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Denis L. Brown

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

HSE - Environmental Services 20945 S. Wilmington Ave. Carson, CA 90810-1039

**Tel** (707) 865 0251 **Fax** (707) 865 2542

Email denis.l.brown@shell.com

Re:

Former Shell Service Station 4255 MacArthur Blvd. Oakland, California SAP Code 135701 Incident No. 98995758

ACHCSA Case No: RO-0486

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

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

Sincerely,

Denis L. Brown

Project Manager

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

Re:

**Well Installation Report** 

Former Shell-branded Service Station 4255 MacArthur Boulevard Oakland, California Incident # 98995758 SAP Code 135701 Cambria Project #248-0524-006 ACEH Case #3769



Dear Mr. Wickham

Cambria Environmental Technology, Inc. (Cambria) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to document the recent site investigation activities at the referenced site. The purpose of the investigation was to augment the site's groundwater monitoring network. Cambria followed the scope of work presented in our March 15, 2006 Well Installation Work Plan and approved in Alameda County Health Care Services Agency's (ACHCSA) April 6, 2006 letter to Shell. Cambria performed the work in accordance with ACHCSA and San Francisco Bay Regional Water Quality Control Board guidelines.

#### SITE BACKGROUND

Location and Site Use: The site is a former Shell service station located at the MacArthur Boulevard and High Street intersection in a mixed commercial and residential area of Oakland, California (Figures 1 and 2). An active 76 service station and a former Chevron service station are located east of the site. A trailer park and adjacent California Department of Transportation (Caltrans) access to Interstate 580 are located immediately southwest of the site. Topography slopes toward the west, with a 5-foot (ft) elevation difference between grade at the site and the trailer park property, and an additional 5-ft elevation difference between grade at the trailer park property and the Caltrans property.

Cambria Environmental Technology, Inc.

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

Soil Lithology: Soils encountered during drilling activities consist primarily of dense, silty sands and sandy silts with clay to the maximum explored depth of 30 feet below grade (fbg).

Groundwater Depth and Flow Direction: Since November 1993, quarterly groundwater monitoring has been conducted at the site. The historical depth to groundwater on site has ranged from approximately 4 to 17 fbg. Groundwater typically flows in a west-southwesterly direction.

#### **PREVIOUS WORK**



June 1985 Subsurface Investigation: In June 1985, Emcon Associates of San Jose, California drilled three soil borings and installed one groundwater monitoring well adjacent to the underground storage tanks (USTs). Up to 15,800 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPHg) were detected in the shallow soil samples from inside the UST area. In July 1992, GeoStrategies, Inc. of Hayward, California performed a site reconnaissance and verified that the original monitoring well had been destroyed during the 1985 UST replacement activities. Table 1 presents historical soil analytical results.

**December 1985 UST Replacement:** In December 1985, the USTs were replaced, and approximately 810 cubic yards of hydrocarbon-bearing soil were transported to a disposal facility. Up to 22,000 ppm total volatile hydrocarbons and 500 ppm benzene were detected in the soil samples from the excavation.

**November 1993 Subsurface Investigation:** In November 1993, Weiss Associates (WA) of Emeryville, California drilled soil borings BH-A, BH-B and BH-C, which were converted into monitoring wells MW-1, MW-2 and MW-3, respectively. Up to 1,700 ppm TPHg and 3.3 ppm benzene were detected in soil boring BH-C (MW-3) between 11 and 16 fbg. Up to 66 ppm TPHg and 0.07 ppm benzene were detected in soil boring BH-B (MW-2) between 9 and 14 fbg.

November 1994 Subsurface Investigation: In November 1994, WA drilled on-site soil borings BH-D and BH-E, located on the northeastern end of the lot, and off-site boring BH-F (MW-4), located near the Highway 580 on-ramp. Up to 5,900 ppm TPHg and 23 ppm benzene were detected at 5 fbg in soil boring BH-E, located adjacent to the central eastern pump island. Trace hydrocarbon concentrations were detected in the capillary fringe soil samples collected from each boring.

November 1995 Dispenser and Piping Removal and Sampling: In November 1995, WA collected 15 soil samples during dispenser and piping replacement activities. Up to 7,800 ppm TPHg were detected in samples collected from beneath the former middle dispenser, and up to

2,800 ppm TPHg were detected in the sample collected from beneath the adjacent product piping. Up to 7,300 ppm TPHg were detected in the sample collected from beneath the northeast dispenser island. No benzene above 1 ppm was detected in any of the 15 samples. During the dispenser replacements, horizontal wells HW-1 through HW-4 were installed in the vadose zone about 5 ft below ground surface and adjacent to the former piping and dispensers to facilitate future removal of petroleum hydrocarbons from the impacted soil.

August 1997 Soil Vapor Extraction (SVE) Test: In August 1997, Cambria performed short-term SVE tests using a VR Systems Model V3 internal combustion engine on horizontal vapor extraction wells HW-1 through HW-4 and monitoring wells MW-2 and MW-3. Cambria measured vapor extraction flow rates, the vacuum applied to the wellheads, and the vacuum influence in nearby wells. Cambria calculated an effective radius of influence of 35 to 50 ft during testing of wells MW-3 and MW-2. The relatively high TPHg removal rates measured in horizontal wells HW-1 through HW-4 were most likely temporary and are not believed to be representative of site conditions due to extensive well screen in permeable fill material. The results of the short-term testing indicated that SVE achieves only low hydrocarbon removal rates in wells MW-2 and MW-3, which are more representative of native soil conditions.

February 1998 Subsurface Investigation: In February 1998, Cambria drilled two off-site borings (SB-1 and SB-2) in the trailer park adjacent to the Shell site. No TPHg or benzene was detected in the soil samples collected from the two borings. The highest methyl tertiary-butyl ether (MTBE) concentration detected in soil was 1.4 ppm detected in soil boring SB-2 at a depth of 7 fbg. Up to 7,700 parts per billion (ppb) TPHg, 210 ppb benzene, and 46,000 ppb MTBE were detected in the grab groundwater sample collected from soil boring SB-2. In sample analysis of soil physical parameters, total organic carbon was detected at 2,140 ppm and 7,210 ppm at a depth of 5.5 fbg in borings SB-1 and SB-2, respectively, and total porosity was measured as 35.2% and 37.4%, respectively. Specific permeability values were 181 millidarcies (md) for SB-1-5.5 and 71 md for SB-2-5.5, but the lab noted that due to fine fractures developed in the samples upon drying, the measured values were an order of magnitude or more too high. Permeability measurements confirmed the low permeability of the shallow soils beneath the site.

2001 Sensitive Receptor Survey (SRS), Conduit Study and Site Conceptual Model (SCM): Cambria included an SRS, conduit study results, and an SCM in the First Quarter 2001 Monitoring Report. The SRS identified 25 monitoring wells, 4 cathodic protection wells, and 1 domestic well within ½ mile of the site. Given the conduit study results, Cambria concluded that nearby sewer, storm drain, and water lines located between 8 to 13 fbg could serve as preferential pathways for petroleum hydrocarbons and MTBE migration. However, Cambria did not identify any conduits in the nearby downgradient direction.

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November 2001 Off-Site Monitoring Well Installation: Shell voluntarily instructed Cambria to delineate the off-site plume, and on November 12, 2001, Cambria supervised the installation of one downgradient monitoring well (MW-5) approximately 200 ft southwest of the site, on the Caltrans right-of-way adjacent to the I-580 on-ramp. No TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX) or MTBE was detected in the soil sample collected during the investigation. MW-5 has been included in the quarterly groundwater monitoring schedule since the first quarter of 2002. MTBE concentrations have ranged from 12 to 110 ppb and tertiary-butanol (TBA) concentrations have ranged from non-detectable to 46.3 ppb. No other analytes have been detected in groundwater from this well.



January 2003 Tank Removal and Soil Excavation: Between January 27 and February 7, 2003, all surface features, USTs, fuel dispensers, and associated product piping were removed from the site. Cambria conducted soil and groundwater sampling, and supervised over-excavation to remove hydrocarbon-impacted soils to the practical extents. Approximately 875 cubic yards of soil were removed from the site during the tank-pull and over-excavation activities. Approximately 4,600 gallons of groundwater were pumped to dewater the UST excavation prior to removing the tanks. The highest chemical concentrations in soil in the former UST area were 380 ppm TPHg, 1.7 ppm benzene and 1.2 ppm MTBE, detected in the southeast corner of the tank pit in sample TP-5. The grab groundwater sample (TP-1-Water) from the former tank pit area contained 11,000 ppb TPHg, 410 ppb benzene and 5,200 ppb MTBE. hydrocarbon concentrations remaining in soil in any of the former dispenser areas were 980 ppm TPHg and 1.2 ppm benzene, detected in sample P-2-8 at 8 fbg. The highest detected MTBE concentration remaining in soil in any of the former dispenser areas was 0.9 ppm, detected in sample D-5-S10. Following over-excavation, approximately 720 pounds of oxygen-releasing compound were mixed in the excavation base before backfilling with 1.5-inch drain rock to 4 fbg. The remainder of the tank pit and the over-excavation was backfilled and compacted with Class II road base material. In the April 28, 2003 Tank Closure and Soil Excavation Report, Cambria recommended installing one additional groundwater monitoring well in the southern corner of the former tank pit. Cambria submitted a September 22, 2003, Subsurface Investigation Work Plan detailing the proposed monitoring well installation activities. However, the well was never installed.

April 2005 Subsurface Investigation: On April 5 and 6, 2005, Cambria oversaw the advancement of 11 CPT soil borings (CPT-1 through CPT-11) and 2 direct-push Geoprobe<sup>®</sup> soil borings (SB-3 and SB-4). Soils from borings SB-3 and SB-4 were logged continuously to confirm the CPT logs. At each CPT location, a UVIF module was used to identify hydrocarbons in the subsurface. No soil samples were submitted for laboratory analysis. Based on the data collected during this investigation, it appeared that no separate-phase hydrocarbons were present at these locations, but that dissolved-phase hydrocarbons are present at most locations at two

distinct depths: a shallow zone in the silt and clay above 17 fbg, and a deeper zone in the silt, clay, and sand from approximately 19 to 20 fbg to the bottom of the borings at 25 fbg. Details of this investigation are included in Cambria's June 6, 2005 Subsurface Investigation Report.

October 2005 Subsurface Investigation: On October 25 and 26, 2005, Cambria directed the advancement of four soil borings (SB-5, SB-6, SB-7, and SB-8) by a direct-push drill rig using a dual-tube sampling system to assess current subsurface conditions at the site. All borings were intended to be continuously logged for lithology to a maximum of 35 fbg, with soil samples collected every 5 ft until first encountered water. A dense clay limited the total explored depths of each boring. TPHg was detected in nine soil samples at concentrations up to 2,600 ppm. Benzene was detected in seven soil samples from SB-7, with a maximum concentration of 13 ppm at 10 fbg. Toluene was detected in six soil samples from SB-7, with a maximum concentration of 17 ppm at 10 fbg. Ethylbenzene was detected in nine soil samples at concentrations up to 45 ppm. Xylenes were detected in 11 soil samples at concentrations up to 270 ppm. MTBE was detected in 12 soil samples at concentrations up to 1.2 ppm. TBA was detected in nine soil sample at concentrations up to 1.6 ppm.

A second boring was advanced adjacent to each initial boring in attempt to collect discrete-depth grab groundwater samples. Due to the difficulty encountered in advancing the dual-tube system during soil sampling, a hydropunch system was utilized for groundwater water sampling. Insufficient quantities of groundwater were encountered, and no groundwater samples were collected. Details of the investigation are presented in Cambria's December 14, 2005 Subsurface Investigation Report

Based on Cambria's recommendation in its December 14, 2005 Subsurface Investigation Report, ACHCSA sent a letter to Shell dated January 19, 2006, requesting a work plan and concurring with the recommendation to augment the groundwater monitoring network by installing additional wells. Cambria submitted the requested work plan on March 15, 2006 and presents the results of this work below.

#### INVESTIGATION SUMMARY

Cambria oversaw the installation of four groundwater monitoring wells (MW-6, MW-7, MW-8, and MW-9) at the locations shown on Figure 2. The locations of the wells were adjusted from the proposed locations due to subsurface obstructions. Additionally a total of 11 attempts were made in alternate locations to install the wells before their final placement as shown on Figure 2.



Cambria presents our standard field procedures for installing monitoring wells in Attachment A and summarizes the details of this subsurface investigation below.

Cambria Personnel Present: Cambria Senior Staff Scientist Stewart Dalie directed the field

activities, working under the supervision of California

Professional Geologist David Gibbs.

Permit(s): Cambria obtained monitoring well installation permits

(Permit #'s W2006-0356, 0357, 0358, and 0359) from the

Alameda County Public Works Agency (Attachment B).

Drilling Company:

Gregg Drilling and Testing, Inc. of Martinez, California (Gregg)

(C57 License No. 485165).

**Drilling Dates:** 

June 15 through June 20, 2006.

**Drilling Methods:** 

Geoprobe® hydraulic push sampling and 8-inch hollow-stem

augers for MW-6, and 10-inch hollow-stem augers for MW-7,

MW-8 and MW-9.

Number of Borings and Wells: Four hollow-stem-auger borings were drilled and converted into

groundwater monitoring wells MW-6, MW-7, MW-8, and

MW-9. Cambria shows the well locations on Figure 2.

**Boring Depths:** 

The MW-6 boring was advanced to 24 fbg. MW-7, MW-8, and

MW-9 borings were advanced to 30 fbg.

Groundwater Depths:

Cambria observed groundwater initially in the borings at depths ranging between 23 and 29 fbg during drilling activities. Blaine Tech Services, Inc. (Blaine) of San Jose, California will measure groundwater depth in the wells during the next quarterly

monitoring event

Soil Sampling Methods:

Cambria logged soil types using the Unified Soil Classification System and describes the encountered soils on the boring logs presented in Attachment C. Cambria collected soil samples at 5-foot intervals for soil description, chemical analysis, and headspace analysis. Cambria screened soil samples from the borings for the presence of organic vapors using a photo-ionization detector (PID). PID readings are recorded on

the boring logs.

Soil Classification:

Soils encountered in these borings were consistent with soils encountered during previous investigations. Soils consisted of gravel, silty gravel and silty clay underlain by clay, clayey sand, and sand to approximately 30 fbg.

Chemical Analyses:

California-certified Test America Laboratories of Bothell, Washington analyzed selected soil samples from well borings MW-6, MW-7, MW-8, and MW-9 for TPHg using EPA Method 8015 Modified, and for BTEX, and fuel oxygenates (tertiary butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), and MTBE) using EPA Method 8260B. Attachment D includes the laboratory analytical report.

Soil Disposal:

Cambria temporarily stockpiled soil generated during the field activities on site and profiled the soil for disposal. The laboratory report is included in Attachment E. On August 25, 2006, Manley and Sons Trucking, Inc. of Sacramento, California transported approximately 6.21 tons of soil to Allied Waste Industries' Forward Landfill in Manteca, California for disposal as non-hazardous waste. The disposal confirmation sheet is included in Attachment E.

Well Construction:

MW-7, MW-8, and MW-9 were constructed using 4-inch diameter Schedule 40 PVC casing, and MW-6 was constructed using 2-inch diameter Schedule-40 PVC casing. MW-7 was screened from 9 to 29 fbg, MW-8 and MW-9 were screened from 9 to 30 fbg, and MW-6 was screened from 9 to 24 fbg using 0.010-inch machine slotted screen. The wells were completed by placing a filter pack of Monterey #2/12 sand from the bottom of the well casing to approximately 2 feet above the top of the screened casing. Approximately 2 feet of bentonite were placed above the filter pack. Neat Portland cement was placed in the annular space between the boring wall and the PVC casing from the top of the bentonite seal to approximately 1 fbg. A flush-mounted, traffic-rated well box was installed to protect and finish each well to grade. Cambria presents monitoring well construction details on the boring logs (Attachment C). Department of Water Resources well completion reports are included as Attachment F.

Well Development/Sampling:

Blaine will develop and purge wells MW-6. MW-7, MW-8, and MW-9 and gauge and sample all site wells during the third quarter of 2006. Blaine will develop the wells using surge block agitation and pump evacuation. Blaine's groundwater monitoring and well development report, which includes field sheets, will be presented in our third quarter 2006 groundwater monitoring report, which is due by November 15, 2006.

Wellhead Survey:



Virgil Chavez Land Surveying (licensed land surveyor No. 6323) of Vallejo, California surveyed the top of casing elevations for wells MW-6, MW-7, MW-8, and MW-9 relative to mean sea level and surveyed the wells' longitudes and latitudes on July 13, 2006. The survey report is included as Attachment G, and the data will be uploaded to GeoTracker, as required.

#### INVESTIGATION RESULTS

Analytical Results in Soil: TPHg was detected in soil samples collected from well borings MW-5, MW-6, and MW-9 at concentrations ranging between 4.57 milligrams per kilogram (mg/kg) to 552 mg/kg. Benzene was detected in soil samples collected from all four well borings (MW-6 through MW-9) at concentrations ranging between 0.15 mg/kg to 1.4 mg/kg. MTBE was detected in soil samples collected from well borings MW-6, MW-7, and MW-9 at concentrations ranging between 0.46 mg/kg to 3.1 mg/kg. No TBA, DIPE, ETBE or TAME concentrations were detected during this investigation.

Table 1 summarizes soil chemical analytical data, and Figure 2 presents TPHg, benzene, and MTBE concentrations. As referenced above, the laboratory analytical report is included in Attachment D.

#### CONCLUSIONS AND RECOMMENDATIONS

Four monitoring wells were installed to improve the groundwater monitoring network at this site. It is recommended that the wells be added to the existing groundwater monitoring program, with submittal of quarterly reports in accordance with the existing schedule.

#### **CLOSING**

Please call Ana Friel at We appreciate your continued assistance with this project. (707) 268-3812 if you have any questions or comments regarding the contents of this report.

Sincerely,

Cambria Environmental Technology, Inc.

Stewart A. Dalie

Senior Staff Scientist

Brande Cel

Ana Friel, PG Associate Geologist

Table:

1 - Site Vicinity and Area Well Survey Map Figures:

2 - Soil Chemical Concentration Map

1 - Historical Soil Analytical Data

A - Standard Field Procedures for Installing Monitoring Wells Attachments:

B - Permits

C - Boring Logs and Well Construction Details

D - Laboratory Analytical Reports

E - Stockpile Disposal Confirmation and Laboratory Report F - Department of Water Resources Well Completion Reports

G - Virgil Chavez Well Survey Report

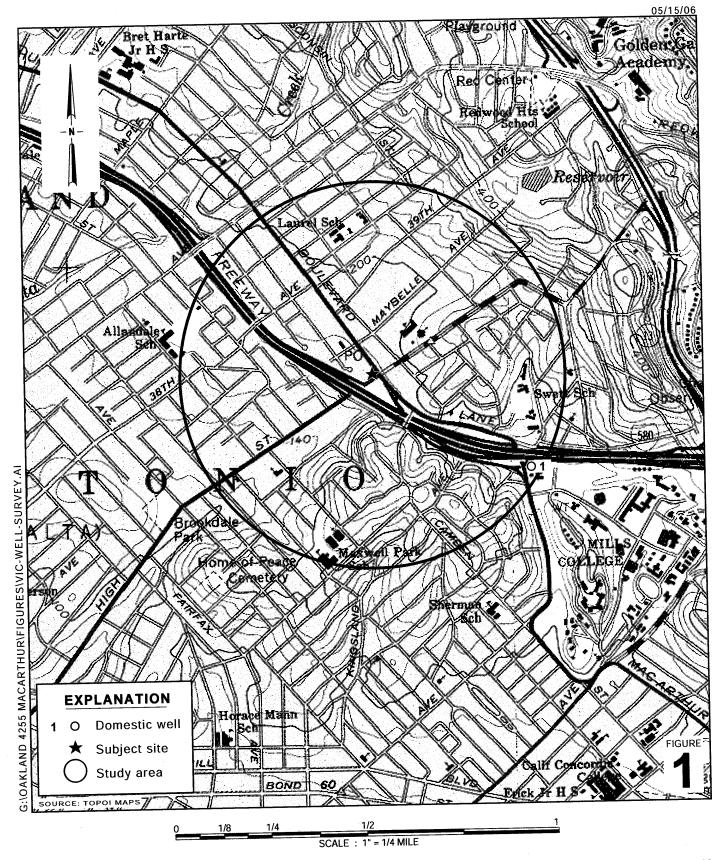
Denis Brown, Shell Oil Products US, 20945 S. Wilmington Ave., Carson, CA 90810

Roland C. Malone, Jr., PO Box 2744, Castro Valley, CA 94546

Kenneth Williams, Mac Arthur/High Trailer Park, c/o Bookkeeping, 332 Peyton Dr., Hayward, CA 94544

Thomas H. Kosel, Conoco-Phillips Company, 76 Broadway, Sacramento, CA 95818

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Former Shell Service Station 4255 MacArthur Boulevard

Oakland, California Incident No.98995758



CAMBRIA

Site Vicinity and Area Well Survey Map

(1/2 Mile Radius)

