CAMBRIA

ENVIRONMENTAL PROTECTION

00 JUN -9 PM 4:18

June 7, 2000

Mr. Amir K. Gholami
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Subsurface Investigation Report and Work Plan for Installation of Groundwater Monitoring Wells**
Shell-branded Service Station
2120 Montana Street
Oakland, California
Incident #98995740
Cambria Project # 242-0733-006

Dear Mr. Gholami:

On behalf of Equiva Services LLC (Equiva), Cambria Environmental Technology, Inc. (Cambria) is submitting the results of the subsurface investigation conducted on October 25, 1999 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 their April 21, 1999 and May 1, 2000 letters to Equiva. The investigation was conducted in accordance with Cambria's May 27, 1999 *Investigation Work Plan Addendum*, which was approved in ACHCSA's September 8, 1999 letter to Equiva. Presented below are the site background, investigation procedures, investigation results, and our conclusions and recommendations for additional work.

SITE BACKGROUND

Site Location: This operating Shell-branded service station is located at the intersection of Montana Street and Fruitvale Avenue in Oakland, California. Commercial properties surround the site to the north and east, and residential properties are to the west. Highway 580 is located to the adjacent south of the site.

1998 Dispenser Upgrades: In November 1997, Paradiso Mechanical of San Leandro, California upgraded the service station. Secondary containments were added to the three existing dispensers (D-1, D-2, and D-3) and turbine sumps above the underground storage tanks (Figure 1).

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

Cambria Environmental Technology, Inc.

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

Soil samples were collected from native soil beneath dispensers D-1, D-2, and D-3 at a depth of approximately 5 feet below grade (fbg). Soil samples were not collected from beneath the associated piping since it was exposed during the upgrade activities. The maximum total petroleum hydrocarbons as gasoline (TPHg), benzene, and methyl tertiary butyl ether (MTBE by EPA Method 8020) concentrations were reported in sample D-3 at 59 parts per million (ppm), 0.76 ppm, and 1.1 ppm, respectively.

INVESTIGATION PROCEDURES

Three soil borings were advanced to a maximum depth of 20 fbg. Soil and groundwater samples were collected for analysis. The procedures for this investigation, as described in Cambria's approved work plan, are summarized below. Boring locations are shown on Figure 1. Analytical results for soil and groundwater samples are summarized in Tables 1 and 2. The certified laboratory analytical reports are presented as Attachment A. Boring logs and Cambria's Standard Field Procedures for GeoProbe Sampling are presented as Attachments B and C, respectively.

Personnel Present:	Matthew Gaffney, Staff Geologist, and Eric Goldman, Senior Staff Scientist, of Cambria
Permit:	Alameda County Public Works Agency Drilling Permit #99WR558 (Attachment D)
Drilling Company:	Gregg Drilling of Martinez, California (C-57 License #485165)
Drilling Date:	October 27, 1999
Drilling Method:	GeoProbe direct-push rig
Number of Borings:	**Three (SB-1, SB-2, and SB-3)**
Boring Depths:	**SB-1 was advanced to 16 fbg. SB-2 and SB-3 were advanced to 20 fbg.**
Sediment Lithology:	Subsurface material encountered consists primarily of silty sand and sand of low to high estimated permeability. Boring logs are included as Attachment B.

Groundwater Depth: Groundwater was first encountered at 12.5 fbg in SB-1, 16.5 fbg in SB-2, and 16.0 fbg in SB-3. However, when samples were collected from the borings, the depths to water were 16 fbg in SB-1 and 20 fbg in SB-2 and SB-3.

Chemical Analyses: The soil and groundwater samples were analyzed as follows:

- TPHg by modified EPA Method 8015;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) and MTBE by EPA Method 8020;
- The highest MTBE concentration in soil was confirmed by EPA Method 8260; and
- Selected soil samples for fractional organic carbon, moisture content, dry bulk density and porosity (Attachment A).

Soil Disposal: No waste was generated during this investigation.

Backfill Method: The borings were backfilled with cement grout to match the existing grade.

INVESTIGATION RESULTS

Hydrocarbon Distribution in Soil: In general, soil beneath the site does not appear to be highly impacted by petroleum hydrocarbons. Detectable TPHg concentrations ranged from 12 ppm to 54 ppm. Low levels of benzene and MTBE by EPA Method 8020 were reported in three of the nine soil samples analyzed. Soil analytical results are summarized in Table 1. The maximum concentration of TPHg was detected in sample SB-1-5.0' at 54 ppm. The maximum concentration of MTBE was detected in sample SB-2-10.0' at 0.24 ppm (by EPA Method 8260). The maximum benzene concentration was detected in SB-2-15 at 0.019 ppm.

Cambria requested that the soil sample with the highest MTBE concentration by EPA Method 8020 from each boring be confirmed by EPA Method 8260. This analysis was completed for soil sample SB-2-10.0', but due to analytical laboratory oversight, was not completed for the

remaining soil samples. In addition, the highest MTBE concentration in groundwater by EPA Method 8020 was not confirmed using EPA Method 8260 by the laboratory.

