

R02433



Shell Oil Products US

February 18, 2005

Roseanna Garcia-LaGrille  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Alameda  
FEB 23 2005  
Environmental Health

**Subject: Former Shell Service Station**  
2160 Otis Drive  
Alameda, California

Dear Ms. Garcia-LaGrille:

Attached for your review and comment is a copy of the *Groundwater Monitoring Report – Fourth Quarter 2004, Complete Closure Summary Package, and Request for Environmental Case Closure* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

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

Sincerely,

Shell Oil Products US

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

Karen Petryna  
Sr. Environmental Engineer

February 18, 2005

Ms. Roseanna Garcia-LaGrille  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Alameda County  
FEB 23 2005  
Environmental Health

Re: **Groundwater Monitoring Report - Fourth Quarter 2004, Complete Closure  
Summary Package, and Request for Environmental Case Closure**  
Former Shell Service Station  
2160 Otis Drive  
Alameda, California



Dear Ms. Garcia-La Grille:

Cambria Environmental Technology, Inc. (Cambria) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) in accordance with the quarterly reporting requirements of 23 CCR 2652d, to suspend further monitoring, and to request case closure. A complete closure summary package is included.

## **SITE BACKGROUND**

The site is located on the west side of intersection of Otis Drive and South Shore Center in a commercial section of Alameda, California (Figure 1). The former station layout included three underground storage tanks (USTs), two fuel dispensers, and a station building (Figure 2). The current site configuration consists of an Office Max business and parking area.


## **PREVIOUS WORK**

Shell discontinued operation of the service station, demolished the aboveground facilities, and removed the underground storage tanks (USTs) and piping in September 1997. Based on the results of more than five years of groundwater monitoring, the ACHCSA granted no further action status on November 14, 1995 for a waste-oil tank release. During the groundwater monitoring that occurred between 1989 and 1995, the depth to groundwater at this site varied between 3 and 5 feet with a flow direction of north-northeast. Based on groundwater samples collected from former wells MW-1 and MW-2 on October 11, 1994, the groundwater contained over 6,500 milligrams per liter of total dissolved solids, which exceeds state guidelines for use as a drinking water source.

**Cambria  
Environmental  
Technology, Inc.**

270 Perkins Street  
P.O. Box 259  
Sonoma, CA 95476  
Tel (707) 935-4850  
Fax (707) 935-6649

**August 1997 Pre-Characterization Sampling:** On August 1, 1997, soil samples (SB-A through SB-H) were collected near the gasoline tanks to pre-characterize soils before the tanks were removed. Of the 40 soil samples analyzed, the maximum benzene concentration was 0.15 parts per million (ppm). No benzene was detected in 35 of the soil samples. The maximum total petroleum hydrocarbon as gasoline (TPHg) detected in the soil samples was 46 ppm. No TPHg was detected in 30 of the soil samples.



**September 1997 Tank Removal Sampling:** On September 4, 1997, Paradiso Mechanical of San Leandro, California removed three 10,000-gallon fiberglass gasoline USTs and one 550-gallon fiberglass waste-oil tank, and the associated gasoline product piping, vent piping, and dispensers. Cambria collected soil samples from near the ends of the former gasoline tanks and the waste-oil tank. Grab groundwater samples were collected from the gasoline tank and the waste-oil tank excavations. Cambria also collected six soil samples from beneath the former dispensers and product piping and one soil sample from beneath each of two former hoists and the former garage oil/water separator. The tank removal and sampling activities were documented in Cambria's October 3, 1997 *Tank Removal and Sampling Report*. Although petroleum hydrocarbons were detected in the grab groundwater samples from both tank pits, no petroleum hydrocarbons were detected in the soil sample from near the waste oil tank pit and only low concentrations of petroleum hydrocarbons (non-detected TPHg, maximum 0.11 ppm benzene, maximum 0.49 ppm methyl tertiary butyl ether [MTBE]) were reported (by EPA Method 8020) in the soil samples collected around the gasoline tank pit. Maximum concentrations of 270 ppm TPHg, 1.7 ppm benzene, and 0.32 ppm MTBE were detected in shallow soil samples collected beneath the former dispensers.

**December 1997 Geoprobe® Investigation:** On December 17, 1997, Cambria collected soil and/or grab groundwater samples from Geoprobe® borings G-1 through G-7. The complete sampling activities and analytical results are documented in Cambria's January 28, 1998 *Investigation Report*. No TPHg, total extractable petroleum hydrocarbons as diesel, or benzene, toluene, ethylbenzene, or total xylenes (BTEX) were detected in any of the soil samples from near the former gasoline tanks, waste oil tank, or the northern corner of the property. MTBE was reported in one soil sample collected near the former gasoline tank pit at a concentration of 0.28 ppm by EPA Method 8020. No MTBE was detected in any other soil sample collected from any location onsite. Of the four soil samples collected from the former dispenser areas, only one (G-6-3.5') contained detectable concentrations of TPHg (5.2 ppm) or benzene (0.0059 ppm).

# C A M B R I A

No TPHg, BTEX, or MTBE was detected in the grab groundwater sample (G-5) collected from the northern corner of the site. Maximum concentrations of 2,900 parts per billion (ppb) TPHg, 240 ppb benzene, and 920 ppb MTBE (by EPA Method 8020) were detected in the two grab groundwater samples collected directly downgradient of the former dispensers and gasoline tanks.

**November 2000 Well Installation:** In November 2000, Cambria installed monitoring well MW-3 onsite (Figure 2). No TPHg, BTEX, or MTBE were detected in any of the soil samples collected from well MW-3.



**Groundwater Monitoring:** Following the installation of MW-3, groundwater monitoring was re-initiated. The monitoring program was suspended after the fourth quarter 2001 event, pending case closure review by the ACHCSA. The maximum detected TPHg, benzene, and MTBE concentrations in well MW-3 were 3,100 ppb, 250 ppb, and 180 ppb, respectively, during the four quarters of monitoring conducted. Depth to groundwater during this period ranged from 5.06 feet below grade (fbg) to 5.93 fbg.

**Downgradient Assessment 2003:** Based on a series of e-mail correspondences between Cambria, Shell, and the ACHCSA between June and October, 2002, investigation activities were proposed to assist with the agency's evaluation of closure potential. The purpose of these borings was to assess the lateral extent of benzene impact between the site and the nearest receptor (a lagoon located approximately 300 feet northeast/downgradient of the site), and also to assess whether preferential migration of benzene was occurring via the subsurface utility conduits. In December, 2003, Cambria performed offsite assessment activities to delineate the extent of petroleum hydrocarbons in groundwater downgradient of the site and near utility lines that likely intersect the shallow groundwater table. The results of these activities were documented in Cambria's November 30, 2004 *Site Investigation Report*, which concluded that the former release of petroleum constituents at the subject site had not migrated significantly down gradient; and, that preferential migration of constituents along utility lines was not apparent.

**Fourth Quarter 2004 Groundwater Monitoring:** Blaine Tech Services, Inc. (Blaine) of San Jose, California sampled the site well and prepared a summary table of field data and gasoline constituent concentrations. Well MW-3 was analyzed for all five fuel oxygenates in anticipation of preparation of a closure request. Cambria prepared a site vicinity map (Figure 1) and a groundwater elevation/chemical concentration map (Figure 2). Blaine's report, presenting the laboratory report, is included as Appendix A.

## REQUEST FOR CASE CLOSURE

The subject site has not been operated as a gasoline service station since 1997 when the petroleum tanks and equipment were removed. The site has been redeveloped for commercial use as an Office Max. Surrounding property use is primarily commercial and residential. The nearest sensitive receptor to this site is surface water (lagoons) located approximately 300 feet northeast and downgradient of the site. The nearest drinking water well is located more than 2,000 feet from the site. Based on elevated levels of TDS, the groundwater in the vicinity of the site is considered non-potable.



In 2002, Cambria requested case closure from the Alameda County Health Care Services Agency (ACHCSA). The case worker at the time requested additional information and monitoring of benzene concentrations in MW-3 to determine whether the former gas station operations pose a threat to the lagoons, since benzene the concentration in MW-3 at that time (250 ppb) was above the Ecological Protection Zone Tier 1 Standard of 71 ppb (electronic correspondence dated June 12, 2002 from Eva Chu of ACHCSA to Karen Petryna of Shell). The current benzene concentration is less than the detection limit of 0.50 ppb, and therefore well below the Ecological Protection Zone Tier 1 Standard, previously referenced. Further, the current constituent concentrations in well MW-3 are well below the San Francisco Bay Regional Water Quality Board Environmental Screening Levels for protection of surface water bodies.

Based on the above information and all previous documentation submitted to date, **Cambria respectfully requests that the ACHCSA grant case closure.** To assist with the closure review, Cambria has prepared a Site Closure Summary Form which includes all historical soil and groundwater results (Appendix B).

## RECOMMENDATIONS

Cambria recommends that the groundwater monitoring activities be discontinued, and that MW-3 be permitted for proper destruction. No further activities are warranted.

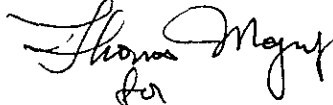
At Shell's request, and due to 17 years of data for this site, **groundwater monitoring has been suspended** pending a response to this closure request from the ACHCSA.

# C A M B R I A

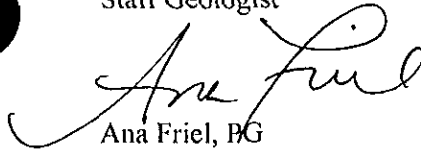
## CLOSING

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

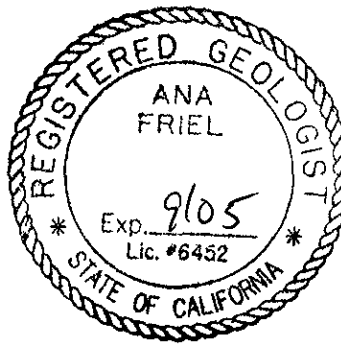
Sincerely,  
**Cambria Environmental Technology, Inc.**



for  
Susan Lukaszewicz  
Staff Geologist



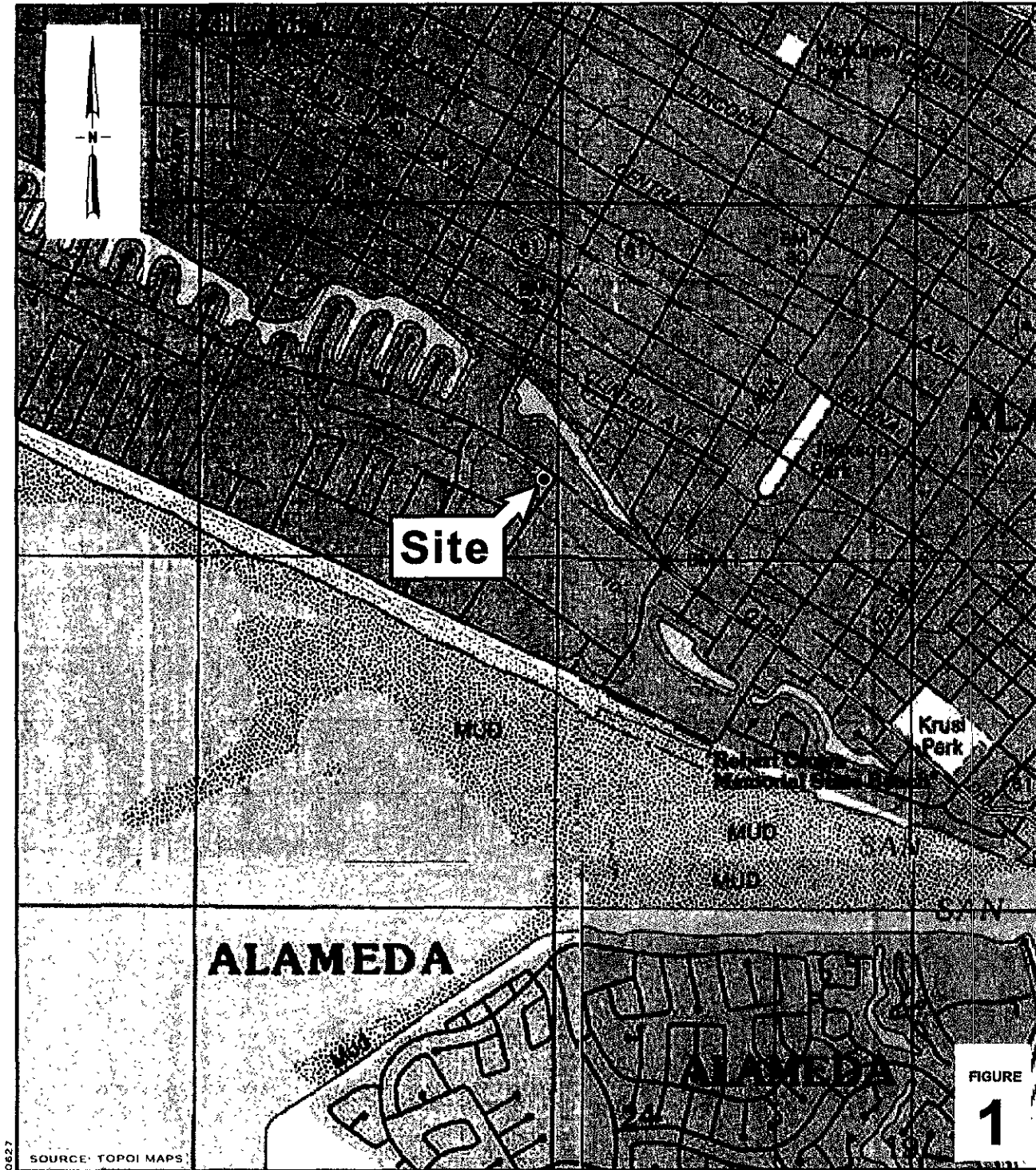
Ana Friel, PG  
Senior Project Geologist  
PG 6452



### Attachments:

- Figure 1. Site Vicinity Map
- Figure 2. Groundwater Elevation/Chemical Concentration Map
  
- Appendix A. Blaine Tech Services, Inc. - Groundwater Monitoring Report
- Appendix B. Site Closure Summary Form

cc: Karen Petryna, Shell  
Harsch Investment Group, 523 West Plaza, Alameda, CA 94501  
Betty Graham, SFBRWQCB



0627 SOURCE: TOPOI MAPS

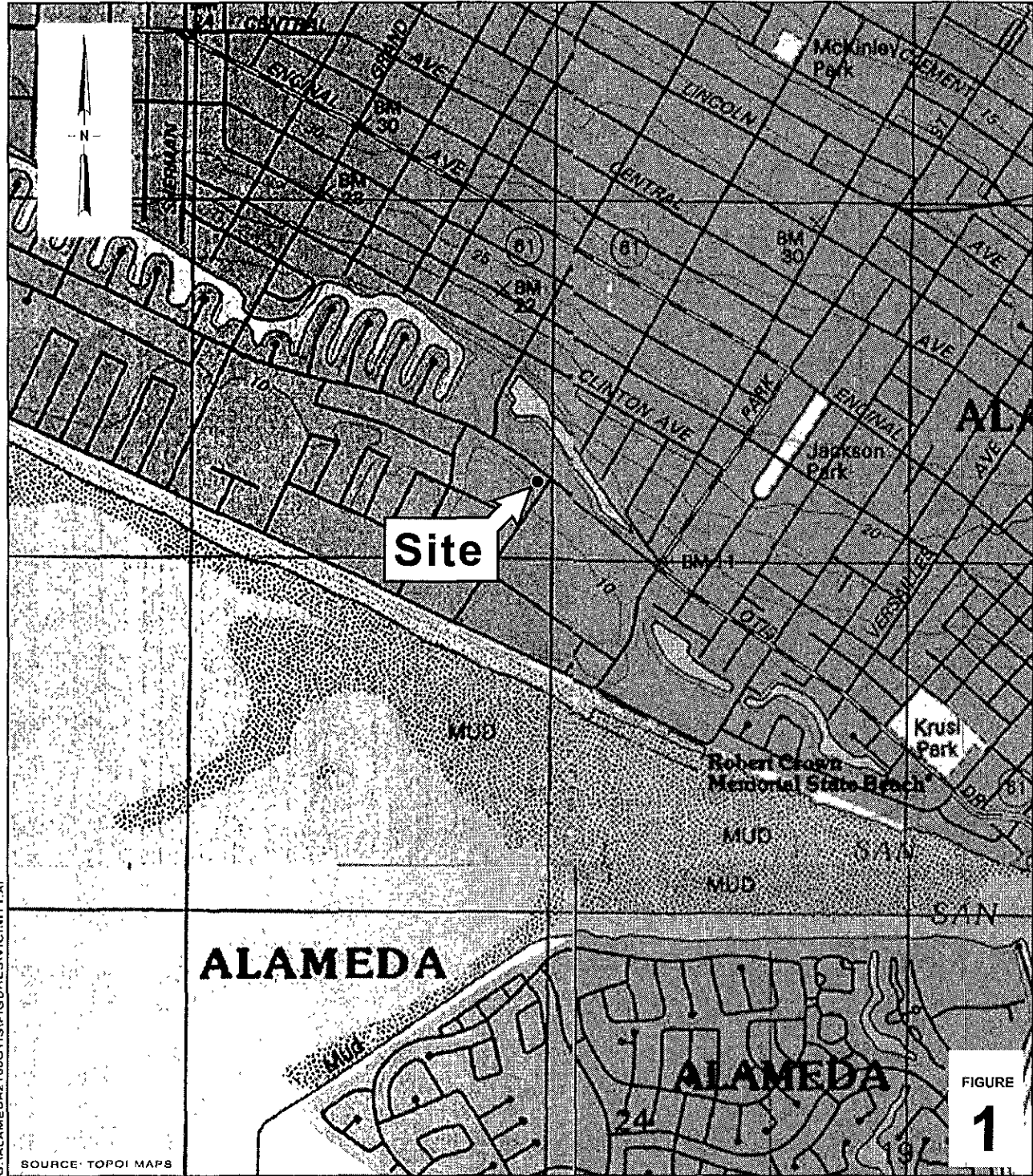
0 1/8 1/4 1/2 1  
SCALE (MILES)

**Former Shell Service Station**  
2160 Otis Drive  
Alameda, California



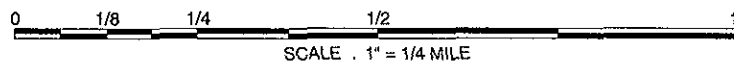
**Site Vicinity Map**

C A M B R I A



G:\ALAMEDA\21600TIS\FIGURE\VICINITY.A1

SOURCE: TOPOI MAPS



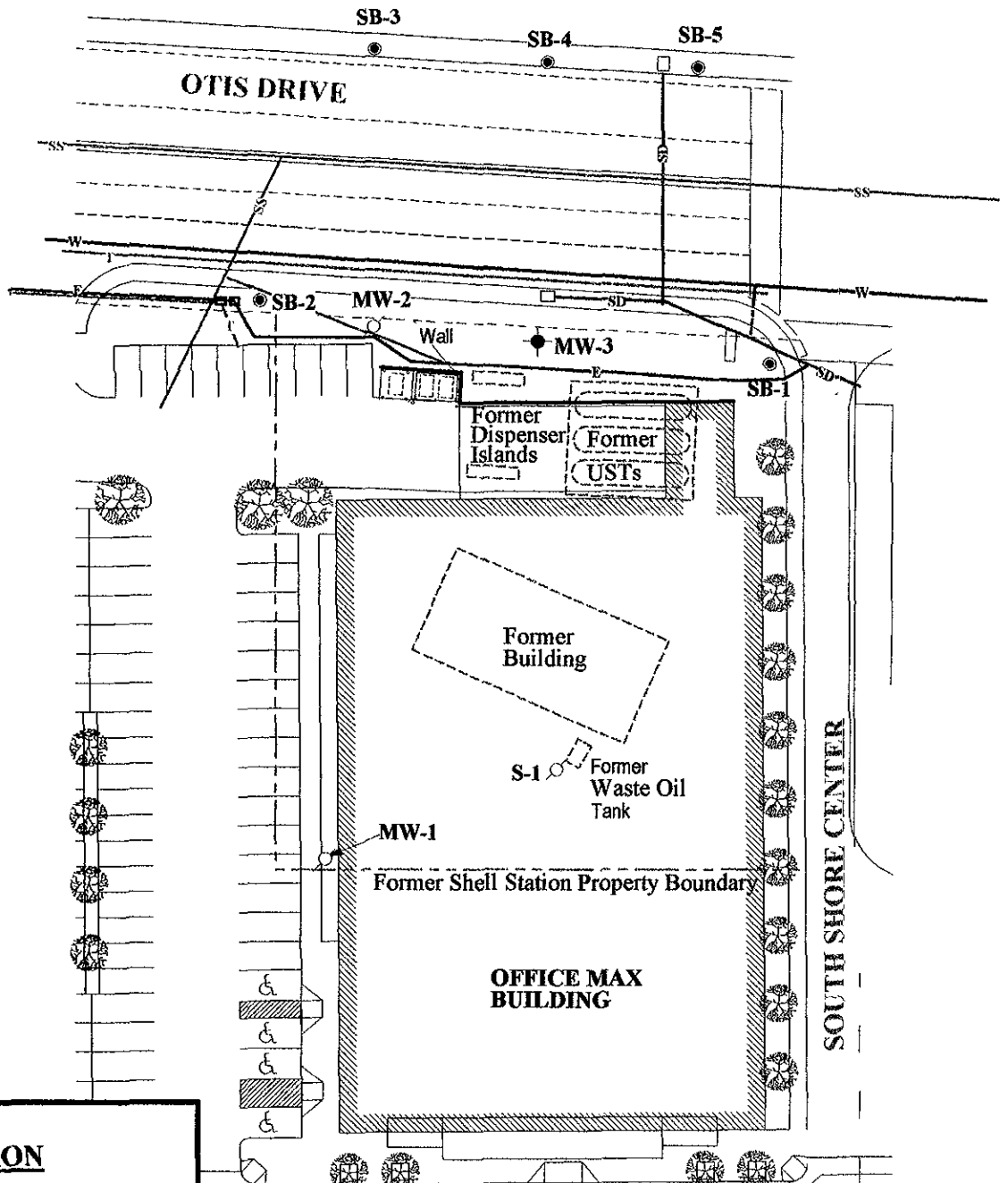
**Former Shell Service Station**  
 2160 Otis Drive |  
 Alameda, California  
 Incident #98995140



C A M B R I A

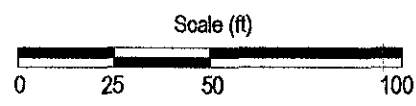
**Vicinity Map**





**EXPLANATION**

- Groundwater monitoring well
- Destroyed monitoring well
- Soil boring
- Water line
- Storm Drain
- Electrical
- Sanitary Sewer
- Communications



FIGURE

**3**

0827

**Shell-branded Service Station**  
 2160 Otis Drive  
 Alameda, California



CAMBRIA

**Utility Line Map**

# EQUIVA Services LLC Chain Of Custody Record

96445

Lab Identification (if necessary):  
 Address:  
 City, State, Zip:

**Equiva Project Manager to be Invoiced:**  
 Karen Petryna  
**2004.12-0414**

**INDEPENDENT WITNESS (OPTIONAL)**  
 9 8 9 9 5 1 4 0

**DATE:** 12/7/04  
**PAGE:** 1 of 1

**SAMPLING COMPANY:** Elaine Tech Services  
**LOG CODE:** BTSS  
**SITE ADDRESS (Client's name & City):** 2160 Otis Dr., Alameda  
**CLIENT ID#:** T0600101236

**ADDRESS:** 1890 Rogers Avenue, San Jose, CA - 95112  
**EDS DELIVERABLE TO (Name, Phone, Fax or E-mail):** Ana Eriel (707) 442-2700 sonomaedf@cambrils-env.com  
**CONSULTANT PROJECT NO.:** 041207554  
**BTS#:**

**PROJECT CONTACT (Name, e-mail, or FAX Report to):** Leon Gearhart  
**TELEPHONE:** 408-573-0555  
**FAX:** 408-573-7771  
**EMAIL:** lgearhart@elainetech.com

**USE ONLY:** Sudeon Sung

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

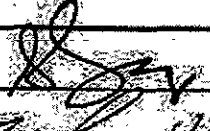
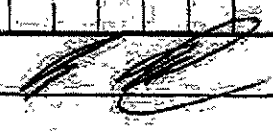

**REQUESTED ANALYSIS:**

CA - WQCS REPORT FORMAT  LIST AGENCY

**GC/MS MTBE CONFIRMATION:** HIGHEST \_\_\_\_\_ FURTHEST \_\_\_\_\_ ALL \_\_\_\_\_

**SPECIAL INSTRUCTIONS OR NOTES:** CHECK BOX IF EDS IS NEEDED:

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas Extractable	RTEX	MTBE (D0218) - (ppm RL)	MTBE (D0008) - (ppm RL)	Ox. Hydrocarbons (O) - (ppm RL)	TPH - Direct Extractable (ppm RL)	FIELD NOTES:
		DATE	TIME									
	MW-3	12/10/04	1525	GW	3	X	X		X			Contain/Preservative or PID Readings or Laboratory Notes  3°C TEMPERATURE ON RECEIPT C°

Released by: (Signature) 	Received by: (Signature) 	Date: 12/7/04	Time: 1201
Released by: (Signature) 	Received by: (Signature) Deena Hamilton / STU-SF	Date: 12/08/04	Time: 1546

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue

San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 041207-SS4  
98995140

Received: 12/08/2004 12:01

Site: 2160 Otis Dr., Alameda

**Legend and Notes**

**Result Flag**

Q1

Quantit. of unknown hydrocarbon(s) in sample based on gasoline.

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue  
San Jose, CA 95112-1105  
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 041207-SS4  
98995140

Received: 12/08/2004 12:01

Site: 2160 Otis Dr., Alameda

Batch QC Report			
Prep(s):	5030B	Test(s):	8260B
Matrix Spike (MS / MSD):	Water	QC Batch #	2004/12/16-2A-68
MS/MSD		Lab ID:	2004-12-0379-006
MS: 2004/12/16-2A-68-029	Extracted: 12/16/2004	Analyzed:	12/16/2004 18:29
		Dilution:	1.00
MSD: 2004/12/16-2A-68-047	Extracted: 12/16/2004	Analyzed:	12/16/2004 18:47
		Dilution:	1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
Benzene	21.9	23.8	ND	25	87.6	95.2	8.3	69-129	20		
Toluene	22.4	24.3	ND	25	89.6	97.2	8.1	70-130	20		
Methyl tert-butyl ether	23.5	24.2	ND	25	94.0	96.8	2.9	65-165	20		
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	424	411		500	84.8	82.3		73-130			
Toluene-d8	449	462		500	89.8	92.5		81-114			

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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San Jose, CA 95112-1105  
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 041207-SS4  
98995140

Received: 12/08/2004 12:01

Site: 2160 Otis Dr., Alameda

Batch QC Report			
Prep(s) 5000B			Test(s) 8260B
Laboratory Control Spike	Water		QC Batch #2004/12/16-2A.68
LCS 2004/12/16-2A.68-021	Extracted 12/16/2004		Analyzed: 12/16/2004-17:20
LCSD			

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	21.2		25	84.8			65-165	20		
Benzene	20.0		25	80.0			69-129	20		
Toluene	20.9		25	83.6			70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	396		500	79.2			73-130			
Toluene-d8	442		500	88.4			81-114			

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue  
San Jose, CA 95112-1105  
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 041207-SS4  
98995140

Received: 12/08/2004 12:01

Site: 2160 Otis Dr., Alameda

Batch QC Report					
Prep(s): 5030B		Water		Test(s): 8260B	
Method: Blank				QC Batch #: 2004/12/16-2A 68	
MB: 2004/12/16-2A 68-039				Date Extracted: 12/16/2004 17:39	
Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	12/16/2004 17:39	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	12/16/2004 17:39	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	12/16/2004 17:39	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	12/16/2004 17:39	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	12/16/2004 17:39	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	12/16/2004 17:39	
Benzene	ND	0.5	ug/L	12/16/2004 17:39	
Toluene	ND	0.5	ug/L	12/16/2004 17:39	
Ethylbenzene	ND	0.5	ug/L	12/16/2004 17:39	
Total xylenes	ND	1.0	ug/L	12/16/2004 17:39	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	91.1	73-130	%	12/16/2004 17:39	
Toluene-d8	89.4	81-114	%	12/16/2004 17:39	

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue  
San Jose, CA 95112-1105  
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 041207-SS4  
98995140

Received: 12/08/2004 12:01

Site: 2160 Otis Dr., Alameda

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-3	Lab ID:	2004-12-0414-01
Sampled:	12/07/2004 15:25	Extracted:	12/16/2004 23:26
Matrix:	Water	QC Batch#:	2004/12/16-2A.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	120	50	ug/L	1.00	12/16/2004 23:26	Q1
Benzene	ND	0.50	ug/L	1.00	12/16/2004 23:26	
Toluene	ND	0.50	ug/L	1.00	12/16/2004 23:26	
Ethylbenzene	ND	0.50	ug/L	1.00	12/16/2004 23:26	
Total xylenes	ND	1.0	ug/L	1.00	12/16/2004 23:26	
tert-Butyl alcohol (TBA)	13	5.0	ug/L	1.00	12/16/2004 23:26	
Methyl tert-butyl ether (MTBE)	88	0.50	ug/L	1.00	12/16/2004 23:26	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	12/16/2004 23:26	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	12/16/2004 23:26	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	12/16/2004 23:26	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	89.5	73-130	%	1.00	12/16/2004 23:26	
Toluene-d8	89.0	81-114	%	1.00	12/16/2004 23:26	

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue

San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 041207-SS4

98995140

Received: 12/08/2004 12:01

Site: 2160 Otis Dr., Alameda

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-3	12/07/2004 15:25	Water	1



**Blaine Tech Services, Inc.**

December 22, 2004

1680 Rogers Avenue  
San Jose, CA 95112-1105  
Attn.: Leon Gearhart  
Project#: 041207-SS4  
Project: 98995140  
Site: 2160 Otis Dr., Alameda

Dear Mr. Gearhart,

Attached is our report for your samples received on 12/08/2004 12:01  
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after  
01/22/2005 unless you have requested otherwise.

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

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

Sincerely,



Melissa Brewer  
Project Manager

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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**Abbreviations:**

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to March 22, 2001, analyzed by EPA Method 8015.

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

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to March 22, 2001, analyzed by EPA Method 8020.

MTBE = Methyl-tertiary-butyl ether

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

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

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

TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B

TOC = Top of Casing Elevation

GW = Groundwater

BH-C = Grab Ground Water Sample

ug/L = parts per billion

msl = Mean sea level

ft = Feet

<n = Below detection limit

**Notes:**

a = Chromatogram pattern indicated an unidentified hydrocarbon.

b = Quantity of unknown hydrocarbon in sample based on gasoline.

