CAMBRIA

ERVIRGORDETAL PROFILE HOW

98 NOV 31 AN 9: 37 November 24, 1998

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

Re: S

Subsurface Investigation Report

Shell-branded Service Station 9750 Golf Links Road Oakland, California WIC #204-5508-2808 Cambria Project# 240-0735-013



Dear Mr. Seery:

On behalf of Equilon Enterprises LLC (Equilon), Cambria Environmental Technology, Inc. (Cambria) is submitting the results of the subsurface investigation conducted on July 6 and 31, 1998 at the above-referenced site. The objective of this investigation was to define the vertical extent of hydrocarbons in soil, as requested by the Alameda County Health Care Services Agency (ACHCSA) in the April 10, 1998 letter to Shell Oil Products Company (Shell). The investigation was conducted in accordance with Cambria's May 14, 1998 *Investigation Work Plan*, which was approved in the July 2, 1998 ACHCSA letter to Shell. Presented below are the site background, investigation procedures, investigation results, and our conclusions and recommendations.

BACKGROUND

Site Location: This operating Shell-branded service station is located at the intersection of Golf Links Road and Mountain Boulevard in Oakland, California (Figure 1). The area surrounding the site is both commercial and residential. Highway 580 runs near the northern boundary of the site.

1995 Waste Oil Underground Storage Tank (UST) Removal: On March 7, 1995, Weiss Associates of Emeryville, California (WA) observed the removal of a 550-gallon, single-walled, steel waste oil (UST) and collected soil samples from the tank excavation floor and side walls. The highest hydrocarbon concentrations were 190 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) and 3,900 mg/kg total petroleum hydrocarbons as diesel (TPHd). No benzene was detected.

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

Cambria Environmental Technology, Inc.

1144 65th Street Suite B Oakland, CA 94608 Tel (510) 420-0700 Fax (510) 420-9170

Mr. Scott Seery November 24, 1998

1995 Subsurface Investigation: On December 15, 1995, WA installed one soil boring in the vicinity of the former waste oil UST. The only hydrocarbons detected were 2.8 mg/kg TPHd at 30.5 feet below ground surface (ft bgs) and 56 mg/kg petroleum oil and grease at 40.5 ft bgs. No ground water was encountered at a maximum depth explored of 48 ft bgs.

1998 Dispenser Upgrade: On February 4, 1998, Cambria observed station upgrade activities and collected soil samples from beneath one dispenser based on field observations. The highest hydrocarbon concentrations were 7,800 mg/kg TPHg and 37 mg/kg benzene beneath dispenser D-4 at 4.0 ft bgs (Figure 1). No field indications of hydrocarbons were observed beneath the other dispensers.



INVESTIGATION PROCEDURES

The procedures for this subsurface investigation, described in Cambria's approved work plan, are summarized below. The boring location is shown on Figure 1. Analytical results for soil are summarized in Table 1 and presented as Attachment A. The boring log and Cambria's *Standard Field Procedures for Soil Borings* are presented in Attachments B and C, respectively.

Personnel Present: Maureen Feineman, Staff Geologist, of Cambria.

Permits: Alameda County Public Works Agency Drilling Permit #98WR265

(Attachment D).

Drilling Company: Gregg Drilling of Martinez, California (C-57 License #485165).

Drilling Dates: July 6 and 31, 1998.

Drilling Method: On July 6, 1998, Cambria attempted to advance the boring with a

GeoProbe direct-push rig. Refusal was encountered at 16 ft bgs. Cambria returned on July 31, 1998 and completed the boring with

a hollow-stem auger rig.

Number of Borings: One (SB-1).

Boring Depth: 30 ft bgs.

Sediment Lithology: The site subsurface consists primarily of silt and gravelly silt of low to moderate estimated permeability, with a layer of silty sand of high estimated permeability from

Mr. Scott Seery November 24, 1998

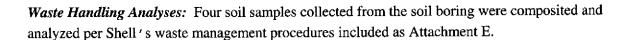
CAMBRIA

approximately 12 to 15 ft bgs. Boring logs are included as Attachment B.

Ground Water Depth: A thin zone of perched water, corresponding with the silty sand layer, was encountered at approximately 12 ft bgs.

Chemical Analyses: The soil samples from boring SB-1 were analyzed for:

- TPHg by modified EPA Method 8015;
- Methyl tert-butyl ether (MTBE) and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020;
- The highest MTBE concentration was confirmed by EPA Method 8260.



Backfill Method: The soil boring was backfilled with Portland Type I/II cement grout.

Soil Disposal: The soil cuttings were transported to Forward Landfill Inc. of Manteca, California by Manley and Sons Trucking Inc. of Sacramento, California (Attachment F).

