5'. The maximum concentrations of oxygenates and hydrocarbons detected after over-excavation were 0.65 mg/kg MTBE in sample C-9-9.0, and 1,800 mg/kg TPHg, and 9.6 mg/kg benzene from sample E-15-11.0. The laboratory analytical data for soil is summarized in Table 2, and soil-sampling locations are shown on Figure 2.

Groundwater Sampling Results: MTBE, benzene, and TPHg were detected in sample TW during UST removal activities at concentrations of 180, 20, and 680 μg/L respectively. These analytes were detected in sample TEW 23 days later during over-excavation activities at concentrations of 1,900, 2.7, and 590 μg/L respectively. The laboratory analytical data for groundwater is summarized in Table 3, and groundwater-sampling locations are shown on Figure 2.

#### CONCLUSIONS AND RECOMMENDATIONS

All surface and subsurface facilities have been removed, and surface features have been demolished. Over-excavation activities outlined in this report removed approximately 2,550 tons of soil, equivalent to approximately 1,961 cubic yards, and approximately 16,000 gallons of groundwater. Subsequent to over-excavation, 810 pounds of ORC were spread over the base of the excavations. A relatively larger amount of ORC powder was spread in the area of higher residual chemical impact before clean backfill was placed in the pits and compacted.



Analytical data from soil samples collected prior to over-excavation indicated elevated chemical concentrations beneath all four product dispenser islands. Removal of impacted soil around and beneath the product dispenser islands and USTs substantially reduced the concentrations of contaminants of concern (COCs) in these areas. Excavation bottom and confirmation sidewall samples indicate only low concentrations of residual MTBE along the bottom, northern, eastern and western edges of the excavation. The highest remaining concentrations of MTBE exist along the southern edge of the excavation. This residual impacted soil is laterally defined to the south by non-detection of MTBE in hoist samples H-1-11.0, H-2-11.0, and H-3-11.0. Several shallow confirmation sidewall samples contain low concentrations of TPHg, ethylbenzene, and xylenes, but no MTBE. Detection of these specific COCs along with dark staining of shallow soil in the excavation helps to indicate an earlier hydrocarbon release.

During UST removal, low concentrations of COCs were detected in the groundwater sample collected from the open tank pit. Removal of 16,000 gallons of groundwater from the tank pit over 6 days most likely drew impacted groundwater from beneath the product dispenser islands into the tank pit. Future groundwater monitoring events will determine if groundwater extraction from the tank pit was effective in lowering onsite aqueous-phase MTBE concentrations.

Given the recent removal of hydrocarbon and oxygenate sources, significant removal of impacted soil and groundwater, and the expected in-situ remediation of impacted groundwater through ORC placement, Cambria recommends continued groundwater monitoring to establish new COC concentration trends in groundwater. If COC concentration trends in groundwater demonstrate attenuation over time, Cambria will recommend no further action.

#### CLOSING

We appreciate the opportunity to work with you on this project. Please call James Loetterle at (510) 420-3336 if you have any questions or comments.

Sincerely,

Cambria Environmental Technology, Inc.

for · James Loetterle Project Geologist

phan A. Bork, C.E.G, C.HG.,

Associate Hydrogeologist

**Figures** 1 - Vicinity/Area Well Survey Map

2 - Site Map with Soil Sample Locations and Excavation Limits

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**GEOLOGIST** 

3 - Soil Boring, Well, and Utility Location Map 4 - Previous Soil Boring and Sample Locations

**Tables** 

1 - Previous Soil Sample Results

2 - Soil Analytical Results

3 - Groundwater Analytical Data

Attachments

A - Standard Tank Removal Sampling Procedures

B- Standard Piping and Dispenser Removal Sampling Procedures

C - Laboratory Analytical Results

D - Soil Disposal Confirmation

E - Excavation Sampling Procedures

Ms. Karen Petryna, Equiva Services LLC, P.O. Box 7869 Burbank, CA 91510-7869 cc:

Mr. Perry Pineda, 1926 Contra Costa Blvd #166, Pleasant Hill, CA 94523

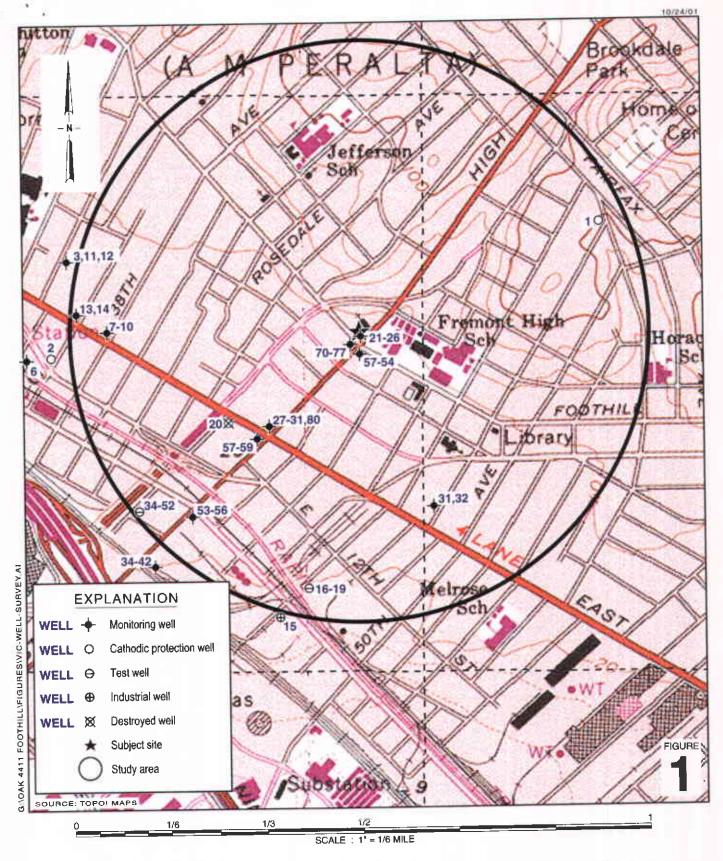
Mr. Alan Gibbs, Levine Fricke, 4080 Cabitt Stallman South Road, Suite 100, Granite

Bay, CA, 95756

Mr. Keith L. Matthews, City of Oakland Fire Service Agency, 1605 Martin Luther

King Jr. Way, Oakland, CA 94612

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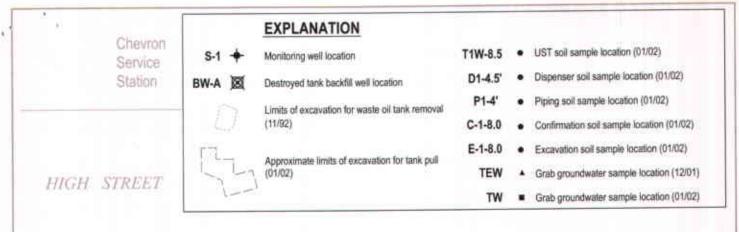
# **Shell-branded Service Station**

4411 Foothill Boulevard Oakland, California Incident #98995746



Vicinity / Area Well Survey Map

(1/2-Mile Radius)





4411 Foothill Boulevard Oakland, California Incident #98995746



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Site Map with Soil Sample Locations and Excavation Limits

Shell-branded Service Station 4411 Foothill Boulevard Oakland, California Incident #98995748

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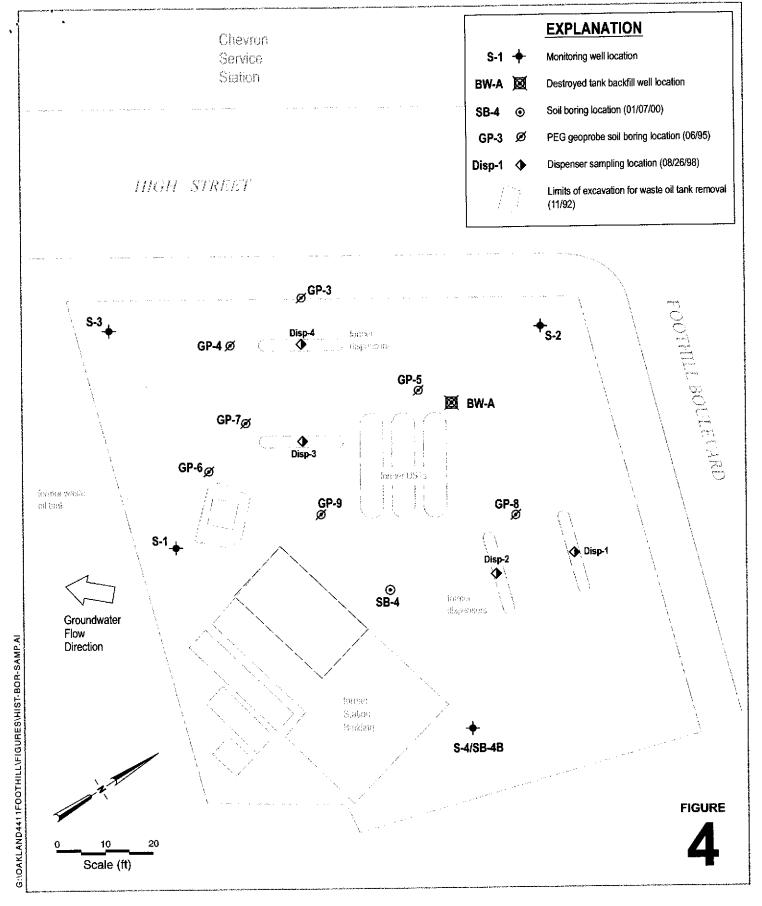
 MW-8 house apartments ⊙MW-2 15' Ø SS 5.5 fbg - 8' Ø SS 4.6 fbg -Ø SS 4.8 fbg MW-4 States **€** C-5 C-1 O Building stome 124 pump: islands BOND STREET EAST 17th STREET 24" Ø SD 4.4 fbg MW-6 C-3 O MW-3 • **BP Service** Station S MW-5 C-2 💬 apartments Chevron house Service Station € C-6 O C-4 0 120 ---- 16" Ø SS 5.9 fbg ------ 12" Ø SD 4.0 fbg -HIGH STREET DISP-4 **EXPLANATION** +<sub>S-3</sub> E. Ø SS 11.5 ₽09 house. C-7 ① FOOTHILL BOULEVARD Shell-branded 24" Ø SD 4.1 fb9 aportments Shell monitoring well location Service Station pump Soil boring location (01/07/00) 3 Islands DISP-3 DISP-1 ◆ Dispenser sample location (08/26/99) former waste house oil tank Chevron monitoring well location MW-2 