In sample SB-2-10, analyzed using EPA 8260, the five fuel oxygenates of concern (di-isopropyl ether, ethanol, ethyl tert-butyl ether, tert-amyl methyl ether, and tert-Butyl alcohol) were not reported above the laboratory detection limit.

Hydrocarbon Distribution in Groundwater: Groundwater analytical results are summarized in Table 2. The maximum groundwater concentrations of TPHg and MTBE by ~~EPA Method~~ 8020 were detected in SB-3 at 2,380 parts per billion (ppb) and 3,210 ppb, respectively. This sample contained 6.8 ppb benzene. The maximum concentration of benzene was detected in SB-2 at 10.6 ppb.

CONCLUSIONS AND RECOMMENDATIONS

Hydrocarbons and MTBE have primarily impacted groundwater beneath the site in the vicinity of the product dispensers. To determine groundwater flow direction and the extent of hydrocarbon and MTBE impact to groundwater at the site, we recommend installing one offsite and two onsite groundwater monitoring wells. Following is our proposed scope of work for this additional investigation and a response to the ACHCSA May 1, 2000 letter to Equiva.

RESPONSE TO ACHCSA MAY 1, 2000 LETTER

Following are specific responses to requests made in the ACHCSA dated May 1, 2000 by Mr. Amir Gholami.

Item #1, Identify revised location for soil boring SB-2: Cambria has previously responded to the ACHCSA requests for revising the location for soil boring SB-2. Fax transmittals were sent to ACHCSA dated September 22, 1999 and October 19, 1999. These transmittals are included in Attachment E.

Item #2, Test for presence of other oxygenates TAME, DIPE, ETBE, TBA, EDB, and EDC. Cambria will coordinate a one time analysis by EPA Method 8260 for the above oxygenates from the initial groundwater sampling event from proposed monitoring wells discussed below.

Item #3, A Risk Management Plan shall be completed upon completion of site investigation. A Risk Management Plan and Site Conceptual Model will be developed upon completion of site investigation activities.

Item #4, Pending results of the investigation, more investigation may be necessary. Following is a proposal for installation of groundwater monitoring wells and initiation of groundwater monitoring at the subject site.

PROPOSED SCOPE OF WORK

We propose installing three groundwater monitoring wells to evaluate the extent of hydrocarbons and MTBE in soil and groundwater beneath the site. Two of the wells will be installed onsite and a third will be installed offsite, downgradient of the site, at the approximate locations shown on Figure 1. Based on a site approximately 3,000 feet southwest of the subject site, it is anticipated that groundwater flows in a southwesterly direction.

IMPLEMENTATION OF FIELD WORK

Upon ACHCSA approval of this work plan, Cambria will complete the following tasks:

Utility Location: Cambria will notify Underground Service Alert prior to drilling activities to identify any underground utilities that exist near the proposed drilling locations. Cambria will also contract an electro-magnetic line locator to identify any underground piping associated with the service station.

Permits: Cambria will obtain drilling permits from the Alameda County Department of Public Works, and encroachment permits from City of Oakland, if required.

Site Health and Safety Plan: In accordance with OSHA regulations, a site-specific Health & Safety Plan will be developed for the field investigations described herein. All field personnel will be required to implement the procedures presented in this document while conducting onsite fieldwork.

Monitoring Wells: Cambria will advance three soil borings using a hollow-stem auger drilling rig to approximately 35 fbg. We will collect soil samples at five-foot intervals, at lithologic changes and from just above the water table. Soil samples will be collected at five-foot intervals and will be screened in the field with a photo-ionization detector. The wells will be installed to a depth of approximately 35 fbg in accordance with our Standard Field Procedure for Monitoring Wells, provided as Attachment F.

Well Development, Sampling and Top of Casing Survey: Each groundwater monitoring well will be developed and sampled. Top of casing elevations will be surveyed to mean sea level.

Laboratory Analyses: Soil samples and groundwater samples from each monitoring will be analyzed as follows:

- TPHg by EPA Method 8015;
- BTEX and MTBE by EPA Method 8020;
- Any detection of MTBE will be confirmed by EPA Method 8260; and
- One-time analysis of groundwater samples for oxygenates (TAME, DIPE, ETBE, TBA, EDB, and EDC) by EPA Method 8260.

Subsurface Investigation Report: After the analytical results are received, Cambria will prepare a report that, at a minimum, will contain:

- A summary of the site background and history;
- Descriptions of drilling and sampling activities;
- Boring logs and well completion details;
- Tabulated analytical results;
- A figure presenting well locations;
- Analytical reports and chain-of-custody forms; and
- A discussion of the hydrocarbon and MTBE distribution.

SCHEDULE

Upon receiving written approval of this work plan from the ACHCSA, Cambria will obtain necessary permits and schedule field activities.