INVESTIGATION RESULTS

Hydrocarbon Distribution in Soil: Maximum concentrations of 14,000 mg/kg TPHg and 100 mg/kg benzene were detected in soil sample SB-1-13.0', collected at approximately 13 ft bgs. Maximum concentrations of 91 mg/kg MTBE (23 mg/kg by EPA Method 8260) were detected in the soil sample SB-1-9.0', collected at approximately 9 ft bgs. Low concentrations of TPHg, BTEX, and MTBE were detected in the deepest sample, SB-1-26.0', collected at approximately 26 ft bgs.

Hydrocarbon Distribution in Ground Water: Cambria was unable to collect a ground water sample as the only water encountered was a thin perched zone at approximately 12 ft bgs. Ground water was not encountered at a maximum depth explored of 48 ft bgs in the 1995 subsurface investigation conducted by WA.



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CONCLUSIONS AND RECOMMENDATIONS

Analytical results for samples collected from the soil boring identified the presence of petroleum hydrocarbon concentrations in the shallow soil. Samples collected from the soil boring demonstrate attenuation of TPHg and benzene to below detection limits over a 21 ft depth interval with only low concentrations of TPHg, BTEX and MTBE detected in the deepest sample collected at 26 ft bgs. Since ground water has not been encountered in previous investigations to depths of 48 ft bgs, these hydrocarbon concentrations in soil do not appear to pose a threat to ground water quality.



In summary, Cambria recommends No Further Action for the following reasons:

An attenuation pattern of hydrocarbon concentrations is exhibited in shallow soil. Site specific data indicate that TPHg, benzene and MTBE concentrations decrease rapidly with depth;

The tanks, dispensers and piping have been upgraded to 1998 standards. Thus, the primary source of hydrocarbon releases has been eliminated;

The <u>limited</u> hydrocarbon impacted soil volume remaining is covered by pavement which reduces infiltration and therefore, the likelihood of ground water impact; and

Depth to ground water is greater than 48 ft bgs.

DTW 2 12 BG

Actually, concentrations increased

- Deuzeus

9.0 1100 6.1 11.5 3.5 1000 13.0

CLOSING

We appreciate the opportunity to work with you on this project. Please call Darryk Ataide at (510) 420-0700 if you have any questions or comments.

NO. C46725

Sincerely,

Cambria Environmental Technology, Inc.

3

Darryk Ataide

Project Environmental Scientist

Diane Lundquist, P.E. Principal Engineer

Attachments:

A - Analytical Report for Soil Samples

B - Soil Boring Log

C - Standard Field Procedures for Soil Borings

D - Drilling Permit

E - Shell's Waste Management Procedures

F - Soil Disposal Confirmation Letter

cc: Karen Petryna, Equiva Services LLC, P.O. Box 6249 Carson, California 90749-6249

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Attachment A

Analytical Reports for Soil Samples



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

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

Attention: Maureen Feineman

Project:

Shell 9750 Golf Links

Enclosed are the results from samples received at Sequoia Analytical on July 7, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE	DESCRIPTION	DATE COLLECTED	TEST METHOD
9807296 -01	SOLID,	SB-1-9.0'	07/06/98	MTBE by 8260
9807296 -01	SOLID,	SB-1-9.0'	07/06/98	Purgeable TPH/BTEX/MTBE
9807296 -02	SOLID,	SB-1-11.5'	07/06/98	Purgeable TPH/BTEX/MTBE
9807296 -03	SOLID,	SB-1-13.0'	07/06/98	Purgeable TPH/BTEX/MTBE

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

Very truly yours,

SEQUOÍA ANALYTICAL

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

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

Attention: Maureen Feineman

Shell 9750 Golf Links Client Proj. ID:

Sample Descript: SB-1-9.0' Matrix: SOLID

Analysis Method: EPA 8260 Lab Number: 9807296-01

Sampled: 07/06/98 Received: 07/07/98 Extracted: 07/19/98 Analyzed: 07/20/98

Reported: 07/22/98

QC Batch Number: MS071998MTBEEXA

Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte

Detection Limit ug/Kg

2000

Sample Results ug/Kg

23000

Methyl t-Butyl Ether

Surrogates 1,2-Dichloroethane-d4

Control Limits % 70

121

% Recovery 102

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria

1144 65th St. Suite C Oakland, CA 94608

Attention: Maureen Feineman

Client Proj. ID: Shell 9750 Golf Links

Sample Descript: SB-1-9.0'

Matrix: SOLID

Analysis Method: 8015Mod/8020

Lab Number: 9807296-01

Sampled: 07/06/98 Received: 07/07/98

Extracted: 07/08/98 Analyzed: 07/08/98 Reported: 07/22/98

QC Batch Number: GC070898BTEXEXA

Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte			ction Limit ng/Kg		Sample Results mg/Kg		
TPPH as Gas			100	**********		1100	
Methyl t-Butyl Ether			2.5	*********		91 6.1	
Benzene			0.50	*********		6.1	
Toluene			0.50			40	
Ethyl Benzene			0.50			143	
Xylenes (Total)			0.50			98	
Chromatogram Pattern:	···········					C6-C12	
Surrogates		Contr	ol Limits %		% R	ecovery	
Trifluorotoluene	:	70		130		143 Q	
4-Bromofluorobenzene		60		140		5 Q	