BP monitoring well location DISP-2 pump DISP-1 MW-3 👽 Groundwater extraction well 6" \$ 58 2.7 fbg S-1 Fire hydrant canopy Station Building CONTRACTOR S-4/SB-4B Storm drain (SD), conduit diameter shown Sanitary sewer (SS), conduit diameter shown Overhead power lines **FIGURE** 

Flow direction

Depth to flowline, in feet below grade

4.0 fbg





4411 Foothill Boulevard Oakland, California Incident #98995746



CAMBRIA

Previous Soil Boring and Sample Locations

Table 1. Previous Soil Sample Results - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995746

Sample ID	Depth (fbg)	Date Sampled	MTBE ◀	ТРНд	TPHd (Concentration	Benzene ons reported in m	Toluene illigrams per ki	Ethylbenzene logram) —	Xylenes	TPHmo
SW-1	11.0	2/5/1992		<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	
S-1-6.0	6.0	11/24/1992		<1.0	<1.0	<0.005	<0.005	<0.005	< 0.005	<1.0
S-1-11.0	11.0	11/24/1992		110	180	0.45	< 0.005	2.2	8	390
S-1-16.0	16.0	11/24/1992		2.8	<1.0	< 0.050	0.51	0.097	0.50	<1.0
S-1-21.0	21.0	11/24/1992		<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	<1.0
S-1-26.0	26.0	11/24/1992		<1.0	<1.0	<0.005	<0.005	< 0.005	<0.005	<1.0
S-2-6.0	6.0	5/21/1993	***	<0.5	<10	<0.005	<0.005	< 0.005	<0.005	
S-2-10.5	10.5	5/21/1993		95	<10	< 0.005	<0.005	0.52	0.56	**-
S-2-15.0	15.0	5/21/1993		<0.5	<10	<0.005	<0.005	<0.005	0.013	
S-3-6.5	6.5	5/21/1993		<0.5	<10	< 0.005	< 0.005	< 0.005	< 0.005	
S-3-11.0	11.0	5/21/1993		1,300	36	< 0.005	< 0.005	35	200	
S-3-15.0	15.0	5/21/1993		<0.5	<10	<0.005	0.019	0.020	0.11	
GP-3-8.0	8.0	6/28/1995		ND	2.0	0.006	ND	ND	ND	
GP-3-12.0	12.0	6/28/1995	***	8.4	3.7	0.13	0.029	0.14	0.36	
GP-4-8.0	8.0	6/28/1995		7.2	2.9	0.098	0.009	0.054	0.13	
GP-4-12.0	12.0	6/28/1995		280.0	3.7	ND	3.1	3.9	25	
GP-5-8.0	8.0	6/28/1995		ND	ND	ND	ND	ND	ND	
GP-5-12.0	12.0	6/28/1995		ND	ND	ND	ND	ND	ND	
GP-6-8.0	8.0	6/27/1995		87	ND	1.3	2.2	6.6	7.3	
GP-6-12.0	12.0	6/27/1995		39	ND	ND	0.14	0.29	5.4	
GP-7-8.0	8.0	6/27/1995		ND	ND	ND	0.15	0.017	180	

Table 1. Previous Soil Sample Results - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995746

Sample ID	Depth (fbg)	Date Sampled	MTBE	ТРНд	TPHd (Concentrati	Benzene ons reported in m	Toluene illigrams per ki	Ethylbenzene	Xylenes	ТРНто
GP-7-12.0	12.0	6/27/1995		840	ND	6.0	20	98	43	
GP-8-8.0	8.0	6/28/1995		ND	ND	ND	ND	ND	ND	
GP-8-12.0	12.0	6/28/1995		86	ND	ND	1.0	2.0	15	
GP-9-8.0	8.0	6/28/1995		190	ND	ND	3.6	13	380	
GP-9-12.0	12.0	6/28/1995		760	ND	0.71	17	76	41	
D-1(2.0)	2.0	8/26/1998	2.5 (13)	1,100		9.2	4.1	15	61	
D-2(2.0)	2.0	8/26/1998	<6.2	1,500		3.6	4.3	7.1	21	
D-3(2.0)	2.0	8/26/1998	(1.4)	160		1.3	0.61	2.9	2.0	
D-4(2.0)	2.0	8/26/1998	0.83	180		0.29	0.17	0.10	0.43	
SB-4-5.5	5.5	1/7/2000	<0.025	<1.0	<1.0	<0.005	<0.005	< 0.005	<0.005	
SB-4-9.0	9.0	1/7/2000	<1.25	786	244.0	2.27	1.68	8.1	26.5	
SB-4-16.0	16.0	1/7/2000	0.893	294	209.0	1.50	4.35	3.88	15.7	
SB-4-19.5	19.5	1/7/2000	< 0.025	2.08	<1.0	0.212	0.0168	0.0168	0.0167	
SB-4-24.5	24.5	1/7/2000	<0.025	<1.0	<1.0	0.00724	<0.005	< 0.005	<0.005	
SB-4B-5.5	5.5	1/7/2000	0.0345 (0.0603)	28.2	27.2	0.0176	<0.01	0.0408	0.0738	
SB-4B-10.5	10.5	1/7/2000	< 0.125	6.19	<5.0	0.0696	< 0.025	0.0915	< 0.025	
SB-4B-19.0	19.0	1/7/2000	0.0549 (0.233)	<1.0	<5.0	0.0445	<0.005	<0.005	<0.005	***

Table 1. Previous Soil Sample Results - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995746

Sample	Depth	Date	MTBE	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	TPHmo
ID	(fbg)	Sampled	+	<del></del> -	(Concentration	ons reported in mi	lligrams per ki	logram) —		

### Notes and Abbreviations:

Samples analyzed for:

MTBE = Methyl tertiary butyl ether by EPA Method 8260 (EPA Mehtod 8020)

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015 (Modified)

TPHg = Total petroleum hydrocarbons calculated as gasoline by EPA Method 8015 (Modified)

Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020 (Modified)

TPHmo = Total petroleum hydrocarbons as motor oil

mg/kg = ppm

--- = sample not analyzed for this constituent.

ND = non detect

Table 2. Soil Analytical Results - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995746

Sample ID	Depth (fbg)	Date Sampled	MTBE ←	ТРНд	Benzene (Concentration	Toluene as reported in millign	Ethylbenzene rams per kilogram)	Xylenes	Hydraulic Oil
			-						
T1W-8.5' (A1)	8.5	12/11/2001	0.034	<1.0	< 0.005	< 0.005	<0.005	< 0.005	
T1E-9' (A1)	9.0	12/11/2001	0.14	5.0	< 0.005	< 0.005	0.049	0.04	
T2W-8.5' (A1)	8.5	12/11/2001	0.12	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	
T2E-9' (A1)	9.0	12/11/2001	0.012	<1.0	< 0.005	0.015	< 0.005	0.020	
T3W-8.5' (A1)	8.5	12/11/2001	0.21	1.8	< 0.005	< 0.005	<0.005	0.015	
T3E-9' (A1)	9.0	12/11/2001	0.32	1.2	<0.005	< 0.005	<0.005	<0.005	
D1-4.5' (B)	4.5	12/11/2001		1,000	14	0.20	15	51	
D2-4' (B)	4.0	12/11/2001	14	270	0.18	<0.050	i ou	0.094	
D3-4.5' (A1)	4.5	12/11/2001	0.058	Solvino alla proposici (177	0.097	0.007	0.036	0.024	
D4-4.5' (A1)	4.5	12/11/2001	0.021	W	012	<0.065	0.03		
P1-4' (A1)	4.0	12/11/2001	0.009	<1.0	<0.005	<0.005	<0.005	<0.005	
P2-4.5' (A1)	4.5	12/11/2001	0.061	<1.0	<0.005	<0.005	<b>₹0.00</b> 5	≥0.005	
P3-4.5' (A1)	4.5	12/11/2001	<b>≼0.005</b>	4.1	₹0.005	<0.005	<0.005	₹0.005	unitat up
P4-4.5' (A1)	4.5	12/11/2001	TO THE THE	T.	0.035	\$0.00S	0.035	0.012	
P5-4.5' (A1)	4.5	12/11/2001	0.14		<b>₹0.005</b>	- Hermanner of The Control of the Co	<0.005	THE COMMAND TO SERVICE STREET,	

Table 2. Soil Analytical Results - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995746

Sample ID	Depth (fbg)	Date Sampled	MTBE	TPHg	Benzene (Concentration	Toluene is reported in millig	Ethylbenzene rams per kilogram)	Xylenes	Hydraulic Oil
E-1-8.0 (A2)	8.0	1/2/2002	30.02	120 <b>9</b> 5 4 1	0.09	\$ 0.09 E	0.94	PER PROPERTY	
E-2-8.0 (A2)	8.0	1/2/2002	endozen e	##75 H	0.23	0:04	0.912	2.0	
E-3-8.0 (A2)	8.0	1/2/2002	0.54	<b>3.7</b>	0.46	0.06	3.9	0.52	
E-4-8.0 (A2)	8.0	1/2/2002	0.041	15	0.093	0.005	10.005	-0.006	
E-5-12.0 (A2)	12.0	1/2/2002	A 4 (0.02)	54	0.71	0:46	2655	16. 4.2	
E-6-11.0 (A2)	11.0	1/2/2002	< 0.02	75	2.9	3.6	12	54	
E-7-14.0 (A2)	14.0	1/2/2002	< 0.02	41	1.0	0.53	2.2	11	
E-8-11.0 (A2)	11.0	1/2/2002	<0.02	310	2.0	1.8	4 <b>14</b>	$\boldsymbol{n}$	
E-9-9.0 (A2)	9.0	1/2/2002	0.03	55	0.06	0.03	0.05	0.08	
E-10-9.0 (A2)	9.0	1/3/2002	0.082	< 0.20	0.002	0.004	< 0.002	0.007	
E-11-9.0 (A2)	9.0	1/3/2002	0.010	< 0.20	0.007	< 0.002	< 0.002	< 0.002	
E-12-11.0 (A2)	11.0	1/3/2002	0.48	23	1.1	0.12	2.0	12	
E-13-9.0 (A2)	9.0	1/3/2002	0.012	< 0.20	< 0.002	< 0.002	< 0.002	< 0.002	
E-14-9.0 (A2)	9.0	1/3/2002	0.024	2.7	0.005	< 0.002	0.19	0.23	
E-15-11.0 (A2)	11.0	1/4/2002	0.33	1,800	9.6	42	100	590	
E-16-11.0 (A2)	11.0	1/4/2002	< 0.02	770	3.8	2.8	37	210	
E-17-13.0 (A2)	13.0	1/4/2002	0.04	31	0.65	0.19	2.5	8.3	<b>*</b>
E-18-13.0 (A2)	13.0	1/4/2002	<0.02	17	1.2	2.8	1.0	2.2	
E-19-9.0 (A2)	9.0	1/4/2002	0.014	0.54	0.002	< 0.002	0.004	0.027	

