ENVIRONMENTAL PROTECTION

00 MAR - 3 AH 9: 13

February 29, 2000

Ms. eva chu Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Re: Well Installation Report

Shell-branded Service Station 11989 Dublin Boulevard Dublin, California Incident #98995328 SAP Code – 135243 Cambria Project #241-0548



Dear Ms. chu:

On behalf of Equiva Services LLC (Equiva), Cambria Environmental Technology, Inc. (Cambria) is submitting the results of the well installation activities conducted on June 8 and 9, 1999 at the above-referenced site. The objective of this installation was to define the extent of hydrocarbons beneath the site. The investigation was conducted in accordance with our April 16, 1999 Monitoring Well Installation Work Plan, which was approved in the April 26, 1999 Alameda County Health Care Services Agency (ACHCSA) letter to Equiva. Presented below are summaries of the site background, investigation procedures, investigation results, and conclusions.

### **BACKGROUND**

Site Location: This operating Shell-branded service station is located at the intersection of Dublin Boulevard and San Ramon Road in Dublin, California (Figure 1). The surrounding area is primarily commercial with retail businesses adjacent to the site. A Chevron service station is located northeast of the Shell-branded site.

Oakland, CA Sonoma, CA Portland, OR Seattle, WA

Cambria Environmental Technology, Inc. Dispenser and Piping Removal and Replacement: In June 1997, soil samples were collected and analyzed during dispenser and piping replacement. Maximum detected concentrations of total purgable petroleum hydrocarbons as gasoline (TPHg) and total extractable petroleum hydrocarbons as diesel (TPHd) were 690 parts per million (ppm) and 12,000 ppm, respectively. The highest detected benzene and methyl tert-butyl ether (MTBE) (by EPA Method 8020)

1144 65th Street Suite B Oakland, CA 94608 Tel (510) 420-9700 Fax (510) 420-9170

concentrations during the same sampling event were 0.55 ppm and 8.9 ppm, respectively, both from beneath the center dispenser in the northern pump island.

Underground Storage Tanks: Three gasoline underground storage tanks (USTs) and one diesel UST are in use on-site.

Site Wells: On August 8, 1997, six tank backfill wells were abandoned in accordance with permit #97433 issued by the Alameda County Flood Control and Water Conservation District Zone 7 (Zone 7). One tank backfill well still exists on-site. Water was not encountered at 12 feet below grade (fbg), the maximum tank backfill well depth.

Surface Waters: Dublin Creek is located within 1/4-mile south of the site.

Groundwater Depth and Flow Direction: Historical data from wells adjacent to the site, reviewed prior to this investigation, indicated that groundwater is typically located 20 to 25 fbg. Topography slopes slightly to the east, and groundwater flow direction was estimated to be toward the east to southeast.

### **INVESTIGATION PROCEDURES**

Three monitoring wells were installed on-site to define the extent of hydrocarbons in groundwater. (Figure 2).

The procedures for this well installation, described in Cambria's approved work plan, are summarized below. Analytical results for soil and groundwater collected from the soil boring are summarized in Tables 1 and 2 and presented as Attachment A. Boring logs and Cambria's standard field procedures for soil sampling are presented in Attachments B and C, respectively.

Personnel Present: John Riggi, Cambria Geologist, under the supervision of

Registered Geologist Ailsa Le May.

Permits: Cambria obtained Alameda County Public Works Agency

Drilling Permit # 99WR207 (Attachment D).

Drilling Company: Gregg Drilling of Martinez, California (License #485165).

Drilling Date: June 8, and 9, 1999.

Drilling Method:

Soil samples were collected using a California Modified Split Spoon sampler using 7-inch hollow stem augers and converted to monitoring wells using 10-inch hollow stem augers.

Number of Borings:

Three borings (Figure 2). All borings were converted to groundwater monitoring wells.

Boring Depths:

MW-1 was drilled to 20 fbg, and MW-2 and MW-3 were drilled

to 33 fbg, respectively (Attachment B).

**9** 

Sediment Lithology:

The site is underlain by a gravelly fill to approximately 2 fbg. The fill is underlain by clayey sands of low estimated permeability to an explored depth of 33 fbg.

Monitoring Well Specifications: Two wells (MW-2 and MW-3) were installed to 33 fbg. The wells were constructed of four-inch diameter PVC with 0.010-inch slotted screen from 13 to 33 fbg. Monitoring well MW-1 was installed to 20 fbg and constructed of four-inch diameter PVC with 0.010-inch slotted screen from 5 to 20 fbg (Attachment C).

Monitoring Well Development:

Wells MW-1, MW-2 and MW-3 were developed by Blaine Tech Services of San Jose, California on July 20, 1999.

Well Elevation Survey:

The top of casing elevations of wells MW-1, MW-2 and MW-3 were surveyed to mean sea level on June 30, 1999 by Virgil Chavez Land Surveying of Vallejo, California (Attachment F)

Groundwater Depth: The groundwater table was encountered at approximately 23 fbg in wells MW-2 and MW-3. Groundwater was encountered at approximately 8 fbg in well MW-1.

Chemical Analyses:

Soil samples from each boring and groundwater samples from the soil boring were analyzed for:

- TPHg and TPHd by modified EPA Method 8015;
- MTBE, benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020; and
- The maximum detection of MTBE in soil was confirmed by EPA Method 8260.

To characterize stockpiled soil for disposal, four brass tubes of soil collected from the stockpiled soil were composited by the analytical laboratory. The composite samples were analyzed for:

- TPHg by modified EPA Method 8015;
- BTEX by EPA Method 8020;
- CAM metals: TTLC for all metals;
- STLC for all metals detected at 10 times the TTLC maximum; and
- Organic lead for lead over 13 ppm.



Soil Handling:

Soil cuttings produced from the borings were disposed at Forward Landfill in Manteca, California (Attachment G).

### INVESTIGATION RESULTS

Analytical Results for Soil Samples: The maximum concentration of TPHg was detected in sample MW-3 at a depth of 25.5 fbg at 4.1 ppm. The maximum concentrations of TPHd and MTBE (reported by EPA Method 8260) were detected in MW-2 at a depth of 25.5 fbg at 103 ppm and 1.14 ppm, respectively. No hydrocarbons, BTEX or MTBE (by EPA Method 8020) were detected in soil samples collected from monitoring well MW-1 or in vadose zone soil samples collected from MW-2 and MW-3.

Analytical Results for Groundwater: The maximum concentrations of TPHg, TPHd, MTBE (EPA Method 8020), benzene and ethylbenzene were detected in well MW-2 at 2,600 ppb, 0.699 ppb, 9,370 ppb, 55 ppb, and 59.5 ppb, respectively. Groundwater flow direction as determined in Cambria's Third Quarter 1999 Monitoring Report is to the southeast at a gradient of 0.125.

## **CONCLUSIONS AND RECOMMENDATIONS**

Static groundwater elevations vary substantially across the site. Static groundwater elevations on July 20, 1999 were 20.31 fbg for monitoring well MW-2 and 24.23 fbg for monitoring well MW-3. The static level for MW-1 was 6.24 fbg.

No apparent explanation for this discrepancy has been identified, but this pattern has continued through the third and fourth quarter 1999 monitoring events. The nearby Calaveras fault may be influencing groundwater elevations. Soil has been impacted only at the capillary fringe, suggesting that surface soils have not been impacted by hydrocarbons. Cambria recommends

continued quarterly monitoring to further assess the impact of hydrocarbons in groundwater. In a January 28, 2000 conversation, ACHCSA requested that a conduit study be performed at the site. Cambria will provide a conduit evaluation in a forthcoming quarterly monitoring report.

### **CLOSING**

We appreciate your continued assistance with this project. Please call Darryk Ataide, at 510-420-3339 if you have any questions or comments.



Sincerely,

Cambria Environmental Technology, Inc.

Darryk Ataide Project Manager

Ailsa S. LeMay, R.G. Senior Geologist

Figures:

1 - Site Vicinity Map

2 - Monitoring Well and Soil Boring Location Map

Tables:

1 – Soil Analytical Results

2 - Groundwater Analytical Results

Attachments:

A - Analytical Reports for Soil and Groundwater

B - Soil Boring Logs

C - Standard Field Procedures for Monitoring Well Installation

D - Drilling Permit

E - Well Development Field Sheets
F - Monitoring Well Survey Data
G - Disposal Confirmation Letter

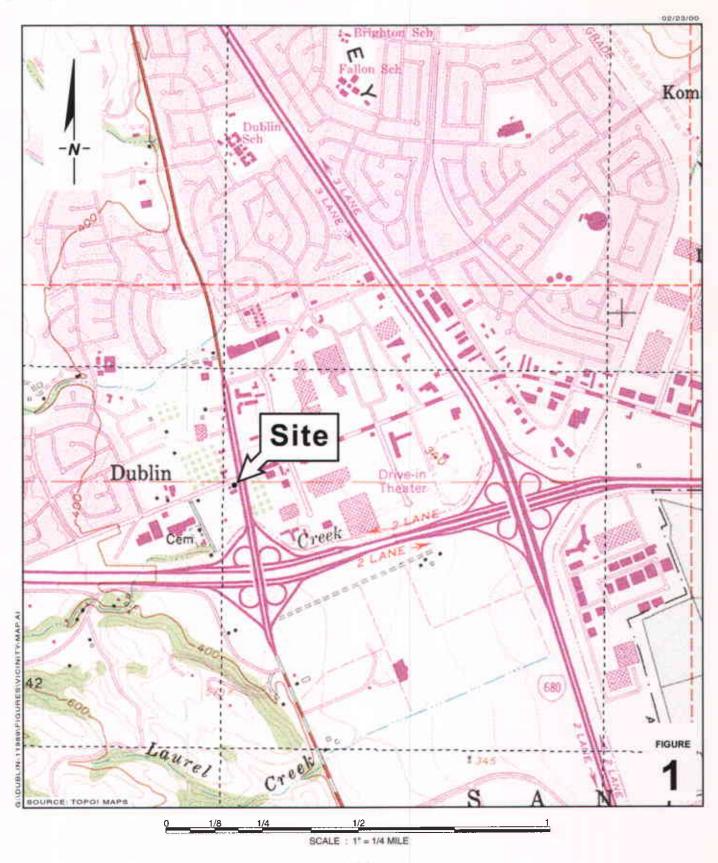
H - Department of Water Resources Well Completion Reports

cc:

Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, CA 91501-7869

NO. 6717

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# **Shell-branded Service Station**



**Site Vicinity Map** 

11989 Dublin Boulevard

Dublin, California

CAMBRIA

Dublin, California Incident #98995328 11989 Dublin Boulevard

 $\cap$ AMBRIA

**Table 1. Soil Boring Analytic Data** - Shell-branded Service Station - Incident # 98995328, 11989 Dublin Boulevard, Dublin, California

Sample ID	Depth	ТРРН	TEPH	МТВЕ	Benzene – (ppm)	Toluene	Ethylbenzene	Xylenes
MW-1 (5.0)	5.0'	<0.40	<5.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.01
MW-1 (10.0)	10.0'	<0.40	<5.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.01
MW-1 (15.0)	15.0°	<0.40	<5.0	<0.0020	< 0.0020	< 0.0020	< 0.0040	< 0.01
MW-1 (20.0)	20.0'	< 0.40	<5.0	<0.0020	<0.0020	<0.0020	<0.0040	< 0.01
MW-2-10.5	10.5'	<0.80	<5.0	<0.020	<0.0040	< 0.0040	<0.0040	<0.0080
MW-2-15.5	15.5'	<0.80	<5.0	< 0.020	< 0.0040	< 0.0040	< 0.0040	<0.0080
MW-2-20.5	20.5'	<0.80	<5.0	< 0.020	< 0.0040	< 0.0040	< 0.0040	<0.0080
MW-2-25.5	25.5'	<0.80	103	1.28 (1.14)	< 0.0040	<0.0040	<0.0040	<0.0080
MW-2-30.5	30.5'	<0.80	<5.0	1.76 (0.90)	< 0.0040	< 0.0040	< 0.0040	<0.0080
MW-3-10.5	10.5	<0.80	<5.0	< 0.020	<0.0040	< 0.0040	< 0.0040	<0.0080
MW-3-15.5	15.5'	<0.80	<5.0	<0.020	<0.0040	<0.0040	< 0.0040	<0.0080
MW-3-20.5	20.5'	<0.80	<5.0	<0.020	<0.0040	< 0.0040	< 0.0040	<0.0080
MW-3-25.5	25.5'	4.1	35.2	0.0597	<0.0040	< 0.0040	< 0.0040	<0.0080
MW-3-30.5	30.5'	1.39	<5.0	0.063 (0.0622)	<0.0040	<0.0040	<0.0040	<0.0080

## Abbreviations and Notes:

TPPH = Total purgeable petroleum hydrocarbons as gasoline by modified EPA Method 8015

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

Benzene, toluene, ethylbenzene, and total xylenes by EPA Method  $8020\,$ 

MTBE = Methyl tert-butyl ether by EPA Method 8020. Result in parentheses indicates MTBE by EPA Method 8260

ppm = parts per million

All samples collected on June 8 and 9, 1999

<**n** = Below detection limit of **n** ppm

**Table 2. Groundwater Analytic Data** - Shell-branded Service Station - Incident # 98995328, 11989 Dublin Boulevard, Dublin, California

Sample ID	ТРРН	ТЕРН	МТВЕ	Benzene —— (ppb) -	Toluene	Ethylbenzene	Xylenes
MW-1	<50.0	<0.05	<5.00	<0.50	<0.50	<0.50	<0.50
MW-2	2600	0.699	9370	55	<2.50	59.5	<2.50
MW-3	208	0.177	664	4.69	<0.50	<0.50	<0.50

## **Abbreviations and Notes:**

TPPH = Total purgeable petroleum hydrocarbons as gasoline by modified EPA Method 8015

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

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

MTBE = Methyl tert-butyl ether by EPA Method 8020. Result in parentheses indicates MTBE by EPA Method 8260

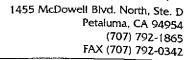
ppb = part per billion

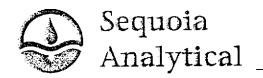
Samples collected on July 20, 1999

< n = Below detection limit of n mg/L

# Attachment A

Analytical Reports for Soil and Groundwater





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

Project: Shell Oil Co.