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

SEQUOIA ANALYTICAL -

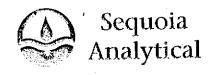
ELAP #1210

Peggy Penner,

Project Manager

Page:

2



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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

Client Proj. ID: Shell 9750 Golf Links Sample Descript: SB-1-11.5' _

Sampled: 07/06/98 Received: 07/07/98 Extracted: 07/08/98 Analyzed: 07/08/98

Attention: Maureen Feineman

Matrix: SOLID Analysis Method: 8015Mod/8020

Reported: 07/22/98

Lab Number: 9807296-02

QC Batch Number: GC070898BTEXEXA

Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

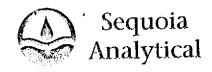
Analyte		Detection Limit mg/Kg							
TPPH as Gas		1.0	3.5						
Methyl t-Butyl Ether		0.025	0.79						
Benzene		0.0050	0.019						
Toluene		0.0050	0.34						
Ethyl Benzene		0.0050	0.076						
Xylenes (Total)	***************************************	0.0050	0.55						
Chromatogram Pattern:	••••	***************************************	C6-C12						
Surrogates	Cont	trol Limits %	% Recovery						
Trifluorotoluene	70	130	80						
4-Bromofluorobenzene	60	140	107						

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

SEQUOIA/ANALYTICAL -

ELAP #1210

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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

ent Proj. ID: Shell 9750 Golf Links Sampled: 07/06/98 Client Proj. ID: Sample Descript: SB-1-13.0'

Matrix: SOLID Analysis Method: 8015Mod/8020

Lab Number: 9807296-03

Received: 07/07/98

Extracted: 07/08/98 Analyzed: 07/09/98

Reported: 07/22/98

QC Batch Number: GC070898BTEXEXA

Attention: Maureen Feineman

Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte		Det	Detection Limit mg/Kg						
TPPH as Gas			2000 .		14000				
Methyl t-Butyl Ether			50 .		66				
Benzene	•		10 .		100				
Toluene	:		10 .	**********	530				
Ethyl Benzene	•		10 .		190				
Xylenes (Total)	•	*************	10 .		1200				
Chromatogram Pattern:	i	*****************	-		C6-C12				
Surrogates		Cor	trol Limits %	% R	ecovery				
Trifluorotoluene		70	13	0	103				
4-Bromofluorobenzene		60	14	Ö	Q				

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

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ELAP #1210

Peggy Penner Project Manager



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Cambria

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

Attention: Maureen Feineman

Client Project ID: Shell 9750 Golf Links

QC Sample Group: 9807296-01-03

Reported: Jul 22, 1998

QUALITY CONTROL DATA REPORT

Matrix: Method:

Solid EPA 8015

Analyst: R. GECKLER

ANALYTE

Gasoline

QC Batch #: GC070898BTEXEXA

Sample No.: GS9807265-32

Date Prepared: Date Analyzed: 7/8/98 7/8/98

Instrument I.D.#:

GCHP7

ample Conc., mg/Kg:

13 mg/Kg

Conc. Spiked, mg/Kg:

5.0

Matrix Spike, mg/Kg:

14

% Recovery:

20

Matrix

ike Duplicate, mg/Kg:

18

% Recovery:

100.0

elative % Difference:

133

RPD Control Limits:

0-25

LCS Batch#: GSBLK070898A

Date Prepared:

7/8/98

Date Analyzed:

7/8/98 GCHP7

Instrument I.D.#:

5.0

Recovery, mg/Kg:

Conc. Spiked, mg/Kg:

5.2

LCS % Recovery:

104

Percent Recovery Control Limits:

MS/MSD

60-140

LCS

SEQUIDIA ANALYTICAL

70-130

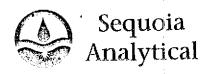
Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

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

Peggy Fenner Project Manager





Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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Cambria Environmental Tech.

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

Attention: Maureen Feineman

Shell 9750 Golf Links Client Project ID:

Matrix: Solid

Work Order #:

-01

Reported:

Jul 24, 1998

QUALITY CONTROL DATA REPORT

9807296

Analyte:

MTBE

QC Batch#: MS071998MTBEEXA Analy. Method: EPA 8260 Prep. Method: N.A.