Table 2. Soil Analytical Results - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995746

Sample ID	Depth (fbg)	Date Sampled	MTBE	ТРНд	Benzene (Concentration	Toluene	Ethylbenzene grams per kilogram)	Xylenes	Hydraulic Oil
·							,, <u></u>		
C-1-8.0 (B)	8.0	1/7/2002	<0.5	<1.0	<0.005	<0.005	<0.005	< 0.005	
C-2-8.0 (B)	8.0	1/7/2002	<0.5	<1.0	< 0.005	< 0.005	< 0.005	< 0.010	
C-3-3.5 (B)	3.5	1/7/2002	<0.5	<1.0	< 0.005	< 0.005	< 0.005	<0.005	
C-4-8.0 (B)	8.0	1/7/2002	<0.5	290	0.15	<0.050	4.9	8.9	
C-5-8.0 (B)	8.0	1/7/2002	<0.5	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	
C-6-4.0 (B)	4.0	1/7/2002	<0.5	6.5	< 0.005	< 0.005	< 0.005	< 0.010	
C-7-8.0 (B)	8.0	1/7/2002	<0.5	87	<0.025	< 0.025	0.43	< 0.050	
C-8-4.0 (B)	8.0	1/7/2002	<0.5	81	0.026	< 0.025	0.038	< 0.050	
C-9-9.0 (B)	9.0	1/7/2002	0.65	<1.0	< 0.005	< 0.005	<0.005	< 0.005	*45
C-10-9.0 (B)	9.0	1/7/2002	<0.5	84	0.039	< 0.025	0.61	0.27	***
C-11-9.0 (B)	9.0	1/7/2002	<0.5	<1.0	< 0.005	< 0.005	< 0.005	<0.005	204
C-12-9.0 (B)	9.0	1/7/2002	<0.5	6.6	< 0.010	< 0.010	0.013	<0.025	
C-13-4.0 (B)	4.0	1/7/2002	<0.5	2.7	<0.005	< 0.005	< 0.005	<0.005	
C-14-4.0 (B)	4.0	1/7/2002	<0.5	11	<0.050	< 0.050	< 0.050	<0.10	
C-15-8.0 (B)	8.0	1/7/2002	<0.5	250	< 0.050	<0.050	4.4	4.7	
H-1-9.0 (B)	9.0	1/17/2002	<0.5 €	20 <b>- 120</b> - 120	0.094			0.48	14.000
H-1-11.0 (B)	11.0	1/17/2002	<0.5	210	0.2	0.071	2.2	10	230
H-2-9.0 (B)	9.0	1/17/2002	<b>30</b> 5		0.015	<b>₹0.005</b>	0.048	0.053	
H-2-11.0 (B)	11.0	1/17/2002	<0.5	400	0.54	0.1	7.3	24	-10 78
H-3-11.0 (B)	11.0	1/17/2002	<0.5	250	0.21	0.52	3.1	14	/ <b>o</b> <10

### Table 2. Soil Analytical Results - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995746

Sample	Depth	Date	MTBE	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	Hydraulic Oil
ID	(fbg)	Sampled	←		(Concentration	s reported in millig	grams per kilogram)		<u> </u>

### Notes and Abbreviations:

(A1) Samples analyzed by Mobile Chem Labs Inc. for:

MTBE = Methyl tertiary-butyl ether by EPA Method 8020

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 5030 and TPH LUFT

Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020

(A2) Samples analyzed br Mobile Chem Labs for: MTBE by EPA Method 8260 TPHg by EPA Method 8260 BTEX by EPA Method 8260

(B) Samples analyzed by Kiff Analytical for: TPHg by modified EPA Method 8260B MTBE by EPA Method 8260B BTEX by EPA Method 8260B Hydraulic Oil by EPA Method 8260B

mg/kg = ppm

--- = sample not analyzed for this constituent.

=sample and surrounding soil subsequently over-excavated

Table 2. Groundwater Analytical Data - Shell-branded Service Station, 4411 Foothill Blvd., Oakland California - Incident #98995744

Sample ID	Date Sampled	ТРНg	Benzene	Toluene	Ethylbenzene (Concentra	Xylenes ations reported in	MTBE n micrograms per	DIPE liter) —	ETBE	ТАМЕ	ТВА	Ethanol
TW (A)	<b>12/11/2</b> 001	680	20	24	1.5	62	180	444		-		_
TEW (B)	1/3/2002	590	2.7	2.3	<2.0	6.4	1,900	<2.0	<2.0	<2.0	<2.0	<2.0

#### Notes and Abbreviations:

(A) Samples analyzed by Mobile Chem Labs for:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 5030

Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020 MTBE = Methyl tertiary-butyl ether by EPA Method 8020

(B) Samples analyzed by Mobile Chem Labs for:

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8260

Benzene, tolnene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260

MTBE = Methyl tertiary-butyl ether by EPA Method 8260

DIPE = Diisopropyl ether by EPA Method 8260

ETBE = Ethyl tertiary butyl ether by EPA Method 8260

TAME = tertiary amyl methyl ether by EPA Method 8260

TBA = Tertiary butanol by EPA Method 8260

Ethanol by EPA Method 8260

esample and surrounding groundwater subsequently removed

<n = Below detection limit of n µg/kg

---' = Not sampled for that constituent

# **ATTACHMENT A**

Standard Tank Removal Sampling Procedures

### STANDARD TANK REMOVAL SAMPLING PROCEDURES

This document describes Cambria Environmental Technology's standard operating procedures for collecting soil and ground water samples during underground storage tank removal. These procedures ensure that the samples are collected, handled, and documented in compliance with California Administration Code Title 23: Waters; Chapter 3: Water Resources Control Board; Subchapter 16: Underground Storage Tank Regulations (Title 23). Cambria's sampling procedures are based on guidelines contained in the California State Regional Water Quality Control Board Tri-Regional Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites dated August 10, 1990.

### **Tank Removal Sampling**

The objective of sample collection during routine underground storage tank removals is to determine whether hydrocarbons or other stored chemicals have leaked to the subsurface. If no ground water is encountered within the tank excavation, Cambria will sample native soil 1 to 2 ft beneath the removed tank. Additional soil samples may also be collected at locations of obvious spillage to determine maximum concentrations in the surrounding soils. For underground storage tanks with a capacity of less than 1,000 gallons, one soil sample is collected beneath the fill end of the tank. For tanks with a capacity of between 1,000 and 10,000 gallons, one soil sample is collected beneath each end of the tank. For tanks larger than 10,000 gallons, 3 or more soil samples are collected beneath the removed tank. We also collect one soil sample for every 20 ft of product piping.

In cases where ground water is encountered within underground storage tank excavations, Cambria will collect confirmatory soil samples from the excavation sidewalls just above the soil/ground water interface and a representative ground water sample from the excavation. The excavation is typically purged and allowed to recover prior to collecting the water sample. For tanks with capacities of 10,000 gallons or less, one soil sample is collected from the wall at each end of the tank excavation. For tanks with capacities greater than 10,000 gallons, or tank clusters, at least four soil samples are collected from the excavation walls next to the tank ends. Piping samples are collected in native soil 1 to 2 ft beneath the removed piping. One sample is typically collected for every 20 linear ft of piping unless regulatory agencies approve of different sampling requirements.

The soil samples are collected in steam cleaned brass or steel tubes from either a driven split-spoon type sampler or the bucket of a backhoe. When a backhoe is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil.

Upon removal from the split-spoon sampler or the backhoe, the samples are trimmed flush, capped with Teflon sheets and plastic end caps, labeled, logged and refrigerated for delivery under chain of custody to a State certified analytic laboratory.

The ground water sample is collected using steam cleaned Teflon or PVC bailers, decanted into a volatile organic analysis (VOA) bottle or other appropriate clean sample container, refrigerated and transported under chain of custody to a State certified analytic laboratory.

# **ATTACHMENT B**

Standard Piping and Dispenser Removal Sampling Procedures

### STANDARD PIPING AND DISPENSER REMOVAL SAMPLING PROCEDURES

Cambria Environmental Technology, Inc. (Cambria) has developed standard operating procedures for collecting soil samples during petroleum dispenser and piping removal. These procedures ensure that the samples are collected, handled, and documented in compliance with California Administration Code Title 23: Waters; Chapter 3: Water Resources Control Board; Subchapter 16: Underground Storage Tank Regulations (Title 23). Cambria's sampling procedures are based on guidelines contained in the California State Regional Water Quality Control Board Tri-Regional Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites dated August 10, 1990.

### Piping and Dispenser Removal Sampling

The objective of sample collection during routine dispenser and piping removals is to determine whether hydrocarbons or other stored chemicals have leaked to the subsurface. We collect one soil sample from the native soil beneath each dispenser unit, at each piping elbow, and at every 20 ft of product piping, as applicable.

The soil samples are collected in steam cleaned brass or steel tubes from either a driven split-spoon type sampler or the bucket of a backhoe. When a backhoe is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil.