Well MW-3 surveyed May 9, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-2	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	3/20/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.23	NA
MW-3	3/22/2001	1,000	1,100	80	16	7.9	72	NA	72	NA	NA	NA	NA	NA	5.21	NA
MW-3	5/30/2001	3,100	<1,500	170	50	150	340	NA	100	NA	NA	NA	NA	NA	5.57	NA
MW-3	9/17/2001	130	130	0.79	<0.50	<0.50	<0.50	NA	180	NA	NA	NA	NA	NA	5.93	NA
MW-3	12/20/2001	1,800	<900	250	4.8	4.0	51	NA	13	NA	NA	NA	NA	NA	5.06	NA
MW-3	8/27/2003	2,900	NA	96	26	14	81	NA	7.2	NA	NA	NA	NA	9.22	5.71	3.51
MW-3	12/7/2004	120 b	NA	<0.50	<0.50	<0.50	<1.0	NA	88	<2.0	<2.0	<2.0	13	9.22	6.05	3.17
BH-C	12/17/1992	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-D	12/17/1992	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-E	12/17/1992	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/10/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/9/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/17/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/10/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/24/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/23/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/1/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/2/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/8/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/20/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/15/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/13/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/11/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	11/1/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/13/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/20/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	5/23/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA

**APPENDIX B**  
**Site Closure Summary Form**

## SITE INFORMATION SUMMARY

### I. SITE INFORMATION

Site Facility Name: Former Shell Service Station				
Site Facility Address: 2160 Otis Drive, Alameda, California				
RWQCB LUST Case No:			URF Filing Date: 9/26/95	
Responsible Parties (include addresses and phone numbers)				
Former Operator: Shell Oil Products US			current property owner: Harsch Investment Group	
20945 S. Wilmington Ave, Carson, CA 90810			523 West Plaza, Alameda, CA 94501	
Attn: Karen Petryna (559) 645-9306			(510) 521-1515	
Tank No.	Size in Gallons	Contents	Closed In-Place/Removed?	Date
1	550	Waste Oil	Removed	6/87
2	550	Waste Oil	Removed	6/6/89
3	10,000	Gasoline	Removed	9/4/97
4	10,000	Gasoline	Removed	9/4/97
5	10,000	Gasoline	Removed	9/4/97

### II. INITIAL SITE ASSESSMENT (Information from previous investigations at nearby sites and other available sources may be used for applicable items if necessary)

Cause and Estimated Quantity of Release: Unknown		
Nearest Surface Water Bodies (including any unnamed creeks, tributaries, canals, etc.): A lagoon	Their Geographical Distances From the Site: 300 feet Northeast	
Nearest domestic Water Wells (both public and private) within 2000 ft.: None	Their Geographical Distances From the Site: NA	
Minimum Groundwater Depth: 3 feet	Max Depth: 6 feet	Flow Direction: N/NE
Site Ground Surface Elevation and Geology: Site ranges between three and 10 feet above sea level. Soil types consist of sand underlain by layers of silt and silty sand at varying depths and thickness.		
Current Site and Surrounding Land Use: Office Max, surrounding property is mixed commercial/residential		
Preferential Pathways Such as Subsurface Utilities? X Yes No If Yes, Describe: On the north side of the property are sewer and water lines, storm drains, electrical and telephone lines assessed during Dec-2003 investigation; no migration via utilities		
Number of Soil Borings: 20	Number of Monitoring Wells: 1 current/3 destroyed	

### III. REMEDIATION

Material	Amount (Include Units)	Action (Treatment or Disposal w/ Destination)	Date				
Free Product	None						
Soil	41 yards	Disposal - Chemical Waste Management, Inc. Kettleman City, CA	6/15/87, 7/15/87, 6/15/87				
	Unknown	Disposal - West Contra Costa County Sanitary Landfill, Richmond, CA	5/29/90				
	~1050 yards	Disposal - Forward Incorporated, Manteca, CA	8/97				
Groundwater	8 drums	Disposal by Crosby and Overton, Oakland, CA	5/29/90				
	2 drums	Disposal by Crosby and Overton, Oakland, CA	7/10/90				
Vapor	None						
COMMENTS							
MAXIMUM DOCUMENTED SOIL POLLUTANT CONCENTRATIONS							
POLLUTANT	Location	Soil (ppm)		POLLUTANT	Location	Soil (ppm)	
	Date(s)	Initial	Resid- ual		Date(s)	Initial	Resid- ual
TPH (Gas)	8/1/97	650	<1.0	Xylene	9/4/97	22	<0.005
	12/9/03	WO	SB-1, 2		12/9/03	D-4	SB-1,2
TPH (Diesel)	8/1/97	4.3	Not	Ethylbenzene	9/4/97	2.4	<0.005
	12/9/03	WO	Tested		12/9/03	D-4	SB-1,2
Benzene	9/4/97	1.7	<0.005	Oil & Grease	NA		
	12/9/03	D-4	SB-1,2				
Toluene	9/4/97	9.3		Heavy Metals	Ba - SB-A	60	Not Tested
		D-4			Cr - SB-A	39	
					Co - SB-A	7.3	
					Cu - SB_G	15	
					Hg - SB-D	0.040	
					Ni - SB-A	46	
					Ag - SB-H	47	
					V - SB-A	28	
					Zn - SB-A	33	
MTBE	9/4/97	0.49	<0.005	Motor Oil	NA		
	12/9/03	C-north	SB-1,2				
Chlorinated Solvents	NA			Other			

GROUNDWATER CONCENTRATION (ppb) TRENDS AT SOURCE AREAS & PLUME/SITE BOUNDARIES											
Date	Location	Benzene	MTBE	TPH-g	TPH-d	Toluene	Ethyl benzene	Xylene	Chlor. VOCs	Other TBA	DTW
3/22/01	MW-3	80	72	1000	1100	16	79	72	NT	NA	5.21
5/30/01	MW-3	170	100	3100	<1500	50	150	340	NT	NA	5.57
9/17/01	MW-3	0.79	180	130	130	<0.5	<0.5	<0.5	NT	NA	5.93
12/20/01	MW-3	250	13	1800	<900	4.8	4.0	51	NT	NA	5.06
8/27/03	MW-3	96	7.2	2900	NA	26	14	81	NT	NA	5.71
12/7/04	MW-3	<0.50	88	120	NA	<0.5	<0.5	<1.0	NT	13	6.05

#### IV. LIST TECHNICAL REPORTS, CORRESPONDENCE, ETC. IN CHRONOLOGICAL ORDER

See attached table listing technical reports and correspondence (Table 1 in Attachment A).

#### V. ENCLOSE FOLLOWING FIGURES AND TABLES

1. Site maps showing locations of existing buildings, former/current UST areas, subsurface utilities and other pathways, groundwater flow direction etc.

**Attachment B**

2. Summary tables of all soil sampling results available, including any tank/excavation pit samples and confirmation samples, with sampling dates, location-identifications and depths (if applicable).

**Attachment C**

3. Summary tables of all groundwater sampling results available, including depth to water/product measurements, with sampling dates and location-identifications.

**Attachment D**

4. Figures showing all soil and groundwater sampling locations and monitoring well locations.

**Attachment B**

#### **Additional Comments:**

The subject site has not been operated as a gasoline service station since 1997 when the petroleum tanks and equipment were removed. The site has been redeveloped for commercial use as an Office Max. Surrounding property use is primarily commercial and residential. The nearest sensitive receptor to this site is surface water (lagoons) located approximately 300 feet northeast and downgradient of the site. Based on elevated levels of TDS, the groundwater in the vicinity of the site is considered nonpotable.

In 2002, Cambria requested case closure from the Alameda County Health Care Services Agency (ACHCSA). The case worker at the time requested additional information and monitoring of benzene concentrations in MW3 to determine whether the former gas station operations pose a threat to the lagoons, since benzene the concentration in MW3 at that time (250 ppb) was above the Ecological Protection Zone Tier 1 Standard of 71 ppb (electronic correspondence dated June 12, 2002 from Eva Chu of ACHCSA to Karen Petryna of Shell). The current benzene concentration is less than the detection limit of 0.50 ppb, and therefore well below the Ecological Protection Zone Tier 1 Standard, previously referenced. Further, the current constituent concentrations in well MW3 are well below the San Francisco Bay Regional Water Quality Board Environmental Screening Levels for protection of surface water bodies.

## **ATTACHMENT A**

### **Table 1 – Chronologic List of Documents/Correspondence**



**Table 1. Former Shell Station, 2160 Otis Drive, Alameda, California**

List of Technical Reports and Correspondence.		
Title/Subject	Company	Date
Sampling Report (Waste-oil UST removal)	Blaine Tech Services	6/16/1987
Sampling Report (Waste-oil UST removal)	Blaine Tech Services	6/25/1987
Preliminary Soil and Groundwater Investigation	Pacific Environmental Group	9/25/1987
Soil and Groundwater Investigation	Pacific Environmental Group	10/27/1987
Archival search for previously unpublished notes during waste-oil tank removal	Blaine Tech Services	6/26/1989
Quarterly Monitoring Report for 2q89	Weiss Associates	7/13/1989
Site Summary	Weiss Associates	7/13/1989
Letter regarding waste-oil tank removal and closure	Weiss Associates	10/13/1989
Transmittal of waste oil tank disposal manifests	Shell Oil Company	11/6/1989
Letter regarding scope of work for investigation	Weiss Associates	3/19/1990
Letter regarding drummed water and stockpiled soil disposal	Weiss Associates	5/31/1990
Quarterly Status Report - 2q90	Weiss Associates	7/25/1990
Letter regarding removal of drummed water	Weiss Associates	8/6/1990
Notice of Requirement to Reimburse	ACHCSA	3/27/1992
Letter requesting work plan	ACHCSA	6/17/1992
Letter responding to 6/17/92 letter	Weiss Associates	7/23/1992
Letter requesting work plan	ACHCSA	8/7/1992
Letter responding to 8/7/92 ACHCSA letter	Weiss Associates	9/2/1992
Letter regarding 9/2/92 work plan	ACHCSA	9/22/1992
Letter presenting results of subsurface investigation	Weiss Associates	2/24/1993
Letter approving sampling frequency reduction and requesting VOC analysis	ACHCSA	3/4/1993
Notice of Requirement to Reimburse	ACHCSA	5/25/1993
Revised Laboratory Report	Weiss Associates	6/28/1993
Letter requesting total oil and grease analysis	ACHCSA	7/28/1993
Revised QA/QC data for 1q93, 2q93 and 3q93	Weiss Associates	1/24/1994
Quarterly Groundwater Sampling Report	Blaine Tech Services	1/31/1994
Letter requesting work plan	ACHCSA	3/24/1994
Quarterly Groundwater Sampling Report	Blaine Tech Services	4/28/1994
Letter responding to 3/24/94 ACHCSA letter	Weiss Associates	5/6/1994
Letter requesting work plan	ACHCSA	5/17/1994
Quarterly Monitoring Report for 2q94	Weiss Associates	5/31/1994
Letter responding to 5/17/94 ACHCSA letter	Weiss Associates	6/13/1994
Work Plan / Closure Request	Weiss Associates	8/25/1994
Letter requesting work plan	ACHCSA	10/28/1994
Quarterly Groundwater Sampling Report	Blaine Tech Services	11/29/1994
Letter responding to 10/28/94 ACHCSA letter	Weiss Associates	1/26/1995
Letter regarding closure requirements	Weiss Associates	2/27/1995
Letter regarding investigation status	Weiss Associates	3/27/1995
Subsurface Investigation and Closure Report	Weiss Associates	5/23/1995
Quarterly Monitoring Report for 2q95	Weiss Associates	7/24/1995

Underground Storage Tank Unauthorized Release (Leak) / Contamination Site Report		9/26/1995
Third Quarter 1995 status report	Weiss Associates	11/2/1995
Letter granting no further action for the waste oil underground storage tank at the site	ACHCSA	11/14/1995
Groundwater Monitoring Well Abandonment	Weiss Associates	2/27/1996
Tank Removal and Sampling Report	Cambria Environmental	10/3/1997
Letter requesting further investigation	ACHCSA	11/13/1997
Investigation Work Plan	Cambria Environmental	11/25/1997
Work Plan approval letter	ACHCSA	12/10/1997
Investigation Report	Cambria Environmental	1/28/1998
Letter requesting monitoring well installation	ACHCSA	2/10/1998
Well Installation Work Plan	Cambria Environmental	3/25/1998
Work Plan approval letter	ACHCSA	3/30/1998
Letter supporting construction of Office Max building	ACHCSA	6/4/1998
Letter requesting monitoring well installation status	ACHCSA	5/22/2000
Quarterly Status Report - 1q00	Cambria Environmental	6/5/2000
Letter referencing delayed monitoring well installation	ACHCSA	6/12/2000
Letter referencing delayed Right-of-Entry agreement	Cambria Environmental	6/21/2000
Site Investigation Report	Cambria Environmental	4/10/2001
First Quarter 2001 Monitoring Report	Cambria Environmental	5/17/2001
Second Quarter 2001 Monitoring Report	Cambria Environmental	7/19/2001
Third Quarter 2001 Monitoring Report	Cambria Environmental	11/5/2001
Fourth Quarter 2001 & Closure Request	Cambria Environmental	2/26/2002
Letter of intent to determine that NFA is required or issue Closure Letter	ACHCSA	3/18/2003
Comments on ACHCSA Letter	Shell Oil Company	4/3/2002
Assorted electronic correspondence; ACHCSA expressed concerns re Lagoon	ACHCSA/Shell/Cambria	2002-2003
Subsurface Investigation Workplan	Cambria Environmental	9/16/2002
Electronic correspondence from Eva Chu of ACHCSA re assessing utilities	ACHCSA	10/2/2002
Electronic correspondence from Cambria with revised scope for utility assessment	Cambria Environmental	10/10/2002
Third Quarter 2003 Monitoring Report; stated intent to proceed with 2002 WP	Cambria Environmental	11/15/2003
Site Investigation Report	Cambria Environmental	11/30/2004
Fourth Quarter 2004 Monitoring Report and Request for Closure	Cambria Environmental	2/18/2005

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Notes and Abbreviations:

ACHCSA = Alameda County Health Care Services Agency

**ATTACHMENT B**

**Maps and Figures**

**ATTACHMENT C**

**Historical Soil Data Tables**

**Table 1. Soil Analytic Data - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Sample ID, Depth in ft	Sample Location	Date Sampled	TPPH (mg/kg)	TEPH (mg/kg)	TRPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)
G-1, 3.5	Down gradient of UST pit	12/17/97	<1.0	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.028
G-2, 3.5	Down gradient of dispensers	12/17/97	<1.0	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
G-3, 3.5	Down gradient of waste oil tank	12/17/97	<1.0	<1.0	110	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
G-4, 3.5	North corner	12/17/97	<1.0	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
G-5, 3.5	North corner	12/17/97	<1.0	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
G-6, 3.5	Dispensers	12/17/97	5.2	---	---	0.0059	0.041	0.025	0.70	<0.025
G-6, 7.5	Dispensers	12/17/97	<1.0	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
G-7, 3.5	Dispensers	12/17/97	<1.0	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
G-7, 7.5	Dispensers	12/17/97	<1.0	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025

mg/kg = Milligrams per kilogram  
 TPPH = Total purgable petroleum hydrocarbons (gasoline) by modified EPA Method 8015  
 TEPH = Total extractable petroleum hydrocarbons (diesel) by modified EPA Method 8015  
 TRPH = Total recoverable petroleum hydrocarbons (oil and grease) by Standard Method 5520 E&F  
 MTBE = Methyl tert-butyl ether by EPA Method 8020  
 Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020  
 UST = Underground storage tank  
 <n = Below detection limit of n mg/kg  
 --- = Not analyzed

**Table 1. Soil Analytic Data - Gasoline Components - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Sample ID	Sample Location	Date Sampled	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)
D-1	Dispensers	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
D-2	Dispensers	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
D-3	Dispensers	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
D-4	Dispensers	9/4/1997	270	1.7	9.3	2.4	22	<1.2
D-5	Dispensers	9/4/1997	5.5	0.011	<0.010	0.010	0.035	0.32
D-6	Dispensers	9/4/1997	1.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
A-North	Gasoline Tank Pit	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
B-North	Gasoline Tank Pit	9/4/1997	<1.0	0.11	<0.0050	0.0081	0.0089	<0.025
C-North	Gasoline Tank Pit	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.49
A-South	Gasoline Tank Pit	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
B-South	Gasoline Tank Pit	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
C-South	Gasoline Tank Pit	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.056
Hoist-1	Hoist	9/4/1997	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
Hoist-2	Hoist	9/4/1997	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
OWS-1	Oil/Water Separator	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
WO-1	Waste Oil Tank Pit	9/4/1997	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025

mg/kg = milligrams per kilogram

TPPH = Total purgable petroleum hydrocarbons (gasoline) by modified EPA Method 8015

MTBE = Methyl tert-butyl Ether by EPA Method 8020

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

<n = Below detection limit of n mg/kg

**Table 1. Soil Analytic Data for Petroleum Hydrocarbons - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Depth (ft-BGS)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
SB-A	8/1/1997	5.0	46	0.15	0.064	0.23	1.2
SB-A	8/1/1997	7.5	14	<0.012	0.052	0.14	0.67
SB-A	8/1/1997	10.0	<1.0	<0.0050	<0.0050	<0.0050	0.017
SB-A	8/1/1997	12.5	71	<0.050	<0.050	0.098	0.85
SB-A	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-B	8/1/1997	4.0	1.2	0.013	<0.0050	0.014	0.088
SB-B	8/1/1997	7.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-B	8/1/1997	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-B	8/1/1997	12.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-B	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-C	8/1/1997	6.0	13	<0.0050	<0.0050	0.032	0.019
SB-C	8/1/1997	7.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-C	8/1/1997	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-C	8/1/1997	14.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-C	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-D	8/1/1997	5.5	16	<0.012	0.036	0.096	0.17
SB-D	8/1/1997	7.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-D	8/1/1997	9.5	2.6	<0.0050	0.0052	0.0080	0.043
SB-D	8/1/1997	11.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-D	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-E	8/1/1997	6.0	1.1	0.031	0.13	<0.0050	0.25
SB-E	8/1/1997	7.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-E	8/1/1997	10.5	1.3	0.0061	0.042	<0.0050	0.13
SB-E	8/1/1997	12.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-E	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-F	8/1/1997	4.0	1.1	0.0059	0.011	<0.0050	0.025
SB-F	8/1/1997	7.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-F	8/1/1997	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-F	8/1/1997	12.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-F	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050

**Table 1. Soil Analytic Data for Petroleum Hydrocarbons - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Depth (ft-BGS)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
SB-G	8/1/1997	4.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-G	8/1/1997	7.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-G	8/1/1997	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-G	8/1/1997	12.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-G	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-H	8/1/1997	4.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-H	8/1/1997	7.5	<1.0	<0.0050	<0.0050	<0.0050	0.0056
SB-H	8/1/1997	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-H	8/1/1997	12.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SB-H	8/1/1997	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050

mg/kg = milligrams per kilogram

TPPH = Total purgable petroleum hydrocarbons by modified EPA Method 8015

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

<n = Below detection limit of n mg/kg

ft-BGS = Feet below ground surface



**Table 3. Soil Analytic Data for Waste Oil Petroleum Hydrocarbons - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Depth (ft-BGS)	TRPH (mg/kg)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
WO	8/1/1997	4.0	650	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
WO	8/1/1997	7.5	26	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
WO	8/1/1997	10.0	26	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
WO	8/1/1997	12.0	33	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
WO	8/1/1997	15.5	72	4.3	0.0095	0.026	0.12	0.54
WO	8/1/1997	17.0	35	<1.0	<0.0050	<0.0050	0.0098	0.018
WO	8/1/1997	18.0	37	<1.0	<0.0050	<0.0050	0.0077	0.015

mg/kg = milligrams per kilogram

TRPH = Total recoverable petroleum hydrocarbons by EPA Method 418.1

TPPH = Total purgable petroleum hydrocarbons by modified EPA Method 8015

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

<n = Below detection limit of n mg/kg

ft-BGS = feet below ground surface

Table 1. Soil Analytical Data - Former Shell Service Station, Incident # 98995140, 2160 Otis Drive, Alameda, California

Sample ID	Depth (ft)	Date Sampled	TPHg ←	Concentrations reported in milligrams per kilogram (mg/kg or ppm)						→ Xylenes
				TPHd	MTBE	Benzene	Toluene	Ethylbenzene		
MW-3-6.5	6.5	11/2/00	<1.00	7.00	<0.0500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
MW-3-10.5	10.5	11/2/00	<1.00	<1.00	<0.0500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
MW-3-17.5	17.5	11/2/00	<1.00	<1.00	<0.0500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

**Notes and Abbreviations:**

TPHg = Total petroleum hydrocarbons as gasoline  
 TPHd = Total petroleum hydrocarbons as diesel  
 All analyses performed by EPA Method 8260B  
 <n = Below detection limit of n mg/kg  
 NA = not analyzed

**Table 3. Soil Analytic Data - Total Metals - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Sample ID	Sample Location	Date Sampled	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
D-1	Dispensers	9/4/1997	---	---	<5.0	---	---
D-2	Dispensers	9/4/1997	---	---	<5.0	---	---
D-3	Dispensers	9/4/1997	---	---	<5.0	---	---
D-4	Dispensers	9/4/1997	---	---	<5.0	---	---
D-5	Dispensers	9/4/1997	---	---	<5.0	---	---
D-6	Dispensers	9/4/1997	---	---	<5.0	---	---
A-North	Gasoline Tank Pit	9/4/1997	---	---	<5.0	---	---
B-North	Gasoline Tank Pit	9/4/1997	---	---	<5.0	---	---
C-North	Gasoline Tank Pit	9/4/1997	---	---	<5.0	---	---
A-South	Gasoline Tank Pit	9/4/1997	---	---	<5.0	---	---
B-South	Gasoline Tank Pit	9/4/1997	---	---	<5.0	---	---
C-South	Gasoline Tank Pit	9/4/1997	---	---	<5.0	---	---
OWS-1	Oil/Water Separator	9/4/1997	<0.50	20	<5.0	16	15
WO-1	Waste Oil Tank Pit	9/4/1997	<0.50	19	<5.0	14	13

mg/kg = milligrams per kilogram

ND = Not detected. Detection limits vary by compound, see laboratory report for specifics.

<n = Below detection limit of n mg/kg

--- = Not Analyzed

**Table 2. Soil Analytic Data for Metals - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Sample Depth (ft-BGS)	Barium Ba (mg/kg)	Chromium Cr (mg/kg)	Cobalt Co (mg/kg)	Copper Cu (mg/kg)	Mercury Hg (mg/kg)	Nickel Ni (mg/kg)	Silver Ag (mg/kg)	Vanadium V (mg/kg)	Zinc Zn (mg/kg)
SB-(A,B,C,D,)	8/1/1997	15.5	35	27	4.7	6.3	<0.020	25	<0.50	22	20
SB-(E,F,G,H)	8/1/1997	15.5	34	25	4.5	6.0	<0.020	25	<0.50	20	22
SB-A	8/1/1997	5.0,7.5,10.0,12.5	60	39	7.3	13	<0.020	46	<0.50	28	33
SB-B	8/1/1997	4.0,7.5,10.0,12.0	48	25	4.8	5.9	<0.020	23	<0.50	20	19
SB-C	8/1/1997	6.0,7.5,10.0,14.0	29	23	3.9	4.0	0.021	18	<0.50	17	14
SB-D	8/1/1997	5.5,7.5,9.5,11.5	43	19	4.1	6.7	0.040	18	<0.50	15	16
SB-E	8/1/1997	6.0,7.5,10.5,12.5	29	20	4.5	6.1	<0.020	22	<0.50	18	20
SB-F	8/1/1997	4.0,7.5,10.0,12.0	42	24	4.5	5.0	<0.020	23	<0.50	18	18
SB-G	8/1/1997	4.0,7.5,10.0,12.0	39	24	5.6	15	<0.020	21	<0.50	18	17
SB-H	8/1/1997	4.0,7.5,10.0,12.0	43	20	3.6	4.3	<0.020	18	47	15	14

**Notes:**

Samples analyzed for inorganic persistent and bioaccumulative toxic substances per Title 22

mg/kg = milligrams per kilogram

Only constituents that were detected are reported here. For the complete suite of analytes, see lab report.

<n = below detection limit of n mg/kg

ft-BGS = feet below ground surface

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**Table 4. Soil Analytic Data for Waste Oil Metals - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Sample Depth (ft-BGS)	Barium Ba (mg/kg)	Chromium Cr (mg/kg)	Cobalt Co (mg/kg)	Copper Cu (mg/kg)	Mercury Hg (mg/kg)	Nickel Ni (mg/kg)	Silver Ag (mg/kg)	Vanadium V (mg/kg)	Zinc Zn (mg/kg)
WO	8/1/1997	4.0,7.5,10.0,12.0	38	25	4.3	5.3	<0.020	21	<0.50	18	15
WO	8/1/1997	15.5,17.0,18.0	18	22	3.8	4.5	<0.020	18	<0.50	16	17

**Notes:**

Samples analyzed for inorganic persistent and bioaccumulative toxic substances per Title 22

mg/kg = milligrams per kilogram

Only constituents that were detected are reported here. For the complete suite of analytes, see lab report.

<n = below detection limit of n mg/kg

ft-BGS = feet below ground surface

**Table 6. Soil Analytic Data for Waste Oil TCLP Metals - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Sample Depth (ft-BGS)	Arsenic As (mg/L)	Barium Ba (mg/L)	Cadmium Cd (mg/L)	Chromium Cr (mg/L)	Lead Pb (mg/L)	Mercury Hg (mg/L)	Selenium Se (mg/L)	Silver Ag (mg/L)
WO	8/1/1997	4.0,7.5,10.0,12.0	<0.10	0.56	<0.010	<0.010	<0.10	<0.00020	<0.10	<0.010
WO	8/1/1997	15.5,17.0,18.0	0.12	0.31	<0.010	<0.010	<0.10	<0.00020	<0.10	2.3

**Notes:**

Samples analyzed by Toxicity Characteristic Leaching Procedures, EPA Method 6010/7470

mg/L = milligrams per liter

<n = Below detection limit of n mg/L

ft-BGS = Feet below ground surface

**Table 2. Soil Analytic Data - Other Components - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Sample ID	Sample Location	Date Sampled	TEPH (mg/kg)	TRPH (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)
Hoist-1	Hoist	9/4/1997	<1.0	---	---	---
Hoist-2	Hoist	9/4/1997	<1.0	---	---	---
OWS-1	Oil/Water Separator	9/4/1997	<1.0	<50	ND	ND
WO-1	Waste Oil Tank Pit	9/4/1997	<1.0	<50	ND	ND

mg/kg = milligrams per kilogram

TEPH = Total extractable petroleum hydrocarbons (diesel) by modified EPA Method 8015

TRPH = Total recoverable petroleum hydrocarbons (oil and grease) by Standard Method 5520 E&F

VOCs = Volatile Organic Compounds by EPA Method 8010

SVOCs = Semi-Volatile Organic Compounds by EPA Method 8270

ND = Not detected. Detection limits vary by compound, see laboratory report for specifics.

<n = Below detection limit of n mg/kg

--- = Not Analyzed

**Table 5. Soil Analytic Data for Waste Oil Polychlorinated Biphenyls - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Depth (ft-BGS)	PCB -1016 (mg/kg)	PCB - 1221 (mg/kg)	PCB - 1232 (mg/kg)	PCB - 1242 (mg/kg)	PCB - 1248 (mg/kg)	PCB - 1254 (mg/kg)	PCB - 1260 (mg/kg)
WO	8/1/1997	4.0,7.5,10.0,12.0	<0.020	<0.080	<0.020	<0.020	<0.020	<0.020	<0.020
WO	8/1/1997	15.5,17.0,18.0	<0.020	<0.080	<0.020	<0.020	<0.020	<0.020	<0.020

mg/kg = milligrams per kilogram

PCB = Polychlorinated Biphenyls by EPA Method 8080

<n = Below detection limit of n mg/kg

ft-BGS = Feet below ground surface



**Table 7. Soil Analytic Data by TCLP Semivolatiles- Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Sample Depth (ft-BGS)	Total Creosote (mg/L)	1,4 DCB (mg/L)	2,4 DTT (mg/L)	HCB (mg/L)	HC 1,3-BD (mg/L)	HCE (mg/L)	NB (mg/L)	PCP (mg/L)	Pyridine (mg/L)	2,4,5 TCP (mg/L)	2,4,6 TCP (mg/L)
WO	8/1/1997	4.0,7.5,10.0,12.0	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.040	<0.040	<0.040	<0.0080
WO	8/1/1997	15.5,17.0,18.0	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.040	<0.040	<0.040	<0.0080

**Notes:**

Samples analyzed by Semivolatile Toxicity Characteristic Leaching Procedures, EPA Method 6010/7470

mg/L = milligrams per liter

<n = below detection limit of n mg/L

ft-BGS = feet below ground surface

DCB = Dichlorobenzene

DTT = Dinitrotoluene

HCB = Hexachlorobenzene

HC 1,3 BD = Hexachloro-1,3-butadiene

HCE = Hexachloroethane

NB = Nitrobenzene

PCP = Pentachlorophenol

TCP = Trichlorophenol

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**Table 8. Soil Analytic Data by TCLP Volatiles- Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Boring Number	Date Sampled	Sample Depth (ft-BGS)	Benzene (mg/L)	Carbon tetrachloride (mg/L)	Chloro-benzene (mg/L)	Chloro-form (mg/L)	1,2 DCA (mg/L)	1,1 DCE (mg/L)	MEK (mg/L)	PCE (mg/L)	TCE (mg/L)	Vinyl Chloride (mg/L)
WO	8/1/1997	4.0,7.5,10.0,12.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020
WO	8/1/1997	15.5,17.0,18.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020

**Notes:**

Samples analyzed by Volatile Toxicity Characteristic Leaching Procedures, EPA Method 8240

mg/L = milligrams per liter

<n = below detection limit of n mg/L

ft-BGS = feet below ground surface

DCA = Dichloroethane

DCE = Dichloroethylene

MEK = Methyl ethyl ketone

PCE = Tetrachloroethylene

TCE = Trichloroethylene

**Table 2. Soil Analytical Data, Former Shell Service Station, 2160 Otis Drive, Alameda, California**

Sample ID	Depth (ft)	Date Sampled	TPHg mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl benzene mg/kg	Total xylenes mg/kg	MTBE mg/kg
SB-1-5	5	09-Dec-03	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-2-5	5	09-Dec-03	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-3-5	5	09-Dec-03	<1.0	<0.0050	<b>0.062</b>	<b>0.014</b>	<b>0.063</b>	<0.0050
SB-4-5	5	09-Dec-03	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
SB-5-5	5	09-Dec-03	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

**Abbreviations:**

TPHg = Total petroleum hydrocarbon as gasoline by EPA Method 8260

Benzene, toluene, ethyl benzene, total xylenes by EPA Method 8260

MTBE = Methyl tertiary butyl ether, analyzed by EPA Method 8260

ft = Feet

mg/kg = Milligrams per kilogram

<x = Not detected at detection limit x

**ATTACHMENT D**

**Historical Groundwater Data Tables**

TABLE 1. Analytic Results for Ground Water, Shell Service Station WIC #204007205, Alameda, California

Sample ID	Depth ft	Date Sampled	Sampled By	Analytic Lab	Analytic Method	TPH-D TPH-0/JF B E T X TOG VOCs							
						-----parts per million----->							
Excavation Soil #2	7	6-15-87	BT	SAL	3550/503E/8015/ 8010/8020	<1.0	NA	<0.050	<0.050	<0.050	NA	1,700	ND
Excavation Soil #3	3.5	6-15-87	BT	SAL	3550/503E	NA	NA	NA	NA	NA	NA	47	NA
Excavation Water	-	6-15-87	BT	SAL	3550/503E	NA		NA	NA	NA	NA	<5	NA
Soil Boring Soil #S1-1	51	9-04-87	PEG	IT	3550/503E/8015	<35	385	NA	NA	NA	NA	1,600	NA
Soil Boring Soil #S1-2	10	9-04-87	PEG	IT	8240/3550/ 503E/8015	<10	108	<0.005	<0.005	<0.005	<0.005	460	ND
Soil Boring Soil #S1-3	15	9-04-87	PEG	IT	3550/503E/8015	<10	16	NA	NA	NA	NA	70	NA
Soil Boring Soil #S1-4	20	9-04-87	PEG	IT	3550/503E/8015	<10	87	NA	NA	NA	NA	320	NA
Ground Water	-	9-04-87	PEG	IT	624	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	1*