Analyst:

L. Zhu

MS/MSD #: Sample Conc.: 980796214 N.D. 7/19/98

Prepared Date: Analyzed Date: Instrument I.D.#:

7/20/98 H6

Conc. Spiked: $2500 \, \mu \mathrm{g/Kg}$

Result:

2100

MS % Recovery:

84

Dup. Result:

2200

MSD % Recov.:

88

RPD:

4.7

RPD Limit:

0-25

LCS #:

LCS071998

Prepared Date: Analyzed Date:

7/19/98 7/20/98

Instrument I.D.#: Conc. Spiked:

H6 $2500 \, \mu \mathrm{g/Kg}$

LCS Result:

2300

LCS % Recov.:

92

MS/MSD LCS

60-140 70-130

Control Limits

SÉQUOÍA ANALYTICAL

Peggy[Periner Project Manager Please Note:

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

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

9807296.CCC <1>



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria

1144 65th St. Suite C Oakland, CA 94608

Client Proj. ID: Shell 9750 Golf Links

Received: 07/07/98

Attention: Maureen Feineman

Lab Proj. ID: 9807296

Reported: 07/22/98

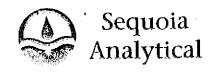
LABORATORY NARRATIVE

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

SEQUOIA ANALYTICAL

Peggy Penner Project Manager

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SB-1-13.0'		2:50	X			1						X									
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Cambria 1144 65th St. Suite C Oakland, CA 94608 Attention: Maureen Feineman

Project:

Shell 9750 Golf Links Rd.

Enclosed are the results from samples received at Sequoia Analytical on August 3, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9808066 -01	SOLID, SB-1-16.0'	07/31/98	Purgeable TPH/BTEX/MTBE
9808066 -02	SOLID, SB-1-21.0'	07/31/98	Purgeable TPH/BTEX/MTBE
9808066 -03	SOLID, SB-1-26.0'	07/31/98	Purgeable TPH/BTEX/MTBE

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

Very truly yours,

SEQUOIA ANALYTICAL

Peggy Penner Project Manager



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FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

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

Client Proj. ID: Shell 9750 Golf Links Rd. Sample Descript: SB-1-16.0'

Sampled: 07/31/98 Received: 08/03/98

Attention: Maureen Feineman

Matrix: SOLID Analysis Method: 8015Mod/8020 Extracted: 08/11/98 Analyzed: 08/12/98

Lab Number: 9808066-01

Reported: 08/18/98

QC Batch Number: GC081198BTEXEXA

Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

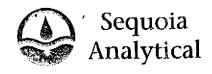
Analyte	Det	Sample Results mg/Kg	
TPPH as Gas	•••••		
Methyl t-Butyl Ether Benzene		0.025	1.4 N.D.
Toluene		0.0050 0.0050	0.029 0.013
Ethyl Benzene Xylenes (Total)		0.0050	0.091
Chromatogram Pattern:			C6-C12
Surrogates	Con	trol Limits %	% Recovery
Triftuorotoluene 4-Bromofluorobenzene	70 60	130 140	107 122

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

SEQUOIA ANALY TICAL -

ELAP #1210

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria

1144 65th St. Suite C Oakland, CA 94608

Shell 9750 Golf Links Rd. Client Proj. ID:

Sample Descript: SB-1-21.0'

Matrix: SOLID

Analysis Method: 8015Mod/8020

Lab Number: 9808066-02

Sampled: 07/31/98 Received: 08/03/98

Extracted: 08/11/98 Analyzed: 08/12/98

Reported: 08/18/98

QC Batch Number: GC081198BTEXEXA

Attention: Maureen Feineman

Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detect mç	Sample Results mg/Kg	
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:		1.0 0.025 0.0050 0.0050 0.0050 0.0050	N.D. 0.030 N.D. N.D. N.D. N.D.
Surrogates		I Limits %	% Recovery
Trifluorotoluene 4-Bromofluorobenzene	70 6 0	130 140	96 113

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

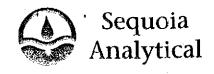
SEQUOJÁ ANAL YTICAL -

ELAP #1210

Peggy Penner Project Manager

Page:

2



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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1144 65th St. Suite C Oakland, CA 94608

Cambria Client Proj. ID: Shell 9750 Golf Links Rd.

Sample Descript: SB-1-26.0'

Matrix: SOLID

Analysis Method: 8015Mod/8020

Lab Number: 9808066-03

Sampled: 07/31/98 Received: 08/03/98 Extracted: 08/11/98

Analyzed: 08/12/98 Reported: 08/18/98

QC Batch Number: GC081198BTEXEXA

Attention: Maureen Feineman

Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Det	Sample Results mg/Kg	
TPPH as Gas		1.0	5.6
Methyl t-Butyl Ether		0.025	0.16
Benzene		0.0050	0.035
Toluene		0.0050	0.25
Ethyl Benzene		0.0050	0.062
Xylenes (Total)		0.0050	0.28
Chromatogram Pattern:			C6-C12
Surrogates	Cor	trol Limits %	% Recovery
Trifluorotoluene	70	130	142 Q
4-Bromofluorobenzene	60	140	101

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

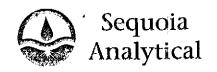
SEQUOIA ANÁLYTICAL -

ELAP #1210

Peggy Penner Project Manager

Page:

3



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria

1144 65th St. Ste C Oakland, CA 94608

Attention: Maureen Feineman

Client Project ID: Shell 9750 Golf Links Rd.