Upon removal from the split-spoon sampler or the backhoe, the samples are trimmed flush, capped with Teflon sheets and plastic end caps, labeled, logged and refrigerated for delivery under chain of custody to a State certified analytic laboratory.

# ATTACHMENT C

Laboratory Analytical Results



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243-0897\2162\014178

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608

Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01
Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description Proj# 243-0897 4411 Foothill Blvd.

Oakland, CA

TW

WATER

B121001

### ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50.0	680
Benzene	0.5	20
Toluene	0.5	24
Xylenes	0.5	62
Ethylbenzene	0.5	1.5
MTBE (Methyl tert-Butyl Ether)	0.5	180

QA/QC:

Duplicate Deviation is 0.8 %

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppb) = (mg/1)

MOBILE CHEM LABS



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243-0897\2162\014178

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01

Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

T3W-8.5'

SOIL

B121002

## ANALYSIS

	Detection Limit  ppm	Sample Results ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	1.8
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	0.015
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	0.21

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

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Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01
Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

T2W-8.5'

SOIL

B121003

## ANALYSIS

	Detection Limit  ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	0.12

Note:

Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

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Oakland, CA 94608

Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01

Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897 4411 Foothill Blvd.

Oakland, CA

T1W-8.5'

SOIL

B121004

## ANALYSIS

-----

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	0.034

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01 Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

D1-4.5'

SOIL

B121005

# ANALYSIS

	Detection Limit  ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	73
Benzene	0.005	2.0
Toluene	0.005	0.009
Xylenes	0.005	2.2
Ethylbenzene	0.005	5.3
MTBE (Methyl tert-Butyl Ether)	0.005	4.1

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01

Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

P1-4'

SOIL

B121006

# ANALYSIS

	Detection Limit ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	0.009

QA/QC:

Spike Recovery is 99 %

LCS Recovery is 95.5 %

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

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Oakland, CA 94608

Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01
Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897 4411 Foothill Blvd.

Oakland, CA

P2-4.5'

B121007

SOIL

# ANALYSIS

Sample Detection Limit Results mqq ppm <1.0 Total Petroleum Hydrocarbons 1.0 as Gasoline 0.005 <0.005 Benzene <0.005 0.005 Toluene 0.005 <0.005 Xylenes <0.005 0.005 Ethylbenzene 0.061 0.005 MTBE (Methyl tert-Butyl Ether)

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01

Date Received: 12-11-01 Date Analyzed: 12-11-01

Sample Number

Sample Description Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

D2-4'

SOIL

B121008

## ANALYSIS

	Detection Limit  ppm	Sample Results ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	54
Benzene	0.005	0.07
Toluene	0.005	<0.005
Xylenes	0.005	0.42
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	1.0

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01 Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897 4411 Foothill Blvd.

Oakland, CA

P3-4.5'

SOIL

B121009

### ANALYSIS

	Detection Limit  ppm	Sample Results ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	4.1
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	<0.005

Note:

Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Oakland, CA 94608

Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01

Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

TIE-9'

SOIL

B121010

## ANALYSIS

	Detection Limit  ppm	Sample Results ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	5.0
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	0.04
Ethylbenzene	0.005	0.049
MTBE (Methyl tert-Butyl Ether)	0.005	0.14

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Oakland, CA 94608

Attn: James Loetterie

Project Manager

•

Date Sampled: 12-11-01
Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

D3-4.5'

SOIL

B121011

## ANALYSIS

	Detection Limit  ppm	Sample Results ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	6.3
Benzene	0.005	0.097
Toluene	0.005	0.007
Xylenes	0.005	0.024
Ethylbenzene	0.005	0.036
MTBE (Methyl tert-Butyl Ether)	0.005	0.058

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

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Project Manager

Date Sampled: 12-11-01 Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

T2E-9'

SOIL

B121012

### ANALYSIS

	Detection Limit	Sample Results
	mqq	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.005	<0.005
Toluene	0.005	0.015
Xylenes	0.005	0.020
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	0.012

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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243-0897\2162\014178

Cambria Environmental Technology, Inc.

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Oakland, CA 94608

Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01

Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

P4-4.5'

SOIL

B121013

#### ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	11
Benzene	0.005	0.035
Toluene	0.005	<0.005
Xylenes	0.005	0.012
Ethylbenzene	0.005	0.035
MTBE (Methyl tert-Butyl Ether)	0.005	0.13

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



1678 Reliez Valley Road • Lafayette, CA 94549 Phone (925) 945-1266 • Fax (925) 943-6884

243-0897\2162\014178

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01 Date Received: 12-11-01 Date Analyzed: 12-11-01

Sample Number

Sample Description Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

D4-4.5'

SOIL

B121014

#### ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	4.9
Benzene	0.005	0.12
Toluene	0.005	<0.005
Xylenes	0.005	0.067
Ethylbenzene	0.005	0.033
MTBE (Methyl tert-Butyl Ether)	0.005	0.021

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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243-0897\2162\014178

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608

Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01
Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

T3E-9'

SOIL

B121015

#### ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	1.2
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005
MTBE (Methyl tert-Butyl Ether)	0.005	0.32

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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243-0897\2162\014178

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608

Attn: James Loetterie

Project Manager

Date Sampled: 12-11-01 Date Received: 12-11-01

Date Analyzed: 12-11-01

Sample Number

Sample Description

Proj# 243-0897

4411 Foothill Blvd.

Oakland, CA

PS-4.5'

0.005

SOIL

0.14

B121016

### ANALYSIS

Detection Sample Limit Results ppm ppmTotal Petroleum Hydrocarbons 1.0 51 as Gasoline 0.005 Benzene <0.005 Toluene 0.005 <0.005 Xylenes 0.005 0.34 Ethylbenzene 0.005 < 0.005

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for M-BTEX distinction.

(ppm) = (mg/kg)

MTBE (Methyl tert-Butyl Ether)

MOBILE CHEM LABS

Mobile Chem Labs, Inc. 4411 Foothill Boulevard 243-0897 1678 RELIEZ VALLEY RD. Darland LAFAYETTE, CA 04549 Cambria Environmental (925) 945-1236 Jacquelyn Jones 1144 65 1 street, Ste C 1925) 943-6884 fax Darland CA 94608 100(418.1) BANFLE 5010/601 W MAPLE H 1154 12/11/01 1713 T3W-8.5 1205 1219 1225 1230 1237 1244 1248 1253 1255 1:00 12:59 12/1/01 DetaThin 123 Received Dr. 12/11/01 Relinguished By: Dete Tane eceived By. Retinguished By:



Date: 1/2/2002

Jaquelyn Jones Cambria Environmental Technology, Inc. 1144 65th Street, Suite B Oakland, CA 94608

Subject: 2 Soil Samples

Project Name: 4411 Foothill Boulevard Oakland

Project Number: 243-0897

Dear Ms. Jones,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800



Date: 1/2/2002

**4411 Foothill Boulevard Oakland** Project Name :

Project Number: 243-0897

Sample: **D1-4.5** 

Matrix: Soil

Lab Number: 23958-01

Sample Date :12/11/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	1.4	0.050	mg/Kg	EPA 8260B	12/24/2001
Toluene	0.20	0.050	mg/Kg	EPA 8260B	12/24/2001
Ethylbenzene	15	0.050	mg/Kg	EPA 8260B	12/24/2001
Total Xylenes	5.1	0.050	mg/Kg	EPA 8260B	12/24/2001
Methyl-t-butyl ether (MTBE)	0.35	0.050	mg/Kg	EPA 8260B	12/24/2001
TPH as Gasoline	1000	20	mg/Kg	EPA 8260B	12/25/2001
Toluene - d8 (Surr)	86.0		% Recovery	EPA 8260B	12/24/2001
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	12/24/2001

Sample: D2-4

Matrix : Soil

Lab Number: 23958-02

Sample Date :12/11/2001

Sample Date .12/1/1/2001		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.18	0.050	mg/Kg	EPA 8260B	12/25/2001
Toluene	< 0.050	0.050	mg/Kg	EPA 8260B	12/25/2001
Ethylbenzene	0.11	0.050	mg/Kg	EPA 8260B	12/25/2001
Total Xylenes	0.094	0.050	mg/Kg	EPA 8260B	12/25/2001
Methyl-t-butyl ether (MTBE)	1.4	0.050	mg/Kg	EPA 8260B	12/25/2001
TPH as Gasoline	270	5.0	mg/Kg	EPA 8260B	12/25/2001
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	12/25/2001
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	12/25/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Analysis

Method

Date

Analyzed

Date: 1/2/2002

Units

Method

Limit

Measured Reporting

QC Report : Method Blank Data

Project Name: 4411 Foothill Boulevard Oakland

Project Number: 243-0897

Parameter	Measured Value	Method Reportir Limit	ng Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	12/22/2001
Toluene	< 0.0050	0.0050	ma/Ka	EPA 8260B	12/22/2001
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	12/22/2001
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	12/22/2001
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	12/22/2001
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	12/22/2001
Toluene - d8 (Surr)	99.5		%	EPA 8260B	12/22/2001
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	12/22/2001

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Parameter

Date: 1/2/2002

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name: 4411 Foothill Boulevard

Project Number: 243-0897

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Spike Sam Date Perco Analyzed Reco	ole Sample ent Percen		Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	23895-01	<0.0050	0.0398	0.0392	0.0382	0.0376	mg/Kg	EPA 8260B	12/22/20095.9	96.0	0.0782	70-130	25
Toluene	23895-01	<0.0050	0.0398	0.0392	0.0372	0.0368	mg/Kg	EPA 8260B	12/22/20093.4	93.9	0.560	70-130	25
Tert-Butanol	23895-01	<0.0050	0.199	0.196	0.186	0.176	mg/Kg	EPA 8260B	12/22/20093.2	89.7	3.77	70-130	25
Methyl-t-Butyl Ethe	er 23895-01	<0.0050	0.0398	0.0392	0.0393	0.0390	mg/Kg	EPA 8260B	12/22/20098.6	99.5	0.883	70-130	25

Approved By: Joel K

Date: 1/2/2002

QC Report : Laboratory Control Sample (LCS)