Abbreviations

TPH-D = Total Petroleum Hydrocarbons as Diesel  
 TPH-0/JF = Total Petroleum Hydrocarbons as Oil and Jet Fuel  
 B = Benzene  
 E = Ethylbenzene  
 T = Toluene  
 X = Xylenes  
 TOG = Total Oil and Gas  
 VOCs = Volatile Organic Compounds  
 ppm = parts per million or  $\mu$ /kg  
 NA = Not Analyzed  
 BT = Blaine Tech Services, San Jose, California  
 PEG = Pacific Environmental Group Inc., Santa Clara, California  
 SAL = Sequoia Analytical Labs, Redwood City, California  
 IT = International Technology Corp., Santa Clara, California  
 ND = Not detected at detection limits between 0.005 and 0.05 ppm

Footnotes

1\* = Unknown Alcohol detected at 7 ppb, and Acetone detected at 270 ppb

Analytic Methods

3550 = EPA Method 3550, Sonification Extraction  
 503E = American Public Health Association Standard Method 503E, Gravimetric Quantitation  
 8015 = EPA Method 8015, Gas Chromatography with Flame Ionization Detection  
 8010 = EPA Method 8010, Gas Chromatography with Hall Detection  
 8020 = EPA Method 8020, Gas Chromatography with Photo Ionization Detection  
 8240 = EPA Method 8240, Gas Chromatography Mass Spectroscopy (GC/MS)  
 624 = EPA Method 624, Purge and Trap - GC/MS



Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	04/11/90	6.00	5.23	0.77
	07/10/90		5.40	0.60
	10/09/90		5.61	0.39
	01/17/91		5.66	0.34
	04/09/91		4.96	1.04
	07/10/91		5.52	0.48
	10/09/91		5.70	0.30
	01/24/92		5.51	0.49
	04/23/92		5.14	0.86
	07/01/92		4.48	1.52
	10/02/92		5.80	0.20
	01/05/93		5.34	0.66
	04/08/93		4.62	1.38
	07/20/93		5.20	0.80
	10/15/93		4.37	1.63
01/07/94	5.26	0.74		
	04/13/94		5.01	0.99
MW-2	04/11/90	3.29	4.51	-1.22
	07/10/90		4.61	-1.32
	10/09/90		4.74	-1.45
	01/17/91		4.73	-1.44
	04/09/91		4.09	-0.80
	07/10/91		4.66	-1.37
	10/09/91		4.81	-1.52
	01/24/92		4.66	-1.37
	04/23/92		4.51	-1.22
	07/01/92		4.57	-1.28
	10/02/92		4.80	-1.51
	01/05/93		4.39	-1.1
	04/08/93		4.15	-0.86
	07/20/93		4.40	-1.11
	10/15/93		5.41	-2.12
01/07/94	4.34	-1.05		
	04/13/94		4.29	-1.00
S-1	09/11/90	5.10	4.29	0.81
	04/11/90		4.00	1.10
	07/10/90		4.25	0.85
	10/09/90		4.46	0.64

-- Table 1 continues on next page --

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	01/17/91		4.53	0.57
	04/09/91		4.20	0.90
	07/10/91		4.42	0.68
	10/09/91		4.87	0.23
	01/24/92		4.90	0.20
	04/23/92		4.66	0.44
	07/01/92		4.85	0.25
	10/02/92		4.80	0.30
	01/05/93		5.38	-0.28
	04/08/93		3.69	1.41
	07/20/93		4.20	0.90
	10/15/93		4.38	0.72
	01/07/94		4.19	0.91
	04/17/94		4.03	1.07

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	POG
S-1 (Annually 1st Qtr)	09/04/87		---	---	<5	<5	<5	<5	---
	09/11/89 <sup>a</sup>	4.29	<50	<100	<0.5	<1	<1	<3	<1,000
	04/11/90	4.00	<50	<50	<0.5	<0.5	<0.5	<0.5	<10,000
	07/10/90	4.25	<90	---	<0.5	<0.5	<0.5	<0.5	<10,000
	10/09/90	4.46	<50	---	<0.5	<0.5	<0.5	<0.5	<5,000
	01/17/91	4.53	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/09/91	4.20	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/10/91	4.42	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91	4.87	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92	4.90	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92	4.66	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/01/92	4.85	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/02/92	5.80	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93	5.38	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/07/94	4.19	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/07/94	4.19	<50	---	<0.5	<0.5	<0.5	<0.5	---
MW-1 (Annually 1st Qtr)	04/11/90	5.23	<50	<50	<0.5	<0.5	<0.5	<0.5	<10,000
	07/10/90	5.40	100	---	<0.5	<0.5	<0.5	<0.5	<10,000
	10/09/90	5.61	<50	---	<0.5	<0.5	<0.5	<0.5	<5,000
	01/17/91	5.66	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/09/91	4.96	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/10/91	5.52	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91	5.70	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92	5.51	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92	5.14	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/01/92	4.48	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/02/92	4.80	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93	5.34	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93 <sup>dup</sup>	5.34	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/07/94	5.26	<50	---	<0.5	<0.5	<0.5	<0.5	---
MW-2 (Quarterly)	04/11/90	4.51	200 <sup>b</sup>	220	2.7	<0.5	0.5	2.4	<10,000
	07/10/90	4.61	570 <sup>b</sup>	450	150	<0.5	0.9	3.1	<10,000
	10/09/90	4.74	190 <sup>b</sup>	51	55	<0.5	<0.5	<0.5	<5,000
	01/17/91	4.73	350 <sup>b</sup>	<50	51	<0.5	<0.5	<0.5	---
	04/09/91	4.09	---	<50	21	<5	<5	<5	---
	07/10/91	4.66	50 <sup>b</sup>	<50	8.4	<0.5	<0.5	<0.5	---
	10/09/91	4.81	150	---	22	<0.5	<0.5	<0.5	---
	01/24/92	4.66	<50	---	4.8	<0.5	<0.5	<0.5	---
	04/23/92	4.51	<50	---	2.3	1.5	<0.5	<0.5	---
	07/01/92	4.57	130 <sup>c</sup>	---	19	<0.5	<0.5	<0.5	---
	10/02/92	4.80	120 <sup>c</sup>	---	7.8	<0.5	<0.5	<0.8	---
	01/05/93	4.39	200 <sup>c</sup>	---	9.0	<0.5	0.6	1.8	---

-- Table 2A continues on next page --





Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California  
(continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	POG
	04/08/93	4.15	170 <sup>c</sup>	---	9.6	<0.5	<0.5	1.6	---
	07/20/93	4.40	80 <sup>d</sup>	---	16	1.3	1.4	6.1	---
	10/15/93	4.38	400 <sup>c</sup>	---	37	0.6	1.1	4.7	---
	01/07/94	4.34	86 <sup>d</sup>	---	12	<0.5	<0.5	1.1	<500
	<del>04/13/94</del>	<del>4.29</del>	<del>&lt;50</del>	<del>---</del>	<del>14</del>	<del>&lt;0.5</del>	<del>&lt;0.5</del>	<del>&lt;0.5</del>	<del>---</del>
BH-C	12/17/92	5.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
BH-D	12/17/92	5.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
BH-E	12/17/92	5.5	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
Trip Blank	07/10/90		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/90		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/17/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/09/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/10/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/01/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/08/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/20/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/15/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/07/94		<50	---	<0.5	<0.5	<0.5	<0.5	---
		<del>04/13/94</del>		<del>&lt;50</del>	<del>---</del>	<del>&lt;0.5</del>	<del>&lt;0.5</del>	<del>&lt;0.5</del>	<del>&lt;0.5</del>

DTSC MCLs

-- Table 2A continues on next page --

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California  
(continued)

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015  
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015  
B = Benzene by EPA Method 8020, or 8240  
E = Ethylbenzene by EPA Method 8020, or 8240  
T = Toluene by EPA Method 8020, or 8240  
X = Xylenes by EPA Method 8020, or 8240  
POG = Petroleum oil and grease by American Public Health Association Standard Methods 503, or EPA method 5520BF  
DTSC MCLs = Department of Toxic Substances Control maximum contaminant levels  
<n = Not detected above detection limit of n ppb  
NE = DTSC MCL not established  
BH-C = Grab Ground Water Sample

Notes:

- a = 0.090 ppm chromium, 0.090 ppm lead and 0.10 ppm Zn detected; no cadmium detected above detection limit of 0.010 ppm by EPA Method 6010. No semi-volatile organic compounds or PCBs detected by EPA Method 625. DTSC MCLs for Cr = 0.05 ppm; Pb = 0.05 ppm; secondary MCL for Zn = 5 ppm.  
b = Chromatographic pattern not typical for gasoline; the concentration is due mostly to lighter hydrocarbon compounds.  
c = The concentration reported as gasoline is partially due to the presence of discrete peaks not indicative of gasoline.  
d = The concentration reported as gasoline is primarily due to the presence of discrete peaks not indicative of gasoline.  
e = DTSC recommended action level for drinking water; MCL not established

**Table 6. Ground Water Analytic Data - Total Metals - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Sample ID	Sample Location	Date Sampled	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Nickel (mg/L)	Zinc (mg/L)
TPW-1	Gasoline Tank Pit	9/4/1997	---	---	0.018	---	---
WO	Waste Oil Tank Pit	9/4/1997	<0.010	0.042	<0.10	0.068	0.15

mg/L = Milligrams per liter  
 <n = Below detection limit of n mg/L  
 --- = Not Analyzed

**Table 2. Ground Water Analytic Data - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California**

Sample ID	Sample Location	Date Sampled	TPPH (µg/L)	TEPH (µg/L)	TRPH (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)
G-1	Down gradient of UST pit	12/17/97	2,900	--	--	240	<25	85	240	890	920
G-2	Down gradient of dispensers	12/17/97	780	--	--	110	3.0	21	5.5	46	57
G-3	Down gradient of waste oil tank	12/17/97	<50	<50 *	5,600	<0.50	<0.50	<0.50	<0.50	<2.5	--
G-5	North corner	12/17/97	<50	--	--	<0.50	<0.50	<0.50	<0.50	<2.5	--

µg/L = Micrograms per liter

TPPH = Total purgable petroleum hydrocarbons (gasoline) by modified EPA Method 8015

TEPH = Total extractable petroleum hydrocarbons (diesel) by modified EPA Method 8015

TRPH = Total recoverable petroleum hydrocarbons (oil and grease) by Standard Method 5520 E&F

MTBE = Methyl tert-butyl ether by EPA Method 8020 and EPA Method 8260

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

UST = Underground storage tank

<n = Below detection limit of n µg/L

\* = TEPH analysis not completed within standard holding time

-- = Not analyzed

Table 2. Groundwater Analytical Data - Former Shell Service Station, Incident # 98995140, 2160 Otis Drive, Alameda, California

Sample ID	Depth (ft)	Date Sampled	TPHg	TPHd	TPHmo	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
Concentrations reported in milligrams per kilogram (mg/kg or ppm)										
S-1-5.0	5	11/30/2000	<1.0	NA	NA	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
S-2-4.5	4.5	11/30/2000	<1.0	NA	NA	<b>0.13</b>	<0.0050	<0.0050	<0.0050	<0.0050
S-3-4.5	4.5	11/30/2000	<1.0	<1.0	<10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
S-4-4.5	4.5	11/30/2000	<1.0	<1.0	<10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
S-5-4.5	4.5	11/30/2000	<1.0	NA	NA	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
S-6-4.5	4.5	11/30/2000	<1.0	NA	NA	<b>0.020</b>	<0.0050	<0.0050	<0.0050	<0.0050
S-7-4.5	4.5	11/30/2000	<1.0	<1.0	<b>76</b>	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
S-8-4.5	4.5	11/30/2000	<1.0	<1.0	<10	<b>0.0090</b>	<0.0050	<0.0050	<0.0050	<0.0050
S-9-4.5	4.5	11/30/2000	<1.0	<1.0	<10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

**Notes and Abbreviations:**

TPHg = Total petroleum hydrocarbons as gasoline  
 TPHd = Total petroleum hydrocarbons as diesel  
 TPHmo = Total petroleum hydrocarbons as motor oil  
 All analyses performed by EPA Method 8260B  
 <n = Below detection limit of n mg/kg  
 NA = not analyzed

**Table 3. Groundwater Analytical Data, Former Shell Service Station, 2160 Otis Drive, Alameda, California**

Sample ID	Date Sampled	TPHg μg/L	Benzene μg/L	Toluene μg/L	Ethyl benzene μg/L	Total xylenes μg/L	MTBE μg/L
SB-1-W	09-Dec-03	<50	<0.50	<0.50	<0.50	<1.0	<0.50
SB-2-W	09-Dec-03	62	<0.50	<0.50	<0.50	<1.0	<0.50
SB-3-W	09-Dec-03	<50	<0.50	<0.50	<0.50	<1.0	<0.50
SB-4-W	09-Dec-03	<50	<0.50	<0.50	<0.50	<1.0	<0.50
SB-5-W	09-Dec-03	57	<0.50	<0.50	<0.50	1.8	<0.50

**Abbreviations:**

TPHg = Total petroleum hydrocarbon as gasoline by EPA Method 8260

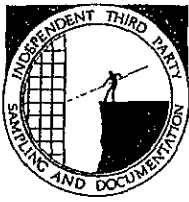
Benzene, toluene, ethyl benzene, total xylenes by EPA Method 8260

MTBE = Methyl tertiary butyl ether, analyzed by EPA Method 8260

μg/L = Micrograms per liter

<x = Not detected at detection limit x

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September 25, 2003

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Third Quarter 2003 Groundwater Monitoring at  
Former Shell Service Station  
2160 Otis Drive  
Alameda, CA

Monitoring performed on August 27, 2003

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Groundwater Monitoring Report **030827-SS-3**

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

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

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

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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S-1	9/4/1987	NA	NA	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA
S-1	9/11/1989	<50	<100	<0.5	<1	<1	<3	NA	NA	NA	NA	NA	NA	5.1	4.29	0.81
S-1	4/11/1990	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4	1.1
S-1	7/10/1990	<90	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.25	0.85
S-1	10/9/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.46	0.64
S-1	1/17/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.53	0.57
S-1	4/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.2	0.9
S-1	7/10/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.42	0.68
S-1	10/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.87	0.23
S-1	1/24/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.9	0.2
S-1	4/23/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.66	0.44
S-1	7/1/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.85	0.25
S-1	10/2/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.8	0.3
S-1	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	5.38	-0.28
S-1	4/8/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	3.69	1.41
S-1	7/20/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.2	0.9
S-1	10/15/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.38	0.72
S-1	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.19	0.91
S-1 (D)	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.03	1.07
S-1	7/26/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.76	0.34
S-1	11/1/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.84	0.26
S-1	1/13/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.07	1.03
S-1	4/20/1995	<50	NA	2.2	0.6	2.2	2.5	NA	NA	NA	NA	NA	NA	5.1	4.14	0.96
S-1	5/23/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	3.51	1.59
S-1	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-1	4/11/1990	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.23	0.77
MW-1	7/10/1990	100	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.4	0.6
MW-1	10/9/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.61	0.39
MW-1	1/17/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.66	0.34
MW-1	4/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	4.96	1.04
MW-1	7/10/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.52	0.48
MW-1	10/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.7	0.3
MW-1	1/24/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.51	0.49
MW-1	4/23/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.14	0.86
MW-1	7/1/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	4.48	1.52
MW-1	10/2/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.8	0.2



**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-1	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.34	0.66
MW-1 (D)	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	NA	NA
MW-1	4/8/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	4.62	1.38
MW-1	7/20/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.2	0.8
MW-1	10/15/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	4.37	1.63
MW-1	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.26	0.74
MW-1	4/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.01	0.99
MW-1	7/26/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.38	0.62
MW-1	8/18/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.4	0.6
MW-1	10/11/1994	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.6	0.4
MW-1	1/13/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.56	0.44
MW-1	4/20/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	4.4	1.6
MW-1	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	4/11/1990	200a	220	2.7	<0.5	0.5	2.4	NA	NA	NA	NA	NA	NA	329	4.51	-1.22
MW-2	7/10/1990	570a	450	150	<0.5	0.9	3.1	NA	NA	NA	NA	NA	NA	329	4.61	-1.32
MW-2	10/9/1990	190a	51	55	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.74	-1.45
MW-2	1/17/1991	350a	<50	51	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.73	-1.44
MW-2	4/9/1991	NA	<50	21	<5	<5	<5	NA	NA	NA	NA	NA	NA	329	4.09	-0.8
MW-2	7/10/1991	50a	<50	8.4	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.66	-1.37
MW-2	10/9/1991	150	NA	22	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.81	-1.52
MW-2	1/24/1992	<50	NA	4.8	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.66	-1.37
MW-2	4/23/1992	<50	NA	2.3	1.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.51	-1.22
MW-2	7/1/1992	130a	NA	19	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.57	-1.28
MW-2	10/2/1992	120a	NA	7.8	<0.5	<0.5	<0.8	NA	NA	NA	NA	NA	NA	329	4.8	-1.51
MW-2	1/5/1993	200a	NA	9	<0.5	0.6	1.8	NA	NA	NA	NA	NA	NA	329	4.39	-1.1
MW-2	4/8/1993	170a	NA	9.6	<0.5	<0.5	1.6	NA	NA	NA	NA	NA	NA	329	4.15	-0.86
MW-2	7/20/1993	80a	NA	16	1.3	1.4	6.1	NA	NA	NA	NA	NA	NA	329	4.4	-1.11
MW-2	10/15/1993	400a	NA	37	0.6	1.1	4.7	NA	NA	NA	NA	NA	NA	329	5.41	-2.12
MW-2	1/7/1994	86a	NA	12	<0.5	<0.5	1.1	NA	NA	NA	NA	NA	NA	329	4.34	-1.05
MW-2	4/13/1994	<50	NA	14	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.29	-1
MW-2	7/26/1994	290	NA	51	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.56	-1.27
MW-2	11/11/1994	<50	NA	3.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	4.68	-1.39
MW-2	1/13/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	3.48	-0.19
MW-2	4/20/1995	<50	NA	<0.5	<0.5	1	3.6	NA	NA	NA	NA	NA	NA	329	3.78	-0.49
MW-2 (D)	4/20/1995	<50	NA	9.9	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	NA	NA
MW-2	5/23/1995	<50	NA	5.8	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	329	3.87	-0.58

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-2	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	3/20/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.23	NA
MW-3	3/22/2001	1,000	1,100	80	16	7.9	72	NA	72	NA	NA	NA	NA	NA	5.21	NA
MW-3	5/30/2001	3,100	<1,500	170	50	150	340	NA	100	NA	NA	NA	NA	NA	5.57	NA
MW-3	9/17/2001	130	130	0.79	<0.50	<0.50	<0.50	NA	180	NA	NA	NA	NA	NA	5.93	NA
MW-3	12/20/2001	1,800	<900	250	4.8	4.0	51	NA	13	NA	NA	NA	NA	NA	5.06	NA
MW-3	8/27/2003	2,900	NA	96	26	14	81	NA	7.2	NA	NA	NA	NA	9.22	5.71	3.51
MW-3	12/7/2004	120 b	NA	<0.50	<0.50	<0.50	<1.0	NA	88	<2.0	<2.0	<2.0	13	9.22	6.05	3.17
BH-C	12/17/1992	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-D	12/17/1992	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH-E	12/17/1992	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/10/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/9/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/17/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/10/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/24/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/23/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/11/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/2/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/8/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	7/20/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/15/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/13/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	10/11/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	11/11/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	1/13/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	4/20/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB	5/23/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE		DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
								8020 (ug/L)	8260 (ug/L)							

**Abbreviations:**

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B, prior to March 22, 2001, analyzed by EPA Method 8015.

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

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to March 22, 2001, analyzed by EPA Method 8020

MTBE = Methyl-tertiary-butyl ether

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

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

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

TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B

TOC = Top of Casing Elevation

GW = Groundwater

BH-C = Grab Ground Water Sample

ug/L = parts per billion

msl = Mean sea level

ft = Feet

<n = Below detection limit

**Notes:**

a = Chromatogram pattern indicated an unidentified hydrocarbon.

b = Quantity of unknown hydrocarbon in sample based on gasoline.

Well MW-3 surveyed May 9, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-1	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.34	0.66
MW-1 (D)	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	NA	NA
MW-1	4/8/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	4.62	1.38
MW-1	7/20/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.2	0.8
MW-1	10/15/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	4.37	1.63
MW-1	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.26	0.74
MW-1	4/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.01	0.99
MW-1	7/26/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.38	0.62
MW-1	8/18/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.4	0.6
MW-1	10/11/1994	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.6	0.4
MW-1	1/13/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	5.56	0.44
MW-1	4/20/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	4.4	1.6
MW-1	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	4/11/1990	200a	220	2.7	<0.5	0.5	2.4	NA	NA	NA	NA	NA	NA	3.29	4.51	-1.22
MW-2	7/10/1990	570a	450	150	<0.5	0.9	3.1	NA	NA	NA	NA	NA	NA	3.29	4.61	-1.32
MW-2	10/9/1990	190a	51	55	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.74	-1.45
MW-2	1/17/1991	350a	<50	51	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.73	-1.44
MW-2	4/9/1991	NA	<50	21	<5	<5	<5	NA	NA	NA	NA	NA	NA	3.29	4.09	-0.8
MW-2	7/10/1991	50a	<50	8.4	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.66	-1.37
MW-2	10/9/1991	150	NA	22	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.81	-1.52
MW-2	1/24/1992	<50	NA	4.8	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.66	-1.37
MW-2	4/23/1992	<50	NA	2.3	1.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.51	-1.22
MW-2	7/1/1992	130a	NA	19	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.57	-1.28
MW-2	10/2/1992	120a	NA	7.8	<0.5	<0.5	<0.8	NA	NA	NA	NA	NA	NA	3.29	4.8	-1.51
MW-2	1/5/1993	200a	NA	9	<0.5	0.6	1.8	NA	NA	NA	NA	NA	NA	3.29	4.39	-1.1
MW-2	4/8/1993	170a	NA	9.6	<0.5	<0.5	1.6	NA	NA	NA	NA	NA	NA	3.29	4.15	-0.86
MW-2	7/20/1993	80a	NA	16	1.3	1.4	6.1	NA	NA	NA	NA	NA	NA	3.29	4.4	-1.11
MW-2	10/15/1993	400a	NA	37	0.6	1.1	4.7	NA	NA	NA	NA	NA	NA	3.29	5.41	-2.12
MW-2	1/7/1994	86a	NA	12	<0.5	<0.5	1.1	NA	NA	NA	NA	NA	NA	3.29	4.34	-1.05
MW-2	4/13/1994	<50	NA	14	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.29	-1
MW-2	7/26/1994	290	NA	51	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.56	-1.27
MW-2	11/11/1994	<50	NA	3.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	4.68	-1.39
MW-2	1/13/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	3.48	-0.19
MW-2	4/20/1995	<50	NA	<0.5	<0.5	1	3.6	NA	NA	NA	NA	NA	NA	3.29	3.78	-0.49
MW-2 (D)	4/20/1995	<50	NA	9.9	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	NA	NA
MW-2	5/23/1995	<50	NA	5.8	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	3.29	3.87	-0.58

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2160 Otis Street**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
S-1	9/4/1987	NA	NA	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA
S-1	9/11/1989	<50	<100	<0.5	<1	<1	<3	NA	NA	NA	NA	NA	NA	5.1	4.29	0.81
S-1	4/11/1990	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4	1.1
S-1	7/10/1990	<90	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.25	0.85
S-1	10/9/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.46	0.64
S-1	1/17/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.53	0.57
S-1	4/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.2	0.9
S-1	7/10/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.42	0.68
S-1	10/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.87	0.23
S-1	1/24/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.9	0.2
S-1	4/23/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.66	0.44
S-1	7/1/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.85	0.25
S-1	10/2/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.8	0.3
S-1	1/5/1993	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	5.38	-0.28
S-1	4/8/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	3.69	1.41
S-1	7/20/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.2	0.9
S-1	10/15/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.38	0.72
S-1	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.19	0.91
S-1 (D)	1/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.03	1.07
S-1	7/26/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.76	0.34
S-1	11/1/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	4.84	0.26
S-1	1/13/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	4.07	1.03
S-1	4/20/1995	<50	NA	2.2	0.6	2.2	2.5	NA	NA	NA	NA	NA	NA	5.1	4.14	0.96
S-1	5/23/1995	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	5.1	3.51	1.59
S-1	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-1	4/11/1990	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.23	0.77
MW-1	7/10/1990	100	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.4	0.6
MW-1	10/9/1990	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.61	0.39
MW-1	1/17/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.66	0.34
MW-1	4/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	4.96	1.04
MW-1	7/10/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.52	0.48
MW-1	10/9/1991	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.7	0.3
MW-1	1/24/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.51	0.49
MW-1	4/23/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.14	0.86
MW-1	7/1/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	4.48	1.52
MW-1	10/2/1992	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	6	5.8	0.2

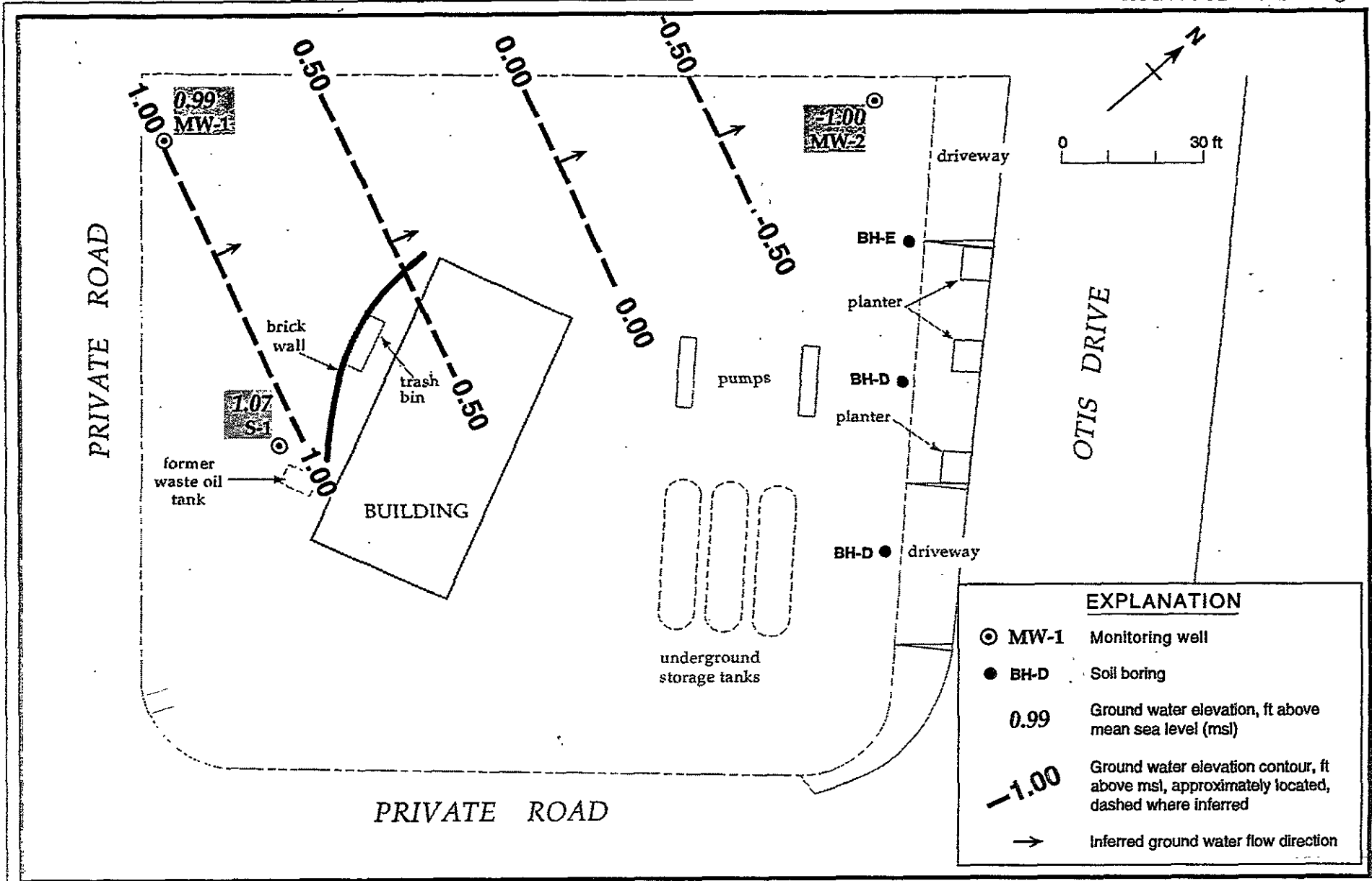


Figure 2. Monitoring Well Locations, Soil Boring Locations and Ground Water Elevation Contours - April 13, 1994 - Shell Service Station WIC #204-0072-2160, 2160 Otis Drive, Alameda, California