QC Sample Group: 9808066-01-06

Reported: Aug 18, 1998

QUALITY CONTROL DATA REPORT

Matrix: Method:

Solid EPA 8020

Analyst: R. GECKLER

ANALYTE

Benzene

Toluene

Ethylbenzene

0.20

0.18

86

0 - 25

Xylenes

QC Batch #: GC081198BTEXEXA

Sample No.: GS9807J55-1

Date Prepared: Date Analyzed: Instrument I.D.#:

8/11/98 8/11/98

8/11/98 GCHP1

8/11/98 8/11/98 8/11/98 GCHP1 GCHP1

8/11/98 8/11/98 GCHP1

ample Conc., mg/Kg: Conc. Spiked, mg/Kg:

N.D. 0.20 N.D. 0.0 mg/Kg 0.20

0.0 mg/Kg 0.60

Matrix Spike, mg/Kg:

0.21

0.46 0.26 0.85

% Recovery:

105

230 126 139

Matrix ike Duplicate, mg/Kg: % Recovery: 0.18

90

0.18

90

88

0-25

0.53 85

elative % Difference:

15

38

48

RPD Control Limits:

0 - 25

0-25

LCS Batch#: GSBLK081198A

Date Prepared: Date Analyzed: Instrument I.D.#:

8/11/98 8/11/98 GCHP1

8/11/98 8/11/98 GCHP1 8/11/98 8/11/98 GCHP1

8/11/98 8/11/98

Conc. Spiked, mg/Kg:

0.20

0.20

0.20

GCHP1 0.60

Recovery, mg/Kg:

LCS % Recovery:

0.18

0.18

0.17

0.50

Percent Recovery Control Limits:

MS/MSD

SEQUOIA ANALYTICAL

90

90

85

83

60-140 LCS

70-130

70-130 70-130

60-140 60-140

60-140 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria

1144 65th St. Suite C Oakland, CA 94608

Attention: Maureen Feineman

Client Proj. ID: Shell 9750 Golf Links Rd.

Received: 08/03/98

Lab Proj. ID: 9808066

Reported: 08/18/98

LABORATORY NARRATIVE

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

SEQUOIÁ ANALYTICAL

Peggy/Penner Project Manager

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Consultant Name & &			BRIA	<u>fax II:</u> ENVIR	MNO	ENTAL						8020							Soll Closelly/Olspesol [4442	15 days Dillomal
1144 65th St. Sui			and,	CA: 9	1460	8	١.	l		6		BEXS			,	1			Waler Clarify/Disposal] 445	Ollies []
Consultant Contact:	2 0 1111	d 1/\		Phone	20 - 0	700	ห	Diesel	\ `	22		정							SolitAli Reins oi Syr. (,
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SB-1-16.0'	7/31	1	X			1						X				- - -					
SB-1-21.0'	7/31	7	X			1						X									
SB-1-26.0'	7/3/	2	X			1					<u> </u>	X									
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Cambria 1144 65th St. Suite C Oakland, CA 94608

Attention: Maureen Feineman

Project:

Shell 9750 Golf Links Rd.

Enclosed are the results from samples received at Sequoia Analytical on August 3, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9808062 -01	SOLID, SP-A	07/31/98	TPHG_S Purgeable TPH
9808062 -02	SOLID, SP-B	07/31/98	TPHG_S Purgeable TPH
9808062 -03	SOLID, SP-C	07/31/98	TPHG_S Purgeable TPH
9808062 -04	SOLID, SP-D	07/31/98	TPHG_S Purgeable TPH
9808062 -05	SOLID, SP-(A-D)comp	07/31/98	BTEX_S Distinction
9808062 -05	SOLID, SP-(A-D)comp	07/31/98	Lead by ICP

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

Very truly yours,

SEQUOIA ANALYTICAL

Peggy Penner Project Manager

B



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 79Z-0342

Cambria

Attention:

1144 65th St. Suite C Oakland, CA 94608

Maureen Feineman

Client Proj. ID:

Shell 9750 Golf Links Rd.

Sampled: 07/31/98 Received: 08/03/98

Lab Proj. ID: 9808062

Analyzed: see below

Reported: 08/19/98

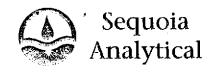
LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results		
Lab No: 9808062-05 Sample Desc : SOLID,SP-(A-D)comp						
Lead by ICP	mg/Kg	08/05/98	5.0	N.D.		

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

SEQUOIÁ ANALYTICAL - ELAP #1210

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

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

Client Proj. ID: Sample Descript: SP-A

Shell 9750 Golf Links Rd.