Project Name: 4411 Foothill Boulevard

Project Number: 243-0897

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit	
Benzene	0.0388	mg/Kg	EPA 8260B	12/22/200	99.3	70-130	
Toluene	0.0388	mg/Kg	EPA 8260B	12/22/200	96.2	70-130	
Tert-Butanol	0.194	mg/Kg	EPA 8260B	12/22/200	99.3	70-130	
Methyl-t-Butyl Ether	0.0388	mg/Kg	EPA 8260B	12/22/200	96.4	70-130	

Approved By:

Joel Kiff

Mobile Chen Labs, Inc. to Hamal scotton 4411 Foothill Boulevard 243-0897 1678 RELIEZ VALLEY RD. Darland LAFAYETTE, CA MEAS Cambria Environmental (925) 045-1266 street, SEC 1144 65 12 (925) 043-6334 fax Jones 94608 Darland BANFLE MODELERVATION BAIPLE D GLASSER MIE 1244 1248 012 1255 1:00

73W 72 W



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243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

B012001

Oakland, CA 94608 Date Sampled: 01-02-02 Date Received: 01-02-02 Attn: James Loetterie Project Manager Date Analyzed: 01-02-02

Sample Description Sample Number

Shell Station

4411 Foothill Blvd.

Oakland, CA

SOIL E-1-8.0

#### ANALYSIS

------

	Detection Limit	Sample Results
	mqq	ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	9.5
Benzene	0.02	0.19
Toluene	0.02	0.09
Xylenes	0.02	5.2
Ethylbenzene	0.02	0.94
MTBE(Methyl tert-Butyl Ether)	0.02	<0.02
TAME(Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

QA/QC: Duplicate Deviation is 3.0 %

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

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243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-02-02 Date Received: 01-02-02

Date Analyzed: 01-02-02

Sample Number

Sample Description

Shell Station

4411 Foothill Blvd.

Oakland, CA

E-2-8.0

SOIL

B012002

#### ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	7.8
Benzene	0.02	0.23
Toluene	0.02	0.04
Xylenes	0.02	2.0
Ethylbenzene	0.02	0.91
MTBE(Methyl tert-Butyl Ether)	0.02	0.23
TAME (Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction.  $\star$  = DL raised due to dilution.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-02-02 Date Received: 01-02-02

Date Analyzed: 01-02-02

Sample Number

B012003

Sample Description Shell Station 4411 Foothill Blvd.

Oakland, CA

Daktand,

E-3-8.0 SOIL

#### ANALYSIS

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	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	3.7
Benzene	0.02	0.46
Toluene	0.02	0.06
Xylenes	0.02	0.52
Ethylbenzene	0.02	3.9
MTBE(Methyl tert-Butyl Ether)	0.02	0.54
TAME(Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-02-02 Date Received: 01-02-02

Date Analyzed: 01-02-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-4-8.0

SOIL

B012004

#### ANALYSIS \_\_\_\_\_

	Detection Limit  ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	0.20	1.5
Benzene	0.002	0.093
Toluene	0.002	0.005
Xylenes	0.002	0.006
Ethylbenzene	0.002	0.005
MTBE(Methyl tert-Butyl Ether)	0.002	0.041
TAME(Tert. Amyl Methyl Ether)	0.002	<0.002
ETBE(Ethyl tert-Butyl Ether)	0.002	<0.002
DIPE(Di-Isopropyl Ether)	0.002	<0.002
Tertiary Butanol	0.050	<0.050
Ethanol	0.200	<0.200

QA/QC:

Spike Recovery is 89 %

LCS Recovery is 91 %

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates

distinction.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-02-02

Date Received: 01-02-02

Date Analyzed: 01-03-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-5-12.0 SOIL

B012005

#### ANALYSIS

	Detection Limit  ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	54
Benzene	0.02	0.71
Toluene	0.02	0.46
Xylenes	0.02	16
Ethylbenzene	0.02	2.6
MTBE(Methyl tert-Butyl Ether)	0.02	<0.02
TAME(Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-03-02 Date Received: 01-03-02

Date Analyzed: 01-03-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-6-11.0 SOIL

B012006

#### ANALYSIS

	Detection Limit  ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	75
Benzene	0.02	2.9
Toluene	0.02	3.6
Xylenes	0.02	54
Ethylbenzene	0.02	12
MTBE(Methyl tert-Butyl Ether)	0.02	<0.02
TAME (Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.
(ppm) = (mg/kg)

MOBILE CHEM LABS



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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

B012007

Oakland, CA 94608 Date Sampled: 01-03-02 Attn: James Loetterie Date Received: 01-03-02

Date Analyzed: 01-03-02 Project Manager

Sample Description Sample Number

Shell Station

4411 Foothill Blvd.

Oakland, CA

E-7-14.0 SOIL

ANALYSIS

	Detection Limit  ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	41
Benzene	0.02	1.0
Toluene	0.02	0.53
Xylenes	0.02	11
Ethylbenzene	0.02	2.2
MTBE(Methyl tert-Butyl Ether)	0.02	<0.02
TAME(Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

QA/QC:

Duplicate Deviation is 2.2 %

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mq/kq)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-03-02 Date Received: 01-03-02

Date Analyzed: 01-07-02

Sample Number

Sample Description
Shell Station

4411 Foothill Blvd.

Oakland, CA

E-8-11.0 SOIL

B012008

#### ANALYSIS

	Detection Limit  ppm	Sample Results
		ppm
Total Petroleum Hydrocarbons as Gasoline	20 *	310
Benzene	0.2	2.0
Toluene	0.2	1.8
Xylenes	0.2	77
Ethylbenzene	0.2	14
MTBE(Methyl tert-Butyl Ether)	0.2	<0.02
TAME (Tert. Amyl Methyl Ether)	0.2	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.2	<0.02
DIPE(Di-Isopropyl Ether)	0.2	<0.02
Tertiary Butanol	5.0	<0.50
Ethanol	20	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Date Sampled: 01-03-02 Attn: James Loetterie Date Received: 01-03-02 Date Analyzed: 01-03-02 Project Manager

Sample Number

Sample Description Shell Station 4411 Foothill Blvd.

Oakland, CA

B012009

E-9-9.0 SOIL

#### ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	55
Benzene	0.02	0.06
Toluene	0.02	0.03
Xylenes	0.02	0.08
Ethylbenzene	0.02	0.05
MTBE(Methyl tert-Butyl Ether)	0.02	0.03
TAME(Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-03-02 Date Received: 01-03-02

Date Analyzed: 01-03-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-10-9.0 SOIL

B012010

### ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	0.20	<0.20
Benzene	0.002	0.002
Toluene	0.002	0.004
Xylenes	0.002	0.007
Ethylbenzene	0.002	<0.002
MTBE(Methyl tert-Butyl Ether)	0.002	0.082
TAME (Tert. Amyl Methyl Ether)	0.002	<0.002
ETBE(Ethyl tert-Butyl Ether)	0.002	<0.002
DIPE(Di-Isopropyl Ether)	0.002	<0.002
Tertiary Butanol	0.050	<0.050
Ethanol	0.200	<0.200

QA/QC:

Spike Recovery is 111 %

LCS Recovery is 93 %

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates

distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-03-02

Date Received: 01-03-02 Date Analyzed: 01-07-02

Sample Number

B012011

Sample Description

Shell Station

4411 Foothill Blvd.

Oakland, CA

E-11-9.0 SOIL

#### ANALYSIS

-----

	Detection Limit  ppm	Sample Results  ppm
Total Petroleum Hydrocarbons as Gasoline	0.20	<0.20
Benzene	0.002	0.007
Toluene	0.002	<0.002
Xylenes	0.002	<0.002
Ethylbenzene	0.002	<0.002
MTBE(Methyl tert-Butyl Ether)	0.002	0.010
TAME(Tert. Amyl Methyl Ether)	0.002	<0.002
ETBE(Ethyl tert-Butyl Ether)	0.002	<0.002
DIPE(Di-Isopropyl Ether)	0.002	<0.002
Tertiary Butanol	0.050	<0.050
Ethanol	0.200	<0.200

QA/QC:

Spike Recovery is 102 %

LCS Recovery is 96 %

Note:

Analysis was performed using EPA methods 5030 and with

method 8260 used for Gasoline , BTEX & Oxygenates

distinction.

(ppm) = (mg/kg)

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1678 Reliez Valley Road • Lafayette, CA 94549 Phone (925) 945-1266 • Fax (925) 943-6884

243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-03-02 Date Received: 01-03-02

Date Analyzed: 01-03-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-12-11.0 SOIL

B012013

#### ANALYSIS

	Detection Limit	Sample Results  ppm
	ppm	
Total Petroleum Hydrocarbons as Gasoline	2.0 *	23
Benzene	0.02	1.1
Toluene	0.02	0.12
Xylenes	0.02	12
Ethylbenzene	0.02	2.0
MTBE(Methyl tert-Butyl Ether)	0.02	0.48
TAME (Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution. (ppm) = (mg/kg)

MOBILE CHEM LABS



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243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-03-02 Date Received: 01-03-02

Date Analyzed: 01-07-02

Sample Number

Sample Description
Shell Station

4411 Foothill Blvd.

Oakland, CA

E-13-9.0 SOIL

B012014

### ANALYSIS

	Detection Limit  ppm	Sample Results  ppm
Motol Dotroloum Hadronouhoum	0.00	
Total Petroleum Hydrocarbons as Gasoline	0.20	<0.20
Benzene	0.002	<0.002
Toluene	0.002	<0.002
Xylenes	0.002	<0.002
Ethylbenzene	0.002	<0.002
MTBE(Methyl tert-Butyl Ether)	0.002	0.012
TAME(Tert. Amyl Methyl Ether)	0.002	<0.002
ETBE(Ethyl tert-Butyl Ether)	0.002	<0.002
DIPE(Di-Isopropyl Ether)	0.002	<0.002
Tertiary Butanol	0.050	<0.050
Ethanol	0.200	<0.200

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-03-02 Date Received: 01-03-02

Date Analyzed: 01-07-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-14-9.0

 $\mathtt{SOIL}$ 

B012015

### ANALYSIS

	Detection Limit	Sample Results
	DIMTC	TC541C5
	mqq	mqq
Total Petroleum Hydrocarbons as Gasoline	0.20	2.7
Benzene	0.002	0.005
Toluene	0.002	<0.002
Xylenes	0.002	0.23
Ethylbenzene	0.002	0.19
MTBE(Methyl tert-Butyl Ether)	0.002	0.024
TAME(Tert. Amyl Methyl Ether)	0.002	<0.002
ETBE(Ethyl tert-Butyl Ether)	0.002	<0.002
DIPE(Di-Isopropyl Ether)	0.002	<0.002
Tertiary Butanol	0.050	<0.050
Ethanol	0.200	<0.200

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction.