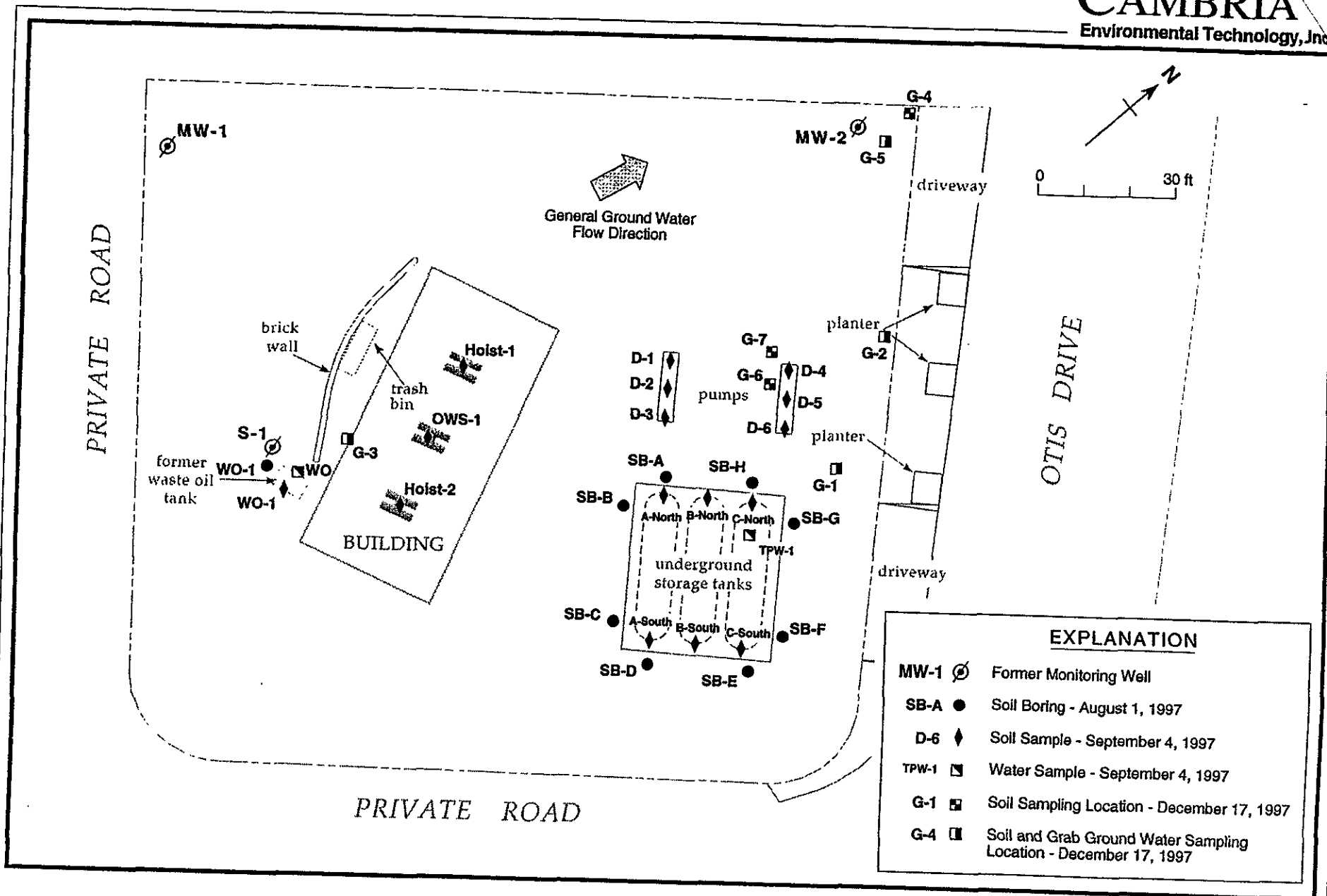
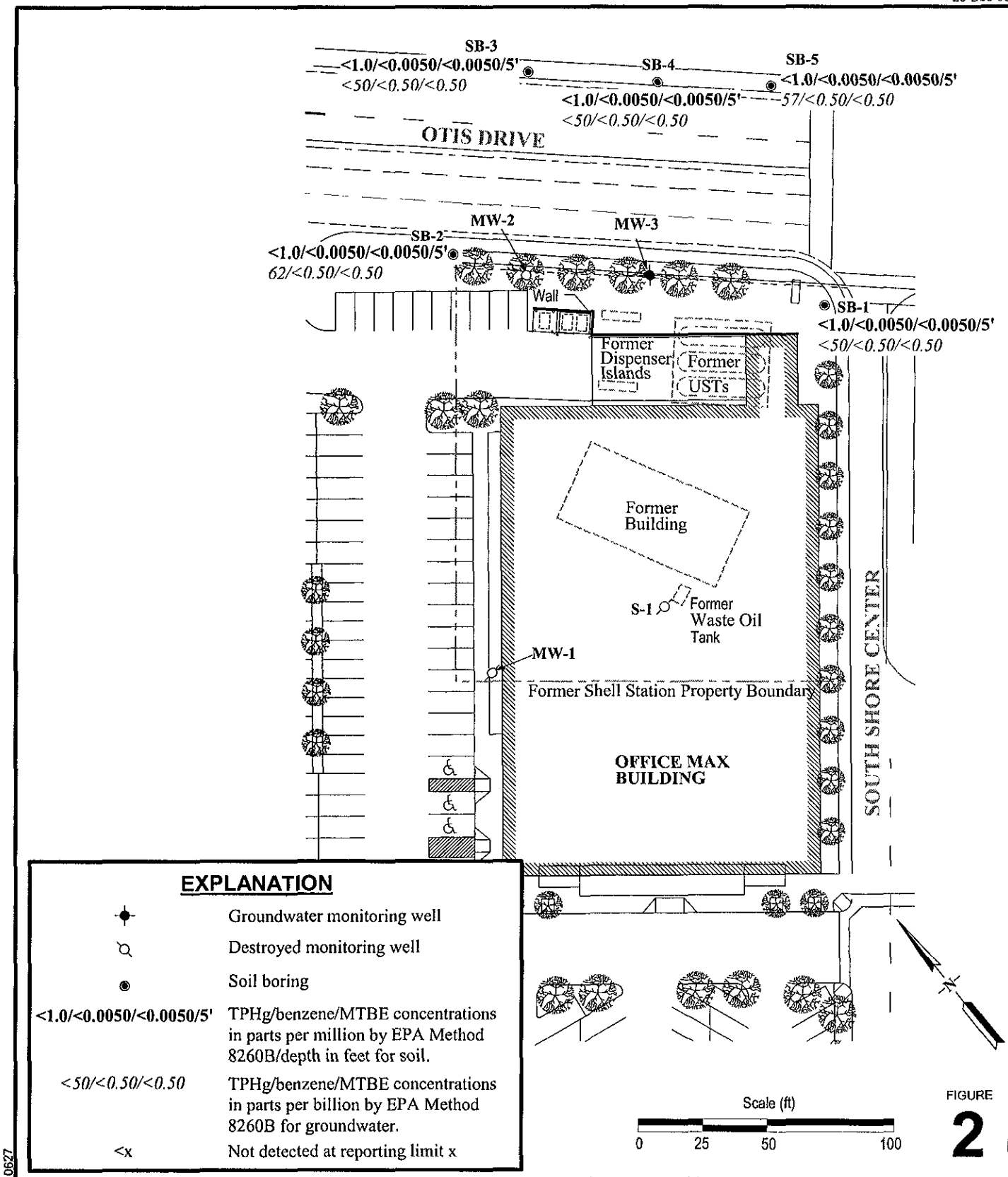


Figure 1. Sample Locations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California



**Former Shell Service Station**  
2160 Otis Drive  
Alameda, California

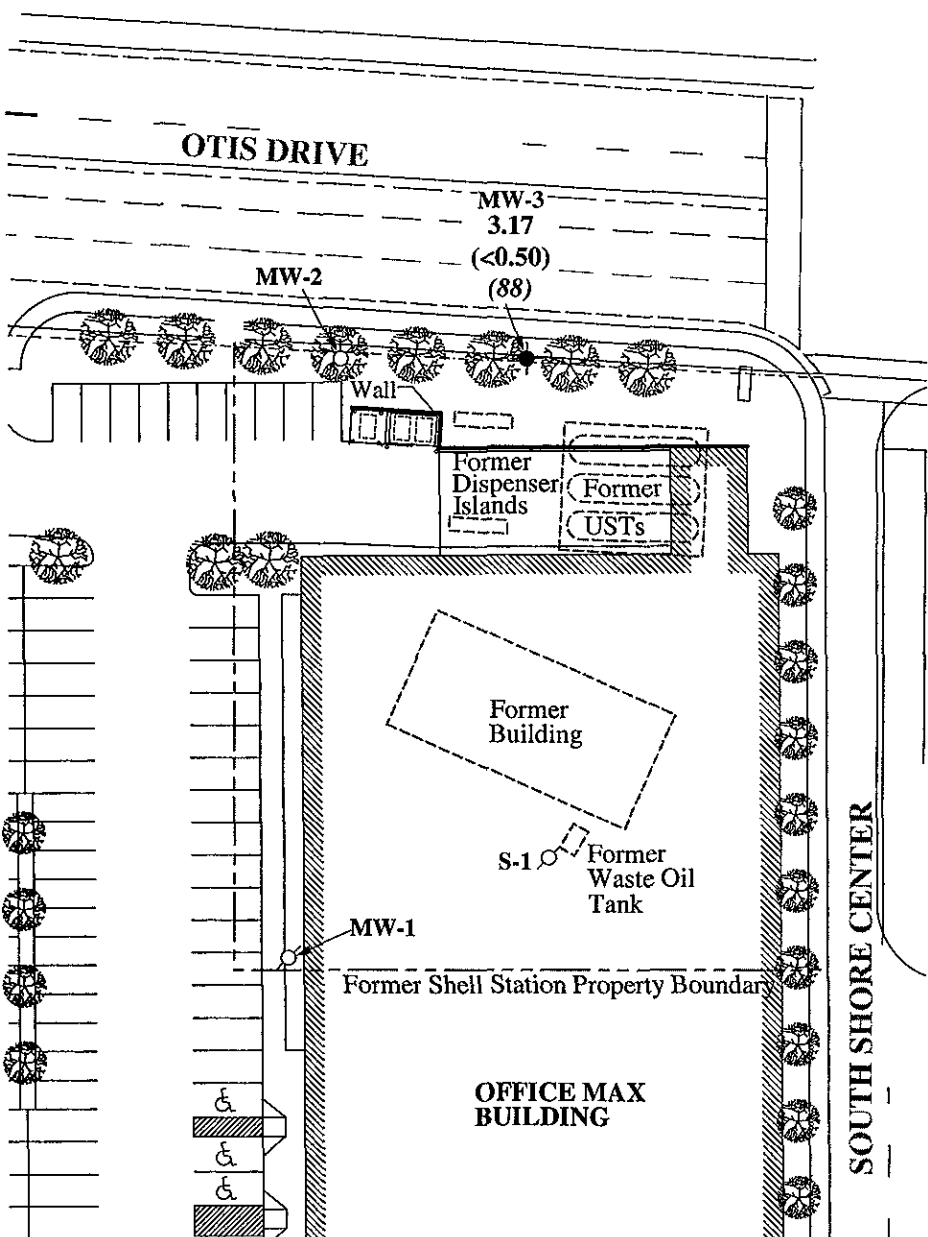


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**Soil/Groundwater Chemical Concentration Map**

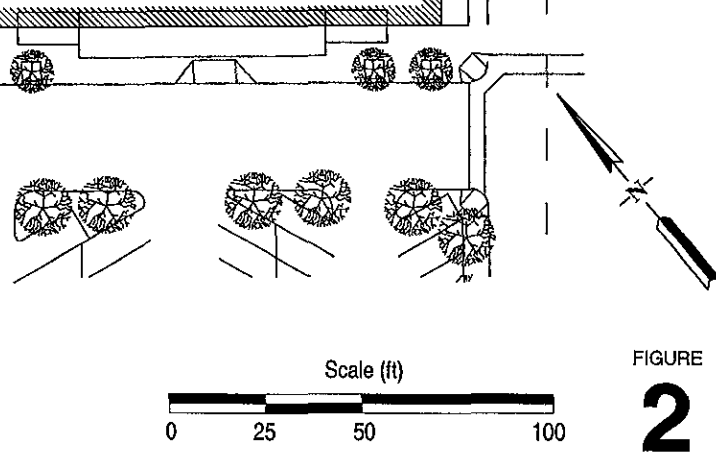
December 9, 2003





**EXPLANATION**

- ◆ Groundwater monitoring well
- ⊗ Destroyed monitoring well
- 3.17 Groundwater elevation in feet referenced to mean sea level
- <math><0.50</math> Benzene concentration in parts per billion (ppb)
- (88) MTBE concentration in ppb
- <math><x</math> Not detected at reporting limit  $x$



0827

**Former Shell Service Station**  
 2160 Otis Drive  
 Alameda, California



CAMBRIA

**Groundwater Elevation/Chemical  
 Concentration Map**

December 7, 2004

**APPENDIX A**

**Blaine Tech Services, Inc.  
Groundwater Monitoring Report**

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**BLAINE**  
**TECH SERVICES** INC.

---

**GROUNDWATER SAMPLING SPECIALISTS**  
**SINCE 1985**

December 29, 2004

Karen Petryna  
Shell Oil Products US  
P.O. Box 7869  
Burbank, CA 91510-7869

Fourth Quarter 2004 Groundwater Monitoring at  
Former Shell Service Station  
2160 Otis Drive  
Alameda, CA

Monitoring performed on December 7, 2003

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Groundwater Monitoring Report **041207-SS-4**

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

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

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

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Leon Gearhart  
Project Coordinator

LG/ks

attachments: Cumulative Table of WELL CONCENTRATIONS  
Certified Analytical Report  
Field Data Sheets

cc: Ana Friel  
Cambria Environmental Technology, Inc.  
P.O. Box 259  
Sonoma, CA 95476-0259

**ATTACHMENT E**

Analytic Reports for Soil Samples



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(650) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (650) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Cambria  
1144 65th St. Suite C  
Oakland, CA 94608  
Attention: Paul Waite

Project: Shell 204-0072-0502, Alameda

Enclosed are the results from samples received at Sequoia Analytical on August 4, 1997.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9708069 -01	SOLID, SB-A-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -02	SOLID, SB-B-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -03	SOLID, SB-C-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -04	SOLID, SB-D-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -05	SOLID, SB-(A,B,C,D)-15.5 Comp	08/01/97	ITTLCS Title 22: Metals, T
9708069 -06	SOLID, SB-E-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -07	SOLID, SB-F-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -08	SOLID, SB-G-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -09	SOLID, SB-H-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -10	SOLID, SB-(E,F,G,H)-15.5 Comp	08/01/97	ITTLCS Title 22: Metals, T
9708069 -11	SOLID, SB-A-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -12	SOLID, SB-A-5.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -13	SOLID, SB-A-10.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -14	SOLID, SB-A-12.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -15	SOLID, SB-A-(7.5,5,10,12.5) Comp	08/01/97	ITTLCS Title 22: Metals, T
9708069 -16	SOLID, SB-B-10.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -17	SOLID, SB-B-4.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -18	SOLID, SB-B-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -19	SOLID, SB-B-12.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -20	SOLID, SB-B-(10,4,7.5,12) Comp	08/01/97	ITTLCS Title 22: Metals, T
9708069 -21	SOLID, SB-C-10.0	08/01/97	TPHGBS Purgeable TPH/BTEX

**SEQUOIA ANALYTICAL**





# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(650) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (650) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9708069 -22	SOLID, SB-C-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -23	SOLID, SB-C-6.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -24	SOLID, SB-C-14.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -25	SOLID, SB-C-(10,7.5,6,14) Comp	08/01/97	ITTLCS Title 22: Metals, T
9708069 -26	SOLID, SB-D-9.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -27	SOLID, SB-D-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -28	SOLID, SB-D-5.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -29	SOLID, SB-D-11.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -30	SOLID, SB-D-(9.5,7.5,5.5,11.5)Cmp	08/01/97	ITTLCS Title 22: Metals, T
9708069 -31	SOLID, SB-E-12.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -32	SOLID, SB-E-6.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -33	SOLID, SB-E-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -34	SOLID, SB-E-10.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708069 -35	SOLID, SB-E-(12.5,6,7.5,10.5)Comp	08/01/97	ITTLCS Title 22: Metals, T
9708069 -36	SOLID, SB-F-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**SEQUOIA ANALYTICAL**

Kevin Follett  
Project Manager





# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(650) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (650) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Cambria  
1144 65th St. Suite C  
Oakland, CA 94608  
Attention: Paul Waite

Project: Shell 204-0072-0502, Alameda

Enclosed are the results from samples received at Sequoia Analytical on August 4, 1997.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9708071 -37	SOLID, SB-F-4.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -38	SOLID, SB-F-10.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -39	SOLID, SB-F-12.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -40	SOLID, SB-F-(7.5,4,10,12) Comp	08/01/97	ITTLCS Title 22: Metals, T
9708071 -41	SOLID, SB-G-4.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -42	SOLID, SB-G-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -43	SOLID, SB-G-10.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -44	SOLID, SB-G-12.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -45	SOLID, SB-G-(4,7.5,10,12) Comp	08/01/97	ITTLCS Title 22: Metals, T
9708071 -46	SOLID, SB-H-4.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -47	SOLID, SB-H-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -48	SOLID, SB-H-10.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -49	SOLID, SB-H-12.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708071 -50	SOLID, SB-H-(4,7.5,10,12) Comp	08/01/97	ITTLCS Title 22: Metals, T

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**SEQUOIA ANALYTICAL**

Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-A-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-01	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	94
4-Bromofluorobenzene	60 140	81

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambría 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Walte	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-B-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-02	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	87
4-Bromofluorobenzene	60	92

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-C-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-03	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	96
4-Bromofluorobenzene	60 140	89

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-D-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-04	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	101
4-Bromofluorobenzene	60	89

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-(A,B,C,D)-15.5 Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708069-05	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	35
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	27
Cobalt, Co	8000	2.5	4.7
Copper, Cu	2500	0.50	6.3
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	25
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	22
Zinc, Zn	5000	0.50	20

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-E-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-06	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	101
4-Bromofluorobenzene	60 140	84

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-F-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-07	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	93
4-Bromofluorobenzene	60	83

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-G-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-08	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	89
4-Bromofluorobenzene	60 140	85

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
\_\_\_\_\_  
Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-H-15.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-09	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
Attention: Paul Waite		

QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	100
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-(E,F,G,H)-15.5 Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708069-10	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
--	--	--

**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	34
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	25
Cobalt, Co	8000	2.5	4.5
Copper, Cu	2500	0.50	6.0
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	25
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	20
Zinc, Zn	5000	0.50	22

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Camabria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-A-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-11	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/07/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
 Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	2.5	14
Benzene	0.012	N.D.
Toluene	0.012	0.052
Ethyl Benzene	0.012	0.14
Xylenes (Total)	0.012	0.67
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-A-5.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-12	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**


Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	5.0	46
Benzene	0.025	0.15
Toluene	0.025	0.064
Ethyl Benzene	0.025	0.23
Xylenes (Total)	0.025	1.2
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-A-10.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-13	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.017
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
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Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-A-12.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-14	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
<b>TPPH as Gas</b>	<b>10</b>	<b>71</b>
Benzene	0.050	N.D.
Toluene	0.050	N.D.
Ethyl Benzene	0.050	0.098
Xylenes (Total)	0.050	0.85
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-A-(7.5,5,10,12.5) Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708069-15	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	60
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	39
Cobalt, Co	8000	2.5	7.3
Copper, Cu	2500	0.50	13
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	46
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	28
Zinc, Zn	5000	0.50	33

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambrla 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-B-10.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-16	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
Attention: Paul Waite		

QC Batch Number: GC080597BTEXEXB  
 Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	83
4-Bromofluorobenzene	60 140	90

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
 Project Manager







Cambria	Client Proj. ID: Shell 204-0072-0502, Alameda	Sampled: 08/01/97
1144 65th St. Suite C	Sample Descript: SB-B-4.0	Received: 08/04/97
Oakland, CA 94608	Matrix: SOLID	Extracted: 08/05/97
Attention: Paul Waite	Analysis Method: 8015Mod/8020	Analyzed: 08/06/97
	Lab Number: 9708069-17	Reported: 08/07/97

QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	1.2
Benzene	0.0050	0.013
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	0.014
Xylenes (Total)	0.0050	0.088
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-B-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-18	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	90
4-Bromofluorobenzene	60 140	94

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-B-12.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-19	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	83
4-Bromofluorobenzene	60 140	91

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager






Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Walte	Client Proj. ID: Shell 204-0072-0502, Alameda	Sampled: 08/01/97
	Sample Descript: SB-B-(10,4,7.5,12) Comp	Received: 08/04/97
	Matrix: SOLID	Extracted: 08/05/97
	Analysis Method: Title 22	Analyzed: 08/05/97
	Lab Number: 9708069-20	Reported: 08/07/97

**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	48
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	25
Cobalt, Co	8000	2.5	4.8
Copper, Cu	2500	0.50	5.9
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	23
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	20
Zinc, Zn	5000	0.50	19

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 \_\_\_\_\_  
 Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-C-10.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-21	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	100
4-Bromofluorobenzene	60	81

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-C-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-22	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	87
4-Bromofluorobenzene	60 140	87

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-C-6.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-23	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
<b>TPPH as Gas</b>	<b>1.0</b>	<b>13</b>
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	0.032
Xylenes (Total)	0.0050	0.019
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	101
4-Bromofluorobenzene	60 140	121

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-C-14.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-24	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	99
4-Bromofluorobenzene	60 140	83

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
\_\_\_\_\_  
Kevin Follett  
Project Manager








Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-C-(10,7.5,6,14) Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708069-25	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	29
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	23
Cobalt, Co	8000	2.5	3.9
Copper, Cu	2500	0.50	4.0
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	0.021
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	18
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	17
Zinc, Zn	5000	0.50	14

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-D-9.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-26	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
Attention: Paul Waite		

QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	2.6
Benzene	0.0050	N.D.
Toluene	0.0050	0.0052
Ethyl Benzene	0.0050	0.0080
Xylenes (Total)	0.0050	0.043
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	139 Q
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-D-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-27	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	92
4-Bromofluorobenzene	60	77

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-D-5.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-28	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
Attention: Paul Waite		


QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	2.5	16
Benzene	0.012	N.D.
Toluene	0.012	0.036
Ethyl Benzene	0.012	0.096
Xylenes (Total)	0.012	0.17
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	226 Q
4-Bromofluorobenzene	60	125

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-D-11.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-29	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	89
4-Bromofluorobenzene	60 140	78

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager






Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-D-(9.5,7.5,5.5,11.5)Cmp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708069-30	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	43
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	19
Cobalt, Co	8000	2.5	4.1
Copper, Cu	2500	0.50	6.7
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	0.040
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	18
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	15
Zinc, Zn	5000	0.50	16

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Walte	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-E-12.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-31	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	88
4-Bromofluorobenzene	60 140	91

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-E-6.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-32	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	1.1
Benzene	0.0050	0.031
Toluene	0.0050	0.13
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.25
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-E-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-33	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	88
4-Bromofluorobenzene	60 140	86

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Kevin Follett  
Project Manager





Cambria	Client Proj. ID: Shell 204-0072-0502, Alameda	Sampled: 08/01/97
1144 65th St. Suite C	Sample Descript: SB-E-10.5	Received: 08/04/97
Oakland, CA 94608	Matrix: SOLID	Extracted: 08/05/97
Attention: Paul Waite	Analysis Method: 8015Mod/8020	Analyzed: 08/06/97
	Lab Number: 9708069-34	Reported: 08/07/97


QC Batch Number: GC080597BTEXEXB  
 Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	1.3
Benzene	0.0050	0.0061
Toluene	0.0050	0.042
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.13
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	86
4-Bromofluorobenzene	60 140	105

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
 Project Manager





Cambrla 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-E-(12.5,6,7.5,10.5)Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708069-35	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	29
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	20
Cobalt, Co	8000	2.5	4.5
Copper, Cu	2500	0.50	6.1
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	22
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	18
Zinc, Zn	5000	0.50	20

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-F-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708069-36	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXB  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	95
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
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Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-F-4.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-37	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
 Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	1.1
Benzene	0.0050	0.0059
Toluene	0.0050	0.011
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.025
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-F-10.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-38	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-F-12.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-39	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	89
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





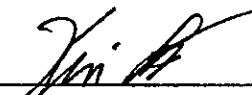
Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-F-(7.5,4,10,12) Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708071-40	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	42
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	24
Cobalt, Co	8000	2.5	4.5
Copper, Cu	2500	0.50	5.0
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	23
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	18
Zinc, Zn	5000	0.50	18

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
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Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-G-4.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-41	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	96
4-Bromofluorobenzene	60	99

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria	Client Proj. ID: Shell 204-0072-0502, Alameda	Sampled: 08/01/97
1144 65th St. Suite C	Sample Descript: SB-G-7.5	Received: 08/04/97
Oakland, CA 94608	Matrix: SOLID	Extracted: 08/05/97
Attention: Paul Waite	Analysis Method: 8015Mod/8020	Analyzed: 08/05/97
	Lab Number: 9708071-42	Reported: 08/07/97

QC Batch Number: GC080597BTEXEXC  
 Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	95
4-Bromofluorobenzene	60 140	93

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-G-10.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-43	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	92
4-Bromofluorobenzene	60 140	91

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-G-12.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-44	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	82
4-Bromofluorobenzene	60 140	82

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-G-(4,7.5,10,12) Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708071-45	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	39
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	24
Cobalt, Co	8000	2.5	5.6
Copper, Cu	2500	0.50	15
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	21
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	18
Zinc, Zn	5000	0.50	17

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-H-4.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-46	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	70
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-H-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-47	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
 Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
<b>Xylenes (Total)</b>	<b>0.0050</b>	<b>0.0056</b>
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	92
4-Bromofluorobenzene	60 140	92

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-H-10.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-48	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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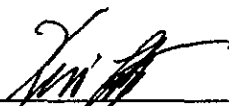
QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	97
4-Bromofluorobenzene	60 140	89

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
\_\_\_\_\_  
Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-H-12.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708071-49	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
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QC Batch Number: GC080597BTEXEXC  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	102
4-Bromofluorobenzene	60 140	90

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502, Alameda Sample Descript: SB-H-(4,7.5,10,12) Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708071-50	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/07/97
Attention: Paul Walte		

**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
<b>Barium, Ba</b>	<b>10000</b>	<b>5.0</b>	<b>43</b>
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
<b>Chromium, Cr</b>	<b>2500</b>	<b>0.50</b>	<b>20</b>
<b>Cobalt, Co</b>	<b>8000</b>	<b>2.5</b>	<b>3.6</b>
<b>Copper, Cu</b>	<b>2500</b>	<b>0.50</b>	<b>4.3</b>
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
<b>Nickel, Ni</b>	<b>2000</b>	<b>2.5</b>	<b>18</b>
Selenium, Se	100	5.0	N.D.
<b>Silver, Ag</b>	<b>500</b>	<b>0.50</b>	<b>47</b>
Thallium, Tl	700	5.0	N.D.
<b>Vanadium, V</b>	<b>2400</b>	<b>2.5</b>	<b>15</b>
Zinc, Zn	5000	0.50	14

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria Environmental Tech. Client Project ID: Shell 204-0072-0502, Alameda  
 1144 65th St., Ste. C Matrix: Solid  
 Oakland, CA 94608  
 Attention: Paul Waite Work Order #: 9708069 01-09 Reported: Aug 8, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC080597BTEXEXA	GC080597BTEXEXA	GC080597BTEXEXA	GC080597BTEXEXA	GC080597BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970806603	970806603	970806603	970806603	970806603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.17	0.18	0.18	0.56	1.2
MS % Recovery:	85	90	90	93	100
Dup. Result:	0.17	0.17	0.17	0.53	1.2
MSD % Recov.:	85	85	85	88	100
RPD:	0.0	5.7	5.7	5.5	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK080597	BLK080597	BLK080597	BLK080597	BLK080597
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.19	0.18	0.20	0.60	1.3
LCS % Recov.:	95	95	100	100	108

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
 Kevin Follett  
 Project Manager





Cambria Environmental Tech. Client Project ID: Shell 204-0072-0502, Alameda  
 1144 65th St., Ste. C Matrix: Solid  
 Oakland, CA 94608 Work Order #: 9708069 10-34 Reported: Aug 8, 1997  
 Attention: Paul Waite

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC080597BTEXEXB	GC080597BTEXEXB	GC080597BTEXEXB	GC080597BTEXEXB	GC080597BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970806913	970806913	970806913	970806913	970806913
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.14	0.14	0.15	0.48	1.0
MS % Recovery:	70	70	75	77	83
Dup. Result:	0.15	0.15	0.17	0.51	1.1
MSD % Recov.:	75	75	85	82	92
RPD:	6.9	6.9	13	6.1	9.5
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK080597	BLK080597	BLK080597	BLK080597	BLK080597
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.18	0.18	0.18	0.56	1.2
LCS % Recov.:	90	90	90	93	100

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
 Kevin Follett  
 Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708069.CCC <2>





Cambria Environmental Tech. Client Project ID: Shell 204-0072-0502, Alameda  
 1144 65th St., Ste. C Matrix: Solid  
 Oakland, CA 94608  
 Attention: Paul Waite Work Order #: 9708069 36-49 Reported: Aug 8, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC080597BTEXEXC	GC080597BTEXEXC	GC080597BTEXEXC	GC080597BTEXEXC	GC080597BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970802109	970802109	970802109	970802109	970802109
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.48	0.18	0.19	0.58	1.3
MS % Recovery:	240	90	95	97	108
Dup. Result:	0.17	0.17	0.18	0.55	1.2
MSD % Recov.:	85	85	90	92	100
RPD:	95	5.7	5.4	5.3	9.5
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK080597	BLK080597	BLK080597	BLK080597	BLK080597
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/6/97	8/6/97	8/6/97	8/6/97	8/6/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.18	0.18	0.19	0.56	1.3
LCS % Recov.:	90	90	95	93	108

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
 Kevin Follett  
 Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708069.CCC <3>





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 204-0072-0502, Alameda  
Matrix: Solid

Work Order #: 9708069 05, 10, 15, 20, 25,  
30, 35, 40, 45, 50

Reported: Aug 8, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	Beryllium	Cadmium	Chromium	Nickel	Mercury
QC Batch#:	ME0805976010MDE	ME0805976010MDE	ME0805976010MDE	ME0805976010MDE	ME0805977471M4A
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 7471
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050	EPA 7471

Analyst:	R. Butler	R. Butler	R. Butler	R. Butler	M. Heid
MS/MSD #:	970802130	970802130	970802130	970802130	970740601
Sample Conc.:	N.D.	N.D.	37	43	N.D.
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/6/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2	MPE4
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	0.40 mg/Kg
Result:	43	42	74	80	0.31
MS % Recovery:	86	84	74	74	78
Dup. Result:	47	47	84	89	0.32
MSD % Recov.:	94	94	94	92	80
RPD:	8.9	11	13	11	3.2
RPD Limit:	0-20	0-20	0-20	0-20	0-20

LCS #:	BLK080597	BLK080597	BLK080597	BLK080597	BLK080597
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/6/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2	MPE4
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	0.40 mg/Kg
LCS Result:	48	48	49	49	0.33
LCS % Recov.:	96	96	98	98	83

MS/MSD	80-120	80-120	80-120	80-120	
LCS	80-120	80-120	80-120	80-120	
Control Limits					75-125

SEQUOIA ANALYTICAL

*Kevin Follett*  
Kevin Follett  
Project Manager

Please Note:  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708069.CCC <4>





**SHELL OIL COMPANY**  
**RETAIL ENVIRONMENTAL ENGINEERING - WEST**

**CHAIN OF CUSTODY RECORD**  
 Serial No: 9708069/71

Date: 8/1/97  
 Page of

Site Address: 2160 Otis Street Alameda

WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines Phone No: 675-6136  
 Fax #: 675-6130

Consultant Name & Address: **CAMBRIA ENVIRONMENTAL**  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul White Phone No: 510-420-0700  
 Fax #: 420-9770

Comments: Use Attached Protocol!

Sampled by: Maureen Feineman

Printed Name: Maureen Feineman

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	<del>Asbestos</del>	Asbestos	Container Size	Preparation Used	Composite Y/N
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LAB: Sequoia

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
C.W. Monitoring <input type="checkbox"/>	4461	24 hours <input type="checkbox"/>
SBE Investigation <input type="checkbox"/>	4441	48 hours <input checked="" type="checkbox"/>
Soil Classify/Disposal <input checked="" type="checkbox"/>	4442	15 days <input type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify lab as soon as possible of 24/48 hrs. TAT.

UST AGENCY: Alameda

Sample ID	Date	Time	Soil	Water	Air	No. of conds.	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS		
SB-A 7.5'	8/1	8:40	1			1	4:1 Composite for CAM Metals			
SB-A 5.0'		8:40	1			1				
SB-A 10.0'		8:45	1			1				
SB-A 12.5'		8:50	1			1				
SB-B 10.0'		9:00	1			1			4:1 Composite for CAM Metals	
SB-B 4.0'		9:55	1			1				
SB-B 7.5'		8:55	1			1				
SB-B 12.0'		9:05	1			1				

Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>CHRISTINA EMPELLES</u>	Date: <u>8/4/97</u>	Time: <u>12:15</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>RENAPWA</u>	Date: <u>8/4/97</u>	Time: <u>12:15</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>DEARLON</u>	Date: <u>8/4/97</u>	Time: <u>[Blank]</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>[Blank]</u>	Date: <u>8/4/97</u>	Time: <u>[Blank]</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>[Blank]</u>	Date: <u>[Blank]</u>	Time: <u>[Blank]</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>ADAP</u>	Date: <u>8/4/97</u>	Time: <u>1313</u>

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



**SHELL OIL COMPANY**  
**RETAIL ENVIRONMENTAL ENGINEERING - WEST**

**CHAIN OF CUSTODY RECORD**  
 Serial No: 9708069/71

Date: 8/1/97  
 Page of

Site Address: 2160 Otis Street Alameda  
 WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines  
 Phone No: 675-6136  
 Fax #: 675-6130

Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul White  
 Phone No.: SJO 420-0700  
 Fax #: 420-9770

Comments: Use Attached Protocol!

Sampled by: Maureen Feineman  
 Printed Name: Maureen Feineman

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/8021)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020		Asbestos	Container Size	Preparation Used	Composite Y/N
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LAB: Seyvoia

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input checked="" type="checkbox"/>
Soil Classify/Disposal <input checked="" type="checkbox"/>	4442	16 days <input type="checkbox"/> (found)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify lab as soon as possible of 24/48 hr. TAT.