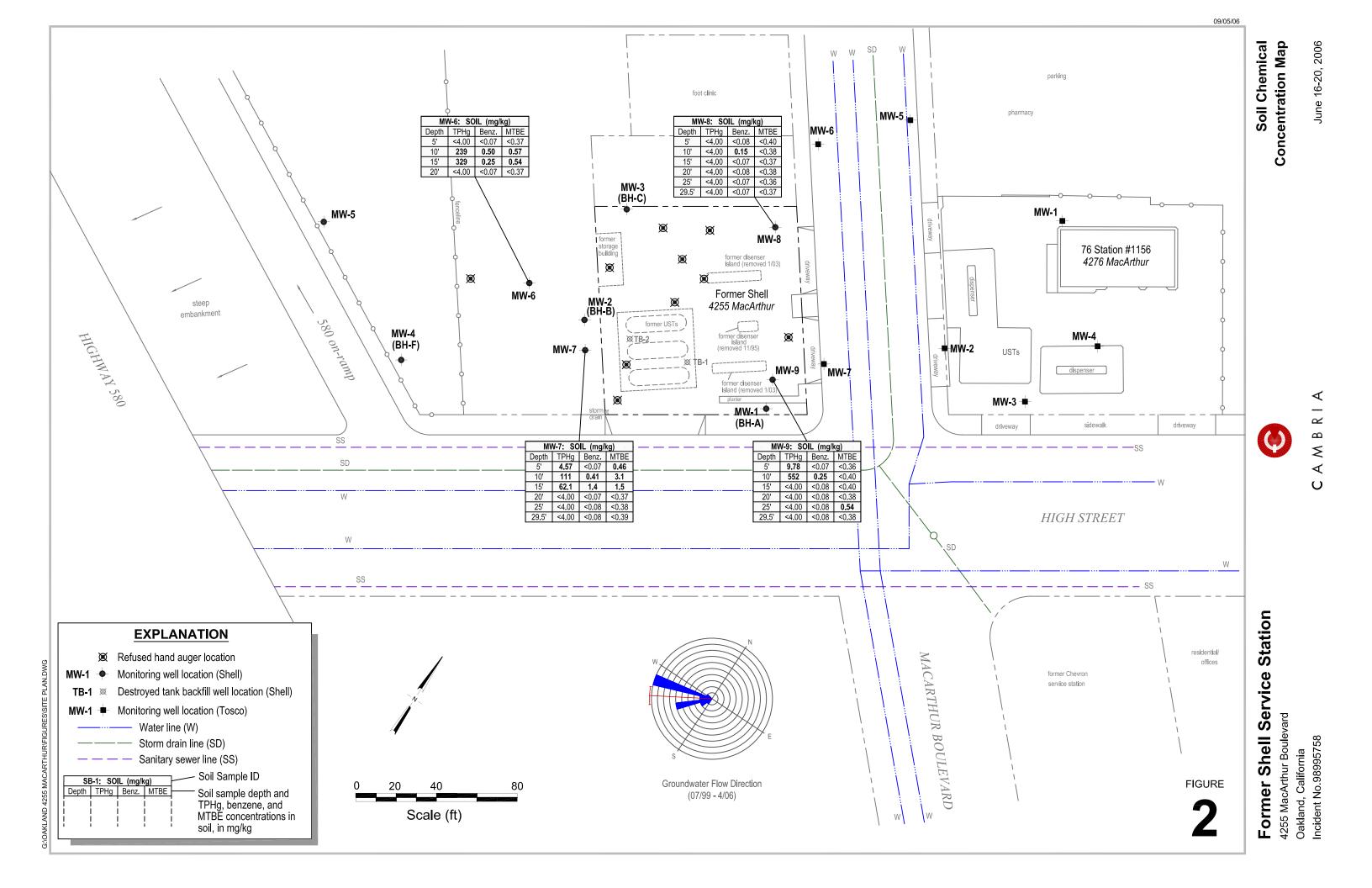


Table 1. Historical Soil Analytical Results - Shell-branded Service Station, 4255 MacArthur Boulevard, Oakland, California

Boring/ Well ID	Date	Depth	ТРНд	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	DIPE	ЕТВЕ	TAME
		(fbg)	<del></del>		~~~		(mg	/kg) ——					
1985 Subsurfac	e Investicati	on											
S-1	6/10/1985	13.5-15	ND*	An an an									
51	6/10/1985	18.5-20	ND*										
S-A	6/10/1985	4-5.5	15,800*										
	6/10/1985	8.5-10	2*										
	6/10/1985	10-11.5	ND*										
S-B	6/10/1985	13.5-15	2*	<del></del>									
1993 Subsurfac	e Investigati	ion											
BH-A (MW-1)	11/3/1993	6.0	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
	11/3/1993	10.5	24	0.4	0.028	0.12	1						
	11/3/1993	14.0	26	0.028	0.02	0.062	0		, <b></b>				
	11/3/1993	18.0	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
	11/3/1993	22.0	<1	0.0063	0.0094	0.0097	0.057						
BH-B (MW-2)	11/3/1993	6.0	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
	11/3/1993	9.0	7.6	0.069	< 0.0025	0.044	0.11						
	11/3/1993	14.0	66	0.07	0.44	0.53	2.6						
	11/3/1993	18.5	<1	0.032	0.012	0.0042	0.02						
	11/3/1993	24.0	<1	0.021	0.023	0.0037	0.021						
BH-C (MW-3)	11/4/1993	6.5	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
D11-C (141 44-3)	11/4/1993	11.3	1,700	1.1	2.5	33	44						
	11/4/1993	16.0	610	3.3	5.7	6.9	33						
	11/4/1993	22.5	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
		<b>.</b> .		0.005-	0.0075	0.0050	0.0050	0.005	0.1011				
SB-1	2/12/1994	5.0	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.025	<0.10**				
	2/12/1994	7.0	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.025	<0.10**				

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Table 1. Historical Soil Analytical Results - Shell-branded Service Station, 4255 MacArthur Boulevard, Oakland, California

Boring/ Well ID	Date	Depth (fbg)	ТРНg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020) g/kg) ———	MTBE (8260)	ТВА	DIPE	ЕТВЕ	TAME
		(10g)					\	7-0/					
SB-2	2/12/1994 2/12/1994	5.0 7.0	<1.0 <1.0	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.10 <b>1.4</b>	<0.10** <b>0.88</b> **				
1994 Subsurfac	ce Investigati	on											
BH-D	11/3/1994	5.0	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
	11/3/1994	10.0	<1	0.13	< 0.0025	0.011	0.01						
	11/3/1994	15.0	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
	11/3/1994	20.0	<1	< 0.0025	< 0.0025	< 0.0025	0.015						
вн-Е	11/3/1994	5.0	5,900	23	160	120	430						
	11/3/1994	10.0	<1	0.031	< 0.0025	< 0.0025	< 0.0025						
	11/3/1994	15.0	<1	0.0053	0.0033	< 0.0025	0.007						
	11/3/1994	20.0	<1	< 0.0025	0.0077	< 0.0025	0.015						
BH-F (MW-4)	11/3/1994	5.0	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
	11/3/1994	10.0	13	0.029	0.14	0.17	0.54						
	11/3/1994	15.0	<1	0.044	0.0033	0.017	0.032						
	11/3/1994	20.0	<1	< 0.0025	< 0.0025	< 0.0025	< 0.0025						
1995 Dispenser	r and Piping	Removal a	nd Samplin	g									
S-1	11/17/1995	3.0	3,200	< 5.0	27	39	250						
S-2	11/17/1995	2.0	7,800	<15	51	71	540						
S-3	11/17/1995	2.0	7,300	<12	14	42	500						
S-4	11/17/1995	2.5	1.5	0.052	< 0.005	0.021	0.0069						
S-5	11/17/1995	3.0	1.1	< 0.005	< 0.005	< 0.005	0.013						
S-6	11/17/1995	2.5	1.1	0.19	< 0.005	0.046	0.020						
S-7	11/17/1995	3.0	10	0.12	0.030	0.24	0.98						

Table 1. Historical Soil Analytical Results - Shell-branded Service Station, 4255 MacArthur Boulevard, Oakland, California

Boring/ Well ID	Date	Depth (fbg)	ТРНд	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020) g/kg) —	MTBE (8260)	ТВА	DIPE	ETBE	TAME
	<del></del>	(IUg)			. =		(2	o,					
S-8	11/17/1995	3.0	2,800	< 5.0	5.1	25	140						
S-9	11/17/1995	3.5	6.5	< 0.005	< 0.005	< 0.005	0.021					,	
S-10	11/17/1995	3.5	44	< 0.05	< 0.05	0.051	0.22						
S-11	11/17/1995	3.5	2.6	0.026	< 0.005	0.011	0.014						
S-12	11/17/1995	4.0	39	0.26	< 0.05	0.42	1.7						
S-13	11/17/1995	4.0	12	0.85	0.46	0.31	1.5						
S-14	11/17/1995	4.0	300	< 0.5	< 0.5	3.8	10						
S-15	11/17/1995	5.0	210	0.28	< 0.25	1.9	6.4						
1998 Subsurfa	ice Investigatio	o <b>n</b>											
SB-1 - 5.0	2/13/1998	5.0	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.025	< 0.10				
SB-1 - 7.0	2/13/1998	7.0	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.025	< 0.10				
SB-2 - 5.0	2/13/1998	5.0	<1.0	< 0.0050	<0.0050	< 0.0050	< 0.0050	< 0.025	< 0.10				
SB-2 - 7.0	2/13/1998	7.0	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	1.4	0.88				
2001 Off-Site	Monitoring W	ell Installa	tion										
MW-5	11/12/2001	5.5	<1.0	< 0.005	< 0.005	< 0.005	< 0.005		< 0.5				
2003 Tank Clo	osure and Soil	Excavatio	n										
TP-1	1/27/2003	10.5	91	< 0.5	0.31	0.074	1.3		5.9				
TP-2	1/27/2003	10.0	2.0	< 0.5	< 0.005	< 0.005	< 0.005		< 0.005				
TP-3	1/27/2003	11.0	<1.0	< 0.5	0.048	< 0.005	0.010		0.0089				
TP-4	1/27/2003	10.0	1.6	< 0.5	< 0.005	< 0.005	< 0.005		0.0086				
TP-5	1/27/2003	10.0	380	1.2	1.7	0.45	3.7		15				
TP-6	1/27/2003	10.0	2.1	1.2	< 0.005	< 0.005	< 0.005		< 0.005				

Table 1. Historical Soil Analytical Results - Shell-branded Service Station, 4255 MacArthur Boulevard, Oakland, California

Boring/ Well ID	Date	Depth (fbg)	TPHg ←	Benzene	Toluene	Ethylbenzene	•	MTBE (8020) g/kg) ———	MTBE (8260)	ТВА	DIPE	ЕТВЕ	TAME
D-1	1/30/2003	3.0	260	0.64	< 0.005	3.9	5.0		1.2				
D-2	1/30/2003	4.0	<1.0	< 0.5	0.0080	< 0.005	0.0052		0.0081				
D-3	1/30/2003	3.0	130	< 0.5	< 0.025	0.030	1.2		8.8				
D-4	1/30/2003	3.0	51	< 0.5	0.11	< 0.025	0.59		0.12				
P-1	1/30/2003	3.0	130	< 0.5	0.058	< 0.025	1.5		1.4				
P-2	1/30/2003	3.0	420	< 0.5	1.5	0.36	8.6		21				
P-3	1/30/2003	3.0	<1.0	< 0.5	0.0079	< 0.005	0.0084		0.0050				
D-1-6.5	1/31/2003	6.5	87	<0.5	0.11	< 0.025	0.58		0.51				
D-2-5.5	1/31/2003	5.5	3.7	0.6	0.22	< 0.005	0.064		0.073				
D-3-8	1/31/2003	8.0	53	< 0.5	0.27	< 0.025	0.13		0.38				
D-4-8	1/31/2003	8.0	1,100	< 0.5	2.2	< 0.050	10		9.9				
D-5-6.0	1/31/2003	6.0	2,200	< 0.5	2.0	6.5	28		110		·		
P-1-5.5	1/31/2003	5.5	<1.0	< 0.5	< 0.005	< 0.005	< 0.005		< 0.005				
P-2-8	1/31/2003	8.0	910	< 0.5	1.2	< 0.050	16	'	32				
P-3-8	1/31/2003	8.0	420	< 0.5	0.46	< 0.050	5.2		13				
D-4-12	2/4/2003	12.0	2.9	<0.5	0.19	< 0.005	0.036		0.17				
D-4-N6	2/4/2003	6.0	5.5	< 0.5	0.024	0.10	0.025		0.11				
D-5-14	2/4/2003	14.0	<1.0	< 0.5	< 0.005	< 0.005	< 0.005		< 0.005				
D-5-S10	2/4/2003	10.0	<1.0	0.9	< 0.005	< 0.005	< 0.005		< 0.005				
D-5-W10	2/4/2003	10.0	160	< 0.5	0.40	< 0.025	0.035		< 0.050				
D-5-E10	2/4/2003	10.0	35	< 0.5	0.035	< 0.005	0.051		0.017				
P-2-12	2/4/2003	12.0	<1.0	< 0.5	< 0.005	< 0.005	< 0.005		< 0.005				
P-2-N6	2/4/2003	6.0	42	< 0.5	0.12	0.063	0.45		3.6				
E-6	2/4/2003	6.0	1.9	< 0.5	0.030	0.076	0.069		0.33				
E-12	2/4/2003	12.0	21	< 0.5	< 0.005	< 0.005	0.062		0.42				

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Table 1. Historical Soil Analytical Results - Shell-branded Service Station, 4255 MacArthur Boulevard, Oakland, California

Boring/ Well ID	Date	Depth	ТРНд	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	ТВА	DIPE	ETBE	TAME
		(fbg)	<del></del>				(mg	/kg)				·	<b></b>
2005 Subsurfa	ace Investigati	ion											
SB-5	10/28/05	5	19	< 0.023	< 0.023	0.11	0.030		0.064	0.083	< 0.046	< 0.023	< 0.023
22 0	10/28/05	10	58	< 0.55	< 0.55	< 0.55	< 0.55		< 0.55	<2.8	<1.1	< 0.55	< 0.55
	10/28/05	15	220	< 0.50	< 0.50	1.9	2.1		< 0.50	<2.5	<1.0	< 0.50	< 0.50
	10/28/05	20	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		0.035	< 0.010	< 0.010	< 0.0050	< 0.0050
SB-6	10/28/05	5	<1.0	< 0.0050	< 0.0050	< 0.0050	0.011		< 0.0050	< 0.010	< 0.010	< 0.0050	< 0.0050
	10/28/05	10.5	160	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 2.5	<1.0	< 0.50	< 0.50
	10/28/05	15	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		0.067	1.6	< 0.010	< 0.0050	< 0.0050
	10/28/05	20	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		0.19	0.19	< 0.010	< 0.0050	< 0.0050
	10/28/05	25	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		0.0073	< 0.010	< 0.010	< 0.0050	< 0.0050
SB-7	10/28/05	5	220	0.59	< 0.50	2.9	10		1.2	<2.5	<1.0	< 0.50	< 0.50
	10/28/05	10	2,600	13	17	45	270		0.95	< 2.5	<1.0	< 0.50	< 0.50
	10/28/05	15	260	1.4	3.7	2.6	13		< 0.50	< 2.5	<1.0	< 0.50	< 0.50
	10/28/05	20.5	<4.6	< 0.023	< 0.023	< 0.023	0.069		0.097	0.12	< 0.046	< 0.023	< 0.023
	10/28/05	25	9.0	0.087	0.087	0.14	0.82		0.27	0.088	< 0.010	< 0.0050	< 0.0050
	10/28/05	30	1.2	0.023	0.038	0.031	0.15		0.077	0.030	< 0.010	< 0.0050	< 0.0050
	10/28/05	35	<1.0	0.031	0.028	0.020	0.089		0.10	0.024	< 0.010	< 0.0050	< 0.0050
	10/28/05	40	<1.0	0.017	0.015	0.0078	0.033		0.019	< 0.010	< 0.010	< 0.0050	< 0.0050
SB-8	10/28/05	5	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		< 0.0050	< 0.010	< 0.010	< 0.0050	< 0.0050
	10/28/05	10	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		< 0.0050	< 0.010	< 0.010	< 0.0050	< 0.0050
	10/28/05	15	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		< 0.0050	0.081	< 0.010	< 0.0050	< 0.0050
	10/28/05	20	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050		0.014	0.020	< 0.010	< 0.0050	< 0.0050

Table 1. Historical Soil Analytical Results - Shell-branded Service Station, 4255 MacArthur Boulevard, Oakland, California

Boring/ Well ID	Date	Depth	ТРНд	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	TBA	DIPE	ЕТВЕ	TAME
		(fbg)	4				(mg	g/kg) ——					$\longrightarrow$
2006 Monitori	ng Well Insta	allations											
MW-6	6/16/06	5	<4.00	< 0.07	< 0.07	< 0.07	< 0.22		< 0.37	<3.7	< 0.37	< 0.37	< 0.37
	6/16/06	10	239	0.50	< 0.08	3.5	17.0		0.57	<4.0	< 0.40	< 0.40	< 0.40
	6/16/06	15	329	0.25	< 0.08	0.77	2.9		0.54	< 3.9	< 0.39	< 0.39	< 0.39
	6/16/06	20	<4.00	< 0.07	< 0.07	< 0.07	< 0.22		< 0.37	<3.7	< 0.37	< 0.37	< 0.37
MW-7	6/20/06	5	4.57	< 0.07	< 0.07	< 0.07	< 0.22		0.46	<3.7	< 0.37	< 0.37	< 0.37
101 00 - 7	6/20/06	10	111	0.41	< 0.07	1.2	4.5		3.1	<3.6	< 0.36	< 0.36	< 0.36
	6/20/06	15	62.1	1.4	0.56	16	43		1.5	<3.8	< 0.38	< 0.38	< 0.38
	6/20/06	20	<4.00	< 0.07	< 0.07	< 0.07	< 0.22		< 0.37	<3.7	< 0.37	< 0.37	< 0.37
	6/20/06	25	<3.97	< 0.08	< 0.08	< 0.08	< 0.23		< 0.38	<3.8	< 0.38	< 0.38	< 0.38
	6/20/06	29.5	<3.97	< 0.08	< 0.08	<0.08	<0.23		<0.39	<3.9	< 0.39	< 0.39	< 0.39
MW-8	6/19/06	5	<4.00	< 0.08	<0.08	<0.08	<0.24		< 0.40	<4.0	< 0.40	< 0.40	< 0.40
1V1 VV -0	6/19/06	10	<4.00	0.15	<0.08	<0.08	<0.24		<0.38	<3.8	<0.38	<0.38	< 0.38
•	6/19/06	15	<4.00	< 0.07	< 0.07	< 0.07	<0.22		< 0.37	<3.7	< 0.37	< 0.37	< 0.37
	6/19/06	20	<4.00	<0.08	<0.08	<0.08	< 0.23		< 0.38	<3.8	< 0.38	< 0.38	< 0.38
	6/19/06	25	<4.00	< 0.07	< 0.07	< 0.07	< 0.22		< 0.36	<3.6	< 0.36	< 0.36	< 0.36
	6/19/06	29.5	<4.00	< 0.07	< 0.07	< 0.07	< 0.22		< 0.37	<3.7	< 0.37	< 0.37	< 0.37
MW-9	6/19/06	5	9.78	< 0.07	< 0.07	< 0.07	0.97		< 0.36	<3.6	< 0.36	< 0.36	< 0.36
INT AN -3	6/19/06	10	552	0.25	<b>0.11</b>	4.7	20		< 0.40	<4.0	< 0.40	<0.40	<0.40
	6/19/06	15	<4.00	< 0.08	< 0.08	< 0.08	< 0.24		< 0.40	<4.0	< 0.40	<0.40	<0.40
	6/19/06	20	<4.00	<0.08	<0.08	<0.08	<0.24		<0.38	<3.8	<0.38	<0.38	<0.38
	6/19/06	25	<4.00	<0.08	<0.08	<0.08	<0.23		0.54	<3.8	< 0.38	<0.38	< 0.38
	6/19/06	29.5	<4.00	<0.08	<0.08	<0.08	<0.23		< 0.38	<3.8	< 0.38	< 0.38	< 0.38
	0/1//00	27.5	<b>~7.00</b>	νο.σο	10.00	10.00	10.25		10.00	12.3	10.00		

Table 1. Historical Soil Analytical Results - Shell-branded Service Station, 4255 MacArthur Boulevard, Oakland, California

Boring/ Well ID	Date	Depth	ТРНg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	ТВА	DIPE	ЕТВЕ	TAME
		(fbg)	←			<u> </u>	(mg	/kg) ——	··· ·· ·· ·· · · · · · · · · · · · · ·				

#### **Abbreviations and Notes:**

mg/kg = Milligrams per kilogram (parts per million).

TPHg = Total Petroleum Hydrocarbons as gasoline. Analyzed by EPA Method 8260B; before 2001, analyzed by EPA Method 8015.

Benzene, toluene, ethylbenzene, and xylene. Analyzed by EPA Method 8260B; before 2001, analyzed by EPA Method 8020.

MTBE (8020) = Methyl tertiary butyl ether, analyzed by EPA Method 8020.

MTBE (8260) = Methyl tertiary butyl ether, analyzed by EPA Method 8260B.

TBA = Tertiary-butanol, analyzed by EPA Method 8260B.

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

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

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

--- = Not analyzed for this constituent.

< n =Below laboratory detection limit of n ppm.

\* = Sample analysis method unknown.

\*\* = Results reported after sample hold time had expired.

#### Referenced documents:

Cambria, Offsite Monitoring Well Installation Report, 1/02 (MW-5)

Cambria, Subsurface Investigation, 3/19/98 (S-1, S-2)

Weiss, Subsurface Investigation, 1/26/95 (BH-D through BH-F)

Weiss, Subsurface Investigation, 3/15/94 (BH-A through BH-C)

Weiss, Dispenser Replacement Sampling, 4/1/96 (S-1 through S-15)

Emcon, Shell Service Station, 7/26/85 (S-A, S-B, and S-1)

# **ATTACHMENT A**

Standard Field Procedures for Installing Monitoring Wells

#### STANDARD FIELD PROCEDURES FOR INSTALLING MONITORING WELLS

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

#### **SOIL BORINGS**

#### **Objectives**

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (P.G.) or Professional Engineer (P.E.).

### Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

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

#### Sample Analysis

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

#### **Field Screening**

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

#### **Water Sampling**

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

#### Grouting

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

#### MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

### Well Construction and Surveying

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 fee below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

#### Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

#### **Groundwater Sampling**

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

#### Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

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# **ATTACHMENT B**

Permits

### Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 05/15/2006 By jamesy

Permits Issued: W2006-0356 to W2006-0359

Application Id: Site Location:

1147463371797

4255 MacArthur Blvd, Oakland, CA 94619

Project Start Date: 06/13/2006

Applicant:

Cambria Environmental - Stu Dalie

5900 Hollis St #A, Emeryville, CA 94608

**Property Owner:** 

Shell Oil Products (US)

2094 S Wilmington, Carson, CA 90810

Client:

same as Property Owner \*

Total Due:

\$1200.00

**Total Amount Paid:** 

\$1200.00

Payer Name: Cambria Paid By: CHECK

Receipt Number: WR2006-0230

City of Project Site:Oakland

Completion Date: 06/16/2006

Permits Valid from 06/13/2006 to 06/16/2006

Phone: 510-420-3339

Phone: 707-865-5021

**PAID IN FULL** 

Work Total: \$1200.00

#### **Works Requesting Permits:**

Well Construction-Monitoring-Monitoring - 4 Wells Driller: Gregg Drilling - Lic #: 485165 - Method: auger

**Specifications** 

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Dlam.	Seal Depth	Max. Depth
W2006- 0356	05/15/2006	09/11/2006	MW6	8.00 in.	2.00 in.	10.00 ft	30.00 ft
W2006- 0357	05/15/2006	09/11/2006	MW7	10.00 in.	4.00 in.	10.00 ft	30.00 ft
W2006- 0358	05/15/2006	09/11/2006	MW8	10.00 in.	4.00 in.	10.00 ft	30.00 ft
W2006- 0359	05/15/2006	09/11/2006	MW9	10.00 in.	4.00 in.	10.00 ft	30.00 ft

#### **Specific Work Permit Conditions**

- 1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.
- 4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter

### Alameda County Public Works Agency - Water Resources Well Permit

- 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
- 5. Applicant shall contact George Bolton for an inspection time at 510-670-5594 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
- 7. Minimum surface seal thickness is two inches of cement grout placed by tremie
- 8. Minimum seal depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
- 9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

# ATTACHMENT C

Boring Logs/Well Construction Details



Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, CA 94608

		<b>7</b>	Teleph Fax: 5	one 10-	e: 510 -420-9	-420-0 170	700		DODING MELL NAME	MW-6			
	CLIENT				Oil Pro			n/ice station	BORING/WELL NAME _ DRILLING STARTED	16-Jun-06			
_	-	E NAME						rvice station	- · · · ·				
	OCATI	ON OT NUME			0524-00		uievai	rd, Oakland, California	WELL DEVELOPMENT D		NA		<del></del>
	RILLE				g Drillin				GROUND SURFACE ELE	_		urveyed	
		IG METH					/-stem	auger	TOP OF CASING ELEVAT				
		DIAME							SCREENED INTERVALS				
	.OGGE			. Da	alie				DEPTH TO WATER (First	Encountered	d) 23	.0 fbg (16-	Jun-06) 💆
F	REVIEW	/ED BY_	А	ubr	ey Cool	, PG 7	659		DEPTH TO WATER (Stati	c)	10	.50 fbg (17	′-Jun-06) <u>▼</u>
F	REMAR	KS _	. Н	апс	l auger	ed and	air kni	fed to 5 fbg					
Ţ			-,,	<del> </del>	[				······································			<u> </u>	
	PID (ppm)	BLOW	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	• цтнс	PLOGIC DESCRIPTION		CONTACT DEPTH (fbg)	WEI	LL DIAGRAM
<u> </u>				Б				ASPHALT			0.8		
į					├ -			Rock; Shale / Asph	alt <u>Mixtur</u> e		1		
(				1				Woll Graded GPAV	EL: 7.5YR 2.5/1 Black; dry; 2	20% eilt	2.0		
ļ				ı		GW		20% fine sand, 60%	coarse gravel.	2070 3111,			✓ Portland Type
		ļ		H	Ĺ						4.0	$\otimes$	(/11
ļ				▐	_ ]			CLAY; 7.5YR 5/1 Da	rk gray; dry; 60% clay, 40%	silt.			✓ 2" diam.,
Ì	1		MW-8- 5	À	<u> </u>								Schedule 40 PVC
į				П									<ul> <li>Bentonite Seal</li> </ul>
1				П								1781 FB1	
{				П	L _								
1				П				CLAY with Grave	7.5YR 5/1 Dark gray; damp; e sand, 15% fine gravel; low	60% '			
*				П		Ì		plasticity.	o danta, ya za milo gilata ili ila	'			
į	3.5		MW-6- 10	H	<del></del>	٠				¥			
!		,		Н		CL					}		
ì				П									
*				П									
				Ц									
1				П		Ì			2.5YR 3/3 Dark olive brown;				
į	10		MVV-6- 15	Ц	—15 <b>—</b>	}		60% clay, 25% silt, 1	5% fine gravel; medium plas	sticity.	ļ		Montorou
	.0			П	L .								Monterey Sand #2/12
870				Ш							17.3		■ 2"-diam.,  0.010" Slotted
WELL LOG (PID) G'YOAKLAND 4255 MACARTHURA255,GPJ DEFAULT.GDT 8410/06				Ш					h Sand 2.5YR 5/1 Dark gra		1		Schedule 40
Ĭ.				Ш	<b>i</b>	İ	8 <i>2%</i> 8	damp; 25% clay, 15%	6 fine sand, 60% coarse gra	vel.			PVC
EFAL				IJ	-	l	<i>\$</i>						
2.	^4		MW-6- 20	Ц	<del></del> 20	ļ							
55.GF	0.1		1944-0- CO	П	L	GC							
3425							1887)						
뒱				Ш	<u> </u>	†	182						
¥.	ļ				├ -	1			t <u>h San</u> d 2.5YR 5/1 Dark gra 6 fine sand, 60% coarse gra				]
¥¥				Ш	Ļ.	<u></u>					24.0		Bottom of
4255													Boring @ 24
Ş.						ľ							fbg
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71							1						
Ĭ		<u>                                      </u>			<u></u>	<u></u>	L.,				<u> </u>	<u> </u>	



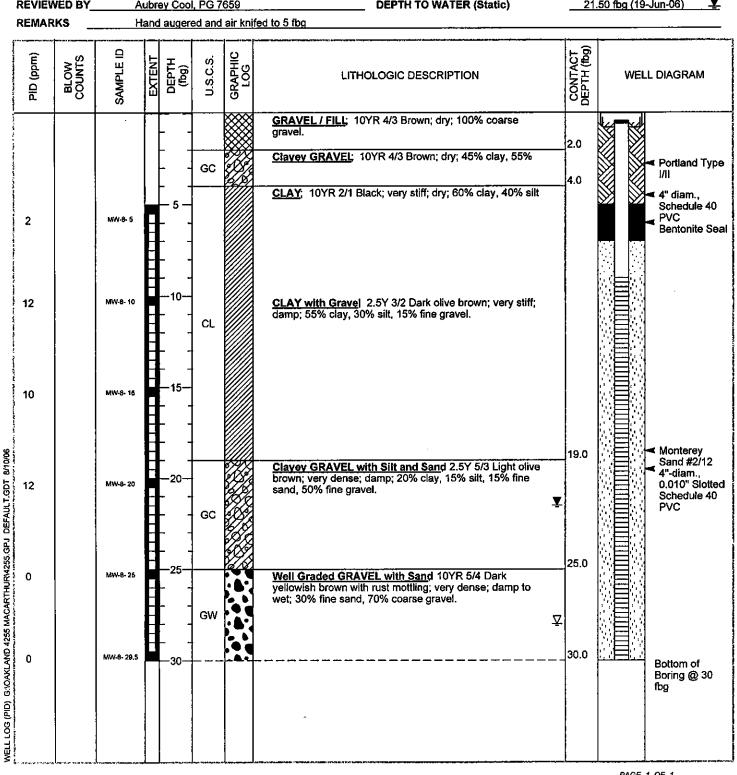
Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, CA 94608 Telephone: 510-420-0700 Fax: 510-420-9170

LOCATE PROJECT	TE NAME ION CT NUME IR NG METH G DIAME ID BY VED BY RKS	IAME Former Shell-branded service station  4255 MacArthur Boulevard, Oakland, Californi  NUMBER 248-0524-006  Gregg Drilling  METHOD Hollow-stem auger  AMETER 4"  Y S. Dalie  BY Aubrey Cool, PG 7659  Hand augered and air knifed to 5 fbg				ded ser oulevar 7659	rd, Oakland, California	BORING/WELL NAME DRILLING STARTED DRILLING COMPLETED WELL DEVELOPMENT DEPOSE OF CASING ELEVALS DEPTH TO WATER (Stational Part of Casing Elevals of Casing El	ATE (YIELD) EVATION TION 170.87 9 to 29 t Encountered	Not S ft above fbg d) 29 27	_	_
PID (ppm)	BLOW	SAMPLE	EXTENT	рертн (fbg)	U.S.C.S.	GRAPHIC LOG		DLOGIC DESCRIPTION		CONTACT DEPTH (fbg)	WEI	L DIAGRAM
and the state of t					GM	900	silt, 55% coarse grav	2.5Y 3/1 Very dark gray; dry		2.0		✓ Portland Type I/II ✓ 4" diam., Schedule 40
38		MW-7- 5			CL		<u>CLAY</u> ; 2.5Y 3/1 Ver silt, 10% fine sand.	y dark gray; stiff, dry; 60% c	lay, 30%	14.3		PVC Bentonite Sea
140	2	MVV-7- 15		15- 	GC		Clayey GRAVEL wi medium dense; dam coarse gravel.	th Sand 2.5Y 3/1 Very dark p; 25% clay, 15% fine sand,	gray; 60%			<b>⋖</b> Monterey
0		MW-7- 20		 20  	CL SC		clayey SAND 2.5Y dense; damp; 20% ogravel. Poorly Graded GRA	4/3 Light olive brown; medic lay, 5% silt, 70% fine sand, AVEL with Sand 2.5Y 4/3 Line to wet; 10% clay, 5% silt, 20	um 5% fine	20.3 21.0		Sand #2/12 4"-diam., 0.010" Slotted Schedule 40 PVC
0		MW-7- 25		25-  	GP		-		Ţ			
0 0 0		MW-7- 29.5		- 30-	CL		CLAY with Gravel — damp; 65% day, 15	2.5Y 4/3 Light olive brown; s <u>% silt, 5% fine sand, 15% fin</u>	stiff;	29.0		■ Bentonite Sea Bottom of Boring @ 30 fbg



Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, CA 94608 Telephone: 510-420-9700 Fax: 510-420-9170

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME MW-8	
JOB/SITE NAME	Former Shell-branded service station	DRILLING STARTED 19-Jun-06	
LOCATION	4255 MacArthur Boulevard, Oakland, California	DRILLING COMPLETED 19-Jun-06	
PROJECT NUMBER_	248-0524-006	WELL DEVELOPMENT DATE (YIELD) NA	
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION Not Surveyed	
DRILLING METHOD_	Hollow-stem auger	TOP OF CASING ELEVATION 174.13 ft above msl	
BORING DIAMETER	4"	SCREENED INTERVALS 9 to 30 fbg	
LOGGED BY	S. Dalie	DEPTH TO WATER (First Encountered) 28.0 fbg (19-Jun-06)	$\overline{\Lambda}$
REVIEWED BY	Aubrey Cool, PG 7659	DEPTH TO WATER (Static) 21.50 fbg (19-Jun-06)	Ţ
REMARKS	Hand augered and air knifed to 5 fbg		_



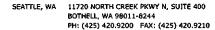


Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, CA 94608 Telephone: 510-420-9700 Fax: 510-420-9170

JOB/SITE NAME  LOCATION  PROJECT NUMBER  248-0524-006  DRILLER  DRILLING METHOD  BORING DIAMETER  LOGGED BY  REVIEWED BY  REMARKS  Hand augered and air knifed to 5 fbg (**)	DRILLING STARTED 19-Jun-06  DRILLING COMPLETED 19-Jun-06  WELL DEVELOPMENT DATE (YIELD) NA  GROUND SURFACE ELEVATION Not Surveyed  TOP OF CASING ELEVATION 175.20 ft above msi  SCREENED INTERVALS 9 to 30 fbg  DEPTH TO WATER (First Encountered) 29.0 fbg (19-Jun-06)
PID (ppm BLOW COUNTY SAMPLE EXTEN (fbg) U.S.C.S.	THOLÓGIC DESCRIPTION UNITAGE WELL DIAGRAM
GC   Clayer GRAVEL clay, 15% coarse gravel.   Clayer GRAVEL clay, 15% coarse gravel.   CLAY: 2.5YR 37 clay, 30% silt, 5%   Clayer GRAVEL clay, 30% silt, 5%   CL   Gravely CLAY: 2 damp; 60% clay, 30% silt, 5%   CL   Gravely CLAY: 2 damp; 60% clay, 30% silt, 5%   CL   Gravely GRAVEL brown; medium of fine sand, 50% clay, 30% silt, 5%   Gravely CLAY: 2 damp; 60% clay, 30% silt, 5%   Gravely CLAY: 2 damp; 60% clay, 6	AVEI: 7.5YR 5/1 Gray; dry; 100%  Invitin Sand 10YR 5/2 Gray; dry; 25% Is sand, 75% coarse gravel.  3 Dark olive brown; very stiff; dry; 55% In fine gravel. 10% fine gravel.  2.5 YR 3/3 Dark olive brown; very stiff; 15% silt, 25% fine gravel.  2.6 YR 3/3 Dark olive brown; very stiff; 15% silt, 25% fine gravel.  20.0  Invitin Silt and Sand 2.5Y 4/3 Olive brown; very stiff; 15% silt, 25% fine gravel.  20.0  Invitin Silt and Sand 2.5Y 4/3 Olive brown with rust dense; damp; 20% clay, 15% silt, 15% barse gravel.  21.5 YR 3/3 Dark olive brown with rust dense; damp; 20% clay, 20% silt, 55% barse gravel.  22.0  23.0  24.0  25.5 YR 3/3 Dark olive brown with rust dense; damp; 20% clay, 15% silt, 15% barse gravel.  25.5 YR 3/3 Olive brown; loose; damp; 20% clay, 20% silt, 55% barse gravel.  27.5 28.0  28.0  29.0  27.5  28.0  29.0  27.5  28.0  29.0  20.

# ATTACHMENT D

Laboratory Analytical Report





August 10, 2006

Stewart Dalie Cambria Environmental Technology-Emeryville 5900 Hollis Street, Suite A Emeryville, CA 94608

RE: Shell #135701

Enclosed are the results of analyses for samples received by the laboratory on 06/24/06 10:58. The following list is a summary of the Work Orders contained in this report, generated on 08/10/06 17:01.

If you have any questions concerning this report, please feel free to contact me.

Work Order	<b>Project</b>	<u>ProjectNumber</u>
BPF0650	Shell #135701	[none]

TestAmerica - Scattle, WA

Cherie Howland, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager: [none] Stewart Dalie Report Created:

08/10/06 17:01

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-6-5	BPF0650-01	Soil	06/16/06 09:20	06/24/06 10:58
MW-6-10	BPF0650-02	Soil	06/16/06 09:30	06/24/06 10:58
MW-6-15	BPF0650-03	Soil	06/16/06 09:40	06/24/06 10:58
MW-6-20	BPF0650-04	Soil	06/16/06 10:00	06/24/06 10:58
MW-9-5	BPF0650-05	Soil	06/19/06 08:00	06/24/06 10:58
MW-9-10	BPF0650-06	Soil	06/19/06 08:20	06/24/06 10:58
MW-9-15	BPF0650-07	Soil	06/19/06 08:45	06/24/06 10:58
MW-9-20	BPF0650-08	Soil	06/19/06 09:00	06/24/06 10:58
MW-9-25	BPF0650-09	Soil	06/19/06 09:15	06/24/06 10:58
MW-9-29.5	BPF0650-10	Soil	06/19/06 09:30	06/24/06 10:58
MW-8-5	BPF0650-11	Soil	06/19/06 13:00	06/24/06 10:58
MW-8-10	BPF0650-12	Soil	06/19/06 13:20	06/24/06 10:58
MW-8-15	BPF0650-13	Soil	06/19/06 13:40	06/24/06 10:58
MW-8-20	BPF0650-14	Soil	06/19/06 13:50	06/24/06 10:58
MW-8-25	BPF0650-15	Soil	06/19/06 14:00	06/24/06 10:58
MW-8-29.5	BPF0650-16	Soil	06/19/06 14:15	06/24/06 10:58
MW-7-5	BPF0650-17	Soil	06/20/06 08:45	06/24/06 10:58
MW-7-10	BPF0650-18	Soil	06/20/06 08:50	06/24/06 10:58
MW-7-15	BPF0650-19	Soil	06/20/06 09:00	06/24/06 10:58
MW-7-20	BPF0650-20	Soil	06/20/06 09:15	06/24/06 10:58
MW-7-25	BPF0650-21	Soil	06/20/06 09:30	06/24/06 10:58
MW-7-29.5	BPF0650-22	Soil	06/20/06 09:45	06/24/06 10:58

Cherie Howland, Project Manager





SEATTLE, WA

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

## Gasoline Range Hydrocarbons by EPA 8015M

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-01 (MW-6-5)		Soil		Sampled: 06/16/06 09:20					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1x	6F27032	06/27/06 10:43	06/27/06 19:21	
Surrogate(s): 4-BFB (FID)			91.7%		50 - 150 %	17			. "	
BPF0650-02 (MW-6-10)	·	Soil		Sampled: 06/16/06 09:30					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	239		40.0	mg/kg wel	10x	6F27032	06/27/06 10:43	06/27/06 19:51	
Surrogate(s): 4-BFB (FID)			179%		50 - 150 %	h			77	SR-4
BPF0650-03 (MW-6-15)		Soi	l	Sampled: 06/16/06 09:40					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	329		16,0	mg/kg wet	4x	6F27032	06/27/06 10:43	06/28/06 17:54	
Surrogate(s): 4-BFB (FID)			230%		50 - 150 %	*			. "	SR-4
BPF0650-04 (MW-6-20)		Soil		Sampled: 06/16/06 10:00					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 07:08	
Surrogate(s): 4-BFB (FID)			95.8%		50 - 150 %	*			17	
BPF0650-05 (MW-9-5)		Soi	1	Sampled: 06/19/06 08:00					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	9.78		4.00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 07:37	
Surrogate(s): 4-BFB (FID)			102%		50 - 150 %	*			n	
BPF0650-06 (MW-9-10)		Soi	Ī	Sampled: 06/19/06 08:20					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	552		20.0	mg/kg wet	5x	6F27032	06/27/06 10:43	06/28/06 08:07	
Surrogate(s): 4-BFB (FID)			377%		50 - 150 %	u			п	SR-4
BPF0650-07 (MW-9-15)		Soil		Sampled: 06/19/06 08:45					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4,00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 08:37	
Surrogate(s): 4-BFB (FID)			100%		50 - 150 %	μ			н	
BPF0650-08 (MW-9-20)		Soil		Sampled: 06/1		19/06 09:00			A-0)	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4,00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 09:07	
Surrogate(s): 4-BFB (FID)		-	100%		50 - 150 %	"			"	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number:

[none] Project Manager: Stewart Dalie Report Created:

08/10/06 17:01

### Gasoline Range Hydrocarbons by EPA 8015M

		Т	estAmeric	a - Seat	tle, WA					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-09 (MW-9-25)		Soi		Sampled: 06/19/06 09:15					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND	*****	4.00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 09:37	
Surrogate(s): 4-BFB (FID)			95.8%		50 - 150 %	"			r	
BPF0650-10 (MW-9-29.5)		Soi		Sampl	ed: 06/1	19/06 09:30			A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1x	6F27032	06/27/06 10:43	06/28/06 10:07	
Surrogate(s): 4-BFB (FID)			97.1%		50 - 150 %	W			n	
BPF0650-11 (MW-8-5)		Soi	l		Sampled: 06/19/06 13:00					A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1x	6F27032	06/27/06 10:43	06/28/06 10:37	
Surrogate(s): 4-BFB (FID)			94.6%		50 - 150 %	#			п	
BPF0650-12 (MW-8-10)		Soi	1		Sampled: 06/19/06 13:20					A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 12:36	
Surrogate(s): 4-BFB (FID)			104%		50 - 150 %	"			If	_
BPF0650-13 (MW-8-15)		Soi	l	Sampled: 06/19/06 13:40					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1x	6F27032	06/27/06 10:43	06/28/06 13:06	
Surrogate(s): 4-BFB (FID)			102%		50 - 150%	"			Ħ	
BPF0650-14 (MW-8-20)		Soi	I	Sampled: 06/19/06 13:50					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND	2000	4.00	mg/kg wet	ix	6F27032	06/27/06 10:43	06/28/06 13:36	
Surrogate(s): 4-BFB (FID)			92.1%		50 - 150 %	π			и	
BPF0650-15 (MW-8-25)		Soi		Sampled: 06/19/06 14:00					A-01	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 14:05	
Surrogate(s): 4-BFB (FID)			95.0%		50 - 150 %	л			μ	
BPF0650-16 (MW-8-29.5)		Soil			Sampled: 06/19/06 14:1:		19/06 14:15			A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1x	6F27032	06/27/06 10:43	06/28/06 14:35	
Surrogate(s): 4-BFB (FID)			92.9%		50 - 150 %	"			u	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Gasoline Range Hydrocarbons by EPA 8015M