Project Manager:

Project Number: 11989 Dublin Blvd., Dublin

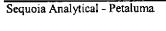
Sampled: 6/9/99 Received:

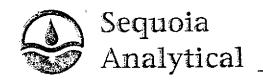
6/9/99 6/29/99 Reported:

# **ANALYTICAL REPORT FOR P906604**

Darryk Ataide

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1-5	P906604-01	Soil	6/9/99
MW-1-10	P906604-02	Soil	6/9/99
MW-1-15	P906604-03	Soil	6/9/99
MW-1-20	P906604-04	Soil	6/9/99
Composite A	P906604-05	Soil	6/9/99
Composite B	P906604-06	Soil	6/9/99
Composite C	P906604-07	Soil	6/9/99
Composite D	P906604-08	Soil	6/9/99
Composite A-D	P906604-09	Soil	6/9/99





Cambria Environmental - Oakland 1144 65th St., Suite C Oakland, CA 94608 Project: Shell Oil Co.
Project Number: 11989 Dublin Blvd., Dublin

Sampled: 6/9/99 Received: 6/9/99

Project Manager: Darryk Ataide

Reported: 6/29/99

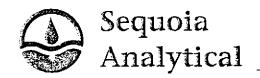
# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

· · · · · · · · · · · · · · · · · · ·	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>MW-1-5</u>			P9066	04 <u>-01</u>			<u>Soil</u>	
Gasoline Gasoline	9060703	6/23/99	6/23/99	,	0.40	ND	mg/Kg	
Benzene	10	lt.	Hr ·		0.0020	ND		
Toluene	U	**	W		0.0020	ND	n	
Ethylbenzene	ri	ir			0.0020	ND	m	
Xylenes (total)	н	)t	11		0.0040	ND	14	
Methyl tert-butyl ether	n	H.			0.010	ND	m	
Surrogate: a,a,a-Trifluorotoluene		"	#	65.0-135		103	%	
Surrogate: 4-Bromofluorobenzene	77	"	"	65.0-135		86.3	"	
MW-1-10			P9066	<u>04-02</u>			Soil	
Gasoline	9060703	6/23/99	6/23/99		0.40	ND	mg/Kg	
Benzene	17	**	. 4		0.0020	ND	"	
Toluene	19	11	**		0.0020	ND	н	
Ethylbenzene	if	H .	11		0.0020	ND	#1	
Xylenes (total)	14	# .	**		0.0040	ND	н	
Methyl tert-butyl ether	н	и	44		0.010	ND	#	·
Surrogate: a,a,a-Trifluorotoluene	н,	н	n	65.0-135		106	%	
Surrogate: 4-Bromofluorobenzene		п	n	65.0-135		85.0	If	
<u>MW-1-15</u>			P9066	<u>04-03</u>			<u>Soil</u>	
Gasoline	9060703	6/23/99	6/23/99		0.40	ND	mg/Kg	
Benzene	11	a ·	Û		0.0020	ND	II .	
Toluene	11	17	H		0.0020	ND	II.	
Ethylbenzene	17	H	H		0.0020	ND	11	
Xylenes (total)	11	н	"		0.0040	ND	н	
Methyl tert-butyl ether	10	lt.	H		0.010	ND	н	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	65.0-135		106	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	65.0-135		83.7	"	
MW-1-20			P9066	04-04			<u>Soil</u>	
Gasoline	9060703	6/23/99	6/23/99		0.40	ND	mg/Kg	
Benzene		n	**		0.0020	. ND	н	
Toluene	11	H	91		0.0020	ND	n	
Ethylbenzene	11	•	**		0.0020	ND	II	
Xylenes (total)	n	11	#I .	•	0.0040	ND	н	
Methyl tert-butyl ether	Ħ	"	H		0.010	ND	#	
Surrogate: a,a,a-Trifluorotoluene	H	н	į1	65.0-135		102	%	
Surrogate: 4-Bromofluorobenzene	"	<i>u</i>	H	<i>65.0-135</i>		91.3	n	

Sequoia Analytical - Petaluma

\*Refer to end of report for text of notes and definitions.





Cambria Environmental - Oakland

Project: Shell Oil Co.

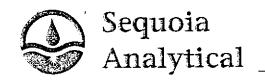
Sampled: 6/9/99

1144 65th St., Suite C Oakland, CA 94608 Project Number: 11989 Dublin Blvd., Dublin Project Manager: Darryk Ataide

Received: 6/9/99 Reported: 6/29/99

## Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

/	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
Composite A (continued)	•		P9066	04 <b>-</b> 05			<u>Soil</u>	
Gasoline	9060703	6/23/99	6/23/99	<del>,</del>	0.40	ND	mg/Kg	
Surrogate: 4-Bromofluorobenzene	9060703	6/23/99	6/23/99	65.0-135		86.0	%	
Composite B			P9066	04-06	-		<u>Soil</u>	
Gasoline	9060703	6/23/99	6/23/99	<del></del>	0.40	ND	mg/Kg	
Surrogate: 4-Bromofluorobenzene	#	II .	п	65.0-135		94.3	%	
Composite C			P90666	04-07			<u>Soil</u>	
Gasoline	9060703	6/23/99	6/23/99		0.40	0.571	mg/Kg	
Surrogate: 4-Bromofluorobenzene	"	H	"	65.0-135		89.7	%	
Composite D			P90666	<u>04-08</u>			Soil	
Gasoline	9060703	6/23/99	6/23/99		0.40	ND	mg/Kg	
Surrogate: 4-Bromofluorobenzene	n .	"	"	65.0-135		84.3	%	· ×



Cambria Environmental - Oakland 1144 65th St., Suite C

Oakland, CA 94608

Project: Shell Oil Co.

Shell Oil Co.

Project Number: 11989 Dublin Blvd., Dublin

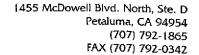
Sampled: 6/9/99 Received: 6/9/99

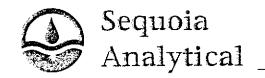
Project Manager: Darryk Ataide

Reported: 6/29/99

# BTEX by 8020M Sequoia Analytical - Petaluma

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
Composite A-D			P9066	<u>04-09</u>			<u>Soil</u>	
Benzene	9060682	6/23/99	6/23/99		0.0020	ND	mg/Kg	
Toluene	11	Ħ	11		0.0020	ND	H	-
Ethylbenzene	н	#	11		0.0020	ND	D	
Xylenes (total)	11	11	11		0.0040	ND	"	
Surrogate: a,a,a-Trifluorotoluene	н	tt	"	65.0-135		96.0	%	





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

Project: Project Number: 11989 Dublin Blvd., Dublin

Project Manager: Darryk Ataide

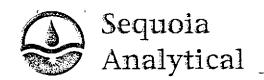
Shell Oil Co.

Sampled: 6/9/99

Received: 6/9/99 Reported: 6/29/99

## Total Metals by EPA 6000/7000 Series Methods Sequoia Analytical - Petaluma

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
Composite A-D Lead	9060718	6/24/99	<b><u>P9066</u></b> 6/25/99	04-09 EPA 6010A	7.50	ND	Soil mg/kg	



Cambria Environmental - Oakland

Project: Shell Oil Co.

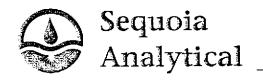
Sampled: 6/9/99

1144 65th St., Suite C Oakland, CA 94608 Project Number: 11989 Dublin Blvd., Dublin Project Manager: Darryk Ataide

Received: 6/9/99 Reported: 6/29/99

# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M/Quality Control Sequoia Analytical - Petaluma

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 9060703	Date Prepa	red: 6/23/9	19		Extrac	tion Method: EP.	A 5030 so	oils		
Blank	9060703-B	LK1	-	•						
Gasoline	6/23/99			ND	ug/kg	400				
Benzene	II			ND	"	2.00				
Toluene	11			ND	it	2.00				
Ethylbenzene	ff	•		. ND	, ,H	2.00				
Xylenes (total)	•			ND	H	4.00				
Methyl tert-butyl ether	"			ND	11	10.0				
Surrogate: a,a,a-Trifluorotoluene	11	300		332	II	65.0-135	111			
Surrogate: 4-Bromofluorobenzene	н	300		283	it .	65.0-135	94.3			
LCS	9060703-B	<u>S1</u>								
Gasoline	6/23/99	2000		1760	ug/kg	65.0-135	88.0			
Surrogate: 4-Bromofluorobenzene	<i>B</i> :	300		295	11	65.0-135	98.3			
Matrix Spike	9060703-M	S1 P9	006604-01							
Gasoline	6/23/99	2000	ND	1630	ug/kg	65.0-135	81.5	-		
Surrogate: 4-Bromofluorobenzene	"	300		261		65.0-135	87.0			
				-						
Matrix Spike Dup	<u>9060703-M</u>		06604-01		-					
Gasoline	6/23/99	2000	ND	1630	ug/kg	65.0-135	81.5	20.0	0	
Surrogate: 4-Bromofluorobenzene		300		257	re .	65.0-135	<i>85.7</i>			



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

Project: Shell Oil Co.

Project Number: 11989 Dublin Blvd., Dublin

Sampled: 6/9/99

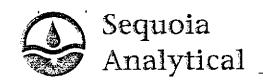
Received: 6/9/99

Project Manager: Darryk Ataide

6/29/99 Reported:

# BTEX by 8020M/Quality Control Sequoia Analytical - Petaluma

,	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	<u>%</u>	Notes*
Batch: 9060682	Date Prepare	ed: 6/23/9	<u>99</u>		Extract	tion Method: EP	A 5030 se	oils		
Blank	9060682-BL	<u>K1</u>		•						
Benzene	6/23/99			ND	ug/kg	2.00				
Toluene	O.			ND	**	2.00				
Ethylbenzene	tt			ND	**	2.00				
Xylenes (total)	n			ND	**	4.00				
Surrogate: a,a,a-Trifluorotoluene	r .	300		297	"	65.0-135	99.0			
LCS	9060682-BS1	<u> </u>								
Benzene	6/23/99	200		193	ug/kg	65.0-135	96.5			
Toluene	**	200		189	"	65.0-135	94.5			
Ethylbenzene	tt .	200		188	#1	65.0-135	94.0			
Xylenes (total)	- 11	600		564	**	65.0-135	94.0			
Surrogate: a,a,a-Trifluorotoluene	n	300		300	11	65.0-135	100			
Matrix Spike	9060682-MS	1 P	906599-01							
Benzene	6/23/99	200	ND	198	ug/kg	65.0-135	99.0			
Toluene	Ħ	200	ND	194	#	65.0-135	97.0			
Ethylbenzene	н	200	ND	190_	**	65.0-135	95.0			
Xylenes (total)	Ħ	600	ND	565	#	65.0-135	94.2			
Surrogate: a,a,a-Trifluorotoluene	ii .	300		315	н	65.0-135	105			
Matrix Spike Dup	9060682-MS	D1 P9	906599-01							
Benzene	6/23/99	200	ND	199	ug/kg	65.0-135	99.5	20.0	0.504	
Toluene	II.	200	ND	196	"	65.0-135	98.0	20.0	1.03	
Ethylbenzene	и	200	ND	192	<b>11</b> .	65.0-135	96.0	20.0	1.05	
Xylenes (total)	**	600	ND	572	*1	65.0-135	95.3	20.0	1.16	
Surrogate: a,a,a-Trifluorotoluene	· //	300		316	H	65.0-135	105			



Cambria Environmental - Oakland

Project: Shell Oil Co.

Sampled: 6/9/99

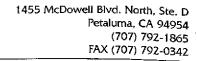
1144 65th St., Suite C Oakland, CA 94608

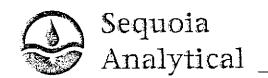
Project Number: 11989 Dublin Blvd., Dublin Project Manager: Darryk Ataide

Received: 6/9/99 Reported: 6/29/99

Total Metals by EPA 6000/7000 Series Methods/Quality Control Sequoia Analytical - Petaluma

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 9060718	Date Prepare		<u> </u>		<u>Extrac</u>	tion Method: EPA	A 3050B			
Blank Lead	6/25/99	<u>KI</u>		ND	mg/kg	7.50				
LCS Lead	9060718-BS1 6/25/99	<u>t</u> 50.0		49.7	mg/kg	80.0-120	99.4			
<u>Matrix Spike</u> Lead	<b>9060718-MS</b> 6/25/99	1 PS 49.0	906447-01 ND	52.0	mg/kg	75.0-125	106			
Matrix Spike Dup Lead	<u>9060718-MS</u> 6/25/99	<u>D1 P9</u> 47.2	906447-01 ND	48.8	mg/kg	75.0-125	103	20.0	2.87	





Cambria Environmental - Oakland

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

Project: Shell Oil Co.

Project Number: 11989 Dublin Blvd., Dublin

Project Manager: Darryk Ataide

Sampled: 6/9/99

Received: 6/9/99

Reported: 6/29/99

### **Notes and Definitions**

#	Note		•
DET	Analyte DETECTED		
ND	Analyte NOT DETECTED at or above the reporting limit	,	
NR	Not Reported		
dry	Sample results reported on a dry weight basis		
Recov.	Recovery		
RPD	Relative Percent Difference	•	



RYOYYUT Dale: 6.9.54 SHELL OIL COMPANY CHAIN OF CUSTODY RECORD DADLILLAS Seilal No: RETAIL ENVIRONMENTAL ENGINEERING - WEST Page ol / Sllo Addross: 1999 Duhlin Boulertal XECL LAB: **Analysis Required** WIGH SAP 135243 CHECK CHIE (1) BOX CHEA CHUR TURN AROUND HIME 4401 G.W. Montoshur 24 hours [] Shell Enghwer: Phone No.: TS-WII the investigation Karen Yetran 48 hoins [""] Consultant Name & Address: CAMBRIA ENVIRONMENTAL [ 4442 Soil Closelly/Disposal 15 days Mount 194 65th St. Suite C, Oakland, CA: 94608
Consultant Contact: Phone No.: 5 Wales 以以 [] 4445 Claully/Disposal Office Phone No.: 510 1170 - 6700 Fax #: 420 - 4170 Soil/Ak Roms or Sye, 4452 HOTE: Holly tub os tuan at Parille of ğ Worker Roses, or Sye, [ 4465 Comments: 24/48 los. IAL TH OA BILL MOD Other 3 Sampled by: JK USTAGENCY: ACHSA Timed Name: John Righ SAMPLE MATERIAL CONDITIONA No. of Sample ID DESCRIPTION डीपरीप्रक Solt Dale Water confs. **COMMENTS** 191061 04<sub>01</sub> 815 Dentru MBE 839 47 Oses detections 937 .► O₹ -04 1100 Per Snell Plated ps 48-28 ~0B 05 -09 POLERCUSTORY SENISHWACKET INOTINIALITE Soil is not aging 68FI COLER TEMPERATURE. ulifed Harnes truler if of M flevelved Alminity e): Minled Manner Rollingulolisch by (skylitiling): Dalog Hung 334 Mille Lave Hollinguished By (alguariste): rinied Hamer Minled Name: Alland (allia (alabaja): Dale: 6 10 4 (energed (elducities): Pipled None: Dale: (All) loelle lanc THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSIODY WHILINYOICE AND RESOLIS

ISSUED DATE: 05/23/97 CANCELS ISSUE: 03/05/97

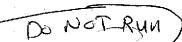
ISSUED BY: RLG

# MATERIAL: MINIMUM SOIL ANALYSIS FOR UST SOIL WITH GASOLINE OR DIESEL CONTAMINATION

USE FOR ARIZONA , CALIFORNIA AND NEVADA WASTE ONLY!!!