Sampled: 07/31/98 Received: 08/03/98 Extracted: 08/07/98

Matrix: SOLID Analysis Method: EPA 8015 Mod

Analyzed: 08/07/98

Attention: Maureen Feineman

Lab Number: 9808062-01

Reported: 08/19/98

QC Batch Number: GC080798BTEXEXD

Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH)

Analyte Detection Limit Sample Results mg/Kg mg/Kg N.D. TPPH as Gas 1.0 Chromatogram Pattern: **Control Limits %** % Recovery Surrogates 70 130 82 Trifluorotoluene 167 Q 60 140 4-Bromofluorobenzene

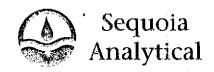
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL -ELAP #1210

Peggy Pepher Project Manager

Page:

2



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

1144 65th St. Suite C Oakland, CA 94608

ient Proj. ID: Shell 9750 Golf Links Rd. Sampled: 07/3 Client Proj. ID: Sample Descript: SP-B

140

Sampled: 07/31/98 Received: 08/03/98 Extracted: 08/07/98 Analyzed: 08/09/98

Attention: Maureen Feineman

Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9808062-02

Reported: 08/19/98

71

QC Batch Number: GC080798BTEXEXD

Instrument ID: GCHP07

4-Bromofluorobenzene

Total Purgeable Petroleum Hydrocarbons (TPPH)

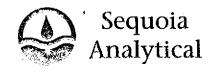
60

Detection Limit Sample Results **Analyte** mg/Kg mg/Kg TPPH as Gas 1.0 N.D. Chromatogram Pattern: **Surrogates Control Limits %** % Recovery Trifluorotoluene 70 130

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

SEQUOIA ANALYTICAL -ELAP #1210

Peggy Renner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

1144 65th St. Suite C Oakland, CA 94608

Cambria Client Proj. ID: Shell 9750 Golf Links Rd. Sampled: 07/31/98

Sample Descript: SP-C Matrix: SOLID

Analysis Method: EPA 8015 Mod

Lab Number: 9808062-03

Received: 08/03/98 Extracted: 08/07/98 Analyzed: 08/10/98 Reported: 08/19/98

QC Batch Number: GC080798BTEXEXD

Attention: Maureen Feineman

Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH)

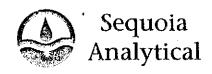
Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Chromatogram Pattern:	1.0	1.0
Weathered Gas		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70	130 75
4-Bromofluorobenzene	60	140 84

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

SEQUOÍA ANALYTICAL -

ELAP #1210

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria 1144 65th St. Suite C Oakland, CA 94608 Client Proj. ID: Shell 9750 Golf Links Rd. Sample Descript: SP-D Sampled: 07/31/98 Received: 08/03/98

Attention: Maureen Feineman

Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9808062-04

Extracted: 08/07/98 Analyzed: 08/10/98 Reported: 08/19/98

QC Batch Number: GC080798BTEXEXD

Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH)

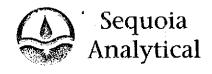
Analyte Detection Limit Sample Results mg/Kg mg/Kg TPPH as Gas 1.0 N.D. Chromatogram Pattern: Surrogates **Control Limits %** % Recovery Trifluorotoluene 70 86 4-Bromofluorobenzene 60 140 102

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

SEQUOIA ANALYTICAL

ELAP #1210

Peggy Penner Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria 1144 65th St. Suite C Oakland, CA 94608 Client Proj. ID: Shell 9750 Golf Links Rd. Sample Descript: SP-(A-D)comp

Sampled: 07/31/98 Received: 08/03/98 Extracted: 08/07/98

Attention: Maureen Feineman

Matrix: SOLID Analysis Method: EPA 8020 Lab Number: 9808062-05

Analyzed: 08/10/98 Reported: 08/19/98

QC Batch Number: GC080798BTEXEXD

Instrument ID: GCHP18

BTEX Distinction

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene Toluene Ethyl benzene Xylenes (Total)	0.0050 0.0050 0.0050 0.0050	N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene 4-Bromofluorobenzene	Control Limits % 70 130 60 140	% Recovery 87 94

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

SEQUOJA ANALYTICAL - ELAP #1210

Peggy Penner Project Manager

Page:

6



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria Environmental Tech.

1144 65th St., Ste. C Oakland, CA 94608 Client Project ID:

Shell 9750 Golf Links Rd.