TestAmerica - Seattle, WA

			estAmeric	a - Seat	ttie, WA					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-17 (MW-7-5)		Soi	11		Sampl	ed: 06/	20/06 08:45			A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	4.57		4.00	mg/kg wet	lx	6F27032	06/27/06 10:43	06/28/06 15:05	
Surrogate(s): 4-BFB (FID)			102%		50 - 150 %	"			n	
BPF0650-18 (MW-7-10)		Soi	il		Sampl	ed: 06/	20/06 08:50			A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	111	*****	20.0	mg/kg wet	5x	6F27032	06/27/06 10:43	06/28/06 15:35	
Surrogate(s): 4-BFB (FID)			157%		50 - 150 %	'n			JF	SR-4
BPF0650-19 (MW-7-15)		Soi	1	_	Sampl	ed: 06/2	20/06 09:00			A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	62.1		4.00	mg/kg wet	1x	6F27032	06/27/06 10:43	06/29/06 06:28	
Surrogate(s): 4-BFB (FID)			115%		50 - 150 %	"			"	
BPF0650-20 (MW-7-20)		Soi	1		Sampl	ed: 06/2	20/06 09:15			A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1κ	6F27032	06/27/06 10:43	06/28/06 17:24	
Surrogate(s): 4-BFB (FID)			97.5%		50 - 150 %	ų			н	
BPF0650-21 (MW-7-25)		Soi	1		Sampl	ed: 06/2	20/06 09:30			A-01
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		3.97	mg/kg wet	lx	6F27035	06/27/06 10:47	06/29/06 11:57	
Surrogate(s): 4-BFB (FID)			99.2%		50 - 150 %	*			ń	<del></del>
BPF0650-22 (MW-7-29.5)		Soi	l		Sampl	ed: 06/2	20/06 09:45			
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		3.97	mg/kg wet	lx	6F27035	06/27/06 10:47	06/29/06 12:27	
Surrogate(s): 4-BFB (FID)			103%		50 - 150 %	и			"	

Cherie Howland, Project Manager





5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: [none]

Project Manager: Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-01 (	MW-6-5)		Soi	ı		Sample	ed: 06/1	6/06 09:20			
tert-Amyl Methyl Et	her	EPA 8260B	ND		0.37	mg/kg wet	1x	6F27010	06/27/06 08:39	06/27/06 11:39	
Benzene		II	ND		0.07	и	11	N	II	ıi	
tert-Butyl Alcohol		u .	ND		3.7	11	"	(1	u	н	
Diisopropyl ether		11	ND		0.37	79		"	n n	п	
Ethyl tert-butyl ether	r	u .	ND		0.37	<b>"</b>	"	•	п	II .	
Ethylbenzene		ч	ND		0.07	-1	и	"	u	и	
Methyl tert-butyl eth	ier	II	ND		0.37	п	'n	**	п	u	
Toluene		n	ND		0.07	4	n	n		u	
o-Xylene		II.	ND		0.07	4		п	lę.	u	
m,p-Xylene		n	ND		0.15	11	•	п	u	н	
Xylenes (total)		п	ND		0.22			**	u		
Surrogate(s):	I,2-DCA-d4			102%		75 - 125 %	ír		_		
2 (7)	Toluene-d8			98.7%		75 - 125 %	#			"	
	4-BFB			97.3%		75 - 125 %	*			nt .	
BPF0650-02 (	MW-6-10)		Soi	<u>l</u>		Sample	ed: 06/1	16/06 09:30			
tert-Amyl Methyl Et	her	EPA 8260B	ND		0.40	mg/kg wet	1x	6F27010	06/27/06 08:39	06/27/06 12:05	
Benzene		п	0.50		0.08	11	n	Ü	•	п	
tert-Butyl Alcohol		II	ND		4.0	ч	n	а	11	н	
Diisopropyl ether		n	ND		0.40		11	ч	41	π	
Ethyl tert-butyl ether	ī	n	ND		0.40	d			u	и	
Ethylbenzene		II.	3.5	****	0.08	ч		ıı .	77	h	
Methyl tert-butyl e	ther	и	0.57		0.40	п		ıı	41	ii	
Toluene		•	ND		0.08	D	n	п	п	п	
i oiuene o-Xylene		п	0.41		0.08		u	ч	**	H	
Surrogate(s):	I,2-DCA-d4			106%		75 - 125 %	*		<u> </u>	W	-
parrozaicis).	Toluene-d8			97.2%		75 - 125 %	"			U.	
	4-BFB			97.5%		75 - 125 %	*			μ	
BPF0650-02RE1	(MW-6-10)		Soi	1		Sample	ed: 06/1	16/06 09:30			
m,p-Xylene		EPA 8260B	16		0.79	mg/kg wet	5x	6F27010	06/27/06 08:39	06/28/06 02:38	
Xylenes (total)		u	17		1.2	ч		-	ч	n	
Surrogate(s):	1,2-DCA-d4		-	97.4%		75 - 125 %	lx			II	
	Toluene-d8			98.9%		75 - 125 %	u			'n	
	4-BFB			98.9%		75 - 125 %	n.			ú	

TestAmerica - Seattle, WA





5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name:

Shell #135701

Project Number: Project Manager: [none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-03	(MW-6-15)		Soi	1		Sampl	ed: 06/1	16/06 09:40		-	
tert-Amyl Methyl E	Ether .	EPA 8260B	ND	****	0.39	mg/kg wet	lx	6F27010	06/27/06 08:39	06/28/06 01:45	
Benzene		71	0.25	****	0.08	D	п	ш	n	41	
tert-Butyl Alcohol		Ü	ND	****	3.9	4		п	tg.	*1	
Diisopropyl ether		II .	ND		0.39	"	ч	u	11		
Ethyl tert-butyl ethe	er	11	ND	*****	0.39		и		18	41	
Ethylbenzene		₩	0.77		0.08	ч	4	n n	0	u	
Methyl tert-butyl e	ether	•	0.54		0.39	41	41	IJ	II.	4	
Toluene			ND		80.0	II .	a	49	ly .	77	
o-Xylene		ut.	0.08		0.08	**	•	11	u u	(1	
m,p-Xylene		ii .	2.8		0.15	п	м		ч	п	
Xylenes (total)	,	п	2.9		0.23	м	u	4	н	69	
Surrogate(s):	1,2-DCA-d4	-		99.4%		75 - 125 %				"	
	Toluene-d8			95.8%		75 - 125 %	,			II	
	4-BFB			93.2%		75 - 125 %	p			n.	
BPF0650-04	(MW-6-20)		Soi	l		Sampl	ed: 06/1	l6/06 10:00			
tert-Amyl Methyl E	ither	EPA 8260B	ND		0.37	mg/kg wet	lx	6F27010	06/27/06 08:39	06/27/06 12:58	
Benzene		ч	ND		0.07	•			•	u	
tert-Butyl Alcohol		**	ND		3.7			ц	u	n	
Diisopropyl ether		•	ND		0.37	n	11	п	"	u	
Ethyl tert-butyl ethe	er	4	ND		0.37	II .		II	н	4	
Ethylbenzene		-	ND		0.07	ч	11	и	•	n n	
Methyl tert-butyl et	her	π	ND		0.37		•	11	n	ч	
Toluene	•	n	ND		0.07	п	11	11	n	11	
o-Xylene		п	ND		0.07	п	11	11	"	u	
m,p-Xylene		ц	ND		0.15	*1	*1	**		u	
Xylenes (total)		ti .	ND		0.22	n	•	м	II,	4)	
Surrogate(s):	1,2-DCA-d4			102%		75 - 125 %	,,			ri	
	Toluene-d8			96.3%		75 - 125 %	"			rt .	
	4-BFB			97.6%		75 - 125 %	u			er e	

TestAmerica - Seattle, WA

Cherie Howland, Project Manage





5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name: Project Number: Shell #135701

Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MIDIL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-05 (	(MW-9-5)		Sei	1		Sampl	ed: 06/1	19/06 08:00			
tert-Amyl Methyl E	ther	EPA 8260B	ND	*****	0.36	mg/kg wet	l×	6F27010	06/27/06 08:39	06/27/06 13:25	
Benzene		1)	ND		0.07	u	P	u	я	((	
tert-Butyl Alcohol		TI .	ND		3.6	u	h	п	ч	II	
Diisopropyl ether		•	ND		0.36	(*	u	ч	77	u	
Ethyl tert-butyl ethe	r	n .	ND		0.36	u		"	•	n	
Ethylbenzene			ND		0.07	"		u	7	•	
Methyl tert-butyl eth	her	•	ND		0.36	tr	u	ıl	71	•	
Toluene		-	ND		0.07	u	10	п	71	R	
o-Xylene		u	0.14		0.07	"	þ	II .	(*	-	
m,p-Xylene			0.83		0.14	u	•	4			
Xylenes (total)		·	0.97		0.22			ш	"	м	
Surrogate(s):	1,2-DCA-d4			100%		75 - 125 %	W			н	
	Toluene-d8			96.9%		75 - 125 %	"			"	
	4-BFB			94.1%		75 - 125 %	"			Ħ	
BPF0650-06 (	MW-9-10)		Soi	1		Sampl	ed: 06/1	19/06 08:20			
tert-Amyl Methyl B	ther	EPA 8260B	ND		0.40	mg/kg wet	lx	6F27010	06/27/06 08:39	06/27/06 13:52	
Benzene		п	0.25		0.08	m .		n n	í,	<b>4</b>	
tert-Butyl Alcohol		u	ND		4.0	u u	ц	II .	, п	•	
Diisopropyl ether		u	ND		0.40	(r	"	n	71	41	
Ethyl tert-butyl ethe	r	н	ND		0.40	II .	n	n n	п	*	
Ethylbenzene		h	4.7		0.08	п	п	11	n	₩	
Methyl tert-butyl eth	her	n	ND		0.40	II.	u	п	п	4	
Toluene		11	0.11		0.08	41	11		•	Ħ	
o-Xylene		4	4.0		0.08	п	u	и	h	u	
Surrogate(s):	1,2-DCA-d4			107%		75 - 125 %	,,			"	
-57-	Toluene-d8			98.1%		75 - 125 %	"			#	
	4-BFB			99.1%		75 - 125 %	"			"	
BPF0650-06RE1	(MW-9-10)		Soi	ı		Sampl	ed: 06/1	19/06 08:20			
m,p-Xylene	·	EPA 8260B	16	****	0.79	mg/kg wet	5x	6F27010	06/27/06 08:39	06/28/06 03:04	
Xylenes (total)		•	20		1.2	п	и	п	h	a)	
Surrogate(s):	1,2-DCA-d4			96.8%		75 - 125 %	Iх			H	
	Toluene-d8			96.8%		75 - 125 %	μ			ri e	
	4-BFB			96.8%		75 - 125 %	*			71	

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Cherie Howland, Project Manager





5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name: Project Number: Shell #135701

Project Manager:

[none] Stewart Dalie Report Created:

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#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MIDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-07 (M	1W-9-15)		Soi	1		Sampl	ed: 06/1	19/06 08:45			
tert-Amyl Methyl Ethe	er	EPA 8260B	ND	44104	0.40	mg/kg wet	lx	6F27010	06/27/06 08:39	06/28/06 02:11	
Benzene		Ú	ND		0.08	P	u	11	ч	а	
tert-Butyl Alcohol		ч	ND		4.0	19	н	п		ય	
Diisopropyl ether		ч	ND		0.40	•	u	11	ŋ	71	
Ethyl tert-butyl ether			ND		0.40		n	77		a	
Ethylbenzene		п	ND		0.08	"		п п	n	ч	
Methyl tert-butyl ether	r	н	ND		0.40	**	u	11	п	ч	
<b>Foluene</b>		TI .	ND		0.08		II	ħ	ч .	11	
o-Xylene		п	ND		0.08	n	n	41	п	ч	
m,p-Xylene		п	ND		0.16	"	н	п	п	11	
Xylenes (total)			ND		0.24		14	<b>"</b>	'n	П	
Surrogate(s):	I,2-DCA-d4			101%		75 - 125 %	,,			и	
	Toluene-d8			98.1%		75 - 125 %	"			"	
•	4-BFB			96.5%		75 - 125 %	"			ar .	
				_							
BPF0650-08 (M	1W-9-20)		Soi	l		Sampl	ed: 06/1	19/06 09:00			
ert-Amyl Methyl Ethe	er	EPA 8260B	ND		0.38	mg/kg wet	lx	6F27010	06/27/06 08:39	06/27/06 14:45	
Benzene		w	ND		0.08	n	п		II .	И	
ert-Butyl Alcohol		त	ND		3.8	19	a	11	п	II.	
Diisopropyl ether		7	ND		0.38	D	н	11	ч	п	
Sthyl tert-butyl ether		7	ND		0.38	le .	и	II .	II .	"	
Ethylbenzene		**	ND		0.08		"	u u	II .	IF .	
Methyl tert-butyl ether	г	₩	ND		0.38	19			п		
Foluene			ND	*****	0.08	19	н	ч	II .	N	
o-Xylene		₩	ND		80.0	10	ıŧ	ij	П		
n,p-Xylene		•	ND	*****	0.15	U	н	11	п	*	
Xylenes (total)		7	ND		0.23	19	и	n n		N	
Surrogate(s):	1,2-DCA-d4			97.0%		75 - 125 %	Ð			11	
	Toluene-d8			94.4%		75 - 125 %	,,			"	
	4-BFB			92.8%		75 - 125 %					

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: [none] Project Manager:

Stewart Dalie

Report Created:

08/10/06 17:01

## Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Díl	Batch	Prepared	Analyzed	Notes
BPF0650-09 (	(MW-9-25)		Soi	l		Sampl	ed: 06/	19/06 09:15			
tert-Amyl Methyl E	ther	EPA 8260B	ND	*	0.38	mg/kg wet	lx	6F27010	06/27/06 08:39	06/27/06 15:12	
Benzene		ц	ND		0.08	le .		Ħ	и	п	
tert-Butyl Alcohol		ď	ND		3.8	n.	u	Ħ	(*	II	
Diisopropyl ether		u	ND		0,38			71	"	п	
Ethyl tert-butyl ethe	er	u .	ND		0.38	n	н	Ħ	4	n .	
Ethylbenzene		u	ND		0.08	n		#	"	н	
Methyl tert-butyl e	ether	u	0.54		0.38	11		Ħ	ц	ц	
Toluene		í	ND		0.08	p.		n	19	II	
o-Xylene		II .	ND		0.08	D		ч	₩	ч	
m,p-Xylene		II .	ND		0.15			**	**	n	
Xylenes (total)		п	ND		0.23		¥	n	4	п	
Surrogate(s):	1,2-DCA-d4			100%		75 - 125 %	"			н	
<b>3</b> .,	Toluene-d8			95.1%		75 - 125 %	"			и	
	4-BFB			95.1%		75 - 125 %	"			n	
BPF0650-10 (	(MW-9-29.5)		Soi	I		Sampl	ed: 06/.	19/06 09:30			
tert-Amyl Methyl E	ther	EPA 8260B	ND		0.38	mg/kg wet	1x	6F27010	06/27/06 08:39	06/27/06 15:39	
Benzene		il	ND		0.08	D		n	-1		
tert-Butyl Alcohol		11	ND		3.8	D		11	<b>"</b>	M	
Diisopropyl ether		n	ND		0.38	10		11	n n	•	
Ethyl tert-butyl ethe	er	II .	ND		0.38			•	п	•	
Ethylbenzene		й	ND	****	0.08		и	11	11	•	
Methyl tert-butyl et	her	II.	ND		0.38	II		11	и	•	
Toluene		II.	ND		0.08	D		**	п	•	
o-Xylene		и	ND		0.08	le .	п	п	п	•	
m,p-Xylene		н	ND		0.15	μ	н	41	11	•	
Xylenes (total)		п	ND		0.23			п	u	•	
Surrogate(s):	1,2-DCA-d4		•	102%		75 - 125 %				ti .	
2 .,	Toluene-d8			98.3%		75 - 125 %	"			"	
	4-BFB			97.0%		75 - 125 %	"			"	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name:

Project Manager:

Shell #135701

Project Number:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B

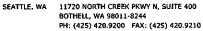
TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-11 (	(MW-8-5)		Soi	ı	-	Sample	ed: 06/3	19/06 13:00			
ert-Amyl Methyl E	ther	EPA 8260B	ND		0.40	mg/kg wel	ŀх	6F27010	06/27/06 08:39	06/27/06 16:05	
Benzene		и	ND		0.08	4	п	h	п	41	
ert-Butyl Alcohol		H	ND		4.0	и	и	u	ц	41	
Diisopropyl ether		. "	ND		0.40	ч	"	II .	u	4	
thyl tert-butyl ethe	r	11	ND		0.40	"	"	•		11	
thylbenzene		n	ND		0.08	"		u	11	П	
lethyl tert-butyl etl	her	н	ND		0.40	**	n	•	n n	11	
oluene		र्म	ND		0.08	ď	ч	•	n n	п	
-Xylene		Ħ	ND		0.08		n n	•	ч	п	
n,p-Xylene		H	ND		0.16	"	"	"	a	ч	
(ylenes (total)		•	ND	*****	0.24	"	"	it	"		
Surrogate(s):	1,2-DCA-d4			103%		75 - 125 %	*			n	
	Toluene-d8			98.7%		75 - 125 %	*			"	
	4-BFB			96.2%		75 - 125 %	"			n	
BPF0650-12 (	(MW-8-10)		Sei	1		Sampl	ed: 06/1	19/06 13:20		,	
· · · · · · · · · · · · · · · · · · ·	` <u>.</u>	EPA 8260B	Sei ND	l 	0.38	Sampl mg/kg wet	ed: 06/1	6F27010	06/27/06 08:39	06/27/06 16:32	
rt-Amyl Methyl E	` <u>.</u>	EPA 8260B			0.38				06/27/06 08:39	06/27/06 16:32	
ert-Amyl Methyl E enzene	` <u>.</u>		ND				lx			06/27/06 16:32 "	
ert-Amyl Methyl E enzene ert-Butyl Alcohol	` <u>.</u>		ND 0.15		0.08	mg/kg wet	lx "		н	06/27/06 16:32 "	
ert-Amyl Methyl E enzene ert-Butyl Alcohol Hisopropyl ether	ther		ND 0.15 ND		0.08 3.8	mg/kg wet	lx "		н	06/27/06 16:32	
ert-Amyl Methyl E enzene ert-Butyl Alcohol hiisopropyl ether thyl tert-butyl ethe	ther		ND 0.15 ND ND		0.08 3.8 0.38	mg/kg wet	Ix " "		н	06/27/06 16:32	
ert-Amyl Methyl E enzene ert-Butyl Alcohol biisopropyl ether kthyl tert-butyl ethe kthylbenzene	ther		ND 0.15 ND ND ND		0.08 3.8 0.38 0.38	mg/kg wet	Ix " " "		11 (r 10 (0	06/27/06 16:32	
ert-Amyl Methyl E- ienzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth	ther		ND 0.15 ND ND ND ND		0.08 3.8 0.38 0.38 0.08	mg/kg wet	Ix " " "		11 07 12 14	06/27/06 16:32	
ert-Amyl Methyl E- ienzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth Toluene	ther		ND 0.15 ND ND ND ND ND		0.08 3.8 0.38 0.38 0.08 0.38	mg/kg wet	Ix " " " " "		11 67 19 10 11	06/27/06 16:32	
ert-Amyl Methyl E- ienzene ert-Butyl Alcohol Dissopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth Toluene -Xylene	ther		ND 0.15 ND ND ND ND ND ND ND ND		0.08 3.8 0.38 0.38 0.08 0.38	mg/kg wet	1x " " " " " "		11 0 0 0 11	06/27/06 16:32	
ert-Amyl Methyl E- enzene ert-Butyl Alcohol biisopropyl ether ithyl tert-butyl ethe ithylbenzene fethyl tert-butyl ethe foluene -Xylene n.p-Xylene	ther		ND 0.15 ND		0.08 3.8 0.38 0.38 0.08 0.38 0.08	mg/kg wet	1x " " " " " "		11 0 0 0 0	06/27/06 16:32	
ert-Amyl Methyl Edenzene ert-Butyl Alcohol Diisopropyl ether Sthyl tert-butyl ethe Sthylbenzene Methyl tert-butyl eth Toluene 1-Xylene 1,p-Xylene	ther		ND 0.15 ND		0.08 3.8 0.38 0.38 0.08 0.38 0.08 0.08	mg/kg wet	[x		11 01 10 10 10 10 10 10 10 10 10 10 10 1	06/27/06 16:32	
ert-Amyl Methyl E Benzene ert-Butyl Alcohol Diisopropyl ether Bthyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth Foluene b-Xylene n,p-Xylene Kylenes (total)	ther or ther		ND 0.15 ND		0.08 3.8 0.38 0.38 0.08 0.38 0.08 0.08	mg/kg wet	[x		11 01 10 10 10 10 10 10 10 10 10 10 10 1	11 11 12 14 14 14	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager







5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name: Project Number: Shell #135701

Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-13 (	MW-8-15)		Soi	l	·	Sampl	ed: 06/1	19/06 13:40			
tert-Amyl Methyl Et	her	EPA 8260B	ND	*****	0.37	mg/kg wet	lx	6F27010	06/27/06 08:39	06/27/06 16:59	
Вепzепе		п	ND		0.07	п	п	и	41	4	
tert-Butyl Alcohol		n	ND		3.7	ч	ц	ii	11	11	
Diisopropyl ether		n	ND		0.37	**	и	и	н	đ	
Ethyl tert-butyl ether	•	п	· ND		0.37	19	п	ч	"	11	
Sthylbenzene		ч	ND		0.07	W	ď	н	н	11	
Methyl tert-butyl eth	er	77	ND		0.37	я		ď	+1	ч	
Toluene		τi	ND		0.07	н			71	11	
-Xylene		**	ND		0.07	47			•	n	
n,p-Xylene		×	ND		0.15	n	и	н	**	n n	
Xylenes (total)		•	ND		0.22	44		, "	"	n	
Surrogate(s):	I,2-DCA-d4			102%		75 - 125 %	"			"	
	Toluene-d8			98.6%		75 - 125 %	"			n	
	4-BFB			99.7%		75 - 125 %				"	
BPF0650-14 (	MW-8-20)		Soi	1		Sampl	ed: 06/1	19/06 13:50			
ert-Amyl Methyl Et	her	EPA 8260B	ND		0.38	mg/kg wet	lx	6F2 <b>7</b> 010	06/27/06 08:39	06/27/06 17:26	
Benzene		•	ND		0.08	11	ч	-	ш	ii .	
ert-Butyl Alcohol		•	ND		3.8	и	и	u	н	н	
Diisopropyl ether		•	ND		0.38	н		п	п	u	
thyl tert-butyl ether	•	•	ND		0.38	91	ч		II .	ıı	
Ethylbenzene		•	ND		0.08	**		*	и	II	
Aethyl tert-butyl eth	er	•	ND	*****	0.38	49		•	n	II.	
oluene		w	ND		0.08	и		*	u	п	
-Xylene		•	ND		0.08	ч	п		ŋ	и	
n,p-Xylene		•	ND		0.15	17	п	•	п	ш	
Xylenes (total)		н	ND		0.23	w	и	~	ıı	n n	
Surrogate(s):	1,2-DCA-d4			101%		75 - 125 %	"			л	
3 (-)	Toluene-d8			97.4%		75 - 125 %	v			n	
	4-BFB			97.4%		75 - 125 %				н	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte											
BPF0650-15	(MW-8-25)		Soi	il		Sampl	ed: 06/1	9/06 14:00			
tert-Amyl Methyl B	ither	EPA 8260B	ND		0.36	mg/kg wet	lx	6F27010	06/27/06 08:39	06/27/06 17:52	
Benzene		ø	ND		0.07	Щ	U	II .	(=	in	
tert-Butyl Alcohol		u	ND	****	3.6	н	"	ч	p	ţ <b>u</b>	
Diisopropyl ether		n	ND	****	0.36			н	N	u u	
Ethyl tert-butyl ethe	er	n	ND	****	0.36	11	"	"	p.	(9	
Ethylbenzene		ч	ND		0.07	II .	"	н	h	"	
Methyl tert-butyl et	her	н	ND		0.36	ц		u	n	16	
Toluene		n	ND		0.07	ц	н	II	п	U	
o-Xylene		u	ND		0.07	ч	"	II .	п	7	
m,p-Xylene		п	ND		0.15	II .	n	u	N N	н	
Xylenes (total)		п	ND		0.22	"	4		"	-	
				105%		75 - 125 %	þ			"	
Surrogate(s):	1,2-DCA-d4			103%							
Surrogate(s):	1,2-DCA-d4 Toluene-d8			103%		75 - 125 %	"			*	
Surrogate(s):	•						"			# #	
Surrogate(s):	Toluene-d8			100% 95.5%		75 - 125 % 75 - 125 %	ır			H H	
- "	Toluene-d8		Soi	100% 95.5%		75 - 125 % 75 - 125 %	ır	19/06 14:15		"	
BPF0650-16	Toluene-d8 4-BFB (MW-8-29.5)	EPA 8260B	Soi	100% 95.5%	0.37	75 - 125 % 75 - 125 %	ır	6P27010	06/27/06 08:39	06/27/06 18:19	
<b>BPF0650-16</b> tert-Amyl Methyl E	Toluene-d8 4-BFB (MW-8-29.5)	EPA 8260B	-	100% 95.5% il	0.37 0.07	75 - 125 % 75 - 125 % Sampl	" ed: 06/1	-	06/27/06 08:39 "		
BPF0650-16 tert-Amyl Methyl E Benzene	Toluene-d8 4-BFB (MW-8-29.5)		ND	100% 95.5% il		75 - 125 % 75 - 125 % Sampl mg/kg wet	" e <b>d: 06/1</b> 1x	6F27010		06/27/06 18:19	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol	Toluene-d8 4-BFB (MW-8-29.5)	•	ND ND	100% 95.5% I	0.07	75 - 125 % 75 - 125 % Sampl mg/kg wet	" e <b>d: 06/1</b> 1x "	6F27010	11	06/27/06 18:19	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol Dilsopropyl ether	Toluene-d8 4-BFB (MW-8-29.5)	•	ND ND ND	100% 95.5% II	0.07 3.7	75 - 125 % 75 - 125 % Sampl mg/kg wet	ed: 06/1	6F27010	11	06/27/06 18:19 "	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe	Toluene-d8 4-BFB (MW-8-29.5)	•	ND ND ND	100% 95.5% II	0.07 3.7 0.37	75 - 125 % 75 - 125 % Sampl mg/kg wet	ed: 06/1	6F27010	11 11	06/27/06 18:19 "	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene	Toluene-d8 4-BFB  (MW-8-29.5)	•	ND ND ND ND	100% 95.5% II	0.07 3.7 0.37 0.37	75 - 125 % 75 - 125 % Sampl mg/kg wet "	ed: 06/1 1x " " "	6F27010	11 11 11	06/27/06 18:19	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol Dilsopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl et	Toluene-d8 4-BFB  (MW-8-29.5)	•	ND ND ND ND ND	100% 95.5% II	0.07 3.7 0.37 0.37 0.07	75 - 125 % 75 - 125 % Sampl mg/kg wet	ed: 06/1	6F27010	u u u	06/27/06 18:19	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl et Toluene	Toluene-d8 4-BFB  (MW-8-29.5)	•	ND ND ND ND ND ND	100% 95.5%	0.07 3.7 0.37 0.37 0.07 0.37	75 - 125 % 75 - 125 % Sampl  mg/kg wet " " " "	ed: 06/1	6F27010	u u u u	06/27/06 18;19	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol Dilsopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl et Toluene o-Xylene	Toluene-d8 4-BFB  (MW-8-29.5)	•	ND	100% 95.5%	0.07 3.7 0.37 0.37 0.07 0.37	75 - 125 % 75 - 125 %  Sampl  mg/kg wet  " " " "	1x " " " " " " " " " " " " " " " " " " "	6P27010	4 1 1 1 1 1	06/27/06 18;19	
BPF0650-16 tert-Amyl Methyl E Benzene tert-Butyl Alcohol Dilsopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl et Toluene o-Xylene m,p-Xylene	Toluene-d8 4-BFB  (MW-8-29.5)	•	ND	100% 95.5%	0.07 3.7 0.37 0.37 0.07 0.37 0.07	75 - 125 % 75 - 125 % Sampl  mg/kg wet " " " " "	ed: 06/1	6F27010	11 11 11 11 11	06/27/06 18;19	
BPF0650-16  tert-Amyl Methyl E Benzene tert-Butyl Alcohol Disopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl et Toluene o-Xylene m,p-Xylene	Toluene-d8 4-BFB  (MW-8-29.5)	1) 11 11 11 11 11 11 11 11 11 11 11 11 1	ND N	100% 95.5%	0.07 3.7 0.37 0.37 0.07 0.37 0.07 0.07	75 - 125 % 75 - 125 %  Sampl  mg/kg wet  " " " " "	ed: 06/1	6F27010	11 11 11 11 11 11	06/27/06 18;19	
BPF0650-16  tert-Amyl Methyl E Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl et Toluene o-Xylene m,p-Xylene Xylenes (total)	Toluene-d8 4-BFB  (MW-8-29.5)  Ether  er	1) 11 11 11 11 11 11 11 11 11 11 11 11 1	ND N	100% 95.5%	0.07 3.7 0.37 0.37 0.07 0.37 0.07 0.07	75 - 125 % 75 - 125 % Sampl mg/kg wet " " " " "	1x	6F27010	11 11 11 11 11 11	06/27/06 18:19	

Cherie Howland, Project Manager





5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-17 (MW-7-5)		Soi	1		Sampl	ed: 06/2	20/06 08:45			
tert-Amyl Methyl Ether	EPA 8260B	ND		0.37 1	mg/kg wet	1x	6F27010	06/27/06 08:39	06/27/06 18:46	
Benzene	и	ND	*****	0.07	II .	n	II .	II	П	
tert-Butyl Alcohol	н	ND		3.7			"	ri	II	
Diisopropyl ether	II .	ND		0.37	ч	•	·	•)	п	
Ethyl tert-butyl ether	ч	ND		0.37		**	ч		п	
Ethylbenzene	4	ND		0.07	п	**	п	11	II .	
Methyl tert-butyl ether	11	0.46		0.37	u .	**	4	u	D	
Toluene	II	ND		0.07	II .	71	₩.	41	U	
o-Xylene	п	ND		0.07	o	11	•	11	n	
m,p-Xylene	II .	ND		0.15		11	•	11		
Xylenes (total)	и	ND		0,22		71	-	ıı	"	
Surrogate(s): 1,2-DCA-d4			99.0%		75 - 125 %	*			п	
Toluene-d8			95.9%		75 - 1 <b>2</b> 5 %	n			•	
									a	
4-BFB			94.5%		75 - 125 %	"			.,	
		G.t					00/02 00.50		•	
		Soi					20/06 08:50			
BPF0650-18 (MW-7-10)	EPA 8260B	Soi ND		0.36			20/06 08:50 6F27010	06/27/06 08:39	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether	EPA 8260B		l .	0.36	Sampl	ed: 06/2	·	06/27/06 08:39 "		
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene		ND	<u></u>		Sampl	ed: 06/2	6F27010		06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol		ND 0,41	 	0.07	Sampl mg/kg wet	ed: 06/2 lx	6F27010 "	и	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Diisopropyl ether		ND 0,41 ND	 	0.07 3.6	Sampl mg/kg wet	ed: 06/2 lx "	6F27010 "	11	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ether		ND 0.41 ND ND	 	0.07 3.6 0.36	Sampl mg/kg wet "	ed: 06/2 lx "	6F27010 "	11	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ether Ethylbenzene		ND 0.41 ND ND ND		0.07 3.6 0.36 0.36	Sampl mg/kg wet "	ed: 06/2 lx " "	6F27010 " " "	11 11 14	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Disopropyl ether Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether		ND 0.41 ND ND ND		0.07 3.6 0.36 0.36 0.07	Sampl	ed: 06/2	6F27010	11 15 (4	06/27/06 19:12	
tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Disopropyl ether Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene		ND 0.41 ND ND ND 1.2		0.07 3.6 0.36 0.36 0.07	Sampl	ed: 06/2	6F27010 " " " " "	11 17 16 19 19	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene o-Xylene		ND 0.41 ND ND ND 1.2 3.1		0.07 3.6 0.36 0.36 0.07 0.36 0.07	Sampl	ed: 06/2	6F27010	11 15 16 19 19	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene o-Xylene m,p-Xylene		ND 0.41 ND ND ND 1.2 3.1 ND		0.07 3.6 0.36 0.36 0.07 0.36 0.07	Sampl	ed: 06/2	6F27010	11 12 14 14 14 14 14 14 14 14 14 14 14 14 14	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene o-Xylene m,p-Xylene Xylenes (total)	10	ND 0.41 ND ND 1.2 3.1 ND 1.6 2.9		0.07 3.6 0.36 0.36 0.07 0.36 0.07 0.07	Sampl	ed: 06/2	6F27010	11 12 12 12 12 12 12 12 12 12 12 12 12 1	06/27/06 19:12	
BPF0650-18 (MW-7-10) tert-Amyl Methyl Ether Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene o-Xylene m,p-Xylene Xylenes (total)	10	ND 0.41 ND ND 1.2 3.1 ND 1.6 2.9		0.07 3.6 0.36 0.36 0.07 0.36 0.07 0.07	Sampl	lx " " " " " " " " " " " " " " " " " " "	6F27010	11 12 12 12 12 12 12 12 12 12 12 12 12 1	06/27/06 19:12	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Testamerica

ANALYTICAL TESTING CORPORATION

Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name:

Shell #135701

Project Number: Project Manager: [none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-19 (N	/IW-7-15)		Soi			Sampl	ed: 06/2	20/06 09:00			
tert-Amyl Methyl Eth	ner	EPA 8260B	ND		0.38	mg/kg wet	lx	6F27010	06/27/06 08:39	06/27/06 19:39	
Benzene		71	1.4		80.0	11		II	u	n	
tert-Butyl Alcohol		u	ND		3.8			II	u	ш	
Diisopropyl ether		u	ND		0.38	"	п	II .		•	
Ethyl tert-butyl ether		41	ND		0.38	ď	u	н	(1	н	
Methyl tert-butyl etl	her	4	1.5		0.38	*1	u	ч		п	
Toluene		-	0.56		0.08	4	41	II	п	п	
Surrogate(s):	1,2-DCA-d4			127%	•	75 - 125 %	•			"	S-04
	Toluene-d8			101%		75 - 125 %	•			u	
	4-BFB			99.7%		75 - 125 %	•			"	
BPF0650-19RE1	(MW-7-15)		Soi	l		Sampl	ed: 06/2	0/06 09:00			
Ethylbenzene	·	EPA 8260B	16		1.5	mg/kg wet	20x	6F27010	06/27/06 08:39	06/28/06 12:57	
o-Xylene		N	7.0		1,5	n			п	n	
m,p-Xylene		ц	36	*****	3.0	n	*1	11	u	11	
Xylenes (total)		н	43		4.5	6	41	4	II.	п	
Surrogate(s):	1,2-DCA-d4			101%		75 - 125 %	lx			"	
,	Toluene-d8			97.5%		75 - 125 %				•	
	4-BFB			98.7%		75 - 125 %	r			**	
BPF0650-20 (N	/IW-7-20)		Soi	1		Sampl	ed: 06/2	0/06 09:15			
tert-Amyl Methyl Eth	ner	EPA 8260B	ND		0.37	mg/kg wet	1x	6F27010	06/27/06 08:39	06/28/06 09:12	
Benzene		п	ND		0.07	u	-1	•	u	71	
tert-Butyl Alcohol		ď	ND		3.7	u	•	*11	n n	n .	
Diisopropyl ether		п	ND	*****	0.37	14	ч	a	н	ï	
Ethyl tert-butyl ether		n .	ND		0.37	u	u	•	u	и	
Ethylbenzene		ıl	ND		0.07	te .	и	•	u	п	
Methyl tert-butyl ethe	er	n .	ND		0.37	(*	"	••	n n	u u	
Toluene		ч	NĎ		0.07	u		•	н	*1	
o-Xylene		ч	ND		0.07	u	**	**	"	71	
m,p-Xylene		п	ND		0.15		u	п	II .	11	
Xylenes (total)		1	ND	*****	0.22	u	(1	67	ц	ij	
Surrogate(s):	1,2-DCA-d4			105%		75 - 125 %	,,			"	
	Toluene-d8			98.3%		75 - 125 %	ш			"	
	4-BFB			96.9%		75 - 125 %	n			a	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number; Project Manager;

[none] Stewart Dalie Report Created:

08/10/06 17:01

### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result							-	
BPF0650-21	(MW-7-25)		Soi	1		Sampl	ed: 06/2	20/06 09:30			
tert-Amyl Methyl E	ither	EPA 8260B	ND		0.38	mg/kg wet	lx	6F27011	06/27/06 08:39	06/28/06 00:52	
Benzene		и	ND		0.08	9	u	14	п	ii	
tert-Butyl Alcohol		n	ND		3.8		-	"	11	n	
Diisopropyl ether		"	ND		0.38	u	-	u	u u	**	
Ethyl tert-butyl ethe	er	"	ND		0.38	7	н	4	11	**	
Ethylbenzene		v	ND		0.08	"	r	u	•	-	
Methyl tert-butyl et	her	п	ND		0.38	D		II.	41	•	
Coluene		п	ND		0.08	D		ш	1)	•	
-Xylene		ч	ND		0.08	je	ч	п	71	•	
n,p-Xylene		н	ND		0.15	ıı	u		71	•	
Kylenes (total)		ч	ND		0.23	"	п	н	•	*	
							"			**	
Surrogate(s):	1,2-DCA-d4			101%		75 - 125 %					
Surrogate(s):	I,2-DCA-d4 Toluene-d8			101% 97.0%		75 - 125 % 75 - 125 %	•			"	
Surrogate(s):	•						"			,	
Surrogate(s):	Toluene-d8			97.0%		75 - 125 %	•			n	
- ''	Toluene-d8		Soi	97.0% 93.7%		75 - 125 % 75 - 125 %	"	20/06 09:45		,	
3PF0650-22	Toluene-d8 4-BFB (MW-7-29.5)	EPA 8260B	Sol ND	97.0% 93.7%	0.39	75 - 125 % 75 - 125 %	"	<b>20/06 09:45</b> 6F27011	06/27/06 08:39	06/28/06 01:18	
BPF0650-22 ert-Amyl Methyl E	Toluene-d8 4-BFB (MW-7-29.5)	EPA 8260B		97.0% 93.7%	0.39	75 - 125 % 75 - 125 % Sampl	" ed: 06/2		06/27/06 08:39 "	06/28/06 01:18	
BPF0650-22 ert-Arnyl Methyl B	Toluene-d8 4-BFB (MW-7-29.5)	EPA 8260B - -	ND	97.0% 93.7% I		75 - 125 % 75 - 125 % Sampl	" e <b>d: 06/</b> 2	6F27011			
BPF0650-22 (ert-Amyl Methyl E Benzene ert-Butyl Alcohol	Toluene-d8 4-BFB (MW-7-29.5)	EPA 8260B - - "	ND ND	97.0% 93.7% I	0.08	75 - 125 % 75 - 125 % Sample mg/kg wet	" ed: 06/2	6F27011	19		
BPF0650-22 (ert-Amyl Methyl E lenzene ert-Butyl Alcohol Diisopropyl ether	Toluene-d8 4-BFB (MW-7-29.5)	EPA 8260B - - "	ND ND ND	97.0%	0.08 3.9	75 - 125 % 75 - 125 % Sample mg/kg wet	ed: 06/2	6F27011	is 18		
SPF0650-22 ert-Amyl Methyl E senzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe	Toluene-d8 4-BFB (MW-7-29.5)	EPA 8260B	ND ND ND ND	93.7%	0.08 3.9 0.39	75 - 125 % 75 - 125 % Sampl mg/kg wet	" " "   1x   " " " " " " " " " " " " " " " " " "	6F27011	11 11		
BPF0650-22 (ert-Amyl Methyl E Benzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene	Toluene-d8 4-BFB  (MW-7-29.5)  Sther	EPA 8260B	ND ND ND ND	93.7%	0.08 3.9 0.39 0.39	75 - 125 % 75 - 125 %  Sampl  mg/kg wet " " "	ed: 06/2	6F27011	19 19 19		
BPF0650-22 (ert-Amyl Methyl E Benzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth	Toluene-d8 4-BFB  (MW-7-29.5)  Sther	EPA 8260B	ND ND ND ND ND	93.7%	0.08 3.9 0.39 0.39 0.08	75 - 125 % 75 - 125 %  Sample  mg/kg wet  " " "	1x "	6F27011	11 11 14 16		
BPF0650-22 (ert-Amyl Methyl E Benzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth	Toluene-d8 4-BFB  (MW-7-29.5)  Sther	EPA 8260B	ND ND ND ND ND ND	93.7%	0.08 3.9 0.39 0.39 0.08 0.39	75 - 125 % 75 - 125 %  Sample  mg/kg wet  " " "	### 12 ####### 12 ########	6F27011	10 10 10 10		
BPF0650-22 ert-Amyl Methyl E Benzene ert-Butyl Alcohol Disopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl ethe D-Xylene	Toluene-d8 4-BFB  (MW-7-29.5)  Sther	EPA 8260B	ND ND ND ND ND ND ND ND ND	93.7%	0.08 3.9 0.39 0.39 0.08 0.39	75 - 125 % 75 - 125 %  Sampl  mg/kg wet " " " "	1x " " " " " " " " " " " " " " " " " " "	6F27011	11 15 16 16 16		
BPF0650-22 ert-Amyl Methyl E Benzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth TolueneXylene n,p-Xylene	Toluene-d8 4-BFB  (MW-7-29.5)  Sther	EPA \$260B	ND	93.7%	0.08 3.9 0.39 0.39 0.08 0.39 0.08	75 - 125 % 75 - 125 %  Sampl  mg/kg wet " " " "	ed: 06/2	6F27011	11 14 14 14 14 14 14 14 14 14 14 14 14 1		
BPF0650-22  ert-Amyl Methyl E Benzene ert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eth Toluene D-Xylene n,p-Xylene	Toluene-d8 4-BFB  (MW-7-29.5)  Sther	- - - - - - - - - - - - - - - - - - -	ND	93.7%	0.08 3.9 0.39 0.39 0.08 0.39 0.08 0.08	75 - 125 % 75 - 125 %  Sample mg/kg wet " " " " "	ed: 06/2	6F27011	11 14 14 14 14 14 14 14 14 14 14 14 14 1	u u u u	
BPF0650-22  tert-Amyl Methyl E Benzene tert-Butyl Alcohol Diisopropyl ether Ethyl tert-butyl ethe Ethylbenzene Methyl tert-butyl eti Toluene o-Xylene m,p-Xylene Xylenes (total)	Toluene-d8 4-BFB  (MW-7-29.5)  Bither  er ther	- - - - - - - - - - - - - - - - - - -	ND	93.7%	0.08 3.9 0.39 0.39 0.08 0.39 0.08 0.08	75 - 125 % 75 - 125 % Sample mg/kg wet " " " " "	ed: 06/2	6F27011	11 14 14 14 14 14 14 14 14 14 14 14 14 1		