(ppm) = (mg/kg)

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243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-04-02 Date Received: 01-07-02

Date Analyzed: 01-07-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-15-11.0 SOIL

B012016

ANALYSIS

	Detection Limit  ppm	Sample Results ppm
Total Petroleum Hydrocarbons as Gasoline	20 *	1,800
Benzene	0.2	9.6
Toluene	0.2	42
Xylenes	0.2	590
Ethylbenzene	0.2	100
MTBE(Methyl tert-Butyl Ether)	0.2	0.33
TAME(Tert. Amyl Methyl Ether)	0.2	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.2	<0.02
DIPE(Di-Isopropyl Ether)	0.2	<0.02
Tertiary Butanol	5.0	<0.50
Ethanol	20	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates

distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-04-02 Date Received: 01-07-02

Date Analyzed: 01-07-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

E-16-11.0 SOIL

B012017

#### ANALYSIS

	Detection Limit	Sample Results				
	mqq	mqq				
Total Petroleum Hydrocarbons as Gasoline	20 *	770				
Benzene	0.2	3.8				
Toluene	0.2	2.8				
Xylenes	0.2	210				
Ethylbenzene	0.2	37				
MTBE(Methyl tert-Butyl Ether)	0.2	<0.02				
TAME(Tert. Amyl Methyl Ether)	0.2	<0.02				
ETBE(Ethyl tert-Butyl Ether)	0.2	<0.02				
DIPE(Di-Isopropyl Ether)	0.2	<0.02				
Tertiary Butanol	5.0	<0.50				
Ethanol	20	<2.0				

Note: Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-04-02 Date Received: 01-07-02

Date Analyzed: 01-07-02

Sample Number

Sample Description

Shell Station 4411 Foothill Blvd.

Oakland, CA

B012018

E-17-13.0 SOIL

#### ANALYSIS

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	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	2.0 *	31
Benzene	0.02	0.65
Toluene	0.02	0.19
Xylenes	0.02	8.3
Ethylbenzene	0.02	2.5
MTBE(Methyl tert-Butyl Ether)	0.02	0.04
TAME(Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

MOBILE CHEM LABS



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243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-04-02

Date Received: 01-07-02 Date Analyzed: 01-07-02

Sample Number

Sample Description

Shell Station

4411 Foothill Blvd.

Oakland, CA

E-18-13.0 SOIL

B012019

#### ANALYSIS

	Detection Limit	Sample Results
	ppm	mqq
Total Petroleum Hydrocarbons as Gasoline	2.0 *	17
Benzene	0.02	1.2
Toluene	0.02	2.8
Xylenes	0.02	2.2
Ethylbenzene	0.02	1.0
MTBE(Methyl tert-Butyl Ether)	0.02	<0.02
TAME(Tert. Amyl Methyl Ether)	0.02	<0.02
ETBE(Ethyl tert-Butyl Ether)	0.02	<0.02
DIPE(Di-Isopropyl Ether)	0.02	<0.02
Tertiary Butanol	0.50	<0.50
Ethanol	2.0	<2.0

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates distinction. \* = DL raised due to dilution.

(ppm) = (mg/kg)

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243-0897\2162\014180

Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Sampled: 01-04-02

Date Received: 01-07-02 Date Analyzed: 01-07-02

Sample Number

Sample Description

Shell Station

4411 Foothill Blvd.

Sample

Oakland, CA

E-19-9.0 SOIL

B012020

#### ANALYSIS \_\_\_\_\_

Detection

	Limit	Resulta				
	mdd	ppm				
Total Petroleum Hydrocarbons as Gasoline	0.20	0.54				
Benzene	0.002	0.002				
Toluene	0.002	<0.002				
Xylenes	0.002	0.027				
Ethylbenzene	0.002	0.004				
MTBE(Methyl tert-Butyl Ether)	0.002	0.014				
TAME(Tert. Amyl Methyl Ether)	0.002	<0.002				
ETBE(Ethyl tert-Butyl Ether)	0.002	<0.002				
DIPE(Di-Isopropyl Ether)	0.002	<0.002				
Tertiary Butanol	0.050	<0.050				
Ethanol	0.200	<0.200				

Note:

Analysis was performed using EPA methods 5030 and with

method 8260 used for Gasoline , BTEX & Oxygenates distinction.

(ppm) = (mq/kq)

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Cambria Environmental Technology, Inc.

1144 65th Street Suite B

Oakland, CA 94608 Attn: James Loetterie

Project Manager

Date Received: 01-03-02

Date Sampled: 01-03-02

Date Analyzed: 01-07-02

Sample Number

Sample Description Shell Station

4411 Foothill Blvd.

Oakland, CA

TEW

WATER

B012012

#### ANALYSIS -----

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	200	590
Benzene	2.0	2.7
Toluene	2.0	2.3
Xylenes	2.0	6.4
Ethylbenzene	2.0	<2.0
MTBE(Methyl tert-Butyl Ether)	2.0	1,900
TAME(Tert. Amyl Methyl Ether)	2.0	<2.0
ETBE(Ethyl tert-Butyl Ether)	2.0	<2.0
DIPE(Di-Isopropyl Ether)	2.0	<2.0
Tertiary Butanol	50	<50
Ethanol	200	<200

QA/QC:

Duplicate Deviation is 2.4 %

Note:

Analysis was performed using EPA methods 5030 and with method 8260 used for Gasoline , BTEX & Oxygenates

distinction. (ppb) = (ug/1)

MOBILE CHEM LABS

sio NamaRocation Shell Gasoline Status Mobile Chem Labs, Inc. 243-0897 4411 Foothill Blud Oakland, cA 1678 RELIEZ VALLEY RD. LAFAYETTE CA 90549 Consultant Hamo Cambria Environmental

Address 1144 65th St Swite B

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1025 015-1200

1025 010-1200 1925) 949-6984 Anx Emeryville CA 94608 SOIL.

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TEPH

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Eite Name Lecetion Mobile Chem Labs, Inc. 4411 Forthin Blvd. 1678 RELIEZ VALLEY RD. LAFAYETTE, CA 94549 243-0897 (925) 945-1236 (925) 943-6334 fax Address 144 65th St. Swite B Oakland, CA 94608 TPH-D TOG(418.1) TEPH 8010/601 8240/624 WPT-5 Net PRESERVATION LE E-1-8.0 1/2/02 8:22 E-2-8,0 1/2/02 9:18 E-3-8.0 1/2/0- 10,36 E-4-8.0 1/2/02 11:44 E-6-11.0 1/2/02 307 Dete/Time (20) Received By: Relinquished By Comments: Received By: Relinguished By: Date Time



Date: 1/18/2002

James Loetterle Cambria Environmental Technology Inc. 1144 65th Street, Suite B Oakland, CA 94608

Subject: 15 Soil Samples

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897 P.O. Number: 98995746

Dear Mr. Loetterle,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-1-8.0

Matrix : Soil

Lab Number: 24222-01

Sample Date :1/7/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/12/2002
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/12/2002
Toluene - d8 (Surr)	98.9		% Recovery	EPA 8260B	1/12/2002
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	1/12/2002

Sample: C-2-8.0

Matrix: Soil

Lab Number: 24222-02

Sample Date :1/7/2002

Sample Date . If 1/2002		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Total Xylenes	< 0.010	0.010	mg/Kg	EPA 8260B	1/17/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/17/2002
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/17/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	1/17/2002
4-Bromofluorobenzene (Surr)	96.5		% Recovery	EPA 8260B	1/17/2002

Approved By: Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-3-3.5

Matrix : Soil

Lab Number: 24222-03

Sample Date :1/7/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/11/2002
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/11/2002
Toluene - d8 (Surr)	97.8		% Recovery	EPA 8260B	1/11/2002
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	1/11/2002

Sample: C-4-8.0

Matrix: Soil

Lab Number: 24222-04

Sample Date :1/7/2002

Sample Date: 1///2002		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.15	0.050	mg/Kg	EPA 8260B	1/12/2002
Toluene	< 0.050	0.050	mg/Kg	EPA 8260B	1/12/2002
Ethylbenzene	4.9	0.050	mg/Kg	EPA 8260B	1/12/2002
Total Xylenes	8.9	0.10	mg/Kg	EPA 8260B	1/12/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/12/2002
TPH as Gasoline	290	5.0	mg/Kg	EPA 8260B	1/12/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	1/12/2002
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	1/12/2002

Approved By: Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-5-8.0

Matrix : Soil

Lab Number: 24222-05

Sample Date :1/7/2002

Sample Date . ITTZ002		المراجعة الأراجعة			
Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/17/2002
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/17/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	1/17/2002
4-Bromofluorobenzene (Surr)	96.5		% Recovery	EPA 8260B	1/17/2002

Sample: C-6-4.0

Matrix : Soil

Lab Number: 24222-06

Sample Date :1/7/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/18/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/18/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/18/2002
Total Xylenes	< 0.010	0.010	mg/Kg	EPA 8260B	1/18/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/18/2002
TPH as Gasoline	6.5	1.0	mg/Kg	EPA 8260B	1/18/2002
Toluene - d8 (Surr)	10 <del>1</del>		% Recovery	EPA 8260B	1/18/2002
4-Bromofluorobenzene (Surr)	97.7		% Recovery	EPA 8260B	1/18/2002

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Approved By: Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-7-8.0