UST AGENCY: Alameda

Sample ID	Date	Time Sludge	Soil	Water	Air	No. of conls.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/8021)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS	
SB-E-12.5'	8/1	11:00	1																
SB-E-6.0'		10:45	1																4:1 Composite CAM Metals
SB-E-7.5'		10:45	1																
SB-E 10.5'		10:55	1																
SB-F 7.5'		12:55	1																
SB-F 4.0'		12:55	1																4:1 Composite CAM Metals.
SB-F 10.0'		1:00	1																
SB-F 12.0'		1:07	1																

Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>CARISTINA EMPEDOCLES</u>	Date: <u>8/4/97</u>	Time: <u>12:55 PM</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>PENADOR</u>	Date: <u>8/4/97</u>	Time: <u>12:15 PM</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>PENADOR</u>	Date: <u>8/1/97</u>	Time: <u></u>	Received (signature): <u>[Signature]</u>	Printed Name: <u></u>	Date: <u></u>	Time: <u></u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u></u>	Date: <u></u>	Time: <u></u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>ASAB</u>	Date: <u>8/4/97</u>	Time: <u>1:15</u>

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS





**SHELL OIL COMPANY**  
**RETAIL ENVIRONMENTAL ENGINEERING - WEST**

**CHAIN OF CUSTODY RECORD**

Serial No: 9208069/71

Date: 8/1/97

Page 1 of 1

Site Address: 2160 Otis Street Alameda

WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines Phone No: 675-6136  
 Fax #: 675-6130

Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul Waite Phone No.: 510 420-0700  
 Fax #: 420-9170

Comments: Use Attached Protocol!

Sampled by: Maureen Feineman

Printed Name: Maureen Feineman

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N
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LAB: Seyvoia

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input checked="" type="checkbox"/>
Soil Classify/Disposal <input checked="" type="checkbox"/>	4443	16 days <input type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Hally Lab as soon as possible of 24/48 hrs. TAU  
 AU 4 13

UST AGENCY: Alameda

Sample ID	Date	Time Slugs	Soil	Water	Air	No. of conls.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SB-C-10.0'	8/1	9:43	1															
SB-C-7.5'		9:35	1															
SB-C-6.0'		9:35	1															4:1 Composite for CAM Metals
SB-C-14.0'		9:45	1															
SB-D-9.5'		10:15	1															
SB-D-7.5'		10:10	1															
SB-D-5.5'		10:10	1															4:1 Composite for CAM Metals
SB-D-11.5'		10:15	1															

Relinquished By (signature): [Signature]  
 Relinquished By (signature): [Signature]  
 Relinquished By (signature): [Signature]

Printed Name: CHRISTINA EMPEDOCLES  
 Printed Name: DENARD R  
 Printed Name:

Date: 8/4/97  
 Time: 12:05  
 Date: 8/4/97  
 Time:

Received (signature): [Signature]  
 Received (signature): [Signature]  
 Received (signature): [Signature]

Printed Name: DENARD R  
 Printed Name:  
 Printed Name: ABAB

Date: 8/4/97  
 Time: 12:15 PM  
 Date:  
 Time:  
 Date: 8/4/97  
 Time: 12:13

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**

Serial No: 9708069/71

Date: 8/1/97  
Page 1 of 1

Site Address: 2160 Otis Street Alameda

WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines Phone No: 675-6136  
Fax #: 675-6130

Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul White Phone No.: 510 420-0700  
Fax #: 420-9770

Comments: Use Attached Protocol!

Sampled by: Maureen Reineman

Printed Name: Maureen Reineman

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N
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LAB: Sequoia

CHECK ONE (S) BOX ONLY	CI/DI	TURF AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input checked="" type="checkbox"/>
Soil Classify/Disposal <input checked="" type="checkbox"/>	4442	16 days <input type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

TEST AGENCY: Alameda

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS	
SB-G-4.0	8/1/97	1:10pm	1			1													
SB-G-7.5		1:10pm	1			1													
SB-G-10.0		1:15pm	1			1													
SB-G-12.0	8/1/97	1:30	1			1													
SB-H-4.0		1:43	1			1													
SB-H-7.5		1:45	1			1													
SB-H-10.0		1:53	1			1													
SB-H-12.0	8/1/97	12:00	1			1													

4:1 Composite for CAM Metals

4:1 Composite for CAM Metals

Relinquished By (signature): [Signature] Printed Name: CHRISTINA FREDOLLO Date: 8/4/97 Time: 12:15 PM

Received (signature): [Signature] Printed Name: L. PENAFLORE Date: 8/4/97 Time: 12:15 PM

Relinquished By (signature): [Signature] Printed Name: PAUL WHITE Date: 8/4/97 Time: 12:15 PM

Received (signature): [Signature] Printed Name: L. PENAFLORE Date: 8/4/97 Time: 12:15 PM

Relinquished By (signature): [Signature] Printed Name: PAUL WHITE Date: 8/4/97 Time: 12:15 PM

Received (signature): [Signature] Printed Name: L. PENAFLORE Date: 8/4/97 Time: 12:15 PM

Relinquished By (signature): [Signature] Printed Name: PAUL WHITE Date: 8/4/97 Time: 12:15 PM

Received (signature): [Signature] Printed Name: L. PENAFLORE Date: 8/4/97 Time: 12:15 PM

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**

Serial No: 9708009/71

Date: 8/1/97

Page 1 of 1

Site Address: 2160 Otis Street Alameda

WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines Phone No: 675-6136  
Fax #: 675-6130

Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul Waite Phone No.: 510 420-0700  
Fax #: 420-9170

Comments: Use Attached Protocol!

Sampled by: Maureen Feineman

Printed Name: Maureen Feineman

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/8021)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

LAB: Seyvoia

CHECK ONE (1) BOX ONLY	CI/DI	TURF AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4481	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input checked="" type="checkbox"/>
Soil Classify/Disposal <input checked="" type="checkbox"/>	4442	16 days <input type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify lab as soon as possible at 24/48 hrs. TAT.

EU 4 13

UST AGENCY: Alameda

Sample ID	Date	Time	Sludge	Soil	Water	Air	No. of conls.
SB-A-15.5'	8/1	8:50		1			
SB-B-19.5'		9:05		1			
SB-C-15.5'		9:45		1			
SB-D-15.5'		10:20		1			
SB-F-16.5'		11:00		1			
SB-F-15.5'		1:07		1			
SB-G-15.5'		1:30		1			
SB-H-15.5'		2:00		1			

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
4:1 Composite for	
CAM Metals	
4:1 Composite for	
CAM Metals	

Relinquished By (signature): [Signature] Printed Name: CHRISTINA EMPEDOLLES Date: 8/4/97 Time: 12:15 PM

Relinquished By (signature): [Signature] Printed Name: DENAPOR Date: 8/4/97 Time:

Relinquished By (signature): [Signature] Printed Name:  Date:  Time:

Received (signature): [Signature] Printed Name: DENAPOR Date: 8/4/97 Time: 12:15 PM

Received (signature): [Signature] Printed Name:  Date:  Time:

Received (signature): [Signature] Printed Name: Alaba Date: 8/4/97 Time: 1:313

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

9708069/71

ISSUED DATE: 02/17/95  
CANCELS ISSUE: 11/01/92  
ISSUED BY: RLG

**MATERIAL: CALIFORNIA UNDERGROUND STORAGE TANK (UST)  
SOIL CONTAMINATED WITH GASOLINE/DIESEL**

MINIMUM REQUIRED TESTING

TPH = TOTAL PETROLEUM HYDROCARBONS, DHS GC-FID MOD 8015  
GASOLINE OR DIESEL AS REQUIRED.

BTXE = EPA 8020

CAM METALS = TTLC ALL:

STLC ON ALL TTLC METALS 10 X STLC MAXIMUM,  
TTLC LEAD =>13 MG/KG REQUIRES ORGANIC ANALYSIS,  
EP TOX METALS FOR STLC METALS AT OR ABOVE  
STLC REGULATORY LEVEL.

AQUATIC BIOASSAY (FISH TOX) IS ONLY TO BE RUN ON SAMPLES WITH  
GREATER THAN 5000 PPM TPH. COMPOSITE A MAXIMUM OF 4 SAMPLES.  
AQUATIC BIOASSAY (FISH TOX) = PART 800 OF "STANDARD METHODS  
FOR THE EXAMINATION OF WATER AND WASTEWATER (15TH, EDITION)"

LABORATORY INSTRUCTIONS (MINIMUM GUIDELINES ONLY)

- 8015/8020 TO BE BILLED AS "COMBO" WITHOUT EXCEPTION
- TPH REQUIRED ON ALL SAMPLES.
- ALL OTHER TESTS REQUIRED TO BE RUN ON COMPOSITE(S). MAX.  
4 SAMPLES PER COMPOSITE.
- ORGANIC ANALYSIS REQUIRED FOR TTLC LEAD OF 13 MG/KG OR  
GREATER.
- STLC REQUIRED FOR METALS WITH TTLC VALUE 10 X STLC MAXIMUM.
- LABORATORY IS TO SUPPLY QA/QC INFORMATION WITH ALL  
ANALYTICAL REPORTS.
- MAIL OR FAX ALL ANALYSIS TO PERSON REQUESTING ANALYSIS.  
DO NOT FAX OR MAIL ANALYSES TO RON GEMEINHARDT OR THE WASTE  
DISPOSAL COORDINATOR UNLESS SPECIFICALLY REQUESTED.
- QUESTIONS REGARDING ANALYSIS CONTACT RON GEMEINHARDT AT  
(714) 520-3385.

PROCEDURE ORIGINAL DATE: 07/10/90  
PROCEDURE REVISED DATE: 01/01/95



Sequoia  
Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(650) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (650) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Cambria  
1144 65th St. Suite C  
Oakland, CA 94608  
Attention: Paul Waite

Client Proj. ID: Shell 204-0072-0502, Alameda  
Lab Proj. ID: 9708071

Received: 08/04/97  
Reported: 08/07/97

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 64 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Kevin Follett  
Project Manager





# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
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FAX (916) 921-0100

Cambria  
1144 65th St. Suite C  
Oakland, CA 94608  
Attention: Paul Walte

Project: Shell 204-0072-0502

Enclosed are the results from samples received at Sequoia Analytical on August 4, 1997.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9708066 -01	SOLID, WO-1-4.0	08/01/97	TRPH (EPA 418.1M)
9708066 -01	SOLID, WO-1-4.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708066 -02	SOLID, WO-1-7.5	08/01/97	TRPH (EPA 418.1M)
9708066 -02	SOLID, WO-1-7.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708066 -03	SOLID, WO-1-10.0	08/01/97	TRPH (EPA 418.1M)
9708066 -03	SOLID, WO-1-10.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708066 -04	SOLID, WO-1-12.0	08/01/97	TRPH (EPA 418.1M)
9708066 -04	SOLID, WO-1-12.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	Cyanide: Reactive
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	ITTLCS Title 22: Metals, T
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	PCB_S Polychlorinated Biph
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	pH
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	Sulfide: Reactive
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	TCLPMS Metals - Solid
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	TCLPSS SemiVolatile
9708066 -05	SOLID, WO-1-(4,7.5,10,12) Comp	08/01/97	TCLPVS Volatiles
9708066 -06	SOLID, WO-1-15.5	08/01/97	TRPH (EPA 418.1M)
9708066 -06	SOLID, WO-1-15.5	08/01/97	TPHGBS Purgeable TPH/BTEX
9708066 -07	SOLID, WO-1-17.0	08/01/97	TRPH (EPA 418.1M)
9708066 -07	SOLID, WO-1-17.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708066 -08	SOLID, WO-1-18.0	08/01/97	TRPH (EPA 418.1M)

**SEQUOIA ANALYTICAL**





# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
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FAX (650) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9708066 -08	SOLID, WO-1-18.0	08/01/97	TPHGBS Purgeable TPH/BTEX
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	Cyanide: Reactive
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	ITTLCS Title 22: Metals, T
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	PCB_S Polychlorinated Biph
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	pH
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	Sulfide: Reactive
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	TCLPMS Metals - Solid
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	TCLPSS SemiVolatile
9708066 -09	SOLID, WO-1-(15.5,17,18) Comp	08/01/97	TCLPVS Volatiles

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**SEQUOIA ANALYTICAL**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502	Sampled: 08/01/97 Received: 08/04/97 Analyzed: see below
Attention: Paul Waite	Lab Proj. ID: 9708066	Reported: 08/08/97

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9708066-01 Sample Desc : SOLID,WO-1-4.0				
TRPH (EPA 418.1M)	mg/Kg	08/05/97	75	650
Lab No: 9708066-02 Sample Desc : SOLID,WO-1-7.5				
TRPH (EPA 418.1M)	mg/Kg	08/05/97	15	26
Lab No: 9708066-03 Sample Desc : SOLID,WO-1-10.0				
TRPH (EPA 418.1M)	mg/Kg	08/05/97	15	26
Lab No: 9708066-04 Sample Desc : SOLID,WO-1-12.0				
TRPH (EPA 418.1M)	mg/Kg	08/05/97	15	33
Lab No: 9708066-05 Sample Desc : SOLID,WO-1-(4,7.5,10,12) Comp				
Cyanide: Reactive	mg/Kg	08/06/97	0.50	N.D.
pH	pH Units	08/05/97	N/A	9.2
Sulfide: Reactive	mg/Kg	08/05/97	13	N.D.
Lab No: 9708066-06 Sample Desc : SOLID,WO-1-15.5				
TRPH (EPA 418.1M)	mg/Kg	08/05/97	30	72

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502	Sampled: 08/01/97 Received: 08/04/97 Analyzed: see below
Attention: Paul Waite	Lab Proj. ID: 9708066	Reported: 08/08/97

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9708066-07 Sample Desc : SOLID,WO-1-17.0				
TRPH (EPA 418.1M)	mg/Kg	08/05/97	15	35
Lab No: 9708066-08 Sample Desc : SOLID,WO-1-18.0				
TRPH (EPA 418.1M)	mg/Kg	08/05/97	15	37
Lab No: 9708066-09 Sample Desc : SOLID,WO-1-(15.5,17,18) Comp				
Cyanide: Reactive	mg/Kg	08/06/97	0.50	N.D.
pH	pH Units	08/05/97	N/A	9.8
Sulfide: Reactive	mg/Kg	08/05/97	13	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria	Client Proj. ID: Shell 204-0072-0502	Sampled: 08/01/97
1144 65th St. Suite C	Sample Descript: WO-1-4.0	Received: 08/04/97
Oakland, CA 94608	Matrix: SOLID	Extracted: 08/05/97
Attention: Paul Walte	Analysis Method: 8015Mod/8020	Analyzed: 08/05/97
	Lab Number: 9708066-01	Reported: 08/08/97


QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-7.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708066-02	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/08/97
Attention: Paul Waite		

QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	84
4-Bromofluorobenzene	60                      140	71

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-10.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708066-03	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/08/97
---	--	--

QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	83
4-Bromofluorobenzene	60 140	83

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria	Client Proj. ID: Shell 204-0072-0502	Sampled: 08/01/97
1144 65th St. Suite C	Sample Descript: WO-1-12.0	Received: 08/04/97
Oakland, CA 94608	Matrix: SOLID	Extracted: 08/05/97
Attention: Paul Walte	Analysis Method: 8015Mod/8020	Analyzed: 08/05/97
	Lab Number: 9708066-04	Reported: 08/08/97


QC Batch Number: GC080597BTEXEXA  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	74
4-Bromofluorobenzene	60 140	76

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(4,7.5,10,12) Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708066-05	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/08/97
Attention: Paul Waite		
QC Batch Number: ME0805976010MDE		

**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	38
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	25
Cobalt, Co	8000	2.5	4.3
Copper, Cu	2500	0.50	5.3
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	21
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	18
Zinc, Zn	5000	0.50	15

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambrla 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(4,7,5,10,12) Comp Matrix: SOLID Analysis Method: EPA 8080 Lab Number: 9708066-05	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/08/97
---	--	--

QC Batch Number: GC0730970PCBEXA  
 Instrument ID: GCHP12A

**Polychlorinated Biphenyls (EPA 8080)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
PCB-1016	20	N.D.
PCB-1221	80	N.D.
PCB-1232	20	N.D.
PCB-1242	20	N.D.
PCB-1248	20	N.D.
PCB-1254	20	N.D.
PCB-1260	20	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Dibutylchlorendate	30	150
Tetrachloro-m-xylene	30	150

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(4,7.5,10,12) Comp Matrix: SOLID Analysis Method: EPA6010/7470 Lab Number: 9708066-05	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/07/97 Analyzed: 08/07/97 Reported: 08/08/97
---	--	--


QC Batch Number: ME0807976010MDA

**TCLP Metals**

Analyte	Max. Limit mg/L	Detection Limit mg/L	Sample Results mg/L
Arsenic, As	5.0	0.10	N.D.
<b>Barium, Ba</b>	<b>100</b>	<b>0.10</b>	<b>0.56</b>
Cadmium, Cd	1.0	0.010	N.D.
Chromium, Cr	5.0	0.010	N.D.
Lead, Pb	5.0	0.10	N.D.
Mercury, Hg	0.2	0.00020	N.D.
Selenium, Se	1.0	0.10	N.D.
Silver, Ag	5.0	0.010	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
\_\_\_\_\_  
Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(4,7.5,10,12) Comp Matrix: SOLID Analysis Method: EPA 8270 Lab Number: 9708066-05	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/06/97 Analyzed: 08/06/97 Reported: 08/08/97
---	--	--

QC Batch Number: MS0806978270EXA  
Instrument ID: F4


**TCLP Semivolatiles (EPA 8270)**

Analyte	Max. Limit mg/L	Detection Limit mg/L	Sample Results mg/L
Total Cresol	200	0.0080	N.D.
1,4-Dichlorobenzene	7.5	0.0080	N.D.
2,4-Dinitrotoluene	0.13	0.0080	N.D.
Hexachlorobenzene	0.13	0.0080	N.D.
Hexachloro-1,3-butadiene	0.5	0.0080	N.D.
Hexachloroethane	3.0	0.0080	N.D.
Nitrobenzene	2.0	0.0080	N.D.
Pentachlorophenol	100	0.040	N.D.
Pyridine	5.0	0.040	N.D.
2,4,5-Trichlorophenol	400	0.040	N.D.
2,4,6-Trichlorophenol	2.0	0.0080	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	21	110	66
Phenol-d6	10	110	67
Nitrobenzene-d5	35	114	64
2-Fluorobiphenyl	43	116	73
2,4,6-Tribromophenol	10	123	70

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
\_\_\_\_\_  
Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(4,7,5,10,12) Comp Matrix: SOLID Analysis Method: EPA 8240 Lab Number: 9708066-05	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/04/97 Analyzed: 08/05/97 Reported: 08/08/97
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QC Batch Number: MS0805978240F3A  
 Instrument ID: F3

**TCLP Volatiles (EPA 8240)**

Analyte	Max. Limit mg/L	Detection Limit mg/L	Sample Results mg/L
Benzene	0.5	0.020	N.D.
Carbon tetrachloride	0.5	0.020	N.D.
Chlorobenzene	100	0.020	N.D.
Chloroform	6.0	0.020	N.D.
1,2-Dichloroethane	0.5	0.020	N.D.
1,1-Dichloroethylene	0.7	0.020	N.D.
Methyl ethyl ketone	200	0.10	N.D.
Tetrachloroethylene	0.7	0.020	N.D.
Trichloroethylene	0.5	0.020	N.D.
Vinyl chloride	0.2	0.020	N.D.
<b>Surrogates</b>		<b>Control Limits %</b>	<b>% Recovery</b>
1,2-Dichloroethane-d4		76 114	96
Toluene-d8		88 110	102
4-Bromofluorobenzene		86 115	96

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
 Project Manager





Cambria Client Proj. ID: Shell 204-0072-0502 Sampled: 08/01/97
1144 65th St. Suite C Sample Descript: WO-1-15.5 Received: 08/04/97
Oakland, CA 94608 Matrix: SOLID Extracted: 08/05/97
Attention: Paul Waite Analysis Method: 8015Mod/8020 Analyzed: 08/06/97
Lab Number: 9708066-06 Reported: 08/08/97

QC Batch Number: GC080597BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Table with columns: Analyte, Detection Limit mg/Kg, Sample Results mg/Kg. Rows include TPHH as Gas, Benzene, Toluene, Ethyl Benzene, Xylenes (Total), Chromatogram Pattern, Surrogates (Trifluorotoluene, 4-Bromofluorobenzene) with Control Limits % and % Recovery.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Handwritten signature of Kevin Follett
Kevin Follett
Project Manager





Camabria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-17.0 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9708066-07	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/08/97
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QC Batch Number: GC080597BTEXEXA  
 Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	0.0098
Xylenes (Total)	0.0050	0.018
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	98
4-Bromofluorobenzene	60 140	94

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
 Project Manager





Cambria	Client Proj. ID: Shell 204-0072-0502	Sampled: 08/01/97
1144 65th St. Suite C	Sample Descript: WO-1-18.0	Received: 08/04/97
Oakland, CA 94608	Matrix: SOLID	Extracted: 08/05/97
Attention: Paul Waite	Analysis Method: 8015Mod/8020	Analyzed: 08/06/97
	Lab Number: 9708066-08	Reported: 08/08/97


QC Batch Number: GC080597BTEXEXA  
 Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
<b>Ethyl Benzene</b>	<b>0.0050</b>	<b>0.0077</b>
<b>Xylenes (Total)</b>	<b>0.0050</b>	<b>0.015</b>
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 \_\_\_\_\_  
 Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(15.5,17,18) Comp Matrix: SOLID Analysis Method: Title 22 Lab Number: 9708066-09	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/05/97 Reported: 08/08/97
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QC Batch Number: ME0805976010MDE

**Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC**

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	18
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	22
Cobalt, Co	8000	2.5	3.8
Copper, Cu	2500	0.50	4.5
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	18
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	16
Zinc, Zn	5000	0.50	17

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(15.5,17,18) Comp Matrix: SOLID Analysis Method: EPA 8080 Lab Number: 9708066-09	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/08/97
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QC Batch Number: GC0730970PCBEXA  
Instrument ID: GCHP12A

**Polychlorinated Biphenyls (EPA 8080)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
PCB-1016	20	N.D.
PCB-1221	80	N.D.
PCB-1232	20	N.D.
PCB-1242	20	N.D.
PCB-1248	20	N.D.
PCB-1254	20	N.D.
PCB-1260	20	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Dibutylchloroendate	30 150	52
Tetrachloro-m-xylene	30 150	116

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
\_\_\_\_\_  
Kevin Follett  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(15.5,17,18) Comp Matrix: SOLID Analysis Method: EPA6010/7470 Lab Number: 9708066-09	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/07/97 Analyzed: 08/15/97 Reported: 08/08/97
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QC Batch Number: ME0807976010MDA

**TCLP Metals**

Analyte	Max. Limit mg/L	Detection Limit mg/L	Sample Results mg/L
Arsenic, As	5.0	0.10	0.12
Barium, Ba	100	0.10	0.31
Cadmium, Cd	1.0	0.010	N.D.
Chromium, Cr	5.0	0.010	N.D.
Lead, Pb	5.0	0.10	N.D.
Mercury, Hg	0.2	0.00020	N.D.
Selenium, Se	1.0	0.10	N.D.
Silver, Ag	5.0	0.010	2.3

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
\_\_\_\_\_  
Kevin Follett  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(15.5,17,18) Comp Matrix: SOLID Analysis Method: EPA 8270 Lab Number: 9708066-09	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/06/97 Analyzed: 08/06/97 Reported: 08/08/97
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QC Batch Number: MS0806978270EXA  
 Instrument ID: F4

**TCLP Semivolatiles (EPA 8270)**

Analyte	Max. Limit mg/L	Detection Limit mg/L	Sample Results mg/L
Total Cresol	200	0.0080	N.D.
1,4-Dichlorobenzene	7.5	0.0080	N.D.
2,4-Dinitrotoluene	0.13	0.0080	N.D.
Hexachlorobenzene	0.13	0.0080	N.D.
Hexachloro-1,3-butadiene	0.5	0.0080	N.D.
Hexachloroethane	3.0	0.0080	N.D.
Nitrobenzene	2.0	0.0080	N.D.
Pentachlorophenol	100	0.040	N.D.
Pyridine	5.0	0.040	N.D.
2,4,5-Trichlorophenol	400	0.040	N.D.
2,4,6-Trichlorophenol	2.0	0.0080	N.D.
<b>Surrogates</b>		<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorophenol		21 110	60
Phenol-d6		10 110	55
Nitrobenzene-d5		35 114	62
2-Fluorobiphenyl		43 116	73
2,4,6-Tribromophenol		10 123	73

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Kevin Follett  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 204-0072-0502 Sample Descript: WO-1-(15.5,17,18) Comp Matrix: SOLID Analysis Method: EPA 8240 Lab Number: 9708066-09	Sampled: 08/01/97 Received: 08/04/97 Extracted: 08/05/97 Analyzed: 08/06/97 Reported: 08/08/97
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QC Batch Number: MS0805978240F3A  
Instrument ID: F3

**TCLP Volatiles (EPA 8240)**

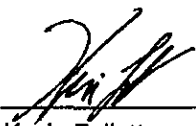
Analyte	Max. Limit mg/L	Detection Limit mg/L	Sample Results mg/L
Benzene	0.5	0.020	N.D.
Carbon tetrachloride	0.5	0.020	N.D.
Chlorobenzene	100	0.020	N.D.
Chloroform	6.0	0.020	N.D.
1,2-Dichloroethane	0.5	0.020	N.D.
1,1-Dichloroethylene	0.7	0.020	N.D.
Methyl ethyl ketone	200	0.10	N.D.
Tetrachloroethylene	0.7	0.020	N.D.
Trichloroethylene	0.5	0.020	N.D.
Vinyl chloride	0.2	0.020	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	105
Toluene-d8	88	110	102
4-Bromofluorobenzene	86	115	98

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 \_\_\_\_\_  
 Kevin Follett  
 Project Manager





Cambria Environmental Tech. Client Project ID: Shell, Alameda Sampled: 8/1/97  
 1144 65th St., Ste. C Sample Descript: WO-1-(4, 7.5, 10, 12) Received: 8/4/97  
 Oakland, CA 94608 Analysis Method: See below  
 Attention: Paul Waite Lab Number: 9708-066 05 Reported: 8/13/97

**STATIC ACUTE HAZARDOUS WASTE BIOASSAY - DEFINITIVE**

Species: Pimephales promelas Organisms/Tank: 10  
 Common Name: Fathead Minnow Organisms/Conc.: 20  
 Tank Depth: 13 cm  
 Tank Volume: 10 L  
 Supplier: Sticklebacks Unlimited  
 Acclimation Temp.: 20 ± 1 °C

Mean length: 41 mm Min. length: 37 mm  
 Max. length: 45 mm  
 Mean weight: 0.43 g Min. weight: 0.32 g  
 Max. weight: 0.58 g

Control Water: Synthetic Softwater  
 Hardness 40-48

	Alkalinity, mg/L		Hardness, mg/L	
	Initial	Final	Initial	Final
Control	18	44	46	56
1000 ppm	80	80	140	160
Duplicate 1000 ppm	80	80	120	340

DATE	Initial	24 Hr	48 Hr	72 Hr	96 Hr
	8/5/97	8/6/97	8/7/97	8/8/97	8/9/97

	Initial				24 Hr				48 Hr				72 Hr				96 Hr				Total Dead
	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	
Control	8.6	20	7.6	0	5.8	21	7.3	0	4.6	21	6.9	0	4.4	21	7.0	0	6.3	20	7.4	0	0
1000 ppm	8.5	20	7.8	0	5.7	21	7.3	0	4.6	21	7.1	0	4.4	21	7.1	0	4.7	20	7.2	0	0
560 ppm	8.5	20	7.8	0	5.7	21	7.3	0	4.2	21	7.1	0	7.3	21	7.1	0	7.2	20	7.4	0	0
320 ppm	8.5	20	7.8	0	6.0	21	7.3	0	4.7	21	7.1	0	4.8	21	7.0	0	4.8	20	7.2	0	0
180 ppm	8.6	20	7.7	0	6.2	21	7.3	0	5.3	21	7.1	0	5.5	21	7.0	0	5.3	20	7.3	0	0
100 ppm	8.7	20	7.7	0	6.1	21	7.3	0	4.8	21	7.0	0	5.1	21	7.0	0	5.3	20	7.3	0	0

Duplicate	Initial				24 Hr				48 Hr				72 Hr				96 Hr				Total Dead
	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	
1000 ppm	8.5	20	7.9	0	5.9	21	7.3	0	4.6	21	7.1	0	4.8	21	7.1	0	6.6	20	7.2	0	0
560 ppm	8.5	20	7.8	0	5.7	21	7.3	0	4.1	21	7.1	0	7.0	21	7.1	0	7.0	20	7.4	0	0
320 ppm	8.5	20	7.8	0	5.8	21	7.3	1	4.8	21	7.1	0	4.4	21	7.0	0	6.0	20	7.2	0	1
180 ppm	8.6	20	7.7	0	6.1	21	7.3	0	5.0	21	7.1	0	5.3	21	7.0	0	5.5	20	7.3	0	0
100 ppm	8.7	20	7.7	0	6.0	21	7.3	0	4.3	21	7.0	0	5.9	21	7.0	0	6.2	20	7.3	0	0

**LC-50: > 1000 ppm**

LC-50 Calculation Method: Binomial

Remarks: \_\_\_\_\_

Analyst: M. Barlow

Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples, November 1988, California Department of Fish and Game WPCL.

SEQUOIA ANALYTICAL

*Kevin Follett*

Kevin Follett  
 Project Manager





Cambria Environmental Tech. Client Project ID: Shell, Alameda Sampled: 8/1/97  
 1144 65th St., Ste. C Sample Descript: WO-1-(15.5, 17, 18) Received: 8/4/97  
 Oakland, CA 94608 Analysis Method: See below  
 Attention: Paul Walte Lab Number: 9708-066 09 Reported: 8/13/97

**STATIC ACUTE HAZARDOUS WASTE BIOASSAY - DEFINITIVE**

Species: Pimephales promelas Organisms/Tank: 10  
 Common Name: Fathead Minnow Organisms/Conc.: 20  
 Tank Depth: 13 cm  
 Tank Volume: 10 L  
 Supplier: Sticklebacks Unlimited  
 Acclimation Temp.: 20 ± 1 °C

Mean length: 41 mm Min. length: 37 mm  
 Max. length: 45 mm  
 Mean weight: 0.43 g Min. weight: 0.32 g  
 Max. weight: 0.58 g

Control Water: Synthetic Softwater  
 Hardness 40-48

	Alkalinity, mg/L		Hardness, mg/L	
	Initial	Final	Initial	Final
Control	18	44	46	56
1000 ppm	80	60	160	240
Duplicate 1000 ppm	60	60	160	240

DATE	Initial	24 Hr	48 Hr	72 Hr	96 Hr
	8/5/97	8/6/97	8/7/97	8/8/97	8/9/

	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
Control	8.6	20	7.6	5.8	21	7.3	0	4.6	21	6.9	0	4.4	20	7.0	0	6.3	20	7.4	0	0
1000 ppm	8.6	20	7.8	5.5	21	7.3	0	4.3	21	7.1	0	6.1	20	7.0	0	7.0	20	7.3	0	0
560 ppm	8.8	20	7.8	6.4	21	7.3	0	5.3	21	7.1	0	5.7	20	7.0	0	5.2	20	7.2	0	0
320 ppm	8.5	20	7.8	6.2	21	7.3	0	5.1	21	7.1	0	5.3	20	7.0	0	5.0	20	7.2	0	0
180 ppm	8.6	20	7.8	6.5	21	7.3	0	5.7	21	7.1	0	5.7	20	7.0	0	5.8	20	7.2	0	0
100 ppm	8.7	20	7.8	6.2	21	7.3	0	5.1	21	7.0	0	5.4	20	7.0	0	5.0	20	7.2	0	0

Duplicate	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
1000 ppm	8.8	20	7.8	6.5	21	7.3	0	5.3	21	7.1	0	5.2	20	7.0	0	5.1	20	7.3	0	0
560 ppm	8.6	20	7.8	6.5	21	7.3	0	5.2	21	7.1	0	5.2	20	7.0	0	5.4	20	7.2	0	0
320 ppm	8.5	20	7.8	5.9	21	7.3	0	4.2	21	7.0	0	7.1	20	7.0	0	7.2	20	7.2	0	0
180 ppm	8.7	20	7.8	6.0	21	7.3	0	4.6	21	7.0	0	4.3	20	7.0	0	7.3	20	7.2	0	0
100 ppm	8.6	20	7.8	6.3	21	7.3	0	5.2	21	7.0	0	5.5	20	7.0	0	4.8	20	7.2	0	0

**LC-50: > 1000 ppm**

LC-50 Calculation Method: Binomial

Remarks: \_\_\_\_\_

Analyst: M. Barlow Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples, November 1988, California Department of Fish and Game WPCL.