Cherie Howland, Project Manager





Project Name:

Shell #135701

5900 Hollis Street, Suite A

Project Number:

[none]

Report Created:

Emeryville, CA 94608

Project Manager:

Stewart Dalie

08/10/06 17:01

	Gasoline I	Range Hyd	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	197	8015M - La a - Seattle, W	3.55	tory Qua	ality Co	ntrol	Results			en e	
QC Batch: 6F27032	Soil Pr	eparation M	lethod:	EPA 5030B	(МеОН)									
Analyte	Method	Result	MD	L* MRI	L Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F27032-BLK1)								Extr	acted:	06/27/06 10	):43			
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1 x			-				06/27/06 15:30	
Surrogate(s): 4-BFB (FID)		Recovery:	116%		Limits: 50-150%	N							06/27/06 15:30	
LCS (6F27032-BS1)								Extr	acted:	06/27/06 10	):43			
Gasoline Range Hydrocarbons	EPA 8015 mod.	21.5		4.00	mg/kg wet	1x		22.0	97.7%	(75-125)			06/27/06 16:30	
Surrogate(s): 4-BFB (FID)	nou.	Recovery:	120%	1	Limits: 50-150%	"							06/27/06 16:30	
Duplicate (6F27032-DUP1)				QC Source	ce: <b>BPF</b> 0650-01			Extr	acted:	06/27/06 10	):43			
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	lx	ND				86.8%	6 (40)	06/28/06 04:39	RP
Surrogate(s): 4-BFB (FID)	mod.	Recovery:	90.4%	1	Limits: 50-150%	n							06/28/06 04:39	
Duplicate (6F27032-DUP2)				QC Source	ce: BPF0650-16			Extr	acted:	06/27/06 10	1:43			
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	lx	ND		-		28.9%	6 (40)	06/28/06 05:08	
Surrogate(s): 4-BFB (FID)	mou.	Recovery:	97.1%	1	Limits: 50-150%	"							06/28/06 05:08	
Matrix Spike (6F27032-MS1)				QC Source	e: BPF0650-01			Extr	acted:	06/27/06 10	):43			
Gasoline Range Hydrocarbons	EPA 8015	16.4	-	4.00	mg/kg wei	lx	0.329	22.0	73.0%	(42-125)			06/28/06 11:06	
Surrogate(s): 4-BFB (FID)	mod.	Recovery:	66.2%	1	limits: 50-150%	*							06/28/06 11:06	
QC Batch: 6F27035	Soil Pro	eparation M	lethod: ]	EPA 5030B	(МеОН)									
Analyte	Method	Result	MD	L* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F27035-BLK1)								Extr	acted:	06/27/06 10	3:47			
Gasoline Range Hydrocarbons	EPA 8015 mod.	МD		4.00	mg/kg wel	lx		••	-	••	••		06/27/06 18:31	
Surrogate(s): 4-BFB (FID)	111000	Recovery:	111%	1	Limits: 50-150%	n							06/27/06 18:31	
LCS (6F27035-BS1)								Extr	acted:	06/27/06 10	1:47			
Gasoline Range Hydrocarbons	EPA 8015	22.7		4.00	mg/kg wet	1x		22,0	103%	(75-125)			06/27/06 17:00	

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

9.71% (40)

Extracted: 06/27/06 10:47

Cherie Howland, Project Manager

Surrogate(s): 4-BFB (FID)

Surrogate(s): 4-BFB (FID)

Duplicate (6F27035-DUP1)

Gasoline Range Hydrocarbons



06/29/06 06:58

06/27/06 17:00

06/29/06 06:58

Limits: 50-150%

Limits: 50-150%

QC Source: BPF0650-21

3.97 mg/kg wet

Recovery: 119%

Recovery: 101%

mod.

EPA 8015

mod.



SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville Shell #135701 Project Name: Report Created: 5900 Hollis Street, Suite A Project Number: [none] 08/10/06 17:01 Emeryville, CA 94608 Project Manager: Stewart Dalie

	Gasoline F	Range Hyd		y EPA 8015M - L stAmerica - Seattle, W	1.0	itory Qua	llity Co	ntrol	Results	A 11			
QC Batch: 6F27035	Soil Pro	eparation M	lethod: EP	A 5030B (MeOH)									
Analyte	Method	Result	MDL*	MRL Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Duplicate (6F27035-DUP2)				QC Source: BPF0650-25	,		Extr.	acted:	06/27/06 10	):47			
Gasoline Range Hydrocarbons	EPA 8015 mod	ND		4.00 mg/kg wet	1x						(40)	06/29/06 07:28	RP-4
Surrogate(s): 4-BFB (FID)	·	Recovery:	98.7%	Limits: 50-150%								06/29/06 07:28	
Matrix Spike (6F27035-MS1)			•	QC Source: BPF0650-2	!		Extra	acted:	06/27/06 10	):47			
Gasoline Range Hydrocarbons	EPA 8015 mod.	17.6		4.03 mg/kg wet	1x	0.853	22.2	75.4%	(42-125)	-		06/29/06 07:58	
Surrogate(s): 4-BFB (FID)		Recovery:	100%	Limits: 50-150%	n							06/29/06 07:58	

TestAmerica - Seattle, WA



11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

Project Name: Project Number: Shell #135701

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F27010	Soil Pre	paration M	ethod: EPA	5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	N
Blank (6F27010-BLK1)								Ext	acted:	06/27/06 0	8:39			
tert-Amyl Methyl Ether	EPA 8260B	ND		0,50	mg/kg wet	1x			-		_		06/27/06 11:12	
Benzene	•	ND		0.10	10								ıı	
tert-Butyl Alcohol	"	ND		5.0	u	я							"	
1,2-Dibromoethane (EDB)	u	ND		0.05	ır	я							u	
1,2-Dichloroethane (EDC)	19	ND		0.05	ц	н			_				O .	
Diisopropyl ether	u	ND		0.50	II	4							"	
Ethyl tert-butyl ether		ND		0.50	n	-								
Ethanol	u	ND		20	II .	vi								
Ethylbenzene	u	ND		0.10	П	я			_				U	
Methyl tert-butyl ether	п	ND		0.50	п	7								
Toluene	n	ND		0.10	"				_				•	
o-Xylene	н	ND		0.10	4	•			_			-		
m,p-Xylene	11	ND		0.20	₩		••						te .	
Xylenes (total)	71	ND		0.30	•	к			-				•	
Surrogate(s): 1,2-DCA-d4		Recovery:	111%	Li	mits: 75-125%	"							06/27/06 11:12	
Toluene-d8		,-	105%		75-125%	"							r#	
4-BFB			104%		75-125%	"							"	
Blank (6F27010-BLK2)								Extr	acted:	06/27/06 01	3:39			
ert-Amyl Methyl Ether	EPA 8260B	ND		0.50	mg/kg wet	lx							06/27/06 23:58	
Benzene	•	ND		0.10					_					
tert-Butyl Alcohol	и	ND		5.0	н	и							li .	
1,2-Dibromoethane (EDB)	ıt	ND		0.05	n	н							ti .	
1,2-Dichloroethane (EDC)	it	ND		0.05	ų	4	••			-			n e	
Diisopropyl ether	n	ND		0.50	п									
Ethyl tert-butyl ether		ND		0.50	ıı	11								
Ethanol		ND	_	20	п	11			_				п	
Ethylbenzene	ŋ	ND		0.10	п	11	••		_			**	I)	
Mothyl tert-butyl ether	11	ND		0.50	1)	41			_				Щ	
Foluene -		ND		0.10	11	41							u .	
o-Xylene	#	ND		0.10	**	n			_				u	
n,p-Xylene	41	ND		0.20	71	11			_				11	
Xylenes (total)	-	ND	•••	0.30	ч								ıl	
Surrogate(s): 1,2-DCA-d4		Recovery:	113%		mits: 75-125%	"		···-					06/27/06 23:58	
Toluene-d8		iccorory.	106%	Į,r	75-125%	"							# # # # # # # # # # # # # # # # # # #	
4-BFB			103%		75-125%								e e	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





Project Name:

Shell #135701

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Díl	Source Result	Spike Amt	REC	(Limits)	RPD	(Limits)	Analyzed	No
Blank (6F27010-BLK3)								Ext	racted:	06/27/06 08	:39			
tert-Amyl Methyl Ether	EPA 8260B	ND		0.50	mg/kg wet	1 x							06/28/06 11:51	
Benzene	n	ИD		0.10	n	11				••			41	
tert-Butyl Alcohol	v	ДИ		5.0		71							11	
1,2-Dibromoethane (EDB)	v	ND		0.05		H	••		-				11	
1,2-Dichloroethane (EDC)	(*	ND		0.05		ч							ч	
Diisopropyl ether	n	ND	•	0.50		41			••				u .	
Ethyl tert-butyl ether	10	ND		0.50						••				
Ethanol	D	ND		20	n								u	
Ethylbenzene	U	ND		0.10	(1	4		-		-			4	
Methyl text-butyl ether	U	ND		0.50	U	11			_				u	
Naphthalene	U	ND		0.50	m	1	••		_				н	
Poluene	•	ND		0.10		"							te .	
o-Xylene	(*	ND		0.10		"			-				*	
m,p-Xylene		ИD		0.20	•	ч						<b></b> ,	-	
Xylenes (total)	•	ND		0.30	n	и	••					**	•	
Surrogate(s): 1,2-DCA-d4		Recovery:	112%		imits: 75-125%	, ,							06/28/06 11:51	
Toluene-d8			105%		75-125%	6 "							"	
4-BFB			102%		75-125%	6 "							"	
LCS (6F27010-BS1)								Ext	racted:	06/27/06 08	:39			
tert-Amyl Methyl Ether	EPA 8260B	1.7		0,50	mg/kg wet	lx		2.00	85.0%	(70-130)			06/27/06 09:18	
Benzene	"	1.9		0.10	1)	н	••		95.0%	(75-125)			ч	
lert-Butyl Alcohol		9.1		5.0	4	п		10.0	91.0%	(70-130)			п	
1,2-Dibromoethane (EDB)		2.0		0.05	11	п		2.00	100%				ц	
1,2-Dichloroethane (EDC)	"	1.9		0.05	п				95.0%	п			п	
Diisopropyl ether		1.6	***	0.50	•	u			80.0%				п	
Ethyl tert-butyl ether	ч	1.6	- 54	0.50	**	ú		ч	80.0%				u	
Ethanol	•	99		20	uj.	u		100	99.0%	u			ц	
Ethylbenzene	ø	1.9		0.10	a	4		2.00	95.0%	(75-125)			D	
Methyl tert-butyl other	•	1.7		0.50	41			u	85.0%	(71-127)			II .	
Foluenc	u	1.9		0.10	"	"			95.0%	(75-125)			tr	
o-Xylene	7	1.9		0.10	"	10			95.0%	` "			tr.	
m,p-Xylene	11	4.3		0.20	11	te		4.00	108%				in .	
Xylenes (total)		6.2		0.30	41			6.00	103%	и			n	
Surrogate(s): 1,2-DCA-d4		Recovery:	91.5%		imits: 75-125%	, ,							06/27/06 09:18	
•		moosery.	95.0%		75-125%								н	
Toluene-d8			93.0%		/3-1237	0								

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number:

[none]

Report Created: 08/10/06 17:01

Project Manager: Stewart Dalie

	Oxygenates by EPA	Method 8260B - Laboratory Q	Quality	Control	Results
7		TestAmèrica - Seattle, WA			77.77

QC Batch: 6F27010	Soil Pre	paration M	lethod: EPA	5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (6F27010-MS1)				QC Sourc	e: BPF0650-02			Extr	acted:	06/27/06 08	8:39			
tert-Arnyl Methyl Ether	EPA 8260B	1.4	-45	0.38	mg/kg wet	lx	ND	1.51	92.7%	(60-140)			06/27/06 09:52	
Веплене	п	1.8		80.0	п	•	0.50	и	86.1%	(75-131)			•	
tert-Butyl Alcohol	•	7.7		3.8	и	•	1.4	7.56	83.3%	(60-140)			•	
1,2-Dibromoethane (EDB)	n	1.4		0.04	п	•	ND	1.51	92,7%				•	
1,2-Dichloroethane (EDC)	11	1.5		0.04	ц		ND	п	99.3%	п				
Diisopropyl ether	u	1.3		0.38	II	•	ND	u	86.1%	ц			-	
Ethyl tert-butyl ether	u	1.3		0.38	II.	•	ND	n	86.1%	п			**	
Ethanol	u	64		15	II	•	ND	75.6	84.7%	ц			n	
Ethylbenzene		3.4		0.08	h		3.5	1.51	-6.62%	п			u	Q-0
Methyl tert-butyl ether	**	1.7		0.38	II	•	0.57	н	74.8%	(71-130)			91	
Toluene	10	1.4		0.08	lı	11	0.02	•	91.4%	(75-125)			11	
o-Xylene	14	1.6		0.08	ıı	4	0.41	•	78.8%	(60-140)			и	
m,p-Xylene	19	ND		0.15	ij	4	ND	3.03	NR	п			n	Q-0
Xylenes (total)	4	0.12		0.23	ц	9	ND	4,54	2.64%	п			u	Q-03, Q-0
Surrogate(s): 1,2-DCA-d4	<del></del>	Recovery:	102%	L	imits: 75-125%	u							06/27/06 09.52	!
Toluene-48			95.7%		75-1 <b>2</b> 5%	"							"	
4-BFB			98.7%		75-125%	,,							"	
Matrix Spike Dup (6F27010-MS	D1)			QC Sourc	e: BPF0650-02			Exte	acted:	06/27/06 08	8:39			
tert-Arnyl Methyl Ether	EPA 8260B	1.4	-	0.39	mg/kg wet	lx	ND	1.56	89.7%	(60-140)	0.009	6 (40)	06/27/06 10:18	
Benzene		2.0		0.08	II	11	0.50	-	96.2%	(75-131)	10.59	6 (25)	P	
a a Marcal Adval at		0.6		3.0	п	41	1.4	701	02.20/	(60 140)	11.00	( (50)	(0	

Matrix Spike Dup (6F27010-	-MSD1)			QC Sourc	e: BPF0650-0	2		Ext	racted:	06/27/06 08	:39		
tert-Arnyl Methyl Ether	EPA 8260B	1.4	-	0.39	mg/kg wet	lx	ND	1.56	89.7%	(60-140)	0.00% (40)	06/27/06 10:18	
Benzene		2.0		0.08	II .	11	0.50	•	96.2%	(75-131)	10.5% (25)	II.	
tert-Butyl Alcohol	0	8,6		3.9	п	4	1.4	7.81	92.2%	(60-140)	11.0% (50)	(*	
1,2-Dibromoethane (EDB)	19	1.5		0.04	и	4	ND	1.56	96.2%	4	6.90% (40)	(=	
1,2-Dichloroethane (EDC)		1.5		0.04	ŋ	4	ND	•	96.2%	4	0.00% "	(=	
Dilsopropyl ether		1.4		0.39	II .	41	ND		89.7%	4	7.41% (50)	n	
Ethyl tert-butyl ether	"	1.4		0.39	II .		ND	-	89.7%	4	7.41% "	**	
Ethanol	ч	64		16	II .	11	ND	78.1	81.9%	м	0.00% "	n	
Ethylbenzene	и	ND		0.08	u	11	3.5	1.56	-224%	**	(25)	U	Q-03
Methyl tert-butyl ether	•	1.8		0.39	ц	11	0.57	7	78.8%	(71-130)	5.71% "	11	
Toluene	н .	1.5		0.08	u		0.02	*	94.9%	(75-125)	6.90% "	11	
o-Xylene		1.9		0.08	u	11	0.41	•	95.5%	(60-140)	17.1% "	**	
m,p-Xylene	v	ND		0.16	ū	11	ND	3.12	NR	и	II	п	Q-03
Xylenes (total)	(9	0.37		0.23	u	11	ND	4,69	7.89%	м	102% "	ч	Q-03, Q-07
Summantafals 12 DC4 d4		Pagavani: 00	40/		imite: 75_1250	٠.						06/27/06 10	18

Surrogate(s): I,2-DCA-d4 Toluene-d8 4-BFB

Recovery: 99.4%

92.9%

94.9%

Limits: 75-125% 75-125% " 75-125% "

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





5900 Hollis Street, Suite A

Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager: [none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	N
Blank (6F27011-BLK1)								Extr	acted:	06/27/06 0	3:39			
tert-Amyl Methyl Ether	EPA 8260B	ND		0.50	mg/kg wet	1x			-				06/28/06 00:25	
Benzene	n	ND		0.10	-				-				4	
tert-Butyl Alcohol	•	ND		5.0	•	"			_					
1,2-Dibromoethane (EDB)	п	מא		0.05	4	16			-				u	
1,2-Dichloroethane (EDC)	-	ND		0.05	и	ly .							п	
Diisopropyl ether	*	ND		0.50	п								ц	
Ethyl tert-butyl ether	•	ND		0.50	II .	P			-		••	••	11	
Ethanol	*	ND		20	II .				_				11	
Ethylbenzene	4	ND		0.10	11	н			_	**	_		п	
Methyl tert-butyl ether	н	ND		0.50	41	и							4	
Toluene		ND		0.10	**	h			_				11	
o-Xylene		ND		0.10	41	11							"	
m,p-Xylene	·	ND		0.20	41	49			_				4	
Xylenes (total)	п	ND		0.30	н	"							4	
Surrogate(s): 1,2-DCA-d4		Recovery:	111%	Lii	mits: 75-125%	"							06/28/06 00:25	
Toluene-d8			103%		75-125%	,,							*	
4-BFB			101%		75-125%	"							•	
Blank (6F27011-BLK2)								Extr	acted:	06/27/06 08	3:39			
ert-Amyl Methyl Ether	EPA 8260B	ND		0.50	mg/kg wet	lx							06/28/06 12:31	
Benzene	(*	ND		0.10	"				_				10	
tert-Butyl Alcohol	n	ND		5.0	u .	ч								
1,2-Dibromoethane (EDB)		ND		0.05	п	н							IF	
1,2-Dichloroethane (EDC)	п	ИD		0.05	ш	4							n .	
Diisopropyl ether	ч	ND		0.50	п	41			_				ц	
Ethyl tert-butyl ether	и	ND		0.50	<b>n</b>	•			_				4	
Ethanol	п	ND		20	71	**	••		_				п	
Ethylbenzene	п	ND		0.10	•			**	_				п	
Methyl tert-butyl ether	ч	ND		0.50	•				_				11	
Naphthalene	<b>,</b>	ND	***	0.50	*								и	
Foluene	•	ND		0.10	u								•	
o-Xylene	•	ND		0.10	u		••			<b>.</b>			н	
n,p-Xylene	н	ND		0.20	4				-				•	
Kylenes (total)		ND		0.30										
Surrogate(s): 1,2-DCA-d4		Recovery:	114%		nits: 75-125%	"							06/28/06 12:31	
Toluene-d8		2.000 FBI y.	106%	20	75-125%	4							70,-0,00 (2.0)	
4-BFB			102%		75-125%	11							n	

TestAmerica - Seattle, WA





5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager: [none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