NOTE: ANALYSES ARE BASED ON CHARACTERIZATION MINIMUM. YOU MUST BE SURE THAT THE FACILITY WILL TAKE THE FOLLOWING AS ACCEPTANCE. FURTHER ANALYSIS MAY BE REQUIRED FOR CHARACTERIZATION UPON REVIEW BY THE WASTE TEAM MEMBER OR TO MEET DISPOSAL SITE REQUIREMENTS. IF THE MATERIAL IS RETURNED TO CONSULTANT, COPIES OF ALL TRANSPORTATION DOCUMENTS MUST BE SENT TO THE WASTE DISPOSAL COORDINATOR FOR RECORDING WHEN PROJECT IS COMPLETE.

# MINIMUM REQUIRED TESTING



Note: If material is to be sent to aBFI facility EPA METHOD 8010 must be run IN ADDITION to the following analysis prior to requesting profile approval:

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

BTXE = EPA 8020 + MTBE

CAM METALS = TTLC LEAD, STLC LEAD IF TTLC => 50 MG/KG AND/OR

ORGANIC LEAD IF TTLC => 13 MG/KG

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 FOR 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.

PROCEDURE ORIGINAL DATE: 07/10/90 PROCEDURE REVISED DATE: 03/05/97



# STAR ANALYTICAL

14500 Trinity Boulevard, Suite 106 • Fort Worth, Texas 76155 (817) 571-6800 • Metro (817) 540-6982 • FAX (817) 267-5431



Seguoia Analytical - Petaluma

1455 N McDowell Blvd North Ste D Petaluma, CA 94954

Cambria Environmental-Oakland Shell Oil Co.

Project Number: P906604 Project Manager: Scott Forbes Sampled: 6/9/99

Received: 6/25/99

Reported: 6/28/99 11:07

## ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1-(5)	9060374-01	Solid	6/9/99
MW-1-(10)	9060374-02	Solid	6/9/99
MW-1-(15)	9060374-03	Solid	6/9/99
MW-1-(20)	9060374-04	Solid	6/9/99
Composite A	9060374-05	Solid	6/9/99
Composite B	9060374-06	Solid	6/9/99
Composite C	9060374-07	Solid	6/9/99
Composite D	9060374-08	Solid	6/9/99
P906445-01	9060374-09	Solid	6/9/99

Star Analytical, Inc.

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

Janice Ballinger, Project Manager

Page 1 of 4



# STAR ANALYTICAL

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Sequoia Analytical - Petaluma 1455 N McDowell Blvd North Ste D Project Number: P906604

Project: Cambria Environmental-Oakland Shell Oil Co.

Sampled: 6/9/99

Petaluma, CA 94954 Project Manager: Scott Forbes Received: 6/25/99

Reported: 6/28/99 11:07

# Diesel Hydrocarbons (C12-C24) by EPA Method 8015M (modified) Star Analytical, Inc.

4.	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
MW-1-(5)	0.6170.600	C 10.0 10.0	90603	7 <b>4-01</b> .			Solid	•
Diesel Range Hydrocarbons	06V9539	6/23/99	6/26/99	15.150	5.0	ND	mg/kg	
Surrogate: o-Terphenyl	,	<i>n</i>	"	49-170		97	%	
MW-1-(10)			90603	74_02			Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/26/99	73-02	5.0	ND	mg/kg	
Surrogate: o-Terphenyl	#	"	"	49-170		100	%	
9 1 7				** ***			, ,	
MW-1-(15)			906033	74-0 <u>3</u>			Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/26/99		5.0	ND	mg/kg	
Surrogate: o-Terphenyl	**	"	# .	49-170		110	%	· ·
MW-1-(20)			906033	74-04			Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/26/99	<u>, , , , , , , , , , , , , , , , , , , </u>	5.0	ND	mg/kg	
Surrogate: o-Terphenyl	"	"	#	49-170		94	%	
Composite A			906037	7.4_0.5			Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/27/99	<del>/ 4-02</del>	5.0	ND	mg/kg	
Surrogate: o-Terphenyl	"	"	11	49-170 -		110	%	
Composite B			906037	74.06			Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/27/99	4-00	5.0	11	mg/kg	1
Surrogate: o-Terphenyl	"	#	11	49-170	J.0	94	// // // // // // // // // // // // //	<del></del>
The second secon				******	_		, ,	
Composite C			906037	74-07	*		Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/27/99		5.0	12	mg/kg	1
Surrogate: o-Terphenyl	"	II .	H	49-170		110	%	
Composite D			906037	74-08			Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/27/99	<del></del>	5.0	ND	mg/kg	
Surrogate: o-Terphenyl	11	н	н	49-170		100	%	
P906445-01			906037	74-09			Solid	
Diesel Range Hydrocarbons	06V9539	6/23/99	6/27/99	<del></del>	5.0	ND	mg/kg	
Surrogate: o-Terphenyl	п	"	n	49-170	. •	97	%	

Star Analytical, Inc.

\*Refer to end of report for text of notes and definitions.

Janice Ballinger, Project Manager



# STAR ANALYTICAL

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Sequoia Analytical - Petaluma 1455 N McDowell Blvd North Ste D Project: Cambria Environmental-Oakland Shell Oil Co. Sampled:

o. Sampled: 6/9/99 Received: 6/25/99

Petaluma, CA 94954

Project Number: P906604
Project Manager: Scott Forbes

Reported: 6/28/99 11:07

# Diesel Hydrocarbons (C12-C24) by EPA Method 8015M (modified)/Quality Control Star Analytical, Inc.

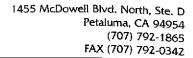
	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 06V9539	Date Prepa		<u>99</u>		Extract	ion Method: EPA	<u> 3550</u>			
Blank Diesel Range Hydrocarbons	<u>06V9539-B</u> 6/26/99	LKI		ND	mg/kg	5.0				
Surrogate: o-Terphenyl	#	3.3		3.5	<del>"</del>	49-170	110			
LCS	06V9539-B	S1								
Diesel Range Hydrocarbons	6/26/99	33		34	mg/kg	60-130	100			
Surrogate: o-Terphenyl	11	3.3		3.3	m ·	49-170	100			
Matrix Spike	06V9539-M	IS1 9	060374- <b>0</b> 9							
Diesel Range Hydrocarbons	6/26/99	33	ND	43	mg/kg	60-140	130			
Surrogate: o-Terphenyl	H	3.3		3.9	rt	49-170	120		•	
Matrix Spike Dup	06V9539-M	ISD1 9	060374- <b>0</b> 9							
Diesel Range Hydrocarbons	6/26/99	33	ND	39	mg/kg	60-140	120	30	8.0	
Surrogate: o-Terphenyl	n	3.3		3.5	ıt	49-170	110			

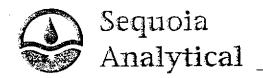
Star Analytical, Inc.

\*Refer to end of report for text of notes and definitions.

Janice Ballinger, Project Manager

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Cambria Environmental - Oakland 1144 65th St., Suite C

Oakland, CA 94608

Project: Shell Oil Co.

Shell Oil Co.

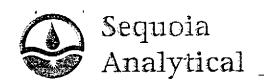
Sampled: 6/8/99 Received: 6/9/99

Project Number: 11989 Dublin Blvd - Dublin Project Manager: Darryk Ataide

Reported: 7/14/99

# **ANALYTICAL REPORT FOR P906463**

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-2-10.5	P906463-01	Soil	6/8/99
MW-2-15.5	P906463-02	Soil	6/8/99
MW-2-20.5	P906463-03	Soil	6/8/99
MW-2-25.5	P906463-04	Soil	6/8/99
MW-2-30.5	P906463-05	Soil	6/8/99
MW-3-10.5	P906463-06	Soil	6/8/99
MW-3-15.5	P906463-07	Soil	6/8/99
MW-3-20.5	P906463-08	Soil	6/8/99
MW-3-25.5	P906463-09	Soil	6/8/99
MW-3-30.5	P906463-10	Soil	6/8/99



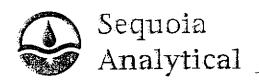
Cambria Environmental - Oakland	Project:	Shell Oil Co.	Sampled:	6/8/99
1144 65th St., Suite C	Project Number:	11989 Dublin Blvd - Dublin	Received:	6/9/99
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported:	7/14/99

# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
		•					•	
<u>MW-2-10.5</u>			<u>P9064</u>	<u>63-01</u>			<u>Soil</u>	
Gasoline	9060616	6/21/99	6/21/99		0.800	ND	mg/kg	
Benzene	11	ч	п		0.00400	ND	H	
Toluene	**	"	41		0.00400	ND	H	
Ethylbenzene	**	11	**		0.00400	ND	н	
Xylenes (total)	11	*1	н		0.00800	ND	н	
Methyl tert-butyl ether	11	Ħ	"		0.0200	ND		
Surrogate: a,a,a-Trifluorotoluene	н	"	#	65.0-135		97.3	%	
Surrogate: 4-Bromofluorobenzene	"	"	H	65.0-135		84.7	н	
MW-2-15.5			P90646	53- <u>02</u>			<u>Soil</u>	
Gasoline	9060616	6/21/99	6/21/99		0.800	ND	mg/kg	
Benzene	10	N	H		0.00400	ND	,, ,	
Toluene	H.	n	P		0.00400	ND	ű	
Ethylbenzene	. 11	н	17		0.00400	ND	**	
Xylenes (total)	11	н	*		0.00800	ND	**	
Methyl tert-butyl ether	"	n	п		0.0200	ND	n	
Surrogate: a,a,a-Trifluorotoluene	w	f#	rt	65.0-135		98.3	%	
Surrogate: 4-Bromofluorobenzene	"	tt	"	65.0-135		86.3	<i>n</i> .	
MW-2-20.5			P90646	<u>i3-03</u>			<u>Soil</u>	
Gasoline	9060616	6/21/99	6/21/99		0.800	ND	mg/kg	
Benzene	16	11	tr.		0.00400	ND	**	
Toluene	If	11	It		0.00400	ND	π	
Ethylbenzene	17	п .	H		0.00400	ND	**	
Xylenes (total)	tr.	fi fi	H		0.00800	ND	**	
Methyl tert-butyl ether	. 18	11°	If		0.0200	ND	H	
Surrogate: a,a,a-Trifluorotoluene	11	п	11	65.0-135		97.3	%	<del></del>
Surrogate: 4-Bromofluorobenzene	TT .	н .	rr .	65.0-135		85.3	n	
MW-2-25.5			P90646	i <u>3-04</u>			<u>Seil</u>	
Gasoline	9060616	6/21/99	6/21/99	<del></del>	4.00	ND	mg/kg	
Benzene	1t	91	II		0.0200	ND	"	
Toluene	11	H	п		0.0200	ND	II .	
Ethylbenzene	**	"	11		0.0200	ND		
Xylenes (total)	n	H	н .		0.0400	ND	IP.	
Methyl tert-butyl ether	£1	н	н		0.100	1.28		
Surrogate: a,a,a-Trifluorotoluene	п	"	"	65.0-135		98.7	%	
Surrogate: 4-Bromofluorobenzene	"	"	II .	65.0-135		91.7	rr .	
							C 41	
MW-2-30.5			P90646	<u> </u>			<u>Soil</u>	

Sequoia Analytical - Petaluma

\*Refer to end of report for text of notes and definitions.



Cambria Environmental - OaklandProject:Shell Oil Co.Sampled:6/8/991144 65th St., Suite CProject Number:11989 Dublin Blvd - DublinReceived:6/9/99Oakland, CA 94608Project Manager:Darryk AtaideReported:7/14/99

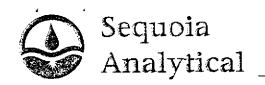
# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

7	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
MW-2-30.5 (continued)			P90646	63 <u>-05</u>			<u>Soil</u>	
Benzene	9060616	6/21/99	6/21/99	<del></del>	0.0200	ND	mg/kg	
Toluene	н .	H	**		0.0200	ND	"	
Ethylbenzene	**	n	11		0.0200	ND	*	
Xylenes (total)		H	н		0.0400	ND	**	
Methyl tert-butyl ether	**	II.	**		0.100	1.76	. 11	
Surrogate: a,a,a-Trifluorotoluene	"	ır	"	65.0-135		98.3	%	
Surrogate: 4-Bromofluorobenzene	Ħ	rr .	н	65.0-135		92.7	H	
MW-3-10.5			P90646	<u> 63-06</u>			<u>Soil</u>	
Gasoline	9060616	6/21/99	6/21/99	<del></del>	0.800	ND	mg/kg	
Benzene	71	n	н		0.00400	ND	**	
Toluene	11	H	н		0.00400	ND	**	
Ethylbenzene	4	н	**		0.00400	ND	**	
Xylenes (total)	**	It	**		0.00800	ND	#	
Methyl tert-butyl ether	н	n	н		0.0200	ND	**	
Surrogate: a,a,a-Trifluorotoluene	н	11	н	65.0-135		98.7	%	
Surrogate: 4-Bromofluorobenzene	H	tt .	H	65.0-135		76.0	"	
MW-3-15.5			P90646	63-07			<u>Soil</u>	
Gasoline	9060616	6/21/99	6/21/99	<del> </del>	0.800	ND	mg/kg	
Benzene	"	н	**	•	0.00400	ND	"	
Toluene		n	*1		0.00400	ND	11	
Ethylbenzene	н	rŧ	н		0.00400	ND	Ħ	
Xylenes (total)	н	· <b>H</b>	*1		0.00800	ND	11	
Methyl tert-butyl ether	n	17			0.0200	ND	11	
Surrogate: a,a,a-Trifluorotoluene	н	**	н	65.0-135		99.0	%	
Surrogate: 4-Bromofluorobenzene	"	"	н	65.0-135		85.3	"	
MW-3-20.5	•		P90640	63-08			<u>Soil</u>	
Gasoline	9060616	6/21/99	6/21/99	_	0.800	ND	mg/kg	
Benzene	"	н	н		0.00400	ND	н	
Toluene	H	H	н		0.00400	ND	41	
Ethylbenzene	н	н	**		0.00400	ND	**	
Xylenes (total)	и	11	11		0.00800	ND	**	
Methyl tert-butyl ether	u	"	н .	•	0.0200	ND	**	
Surrogate: a,a,a-Trifluorotoluene	II	"	11	65.0-135		98.7	%	
Surrogate: 4-Bromofluorobenzene	н	"	n	65.0-135	,	89.3	n	
MW-3-25.5			P90646	<u>63-09</u>			<u>Soil</u>	
Gasoline	9060616	6/21/99	6/21/99	<del></del>	0.800	4.10	mg/kg	
Benzene	"	H	•		0.00400	ND	"	

Sequoia Analytical - Petaluma

\*Refer to end of report for text of notes and definitions.