**SEQUOIA ANALYTICAL**  
  
 Kevin Follett  
 Project Manager





Cambria Environmental Tech. Client Project ID: Shell 204-0072-0502  
 1144 65th St., Ste. C Matrix: Solid  
 Oakland, CA 94608 Work Order #: 9708066 01-08 Reported: Aug 13, 1997  
 Attention: Paul Waite

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC080597BTEXEXA	GC080597BTEXEXA	GC080597BTEXEXA	GC080597BTEXEXA	GC080597BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970806603	970806603	970806603	970806603	970806603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.17	0.18	0.18	0.56	1.2
MS % Recovery:	85	90	90	93	100
Dup. Result:	0.17	0.17	0.17	0.53	1.2
MSD % Recov.:	85	85	85	88	100
RPD:	0.0	5.7	5.7	5.5	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK080597	BLK080597	BLK080597	BLK080597	BLK080597
Prepared Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.19	0.19	0.20	0.60	1.3
LCS % Recov.:	95	95	100	100	108

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
 Kevin Follett  
 Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9708066.CCC <1>





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 204-0072-0502  
Matrix: Solid

Work Order #: 9708066 05, 09

Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT**

**Analyte:** PCB 1260

**QC Batch#:** GC0730970PCBEXA  
**Analy. Method:** EPA 8080  
**Prep. Method:** EPA 3550

**Analyst:** M. Mistry  
**MS/MSD #:** BLK073097  
**Sample Conc.:** N.D.  
**Prepared Date:** 7/30/97  
**Analyzed Date:** 7/30/97  
**Instrument I.D.#:** GCHP12A  
**Conc. Spiked:** 83 µg/Kg

**Result:** 73  
**MS % Recovery:** 88

**Dup. Result:** 95  
**MSD % Recov.:** 114

**RPD:** 26  
**RPD Limit:** 0-50

**LCS #:** BLK080597

**Prepared Date:** 8/5/97  
**Analyzed Date:** 8/6/97  
**Instrument I.D.#:** GCHP12A  
**Conc. Spiked:** 83 µg/Kg

**LCS Result:** 89  
**LCS % Recov.:** 107

**MS/MSD  
LCS  
Control Limits** 40-140

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

Kevin Follett  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708066.CCC <2>





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 204-0072-0502  
Matrix: Solid

Work Order #: 9708066 05, 09

Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	pH
<b>QC Batch:</b>	IN080597904500A
<b>Analy. Method:</b>	EPA 9045
<b>Prep Method:</b>	N.A.

**Analyst:** J. Saadeh

**Duplicate Sample #:** 970806609

**Prepared Date:** 8/5/97  
**Analyzed Date:** 8/5/97  
**Instrument I.D.#:** MANUAL

**Sample Concentration:** 9.8

**Dup. Sample Concentration:** 9.8

**RPD:** 0.0  
**RPD Limit:** 0-20

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
Kevin Follett  
Project Manager

\*\* RPD = Relative % Difference

9708066.CCC <3>





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Walte

Client Project ID: Shell 204-0072-0502  
Matrix: Solid

Work Order #: 9708066 01-04, 06-08

Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT**

**Analyte:** Total Petroleum Hydrocarbons  
**QC Batch#:** IN080597418100A  
**Analy. Method:** EPA 418.1  
**Prep. Method:** N.A.

**Analyst:** Saadeh/Fong  
**MS/MSD #:** BLK080597  
**Sample Conc.:** 27  
**Prepared Date:** 8/5/97  
**Analyzed Date:** 8/5/97  
**Instrument I.D.#:** FTIR1  
**Conc. Spiked:** 210 mg/Kg

**Result:** 220  
**MS % Recovery:** 105

**Dup. Result:** 220  
**MSD % Recov.:** 105

**RPD:** 0.0  
**RPD Limit:** 0-30

**LCS #:**

**Prepared Date:**  
**Analyzed Date:**  
**Instrument I.D.#:**  
**Conc. Spiked:**

**LCS Result:**  
**LCS % Recov.:**

<b>MS/MSD</b>	60-140
<b>LCS</b>	70-130
<b>Control Limits</b>	

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*MTC Clark for*  
Kevin Follett  
Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9708066.CCC <4>







Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 204-0072-0502  
Matrix: Solid

Work Order #: 9708066 05, 09

Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Reactive Cyanide	Reactive Sulfide
<b>QC Batch#:</b>	IN080597084600A	IN080597084600A
<b>Analy. Method:</b>	SW-846	SW-846
<b>Prep. Method:</b>	N.A.	N.A.

<b>Analyst:</b>	K. Sims	K. Sims
<b>MS/MSD #:</b>	970806605	970806605
<b>Sample Conc.:</b>	N.D.	N.D.
<b>Prepared Date:</b>	8/5/97	8/5/97
<b>Analyzed Date:</b>	8/6/97	8/6/97
<b>Instrument I.D.#:</b>	MANUAL	MANUAL
<b>Conc. Spiked:</b>	0.20 mg/Kg	25 mg/Kg
<b>Result:</b>	0.059	25
<b>MS % Recovery:</b>	30	100
<b>Dup. Result:</b>	0.051	28
<b>MSD % Recov.:</b>	26	88
<b>RPD:</b>	15	13
<b>RPD Limit:</b>	0-50	0-30

<b>LCS #:</b>	IN091896	IN072597
<b>Prepared Date:</b>	7/25/97	7/25/97
<b>Analyzed Date:</b>	8/6/97	8/5/97
<b>Instrument I.D.#:</b>	MANUAL	MANUAL
<b>Conc. Spiked:</b>	0.20 mg/Kg	25 mg/Kg
<b>LCS Result:</b>	0.063	20
<b>LCS % Recov.:</b>	32	80

<b>MS/MSD</b>	6.0-40	60-140
<b>LCS</b>	6.0-40	70-130
<b>Control Limits</b>		

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
Kevin Follett  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708066.CCC <5>





Cambria Environmental Tech. Client Project ID: Shell 204-0072-0502  
 1144 65th St., Ste. C Matrix: Liquid  
 Oakland, CA 94608  
 Attention: Paul Waite Work Order #: 9708066 05 Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT - TCLP**

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS08058240F3A	MS08058240F3A	MS08058240F3A	MS08058240F3A	MS08058240F3A
Analy. Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Prep. Method:					

Analyst:	L. Zhu	L. Zhu	L. Zhu	L. Zhu	L. Zhu
MS/MSD #:	970806605	970806605	970806605	970806605	970806605
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/4/97	8/4/97	8/4/97	8/4/97	8/4/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	500 µg/L	500 µg/L	500 µg/L	500 µg/L	500 µg/L
Result:	410	390	400	410	400
MS % Recovery:	82	78	80	82	80
Dup. Result:	400	380	400	410	400
MSD % Recov.:	80	76	80	82	80
RPD:	2.5	2.6	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	VB080597	VB080597	VB080597	VB080597	VB080597
Prepared Date:	8/4/97	8/4/97	8/4/97	8/4/97	8/4/97
Analyzed Date:	8/4/97	8/4/97	8/4/97	8/4/97	8/5/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
LCS Result:	46	44	49	50	49
LCS % Recov.:	92	88	98	100	98

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	65-135	70-130	70-130	70-130	70-130
Control Limits					

Please Note:  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
 Kevin Follett  
 Project Manager





Cambria Environmental Tech. Client Project ID: Shell 204-0072-0502  
 1144 65th St., Ste. C Matrix: Liquid  
 Oakland, CA 94608  
 Attention: Paul Waite Work Order #: 9708006 09 Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT - TCLP**

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS08058240F3A	MS08058240F3A	MS08058240F3A	MS08058240F3A	MS08058240F3A
Analy. Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Prep. Method:					

Analyst:	L. Zhu	L. Zhu	L. Zhu	L. Zhu	L. Zhu
MS/MSD #:	970806605	970806605	970806605	970806605	970806605
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/4/97	8/4/97	8/4/97	8/4/97	8/4/97
Analyzed Date:	8/5/97	8/5/97	8/5/97	8/5/97	8/5/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	500 µg/L	500 µg/L	500 µg/L	500 µg/L	500 µg/L
Result:	410	390	400	410	400
MS % Recovery:	82	78	80	82	80
Dup. Result:	400	380	400	410	400
MSD % Recov.:	80	76	80	82	80
RPD:	2.5	2.6	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	VB080697	VB080697	VB080697	VB080697	VB080697
Prepared Date:	8/6/97	8/6/97	8/6/97	8/6/97	8/6/97
Analyzed Date:	8/6/97	8/6/97	8/6/97	8/6/97	8/6/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
LCS Result:	46	46	48	49	46
LCS % Recov.:	92	92	96	98	92

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	65-135	70-130	70-130	70-130	70-130
Control Limits					

**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.  
 \*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
 Kevin Follett  
 Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 204-0072-0502  
Matrix: Liquid

Work Order #: 9708066 05, 09

Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT - TCLP**

<b>Analyte:</b> 1,4-Dichlorobenzene	2,4-Dinitrotoluene	Pentachloro-phenol
<b>QC Batch#:</b> MS0806978270EXA	MS0806978270EXA	MS0806978270EXA
<b>Analy. Method:</b> EPA 8270	EPA 8270	EPA 8270
<b>Prep. Method:</b> EPA 1311	EPA 1311	EPA 1311

<b>Analyst:</b>	E. Manuel	E. Manuel	E. Manuel
<b>MS/MSD #:</b>	970806605	970806605	970806605
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	8/6/97	8/6/97	8/6/97
<b>Analyzed Date:</b>	8/6/97	8/6/97	8/6/97
<b>Instrument I.D.#:</b>	F4	F4	F4
<b>Conc. Spiked:</b>	400 µg/L	400 µg/L	400 µg/L

<b>Result:</b>	290	297	358
<b>MS % Recovery:</b>	73	74	90

**Dup. Result:**  
**MSD % Recov.:**

**RPD:**  
**RPD Limit:**

<b>LCS #:</b>	TB080697	TB080697	TB080697
<b>Prepared Date:</b>	8/6/97	8/6/97	8/6/97
<b>Analyzed Date:</b>	8/6/97	8/6/97	8/6/97
<b>Instrument I.D.#:</b>	F4	F4	F4
<b>Conc. Spiked:</b>	400 µg/L	400 µg/L	400 µg/L
<b>LCS Result:</b>	306	272	340
<b>LCS % Recov.:</b>	77	68	85

<b>MS/MSD LCS Control Limits</b>	42-100	32-114	17-146
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**Please Note:**

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**SEQUOIA ANALYTICAL**

*Kevin Follett*  
Kevin Follett  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708066.CCC <8>





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 204-0072-0502  
Matrix: Solid

Work Order #: 9708066 05, 09

Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Mercury
<b>QC Batch#:</b>	ME0805977471M4A
<b>Analy. Method:</b>	EPA 7471
<b>Prep. Method:</b>	EPA 7471

**Analyst:** M. Heid  
**MS/MSD #:** 970740601  
**Sample Conc.:** N.D.  
**Prepared Date:** 8/5/97  
**Analyzed Date:** 8/6/97  
**Instrument I.D.#:** MPE4  
**Conc. Spiked:** 0.40 mg/Kg

**Result:** 0.31  
**MS % Recovery:** 78

**Dup. Result:** 0.32  
**MSD % Recov.:** 80

**RPD:** 3.2  
**RPD Limit:** 0-30

**LCS #:** BLK080597  
**Prepared Date:** 8/5/97  
**Analyzed Date:** 8/8/97  
**Instrument I.D.#:** MPE4  
**Conc. Spiked:** 0.40 mg/Kg  
**LCS Result:** 0.33  
**LCS % Recov.:** 93

<b>MS/MSD LCS Control Limits</b>	75-125
--	--------

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
Kevin Follett  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708066.CCC <9>





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 204-0072-0502  
Matrix: Liquid  
Work Order #: 9708066 05, 09

Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT - TCLP**

**Analyte:** Mercury  
**QC Batch#:** ME0805977470M4A  
**Analy. Method:** EPA 7470  
**Prep. Method:** EPA 7470

**Analyst:** M. Heid  
**MS/MSD #:** 970805801  
**Sample Conc.:** N.D.  
**Prepared Date:** 8/5/97  
**Analyzed Date:** 8/6/97  
**Instrument I.D.#:** MPE4  
**Conc. Spiked:** 0.0040 mg/L

**Result:** 0.0035  
**MS % Recovery:** 88

**Dup. Result:** 0.0035  
**MSD % Recov.:** 88

**RPD:** 0.0  
**RPD Limit:** 0-30

**LCS #:** BLK080497  
**Prepared Date:** 8/5/97  
**Analyzed Date:** 8/6/97  
**Instrument I.D.#:** MPE4  
**Conc. Spiked:** 0.0040 mg/L  
**LCS Result:** 0.0035  
**LCS % Recov.:** 88

**MS/MSD**  
**LCS**  
**Control Limits** 75-125

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**  
*MT Clark/fo*  
Kevin Follett  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9708066.CCC <10>





Cambria Environmental Tech. Client Project ID: Shell 204-0072-0502  
 1144 65th St., Ste. C Matrix: Liquid  
 Oakland, CA 94608  
 Attention: Paul Waite Work Order #: 9708066 05, 09 Reported: Aug 13, 1997

**QUALITY CONTROL DATA REPORT - TCLP**

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0807976010MDA	ME0807976010MDA	ME0807976010MDA	ME0807976010MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010

Analyst:	R. Butler	R. Butler	R. Butler	R. Butler
MS/MSD #:	9707G0702	9707G0702	9707G0702	9707G0702
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/7/97	8/7/97	8/7/97	8/7/97
Analyzed Date:	8/7/97	8/7/97	8/7/97	8/7/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	1.0	1.0	1.0	1.0
MS % Recovery:	100	100	100	100
Dup. Result:	1.0	0.99	0.99	1.0
MSD % Recov.:	100	99	99	100
RPD:	0.0	1.0	1.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	BLK080797	BLK080797	BLK080797	BLK080797
Prepared Date:	8/7/97	8/7/97	8/7/97	8/7/97
Analyzed Date:	8/7/97	8/7/97	8/7/97	8/7/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
LCS Result:	0.98	0.97	0.98	0.98
LCS % Recov.:	98	97	98	98

MS/MSD	80-120	80-120	80-120	80-120
LCS	80-120	80-120	80-120	80-120
Control Limits				

Please Note:  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Kevin Follett*  
 Kevin Follett  
 Project Manager

\*\* MS= Matrix Spike, MSD= MS Duplicate, RPD= Relative % Difference

9708066.CCC <11>





Sequoia  
Analytical

680 Chesapeake Drive Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
404 N. Wiget Lane Walnut Creek, CA 94598 (510) 988-9600 FAX (510) 988-9673  
819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Cambria  
1144 65th St. Suite C  
Oakland, CA 94608  
Attention: Paul Waite

Client Proj. ID: Shell 204-0072-0502

Received: 08/04/97

Lab Proj. ID: 9708066

Reported: 08/08/97

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 37 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

418.1 NOTES: Method Blank result: 27 mg/Kg, DL = 15 mg/Kg.  
Method blank was rerun on 8/6/97 with comparable result.

SEQUOIA ANALYTICAL

Kevin Follett  
Project Manager





97080066

ISSUED DATE: 02/17/95  
CANCELS ISSUE: 11/01/92  
ISSUED BY: RLG

**MATERIAL: CALIFORNIA SOIL CONTAMINATED WITH WASTE OIL**

**MINIMUM REQUIRED TESTING**

TPH = TOTAL PETROLEUM HYDROCARBONS, 418.1

BTXE = EPA 8020

CAM METALS = TTLC ALL:

STLC ON ALL TTLC METALS 10 X STLC MAXIMUM:

TTLC LEAD => 13 MG/KG REQUIRES ORGANIC ANALYSIS

TCLP EXTRACTION = EPA 1311 AND

VOC ON EXTRACT = EPA 8240

SVOC ON EXTRACT = EPA 8270

METALS ON EXTRACT = EPA 6010, (USE 7470 FOR Hg)

NOTE: IF PESTICIDES = EPA 8080 (ON EXTRACT)

IF HERBICIDES = EPA 8150 (ON EXTRACT)

PCBs = EPA METHOD 8080 (NOT ON EXTRACT)

HYDROGEN SULPHIDE = SW-846 (7.3.4.2) (REACTIVITY)

HYDROGEN CYANIDE = SW-846 (7.3.3.2) (REACTIVITY)

pH (CORROSIVITY)

AQUATIC BIOASSAY (FISH TOX) = PART 800 OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER (15TH EDITION)"

**LABORATORY INSTRUCTIONS (MINIMUM GUIDELINES ONLY)**

- TPH REQUIRED ON ALL SAMPLES
- ALL OTHER TESTS REQUIRED TO BE RUN ON COMPOSITE(S). MAXIMUM 4 SAMPLES PER COMPOSITE.
- STLC REQUIRED FOR METALS WITH TTLC VALUE 10 X STLC MAXIMUM.
- ORGANIC ANALYSIS REQUIRED FOR TTLC LEAD OF 13 MG/KG OR GREATER.
- LABORATORY IS TO SUPPLY QA/QC INFORMATION WITH ALL ANALYTICAL REPORTS.
- MAIL OR FAX ALL ANALYSIS TO PERSON REQUESTING ANALYSIS. DO NOT FAX OR MAIL ANALYSES TO RON GEMEINHARDT OR THE WASTE DISPOSAL COORDINATOR UNLESS SPECIFICALLY REQUESTED.
- QUESTIONS REGARDING ANALYSIS, CONTACT RON GEMEINHARDT AT (713) 241-3577.

PROCEDURE ORIGINAL DATE: 07/10/90  
PROCEDURE REVISED DATE: 03/20/96



**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**

Serial No: \_\_\_\_\_

Date: 8/1/97

Page of \_\_\_\_\_

Site Address: 2160 Otis Street Alameda

WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines  
Phone No: 675-6136  
Fax #: 675-6130

Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul White  
Phone No: 420-8700  
Fax #: 420-9170

Comments: Use Attached Protocol / Waste Oil

Sampled by: Maureen Reineman

Printed Name: Maureen Reineman

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N
-------------------------	----------------------------	---------------------	------------------------------	-------------------	----------------------------------	----------	----------------	------------------	---------------

LAB: Seyoia 9708060

CHECK ONE (1) BOX ONLY	C1/D1	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input checked="" type="checkbox"/>
Soil Classify/Disposal <input checked="" type="checkbox"/>	4442	16 days <input type="checkbox"/> (format)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

UST AGENCY: Alameda

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS	
5 WD-1-4.0	8/1/97	11:05	1														4:1 Composite for Waste Oil Parameters		
WD-1-7.5		11:05	1																
WD-1-10.0		11:10	1																
WD-1-12.0		11:15	1																
9 WD-1-15.5		11:15	1																
WD-1-17.0	8/1/97	11:30	1																
WD-1-18.0	8/1/97	11:30	1																

Relinquished By (signature): <i>[Signature]</i>	Printed Name: CHRISTINA EMPELLOUS	Date: 8/1/97	Received (signature): <i>[Signature]</i>	Printed Name: DENAFOD	Date: 8/4/97
Relinquished By (signature): <i>[Signature]</i>	Printed Name: DENAFOD	Date: 8/1/97	Received (signature): <i>[Signature]</i>	Printed Name:	Date: 8/4/97
Relinquished By (signature): <i>[Signature]</i>	Printed Name:	Date:	Received (signature): <i>[Signature]</i>	Printed Name: ABAD	Date: 8/4/97

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

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(916) 921-9600

FAX (650) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Cambria  
1144 65th St. Suite C  
Oakland, CA 94608  
Attention: Paul Waite

Project: Shell 2160 Otis St.

Enclosed are the results from samples received at Sequoia Analytical on September 5, 1997.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9709249 -01	SOLID, B-North	09/04/97	Lead
9709249 -01	SOLID, B-North	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -02	SOLID, C-North	09/04/97	Lead
9709249 -02	SOLID, C-North	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -03	LIQUID, TPW-1	09/04/97	TPGBMW Purgeable TPH/BTEX
9709249 -03	LIQUID, TPW-1	09/04/97	Lead
9709249 -04	SOLID, D-1	09/04/97	Lead
9709249 -04	SOLID, D-1	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -05	SOLID, D-2	09/04/97	Lead
9709249 -05	SOLID, D-2	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -06	SOLID, D-3	09/04/97	Lead
9709249 -06	SOLID, D-3	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -07	SOLID, D-4	09/04/97	Lead
9709249 -07	SOLID, D-4	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -08	SOLID, D-5	09/04/97	Lead
9709249 -08	SOLID, D-5	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -09	SOLID, D-6	09/04/97	Lead
9709249 -09	SOLID, D-6	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -10	SOLID, C-South	09/04/97	Lead
9709249 -10	SOLID, C-South	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -11	SOLID, B-South	09/04/97	Lead

**SEQUOIA ANALYTICAL**





# Sequoia Analytical

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<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9709249 -11	SOLID, B-South	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -12	SOLID, A-South	09/04/97	Lead
9709249 -12	SOLID, A-South	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -17	SOLID, A-North	09/04/97	Lead
9709249 -17	SOLID, A-North	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -18	SOLID, Hoist-2	09/04/97	BTEX_S Distinction
9709249 -18	SOLID, Hoist-2	09/04/97	MTBE_S Methyl t-Butyl Ethe
9709249 -18	SOLID, Hoist-2	09/04/97	TPHD_S Extractable TPH
9709249 -19	SOLID, OWS-1	09/04/97	TRPH (SM 5520 E&F)
9709249 -19	SOLID, OWS-1	09/04/97	8010 Halogenated Volatil
9709249 -19	SOLID, OWS-1	09/04/97	8270 SemiVolatile Organi
9709249 -19	SOLID, OWS-1	09/04/97	Cadmium
9709249 -19	SOLID, OWS-1	09/04/97	Chromium
9709249 -19	SOLID, OWS-1	09/04/97	Nickel
9709249 -19	SOLID, OWS-1	09/04/97	Lead
9709249 -19	SOLID, OWS-1	09/04/97	Zinc
9709249 -19	SOLID, OWS-1	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -19	SOLID, OWS-1	09/04/97	TPHD_S Extractable TPH
9709249 -20	SOLID, Hoist-1	09/04/97	BTEX_S Distinction
9709249 -20	SOLID, Hoist-1	09/04/97	MTBE_S Methyl t-Butyl Ethe
9709249 -20	SOLID, Hoist-1	09/04/97	TPHD_S Extractable TPH
9709249 -21	SOLID, WO-1	09/04/97	TRPH (SM 5520 E&F)
9709249 -21	SOLID, WO-1	09/04/97	8010 Halogenated Volatil
9709249 -21	SOLID, WO-1	09/04/97	8270 SemiVolatile Organi
9709249 -21	SOLID, WO-1	09/04/97	Cadmium

**SEQUOIA ANALYTICAL**





# Sequoia Analytical

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<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9709249 -21	SOLID, WO-1	09/04/97	Chromium
9709249 -21	SOLID, WO-1	09/04/97	Nickel
9709249 -21	SOLID, WO-1	09/04/97	Lead
9709249 -21	SOLID, WO-1	09/04/97	Zinc
9709249 -21	SOLID, WO-1	09/04/97	TPGBMS Purgeable TPH/BTEX
9709249 -21	SOLID, WO-1	09/04/97	TPHD_S Extractable TPH
9709249 -22	LIQUID, WO	09/04/97	TPGBMW Purgeable TPH/BTEX
9709249 -22	LIQUID, WO	09/04/97	8010 Halogenated Volatil
9709249 -22	LIQUID, WO	09/04/97	8270 SemiVolatile Organi
9709249 -22	LIQUID, WO	09/04/97	TPHD_W Extractable TPH
9709249 -22	LIQUID, WO	09/04/97	TRPH (SM 5520 B&F)
9709249 -22	LIQUID, WO	09/04/97	Cadmium
9709249 -22	LIQUID, WO	09/04/97	Chromium
9709249 -22	LIQUID, WO	09/04/97	Nickel
9709249 -22	LIQUID, WO	09/04/97	Lead
9709249 -22	LIQUID, WO	09/04/97	Zinc

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**SEQUOIA ANALYTICAL**

Project Manager





Cambria  
1144 65th St. Suite C  
Oakland, CA 94608

Client Proj. ID: Shell 2160 Otis St.  
Lab Proj. ID: 9709249

Sampled: 09/04/97  
Received: 09/05/97  
Analyzed: see below

Attention: Paul Waite

Reported: 09/19/97

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9709249-01 Sample Desc : SOLID,B-North				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-02 Sample Desc : SOLID,C-North				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-03 Sample Desc : LIQUID,TPW-1				
Lead	mg/L	09/11/97	0.0050	0.018
Lab No: 9709249-04 Sample Desc : SOLID,D-1				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-05 Sample Desc : SOLID,D-2				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-06 Sample Desc : SOLID,D-3				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-07 Sample Desc : SOLID,D-4				
Lead	mg/Kg	09/10/97	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambria  
1144 65th St. Suite C  
Oakland, CA 94608

Client Proj. ID: Shell 2160 Otis St.  
Lab Proj. ID: 9709249

Sampled: 09/04/97  
Received: 09/05/97  
Analyzed: see below

Attention: Paul Waite

Reported: 09/19/97

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9709249-08 Sample Desc: <b>SOLID,D-5</b>				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-09 Sample Desc: <b>SOLID,D-6</b>				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-10 Sample Desc: <b>SOLID,C-South</b>				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-11 Sample Desc: <b>SOLID,B-South</b>				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-12 Sample Desc: <b>SOLID,A-South</b>				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-17 Sample Desc: <b>SOLID,A-North</b>				
Lead	mg/Kg	09/10/97	5.0	N.D.
Lab No: 9709249-19 Sample Desc: <b>SOLID,OWS-1</b>				
Cadmium	mg/Kg	09/10/97	0.50	N.D.
Chromium	mg/Kg	09/10/97	0.50	20

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St.  Lab Proj. ID: 9709249	Sampled: 09/04/97 Received: 09/05/97 Analyzed: see below  Reported: 09/19/97
Attention: Paul Waite		

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lead	mg/Kg	09/10/97	5.0	N.D.
<b>Nickel</b>	<b>mg/Kg</b>	<b>09/10/97</b>	<b>2.5</b>	<b>16</b>
TRPH (SM 5520 E&F)	mg/Kg	09/15/97	50	N.D.
<b>Zinc</b>	<b>mg/Kg</b>	<b>09/10/97</b>	<b>0.50</b>	<b>15</b>

Lab No: 9709249-21  
Sample Desc : **SOLID,WO-1**

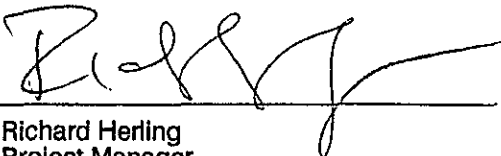
Cadmium	mg/Kg	09/10/97	0.50	N.D.
<b>Chromium</b>	<b>mg/Kg</b>	<b>09/10/97</b>	<b>0.50</b>	<b>19</b>
Lead	mg/Kg	09/10/97	5.0	N.D.
<b>Nickel</b>	<b>mg/Kg</b>	<b>09/10/97</b>	<b>2.5</b>	<b>14</b>
TRPH (SM 5520 E&F)	mg/Kg	09/15/97	50	N.D.
<b>Zinc</b>	<b>mg/Kg</b>	<b>09/10/97</b>	<b>0.50</b>	<b>13</b>

Lab No: 9709249-22  
Sample Desc : **LIQUID,WO**

Cadmium	mg/L	09/10/97	0.010	N.D.
<b>Chromium</b>	<b>mg/L</b>	<b>09/10/97</b>	<b>0.010</b>	<b>0.042</b>
Lead	mg/L	09/10/97	0.10	N.D.
<b>Nickel</b>	<b>mg/L</b>	<b>09/10/97</b>	<b>0.050</b>	<b>0.068</b>
TRPH (SM 5520 B&F)	mg/L	09/10/97	5.0	150
<b>Zinc</b>	<b>mg/L</b>	<b>09/10/97</b>	<b>0.010</b>	<b>0.15</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: B-North Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-01	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/17/97 Reported: 09/19/97
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QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
<b>Benzene</b>	<b>0.0050</b>	<b>0.11</b>
Toluene	0.0050	N.D.
<b>Ethyl Benzene</b>	<b>0.0050</b>	<b>0.0081</b>
<b>Xylenes (Total)</b>	<b>0.0050</b>	<b>0.0089</b>
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	104
4-Bromofluorobenzene	60 140	94

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: C-North Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-02	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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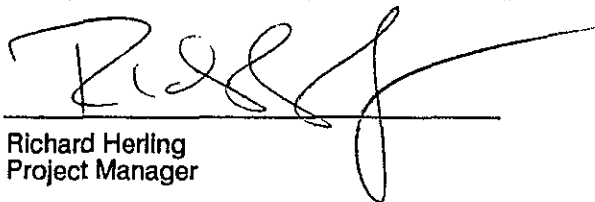
QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
<b>Methyl t-Butyl Ether</b>	<b>0.025</b>	<b>0.49</b>
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: TPW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9709249-03	Sampled: 09/04/97 Received: 09/05/97 Analyzed: 09/12/97 Reported: 09/19/97
Attention: Paul Waite		

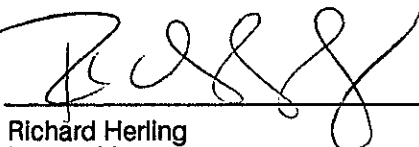
QC Batch Number: GC091297BTEX06A  
Instrument ID: GCHP06

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	8300
Methyl t-Butyl Ether	100	8300
Benzene	20	N.D.
Toluene	20	45
Ethyl Benzene	20	N.D.
Xylenes (Total)	20	1300
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	117

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Richard Herling  
Project Manager





<b>Cambria</b> 1144 65th St. Suite C Oakland, CA 94608	<b>Client Proj. ID:</b> Shell 2160 Otis St. <b>Sample Descript:</b> D-1 <b>Matrix:</b> SOLID <b>Analysis Method:</b> 8015Mod/8020 <b>Lab Number:</b> 9709249-04	<b>Sampled:</b> 09/04/97 <b>Received:</b> 09/05/97 <b>Extracted:</b> 09/15/97 <b>Analyzed:</b> 09/16/97 <b>Reported:</b> 09/19/97
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**QC Batch Number:** GC091597BTEXEXB  
**Instrument ID:** GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: D-2 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-05	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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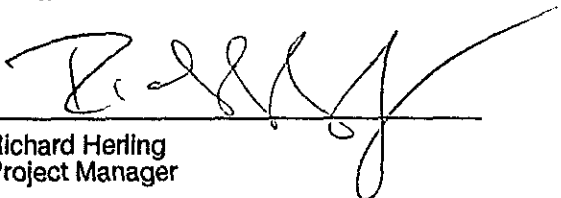
QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	101
4-Bromofluorobenzene	60 140	91