-01

Matrix:

Liquid

Attention: Maureen Feineman

Work Order #:

9808062

Reported:

Aug 24, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel	
QC Batch#:	ME0805986010MDE	ME0805986010MDE	ME0805986010MDE	ME0805986010MDE	
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010	
Analyst:	cc	cc	cc	CC	•
MS/MSD#:	9807J1301	9807J1301	9807J1301	9807J1301	
Sample Conc.:	N.D.	N.D.	31	32	
Prepared Date:	8/5/98	8/5/98	8/5/98	8/5/98	
Analyzed Date:	8/5/98	8/5/98	8/5/98	8/5/98	
nstrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5	
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	
Result:	43	43	73	76	
MS % Recovery:	86	86	84	88	
Dup. Result:	43	43	72	73	
MSD % Recov.:	86	86	82	82	
RPD:	0.0	0.0	1.4	4.0	
RPD Limit:	0-20	0-20	0-20	0-20	

MS/MSD	80-120	80-120	80-120	80-120
LCS % Recov.:	96	92	94	94
LCS Result:	48	46	47	47
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Analyzed Date:	8/5/98	8/5/98	8/5/98	8/5/98
Prepared Date:	8/5/98	8/5/98	8/5/98	8/5/98
LCS #:	BLK080598	BLK080598	BLK080598	BLK080598
	,			

 MS/MSD
 80-120
 80-120
 80-120

 LCS
 80-120
 80-120
 80-120

 Control Limits

SEQUOIA ANALYTICAL

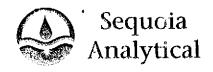
Peggy Periner Project/Manager Please Note:

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

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

9808062.CCC <1>





Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

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Cambria

1144 65th St. Ste. C Oakland, CA 94608 Attention: Maureen Feineman Client Project ID: Shell 9750 Golf Links Rd.

QC Sample Group: 9808062-01-05

Reported: Aug 19, 1998

QUALITY CONTROL DATA REPORT

Matrix:

Solid

Method:

EPA 8015

Analyst: G. GAMBOA

ANALYTE

Gasoline

QC Batch #: GC080798BTEXEXD

Sample No.: GS9808085-3

Date Prepared:

8/7/98

Date Analyzed:

8/9/98

instrument I.D.#:

GCHP22

ample Conc., mg/Kg:

N.D.

Conc. Spiked, mg/Kg:

5.0

Matrix Spike, mg/Kg:

5.4

% Recovery:

108

Matrix

ike Duplicate, mg/Kg:

5.4

% Recovery:

108

elative % Difference:

0.0

RPD Control Limits:

0-25

LCS Batch#: GSBLK080798D

Date Prepared:

8/7/98

Date Analyzed:

8/9/98

Instrument I.D.#:

GCHP22

Conc. Spiked, mg/Kg:

5.0

Recovery, mg/Kg:

5.4

LCS % Recovery:

108

Percent Recovery Control Limits:

MS/MSD

SEĆUĆIA ANĄLYTICAL

60-140

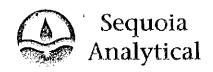
LCS

70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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

Reggy Penner Project Manager



680 Chesapeake Drive 404 N. Wiget Lane 819 Striker Avenue, Suite 8 1455 McDowell Blvd, North, Ste. D Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Cambria

1144 65th St. Suite C

Client Proj. ID: Shell 9750 Golf Links Rd.

Received: 08/03/98

Oakland, CA 94608

Maureen Feineman

Lab Proj. ID: 9808062

Reported: 08/19/98

LABORATORY NARRATIVE

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

SEQUOIA ANALYTICAL

Peggy Penner Project Manager

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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 SB-1
JOB/SITE NAME	OAK9750	DRILLING STARTED 06-Jul-98
LOCATION	9750 Golf Links Road, Oakland	DRILLING COMPLETED 31-Jul-98
PROJECT NUMBER	240-0735	WELL DEVELOPMENT DATE (YIELD) NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION NA
DRILLING METHOD	Geoprobe/Hollow stem auger	TOP OF CASING ELEVATION NA
BORING DIAMETER	2" and 8"	SCREENED INTERVAL NA
LOGGED BY	M. Feineman	DEPTH TO WATER (First Encountered) 12.00 ft (31-Jul-98)
REVIEWED BY	D. Lunquist, PE	DEPTH TO WATER (Static)
REMARKS	8 It south of northwestern dispenser	

CONTACT EPTH (ft bgs) SAMPLE ID RECOVERY GRAPHIC BLOW PID (ppm) DEPTH (ft bgs) EXTENT U.S.C.S. WELL DIAGRAM LITHOLOGIC DESCRIPTION Hand auger CONCRETE 0.5 SILT; (FILL); brown; stiff; damp; 10% clay, 90% silt; medium plasticity; moderate to low estimated 0-5 ft. 1.5 Gravelly SILT: (FILL); grey to brown; stiff; soft; 60% silt, 40% gravel; low plasticity; high estimated permeability. 4.0 5.0 GeoProbe No recovery. 5-16 ft. 8.0 1,786 <u>SILT;</u> (ML); dark brown; stiff; damp; 10% clay, 90% silt, trace amounts of gravel; medium plasticity; moderate to low estimated permeability. ML 7/31/98 🗸 12.0 889.3 Water Silty SAND: (SM); dark grey; loose; wet; 20% silt, 80% encountered @ 12 ft. 1,786 sand; high estimated permeability. SM 15.0 SILT; (ML); dark brown; very stiff; dry; 10% clay, 90% 10286 Refusal @ 16 silt, trace amounts of gravel; medium plasticity; moderate to low estimated permeability. **Hollow-stem** auger 16-30 WELL LOG (PID) G-IOAK9750/GINTIOAK9750 GPJ DEFAULT GDT 11/24/98 0.0 ML. Portland Type 0.0 30.0 30 Bottom of Boring @ 30 ft PAGE 1 OF