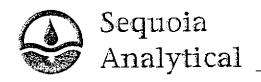




Cambria Environmental - Oakland	Project:	Shell Oil Co.	Sampled:	6/8/99
1144 65th St., Suite C	Project Number:	11989 Dublin Blvd - Dublin	Received:	6/9/99
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported:	7/14/99

# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

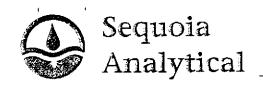
/	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
MW-3-25.5 (continued)			P9064	6 <b>3-09</b>			<u>Soil</u>	
Toluene	9060616	6/21/99	6/21/99		0.00400	ND	mg/kg	
Ethylbenzene	H.	"	ır ·		0.00400	ND	#	
Xylenes (total)	**	H	IF		0.00800	ND	**	
Methyl tert-butyl ether	**	н	Ħ		0.0200	0.0597	71	
Surrogate: a,a,a-Trifluorotoluene	"	77	Ħ	65.0-135		103	%	
Surrogate: 4-Bromofluorobenzene	Ħ		Ħ	65.0-135		94.7	H	
MW-3-30.5			P9064	63 <u>-10</u>			Soil	
Gasoline	9060616	6/21/99	6/21/99	·	0.800	1.39	mg/kg	
Benzene	10				0.00400	ND		
Toluene	n		n		0.00400	ND	н	
Ethylbenzene	Ħ	H	n		0.00400	ND	u	
Xylenes (total)	Ħ	н	H		0.00800	ND	н	
Methyl tert-butyl ether	11	78	*		0.0200	0.0630	**	
Surrogate: a,a,a-Trifluorotoluene	H.	"	rr ·	65.0-135		96.7	%	
Surrogate: 4-Bromofluorobenzene	н	н	. #	65.0-135		86.3	n	



Cambria Environmental - Oakland	Project:	Shell Oil Co.	Sampled:	6/8/99
1144 65th St., Suite C	Project Number:	11989 Dublin Blvd - Dublin	Received:	6/9/99
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported:	7/14/99

## Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M Sequoia Analytical - Petaluma

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
			D0074	C2 01			Cail	
MW-2-10.5	0050505		P90646	<u>53-01</u> .	6.00	XII'X	<u>Soil</u>	
Diesel (C10-C24)	9060539	6/17/99	6/25/99	700 LC0	5.00	ND 77.2	mg/kg	
Surrogate: o-Terphenyl	"	"	,,	50.0-150		11.2	%	
MW-2-15.5			P9064	63-02			<u>Soil</u>	
Diesel (C10-C24)	9060539	6/17/99	6/25/99		5.00	ND	mg/kg	
Surrogate: o-Terphenyl	m'	"	rr	50.0-150		80.2	%	
MW-2-20.5			P9064	63 <u>-03</u>			Soil	
Diesel (C10-C24)	9060539	6/17/99	6/25/99		5.00	ND	mg/kg	
Surrogate: o-Terphenyl	"	"	rr	50.0-150		84.4	%	
MW-2-25.5			P9064	63-04			Soil	
Diesel (C10-C24)	9060539	6/17/99	6/26/99	<del>y= - '</del>	5.00	103	mg/kg	1
Surrogate: o-Terphenyl	"	"	"	50.0-150		85.0	%	
NEW 0 00 6			P9064	42 NE			<u>Soil</u>	
MW-2-30.5	9060539	6/17/99	6/26/99	<u>03-03</u>	5.00	ND	mg/kg	
Diesel (C10-C24) Surrogate: o-Terphenyl	3000333	"	"	50.0-150	5.00	78.7	%	
dan oguie. O leipiiony				•				
MW-3-10.5			P9064	6 <u>3-06</u>			<u>Soil</u>	
Diesel (C10-C24)	9060539	6/17/99	6/26/99		5.00	ND	mg/kg	
Surrogate: o-Terphenyl	н	rt .	"	50.0-150		84.4	%	
					*			
<u>MW-3-15.5</u>			P9064	<u>63-07</u>	•		<u>Soil</u>	
Diesel (C10-C24)	9060539	6/17/99	6/26/99		5.00	ND	mg/kg	
Surrogate: o-Terphenyl	n	"	н .	50.0-150		82.6	%	
MW-3-20.5			P9064	<u>63-08</u>			<u>Soil</u>	
Diesel (C10-C24)	9060539	6/17/99	6/26/99		5.00	ND	mg/kg	
Surrogate: o-Terphenyl	n	"	л	50.0-150		70.0	%	
MW-3-25.5			P9064	63-09			<u>Soil</u>	
Diesel (C10-C24)	9060539	6/17/99	6/26/99		5.00	35.2	mg/kg	1
Surrogate: o-Terphenyl	н	#	ri .	50.0-150		74.5	%	
MW-3-30.5			P9064	63_10			Soil	
MW-3-30.5 Diesel (C10-C24)	9060539	6/17/99	6/26/99	03 <u>-10</u>	5.00	ND	mg/kg	
Surrogate: o-Terphenyl	9000339	0/1//99	0/20/99	50.0-150	٠٠٠٠	83.5	%	
surrogaie: o-1erpnenyi				30.0-130		٠,٠,٠	70	

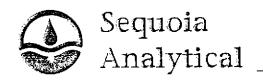


Cambria Environmental - Oakland	Project:	Shell Oil Co.	Sampled:	6/8/99
1144 65th St., Suite C	Project Number:	11989 Dublin Blvd - Dublin	Received:	6/9/99
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported:	7/14/99

# Volatile Organic Compounds by EPA Method 8260B Sequoia Analytical - Petaluma

:	Batch	Date	Date	Surrogate	Reporting		· · · · · · · · · · · · · · · · · · ·	
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
MW-2-25.5			P9064	63-04.			<u>Soil</u>	2
Methyl tert-butyl ether	9070035	7/1/99	7/2/99		0.200	1.14	mg/kg	
Surrogate: Dibromofluoromethane	н	π	"	80.0-120		91.5	%	
MW-2-30.5	·		P9064	63 <b>-</b> 05		٠	<u>Soil</u>	<u>2</u>
Methyl tert-butyl ether	9070035	7/1/99	7/2/99		0.200	0.900	mg/kg	
Surrogate: Dibromofluoromethane	и .	n .	*	80.0-120		93.0	%	
MW-3-2 <u>5.5</u>			P9064	<u>63-09</u>			<u>Soil</u>	<u>2,3</u>
Methyl tert-butyl ether	9070035	7/1/99	7/2/99		0.200	ND	mg/kg	
Surrogate: Dibromofluoromethane	н	**	"	80.0-120		93.5	%	***************************************
MW-3-30.5			P9064	63- <u>10</u>		·	<u>Soil</u>	
Methyl tert-butyl ether	9060814	6/30/99	6/30/99		0.00500	0.0622	mg/kg	
Surrogate: Dibromofluoromethane	n ·	*	#	80.0-120		115	%	

\*Refer to end of report for text of notes and definitions.

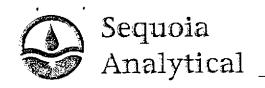


Cambria Environmental - OaklandProject:Shell Oil Co.Sampled:6/8/991144 65th St., Suite CProject Number:11989 Dublin Blvd - DublinReceived:6/9/99Oakland, CA 94608Project Manager:Darryk AtaideReported:7/14/99

# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M/Quality Control Sequoia Analytical - Petaluma

2	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
									•	
Batch: 9060616	Date Prepa		<u>99</u>		Extract	ion Method: EP.	A 5030 se	<u>pils</u>		
Blank	9060616-B	<u>LK1</u>			_					
Gasoline	6/21/99			ND	mg/kg	0.800				
Benzene	n			ND	**	0.00400				
Toluene	н			ND	11	0.00400				
Ethylbenzene	11			ND		0.00400				
Xylenes (total)	н			ND	**	0.00800				
Methyl tert-butyl ether	H		٠	ND	**	0.0200				
Surrogate: a,a,a-Trifluorotoluene	н	0.300		0.296	#	<i>65.0-135</i>	98.7			
Surrogate: 4-Bromofluorobenzene	н	0.300		0.282	#	65.0-135	94.0			
<u>Biank</u>	9060616-B	LK2								
Gasoline	6/22/99			ND	mg/kg	0.400				
Benzene	rt			ND	"	0.00200				
Toluene	II .			ND	**	0.00200				
Ethylbenzene	II .			ND	"	0.00200				
Xylenes (total)	lr .			ND	**	0.00400				
Methyl tert-butyl ether	1f			ND	11	0.0100				
Surrogate: a,a,a-Trifluorotoluene	11	0.300		0.272	"	65.0-135	90.7			
Surrogate: 4-Bromofluorobenzene	n	0.300		0.272	"	65.0-135	90.7			
LCS	9060616-B	S1	•							
Gasoline	6/21/99	2.00		2.26	mg/kg	65.0-135	113			
Surrogate: 4-Bromofluorobenzene	"	0.300		0.284	"	65.0-135	94.7			
<u>LCS</u>	9060616-B	ຮາ				₹				
Benzene	6/22/99	0.200		0.193	mg/kg	65.0-135	96.5			
Toluene	U/ 22/ 33	0.200		0.189	u mêrkê	65.0-135	94.5			
_ +	11	0.200		0.187	н	65.0-135	93.5			
Ethylbenzene Vadana (Antal)		0.200			"	65.0-135	94.0			
Xylenes (total) Surrogate: a,a,a-Trifluorotoluene	ıı ı	0.300		0.564	#	65.0-135	97.7			-
Matrix Spike	9060616-M		906463-01		4	*** ***	***			
Gasoline	6/21/99	2.00	ND	2.04	mg/kg	65.0-135	102			
Surrogate: 4-Bromofluorobenzene	17	0.300		0.260	"	65.0-135	86.7			
Matrix Spike Dup	9060616-M	SD1 P	906463-01							
Gasoline	6/21/99	2.00	ND	2.02	mg/kg	65.0-135	101	20.0	0.985	
Surrogate: 4-Bromofluorobenzene	Tr .	0.300		0.259	#	65.0-135	86.3			

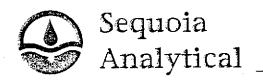
7/14/99



Sampled: 6/8/99 Cambria Environmental - Oakland Project: Shell Oil Co. Project Number: 11989 Dublin Blvd - Dublin Received: 6/9/99 1144 65th St., Suite C Reported: Oakland, CA 94608 Project Manager: Darryk Ataide

## Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M/Quality Control Sequoia Analytical - Petaluma

×	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD					
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*				
Batch: 9060539	Date Prepa	red: 6/17/9	<u>99</u>		Extract	Extraction Method: CA LUFT - orb shaker								
Blank	9060539-B	<u>LK1</u>												
Diesel (C10-C24)	6/25/99			ND	mg/kg	5.00								
Surrogate: o-Terphenyl	н	3.33		2.78	п	50.0-150	83.5							
LCS	9060539-B	<u>S1</u>												
Diesel (C10-C24)	6/25/99	33.3		23.6	mg/kg	50.0-150	70.9							
Surrogate: o-Terphenyl	"	3.33		2.62	II	50.0-150	<i>78.7</i>							
Matrix Spike	9060539-M	<u>IS1 P</u>	906389-01											
Diesel (C10-C24)	6/25/99	33.3	106	200	mg/kg	50.0-150	282			4				
Surrogate: o-Terphenyl	u	3.33		2.85	п	50.0-150	85.6							
Matrix Spike Dup	9060539-M	ISD1 P	906389-01											
Diesel (C10-C24)	6/25/99	33.3	106	198	mg/kg	50.0-150	276	35.0	2.15	4				
Surrogate: o-Terphenyl	n	3.33		2.81	Tf .	50.0-150	84.4							



Cambria Environmental - Oakland

Project: Shell Oil Co.