Matrix: Soil

Lab Number: 24222-07

Sample Date :1/7/2002

Sample Date :1/7/2002		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.025	0.025	mg/Kg	EPA 8260B	1/12/2002
Toluene	< 0.025	0.025	mg/Kg	EPA 8260B	1/12/2002
Ethylbenzene	0.43	0.025	mg/Kg	EPA 8260B	1/12/2002
Total Xylenes	< 0.050	0.050	mg/Kg	EPA 8260B	1/12/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/12/2002
TPH as Gasoline	87	5.0	mg/Kg	EPA 8260B	1/12/2002
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	1/12/2002
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	1/12/2002

Sample: C-8-4.0

Matrix : Soil

Lab Number: 24222-08

Sample Date :1/7/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.026	0.025	mg/Kg	EPA 8260B	1/17/2002
Toluene	< 0.025	0.025	mg/Kg	EPA 8260B	1/17/2002
Ethylbenzene	0.038	0.025	mg/Kg	EPA 8260B	1/17/2002
Total Xylenes	< 0.050	0.050	mg/Kg	EPA 8260B	1/17/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/17/2002
TPH as Gasoline	81	5.0	mg/Kg	EPA 8260B	1/17/2002
Toluene - d8 (Surr)	99.7		% Recovery	EPA 8260B	1/17/2002
4-Bromofluorobenzene (Surr)	97.6		% Recovery	EPA 8260B	1/17/2002

Approved By: Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-9-9.0

Matrix: Soil

Lab Number: 24222-09

Sample Date :1/7/2002

Sample Date . I/1/2002		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/12/2002
Methyl-t-butyl ether (MTBE)	0.65	0.5	mg/Kg	EPA 8260B	1/12/2002
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/12/2002
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	1/12/2002
4-Bromofluorobenzene (Surr)	99.0		% Recovery	EPA 8260B	1/12/2002

Sample: C-10-9.0

Matrix : Soil

Lab Number : 24222-10

Sample Date :1/7/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.039	0.025	mg/Kg	EPA 8260B	1/17/2002
Toluene	< 0.025	0.025	mg/Kg	EPA 8260B	1/17/2002
Ethylbenzene	0.61	0.025	mg/Kg	EPA 8260B	1/17/2002
Total Xylenes	0.27	0.025	mg/Kg	EPA 8260B	1/17/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/17/2002
TPH as Gasoline	84	5.0	mg/Kg	EPA 8260B	1/17/2002
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	1/17/2002
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	1/17/2002

Approved By: Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-11-9.0

Matrix : Soil

Lab Number: 24222-11

Sample Date :1/7/2002

Sample Date :1///2002		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/18/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/18/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/18/2002
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/18/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/18/2002
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/18/2002
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	1/18/2002
4-Bromofluorobenzene (Surr)	98.1		% Recovery	EPA 8260B	1/18/2002

Sample: C-12-9.0

Matrix: Soil

Lab Number : 24222-12

Sample Date :1/7/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.010	0.010	mg/Kg	EPA 8260B	1/18/2002
Toluene	< 0.010	0.010	mg/Kg	EPA 8260B	1/18/2002
Ethylbenzene	0.013	0.010	mg/Kg	EPA 8260B	1/18/2002
Total Xylenes	< 0.025	0.025	mg/Kg	EPA 8260B	1/18/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/18/2002
TPH as Gasoline	6.6	1.0	mg/Kg	EPA 8260B	1/18/2002
Toluene - d8 (Surr)	99.8		% Recovery	EPA 8260B	1/18/2002
4-Bromofluorobenzene (Surr)	99.1		% Recovery	EPA 8260B	1/18/2002

Approved By: Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-13-4.0

Matrix : Soil

Lab Number: 24222-13

Sample Date :1/7/2002

Sample Date: 1///2002		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/17/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/17/2002
TPH as Gasoline	2.7	1.0	mg/Kg	EPA 8260B	1/17/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	1/17/2002
4-Bromofluorobenzene (Surr)	99.5		% Recovery	EPA 8260B	1/17/2002

Sample: C-14-4.0

Matrix : Soil

Lab Number: 24222-14

Sample Date :1/7/2002

Sample Date :1///2002		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.050	0.050	mg/Kg	EPA 8260B	1/12/2002
Toluene	< 0.050	0.050	mg/Kg	EPA 8260B	1/12/2002
Ethylbenzene	< 0.050	0.050	mg/Kg	EPA 8260B	1/12/2002
Total Xylenes	< 0.10	0.10	mg/Kg	EPA 8260B	1/12/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/12/2002
TPH as Gasoline	11	5.0	mg/Kg	EPA 8260B	1/12/2002
Toluene - d8 (Surr)	99.7		% Recovery	EPA 8260B	1/12/2002
4-Bromofluorobenzene (Suπ)	100		% Recovery	EPA 8260B	1/12/2002

Approved By: Joel Kiff



Date: 1/18/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Sample: C-15-8.0

Matrix : Soil

Lab Number: 24222-15

Sample Date :1/7/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.050	0.050	mg/Kg	EPA 8260B	1/17/2002
Toluene	< 0.050	0.050	mg/Kg	EPA 8260B	1/17/2002
Ethylbenzene	4.4	0.050	mg/Kg	EPA 8260B	1/17/2002
Total Xylenes	4.7	0.050	mg/Kg	EPA 8260B	1/17/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/17/2002
TPH as Gasoline	250	5.0	mg/Kg	EPA 8260B	1/17/2002
Toluene - d8 (Surr)	98.9		% Recovery	EPA 8260B	1/17/2002
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	1/17/2002

Approved By: Joel Kiff

Date: 1/18/2002

QC Report : Method Blank Data

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 243-0897

Parameter	Measured Value	Method Reporti Limit	•	Analysis Method	Date Analvzed		
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002		
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002		
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002		
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/11/2002		
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/11/2002		
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/11/2002		
Toluene - d8 (Surr)	97.4		%	EPA 8260B	1/11/2002		
4-Bromofluorobenzene (Surr)	101		%	FPA 8260B	1/11/2002		

Method Reporting Analysis Method Measured Date <u>Parameter</u> Value Limit Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

Date: 1/18/2002

Project Name: 4411 Foothill Blvd.

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Number: 243-0897

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	e Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicat Spiked Sample Percent Recov.	Relative	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	24229-12	<0.0050	0.0386	0.0389	0.0361	0.0358	mg/Kg	EPA 8260B	1/10/2002	293.5	91.9	1.67	70-130	25
Toluene	24229-12	<0.0050	0.0386	0.0389	0.0367	0.0366	mg/Kg	EPA 8260B	1/10/2002	295.1	94.0	1.19	70-130	25
Tert-Butanol	24229-12	<0.0050	0.193	0.194	0.201	0.190	mg/Kg	EPA 8260B	1/10/2002	2104	97.6	6.37	70-130	25
Methyl-t-Butyl Eth	er 24229-12	<0.0050	0.0386	0.0389	0.0305	0.0354	mg/Kg	EPA 8260B	1/10/2002	279.0	90.8	14.0	70-130	25

Approved By: Joel Kiff

Date: 1/18/2002

Project Name: 4411 Foothill Blvd.

QC Report : Laboratory Control Sample (LCS)

Project Number: 243-0897

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit	
Benzene	0.0377	mg/Kg	EPA 8260B	1/10/2002	93.0	70-130	
Toluene	0.0377	mg/Kg	EPA 8260B	1/10/2002	94.8	70-130	
Tert-Butanol	0.189	mg/Kg	EPA 8260B	1/10/2002	102	70-130	
Methyl-t-Butyl Ether	0.0377	mg/Kg	EPA 8260B	1/10/2002	75.0	70-130	

KIFF ANALYTICAL, LLC

Approved By: | Upel Kiff |

#### **EQUIVA Services LLC Chain Of Custody Record**

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## **EQUIVA Services LLC Chain Of Custody Record**

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Date: 1/31/2002

James Loetterle Cambria Environmental Technology Inc. 1144 65th Street, Suite B Oakland, CA 94608

Subject: 5 Soil Samples

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 203-0897 P.O. Number: SAP# 135686

Dear Mr. Loetterle,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

loel Kiff



Date: 1/31/2002

Subject:

5 Soil Samples

Project Name:

4411 Foothill Blvd. Oakland, CA

Project Number : P.O. Number:

203-0897 SAP# 135686

#### Case Narrative

Hydraulic oil results were quantitated against a motor oil standard. Matrix Spike/Matrix Spike Duplicate Results associated with samples H-3-11.0, H-1-11.0, H-2-11.0, H-1-9.0, H-2-9.0 for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.

Approved By: Joel Kiff
720 Olive Drive, Suite D Davis, CA 95616 916-297-4800



Date: 1/31/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 203-0897

Sample: H-1-9.0

Matrix : Soil

Lab Number : 24417-01

Sample Date :1/17/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.094	0.025	mg/Kg	EPA 8260B	1/27/2002
Toluene	< 0.025	0.025	mg/Kg	EPA 8260B	1/27/2002
Ethylbenzene	0.047	0.025	mg/Kg	EPA 8260B	1/27/2002
Total Xylenes	0.18	0.050	mg/Kg	EPA 8260B	1/27/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/27/2002
TPH as Gasoline	120	5.0	mg/Kg	EPA 8260B	1/27/2002
Toluene - d8 (Surr)	90.6		% Recovery	EPA 8260B	1/27/2002
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	1/27/2002
Hydraulic Oil	14000	100	mg/Kg	M EPA 8015	1/23/2002
1-Chlorooctadecane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	1/23/2002

Approved By: Joel Kiff



Date: 1/31/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 203-0897

Sample: H-2-9.0

Matrix : Soil

Lab Number : 24417-02

Sample Date :1/17/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.015	0.005	mg/Kg	EPA 8260B	1/28/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/28/2002
Ethylbenzene	0.048	0.005	mg/Kg	EPA 8260B	1/28/2002
Total Xylenes	0.053	0.010	mg/Kg	EPA 8260B	1/28/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/28/2002
TPH as Gasoline	32	1.0	mg/Kg	EPA 8260B	1/28/2002
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	1/28/2002
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	1/28/2002
Hydraulic Oil	< 10	10	mg/Kg	M EPA 8015	1/22/2002
1-Chlorooctadecane (Diesel Surrogate)	106		% Recovery	M EPA 8015	1/22/2002