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	Client Proj. ID: Shell 2160 Otis St. Sample Descript: D-3 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-06	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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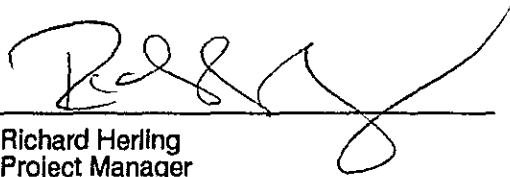
QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	96
4-Bromofluorobenzene	60 140	89

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: D-4 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-07	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

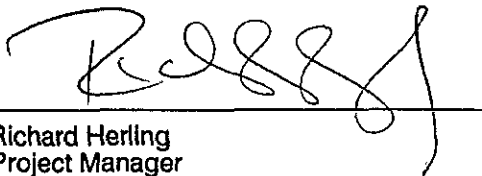
Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	50	270
Methyl t-Butyl Ether	1.2	N.D.
Benzene	0.25	1.7
Toluene	0.25	9.3
Ethyl Benzene	0.25	2.4
Xylenes (Total)	0.25	22
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140
		200 Q

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210



Richard Herling  
Project Manager





<b>Cambria</b> 1144 65th St. Suite C Oakland, CA 94608	<b>Client Proj. ID:</b> Shell 2160 Otis St. <b>Sample Descript:</b> D-5 <b>Matrix:</b> SOLID <b>Analysis Method:</b> 8015Mod/8020 <b>Lab Number:</b> 9709249-08	<b>Sampled:</b> 09/04/97 <b>Received:</b> 09/05/97 <b>Extracted:</b> 09/15/97 <b>Analyzed:</b> 09/16/97 <b>Reported:</b> 09/19/97
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QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

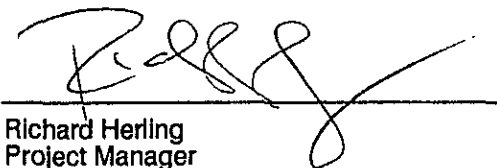
Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	2.0	5.5
Methyl t-Butyl Ether	0.050	0.32
Benzene	0.010	0.011
Toluene	0.010	N.D.
Ethyl Benzene	0.010	0.010
Xylenes (Total)	0.010	0.035
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: D-6 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-09	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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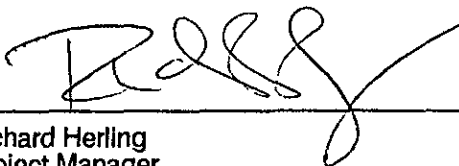
QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
<b>TPPH as Gas</b>	<b>1.0</b>	<b>1.3</b>
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern: Unidentified HC		<b>C9-C12</b>
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: C-South Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-10	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/17/97 Reported: 09/19/97
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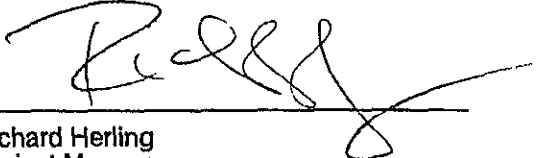
QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
<b>Methyl t-Butyl Ether</b>	<b>0.025</b>	<b>0.056</b>
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: B-South Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-11	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	88
4-Bromofluorobenzene	60 140	95

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: A-South Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-12	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/17/97 Reported: 09/19/97
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QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

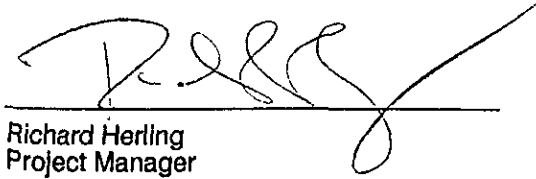
Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92
4-Bromofluorobenzene	60	140	83

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: A-North Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-17	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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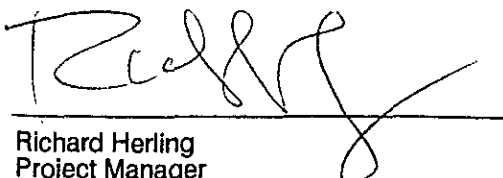
QC Batch Number: GC091597BTEXEXB  
Instrument ID: GCHP18

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	93
4-Bromofluorobenzene	60 140	95

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210



Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: Hoist-2 Matrix: SOLID Analysis Method: EPA 8020 Lab Number: 9709249-18	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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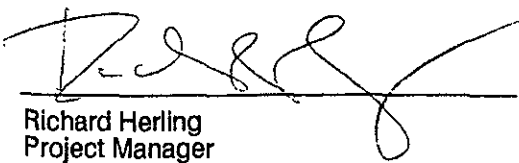
QC Batch Number: GC091597BTEXEXC  
Instrument ID: GCHP22

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: Hoist-2 Matrix: SOLID Analysis Method: EPA 8020 Lab Number: 9709249-18	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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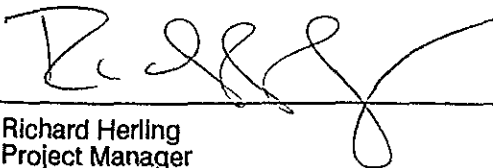
QC Batch Number: GC091597BTEXEXC  
Instrument ID: GCHP22

**Methyl t-Butyl Ether (MTBE)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Methyl t-Butyl Ether	0.025	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	109
4-Bromofluorobenzene	60 140	95

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 2160 Otis St. Sample Descript: Hoist-2 Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9709249-18	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/09/97 Analyzed: 09/10/97 Reported: 09/19/97
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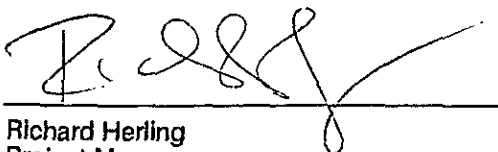
QC Batch Number: GC0909970HBPEXA  
Instrument ID: GCHP4B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	75

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Richard Herling  
Project Manager







Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: OWS-1 Matrix: SOLID Analysis Method: EPA 8010 Lab Number: 9709249-19	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/10/97 Analyzed: 09/11/97 Reported: 09/19/97
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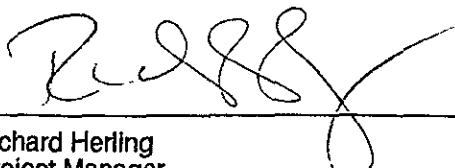
QC Batch Number: GC0910978010EXA  
Instrument ID: GCHP08

**Halogenated Volatile Organics (EPA 8010)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	25	N.D.
Bromoform	25	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.
Chloroform	25	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	25	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
cis-1,3-Dichloropropene	25	N.D.
trans-1,3-Dichloropropene	25	N.D.
Methylene chloride	250	N.D.
1,1,2,2-Tetrachloroethane	25	N.D.
Tetrachloroethene	25	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	25	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
Vinyl chloride	50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	60	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: OWS-1 Matrix: SOLID Analysis Method: EPA 8270 Lab Number: 9709249-19	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/09/97 Analyzed: 09/10/97 Reported: 09/19/97
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QC Batch Number: MS0909978270EXB  
Instrument ID: H5

**Semivolatile Organics (EPA 8270)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
4-Bromophenyl phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
1,2-Dichlorobenzene	250	N.D.
1,3-Dichlorobenzene	250	N.D.
1,4-Dichlorobenzene	250	N.D.
3,3'-Dichlorobenzidine	500	N.D.
2,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
2,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
4,6-Dinitro-2-methylphenol	500	N.D.
2,4-Dinitrophenol	500	N.D.
2,4-Dinitrotoluene	250	N.D.
2,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
Fluoranthene	250	N.D.





# Sequoia Analytical

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FAX (916) 921-0100

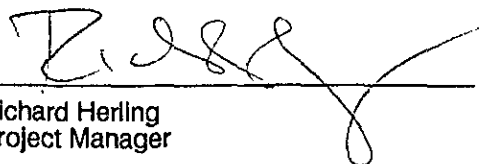
Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: OWS-1 Matrix: SOLID Analysis Method: EPA 8270 Lab Number: 9709249-19	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/09/97 Analyzed: 09/10/97 Reported: 09/19/97
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QC Batch Number: MS0909978270EXB  
Instrument ID: H5

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg	
Fluorene	250	N.D.	
Hexachlorobenzene	250	N.D.	
Hexachlorobutadiene	250	N.D.	
Hexachlorocyclopentadiene	500	N.D.	
Hexachloroethane	250	N.D.	
Indeno(1,2,3-cd)pyrene	250	N.D.	
Isophorone	250	N.D.	
2-Methylnaphthalene	250	N.D.	
2-Methylphenol	250	N.D.	
4-Methylphenol	250	N.D.	
Naphthalene	250	N.D.	
2-Nitroaniline	500	N.D.	
3-Nitroaniline	500	N.D.	
4-Nitroaniline	500	N.D.	
Nitrobenzene	250	N.D.	
2-Nitrophenol	250	N.D.	
4-Nitrophenol	500	N.D.	
N-Nitrosodiphenylamine	250	N.D.	
N-Nitroso-di-n-propylamine	250	N.D.	
Pentachlorophenol	500	N.D.	
Phenanthrene	250	N.D.	
Phenol	250	N.D.	
Pyrene	250	N.D.	
1,2,4-Trichlorobenzene	250	N.D.	
2,4,5-Trichlorophenol	500	N.D.	
2,4,6-Trichlorophenol	250	N.D.	
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>	
2-Fluorophenol	25	121	47
Phenol-d5	24	113	48
Nitrobenzene-d5	23	120	40
2-Fluorobiphenyl	30	115	47
2,4,6-Tribromophenol	19	122	50
p-Terphenyl-d14	18	137	38

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210



Richard Herling  
Project Manager





<b>Cambria</b> 1144 65th St. Suite C Oakland, CA 94608  <b>Attention: Paul Walte</b>	<b>Client Proj. ID:</b> Shell 2160 Otis St. <b>Sample Descript:</b> OWS-1 <b>Matrix:</b> SOLID <b>Analysis Method:</b> 8015Mod/8020 <b>Lab Number:</b> 9709249-19	<b>Sampled:</b> 09/04/97 <b>Received:</b> 09/05/97 <b>Extracted:</b> 09/15/97 <b>Analyzed:</b> 09/18/97 <b>Reported:</b> 09/19/97
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QC Batch Number: GC091597BTEXEXC  
 Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

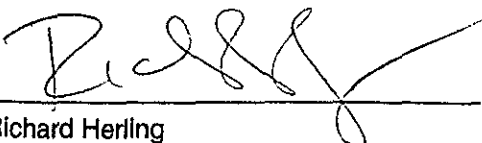
Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	84
4-Bromofluorobenzene	60	140	83

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Richard Herling  
 Project Manager





<b>Cambria</b> 1144 65th St. Suite C Oakland, CA 94608	<b>Client Proj. ID:</b> Shell 2160 Otis St. <b>Sample Descript:</b> OWS-1 <b>Matrix:</b> SOLID <b>Analysis Method:</b> EPA 8015 Mod <b>Lab Number:</b> 9709249-19	<b>Sampled:</b> 09/04/97 <b>Received:</b> 09/05/97 <b>Extracted:</b> 09/09/97 <b>Analyzed:</b> 09/10/97 <b>Reported:</b> 09/19/97
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QC Batch Number: GC0909970HBPEXA  
Instrument ID: GCHP4B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	76

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



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Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	Client Proj. ID: Shell 2160 Otis St. Sample Descript: Hoist-1 Matrix: SOLID Analysis Method: EPA 8020 Lab Number: 9709249-20	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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QC Batch Number: GC091597BTEXEXC  
Instrument ID: GCHP22

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 2160 Otis St. Sample Descript: Hoist-1 Matrix: SOLID Analysis Method: EPA 8020 Lab Number: 9709249-20	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/16/97 Reported: 09/19/97
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QC Batch Number: GC091597BTEXEXC  
Instrument ID: GCHP22

**Methyl t-Butyl Ether (MTBE)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Methyl t-Butyl Ether	0.025	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambrla 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: Hoist-1 Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9709249-20	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/09/97 Analyzed: 09/11/97 Reported: 09/19/97
Attention: Paul Waite		

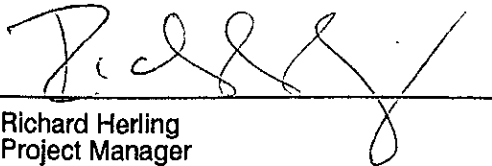
QC Batch Number: GC0909970HBPEXA  
Instrument ID: GCHP4B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
<b>Surrogates</b> n-Pentacosane (C25)	<b>Control Limits %</b> 50                      150	<b>% Recovery</b> 71

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



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Richard Herling  
Project Manager







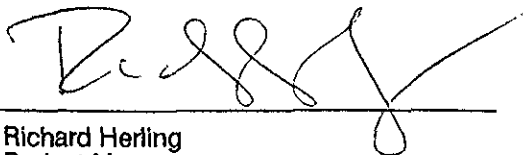
Cambria 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite  QC Batch Number: GC0910978010EXA Instrument ID: GCHP08	Client Proj. ID: Shell 2160 Otlis St. Sample Descript: WO-1 Matrix: SOLID Analysis Method: EPA 8010 Lab Number: 9709249-21	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/10/97 Analyzed: 09/11/97 Reported: 09/19/97
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**Halogenated Volatile Organics (EPA 8010)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	25	N.D.
Bromoform	25	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.
Chloroform	25	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	25	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
cis-1,3-Dichloropropene	25	N.D.
trans-1,3-Dichloropropene	25	N.D.
Methylene chloride	250	N.D.
1,1,2,2-Tetrachloroethane	25	N.D.
Tetrachloroethene	25	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	25	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
Vinyl chloride	50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	60	130
4-Bromofluorobenzene	60	140
		86
		46 Q

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**



Richard Herling  
Project Manager





Cambria	Client Proj. ID: Shell 2160 Otis St.	Sampled: 09/04/97
1144 65th St. Suite C	Sample Descript: WO-1	Received: 09/05/97
Oakland, CA 94608	Matrix: SOLID	Extracted: 09/09/97
Attention: Paul Waite	Analysis Method: EPA 8270	Analyzed: 09/10/97
	Lab Number: 9709249-21	Reported: 09/19/97

QC Batch Number: MS0909978270EXA  
Instrument ID: H5

**Semivolatiles Organics (EPA 8270)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
4-Bromophenyl phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
1,2-Dichlorobenzene	250	N.D.
1,3-Dichlorobenzene	250	N.D.
1,4-Dichlorobenzene	250	N.D.
3,3'-Dichlorobenzidine	500	N.D.
2,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
2,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
4,6-Dinitro-2-methylphenol	500	N.D.
2,4-Dinitrophenol	500	N.D.
2,4-Dinitrotoluene	250	N.D.
2,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
Fluoranthene	250	N.D.





# Sequoia Analytical

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FAX (650) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: WO-1 Matrix: SOLID Analysis Method: EPA 8270 Lab Number: 9709249-21	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/09/97 Analyzed: 09/10/97 Reported: 09/19/97
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QC Batch Number: MS0909978270EXA  
Instrument ID: H5

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Fluorene	250	N.D.
Hexachlorobenzene	250	N.D.
Hexachlorobutadiene	250	N.D.
Hexachlorocyclopentadiene	500	N.D.
Hexachloroethane	250	N.D.
Indeno(1,2,3-cd)pyrene	250	N.D.
Isophorone	250	N.D.
2-Methylnaphthalene	250	N.D.
2-Methylphenol	250	N.D.
4-Methylphenol	250	N.D.
Naphthalene	250	N.D.
2-Nitroaniline	500	N.D.
3-Nitroaniline	500	N.D.
4-Nitroaniline	500	N.D.
Nitrobenzene	250	N.D.
2-Nitrophenol	250	N.D.
4-Nitrophenol	500	N.D.
N-Nitrosodiphenylamine	250	N.D.
N-Nitroso-di-n-propylamine	250	N.D.
Pentachlorophenol	500	N.D.
Phenanthrene	250	N.D.
Phenol	250	N.D.
Pyrene	250	N.D.
1,2,4-Trichlorobenzene	250	N.D.
2,4,5-Trichlorophenol	500	N.D.
2,4,6-Trichlorophenol	250	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	44
Phenol-d5	24	113	50
Nitrobenzene-d5	23	120	45
2-Fluorobiphenyl	30	115	50
2,4,6-Tribromophenol	19	122	55
p-Terphenyl-d14	18	137	41

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: WO-1 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9709249-21	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/15/97 Analyzed: 09/18/97 Reported: 09/19/97
Attention: Paul Walte		

QC Batch Number: GC091597BTEXEXC  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	83
4-Bromofluorobenzene	60 140	83

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Richard Herling  
Project Manager





<b>Cambria</b> 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	<b>Client Proj. ID:</b> Shell 2160 Otis St. <b>Sample Descript:</b> WO-1 <b>Matrix:</b> SOLID <b>Analysis Method:</b> EPA 8015 Mod <b>Lab Number:</b> 9709249-21	<b>Sampled:</b> 09/04/97 <b>Received:</b> 09/05/97 <b>Extracted:</b> 09/09/97 <b>Analyzed:</b> 09/11/97 <b>Reported:</b> 09/19/97
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QC Batch Number: GC0909970HBPEXA  
Instrument ID: GCHP4B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
<b>Surrogates</b> n-Pentacosane (C25)	<b>Control Limits %</b> 50                      150	<b>% Recovery</b> 78

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Richard Herling  
Project Manager





Cambria Client Proj. ID: Shell 2160 Otis St. Sampled: 09/04/97
1144 65th St. Suite C Sample Descript: WO Received: 09/05/97
Oakland, CA 94608 Matrix: LIQUID
Attention: Paul Waite Analysis Method: 8015Mod/8020 Analyzed: 09/15/97
Lab Number: 9709249-22 Reported: 09/19/97

QC Batch Number: GC091597BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Table with columns: Analyte, Detection Limit ug/L, Sample Results ug/L. Rows include TPPH as Gas, Methyl t-Butyl Ether, Benzene, Toluene, Ethyl Benzene, Xylenes (Total), Chromatogram Pattern, Surrogates, and Trifluorotoluene.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Handwritten signature of Richard Herling
Richard Herling
Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: WO Matrix: LIQUID Analysis Method: EPA 8010 Lab Number: 9709249-22	Sampled: 09/04/97 Received: 09/05/97  Analyzed: 09/12/97 Reported: 09/19/97
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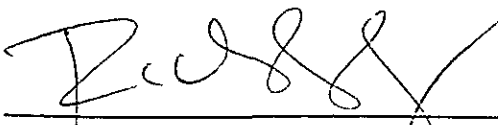
QC Batch Number: GC091097801024A  
 Instrument ID: GCHP24\_2

**Halogenated Volatile Organics (EPA 8010)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon Tetrachloride	1.0	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethylvinyl ether	2.0	N.D.
<b>Chloroform</b>	<b>1.0</b>	<b>3.7</b>
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	1.0	N.D.
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	1.0	N.D.
cis-1,2-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
<b>Methylene chloride</b>	<b>10</b>	<b>77</b>
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	1.0	N.D.
1,1,1-Trichloroethane	1.0	N.D.
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	1.0	N.D.
Trichlorofluoromethane	1.0	N.D.
Vinyl chloride	2.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	70 130	90

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 Richard Herling  
 Project Manager





Cambria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: WO Matrix: LIQUID Analysis Method: EPA 8270 Lab Number: 9709249-22	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/11/97 Analyzed: 09/13/97 Reported: 09/19/97
Attention: Paul Walte		

QC Batch Number: MS0911978270EXB  
Instrument ID: H5

**Semivolatile Organics (EPA 8270)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthene	5.0	N.D.
Acenaphthylene	5.0	N.D.
Anthracene	5.0	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	5.0	N.D.
Benzo(b)fluoranthene	5.0	N.D.
Benzo(k)fluoranthene	5.0	N.D.
Benzo(g,h,i)perylene	5.0	N.D.
Benzo(a)pyrene	5.0	N.D.
Benzyl alcohol	5.0	N.D.
Bis(2-chloroethoxy)methane	5.0	N.D.
Bis(2-chloroethyl)ether	5.0	N.D.
Bis(2-chloroisopropyl)ether	5.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	5.0	N.D.
Butyl benzyl phthalate	5.0	N.D.
4-Chloroaniline	10	N.D.
2-Chloronaphthalene	5.0	N.D.
4-Chloro-3-methylphenol	5.0	N.D.
2-Chlorophenol	5.0	N.D.
4-Chlorophenyl phenyl ether	5.0	N.D.
Chrysene	5.0	N.D.
Dibenzo(a,h)anthracene	5.0	N.D.
Dibenzofuran	5.0	N.D.
Di-n-butyl phthalate	10	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	5.0	N.D.
Diethyl phthalate	5.0	N.D.
2,4-Dimethylphenol	5.0	N.D.
Dimethyl phthalate	5.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	5.0	N.D.
2,6-Dinitrotoluene	5.0	N.D.
Di-n-octyl phthalate	5.0	N.D.
Fluoranthene	5.0	N.D.







# Sequoia Analytical

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 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Camabria 1144 65th St. Suite C Oakland, CA 94608	Client Proj. ID: Shell 2160 Otis St. Sample Descript: WO Matrix: LIQUID Analysis Method: EPA 8270 Lab Number: 9709249-22	Sampled: 09/04/97 Received: 09/05/97 Extracted: 09/11/97 Analyzed: 09/13/97 Reported: 09/19/97
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QC Batch Number: MS0911978270EXB  
 Instrument ID: H5

Analyte	Detection Limit ug/L	Sample Results ug/L
Fluorene	5.0	N.D.
Hexachlorobenzene	5.0	N.D.
Hexachlorobutadiene	5.0	N.D.
Hexachlorocyclopentadiene	10	N.D.
Hexachloroethane	5.0	N.D.
Indeno(1,2,3-cd)pyrene	5.0	N.D.
Isophorone	5.0	N.D.
2-Methylnaphthalene	5.0	N.D.
2-Methylphenol	5.0	N.D.
4-Methylphenol	5.0	N.D.
Naphthalene	5.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	5.0	N.D.
2-Nitrophenol	5.0	N.D.
4-Nitrophenol	10	N.D.
n-Nitrosodiphenylamine	5.0	N.D.
n-Nitroso-di-n-propylamine	5.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	5.0	N.D.
Phenol	5.0	N.D.
Pyrene	5.0	N.D.
1,2,4-Trichlorobenzene	5.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	5.0	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	21	110	27
Phenol-d5	10	110	16
Nitrobenzene-d5	35	114	38
2-Fluorobiphenyl	43	116	48
2,4,6-Tribromophenol	10	123	54
p-Terphenyl-d14	33	141	36

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Richard Herling  
 Project Manager





<b>Cambria</b> 1144 65th St. Suite C Oakland, CA 94608  Attention: Paul Waite	<b>Client Proj. ID:</b> Shell 2160 Otis St. <b>Sample Descript:</b> WO <b>Matrix:</b> LIQUID <b>Analysis Method:</b> EPA 8015 Mod <b>Lab Number:</b> 9709249-22	<b>Sampled:</b> 09/04/97 <b>Received:</b> 09/05/97 <b>Extracted:</b> 09/10/97 <b>Analyzed:</b> 09/15/97 <b>Reported:</b> 09/19/97
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QC Batch Number: GC0910970HBPEXZ  
Instrument ID: GCHP4A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	500	12000  C9-C24
<b>Surrogates</b> n-Pentacosane (C25)	<b>Control Limits %</b> 50                      150	<b>% Recovery</b> Q

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Richard Herling  
Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 01-12, 17, 19, 21

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0910976010MDE	ME0910976010MDE	ME0910976010MDE	ME0910976010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	R. Butler	R. Butler	R. Butler	R. Butler
MS/MSD #:	970932801	970932801	970932801	970932801
Sample Conc.:	N.D.	N.D.	52	23
Prepared Date:	9/10/97	9/10/97	9/10/97	9/10/97
Analyzed Date:	9/10/97	9/10/97	9/10/97	9/10/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	42	42	100	61
MS % Recovery:	84	84	96	76
Dup. Result:	44	44	100	79
MSD % Recov.:	88	88	96	110
RPD:	4.6	4.6	0.0	20
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	BLK091097	BLK091097	BLK091097	BLK091097
Prepared Date:	9/10/97	9/10/97	9/10/97	9/10/97
Analyzed Date:	9/10/97	9/10/97	9/10/97	9/10/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
LCS Result:	43	43	44	44
LCS % Recov.:	86	86	88	88

MS/MSD	80-120	80-120	80-120	80-120
LCS	80-120	80-120	80-120	80-120
Control Limits				

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS= Matrix Spike, MSD= MS Duplicate, RPD= Relative % Difference

9709249.CCC <1>

SEQUOIA ANALYTICAL

*Richard Herling*  
Richard Herling  
Project Manager





# Sequoia Analytical

680 Chesapeake Drive Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
 404 N. Wiget Lane Walnut Creek, CA 94598 (510) 988-9600 FAX (510) 988-9673  
 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Cambria Environmental Tech. Client Project ID: Shell 2160 Otis St.  
 1144 65th St., Ste. C Matrix: Liquid  
 Oakland, CA 94608 Work Order #: 9709249 22 Reported: Sep 24, 1997  
 Attention: Paul Waite

## QUALITY CONTROL DATA REPORT

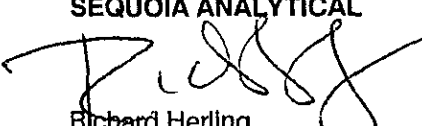
Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0909976010MDA	ME0909976010MDA	ME0909976010MDA	ME0909976010MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010

Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	970908401	970908401	970908401	970908401
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/9/97	9/9/97	9/9/97	9/9/97
Analyzed Date:	9/9/97	9/9/97	9/9/97	9/9/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	0.98	0.98	0.97	0.98
MS % Recovery:	98	98	97	98
Dup. Result:	0.98	0.97	0.96	0.97
MSD % Recov.:	98	97	96	97
RPD:	0.0	1.0	1.0	1.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	BLK090997	BLK090997	BLK090997	BLK090997
Prepared Date:	9/9/97	9/9/97	9/9/97	9/9/97
Analyzed Date:	9/9/97	9/9/97	9/9/97	9/9/97
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
LCS Result:	0.98	0.98	0.98	0.99
LCS % Recov.:	98	98	98	99

MS/MSD	80-120	80-120	80-120	80-120
LCS	80-120	80-120	80-120	80-120
Control Limits				

**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**  
  
 Richard Herling  
 Project Manager





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Cambria Environmental Tech. 1144 65th St., Ste. C Oakland, CA 94608 Attention: Paul Waite	Client Project ID: Shell 2160 Otis St. Matrix: Liquid Work Order #: 9709249 03	Reported: Sep 24, 1997
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## QUALITY CONTROL DATA REPORT

<b>Analyte:</b>	Lead
<b>QC Batch#:</b>	ME0911977000MDA
<b>Analy. Method:</b>	EPA 239.2
<b>Prep. Method:</b>	EPA 3020

**Analyst:** J. Jencks  
**MS/MSD #:** 970920401  
**Sample Conc.:** N.D.  
**Prepared Date:** 9/11/97  
**Analyzed Date:** 9/11/97  
**Instrument I.D.#:** MTJA3  
**Conc. Spiked:** 50 µg/L

**Result:** 42  
**MS % Recovery:** 84

**Dup. Result:** 47  
**MSD % Recov.:** 94

**RPD:** 11  
**RPD Limit:** 0-20

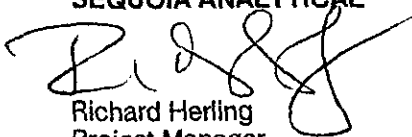
**LCS #:** BLK091197

**Prepared Date:** 9/11/97  
**Analyzed Date:** 9/11/97  
**Instrument I.D.#:** MTJA3  
**Conc. Spiked:** 50 µg/L

**LCS Result:** 52  
**LCS % Recov.:** 104

<b>MS/MSD</b>	75-125
<b>LCS</b>	80-120
<b>Control Limits</b>	

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**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9709249.CCC <3>





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Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 03

Reported: Sep 24, 1997

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC091297BTEX06A	GC091297BTEX06A	GC091297BTEX06A	GC091297BTEX06A	GC-01208BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970935902	970935902	970935902	970935902	970935902
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/12/97	9/12/97	9/12/97	9/12/97	9/12/97
Analyzed Date:	9/12/97	9/12/97	9/12/97	9/12/97	9/12/97
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.8	10	9.9	30	62
MS % Recovery:	98	100	99	100	103
Dup. Result:	10	10	10	30	65
MSD % Recov.:	100	100	10	100	108
RPD:	2.0	0.0	1.0	0.0	4.7
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK091297	BLK091297	BLK091297	BLK091297	BLK091297
Prepared Date:	9/12/97	9/12/97	9/12/97	9/12/97	9/12/97
Analyzed Date:	9/12/97	9/12/97	9/12/97	9/12/97	9/12/97
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.6	9.8	9.7	28	61
LCS % Recov.:	96	98	97	93	102

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

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SEQUOIA ANALYTICAL  
  
Richard Herling  
Project Manager

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9709249.CCC <4>





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Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 22

Reported: Sep 24, 1997

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC091597BTEX07A	GC091597BTEX07A	GC091597BTEX07A	GC091597BTEX07A	GC-01208BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970922412	970922412	970922412	970922412	970922412
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Analyzed Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.2	8.8	8.6	26	55
MS % Recovery:	92	88	86	87	92
Dup. Result:	9.3	8.8	8.8	26	55
MSD % Recov.:	93	88	88	87	92
RPD:	1.1	0.0	2.3	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK091597	BLK091597	BLK091597	BLK091597	BLK091597
Prepared Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Analyzed Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.0	8.5	8.5	25	54
LCS % Recov.:	90	85	85	83	90

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

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SEQUOIA ANALYTICAL

Richard Herling  
Project Manager

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9709249.CCC <5>





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Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 01, 02, 04-12, 17

Reported: Sep 24, 1997

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC091597BTEXEXB	GC091597BTEXEXB	GC091597BTEXEXB	GC091597BTEXEXB	GC091597BTEXEXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970924918	970924918	970924918	970924918	970924918
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Analyzed Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.17	0.17	0.17	0.50	1.0
MS % Recovery:	85	85	85	83	83
Dup. Result:	0.16	0.16	0.16	0.47	1.0
MSD % Recov.:	80	80	80	76	83
RPD:	6.1	6.1	6.1	6.2	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK091597	BLK091597	BLK091597	BLK091597	BLK091597
Prepared Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Analyzed Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.19	0.19	0.18	0.54	1.0
LCS % Recov.:	95	95	90	90	83

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

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**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager

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9709249.CCC <6>







Cambria Environmental Tech. Client Project ID: Shell 2160 Otis St.  
 1144 65th St., Ste. C Matrix: Solid  
 Oakland, CA 94608  
 Attention: Paul Waite Work Order #: 9709249 18-22 Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC091597BTEXEXC	GC091597BTEXEXC	GC091597BTEXEXC	GC091597BTEXEXC	GC091597BTEXEXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970934207	970934207	970934207	970934207	970934207
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Analyzed Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.18	0.17	0.17	0.49	1.0
MS % Recovery:	90	85	85	82	83
Dup. Result:	0.18	0.17	0.17	0.49	1.0
MSD % Recov.:	90	85	85	82	83
RPD:	0.0	0.0	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK091597	BLK091597	BLK091597	BLK091597	BLK091597
Prepared Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Analyzed Date:	9/15/97	9/15/97	9/15/97	9/15/97	9/15/97
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.19	0.19	0.18	0.52	1.0
LCS % Recov.:	95	95	90	87	83

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

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 Richard Herling  
 Project Manager

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9709249.CCC <7>





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 19, 21

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-Benzene
<b>QC Batch#:</b>	GC0910978010EXA	GC0910978010EXA	GC0910978010EXA
<b>Analy. Method:</b>	EPA 8010	EPA 8010	EPA 8010
<b>Prep. Method:</b>	EPA 5030	EPA 5030	EPA 5030