Sampled: 6/8/99

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

Project Number: 11989 Dublin Blvd - Dublin

Received: 6/9/99

Project Manager: Darryk Ataide

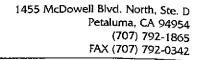
Reported: 7/14/99

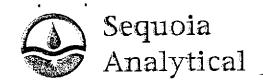
# Volatile Organic Compounds by EPA Method 8260B/Quality Control Sequoia Analytical - Petaluma

Analyte		Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Blank	Analyte	Analyzed	Level		Result	Units	Recov. Limits	<u>%</u>	Limit	% N	otes*
Blank	Batch: 9060814	Date Prepa	ared: 6/29/9	19		Extract	ion Method: EPA	A 5035	•		
Methyl tert-butyl ether	<del></del>			<del></del> -							
Description					ND	mg/kg	0.00500				
Methyl tert-butyl ether   6/30/99	Surrogate: Dibromofluoromethane	#	0.0500		0.0548		80.0-120	110			
CS   9060814-BSI   6/29/99   0.0500   0.0556   mg/kg   75.8-124   111	Blank	9060814-B	LK2								
Methyl tert-butyl ether	Methyl tert-butyl ether										
Methyl tert-butyl ether	Surrogate: Dibromofluoromethane	H	0.0500		0.0539	н	80.0-120	108			
Color	LCS	9060814-B	<u>S1</u>								
Methyl tert-butyl ether											
Methyl tert-butyl ether         6/30/99         0.0500         0.0565         mg/kg         75.8-124         113           Surrogate: Dibromofluoromethane         " 0.0500         0.0564         " 80.0-120         113           Matrix Spike         9060814-MS1         P906648-02         Mg/kg         75.8-124         111           Surrogate: Dibromofluoromethane         " 0.0500         ND 0.0572         " 80.0-120         114           Matrix Spike Dup         9060814-MSD1         P906648-02         Mg/kg         75.8-124         102         35.0         8.45           Surrogate: Dibromofluoromethane         " 0.0500         ND 0.0512         mg/kg         75.8-124         102         35.0         8.45           Batch: 9070035         Date Prepared: 7/1/99         Extraction Method: EPA 5030 soils MeOH         Blank         9070035-BLK1         ND mg/kg         0.200         D.50         Mg/kg         75.8-124         117         Mchyl tert-butyl ether         7/1/99         2.00         1.97         " 80.0-120         98.5         Mchyl tert-butyl ether         90.0-120         98.5         Mchyl tert-butyl ether         90.0-120         99.0         Mchyl tert-butyl ether         7/1/99         2.00         2.35         mg/kg         75.8-124         117         98.5	Surrogate: Dibromofluoromethane		0.0500		0.0429	"	80.0-120	85.8			
Matrix Spike   9060814-MS1   P906648-02   Methyl tert-butyl ether   6/29/99   0.0500   ND   0.0554   mg/kg   75.8-124   111   Surrogate: Dibromofluoromethane   " 0.0500   ND   0.0572   " 80.0-120   114   Matrix Spike Dup   9060814-MSD1   P906648-02   Methyl tert-butyl ether   6/29/99   0.0500   ND   0.0512   mg/kg   75.8-124   102   35.0   8.45   Surrogate: Dibromofluoromethane   " 0.0500   ND   0.0541   " 80.0-120   108   Methyl tert-butyl ether   6/29/99   0.0500   ND   0.0541   " 80.0-120   108   Methyl tert-butyl ether   7/1/99   Extraction Method: EPA 5030 soils MeOH   Methyl tert-butyl ether   7/1/99   ND   mg/kg   0.200   Surrogate: Dibromofluoromethane   " 2.00   1.97   " 80.0-120   98.5   Methyl tert-butyl ether   7/1/99   2.00   2.35   mg/kg   75.8-124   117   Surrogate: Dibromofluoromethane   " 2.00   1.98   " 80.0-120   99.0   Matrix Spike   9070035-MSI   P906646-01   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.87   mg/kg   75.8-124   98.5   Surrogate: Dibromofluoromethane   " 2.00   1.84   " 80.0-120   92.0   Matrix Spike Dup   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl tert-butyl ether   7/1/99   2.00   0.899   2.83   mg/kg   75.8-124   96.5   35.0   2.05   Methyl te	LCS	9060814-B							•		
Matrix Spike         9060814-MS1 (6/29/99 0.0500 ND 0.0554 mg/kg 75.8-124 111 surrogate: Dibromofluoromethane         9060814-MSD1 (6/29/99 0.0500 ND 0.0572 " 80.0-120 114 surrogate: Dibromofluoromethane         9060814-MSD1 (6/29/99 0.0500 ND 0.0572 " 80.0-120 114 surrogate: Dibromofluoromethane         P906648-02 (6/29/99 0.0500 ND 0.0512 mg/kg 75.8-124 102 35.0 8.45 surrogate: Dibromofluoromethane         Matrix Spike Dup (6/29/99 0.0500 ND 0.0511 " 80.0-120 108 surrogate: Dibromofluoromethane         Date Prepared: 7/1/99 Extraction Method: EPA 5030 soils MeOH           Batch: 9070035 Blank 9070035-BLK1 7/1/99 ND mg/kg 10.200 Surrogate: Dibromofluoromethane         7/1/99 ND mg/kg 0.200 soils MeOH           LCS 9070035-BS1 Methyl tert-butyl ether 7/1/99 2.00 1.97 " 80.0-120 98.5           Methyl tert-butyl ether 7/1/99 2.00 1.98 " 80.0-120 99.0           Matrix Spike 9070035-MS1 Virging tert-butyl ether 7/1/99 2.00 0.899 2.87 mg/kg 75.8-124 98.5 surrogate: Dibromofluoromethane         9070035-MS1 P906646-01 N.84 " 80.0-120 92.0           Matrix Spike Dup Methyl tert-butyl ether 7/1/99 2.00 0.899 2.83 mg/kg 75.8-124 96.5 35.0 2.05											
Methyl tert-butyl ether         6/29/99         0.0500         ND         0.0554         mg/kg         75.8-124         111           Surrogate: Dibromofluoromethane         "         0.0500         ND         0.0572         "         80.0-120         114           Matrix Spike Dup         9060814-MSD1         P906648-02         P90	Surrogate: Dibromofluoromethane	н	0.0500		0.0564	Ħ	80.0-120	113			
Surrogate: Dibromofluoromethane   "   0.0500   0.0572   "   80.0-120   114	Matrix Spike										
Matrix Spike Dup         9060814-MSD1         P906648-02           Methyl tert-butyl ether         6/29/99         0.0500         ND         0.0512         mg/kg         75.8-124         102         35.0         8.45           Surrogate: Dibromofluoromethane         " 0.0500         0.0541         " 80.0-120         108           Batch: 9070035         Date Prepared: 7/1/99         Extraction Method: EPA 5030 soils MeOH           Blank         9070035-BLK1         ND mg/kg         0.200           Surrogate: Dibromofluoromethane         " 2.00         1.97 " 80.0-120 98.5           LCS         9070035-BS1         Surrogate: Dibromofluoromethane         " 80.0-120 99.0           Methyl tert-butyl ether         7/1/99         2.00         2.35 mg/kg         75.8-124 117           Surrogate: Dibromofluoromethane         " 2.00         1.98 " 80.0-120 99.0           Matrix Spike         9070035-MS1 7/1/99 2.00 0.899 2.87 mg/kg         75.8-124 98.5           Surrogate: Dibromofluoromethane         " 2.00 1.84 " 80.0-120 92.0           Matrix Spike Dup         9070035-MSD1 906646-01 7/1/99 2.00 0.899 2.83 mg/kg         75.8-124 96.5 35.0 2.05           Methyl tert-butyl ether         7/1/99 2.00 0.899 2.83 mg/kg         75.8-124 96.5 35.0 2.05		6/29/99		ND							
Methyl tert-butyl ether         6/29/99         0.0500         ND         0.0512         mg/kg         75.8-124         102         35.0         8.45           Surrogate: Dibromofluoromethane         " 0.0500         0.0541         " 80.0-120         108           Batch: 9070035         Date Prepared: 7/1/99         Extraction Method: EPA 5030 soils MeOH         Description of the port of the por	Surrogate: Dibromofluoromethane	"	0.0500		0.0572	H	80.0-120	114			
Surrogate: Dibromoftuoromethane   "   0.0500   0.0541   "	Matrix Spike Dup										
Batch: 9070035   Date Prepared: 7/1/99   Extraction Method: EPA 5030 soils MeOH				ND					35.0	8.45	
District   District	Surrogate: Dibromofluoromethane	n	0.0500		0.0541	H	80.0-120	108			
Methyl tert-butyl ether         7/1/99         ND         mg/kg         0.200           Surrogate: Dibromofluoromethane         "         2.00         1.97         "         80.0-120         98.5           LCS         9070035-BS1         Surrogate: Dibromofluoromethane         "         2.00         2.35         mg/kg         75.8-124         117           Surrogate: Dibromofluoromethane         "         2.00         1.98         "         80.0-120         99.0           Matrix Spike         9070035-MS1         P906646-01	Batch: 9070035			<u> </u>		Extract	ion Method: EP	A 5030 se	oils MeO	<u>H</u>	
Surrogate:         Dibromofluoromethane         "         2.00         1.97         "         80.0-120         98.5           LCS         9070035-BS1         Surrogate:         Dibromofluoromethane         7/1/99         2.00         2.35         mg/kg         75.8-124         117           Surrogate:         Dibromofluoromethane         "         2.00         1.98         "         80.0-120         99.0           Matrix Spike         9070035-MS1         P906646-01         P			LK1								
LCS   9070035-BS1		7/1/99									
Methyl tert-butyl ether         7/1/99         2.00         2.35 mg/kg         75.8-124 mg/kg         117           Surrogate: Dibromofluoromethane         "         2.00         1.98         "         80.0-120 mg/kg         99.0           Matrix Spike         9070035-MS1 mg/kg         P906646-01 mg/kg         75.8-124 mg/kg         75.8-124 mg/kg         98.5 mg/kg           Surrogate: Dibromofluoromethane         "         2.00 mg/kg         1.84 mg/kg         80.0-120 mg/kg         92.0           Matrix Spike Dup methyl tert-butyl ether         9070035-MSD1 mg/kg         P906646-01 mg/kg         75.8-124	Surrogate: Dibromofluoromethane	"	2.00		1.97	#	80.0-120	98.5			
Surrogate: Dibromofluoromethane         "         2.00         1.98         "         80.0-120         99.0           Matrix Spike         9070035-MS1         P906646-01         P9	LCS										
Matrix Spike         9070035-MS1         P906646-01           Methyl tert-butyl ether         7/1/99         2.00         0.899         2.87         mg/kg         75.8-124         98.5           Surrogate: Dibromofluoromethane         "         2.00         1.84         "         80.0-120         92.0           Matrix Spike Dup         9070035-MSD1         P906646-01         80.0-120         90.0											
Methyl tert-butyl ether         7/1/99         2.00         0.899         2.87 mg/kg         75.8-124         98.5           Surrogate: Dibromofluoromethane         "         2.00         1.84         "         80.0-120         92.0           Matrix Spike Dup         9070035-MSD1         P906646-01         P906646-01         7/1/99         2.00         0.899         2.83         mg/kg         75.8-124         96.5         35.0         2.05	Surrogate: Dibromofluoromethane	"	2.00		1.98	"	80.0-120	99.0			
Surrogate: Dibromofluoromethane         "         2.00         1.84         "         80.0-120         92.0           Matrix Spike Dup         9070035-MSD1         P906646-01         <		9070035-N	<u>1S1 P</u>	006646-01							
Matrix Spike Dup         9070035-MSD1         P906646-01           Methyl tert-butyl ether         7/1/99         2.00         0.899         2.83         mg/kg         75.8-124         96.5         35.0         2.05	Methyl tert-butyl ether	7/1/99		0.899							
Methyl tert-butyl ether 7/1/99 2.00 0.899 2.83 mg/kg 75.8-124 96.5 35.0 2.05	Surrogate: Dibromofluoromethane	"	2.00		1.84	"	80.0-120	92.0			
	Matrix Spike Dup	9070035-M	<u> 1SD1 P</u>								
Surrogate: Dibromofluoromethane " 2.00 1.80 " 80.0-120 90.0	Methyl tert-butyl ether		2.00	0.899	2.83		and the second s		35.0	2.05	
	Surrogate: Dibromofluoromethane	н	2.00		1.80	"	80.0-120	90.0			

Sequoia Analytical - Petaluma

\*Refer to end of report for text of notes and definitions.





Cambria Environmental - Oakland 1144 65th St., Suite C Oakland, CA 94608 Project: Shell Oil Co.

Project Number: 11989 Dublin Blvd - Dublin

Project Manager: Darryk Ataide

Sampled: 6/8/99

Received: 6/9/99

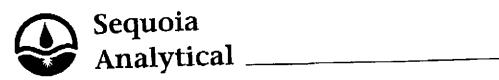
Reported: 7/14/99

### **Notes and Definitions**

*	
#	Note
1	Hydrocarbon pattern in sample appears to be weathered.
2	This sample was analyzed outside the EPA recommended holding time.
3	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
4	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

SHELL OIL	L CO	MP/	ANY		•			١,	•	CH	AΙΝ	O	C	UST	OD	YR	EC	ORD	Date	6.8.97
RETAIL ENVIR	ONMEN	ITAL E	ngi	JEERI	NG -	WES	ST	ľ			Sei	lal N	D!						Page	1012
Sile Address: 1989 Dubl	is Blu	id	O. L	l.n'	(A			.L.,	And	alys	la Re	equi	red		<del></del>		·	LAB: S	ક્લ	<del></del>
\$ 0.0°4.00=10.0	_	• ;	•					<u> </u>			*******							CHECK OHE (1) BOX OHLY	CI/DI	Inui Veonio par
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Consultant Name & Addres		WIA	ox #:	nMM	MTAL.			1			8020 8020							i Sall Claully/Disposal 📗	1142	-
1144 65th St. Suite C	Oakl	and .	<i>c</i> A 9	Medi				1	ļ		80		1					Wolet		14 days
Consultant Contact:	A	1	hone	No.:	Sio	•	Q		270		BIEX	4	龙	,				•• •	4842	Olhet []
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Sample ID pale	Sludga	Soll	Water	ılΑ	Ho, of cents,	西	電	以	Ş	iest.	8	th.	MB	Asse	Contain	Prep	Compost	DESCRIPTION		CONDITION/ COMMENTS
MW-2-10.5 98/4	811	X			1		X				义	X	). ]						A (	entria
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MW-2-20.5	828	X					X			٠	X	X		,					100	etections;
- Mu-3- 25.5	844	X						<u> </u>			X	X						****	<u> </u>	Jora .
MW-Q- 30.5	857	$\leq$	, 				X		<u> </u>		X	X					-		-	<u> </u>
MW-3-10.5'	12/2	X		<u> </u>	1		X	<u> </u>				X		·.				DYSEALS INTACT	. •	TACTO
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r: this:	11	IELARO	RAIORY	MIST	PROVIDE	ACI	DY C	E IIII	LGIIA	M:O	-cli	tody.	ATITE	HYΩ	ICEA	AID RI	3111	7		कार्यासम्बद्धाः

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1	WW-3-20.5	6/3/4.	1228	X			1		X	•			又	Ł	1							& Contirus
1	MW-3-25-5	1	1239	X			1		A				X	X	ſ							ATBE GOZW
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885 Jarvis Drive Morgan Hill. CA 95037 (408) 776-9600 FAX (408) 782-6308

August 11, 1999

Ann Pember Blaine Tech Services (Shell) 1680 Rogers Avenue San Jose, CA 95112

RE: Equiva 11989 Dublin Blvd./M907992

Dear Ann Pember

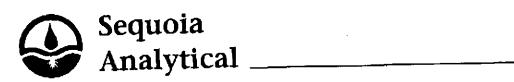
Enclosed are the results of analyses for sample(s) received by the laboratory on July 21, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kayvan Kimiyai

Project Manager D.M.