QC Batch: 6F27011	Soil Pro	paration I	Method: E	PA 5030B										
Analyte	Method	Result	MDI	* MRI	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Not
LCS (6F27011-BS1)							•	Ext	racted:	06/27/06 08	:39			
tert-Amyl Methyl Ether	EPA 8260B	2.0		0.50	mg/kg wet	1x		2.00	100%	(70-130)			06/27/06 22:12	
Benzene	11	2.0		0.10		41		P	100%	(75-125)	_		11	
tert-Butyl Alcohol	N	11		5.0		п		10.0	110%	(70-130)			п	
I,2-Dibromoethane (EDB)	•	2.0		0.05	IF	**		2.00	100%	•			•	
1,2-Dichloroethane (EDC)	и	2.0		0.05		in .		п	100%	14				
Diisopropyl ether	u	2.1		0.50	71	D		п	105%				•	
Ethyl tert-butyl ether	и	2.0		0.50	71			•	100%	u			19	
Ethanol	41	110		20			_	100	110%	ч			19	
Ethylbenzene	41	1.9		0.10	*	ч		2.00	95.0%	(75-125)		**	u	
Methyl tert-butyl ether	n	2.0		0.50	•	11			100%	(71-127)			u	
Toluene		1.9		0.10	ц	,,		п	95.0%	(75-125)				
o-Xylene	0	1.9		0.10		•		u	95.0%	` "			u	
m,p-Xylene	ii .	4.1	***	0.20	n	h		4.00	102%	•			и	
Xylenes (total)	п	6.0		0.30	-	n		6.00	100%	•			11	
Surrogate(s): 1,2-DCA-d4		Recovery:	95.0%	r	imits: 75-125%					<del></del>			06/27/06 22:12	
Toluene-d8		necovery.	97.0%		75-1259								"	
4-BFB			102%		75-1259								77	
						_								
Matrix Spike (6F27011-MS1)	Pp4 65/6p				e: BPF0650-2					06/27/06 08	:39			
tert-Amyl Methyl Ether	EPA 8260B	1.4		0.36	mg/kg wet	lx "	ND	1.46	95.9%	(60-140)			06/27/06 22:39	
Benzene	"	1.5		0.07		"	ND	"	103%	(75-131)			"	
ert-Butyl Alcohol		7.8	P-1	3.6			ND	7.30	107%	(60-140)				
1,2-Dibromoethane (EDB)	u	1,4		0.04	u		NĐ	1.46	95.9%	71			11	
I,2-Dichloroethane (EDC)	"	1,4	-	0.04	π	"	ND	Ħ	95.9%	ч			"	
Diisopropyl ether	19	1.5	-	0,36	•	11	ND	*1	103%	10			ч	
Ethyl tert-butyl ether		1.4		0.36	•	"	ND	-	95.9%	10			4	
Ethenol	II .	65		15		4	ND	73.0	89.0%	11			ч	
Ethylbenzene	п	1.4		0.07	ij		ND	1.46	95.9%	п			ti	
Methyl tert-butyl ether	н	1.4		0.36	II.	•	ND	"	95.9%	(71-130)			(1	
Coluene	71	1.4		0.07	11		ND		95.9%	(75-125)			10	
o-Xylene	11	1.4	***	0.07	41	10	ND	"	95.9%	(60-140)	••		D	
n,p-Xylene	•	3.1		0.15	ä	10	ND	2.92	106%	н			п	
Xylenes (total)	н	4.5	***	0.22	н	ц	ND	4.38	103%				п	
Surrogate(s): 1,2-DCA-d4		Recovery:	94.5%	L	imits: 75-125%	"							06/27/06 22:39	
Toluene-d8		•	91.8%		75-1259	6 "							rt	
4-BFB			90.8%		75-1259	/ "							п	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch:	6F27011	Soil Pre	paration N	lethod: EPA	5030B										
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spik Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup	6F27011-N	MSD1)			QC Source	: BPF0650-22			Ext	racted:	06/27/06 08	3:39			
tert-Amyl Methyl Ether		EPA 8260B	1.5		0.39	mg/kg wet	lx	ND	1.58	94.9%	(60-140)	6.90%	(40)	06/27/06 23:05	
Benzene		11	1.6		0.08	•	"	ND	11	101%	(75-131)	6.45%	(25)	(1	
tert-Butyl Alcohol		*1	8.5		3.9	•		ND	7.89	108%	(60-140)	8.59%	(50)		
1,2-Dibromoethane (ED	B)	u	1.5		0.04	п	п	ND	1.58	94.9%		6.90%	(40)	n	
1,2-Dichloroethane (ED	C)	•	1.6		0.04	п	4	ND	*	101%	11	13.3%	п	п	
Diisopropyl ether		π	1.6		0.39	ч	4	ND	-	101%		6.45%	(50)	п	
Ethyl tert-butyl ether		u	1.5		0.39	4		ND	и	94.9%	**	6.90%	#1	п	
Ethanol		u	74		16	•	4	ND	78.9	93.8%	4	12.9%	11	п	
Ethylbenzene		n .	1.5		0.08	7		ND	1.58	94.9%	**	6.90%	(25)	II .	
Methyl tert-butyl ether		41	1.5		0.39			ND	41	94.9%	(71-130)	6.90%	П	п	
Toluene		п	1.6		0.08		4	ND	•	101%	(75-125)	13.3%	11	**	
o-Xylene		<b>m</b>	1.5	•	0.08			ND		94.9%	(60-140)	6.90%	u	π	
m,p-Xylene		ч	3.3		0.16	п		ND	3.15	105%	ц	6.25%		н	
Xylenes (total)		ш	4.8	•••	0.24	п	•	ND	4.73	101%	4	6.45%		M	
Surrogate(s): 1,	2-DCA-d4		Recovery:	94.9%	Li	mits: 75-125%	,,			<u> </u>				06/27/06 23:01	;
Te	oluene-d8			94.3%		75-125%	•							*	
4-	BFB			91.4%		75-125%	ir							*	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





SEATTLE, WA

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

Project Name: Project Number: Shell #135701

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 17:01

#### Notes and Definitions:

#### Report Specific Notes:

A-01 - The s

- The sample was received unpreserved in a core.

Q-03

The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.

Q-07

The RPD value for this QC sample is above the established control limit. Review of associated QC indicates the high RPD does not represent an out-of-control condition for the batch.

RP-4

Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

S-04

The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

SR-4

Due to sample matrix effects, the surrogate recovery was outside laboratory control limits.

#### **Laboratory Reporting Conventions:**

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

on a Wet Weight Basis.

RPD

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL

METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\*

METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil

Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting -Limits Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.
 Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.
 Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Seattle, WA

Cherie Howland, Project Manage



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TELETHONE: 810-420-3339	(510) 420-9170	sdalie	@cambria	env.com																					
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ADDRESS: 5900 Hollis Street, Suite A	A Emerwille CA 9460	18				EDF DE	LIVEH	WILE TO	) Plane,	Compan	ly, Cimce	6 LOGBOIC	ry:		PTIUNE	NO:			[	Marie					h
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# ATTACHMENT E

Stockpile Disposal Confirmation and Laboratory Report



# Hazardous Waste Hauler (Registration # 2843)

P.O. Box 292547 \* Sacramento, CA 95829 \* FAX 916-381-1573

	Disposal Confirmation	
Request for Transportation	n Received: <u>08/24/2006</u>	
•	Consultant Information	. •
Сотрапу:	Cambria	
Contact:	Stewart Dalie	
Phone:	510-420-3339	
Fax:	510-420-9170	
	Site Information	
PO#		
Street Address:	4255 Mac Arthur	· · · · · · · · · · · · · · · · · · ·
City, State, ZIP:	Oakland, CA	
Customer:	Shell Oil Company	RESA-0023-LDC
RIPR #:	54094	_
SAP # / Location:	NA .	
Incident #:	98995758	
Location / WIC #:	NA	
Environmental Engineer:	Denis Brown	
Material Description:	Soil cuttings	
Estimated Quantity:	3-5 cy	
Service Requested Date:	ASAP	
Disposal Facility:	Forward Landfill	
Contact:	Scott	
Phone:	800 204-4242	
Approval #:	6562	
Date of Disposal:	08/25/2006	
Actual Tonnage	6.21 tons	
	Menter 9 Cons Trucking Inc	
Transporter:	Manley & Sons Trucking, Inc.	
Contact:	Jennifer Rogers	
Phone:	916 381-6864 916 381-1573	
Fax:	200608-16	
Invoice:		
Date of Invoice:	08/30/2006	



SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

August 10, 2006

Stewart Dalie Cambria Environmental Technology-Emeryville 5900 Hollis Street, Suite A Emeryville, CA 94608

RE: Shell #135701

Enclosed are the results of analyses for samples received by the laboratory on 06/24/06 10:58. The following list is a summary of the Work Orders contained in this report, generated on 08/10/06 15:35.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	<u>ProjectNumber</u>	
BPF0650	Shell #135701	[none]	





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville Shell #135701 Project Name: Report Created: 5900 Hollis Street, Suite A Project Number: [none] Emeryville, CA 94608 Project Manager: Stewart Dalie 08/10/06 15:35

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-1A	BPF0650-23	Soil	06/20/06 15:30	06/24/06 10:58
SP-1B	BPF0650-24	Soil	06/20/06 15:30	06/24/06 10:58
SP-1C	BPF0650-25	Soil	06/20/06 15:30	06/24/06 10:58
SP-1D	BPF0650-26	Soil	06/20/06 15:30	06/24/06 10:58
CARB-1A	BPF0650-27	Soil	06/20/06 16:00	06/24/06 10:58
CARB-1B	BPF0650-28	Soil	06/20/06 16:00	06/24/06 10:58
CARB Composite	BPF0650-29	Soil	06/20/06 12:00	06/24/06 10:58

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name:

Shell #135701

Project Number: Project Manager: [none]

Stewart Dalie

Report Created:

08/10/06 15:35

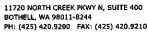
#### Gasoline Range Hydrocarbons by EPA 8015M

			estAmeric		•					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-23 (SP-1A)		Soi	11		Sampl	led: 06/2	20/06 15:30			
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		3.97	mg/kg wet	lx	6F27035	06/27/06 10:47	06/29/06 12:56	
Surrogate(s): 4-BFB (FID)			99.2%		50 - 150 %	"			'n	
BPF0650-24 (SP-1B)		Sol	1		Sampl	led: 06/2	20/06 15:30			
Gasoline Range Hydrocarbons	EPA 8015 mod.	401		39.7	mg/kg wet	10x	6F27035	06/27/06 10:47	06/29/06 20:44	
Surrogate(s): 4-BFB (FID)			284%		50 - 150 %	"			"	ŞR-4
BPF0650-25 (SP-1C)		Soi	i <b>1</b>		Sampl	led: 06/2	20/06 15:30			A-0
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	lx	6F27035	06/27/06 10:47	06/29/06 17:51	
Surrogate(s): 4-BFB (FID)			97.9%		50 - 150 %	,,			"	
BPF0650-26 (SP-1D)		Sol	1		Sampl	led: 06/2	20/06 15:30		_	
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		3.97	mg/kg wet	lx	6F27035	06/27/06 10:47	06/29/06 14:26	
Surrogate(s): 4-BFB (FID)			98.7%		50 - 150 %	*			11	
BPF0650-27 (CARB-1A)		Sol	il		Sampl	led: 06/2	20/06 16:00			
Gasoline Range Hydrocarbons	EPA 8015 mod.	27.9		5.00	mg/kg wet	lx	6F27035	06/27/06 10:47	06/29/06 19:44	G-0
Surrogate(s): 4-BFB (FID)			2.74%		50 - 150 %	"		•	Đ	SR-4
BPF0650-28 (CARB-1B)		Soi	1		Sampl	led: 06/2	20/06 16:00		·	
Gasoline Range Hydrocarbons	EPA 8015 mod.	6440		500	mg/kg wet	100x	6F27035	06/27/06 10:47	06/29/06 22:07	
Surrogate(s): 4-BFB (FID)			2230%		50 - 150 %	"			"	SR-4

TestAmerica - Seattle, WA

Cherie Howland, Project Manager







5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: [none] Project Manager:

Stewart Dalie

Report Created:

08/10/06 15:35

# Diesel Hydrocarbons (C10-C28) and Heavy Oil (C28-C40) by EPA Method 8015 (modified)

TestAmerica - Seattle, WA

		<del></del>	CSCATHETIC		, , , , , ,					<del></del>
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-23 (SP-1A)		Soil			Sampl	ed: 06/2	20/06 15:30			
Diesel Range Hydrocarbons	EPA 8015 mod.	ND		9.84	mg/kg wet	1x	6F29068	06/29/06 14:04	06/30/06 20:24	
Heavy Oil Range Hydrocarbons	H	ND		24.6	u		"		п	
Surrogate(s): 2-FBP			91.7%		50 - 150 %	"			"	
Octacosane			98.0%		50 - 150 %	"			*	
BPF0650-24 (SP-1B)		Soil	l		Sampl	ed: 06/2	20/06 15:30			
Diesel Range Hydrocarbons	EPA 8015 mod.	ND		9.93	mg/kg wet	1x	6F29068	06/29/06 14:04	06/30/06 20:53	
Heavy Oil Range Hydrocarbons	n 	ND		24.8	41	н		u	N	
Surrogate(s): 2-FBP			95.9%		50 - 150 %	•			n	
Octacosane			104%		50 - 150 %	т			ď	
BPF0650-25 (SP-1C)		Soil	l		Sampl	ed: 06/2	20/06 15:30		_	
Diesel Range Hydrocarbons	EPA 8015 mod.	DИ		10.0	mg/kg wet	lx	6F29068	06/29/06 14:04	06/30/06 21:23	
Heavy Oil Range Hydrocarbons	п	ND		25.1	н	"	*1			
Surrogate(s): 2-FBP			105%		50 - 150 %	*			II.	
Octacosane			103%		50 - 150 %	,,			и	
BPF0650-26 (SP-1D)		Soi	l		Sampl	ed: 06/2	20/06 15:30			
Diesel Range Hydrocarbons	EPA 8015 mod.	 ДИ		9.84	mg/kg wet	lx	6F29068	06/29/06 14:04	06/30/06 18:55	
Heavy Oil Range Hydrocarbons		ND		24.6				,		
Surrogate(s): 2-FBP			104%		50 - 150 %	. п			*	
Octacosane			106%		50 - 150 %	п			"	
BPF0650-29 (CARB Composite)		Soi	l		Sampl	led: 06/2	20/06 12:00			
Diesel Range Hydrocarbons	EPA 8015 mod.	4580		198	mg/kg wet	20x	6F29068	06/29/06 14:04	000000000000000000000000000000000000000	D-
Heavy Oil Range Hydrocarbons		ND	*****	495		"	7	11	41	
Surrogate(s): 2-FBP			106%		50 - 150 %	"			#	
Octacosane			NR		50 - 150 %	"			•	SR-5

TestAmerica - Scattle, WA

Cherie Howland, Project Manager





SEATTLE, WA

11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager: [none] Stewart Dalie

Report Created: 08/10/06 15:35

#### Total Metals by EPA 6000/7000 Series Methods

TestAmerica - Seattle, WA

			16	estAmeric	a - Seat	tie, WA			·	<del></del>	
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-23	(SP-1A)		Soil			Samp	led: 06/2	20/06 15:30			
Lead		EPA 6020	3.73		0.472	mg/kg wet	lx	6F29056	06/29/06 14:29	07/03/06 19:26	F
BPF0650-24	(SP-1B)		Soil			Samp	led: 06/2	20/06 15:30			
Lead		EPA 6020	3.98		0.450	mg/kg wet	1x	6F29056	06/29/06 14:29	07/03/06 19:32	E
BPF0650-25	(SP-1C)		Soil Sampled: 06/20/06 15:30								
Lead		EPA 6020	2.90		0.500	mg/kg wet	lx	6F29056	06/29/06 14:29	07/03/06 19:49	I
BPF0650-26	(SP-1D)		Soil			Samp	led: 06/2	20/06 15:30			
Lead		EPA 6020	4.32		0.510	mg/kg wet	1x	6F29056	06/29/06 14:29	07/03/06 19:54	1
BPF0650-29	(CARB Composite)		Soil Sampled: 06/20/06 12:00								
Lead		EPA 6020	4.05		0.510	mg/kg wet	1 <b>x</b>	6F29056	06/29/06 14:29	07/03/06 20:00	I

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





SEATTLE, WA

11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name: Project Manager: Shell #135701

Project Number: [none]

Stewart Dalie

Report Created:

08/10/06 15:35

#### TCLP Volatile Organic Compounds by EPA Method 1311/8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-29	(CARB Composite)		Soil Sampled: 06/20/06 12:0							·	
Benzene		EPA 8260B	ND		0.0800	mg/l	lx	6G10056	07/03/06 11:39	07/07/06 16:46	
Surrogate(s):	1,2-DCA-d4	<u> </u>	<b></b>	94.0%		67 - 135 %	,,			"	
	Toluene-d8			98.9%		70 - 130 %	o			"	
	4-BFB			99.1%		70 - 130 %	"			"	

TestAmerica - Seattle, WA





5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Project Manager:

Shell #135701

Project Number:

[none]

Stewart Dalie

Report Created: 08/10/06 15:35

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
BPF0650-23 (	SP-1A)	_	Soi	1		Sampl	ed: 06/2	20/06 15:30			
Benzene		EPA 8260B	ND		0.08	mg/kg wet	1x	6F27011	06/27/06 08:39	06/28/06 03:57	
Ethylbenzene		11	ND		0.08	by .		31	я	n	
Toluene		u	ИD		0.08	•)	u	ш		-	
o-Xylene		u	ND		0.08	"			ч	•	
m,p-Xylene		II .	ND		0.16	**	н	n		<b>H</b>	
Xylenes (total)		п	ND		0.24	u	*			71	
Surrogate(s):	1,2-DCA-d4			98.7%		75 - 125 %	đ			"	
0 ()	Toluene-d8			96.5%		75 - 125 %	-			,,	
	4-BFB			93.9%		75 - 125 %	п			H	
BPF0650-24 (	(SP-1 <b>B</b> )		Soi	l		Sampl	ed: 06/2	20/06 15:30			
Benzene		EPA 8260B	0.12		0.08	mg/kg wet	1x	6F27011	06/27/06 08:39	06/28/06 04:24	
Ethylbenzene		· n	0.57	*****	0.08	D	u		11	ú	
Toluene		11	ND		0.08	м			ч	u	
o-Xylene		•	0.49		0.08	n	u		п	п	
m,p-Xylene		<b>u</b>	1.5		0,15				D	п	
Xylenes (total)		et .	2.0		0.23	•	п	#	ю	u	
	1,2-DCA-d4			101%	-	75 - 125 %	"	<u> </u>		u	
Surrogate(s):	T,2-DCA-a4 Toluene-d8			96.7%		75 - 125 %	n			"	
	4-BFB			95.1%		75 - 125 %	"				
BPF0650-25 (	(SP-1C)		Sol	ı		Sampl	ed: 06/2	20/06 15:30			
Benzene	<u> </u>	EPA 8260B	ND		0.08	mg/kg wet	lх	6F27011	06/27/06 08:39	06/28/06 04:51	
Ethylbenzene		•	1.3		0.08	"		и	u	u	
Toluene		п	ND		0.08	11		u	17	n	
o-Xylene		*	1.2		0.08	51	-	n	10	н	
m,p-Xylene		71	3.7		0.16	п	**	u		**	
Mylenes (total)		п	4.9		0.23	11	•	47	1.9	н	
• • •	1,2-DCA-d4			101%		75 - 125 %	"	·			
Surrogate(s):	1,2-DCA-a4 Toluene-d8			90.1%		75 - 125 %	"			n	
	10iuene-ao 4-BFB			91.4%		75 - 125 %	"			,,	

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5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name:

Project Manager:

Shell #135701

Project Number: [1

[none] Stewart Dalie Report Created:

08/10/06 15:35

#### Oxygenates by EPA Method 8260B

TestAmerica - Seattle, WA

Anal <u>y</u> te		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPF0650-26 (	SP-1D)		Soi	1		Sampl	ed: 06/2	20/06 15:30			
Benzene		EPA 8260B	ND		0.08	mg/kg wet	1x	6F27011	06/27/06 08:39	06/28/06 05:17	
Ethylbenzene		q	ND	****	80.0	11	u	41	Į <b>a</b>	π	
Toluene		41	ND		0.08	"		II	10	Ħ	
o-Xylene		11	ND		0.08	ıı	-	11	(*	ข	
m,p-Xylene		"	ND		0.15	"	*	4	N	н	
Xylenes (total)		n .	ND		0.23	41	N	н	19		
Surrogate(s):	1,2-DCA-d4			102%		75 - 125 %	,,			*	
-	Toluene-d8			97.7%		75 - 125 %	•			"	
	4-BFB			95.5%		75 - 125 %	,			w .	
BPF0650-27RE1	(CARB-1A)		Soi	1		Sampl	ed: 06/2	20/06 16:00			
Benzene		EPA 8260B	ND		0.45	mg/kg wet	1x	6F27011	06/27/06 08:39	06/28/06 05:44	
Ethylbenzene		τi	ND		0.45	11	11	n	77	п	
Toluene		11	ND		0.45	u	*1	P	n	u	
o-Xylene		49	ND		0.45	4	**	Ħ	•)	и	
m,p-Xylene	•	**	ND		0.90	11	**	"		IF.	
Xylenes (total)		4)	ND	*****	1,4	11	"	ır		10	
Surrogate(s):	I,2-DCA-d4			91.7%		75 - 125 %	"			,,	
	Toluene-d8			51.9%		75 - 125 %				17	S-0
	4-BFB			50.6%		75 - 125 %				17	S-0
BPF0650-28RE1	(CARB-1B)		Soi	1		Sampl	ed: 06/2	20/06 16:00			
Benzene		EPA 8260B	100		18	mg/kg wct	40x	6F27011	06/27/06 08:39	06/28/06 15:02	
Ethylbenzene		₩	130		18	u	11	-	u	19	
Toluene		•	130		18	11	41	•		"	
o-Xylene		•	63		18		11	•	"	II .	
m,p-Xylene		-	260		36	ч	41	н		tr .	
Xylenes (total)		н	320		55	ч	н	<b>4</b>		п	
Surrogate(s):	1,2-DCA-d4			96.8%		75 - 125 %	lπ			N	
	Toluene-d8			93.5%		75 - 125 %	W			e e	
	4-BFB			97.0%		75 - 125 %	"			n	

TestAmerica - Seattle, WA

Cherie Howland, Project Manager





SEATTLE, WA

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608 Project Name:

Project Manager:

Shell #135701

Project Number:

[none] Stewart Dalie Report Created:

08/10/06 15:35

	Gasoline F	lange Hyd			015M - La - Seattle, W		itory Qua	lity Co	ntrol	Results				111111
QC Batch: 6F27035	Soil Pro	eparation M	lethod:	EPA 5030B (	(МеОН)								•	
Analyte	Method	Result	MD	L* MRI	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F27035-BLK1)								Extr	acted:	06/27/06 10	):47			
Gasoline Range Hydrocarbons	EPA 8015 med.	ND		4.00	mg/kg wet	lx	-				••		06/27/06 18:31	
Surrogate(s): 4-BFB (FID)		Recovery:	111%	1	imits: 50-150%	,,							06/27/06 18:31	
LCS (6F27035-BS1)								Extr	acted:	06/27/06 10	):47			
Gasoline Range Hydrocarbons	EPA 8015 mod.	22.7		4.00	mg/kg wet	1x		22.0	103%	(75-125)			06/27/06 17:00	
Surrogate(s): 4-BFB (FID)	·-	Recovery:	119%	1	imits: 50-150%	b			-				06/27/06 17:00	
Duplicate (6F27035-DUP1)				QC Source	e: BPF0659-21			Extr	acted:	06/27/06 10	):47	-		
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		3.97	mg/kg wet	lĸ			-			(40)	06/29/06 06:58	
Surrogate(s): 4-BFB (FID)		Recovery:	101%	1	.tmlts: 50-150%	ir							06/29/06 06:58	
Duplicate (6F27035-DUP2)				QC Source	e: BPF0650-25			Extr	acted:	06/27/06 10	D:47			
Gasoline Range Hydrocarbons	EPA 8015 mod.	ND		4.00	mg/kg wet	1x	ND		-		75.09	6 (40)	06/29/06 07:28	RP
Surrogate(s): 4-BFB (FID)		Recovery:	98.7%	1	.imits: 50-150%	"		-					06/29/06 07:28	
Matrix Spike (6F27035-MS1)				QC Source	e: BPF0650-21			Extr	acted:	06/27/06 10	0:47			
Gasoline Range Hydrocarbons	EPA 8015 mod.	17.6		4,03	mg/kg wet	lx		22.2	79.3%	(42-125)			06/29/06 07:58	

Limits: 50-150%

Recovery: 100%

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Surrogate(s): 4-BFB (FID)

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06/29/06 07:58



11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A

Emeryville, CA 94608

Project Name:

Shell #135701

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 15:35

### Diesel Hydrocarbons (C10-C28) and Heavy Oil (C28-C40) by EPA Method 8015 (modified) - Laboratory Quality Control Results

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QC Batch: 6F29068	Soil Pr	eparation N	lethod: EPA	3550B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F29068-BLK1)	·							Extr	acted:	06/29/06 14	:04			
Diesel Range Hydrocarbons	EPA 8015 mod.	ND		10.0	mg/kg wet	1 x			-				06/30/06 03:55	
Heavy Oil Range Hydrocarbons	U	ND		25.0		"			-				ir	
Surrogate(s): 2-FBP Octacosane		Recovery:	95.0% 105%	L	imits: 50-150% 50-150%	# #							06/30/06 03:55 "	
LCS (6F29068- <u>BS1)</u>								Extr	acted:	06/29/06 14	:04			
Diesel Range Hydrocarbons	EPA 8015 mod.	59.8		10.0	mg/kg wet	Ix		66.7	89.7%	(71-120)	<b></b>		06/30/06 04:24	
Surrogate(s): 2-FBP		Recovery:	95.8%	L	imits: 50-150%	•							06/30/06 04:24	1
Octacosane			97.8%		50-150%	*							"	
Duplicate (6F29068-DUP1)				QC Source	e: BPF0650-26			Exte	acted:	06/29/06 14	:04			
Diesel Range Hydrocarbons	EPA 8015 mod.	ND		10.0	mg/kg wet	lĸ	ND		-		NR	(40)	06/30/06 17:56	
Heavy Oil Range Hydrocarbons	н	ND	•••	25.0	11	"	ND		-		NR		*	
Surrogate(s): 2-FBP	·	Recovery:	99.0%	L	imits: 50-150%	"							06/30/06 17:56	i
Octacosane			102%		50-150%	"							"	
Matrix Spike (6F29068-MS1)				QC Source	e: BPF0650-26			Ext	racted:	06/29/06 14	:04			
Diesel Range Hydrocarbons	EPA 8015 mod.	61.5		9.90	mg/kg wet	1x	ND	66.0	93.2%	(45-144)			06/30/06 18:26	
Surrogate(s): 2-FBP		Recovery:	104%	L	imits: 50-150%	,,							06/30/06 18:26	
Octacosane			101%		50-150%	"							Ð	

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SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

Project Name:

Shell #135701

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Number: Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 15:35

	Total Metal	s by EPA 60	4.5	1	ethods - I - Seattle, W				ontro	l Results	1			
QC Batch: 6F29056	Soil Pre	paration Met	hod: EPA	3050B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (6F29056-BLK1)								Extr	acted:	06/29/06 14	:29			
Lead	EPA 6020	0.615		0.500	mg/kg wet	1x			-				07/03/06 17:32	
LCS (6F29056-BS1)	_							Extr	acted:	06/29/06 14	:29			
Lead	EPA 6020	39.6		0.500	mg/kg wet	1x		40.0	99.0%	(80-120)			07/03/06 17:37	
Duplicate (6F29056-DUP1)				QC Source	e: BPF0650-1	2		Extr	acted:	06/29/06 14	:29			
Lead	EPA 6020	3.44		0.500	mg/kg wet	1x			-			(30)	07/03/06 17:54	
Matrix Spike (6F29056-MS1)				QC Source	e: BPF0650-1	2		Extr	acted:	06/29/06 14	:29			
Lead	EPA 6020	41.8	-	0.500	mg/kg wet	lх		40.0	104%	(29-166)	-		07/03/06 17:49	
Post Spike (6F29056-PS1)				QC Source	e: BPF0650- <u>1</u>	2		Extr	acted:	06/29/06 14	:29			
Lead	EPA 6020	0.105			ug/ml	1x	·	0.0995	106%	(75-125)			07/03/06 17:43	

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Cherie Howland, Project Manager

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Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Name:

Shell #135701

Stewart Dalie

Project Number: Project Manager: [none]

Report Created:

08/10/06 15:35

TCLP Volatile Organic	Compounds by EPA	A Method 1311/8260I	3 - Laboratory Qualit	y Control Results

QC Bate	h: 6G10056	TCLP I	reparation	Method:	EPA 5030	)B									
Analyte	-	Method	Result	MI	OL* MR	L Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Note
Blank (6G100	56-BLK1)								Extr	acted:	07/03/06 11	:39			
Benzene		EPA 8260B	ND		0.0800	mg/l	1x		••					07/07/06 16:17	
Surrogate(s):	1,2-DCA-d4 Toluene-d8 4-BFB		Recovery:	93.0% 99.4% 98.5%		Limits: 67-135% 70-130% 70-130%								07/07/06 16:17	
LCS (6G1005	6-BS1)				-				Extr	acted:	07/07/06 09	:41			
Benzene		EPA 8260B	0.752		0.0800	mg/l	lĸ		0.800	94.0%	(80-120)			07/07/06 10:58	
Surrogate(s):	1,2-DCA-d4 Toluene-d8 4-BFB		Recovery:	94.0% 97.2% 101%		Limits: 67-135% 70-130% 70-130%	" "							07/07/06 10:58 "	
									Extr	acted:	07/07/06 09	:41			
LCS Dup (6G	10056-BSD1)														
LCS Dup (6G	10056-BSD1)	EPA 8260B	0.801		0.0800	mg/l	lx	-	0.800	100%	(80-120)	6.31%	(25)	07/07/06 11:28	

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5900 Hollis Street, Suite A Emeryville, CA 94608

Shell #135701 Project Name:

Project Number: [none]

Project Manager: Stewart Dalie Report Created:

08/10/06 15:35

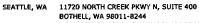
### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

QC Batch: 6F27011	Soil Pre	paration M	ethod: EPA	5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Not
Blank (6F27011-BLK1)					_		<u> </u>	Extra	acted:	06/27/06 08	:39			
iert-Amyl Methyl Ether	EPA 8260B	ND		0.50	mg/kg wet	lx			-			(	06/28/06 00:25	
Benzene	41	ND		0.10	ц	•			-				11	
ert-Butyl Alcohol	4	ND		5.0	II .	•								
1,2-Dibromoethane (EDB)	u	ND		0.05	ır	н					•-		ш	
1,2-Dichloroethane (EDC)	u	ND		0.05	ıı	"			-		••			
Diisopropyl ether	u	ND		0.50	Į.				-	-				
Ethyl tert-butyl ether		ND		0.50	n				-				19	
Ethanol	n	ND		20	10			**	-				17	
Ethylbenzene	Ñ	ND	***	0.10	и	lt•			-				11	
Methyl tert-butyl ether	H	ND		0.50	п	"			-				п	
l'oluene :	II.	ND		0.10	7			-	-				e .	
o-Xylene	N	ND		0.10	•	n							11	
n,p-Xylene	ti ti	ND		0,20	n								ш	
Kylenes (total)	₦	ND		0.30	11	•							Ü	
Surrogate(s): 1,2-DCA-d4		Recovery:	111%	Lii	mits: 75-125%	, "							06/28/06 00:25	
Toluene-d8		•	103%		75-1259	6 "							,,	
4-BFB			101%		75-1259	6 "							μ	
Blank (6F27011-BLK <u>2)</u>								Extr	acted:	06/27/06 08	3:39			
ert-Amyl Methyl Ether	EPA 8260B	ND		0.50	mg/kg wet	1x			_	· <u></u>			06/28/06 12:31	
Benzene		ND		0.10		"			_				11	
ert-Butyl Alcohol	ıı	ND		5.0	•	и			_				п	
,2-Dibromocthane (EDB)	И	ND		0.05		н	-						11	
,2-Dichloroethane (EDC)	ıl	ND		0.05	-	п							n	
Diisopropyl ether	п	ND		0.50									н	
Ethyl tert-butyl ether	п	ND		0.50	•	.,			_					
Ethanol	п	ND		20	τi				_					
Ethylbenzene	4	ND		0.10	*1	•		_						
Methyl tert-butyl ether		ND		0.50	71	4							u	
Naphthalene	•	ND		0.50		4							(1	
Foluene		ND		0.10		,							n .	
-Xylene	**	ND	***	0.10		77							н	
m,p-Xylene	**	ND		0.20		11							н	
mile seltone	to to	ND	<b></b>	0.30	H								•	
Xvienes (total)														
Xylenes (total)  Surrogate(s): 1,2-DCA-d4	···	Recovery:	114%		mits: 75-125%	. "							06/28/06 12:31	

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Cambria Environmental Technology-Emeryville

5900 Hollis Street, Suite A

Emeryville, CA 94608

Shell #135701 Project Name:

Project Number: [none]

Stewart Dalie

Report Created:

08/10/06 15:35

### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

Project Manager:

QC Batch: 6F27011	Soil Pre	paration M	ethod: EPA	5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Note
LCS (6F27011-BS1)								Extr	acted:	06/27/06 08	:39			
tert-Amyl Methyl Ether	EPA 8260B	2.0		0.50	mg/kg wet	lx		2.00	100%	(70-130)			06/27/06 22:12	
Benzene	п	2.0		0.10	••	"		4	100%	(75-125)			•	
tert-Butyl Alcohol		11		5.0	и	"		10.0	110%	(70-130)			4	
1,2-Dibromoethane (EDB)	п	2.0		0.05	ėl	ч		2.00	100%	ч			a a	
1,2-Dichloroethane (EDC)	u	2.0		0.05	•	"		*1	100%	ц			4	
Diisopropyl ether	ч	2,1		0.50	••	•		.,	105%			-	11	
Ethyl tort-butyl ether	II .	2.0		0.50	••	"		.,	100%				11	
Ethanol	ıı .	110		20	n	u		100	110%				11	
Ethylbenzene	п	1.9		0.10		ч		2.00	95.0%	(75-125)			а	
Methyl tert-butyl ether	п	2.0		0.50	•	u		u	100%	(71-127)			41	
l'oluene	п	1.9		0.10		ч	_	**	95.0%	(75-125)			41	
-Xylene	u .	1.9		0.10		ч		4	95.0%					
n,p-Xylene	п	4.1		0.20	н	u		4.00	102%	Ħ			п	
Xylenes (total)	п	6.0		0.30		u		6.00	100%	п			п	
Surrogate(s): 1,2-DCA-d4		Recovery:	95.0%	Li	mits: 75-125%	"							06/27/06 22:12	!
Toluene-d8		itaborary.	97.0%	2.	75-125%								n	
4-BFB			102%		75-125%	n							,,	
Matrix Spike (6F27011-MS1)				QC Source	: BPF0650-22			Extr	acted:	06/27/06 08	:39			
tert-Amyl Methyl Ether	EPA 8260B	1.4		0.36	mg/kg wet	lx		1.46	95.9%	(60-140)			06/27/06 22:39	
Benzene	11	1.5		0.07	••	"		"	103%	(75-131)			м	
ert-Butyl Alcohol	ıı .	7.8		3.6	*1	и		7.30	107%	(60-140)			н	
1,2-Dibromoethane (EDB)	п	1.4		0.04	н	ч		1.46	95.9%	te .			п	
1,2-Dichloroethane (EDC)	41	1.4		0.04		н		11	95.9%	u			•	
Diisopropyl ether	11	1.5		0.36	•)	4		4	103%	v			-	
Ethyl tert-butyl ether	п	1.4		0.36	••	ч		**	95.9%	·			•	
Ethanol	4	65		15	4)	4		73.0	89.0%	u			•	
Ethylbenzone	u u	1.4		0.07		11		1.46	95.9%	u			•	
Methyl tert-butyl ether	41	1.4		0.36	•	<b>91</b>		4	95.9%	(71-130)				
Foluene	"	1.4		0.07	**	**		41	95.9%	(75-125)			-	
-Xylene	a	1.4	•••	0.07	41	и			95.9%	(60-140)			•	
n,p-Xyiene	41	3.1	***	0.15	•	4		2.92	106%				a	
Kylenes (total)	a	4.5		0.22	*1	<b>51</b>		4.38	103%	•			w	
Surrogate(s): 1,2-DCA-d4		Recovery:	94.5%	Li	mits: 75-125%	"							06/27/06 22:39	,
Toluene-d8		-	91.8%		75-125%									

TestAmerica - Seattle, WA

Cherie Howland, Project Manager

4-BFB

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90.8%

75-125% "



SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

Project Name: Project Number: Shell #135701

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Manager:

[none] Stewart Dalie Report Created:

08/10/06 15:35

### Oxygenates by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F27011	Soil Pre	paration M	lethod: EPA	5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (6F270	11-MSD1)			QC Source	: BPF0650-22			Ext	racted:	06/27/06 08	:39			
tert-Amyl Methyl Ether	EPA 8260B	1.5		0.39	mg/kg wet	lx		1.58	94.9%	(60-140)	6.90%	(40)	06/27/06 23:05	
Benzene	•	1.6		0.08	n	-		41	101%	(75-131)	6.45%	(25)	u	
tert-Butyl Alcohol	-	8.5		3.9	•	"		7.89	108%	(60-140)	8.59%	(50)	la .	
1,2-Dibromoethane (EDB)	•	1.5		0.04	•1	4		1.58	94.9%	*1	6.90%	(40)	19	
1,2-Dichloruethane (EDC)	a)	1.6		0.04	•)			41	101%	71	13.3%		19	
Diisopropyl ether	•	1.6		0.39	u			4	101%	n	6.45%	(50)	·	
Ethyl tert-butyl ether	u	1.5		0.39	4	"		11	94.9%		6.90%		ч	
Ethanol	ч	74		16	**			78.9	93.8%	n	12.9%	•	•	
Ethylbenzene	N	1.5		0.08	•)	ч		1.58	94.9%	II	6.90%	(25)	, ,	
Methyl tert-butyl ether	u u	1.5		0.39	*1	u			94.9%	(71-130)	6.90%			
Toluene	*	1.6		0.08	*1	4		11	101%	(75-125)	13.3%	. "		
o-Xylene	**	1.5		0.08	11			11	94.9%	(60-140)	6.90%	11	41	
m,p-Xylene	11	3.3		0.16	11			3.15	105%	h	6.25%	4	11	
Xylenes (total)	91	4.8		0.24	. 4	4		4.73	101%	a	6.45%	. 4	11	
Surrogate(s): 1,2-DCA-d4		Recovery:	94.9%	Li	imits: 75-125%	"							06/27/06 23:0	5
Toluene-d8		•	94.3%		75-125%	n							w	
4-8FB			91.4%		75-125%	**							*	

TestAmerica - Seattle, WA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety





SEATTLE, WA

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Cambria Environmental Technology-Emeryville

Project Name:

Shell #135701

5900 Hollis Street, Suite A Emeryville, CA 94608

Project Number:

[none]

Report Created:

Project Manager: Stewart Dalie 08/10/06 15:35

#### Notes and Definitions

#### Report Specific Notes:

A-01 The sample was received unpreserved in a core.

В

Analyte detected in the method blank.

D-08

Results in the diesel organics range are primarily due to overlap from a gasoline range product.

G-02

The chromatogram for this sample does not resemble a typical gasoline pattern. Please refer to the sample chromatogram.

RP-4

Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

S-04

The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

SR-4

Due to sample matrix effects, the surrogate recovery was outside laboratory control limits.

SR-5

The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND

Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_

Not Reported / Not Available

dry

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

on a Wet Weight Basis.

RPD

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL

METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\*

METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil

Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting -Limits

Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature

Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Seattle, WA

Cherie Howland, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety



### Revised Chain of Custody

TEST AMERICA					Ø.	<b>?</b>	S	he	II O	il F	Pro	odi	ıct	s l	JS	Cł	nai	n (	Of (	Cus	ito	dy i	Re	co	rd		12	5₽	F	0650
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9405 S. W. Nimbus Ave., Boarrerton, OR 97008		ENCE & EN		إ						NAM	E OF P	N TO	BELL:														T		DA	.TE:
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5900 HOLLIS 5111								الإ		PRO.	<b>®</b> C⊤C0	NTACT (	(Report s	o).						_				CONS	<b>LTANT</b>	PROJEC	I NO:			
	A	EMML	944	30.	<u> </u>		7		<u>ソ</u>	SAM	PLER NA	WE(S) (	Ponty.										!				Water to the same	اعدا	re-e	*** Transfer (1997)
TURNARCURD TIME (CALENDAR DAYS):  STARDARD (30 DAY)   5 DAYS  3 DAYS		2 DAYS	<b>□</b> 24 H	OURS		RE	SULTS I		DECEMB								RE	QUE	STEE	ANA	LYS	S If mor	e than	one m	ethod i	s listed,	, circle			
TEMPERATURE ON RECEIPT C*					_													•									T	Т	П	Container PID Readings
SPECIAL INSTRUCTIONS OR HOTES :												(\$4.824)		10 mg																or Laboratory Notes
6/24/00 10:00 H	,7°	W/o								te (BMS) eAto	fPH - Extractable (8615) DRO	(BOZIE, 602, 0260/124)	• Orgenetes (92600)	VOCs Publiet+ Oxygenstes (4			(As, Cd, Cr, Ph)	4												
Field Sample Identification	SAM	PLING	MATRIX	-		ENEXVA	THE		100. OF		ě	Ĕ	Ě	Ę			i	100							- 1				- ]	
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SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG. BPTC650

CLIENT NAME: REC. BY (PRINT) WORKORDER:	SHEII EH			DATE REC'D AT LAB: TIME REC'D AT LAB: DATE LOGGED IN:					DRINKING \ WASTE WA	TER YES/NO
•		LAB	DASH	CLIENT ID	CONTAINER DESCRIPTION	PRESERV ATIVE	рН	SAMPLE MATRIX		REMARKS: CONDITION (ETC.)
CIRCLE THE APPROP	RIATE RESPONDE	SAMPLE#	#		BKAY NE			5_	6120	
Custody Seal(s)	Present / Absent	-23	<u> </u>	SP-18						
Chain-of-Custody	Present / Absent*	-25	<b>}</b>	SP-10			<del>  \</del>	<del>                                     </del>	-	
Traffic Reports or - Packing List:	Present Absent	-24		CARB-IS	802 me		1		1	
Airbill:	Airbill / Sticker Present (Absen)	-28	=	CARB						
. Airbìll #:	Present / Absent	<u> </u>	<del>                                     </del>							
. Sample Labels:	Listed / Not Listed · on Chain-of-Custody	,	-					-		
3. Sample Condition:	Intact/ Broken*/-							F		
. Does information on	chain-of-custody,									
traffic reports and s	ample labers Yes / No*		1-			10	0		-	
Sample received with hold time?	in Yeş/No*		<del></del>			1	1			
1. Adequate sample vol	ume Ves / No*		1		0	1.	-			
received? 2 Proper preservatives	used? Yes / No*	<u> </u>	4	,						
13. Trip Blank / Temp Bi (circle which, if yes)	ank Received?					_				
14. Read Temp:	4.3. 4.3.	.	-				,	-	-	
Corrected Temp:	+/-2°C? (Yes)/No**		1	7						· · ·
4	e requiring thermal pres.) ETALS / DFFON ICE			D, CONTACT PROJEC			-			

SRL Revision 7 Replaces Rev 5 (07/13/04) Clientine 07/19/05

# CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

## REMOVED

# CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

## REMOVED

# CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

## REMOVED

### ATTACHMENT G

Virgil Chavez Well Survey Report

July 13, 2006

Project No.: 2110-39A

Stu Dalie Cambria Environmental 5900 Hollis Street, Suite A Emeryville, Ca. 94608

Subject:

Monitoring Well Survey Shell Service Station 4255 MacArthur Blvd. Oakland, CA

Dear Stu:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on July 12, 2006. The benchmark for this survey was a cut square in southeasterly return of southerly corner at intersection of High Street and MacArthur Boulevard. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83).

Benchmark Elevation 177.397 feet (NGVD 29).

<u>Latitude</u>	<u>Longitude</u>	Northing	<u>Easting</u>	Elev.	Desc.
37.7873237	-122.1954886	2113582.38	6071742.26	170.11 169.89	RIM MW-6 TOC MW-6
37.7872912	-122.1953444	2113569.81	6071783.68	171.10 170.87 174.48	RIM MW-7 TOC MW-7 RIM MW-8
37.7875754	-122.1951944	2113672.49	6071828.92	174.13 175.57	TOC MW-8 RIM MW-9
37.7874021	-122.1950506	2113608.64	6071869.31	175.20	TOC MW-9

Sincerely,

Virgil D. Chavez, PLS 6323