<b>Analyst:</b>	R. Bou-Salman	R. Bou-Salman	R. Bou-Salman
<b>MS/MSD #:</b>	970937601	970937601	970937601
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/10/97	9/10/97	9/10/97
<b>Analyzed Date:</b>	9/10/97	9/10/97	9/10/97
<b>Instrument I.D.#:</b>	GCHP8	GCHP8	GCHP8
<b>Conc. Spiked:</b>	50 µg/Kg	50 µg/Kg	50 µg/Kg
<b>Dilution Factor:</b>	1	1	1
<b>Result:</b>	43	43	39
<b>MS % Recovery:</b>	86	86	78
<b>Dup. Result:</b>	41	55	44
<b>MSD % Recov.:</b>	82	110	88
<b>RPD:</b>	4.8	24	12
<b>RPD Limit:</b>	0-25	0-25	0-25

<b>LCS #:</b>	BLK091097	BLK091097	BLK091097
<b>Prepared Date:</b>	9/10/97	9/10/97	9/10/97
<b>Analyzed Date:</b>	9/10/97	9/10/97	9/10/97
<b>Instrument I.D.#:</b>	GCHP8	GCHP8	GCHP8
<b>Conc. Spiked:</b>	50 µg/Kg	50 µg/Kg	50 µg/Kg
<b>LCS Result:</b>	46	49	48
<b>LCS % Recov.:</b>	92	98	96

<b>MS/MSD</b>	60-140	60-140	60-140
<b>LCS</b>	65-135	70-130	70-130
<b>Control Limits</b>			

**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager

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Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 22

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-Benzene
<b>QC Batch#:</b>	GC091097801024A	GC091097801024A	GC091097801024A
<b>Analy. Method:</b>	EPA 8010	EPA 8010	EPA 8010
<b>Prep. Method:</b>	EPA 5030	EPA 5030	EPA 5030

<b>Analyst:</b>	J. Minkel	J. Minkel	J. Minkel
<b>MS/MSD #:</b>	970918007	970918007	970918007
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/10/97	9/10/97	9/10/97
<b>Analyzed Date:</b>	9/10/97	9/10/97	9/10/97
<b>Instrument I.D.#:</b>	GCHP24	GCHP24	GCHP24
<b>Conc. Spiked:</b>	25 µg/L	25 µg/L	25 µg/L
<b>Dilution Factor:</b>	1	1	1
<b>Result:</b>	21	19	24
<b>MS % Recovery:</b>	84	76	96
<b>Dup. Result:</b>	20	21	23
<b>MSD % Recov.:</b>	80	84	92
<b>RPD:</b>	4.9	10	4.3
<b>RPD Limit:</b>	0-25	0-25	0-25

<b>LCS #:</b>	BLK091297	BLK091297	BLK091297
<b>Prepared Date:</b>	9/12/97	9/12/97	9/12/97
<b>Analyzed Date:</b>	9/12/97	9/12/97	9/12/97
<b>Instrument I.D.#:</b>	GCHP24	GCHP24	GCHP24
<b>Conc. Spiked:</b>	25 µg/L	25 µg/L	25 µg/L
<b>LCS Result:</b>	19	19	21
<b>LCS % Recov.:</b>	76	76	84

<b>MS/MSD</b>	60-140	60-140	60-140
<b>LCS</b>	65-135	70-130	70-130
<b>Control Limits</b>			

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 18-21

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

**Analyte:** Diesel  
**QC Batch#:** GC0909970HBPEXA  
**Analy. Method:** EPA 8015M  
**Prep. Method:** EPA 3550/DHS

**Analyst:** B. Sullivan  
**MS/MSD #:** 970924918  
**Sample Conc.:** N.D.  
**Prepared Date:** 9/9/97  
**Analyzed Date:** 9/10/97  
**Instrument I.D.#:** GCHP4B  
**Conc. Spiked:** 25 mg/Kg

**Result:** 20  
**MS % Recovery:** 80

**Dup. Result:** 19  
**MSD % Recov.:** 76

**RPD:** 5.1  
**RPD Limit:** 0-50

**LCS #:** BLK090997  
**Prepared Date:** 9/9/97  
**Analyzed Date:** 9/10/97  
**Instrument I.D.#:** GCHP4B  
**Conc. Spiked:** 25 mg/Kg  
**LCS Result:** 22  
**LCS % Recov.:** 88

**MS/MSD** 50-150  
**LCS** 60-140  
**Control Limits**

**Please Note:**  
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**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 22

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Diesel
<b>QC Batch#:</b>	GC0910970HBPEXZ
<b>Analy. Method:</b>	EPA 8015M
<b>Prep. Method:</b>	EPA 3520

**Analyst:** G. Fish  
**MS/MSD #:** 970930208  
**Sample Conc.:** 78  
**Prepared Date:** 9/10/97  
**Analyzed Date:** 9/12/97  
**Instrument I.D.#:** GCHP4B  
**Conc. Spiked:** 1000 µg/L

**Result:** 990  
**MS % Recovery:** 91

**Dup. Result:** 890  
**MSD % Recov.:** 81

**RPD:** 11  
**RPD Limit:** 0-50

**LCS #:** BLK091097

**Prepared Date:** 9/10/97  
**Analyzed Date:** 9/12/97  
**Instrument I.D.#:** GCHP4B  
**Conc. Spiked:** 1000 µg/L

**LCS Result:** 800  
**LCS % Recov.:** 80

<b>MS/MSD</b>	50-150
<b>LCS</b>	60-140
<b>Control Limits</b>	

**Please Note:**  
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**SEQUOIA ANALYTICAL**

*Richard Herling*  
Richard Herling  
Project Manager





Cambria Environmental Tech. Client Project ID: Shell 2160 Otis St.  
 1144 65th St., Ste. C Matrix: Solid  
 Oakland, CA 94608 Work Order #: 9709249 19 Reported: Sep 24, 1997  
 Attention: Paul Waite

**QUALITY CONTROL DATA REPORT**

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine
QC Batch#:	MS0909978270EXB	MS0909978270EXB	MS0909978270EXB	MS0909978270EXB
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550

Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	970924919	970924919	970924919	970924919
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/9/97	9/9/97	9/9/97	9/9/97
Analyzed Date:	9/10/97	9/10/97	9/10/97	9/10/97
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:	2070	2030	1920	1870
MS % Recovery:	63	62	58	57
Dup. Result:	634	611	562	589
MSD % Recov.:	19	19	17	18
RPD:	106	107	109	104
RPD Limit:	0-40	0-40	0-40	0-40

LCS #:	SB090997	SB090997	SB090997	SB090997
Prepared Date:	9/10/97	9/10/97	9/10/97	9/10/97
Analyzed Date:	9/10/97	9/10/97	9/10/97	9/10/97
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	2050	1970	1860	1880
LCS % Recov.:	62	60	56	57

MS/MSD LCS Control Limits	26-90	25-102	28-104	41-128
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Please Note:  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

**SEQUOIA ANALYTICAL**

*Richard Herling*  
 Richard Herling  
 Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Walte

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 19

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol	Acenaphthene	4-Nitrophenol
QC Batch#:	MS0909978270EXB	MS0909978270EXB	MS0909978270EXB	MS0909978270EXB
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550

Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	970924919	970924919	970924919	970924919
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/9/97	9/9/97	9/9/97	9/9/97
Analyzed Date:	9/10/97	9/10/97	9/10/97	9/10/97
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:	2550	1830	2130	2070
MS % Recovery:	77	55	65	63
Dup. Result:	731	578	688	644
MSD % Recov.:	22	18	21	20
RPD:	111	104	102	105
RPD Limit:	0-40	0-40	0-40	0-40

LCS #:	SB090997	SB090997	SB090997	SB090997
Prepared Date:	9/10/97	9/10/97	9/10/97	9/10/97
Analyzed Date:	9/10/97	9/10/97	9/10/97	9/10/97
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	2510	1870	2050	2090
LCS % Recov.:	76	57	62	63

MS/MSD LCS	Control Limits	38-107	26-103	31-137	11-114
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Please Note:  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

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SEQUOIA ANALYTICAL

Richard Herling  
Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 19

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
<b>QC Batch#:</b>	MS0909978270EXB	MS0909978270EXB	MS0909978270EXB
<b>Analy. Method:</b>	EPA 8270	EPA 8270	EPA 8270
<b>Prep. Method:</b>	EPA 3550	EPA 3550	EPA 3550

<b>Analyst:</b>	B. Pitamah	B. Pitamah	B. Pitamah
<b>MS/MSD #:</b>	970924919	970924919	970924919
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/9/97	9/9/97	9/9/97
<b>Analyzed Date:</b>	9/10/97	9/10/97	9/10/97
<b>Instrument I.D.#:</b>	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg

<b>Result:</b>	1780	1880	1850
<b>MS % Recovery:</b>	54	57	56

<b>Dup. Result:</b>	593	409	667
<b>MSD % Recov.:</b>	18	12	20

<b>RPD:</b>	100	129	94
<b>RPD Limit:</b>	0-40	0-40	0-40

<b>LCS #:</b>	SB090997	SB090997	SB090997
<b>Prepared Date:</b>	9/10/97	9/10/97	9/10/97
<b>Analyzed Date:</b>	9/10/97	9/10/97	9/10/97
<b>Instrument I.D.#:</b>	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
<b>LCS Result:</b>	1800	1610	1700
<b>LCS % Recov.:</b>	55	49	52

<b>MS/MSD LCS Control Limits</b>	28-89	17-109	35-142
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**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager







Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 21

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine
<b>QC Batch#:</b>	MS0909978270EXA	MS0909978270EXA	MS0909978270EXA	MS0909978270EXA
<b>Analy. Method:</b>	EPA 8270	EPA 8270	EPA 8270	EPA 8270
<b>Prep. Method:</b>	EPA 3550	EPA 3550	EPA 3550	EPA 3550

<b>Analyst:</b>	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
<b>MS/MSD #:</b>	970917401	970917401	970917401	970917401
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Analyzed Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
<b>Result:</b>	1460	1440	1220	1340
<b>MS % Recovery:</b>	44	44	37	41
<b>Dup. Result:</b>	1790	1730	1510	1680
<b>MSD % Recov.:</b>	54	52	46	51
<b>RPD:</b>	20	18	21	23
<b>RPD Limit:</b>	0-40	0-40	0-40	0-40

<b>LCS #:</b>	SB090997	SB090997	SB090997	SB090997
<b>Prepared Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Analyzed Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
<b>LCS Result:</b>	2100	1990	1820	1900
<b>LCS % Recov.:</b>	64	60	55	58

<b>MS/MSD</b>				
<b>LCS</b>				
<b>Control Limits</b>	26-90	25-102	28-104	41-126

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\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

**SEQUOIA ANALYTICAL**

Richard Herling  
Project Manager





Cambria Environmental Tech. Client Project ID: Shell 2160 Otis St.  
 1144 65th St., Ste. C Matrix: Solid  
 Oakland, CA 94608  
 Attention: Paul Waite Work Order #: 9709249 21 Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol	Acenaphthene	4-Nitrophenol
<b>QC Batch#:</b>	MS0909978270EXA	MS0909978270EXA	MS0909978270EXA	MS0909978270EXA
<b>Analy. Method:</b>	EPA 8270	EPA 8270	EPA 8270	EPA 8270
<b>Prep. Method:</b>	EPA 3550	EPA 3550	EPA 3550	EPA 3550

<b>Analyst:</b>	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
<b>MS/MSD #:</b>	970917401	970917401	970917401	970917401
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Analyzed Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
<b>Result:</b>	1650	1400	1550	1120
<b>MS % Recovery:</b>	50	42	47	34
<b>Dup. Result:</b>	2030	1710	1820	1500
<b>MSD % Recov.:</b>	62	52	55	45
<b>RPD:</b>	21	20	16	29
<b>RPD Limit:</b>	0-40	0-40	0-40	0-40

<b>LCS #:</b>	SB090997	SB090997	SB090997	SB090997
<b>Prepared Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Analyzed Date:</b>	9/9/97	9/9/97	9/9/97	9/9/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
<b>LCS Result:</b>	2390	1870	2020	2040
<b>LCS % Recov.:</b>	72	57	61	62

<b>MS/MSD LCS Control Limits</b>	38-107	26-103	31-137	11-114
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**Please Note:**  
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**SEQUOIA ANALYTICAL**

Richard Herling  
 Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Solid

Work Order #: 9709249 21

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
<b>QC Batch#:</b>	MS0909978270EXA	MS0909978270EXA	MS0909978270EXA
<b>Analy. Method:</b>	EPA 8270	EPA 8270	EPA 8270
<b>Prep. Method:</b>	EPA 3550	EPA 3550	EPA 3550

<b>Analyst:</b>	B. Pitamah	B. Pitamah	B. Pitamah
<b>MS/MSD #:</b>	970917401	970917401	970917401
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/9/97	9/9/97	9/9/97
<b>Analyzed Date:</b>	9/9/97	9/9/97	9/9/97
<b>Instrument I.D.#:</b>	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg

<b>Result:</b>	1320	786	1370
<b>MS % Recovery:</b>	40	24	42

<b>Dup. Result:</b>	1610	1100	1500
<b>MSD % Recov.:</b>	49	33	45

<b>RPD:</b>	20	33	9.0
<b>RPD Limit:</b>	0-40	0-40	0-40

<b>LCS #:</b>	SB090997	SB090997	SB090997
<b>Prepared Date:</b>	9/9/97	9/9/97	9/9/97
<b>Analyzed Date:</b>	9/9/97	9/9/97	9/9/97
<b>Instrument I.D.#:</b>	H5	H5	H5
<b>Conc. Spiked:</b>	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
<b>LCS Result:</b>	1890	1950	1840
<b>LCS % Recov.:</b>	57	59	56

<b>MS/MSD LCS Control Limits</b>	28-89	17-109	35-142
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\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

**SEQUOIA ANALYTICAL**

*Richard Herling*  
Richard Herling  
Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 22

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine
<b>QC Batch#:</b>	MS0911978270EXB	MS0911978270EXB	MS0911978270EXB	MS0911978270EXB
<b>Analy. Method:</b>	EPA 8270	EPA 8270	EPA 8270	EPA 8270
<b>Prep. Method:</b>	EPA 3510	EPA 3510	EPA 3510	EPA 3510

<b>Analyst:</b>	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
<b>MS/MSD #:</b>	970921004	970921004	970921004	970921004
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/11/97	9/11/97	9/11/97	9/11/97
<b>Analyzed Date:</b>	9/13/97	9/13/97	9/13/97	9/13/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	200 µg/L	200 µg/L	200 µg/L	200 µg/L
<b>Result:</b>	72	145	135	164
<b>MS % Recovery:</b>	36	73	68	82
<b>Dup. Result:</b>	92	153	146	158
<b>MSD % Recov.:</b>	46	77	73	79
<b>RPD:</b>	24	5.4	7.8	3.7
<b>RPD Limit:</b>	0-30	0-30	0-30	0-30

<b>LCS #:</b>	WB091197	WB091197	WB091197	WB091197
<b>Prepared Date:</b>	9/11/97	9/11/97	9/11/97	9/11/97
<b>Analyzed Date:</b>	9/12/97	9/12/97	9/12/97	9/12/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	200 µg/L	200 µg/L	200 µg/L	200 µg/L
<b>LCS Result:</b>	71	122	104	138
<b>LCS % Recov.:</b>	36	61	52	69

<b>MS/MSD LCS Control Limits</b>	12-110	27-123	36-97	41-116
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\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager





**Cambria Environmental Tech.**  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

**Client Project ID:** Shell 2160 Otis St.  
**Matrix:** Liquid

**Work Order #:** 9709249 22

**Reported:** Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol	Acenaphthene	4-Nitrophenol
<b>QC Batch#:</b>	MS0911978270EXB	MS0911978270EXB	MS0911978270EXB	MS0911978270EXB
<b>Analy. Method:</b>	EPA 8270	EPA 8270	EPA 8270	EPA 8270
<b>Prep. Method:</b>	EPA 3510	EPA 3510	EPA 3510	EPA 3510

<b>Analyst:</b>	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
<b>MS/MSD #:</b>	970921004	970921004	970921004	970921004
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	9/11/97	9/11/97	9/11/97	9/11/97
<b>Analyzed Date:</b>	9/13/97	9/13/97	9/13/97	9/13/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	200 µg/L	200 µg/L	200 µg/L	200 µg/L
<b>Result:</b>	183	162	190	74
<b>MS % Recovery:</b>	92	81	95	37
<b>Dup. Result:</b>	188	187	193	79
<b>MSD % Recov.:</b>	94	94	97	40
<b>RPD:</b>	2.7	14	1.6	6.5
<b>RPD Limit:</b>	0-30	0-30	0-30	0-30

<b>LCS #:</b>	WB091197	WB091197	WB091197	WB091197
<b>Prepared Date:</b>	9/11/97	9/11/97	9/11/97	9/11/97
<b>Analyzed Date:</b>	9/12/97	9/12/97	9/12/97	9/12/97
<b>Instrument I.D.#:</b>	H5	H5	H5	H5
<b>Conc. Spiked:</b>	200 µg/L	200 µg/L	200 µg/L	200 µg/L
<b>LCS Result:</b>	130	119	118	51
<b>LCS % Recov.:</b>	65	60	59	26

MS/MSD LCS Control Limits	39-98	23-97	46-118	10-80
---------------------------------	-------	-------	--------	-------

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS= Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference



**SEQUOIA ANALYTICAL**

*Richard Herling*  
Richard Herling  
Project Manager



Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 22

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	MS0911978270EXB	MS0911978270EXB	MS0911978270EXB
Analy. Method:	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510

Analyst:	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	970921004	970921004	970921004
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	9/11/97	9/11/97	9/11/97
Analyzed Date:	9/13/97	9/13/97	9/13/97
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L

Result:	145	182	141
MS % Recovery:	73	91	71

Dup. Result:	172	193	143
MSD % Recov.:	86	97	72

RPD:	17	5.9	1.4
RPD Limit:	0-30	0-30	0-30

LCS #:	WB091197	WB091197	WB091197
Prepared Date:	9/11/97	9/11/97	9/11/97
Analyzed Date:	9/12/97	9/12/97	9/12/97
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L
LCS Result:	129	142	135
LCS % Recov.:	65	71	68

MS/MSD LCS	Control Limits	24-96	9-103	26-127

Please Note:  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference



**SEQUOIA ANALYTICAL**  
*Richard Herling*  
Richard Herling  
Project Manager



Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 19, 21

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

**Analyte:** Total Recoverable  
Petroleum Hydrocarbons  
**QC Batch#:** IN090997552000A  
**Analy. Method:** SM 5520EF  
**Prep. Method:**

**Analyst:** T. Vo

**Prepared Date:** 9/15/97  
**Analyzed Date:** 9/15/97  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 150 mg/L

**Result:** 4000  
**MS % Recovery:** 3000

**Dup. Result:** 3000  
**MSD % Recov.:** 2000

**RPD:** 29  
**RPD Limit:** 0-30

**LCS #:** LCS091597

**Prepared Date:** 9/15/97  
**Analyzed Date:** 9/15/97  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 150 mg/L

**LCS Result:** 110  
**LCS % Recov.:** 73

**MS/MSD** 60-140  
**LCS** 70-130  
**Control Limits**

Please Note:  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager





Cambria Environmental Tech.  
1144 65th St., Ste. C  
Oakland, CA 94608  
Attention: Paul Waite

Client Project ID: Shell 2160 Otis St.  
Matrix: Liquid

Work Order #: 9709249 22

Reported: Sep 24, 1997

**QUALITY CONTROL DATA REPORT**

**Analyte:** Total Recoverable  
Petroleum Hydrocarbons  
**QC Batch#:** IN091097552000A  
**Analy. Method:** SM 5520BF  
**Prep. Method:**

**Analyst:** T. Vo

**Prepared Date:** 9/10/97  
**Analyzed Date:** 9/10/97  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 10 mg/L

**Result:** 6.0  
**MS % Recovery:** 60

**Dup. Result:** 8.0  
**MSD % Recov.:** 80

**RPD:** 29  
**RPD Limit:** 0-30

**LCS #:** LCS091097

**Prepared Date:** 9/10/97  
**Analyzed Date:** 9/10/97  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 10 mg/L

**LCS Result:** 8.0  
**LCS % Recov.:** 80

**MS/MSD** 60-140  
**LCS** 70-130  
**Control Limits**

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**  
  
Richard Herling  
Project Manager







**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**

Date: 9/4/97  
Page of

Site Address: 2160 Otis St.  
WIC#: 204-0072-0502  
Shell Engineer: Lisa Maglines  
Phone No.:  
Fax #:  
Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608  
Consultant Contact: Paul Warte  
Phone No.: SJO 420-0700  
Fax #: 420-9170

Analysis Required 9709249

LAB: Sequoia

Comments:  
Sampled by: Maureen Feizeman  
Printed Name: Maureen Feizeman

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4441	24 hours <input type="checkbox"/>
Site Investigation <input checked="" type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	16 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Holly Lab as soon as possible of 24/48 hr. TAT.

UST AGENCY: Alameda County

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
----------------------	----------------------------

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020 MTRC	Asbestos	Container Size	Preparation Used	Composite Y/N	
1 B-North	9/4	1:31	X			1					X						
2 C-North	9/4	1:34	X			1					X						
3 TPW-1	9/4	1:57		X		4					X						

Add Pb to All 3  
B-N  
C-N  
TPW-1  
project

Relinquished By (signature): Maureen Feizeman	Printed Name: Maureen Feizeman	Date: 9/4/97	Received (signature): [Signature]	Printed Name: PENAPU	Time: 0755
Relinquished By (signature): [Signature]	Printed Name: PENAPU	Date: 9/5/97	Received (signature): [Signature]	Printed Name: [Signature]	Date: [Signature]
Relinquished By (signature): [Signature]	Printed Name: [Signature]	Date: [Signature]	Received (signature): [Signature]	Printed Name: M. S. [Signature]	Date: 9/5/97

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**

Serial No: \_\_\_\_\_

Date: 9/4/97  
Page of

Site Address: H68 0715 Alameda

WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines

Phone No.:  
Fax #:

Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul Waite

Phone No.: 510 420-0700  
Fax #: 420-9170

Comments:

Sampled by: Maureen Feineman

Printed Name: Maureen Feineman

Analysis Required 9709249

LAB: Sequoia

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input checked="" type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: Alameda County 3425

Sample ID	Date	Sludge	Soil	Water	Air	No. of confs.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020 + MTBE	Total Lead	Asbestos	Container Size	Preparation Used	Composite Y/N	
D-1	9/4	2:08	X			1						X	X					
D-2	9/4	2:10	X			1												
D-3	9/4	2:13	X			1												
D-4	9/4	2:15	X			1												
D-5	9/4	2:22	X			1												
D-6	9/4	2:24	X			1												

Relinquished By (signature): Maureen Feineman  
Relinquished By (signature): [Signature]  
Relinquished By (signature): [Signature]

Printed Name: Maureen Feineman  
Printed Name: PENAPIER  
Printed Name: \_\_\_\_\_

Date: 9/5/97 Time: 9:30  
Date: 9/5/97 Time: \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received (signature): [Signature]  
Received (signature): \_\_\_\_\_  
Received (signature): \_\_\_\_\_

Printed Name: PENAPIER  
Printed Name: \_\_\_\_\_  
Printed Name: M. SAMS

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**

Date: 9/4/97  
Page of

Site Address: 2160 Otis St. Alameda

WIC#: 204-0072-0502

Shell Engineer: Lisa Maglines

Phone No.:  
Fax #:

Consultant Name & Address: CAMBRIA ENVIRONMENTAL  
1144 65th St. Suite C, Oakland, CA 94608

Consultant Contact: Paul White

Phone No.: 510 420-0700  
Fax #: 420-9170

Comments:

Sampled by: Maureen Feineman

Printed Name: Maureen Feineman

Analysis Required

9709249

LAB: Sequoia

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE 8020	Total Lead	Asbestos	Container Size	Preparation Used	Composite Y/N
						X	X	X			

CHECK ONE (1) BOX ONLY	C1/D1	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4441	24 hours <input type="checkbox"/>
Site Investigation <input checked="" type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	16 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

UST AGENCY: Alameda County DEA

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
----------------------	----------------------------

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.
10 C-South	9/4	1:00	X			1
11 B-South		1:07	X			1
12 A-South		1:10	X			1
13 A-NE		1:15	X			1
14 C-SE		1:18	X			1
15 A-SE		1:22	X			1
16 A-NE		1:24	X			1
17 A-North		1:28	X			1

**HOLD - D**  
(LOGIN w/ TEST CODE "HOLD")  
C-NE A-SE  
R-SE A-NE  
- put in comments  
" run only if hits on  
A-N, A-S, B-N, B-S,  
C-N, C-S "

Relinquished By (signature): Maureen Feineman  
Printed Name: Maureen Feineman  
Date: 9/4/97  
Time: 10:35

Relinquished By (signature): DENAFOR  
Printed Name: DENAFOR  
Date: 9/4/97  
Time:

Relinquished By (signature):  
Printed Name:  
Date:  
Time:

Received (signature):  
Date: 9/4/97  
Time: 11:00

Received (signature):  
Date: 9/4/97  
Time: 11:00

Received (signature):  
Date: 9/4/97  
Time: 11:00

Received (signature):  
Date: 9/4/97  
Time: 11:00

Received (signature):  
Date: 9/4/97  
Time: 11:00

Received (signature):  
Date: 9/4/97  
Time: 11:00





Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Paul Waite	Client Proj. ID: Shell 2160 Otis St. Lab Proj. ID: 9709249	Received: 09/05/97 Reported: 09/19/97
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### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 67 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Richard Herling  
Project Manager



**ATTACHMENT F**

Uniform Hazardous Waste Manifests

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-9802; WITHIN CALIFORNIA, CALL 1-800-852-7550

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. 9017961423191E+07S		Manifest Document No.		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address SHELL OIL COMPANY WASTE DEPT. ROOM 1455 P.O. BOX 2099 HOUSTON, TX 77252-2099		4. Generator's Phone (713) 241-2393		5. Transporter 1 Company Name CROSBY & OVERTON, INC.		6. US EPA ID Number CROSBY & OVERTON, INC. 01A1D191821324480			
7. Designated Facility Name and Site Address ERICKSON, INC. 555 PARR BLVD. RICHMOND, CA 94801		8. US EPA ID Number ERICKSON, INC. 01A1D191821324480		7. Transporter 2 Company Name		8. US EPA ID Number			
9. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) a. NON-RCRA HAZARDOUS WASTE SOLID		12. Containers No. Type 0010		13. Total Quantity 2000		14. Unit Wt/Vol P			
b.									
c.									
d.									
15. Special Handling Instructions and Additional Information 24 HOUR EMERGENCY PHONE NUMBER (800) 424-9300		16. Handling Codes for Waste Listed Above 01/99		Facility: SERVICE STATION 2150 OTIS DRIVE ALAMEDA, CA 94503					
<p><b>16. GENERATOR'S CERTIFICATION:</b> I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.</p> <p>If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.</p>									
Printed/Typed Name J.R. SPEIRA		Signature <i>[Signature]</i>		ON BEHALF OF SHELL OIL CO.		Month Day Year 09 23 97			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Scott Estrella		Signature <i>[Signature]</i>				Month Day Year 09 23 97			
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature				Month Day Year			
19. Discrepancy Indication Space									
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name DAVID SATO		Signature <i>[Signature]</i>				Month Day Year 09 24 97			

204-0072-0502+3982

DO NOT WRITE BELOW THIS LINE.

Yellow: TSDf SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS.  
 (Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.)

96022485  
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. C   A   D   9   8   1   4   0   3   1   8   1   5   0   5   9   4	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address SHELL OIL COMPANY SONDRA BIENVENI, TSP1449 P.O. BOX 2099 HOUSTON, TX 77252-2099						
4. Generator's Phone (713) 241-2258	A. US EPA ID Number					
5. Transporter 1 Company Name <b>ERICKSON TAC</b>	B. US EPA ID Number D   A   N   1   0   1   9   4   6   1   3   9   2					
7. Transporter 2 Company Name	B. US EPA ID Number					
9. Designated Facility Name and Site Address ERICKSON, INC. 255 PARK BLVD. RICHMOND, CA 94801	10. US EPA ID Number C   A   D   9   8   1   4   0   3   1   8   1   5   0   5   9   4					
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. NON-RCRA HAZARDOUS WASTE SOLID	12. Containers No. Type 001 TIP	13. Total Quantity 030000	14. Unit P			
b.						
c.						
d.						
15. Special Handling Instructions and Additional Information 24 HOUR EMERGENCY PHONE NUMBER (800) 424-9300 PLACARDS PROVIDED BY TRANSPORTER - UN1993 <b>TANK # 20884</b>		K. Handling Codes for Wastes Used Above 99 Facility: SERVICE STATION 2160 OTIS DRIVE ALAMEDA, CA 94503				
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name <b>J.R. SPEIR</b>		Signature <i>[Signature]</i>		ON BEHALF OF SHELL OIL CO. Month Day Year 09 04 97		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>ALEC OKINO</b>		Signature <i>[Signature]</i>		Month Day Year 09 04 97		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year		
19. Discrepancy Indication Space						
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name <b>DAVID SATO</b>						
Signature <i>[Signature]</i>		Month Day Year 09 04 97				

2040072-8502

DO NOT WRITE BELOW THIS LINE.



34  
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802. WITHIN CALIFORNIA, CALL 1-800-852-7550  
 HAZARDOUS WASTE

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. 9 4 4 9 2 1 4 8 3 1 8 1		Manifest Document No. 5 0 5 9 5		2. Page 1 of 1		Information in the shaded areas is not regulated by Federal law.	
3. Generator's Name and Mailing Address SHELL OIL COMPANY SONDRA BIENVENIU, TSP1449 P.O. BOX 20999		4. Generator's Phone (713-241-2258) HOUSTON, TX 77252-2099		5. Transporter 1 Company Name Trident Trucking		6. US EPA ID Number K1A1D19D1241814DD			
7. Transporter 2 Company Name		8. US EPA ID Number		9. Designated Facility Name and Site Address ERICKSON, INC. 255 PARR BLVD. RICHMOND, CA 94801		10. US EPA ID Number 1C1A1D1819141613192			
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol			
a. NON-RCRA HAZARDOUS WASTE SOLID		001 TIP 03000 P		0101 TIP 001300 P					
b. NON-RCRA HAZARDOUS WASTE SOLID									
c.									
d.									
15. Special Handling Instructions and Additional Information 24 HOUR EMERGENCY PHONE NUMBER (800) 424-9300 PLACARDS PROVIDED BY TRANSPORTER - UN1993		Facility: SERVICE STATION 2160 OTIS DRIVE ALAMEDA, CA 94503		16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name J.R. Speer		Signature <i>J.R. Speer</i>		ON BEHALF OF SHELL OIL CO.		Month Day Year 09 04 97			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Doug Biggs		Signature <i>Doug Biggs</i>				Month Day Year 09 10 17			
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature				Month Day Year			
19. Discrepancy Indication Space									
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name DAVID SATO									
		Signature <i>DAVE SATO</i>				Month Day Year 09 10 17			

2040072-0502

DO NOT WRITE BELOW THIS LINE.

96522486  
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7530

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. C A D 9 8 1 4 0 3 1 8 1 5 0 5 9 5		Manifest Document No. 970229		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address SHELL OIL COMPANY SONDRA BIENVENUE, TSP1449 P.O. BOX 2099 HOUSTON, TX 77252-2099		4. Generator's Phone 713-241-2258		5. Transporter 1 Company Name ERICKSON CO.		6. US EPA ID Number CA10109141613912			
7. Transporter 2 Company Name		8. US EPA ID Number		9. Designated Facility Name and Site Address ERICKSON, INC. 255 PARR BLVD. RICHMOND, CA 94801		10. US EPA ID Number CA10109141613912			
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) a. NON-RCRA HAZARDOUS WASTE SOLID		12. Containers No. Type 001 TIP		13. Total Quantity 0310100		14. Unit P			
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