CA ELAP Certificate Number 1210



885 Jarvis Drive Morgan HIII, CA 95037 (408) 776-9600 FAX (408) 782-6308

Blaine Tech Services (Shell) 1680 Rogers Avenue San Jose, CA 95112

Project: Equiva

Project Number: 11989 Dublin Blvd.

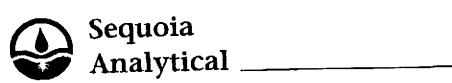
Project Manager: Ann Pember

Sampled: 7/20/99

Received: 7/21/99 Reported: 8/11/99

### **ANALYTICAL REPORT FOR M907992**

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	M907992-01	Water	7/20/99
MW-2	M907992-02	Water	7/20/99
MW-3	M907992-03	Water	7/20/99



885 Jarvis Drive Morgan Hill, CA 95037 (408) 776-9600 FAX (408) 782-6308

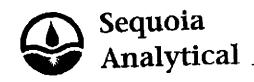
Project: Equiva Blaine Tech Services (Shell) Project Number: 11989 Dublin Blvd. 1680 Rogers Avenue Project Manager: Ann Pember San Jose, CA 95112

Sampled: 7/20/99 Received: 7/21/99 Reported: 8/11/99

TEL:408 573 7771

Diesel Hydrocarbons (C9-C24) by DHS LUFT Sequois Analytical - Morgan Hill

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	flesult	Units	Notes*
MW-1 Diesel Range Hydrocarbons Surrogate: n-Pentacosane	9080047	8/3/99	<u>M9079</u> 8/5/99	92-01 50 0-150	0.0500	ND 92.1	<u>Wnter</u> mg/l	17.000 M 1000 M 1000 FPPP 1000 W
MW-2 Diesel Range Hydrocarbons Surrogate: n-Pentacosane	9080047	8/3/99	<u>M9079</u> 8/5/ <u>99</u> "	92-02 50.0-150	0.0500	<u>0.699</u> <u>88.4</u>	Woter mg/l %	1
MW-3 Diosel Range Hydrocarbons Surrogate: n-Pentacasane	9080047	K/3/99	<u>M9079</u> 8/5/99	92 <u>-03</u> 50.0-150	0.0500	<b>0.177</b> 99.3	Water mg/l %	<u> </u>



885 Jarvis Drive Morgan Hill, CA 95037 (408) 776-9600 FAX (408) 782-630B

Blaine Tech Services (Shell) 1680 Rogers Avenue San Jose, CA 95112

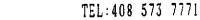
Project: Equiva Project Number: 11989 Dublin Blvd.

Sampled: 7/20/99 Received: 7/21/99

Reported: 8/11/99 Project Manager: Ann Pember

## Diesel Hydrocarbons (C9-C24) by DHS LUFT/Quality Control Sequoia Analytical - Morgan Hill

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov.	RPD Limit	RPD % Notes*
Batch: 9080047  Blank  Diesel Runge Hydrocarbons  Surrogate: n-Pentacosane	Date Prepa 9080047-B 8/4/99		<u>9</u> ·	ND 0.108	Extrac	0.0500 0.0500 0.0-150	A 3510B		,
I.CS Diesel Runge Hydrocarbons Surrogate: n-Pentacosane	9080047-B 8/4/99	S1 1.00 0.100		0.779 0.0939	mg/l_	60.0-140 50.0-150	77.9 92.9		
LCS Dup Diesel Range Hydrocarbons Surrogate: n-Pentacosane	9080047-B 8/4/99	<u>SD1</u> 1.00 0.100		0.760 0.0903	mg/l	60.0-140 50.0-150	76.0 90.1	50.0	2.47





885 Jarvis Drive Morgan Hill, CA 95037 (408) 776-9600 FAX (408) 782-6308

Blaine Tech Services (Shell) 1680 Rogers Avenue San Jose, CA 95112

Project: Equiva Project Number: 11989 Dublin Blvd.

Project Manager: Ann Pember

Sampled: 7/20/99 Received: 7/21/99 Reported: 8/11/99

#### Notes and Definitions

SION Chromatogram Pattern: Unidentified Hydrocarbons C9-C24 DET Analyte DETECTED Analyte NOT DETECTED at or above the reporting limit ND NR Not Reported Sample results reported on a dry weight basis dry Recov. Recovery Relative Percent Difference RPD





August 4, 1999

Kayvan Kimyal Sequoia - Morgan Hill 885 Jarvis Drive Morgan Hill, CA 95037

RE: 1/L907265

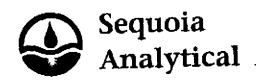
Dear Kayvan Kimyai:

Enclosed are the results of analyses for sample(s) received by the laboratory on July 28, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

for Wayne Stevenson Project Manager

CA ELAP Certificate Number I-2360



Scquoja - Morgan Hill 885 Jarvis Drive Morgan Hill, CA 95037 Project: 1 Project Number: M907992

Project Number: M907992
Project Munager: Kayvan Kimyai

Sampled: 7/20/99 Received: 7/28/99

Reported: 8/4/99

### ANALYTICAL REPORT FOR L907265

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
M907992-01/MW-1	L907265-01	Water	7/20/99
M907992-02/MW-2	L907265-02	<b>W</b> ul <del>er</del>	7/20/99
M907992-03/MW-3	L907265-03	Water	7/20/99

B



Sequoia - Morgan Hill 885 Jarvis Drive Morgan Hill, CA 95037 Project: 1

Project Number: M907992 Project Manager: Kayvan Kimyai

Sampled: 7/20/99 Received: 7/28/99

Reported: 8/4/99

Sample Description: Laboratory Sample Number: M907992-01/MW-1

L907265-01

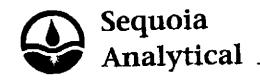
Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits		Result	Units	Notes*
		Seque	ila Anglytica	1 - San Carlos				
Total Purgeable Hydrocarbons (Ch-C	12). BTEX at							
D. 11 17 describes as Gooding	9080002	8/2/99	8/3/99		50.0	ND	ug/l	
Purgeable Hydrocarbons as Gasoline	7050002 H	4	11		0.500	ND	15	
Benzene .		10	iq.		0.500	ND	8	
Toluene	•	•	н		0.500	ND	11	
Ethylbenzene	lf .	н				ND	ti	
Xylenes (total)	11	н	#		0.500		II.	
Methyl tert-butyl ether	н	şl.	16		5.00	ND _	. •	
Surrogate: a.a.a-Trifluorosoluene	,	4	N	70.0-130		98.8	%	



G Warne VIII	Project:	1	Sampled:	7/20/99
Sequoia - Morgan Hill	Project Number:	M907992	Received:	7/28/99
1005 000 100 00000	Project Manager:		Reported:	R/4/99
Morgan Hill, CA 95037	1 to certification			·····

Sample Description: Laboratory Sample Number: M907992-02/MW-2 L907265-02

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
		Seauc	oia Analytica	L-San Corlos				
Total Purgeable Hydrocarbons (C6-C1	2). BTEX ar							
Purgeable Hydrocarbons as Gasoline	9080002	8/2/99	8/3/99		250	2600	ug/l	1
<del>-</del>	9 <b>0</b> 0002	11	11		2.50	55.0	μ	
Benzone	41	**	Pt		2,50	ND	u	
Toluene	,	11	ef		2.50	59.5	11	
Ethylbenzene	u				2.50	ND	II	
Xylenes (total)	0	II	4				16	
Methyl tert-butyl other	9080010	B/3/99	11		500	9370		
Surragate: a.a.a-Triflugrataluene	9080002	8/2/99	tı	70.0-130		145	%	2



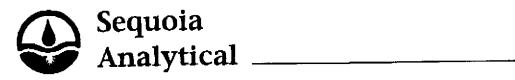
C Manage Will	Project	1	Sampled:	7/20/99
Sequeia - Morgan Hill	Project Number:	M907992	Received:	7/28/99
1003 04 113 2011-0	Project Manager:		Reported:	K/4/99
Morgan Hill, CA 95037	Linker Manager	Telly vall (4) (1)		

Sample Description:

Laboratory Sample Number:

M907992-03/MW-3 L907265-03

Analyte	Batch Number	Date Propured	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
		Seguo	ia Analytical	- San Carlos				
Total Purgeable Hydrocarbons (C6-C12	e), BTEX ao							_
Purgeable Hydrocarbons as Gasoline	9080002	8/2/99	8/3/99		50.0	208	ug/l	3
	41	şi	ij		0.500	4.69	į)	
Benzene	<b>1</b> 1	11	p		0.500	ND	11	
Toluene	16	ur.	11		0.500	ND	86	
Ethylbenzene			11		0.500	ND	te	
Xylenes (total)	н	-				664	r.	
Methyl tert-butyl ether	9080010	8/3/99	)1 		50.0		0/	
Surrugate: a.a.a-Trifluorotoluene	9080002	8/2/99	H	70. <b>0-13</b> 0		107	%	

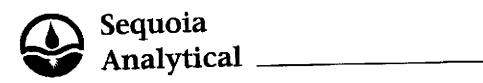


P. 012

Sequoja - Morgan Hill	Project: 1	Sampled: 7/20/99
885 Jarvia Drive	Project Number: M907992	Received: 7/28/99
	Project Manager: Kayvan Kimya	Reported: 8/4/99
Morgan Hill, CA 95037	Troject tetajinger. Teby terr retiriy	· · · · · · · · · · · · · · · · · · ·

#### Total Purgeable Hydrocarbons (C6-C12), BTEX and MTRE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

	Date	Spike	Sample	QC		Reporting Limit		RPD	RPD	Moracii
Analyte	Analyzed	Leve	Result	Result	Unite	Recov. Limits	%	Limit	70	Notes*
Batch: 9080602	Date Prepare	d: 8/2/99	)	•	Extra	ction Method: EP.	A 5030B	IP/TI		
Blank	9080002-BL		_							
Purgeable Hydrocarbons as Gasoline	8/2/99			ND	ug/l	50.0				
Benzene	4			ND	11	0.500				
Toluene	*1			ND	II	0.500				
Ethylbenzene	Ħ			ND	11	0.500				
Xylenes (total)	11			ND	14	0.500				
Methyl tert-buryl ether	н			DM	16	5,00				
Surrogate: a,a,a-Trifluorosohiene	n	10.0	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	10.2	11	70.0-130	102			
<u>LCS</u>	9080002-BS3									
Benzene	8/2/99	10.0		9.08	ug/l	70.0-130	90.8			
Toluene	н	10.0		8.64	"	70,0-130	86.4			
Ethylbenzene	ļi	10.0		8.44	že	70.0-130	84.4			
Xylenes (total)	N	30.0		27.4	Я	70.0-130	91.3			
Surrogate: a,a.a-Trifluorotoluene	n .	10.0		10.5	"	70.0-130	105			
Matrix Spike	9080002-MS	ı L	907219-01	•	-					
Benzene	8/2/99	10.0	מא	8.6 <del>9</del>	ug/i	60.0-140				
Toluene	a	10.0	ND	8.36	11	60.0-140				
Ethylbenzene	*1	10.0	ND	7.54	ш	60.0-140				
Xylenes (total)	H	30.0	ND	26.9		60.0-140		_		
Surragate: a,a,a-Trifluorosoluene	и	10.0		9.86	"	70.0-130	98.6			
Matrix Spike Dup	9080002-MS	<u>D1 L</u>	907219-01			•				
Benzene	8/2/99	10.0	ND	8.56	ug/l	60.0-140		25.0	1.51	
Toluenc	Ð	10,0	ND	8.29	11	60.0-140		25.0	0.841	
Ethylbenzene	1.1	10.0	ND	7,73	11	60.0-140		25.0	2.49	
Xylenes (total)	11	30.0	ND	26.2	ti.	60.0-140		25.0	2.71	
Surrogate: a,a,a-Triffuorotoluene		10.0		8.92	l)	70.0-130	89.2	-		



Sequoia - Morgan Hill 885 Jarvis Drive Morgan Hill, CA 95037 Project: l
Project Number: M907992
Project Manager: Kayvan Kimyai

Sampled: 7/20/99 Received: 7/28/99 Reported: 8/4/99

#### Notes and Definitions

#	Note
1	Chromatogram Pattern: Gasoline C6-C12
2	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
3	Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Rocov.	Recovery
rp a	Relative Percent Difference
	_