Attachment C

Standard Field Procedures for Soil Borings

CAMBRIA

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

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

Objectives

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

Soil Classification/Logging

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

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

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or hydraulic push technologies. At least one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the borehole. The vertical location of each soil sample is determined by measuring the distance from the middle of the soil sample tube to the end of the drive rod used to advance the split barrel sampler. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

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

Sample Storage, Handling and Transport

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

CAMBRIA

Field Screening

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

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch type sampler or are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

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

Grouting

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

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licenced waste haulers and disposed in secure, licenced facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55 gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licenced waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.





ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 100, HAYWARD, CA 94545-2651
PHONE (510) 670-6551 ANDREAS CODERBY FAX (510) 670-5362
(510) 670-6440 ALVIN KAN

DRILLING PERMIT APPLICATION

;	for applicant to complete	For office use
Cakana,	OBCT 9750 Golf Links Rd.	PERMIT NUMBER 98 W 12 265 WELL NUMBER
California Coordinate CCN	es Sourceft. Accuracy ±ft.	PERMIT CONDITIONS
APW		Circled Fermit Requirements Apply
CLIFAT FOUIL	on Entanaciena Un	(A) GENERAL
Nan	on Enterprises LLC 8080 Phono 510335-5027	- 1. A permit application should be rebesisted so as to
CO Martine	Z 219 945(3	arrive at the ACPWA office five days prior to proposed starting date.
	•	2) Submit to ACPWA within 60 days after completion of
APPLICAPIT	ria Environmental Technology	permitted work the original Department of Water Recovered Water Well Drillers Report or equivalent for
-	Faul 510) 42-0-917() ()]	well projects, of drilling logs and location sketch for
	Phone 570)420 - 3319	groundajed projects.
cio Oakland	2ip 94608	(3) Parmit is void if project not began within 90 days of
TYPE OF PROJECT	T	epprovni dize. HWater Suffly Wells
Well Construction	Geotseheical Investigation	1. Minimum surface seal thickness is two inches of
Cathodia Protectio	· · · · · · · · · · · · · · · · · · ·	commi grant placed by wernie.
Witer Supply	O Companies DE	2. Minimum pool depth is 50 feet for municipal and
ऑकर्ष(क्र <u>र्गक</u> ⊼	D Well Destruction C	industrial walls or 20 flost for domestic and infigurion
PROPOSED WATE	R SUPPLY WELL USE	walls unless a lasser depth is specially approved. C. GROUNDWATER MONITORING WELLS
	2 Replacement Democtic 0	including plexometers
	d intigation D	. 1. Minimum surface seal thickness is two inches of
industriai (0 Other	coment grout pieces by dentis.
DRILLING METRO	``````````````````````````````````````	2. Minimum soul depth for monitoring wells is the
	AT ROTHLY Q AUGUS 13	maximum depth procedeable or 20 feet. (D.)GEOTECHNICAL
Cable	Other & Geoprobe	Beakfill burn hole with compacend carrings or heavy
		benwoods and upper two feet with compacted instantal.
DRILLER'S LICENS	ENO	In usua of known or suspected communication, tremied
WELL PROJECTS		Learnest growt that be used in place of comparted curings. L CATEODIC
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ESTIMATED START	TNG DATE 7/6/98	
ESTIMATED COMP	LETION DATE 7/6/98	APPROVED DATE 7/2/98
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APPLICANT'S /

200 - 200 - 6/23/98

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 a BFI 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

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

Attachment F

Soil Disposal Confirmation Letter

DISPOSAL CONFIRMATION

Consultant:	CAMBRIA ENVIRONMENTAL
Contact:	AUBREY K. COOL
Phone/Fax:	(510) 420-0700 FAX (510) 420-9170
Client:	EQUILON ENTERPRISE - KAREN PETRYNA
Station #/Wic #:	204-5508-2808
Site Address:	9750 GOLF LINKS ROAD
City/State:	OAKLAND, CA
Estimated YD/Ton:	2 - 3 YARDS
Actual YD/Ton:	1/2 YARD
Disposal Facility:	FORWARD LANDFILL
Disposal Date:	AUGUST 28, 1998
Contact:	BRAD_BONNER
Phone #:	(800) 204-4242
Hauler:	MANLEY & SONS TRUCKING, INC.
Contact:	TIM A. MANLEY
Phone #:	(916) 381-6864
Fax #:	(916) 381-1573
	Date & Time Faxed
7695	