Approved By: Joel Kiff



Date: 1/31/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 203-0897

Sample: H-1-11.0

Matrix: Soil

Lab Number: 24417-03

Sample Date :1/17/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.20	0.050	mg/Kg	EPA 8260B	1/26/2002
Toluene	0.071	0.050	mg/Kg	EPA 8260B	1/26/2002
Ethylbenzene	2.2	0.050	mg/Kg	EPA 8260B	1/26/2002
Total Xylenes	10	0.10	mg/Kg	EPA 8260B	1/26/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/26/2002
TPH as Gasoline	210	5.0	mg/Kg	EPA 8260B	1/26/2002
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	1/26/2002
4-Bromofluorobenzene (Surr)	99.9		% Recovery	EPA 8260B	1/26/2002
Hydraufic Oil	230	10	mg/Kg	M EPA 8015	1/22/2002
1-Chlorooctadecane (Diesel Surrogate)	105		% Recovery	M EPA 8015	1/22/2002

Approved By: Joel Kiff



Date: 1/31/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 203-0897

Sample: H-2-11.0

Matrix : Soil

Lab Number: 24417-04

Sample Date :1/17/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.54	0.050	mg/Kg	EPA 8260B	1/27/2002
Toluene	0.10	0.050	mg/Kg	EPA 8260B	1/27/2002
Ethylbenzene	7.3	0.050	mg/Kg	EPA 8260B	1/27/2002
Total Xylenes	24	0.10	mg/Kg	EPA 8260B	1/27/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/27/2002
TPH as Gasoline	400	5.0	mg/Kg	EPA 8260B	1/27/2002
Toluene - d8 (Surr)	93.5		% Recovery	EPA 8260B	1/27/2002
4-Bromofluorobenzene (Surr)	98.8		% Recovery	EPA 8260B	1/27/2002
Hydraulic Oil	78	10	mg/Kg	M EPA 8015	1/22/2002
1-Chlorooctadecane (Diesel Surrogate)	107		% Recovery	M EPA 8015	1/22/2002

Approved By: Joel Kiff



Date: 1/31/2002

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 203-0897

Sample: H-3-11.0

Matrix : Soil

Lab Number : 24417-05

Sample Date :1/17/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.21	0.050	mg/Kg	EPA 8260B	1/25/2002
Toluene	0.52	0.050	mg/Kg	EPA 8260B	1/25/2002
Ethylbenzene	3.1	0.050	mg/Kg	EPA 8260B	1/25/2002
Total Xylenes	14	0.10	mg/Kg	EPA 8260B	1/25/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/25/2002
TPH as Gasoline	250	5.0	mg/Kg	EPA 8260B	1/25/2002
Toluene - d8 (Surr)	92.9		% Recovery	EPA 8260B	1/25/2002
4-Bromofluorobenzene (Surr)	95.6		% Recovery	EPA 8260B	1/25/2002
Hydraulic Oil	< 10	10	mg/Kg	M EPA 8015	1/22/2002
1-Chlorooctadecane (Diesel Surrogate)	119		% Recovery	M EPA 8015	1/22/2002

Approved By: Joel Kiff

Date: 1/31/2002

QC Report : Method Blank Data

Project Name: 4411 Foothill Blvd. Oakland, CA

Project Number: 203-0897

Parameter	Measured Value	Method Reporting Limit	g <u>Units</u>	Analysis Method	Date Analyzed
Hydraulic oil	< 10	10	mg/Kg	M EPA 8015	1/22/2002
1-Chlorooctadecane (Diesel Surrogate)	92.1		%	M EPA 8015	1/22/2002
Benzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/23/2002
Toluene	< 0.005	0.005	mg/Kg	EPA 8260B	1/23/2002
Ethylbenzene	< 0.005	0.005	mg/Kg	EPA 8260B	1/23/2002
Total Xylenes	< 0.005	0.005	mg/Kg	EPA 8260B	1/23/2002
Methyl-t-butyl ether (MTBE)	< 0.5	0.5	mg/Kg	EPA 8260B	1/23/2002
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	1/23/2002
Toluene - d8 (Surr)	99.3		%	EPA 8260B	1/23/2002
4-Bromofluorobenzene (Suπ)	95.9		%	EPA 8260B	1/23/2002

Method Reporting Measured Analysis Method Date Parameter Value Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

Date: 1/31/2002

Project Name: 4411 Foothill Blvd.

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Number: 203-0897

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	e Units	Analysis Method	Spiked Sampl Date Percer Analyzed Recov	Sample t Percent	Relative	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
TPH as Diesel	24351-48	<1.0	20.0	20.0	19.6	20.6	mg/Kg	M EPA 8015	1/22/200298.1	103	4.93	60-140	25
Benzene	24382-01	<0.0050	0.0385	0.0377	0.0369	0.0361	mg/Kg	EPA 8260B	1/23/200296.0	95.9	0.0782	70-130	25
Toluene	24382-01	<0.0050	0.0385	0.0377	0.0358	0.0351	mg/Kg	EPA 8260B	1/23/200293.1	93.2	0.0805	70-130	25
Tert-Butanol	24382-01	<0.0050	0.192	0.188	0.169	0.164	mg/Kg	EPA 8260B	1/23/200287.9	87.2	0.782	70-130	25
Methyl-t-Butyl Eth	er 24382-01	0.079	0.0385	0.0377	0.105	0.120	mg/Kg	EPA 8260B	1/23/200267.2	110	48.0	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

Date: 1/31/2002

Project Name: 4411 Foothill Blvd.

QC Report : Laboratory Control Sample (LCS)

Project Number: 203-0897

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
TPH as Diesel	20.0	mg/Kg	M EPA 8015	1/22/2002	102	70-130
Benzene	0.0376	mg/Kg	EPA 8260B	1/23/2002	79.1	70-130
Toluene	0.0376	mg/Kg	EPA 8260B	1/23/2002	77.2	70-130
Tert-Butanol	0.188	mg/Kg	EPA 8260B	1/23/2002	88.0	70-130
Methyl-t-Butyl Ether	0.0376	mg/Kg	EPA 8260B	1/23/2002	87.6	70-130

KIFF ANALYTICAL, LLC

Approved By: Joel Kiff

#### KIFF ANALYTICAL

## **EQUIVA Services LLC Chain Of Custody Record**

	Equiv	Equiva Project Manager to be involced:						<u>je (e</u>	PARTICIPATE OF THE PARTIES.																	
720 Olive Drive, Suite D	<b>Ø</b> \$d	DATE: 1/18/02								DATE: _1/18/02																
Davis, CA 95616		CENTRAL SCOURSE																								
(530) 297-4800 (530) 297-4803		at Housto	1 3 5 6 8 6 PAGE: _1 of _1_								'AGE:1 of1															
Cambria Environmental Technology, Inc.	CETO	E: GT ADDRESS (Street and City): GT CRAL DNC:																								
ADDRESS;	EDF DELNETUBLE TO Fremporable Party or Designacy: PRIDNE NO.: E-MAL: CONSULTANT PROJECT NO.:										INT PROJECT NO.:															
1144 65th St., Oakland, CA 94608 PROJECT CONTACT (Hardcopy or PDF Report lo):									7																	
James Loetterie TELEPHONE: FAX:		T E-MAAL:			SAM	IPLER N. Logisti	AME(S)	(Prini);																(film) Handk		
510-420-3336 (510) 420-9170			Ocambria-	env.com																						
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## ATTACHMENT D

Soil Disposal Confirmation



Hazardous Waste Hauler (Registration #2843)

8896 Elder Creek Rd. · Sacramento, CA 95828 · FAX (916) 381-1573

# **Disposal Confirmation**

Request for Transportation	n Received: 01/21/02							
Consultant Information								
Company: Contact: Phone: Fax:	Cambria Loetterle, James 510-420-3336 510-420-9170 Site Information							
Station #: Street Address: City, State, ZIP:	4411 Foothill Blvd, Oakland, CA 94601							
Customer: RIPR #: SAP # / Location: Incident #: Location / WIC #: Environmental Engineer: Fax:	Shell Oil Company RESA-0023-LDC  8511  135686  98995746  2045508-3400  Petryna, Karen E.							
Material Description: Estimated Quantity: Service Requested Date:	Soil  1250 Cubic Yards   √ 1923.07 whice yords.  01/24/02							
Disposal Facility: Contact: Phone: Approval #: Date of Disposal: Actual Tonnage	Forward Inc. Landfill Joe Griffith 1-800-204-4242 1597 01/22/02-01/31/02 2549.72 Tons							
Transporter: Contact: Phone: Fax: Invoice: Date of Invoice:	Manley & Sons Trucking, Inc. Glenell Forbes 916 381-6864 916 381-1573 50108 02/04/02							

Fax To:

Consultant

13 tous / cubic

Shell

## ATTACHMENT E

**Excavation Sampling Procedures** 

#### **EXCAVATION SAMPLING PROCEDURES**

After confirming a release from underground gasoline storage tanks, product piping or pump islands, soil excavation is often done to remove hydrocarbon bearing soils that may pose a threat to ground water quality beneath a site. Soil samples are routinely collected to monitor the progress of the excavation and to confirm that soils containing hydrocarbons above regulatory limits have been completely removed. Cambria has developed standard operating procedures for collecting soil samples during routine excavation operations to ensure that the samples are collected, handled and documented in compliance with State and local regulatory agency regulations.

#### **Excavation Sampling**

Prior to collecting soil samples during excavation operations, Cambria field staff screen the removed soils with a portable photoionization detector (PID) to qualitatively assess the presence or absence of volatile hydrocarbons. The removed soil is typically segregated based on hydrocarbon concentration and stockpiled on site on plastic sheeting. When the PID measurements indicate that the hydrocarbon bearing soil has been completely removed, Cambria collects soil samples from the excavation sidewalls and bottom for confirmatory analysis at a State certified analytic laboratory.

The soil samples are collected in steam cleaned brass or steel tubes from either a driven splitspoon type sampler or the bucket of a backhoe or excavator. When a backhoe or excavator is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil.

Upon removal from the sampler or the backhoe, the samples are trimmed flush, capped with Teflon tape and plastic end caps, labeled, logged and refrigerated for delivery under chain of custody to a State certified analytic laboratory.