`	—		16	80 ROG	ERS AVENU	E I		CON	DUCT	ANAL	YSIS	TO DET	ECT		LAB :	Sequoia		DHS #
	BLAINE AN JOSE, CALIFORNIA 95112-1105 FAX (408) 573-7771 PHONE (408) 573-0555														ALL ANALYSIS MUST N LIMITS SET BY CALIFO EPA LIA	IRNIA OHS AN		
CHAIN OF	99072	o R	2_		_	RS				•					П отнея			,
CLIENT	Equiva -	Karen I	Petryn	a		CONTAINERS	ļ				8260		!		SPECIAL INSTRUCTION Send invoice to		M9079	92
	11989 Du		1			ALLC	BTEX	ရွ	18	ļ				<u> </u>	Gend myores to	•	989953	28
Dublin, CA						E E	, 8020	, 82(	diesel	d sə		!		Sent report to B				
			MATRO		ITAINERS	COMPOSITE	Н - ваѕ,	MTBE by	MTBE by 8260	1 1	Oxygenates by			×	,	ATTN: Ar		
SAMPLE I.D.	DATE	TIME	S≃ SOIL W=H <sub>2</sub> 0	TOTAL		Ü	TPH	Σ	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	TPH	Įŏ	<u> </u>	,	_	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE#
MW-1	7/20	13://	(U)	5	badd	<u> </u>	X	X	ļ	K	<u> </u>	1				<del></del>		
Marz		15:09	<del>}                                    </del>	5	White	4_	X	+		K	-	<u> </u>		├—				
MU-3		14:10		5	1	—	<u> </u>	X	<u> </u>	X	<del> </del>	<b>↓</b> -		<del> </del>				
<del></del>			'	-	\	╄	┼—	╄	╂-		┼-		<del>                                     </del>				<del> </del>	<del> </del>
	<del>_</del>		<del> </del>			<del> </del>	╁	-	╁	-	-			-				<u> </u>
	<del></del>		1	1	<u> </u>	<del> </del>	-	<del> </del>	┼-		╁	+		╁┈			+	
				<u> </u>	<del> </del>	+-	┼	+	┼	+	╁╌	1	<del> </del>	<u> </u>			-	
			<del>}</del>	<del>                                     </del>	-	+	-	-		+	1-		-	+		<u> </u>		
			<del></del>	<del>                                     </del>	<del>  -</del>	+	╁	1	╫	<del>-</del>	-		<del>                                     </del>	1				
SAMPLING COMPLETED	DATE 2/1/1	TIME 15:40	SAMP		BY 5/	L		1	<u> </u>		1		<u> </u>	_!	RESULTS NEEDED NO LATER THAN	<u> </u>		
RELEASED B	holm	7				TDA	- 21-	19		3:23	3	<b>,</b>	EIVEC	9_	Mez		DATE 7/2//9	TIME 823
RPLEASED B	ul		7	۔		DA Z		199	TIM	E		REC	EIVEC	ΒY	•		DATE	
RELEASED B	Y	_				\DA	<u> </u>		ТМ	Ε		REC	EIVE	) BY			DATE	TIME
SHIPPED VIA	\			<u> </u>		DA	TE SE	NT	TIM	E SEN	រា	coc	LERI	¥				

Attachment B

Soil Boring Logs

#### **BORING/WELL LOG**



Cambria Environmental Technology, Inc. 1144 - 65th St. Oakland, CA 94608 Telephone: (510) 420-0700

Fax: (510) 420-9170

MW-3 **BORING/WELL NAME CLIENT NAME** Equilon Enterprises LLC **DRILLING STARTED** 08-Jun-99 JOB/SITE NAME Dublin-11989 DRILLING COMPLETED 08-Jun-99 11989 Dublin Boulevard, Dublin CA LOCATION WELL DEVELOPMENT DATE (YIELD)\_ NA PROJECT NUMBER 240-0548 **GROUND SURFACE ELEVATION** Not Surveyed Gregg Drilling DRILLER TOP OF CASING ELEVATION Not Surveyed Hollow-stem auger DRILLING METHOD 13 to 33 ft bgs 10" SCREENED INTERVAL BORING DIAMETER \_ DEPTH TO WATER (First Encountered) 23.0 ft (08-Jun-99) J. Riggi **LOGGED BY** 24.23ft (20-Jul-99) **DEPTH TO WATER (Static)** REVIEWED BY A. Le May, RG

BORING DIAMETER 10"

LOGGED BY J. Riggi

REVIEWED BY A. Le May, RG

Hand augered to 5' bgs. Well is located in SE corner of station

SCREENED INTERVAL

13 to 33 ft bgs

DEPTH TO WATER (First Encountered)

24.23ft (20-Jul-99)

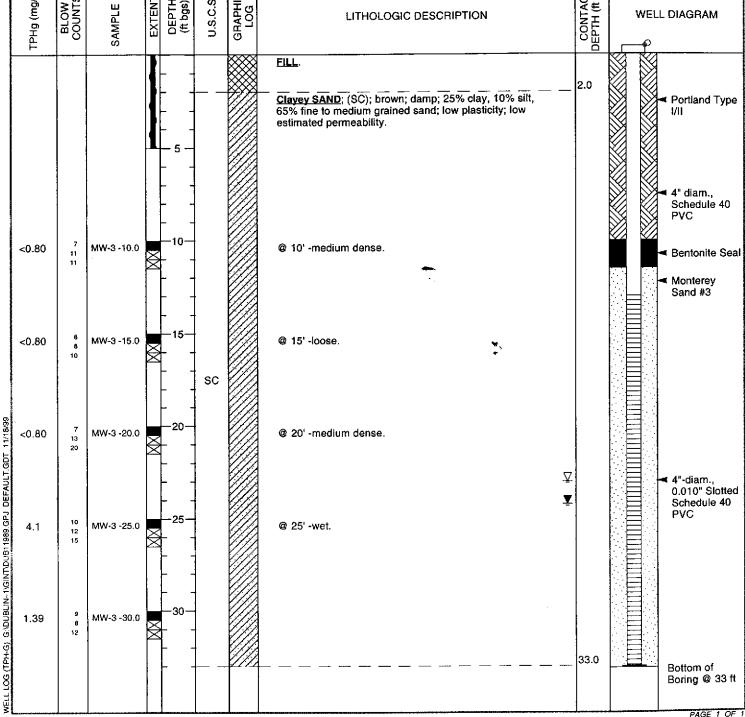
PREVIEWED BY A. Le May, RG

Hand augered to 5' bgs. Well is located in SE corner of station

LITHOLOGIC DESCRIPTION

WELL DIAGRAM

WELL DIAGRAM



#### **BORING/WELL LOG**



Cambria Environmental Technology, Inc. 1144 - 65th St. Oakland, CA 94608

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

CLIENT NAME	Equilon Enterprises LLC	BORING/WELL NAME MW-2
JOB/SITE NAME	Dublin-11989	DRILLING STARTED 08-Jun-99
LOCATION	11989 Dublin Boulevard, Dublin CA	DRILLING COMPLETED 08-Jun-99
PROJECT NUMBER	240-0548	WELL DEVELOPMENT DATE (YIELD) NA
DRILLER _	Gregg Drilling	GROUND SURFACE ELEVATION Not Surveyed
DRILLING METHOD _	Hollow-stem auger	TOP OF CASING ELEVATION Not Surveyed
BORING DIAMETER _	10"	SCREENED INTERVAL 13 to 33 ft bgs
LOGGED BY	J. Riggi	DEPTH TO WATER (First Encountered) 23.0 ft (08-Jun-99)
REVIEWED BY	A. Le May, RG	DEPTH TO WATER (Static) 20.31ft (20-Jul-99) ▼
DEMARKS	Mand supered to 51 has a well in 051 East of a	wisting Haderground Storage Tank slab

REMARKS Hand augered to 5' bgs., well is 35' East of existing Underground Storage Tank slab. CONTACT DEPTH (ft bgs) TPHg (mg/kg) SAMPLE ID GRAPHIC LOG BLOW COUNTS DEPTH (ft bgs) U.S.C.S. EXTENT LITHOLOGIC DESCRIPTION **WELL DIAGRAM** FILL; (FILL); brown; dry; 30% clay, 10% silt, 25% sand, 35% gravel; low plasticity; low estimated permeability. 2.0 Silty Clayey SAND; (SC); brown; damp; 25% clay, 25% Portland Type silt, 50% fine grained sand; low plasticity; low estimated MI permeability. 4" diam., Schedule 40 **PVC** SC @ 10' -loose; 25% clay, 20% silt, 55% fine grained sand. MW-2 -10.0 < 0.80 Bentonite Seal Monterey Sand #3 MW-2 -15.0 < 0.80 17.5 Clayey SAND; brown to grey; damp to wet; medium dense; 25% clay, 15% silt, 40% fine to medium grained sand, 20% gravel; low plasticity; moderate estimated permeability. LOG (TPH-G) G:\DUBLIN~1\GINT\DUB11989.GPJ DEFAULT.GDT 11/18/99 SC 20 Ť < 0.80 MW-2 -20.0 22.5 Clayey SAND; (SC); brown; medium dense; wet; 25% clay, 10% silt, 65% fine grained sand; low plasticity; low  $\nabla$ 4"-diam... 0.010" Slotted estimated permeability. Schedule 40 PVC 25 MW-2 -25.5 < 0.80 SC MW-2 -30.0 <0.80 33.0 Bottom of Boring @ 33 ft PAGE 1 OF 1

#### **BORING/WELL LOG**



Cambria Environmental Technology, Inc. 1144 - 65th St. Oakland, CA 94608

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

CLIENT NAME	Equilon Enterprises LLC	BORING/WELL NAME MW-1
JOB/SITE NAME	Dublin-11989	DRILLING STARTED 09-Jun-99
LOCATION	11989 Dublin Boulevard, Dublin CA	DRILLING COMPLETED 09-Jun-99
PROJECT NUMBER	240-0548	WELL DEVELOPMENT DATE (YIELD) NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION Not Surveyed
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION Not Surveyed
BORING DIAMETER	10"	SCREENED INTERVAL 5 to 20 ft bgs
LOGGED BY	J. Riggi	DEPTH TO WATER (First Encountered) 8.5 ft (09-Jun-99)
REVIEWED BY	A. Le May, RG	DEPTH TO WATER (Static) 6.24ft (20-Jul-99)

REMARKS Hand augered to 5' bgs., well is 12' NW of dispenser island. CONTACT DEPTH (ft bgs) TPHg (mg/kg) SAMPLE ID GRAPHIC LOG BLOW DEPTH (ft bgs) EXTENT U.S.C.S. LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL Portland Type 2.0 ИЩ Silty Clayey SAND; (SC); brown; loose; damp; 25% clay, 15% silt, 60% fine grained sand; low plasticity; low estimated permeability. Bentonite Seal Monterey Sand #3 MW-1 -5.0 <0.40 10 Ţ 11  $\nabla$ 10 11 MW-1 -10.0 @ 10' - medium dense. < 0.40 12 SC 4"-diam., 0.010" Slotted Schedule 40 PVC < 0.40 MW-1 -15.0 @ 15' - medium dense. 12 10 11 WELL LOG (TPH-G) GYDUBLIN-1\GINF\DUB11989.GPJ DEFAULT.GDT 11/18/99 @ 20' - loose. 20 20.5 10 <0.40 MW-1 -20.0 Bottom of Boring @ 20.5 PAGE 1 OF 1

### **Attachment C**

Standard Field Procedures for Monitoring Well Installation

### **CAMBRIA**

#### STANDARD FIELD PROCEDURES FOR MONITORING WELLS

This document describes Cambria Environmental Technology's standard field methods for drilling, installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

#### Well Construction and Surveying

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

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

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security. The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

#### **Well Development**

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

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

#### **Groundwater Sampling**

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

Attachment D

Drilling Permit



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651

PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262

(510) 670-5248 ALVIN KAN

DRILLING PLEWAIT	APPLICATION
for applicant to complete	FOR OFFICE USE
OCATION OF PROJECT 11989 Dublin Blvd Dublin Blvd	PERMIT NUMBER 99WR-20TH
Salifornia Coordinates Sourceft. Accuracy ±ft.	PERMIT CONDITIONS
12 CCE	Circled Permit Requirements Apply
THENT  Tame Equium Enterprises LLC  Address Y. 0 - SEX 6244 Phone 559 - 645 - 5643  The Componition Cause of Fax 510 - 420 - 4340  The Construction George mical Investigation  Cathodic Protection George mical Investigation  Cathodic Protection George mical Investigation  Cathodic Protection George Mater Supply Contamination  PROPOSED WATER SUPPLY WELL USE  New Domestic Replacement Domestic  Municipal Imagnion	A GENERAL  1 A permit application should be submitted to as to arrive at the ACPWA office five days prior to proposed starting date.  2 Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for centechnical projects.  3 Jermit is void if project not begun within 90 days of approval date.  B. WATER SUPPLY WELLS  1 Minimum surface seal thickness is two inches of cement grout placed by tremie.  2 Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.  C. GROUNDWATER MONITORING WELLS  1 Minimum surface seal thickness is two inches of
Industrial O Other O  ORILLING METHOD:  Mud Rotary O Auger &  Cable Other O  ORILLER'S LICENSE NO. C57 # 485/las Grey Orlhin	cement grout placed by tremie.  2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.  D. GEOTECHNICAL  Backfill bore hole with compacted cuttings or heavy bentonire and upper two feet with compacted material. In access of known or suspected contamination, tremied
WELL PROJECTS  Drill Hole Diameter 10 in. Maximum Casing Diameter 4 in. Depth 40 ft. Surface Seal Depth 20 ft. Number 3	cement grout shall be used in place of compacted cuttings.  E. CATHODIC  Fill hole above anode zone with concrete placed by tremic.  F. WELL DESTRUCTION  See attached.
Number of Borings in. Depth ft.  ESTIMATED STARTING DATE (8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	G. SPECIAL CONDITIONS  APPROVED AMOUNT DATE 5-12
by agree to comply with all requirements of this permit and la County Ordinance No. 73-68.	

## Attachment E

Well Development Field Sheets

## WELL GAUGING DATA

Project #	99072	OR-2 Da	7-2	0-99	Client	Shell/ Eavium
	1/989					·

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft-)	Volume of Immiscibles Removed (ml)	Depth to water (fl.)	bottom (ft.)	or TOC	
	4			<u></u>		6.24	19.70		
Mw-2	4	odor				20.31	3250		
MW-1 MW-2 MW-3	4					2 V.23	19.80 32.50 32.70		
-									
	<u> </u>	<del> </del>							
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			<u> </u>			<u> </u>			
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•				:					
								ļ. <u> </u>	
				i F					

## EQUIVA WELL MONITORING DATA SHEET

-											
Project #	990	720R	-2	Job# 989	995328						
Sampler:				1_	20-99						
Well I.D.	: MU-	/		Well Diameter: 2 3 (4) 6 8							
Total We	ll Depth:	19.70		Depth to Wate	ET: 6.24						
Depth to	Free Produ	ıct:		Thickness of Free Product (feet):							
Reference	ed to:	(PVC)	Grade	D.O. Meter (if req'd): YSI HACH							
<u> </u>	Well Diamo		<del></del>		Multiplier						
	2"		0.16	5"	1.02						
	3"		0.37 0.65	6* Other	1.47 ius <sup>2</sup> * 0.163						
	L										
Purge Metho	od:	Bailer		Sampling Method							
		Middleburg			Extraction Port						
		ctric Submer		Other:	·	-					
		xtraction Pun	np								
	Other:										
	9	0	x 13	,	/2						
	<del></del>	<del></del>	· · · — — — — — — — — — — — — — — — — —	=	Gais.						
		ume (Gals.)	Specified Vo	olumes Car	culated Volume						
Time	Temp (°F)	рН	Cond.	Turbidity	Gals. Removed	Observation	ns				
13:02	700	6.7	1/20	2700	. 99	Hard Botto	54,				
13:04	69.3	6.6	1189	182.7	108	Felt/					
13:06	68.9	6.7	1183	98.7	117	Clearing					
						good Rech	rge				
						Rate 2" pe	,				
Did well o	lewater?	Yes (	ND)	Gallons actuall	y evacuated: //	•					
Sampling	Time:	3://		Sampling Date	: 7-20	-99					
Sample I.1	D: MW	-/		Laboratory: Sequoia BC Other							
Analyzed	for: TPH-0	G BTEX	MTBE TPH-D	Other:							
D.O. (if re	q' <b>d</b> ):		Pre-purge:	mg/L	Post-purge:		mg/ <sub>L</sub>				
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge:		mV				

## EQUIVA WELL MONITORING DATA SHEET

Project #:	990:	720R-	2	Job# 989	95328						
Sampler:	Jim			Date: 7-	20-99						
Well I.D.	: Mu-	2-		Well Diameter	r: 2 3 <b>4</b>	6 8					
Total We	ll Depth:	32.50		Depth to Wate	er: 20.3/						
Depth to	Free Produ	uct:		Thickness of I	Thickness of Free Product (feet):						
Reference	ed to:	PVC	Grade	D.O. Meter (if	D.O. Meter (if req'd): YSI HACH						
<u></u>	Well Diame	IGI.	Multiplier		Multiplier						
	2° 3°		0.16 0.37	5" 6"	1.02 1.47						
	4.		0.65	-	ius <sup>1 =</sup> 0.163						
Purge Metho	<u>Etc</u>	Bailer Middleburg Care Submer	sible	Sampling Method: Bailer Extraction Port Other:							
	Other:		<u> </u>								
:		ome (Gals.)	x 13 Specified V	=	Gals.						
Time	Temp (°F)	pН	Cond.	Turbidity	Gals. Removed	Observations					
14:51	67.9	6.6	1056	2200	88	Agitable Sub					
14:53	69.2	6-6	/033	138.C	96	fumpin well					
14.55	70.1	6.5	1027	98.3	104	terbil/best					
		····	, <u></u>			clearing notas					
						Horny Lectorie					
Did well d	lewater?	Yes (	No)	Gallons actuall	y evacuated: /	04					
Sampling	Time: /	5:09	·	Sampling Date	: 7-20-	29					
Sample I.I	D.: MC	v-2		Laboratory: Sequoia BC Other							
Analyzed	for: (TPH-	G BTEX	МТВЕ ТРН-D	Other:		_					
D.O. (if re	q'd):		Pre-purge:	mg/L	Post-purge:	mg/L					
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge:	mV					
•											

## EQUIVA WELL MONITORING DATA SHEET

				<del>,</del>	<del></del>					
Project #	990	720	R-2	Job# 98	995328					
Sampler:	Sim			Date: 7	-20-99					
Well I.D.	: Mu-	3		Well Diameter: 2 3 (4) 6 8						
Total We	ll Depth:	32.7	O	Depth to Water: 24,23						
Depth to	Free Produ	ıct:		Thickness of Free Product (feet):						
Reference	ed to:	MVC	Grade	D.O. Meter (if	reald):	YSI HACH				
	Well Diame		Multiplier	Well Diameter	Multiplier					
	2*		0.16	5*	1.02					
	3*		0.37 0.65	6"	1.47 lius <sup>1</sup> = 0.163					
			<u> </u>			<u>-</u>				
Purge Metho	od:	Bailer	r	Sampling Method	Bailer					
		Middleburg			Extraction Port					
	Ele	curic Submer	ple	Other	·					
	E	xtraction Pun	qn							
	Other:									
			12							
i			x/_5		Gals.					
	) Case Voli	une (Gals.)	Specified Vo	olumes Ca	iculated Volume					
Time	Temp (°F)	рН	Cond.	Turbidity	Gals. Removed	Observations				
13:51	68.7	6.7	1590	115.3	88	Clouda				
13:53	68-9	6.7	1566	99.1	9,6	but clearing				
13:55	68.2	6.7	1542	89.6	104	Good Recharge				
						1.9" Per min.				
Did well o	lewater?	Yes (	No	Gallons actual	y evacuated: /	104				
Sampling	Time: /	14:10		Sampling Date	: 7-20	-99				
Sample I.I	D.: MU	1-3		Laboratory: Sequois BC Other						
Analyzed	for: TPH-0	BTEX	MTBE TPH-D	Other:						
D.O. (if re	q'd):		Pre-purge:	mg/ <sub>L</sub>	Post-purge:	mg/L				
O.R.P. (if	req'd):	, · · · <del>-</del> · · ·	Pre-purge:	mV	Post-purge:	mV				
					•					

## WELL DEVELOPMENT DATA SHEET

Project #: 990	720 R-	<u> </u>			Client: EQuito
Developer: 5/k					Date Developed: 7-20-99
Well I.D. Mw-1					Well Diameter: (circle one) 2 3 4 6
Total Well Depth:	<u> </u>				Depth to Water:
Before 19.70	After 19	80			Before 5.74 After 15.12
Reason not develop	ed:				If Free Product, thickness:
Additional Notation	as:				
Volume Conversion Factor (VCI [12 x (d²/4) x π] /23 [  There [2 = in / foot d or diameter (in.) π = 3.1416  231 = in 3/gai	·):	Well db 2" 3" 4" 6" 10" 12"	= = = = = = = = = = = = = = = = = = = =	VC2F 0.16 0.37 0.65 1,47 4.01 6,87	
4.0	X			<u>د</u>	
1 Case Volume	·		Spec:	ified	l Volumes = gallons
Purging Device:	Bailer Middleburg	00			Electric Submersible Suction Pump
	Type of Insta Other equipa		•		Surder Block

· <u>···</u>			<del></del>		VOLUME	
TIME	TEMP (F)	рН	COND.	TURBIDITY	-REMOVED:	NOTATIONS:
12:35	67.5	6.7	1206	7200	9	Swabbed 5 Mrante
12:37	70/	6.7	1217	7200	18	Park silt no sand
12:39	70.4	6.7	1/93	7200	27 🖫	leave tubility
12:41	70.2	6.7	1196	7200	36	
12:43	70.9	6.7	1192	7200	45	Agitated Sub. Aug Surabled S Minutes
12148	70.3	6.7	1/89	7200	54	Still Heary
12:50	69.6	6.7	1202	7200	63	Still Hearn
12:52	69.0	6.7	1212	7200	72 .	Park
12:54	76.1	6-7	1/94	2200	81	Sundbed well 5
12:59	70.2	6-7	1/83	2200	90	Mirnes
				,		
				,		
Jid Well Dew	Ater NO	If yes, note abo		Gallons Actual	ly Evacuated:	17

## WELL DEVELOPMENT DATA SHEET

Project #: 9907	120 K-2		Clien	it: Equ	sva					_			
Developer: Jih				Date	Developed		-20-	99			_		
Well I.D. Mu-	2		_	Well	Diameter:	(circle	one)	2 3	<b>4</b> ) 6				
Total Well Depth:	•						Depth to Water:						
Before 32.35	After			Befo	Before 19.91 After								
Reason not develop	oed:	٠٠٠	· If Fr	If Free Product, thickness:									
Additional Notation	ns:				,		<u> </u>	····					
Volume Conversion Factor (VCI [12 x (d <sup>2</sup> /4) x π   /231 where 12 ≈ in / foot d = diameter (in.) π = 3.1416 231 = in 3/gai	Y	Well dis 2" 3" 4" 6" 10" 12"	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	VCF 0.16 0.37 0.65 1.47 4.08 6.87				104					
l Case Volume		ļ	Spec	ified Volu	mes	=		gallons	<u> </u>				
Purging Device:	Bailer Middleburg	0 0			ic Submersib on Pump	ole							
	Type of Insta Other equipm		-	)									
					1 1/0	7 TD 65	r <del></del>				<del></del>		

TIME	TEMP (F)	рН	COND.	TURBIDITY	VOLUME REMOVED:	NOTATIONS:
14:25	68.9	6.7	1091	7200	8	Swabbed wells
14:27	70.3	6.6	1/23	7200	16	Minates,
14:29	69.1	6.6	1084	7200	24	ocor/turbid
14:31	68.7	6-6	1079	7200	32	Swabbed well 5
14:36	68.3	6-6	1064	7200	40	males
14:38	68.5	6.6	1059	148.6	48	Odor/clearing
14:40	68.4	6-6	1103	122.6	56	Hot Hard Bottom
14:42	68.0	6.5	1/20	112.1	64	Surabbal Gells
4:47	68.5	6.6	1104	7200	72	Monutes
14:49	68.2	6-6	1098	154.6	80	Cloudy / persisher
-						ogar -
		<del></del>				
oid Well Dew	ora-5 / 1/4	If yes, note abov		Gallons Acmall		04

## WELL DEVELOPMENT DATA SHEET

Project #: 990	7-20 R.	. 2_		Client:	Stall	<u>//</u>
Developer: Jim				Date D	eveloped:	7-20-89
Well I.D. MW.	-3			Well D	iameter: (	circle one) 2 3 (4) 6
Total Well Depth:				Depth t	o Water:	
Before 32./0	_After			Before	20.98	After
Reason not develop	oed:			If Free	Product, ti	hickness:
Additional Notation	ns:					
Volume Conversion Partor (VCF [12 x ( $d^3H$ ) x $\pi$ } /231 where   12 = $\ln I$ foot   d = diameter (in.)   $\pi = 3.1416$   231 = $\ln 3/g$ el	<b>)</b> :	Well dia 2" 3" 4" 6" 10"	3 2 2 3	<u>YCF</u> 0.16 0.37 0.65 1.47 4.08 6.07		
7.2	X			73		93.6
1 Case Volume			Spec	cified Volume	s _ =	gallons
Purging Device:	Bailer Middleburg			Electric Suction 1	Submersible Pump	
	Type of Insta Other equipm					

TIME	TEMP (F)	рН	COND.	TURBIDITY	VOLUME REMOVED:	NOTATIONS:
13:25	68.2	6.7	1801	7200	8	Swallped hell
13:27	69.5	6.7	1823	7200	16	Turbid Greu-
13:29	68.7	6-7	1779	7200	24	SILT
13:31	68.4	6.7	1783	7200	32	swalled well for
13:36	67.8	6.8	1755	157.8	40	5 Arrates
13:28	67.9	6-8	1763	163.0	48	clearing / he dor
13:40	67.6	6.7	1721	131.6	56	Clouda
13:42	67.1	6-7	1683	134.2	64	swabbod hell 5
13:47	67.8	6.8	1651	139.8	72	Minutes/ 54511
13:49	68.5	6-7	1623	127.6	80	Sitty but becoming
				·		11te.
Did Well Dew		If yes, note above		Gallons Actuall		04

Attachment F

Monitoring Well Survey Data

## Virgil Chavez Land Surveying

312 Georgia Street, Suite 200 Vallejo, California 94590-5907 (707) 553-2476 • Fax (707) 553-8698

June 30, 1999 Project No. 1703-22

John Riggi Cambria Environmental 1144 65th Street, Suite C Oakland, Ca. 94608

Subject: Monitoring Well Survey Shell Service Station 11989 Dublin Blvd. Dublin, Ca.

Dear Mr. Riggi:

This is to confirm that we have proceeded at your request to survey the monitoring wells located at the above referenced location. The survey was performed on June 21, 1999. The benchmark for the survey was a bronze disk establihed by the USGS, located under a manhole cover in the left turn lane in front of Mervyn's on Dublin Blvd. Measurement locations were marked at approximate north side of top of box and top of casings. The stations and offsets are referenced to the face of the existing station building looking easterly. Benchmark Elevation = 347.662 feet, MSL.

Monitoring Well No.	Rim Elevation	TOC Elevation
MW - 1	368.23'	367.99 <i>1</i>
MM - S	365.78′	365.43′
MW - 3	365.557	364.97′
Well No.	<u>Station</u>	Offset
MW - 1	0-32.22	> -71.16(Lt.)
MW - 2	1+14.98	-16.09(Lt.)
MW - 3	1+17-45	21.93(Rt.)
SW Bldg Cor.	0+00.00	0.00
NW Bldg Cor.	0+57.78	0.00

Mo. 5323

Lug. 12-31-32

A CONTROL OF CALIFORNIA

ैं 1 जिल्लाकंडर जिल्लाक Sincerely,

Virgil D. Chavez, PLS 6328

### Attachment G

Disposal Confirmation Data



July 1, 1999

Cambria Environmental 1144 65th Street, Suite C Oakland, CA 94608

Attn: Darryk Ataide

Re:

Approval No. 850802

Soil

11989 Dublin Blvd, Dublin, CA

Dear Mr. Ataide:

FORWARD INC. is pleased to inform you that the approximately 7 tons of Soil from the referenced site has been approved for acceptance at our Manteca, California Landfill as a Class 2 waste. This approval has been based on the information provided in the waste profile and associated materials submitted on behalf of Equilon Enterprises LLC (Generator). Acceptance of the waste is subject to regulatory requirements, and is also subject to the "Terms and Conditions" agreed to and signed by Generator in the waste profile.

Your approval number for this project will be 850802. This number should be used in all scheduling and correspondence with *FORWARD*, *INC*, regarding this waste profile.

This profile shall remain in effect until December 31, 1999, or until any significant changes in the waste stream occur. At that time, *FORWARD, INC*, will re-evaluate the profile, and current analytical data and requirements will be reviewed.

Please schedule all waste shipments with the Landfill (209-982-4298) at least 24 hours in advance. The landfills hours of operation are Monday through Friday 6:00 am to 4:30 pm for soil, 6:00 am to 3:00 pm for all other waste types.

Thank you for the opportunity to be of service. Should you have any questions, please do not hesitate to contact me or our Customer Service at (800) 204-4242.

Sincerely,

FORWARD, INC.

Brad J. Bonner Sales Manager

BJB/xh

Bonus /4

#### Attachment H

Department of Water Resources Well Completion Reports

# **CONFIDENTIAL**

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

**REMOVED**