CLOSING

We appreciate the opportunity to work with you on this project. Please call Darryk Ataide at (510)-420-3339 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Darryk Ataide, REA I
Project Manager

Stephan A. Bork, C.E.G., C.HG.
Associate Hydrogeologist

REGISTERED GEOLOGIST
STEPHAN A. BORK
No. HG 425
CERTIFIED
HYDROGEOLOGIST
STATE OF CALIFORNIA

Figure: 1 - Site Plan

Tables: 1 – Soil Analytical Data
2 – Groundwater Analytical Data

Attachments: A – Laboratory Analytical Reports
B - Soil Boring Logs
C - Standard Field Procedures for GeoProbe Sampling
D - Drilling Permit
E – Previous Transmittals to ACHCSA
F – Standard Field Procedures for Monitoring Wells

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

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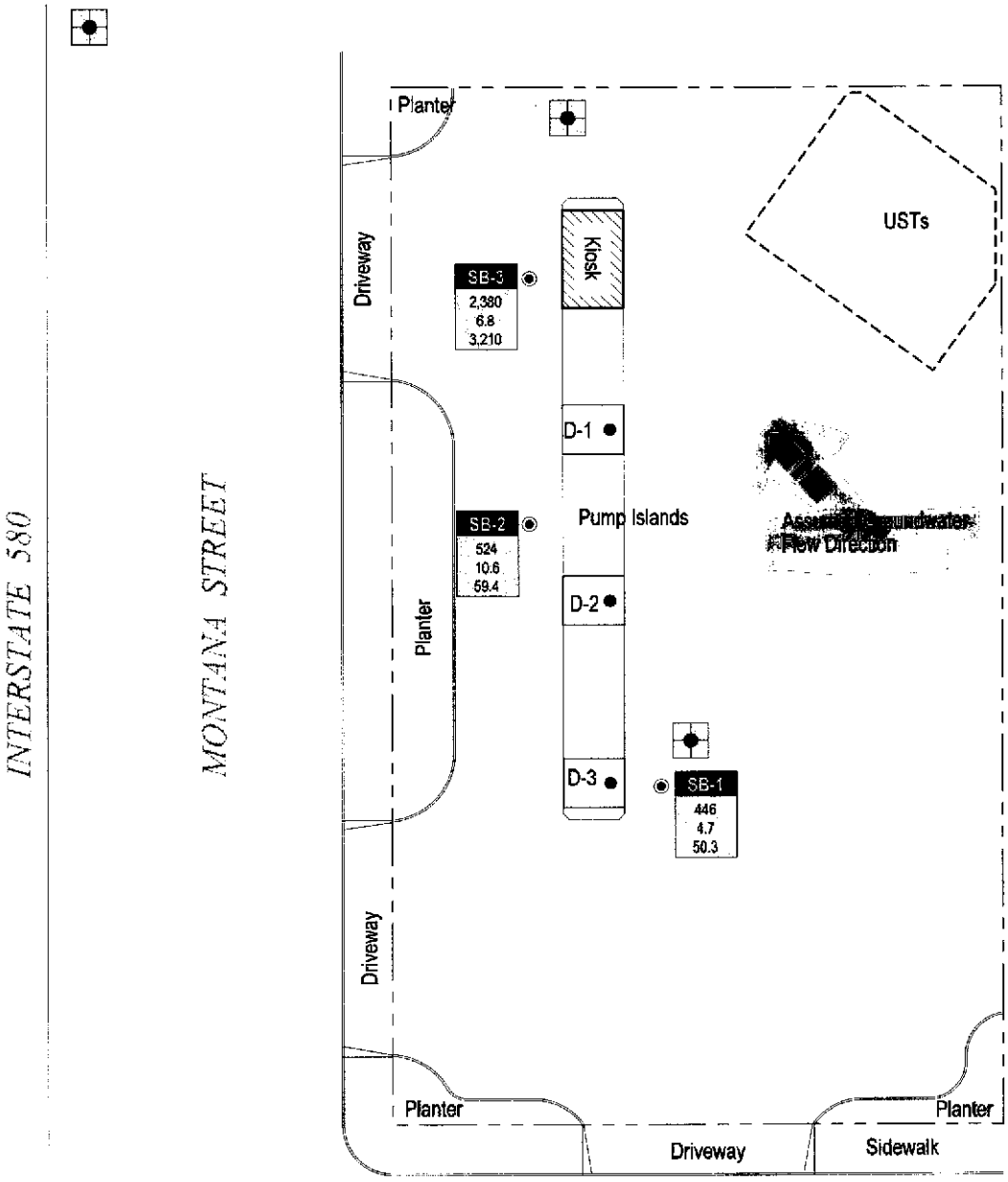

EXPLANATION

- Proposed groundwater monitoring well location
- SB-1 ◉ Soil boring and hydropunch location
- D-1 ● Soil sampling location
- Estimated groundwater flow direction based on a site >3,000 ft. southwest of the site
- Boring — Boring Designation
  Chemical concentrations in groundwater in parts per billion (ppb)

N

0 15 30

Scale (ft)

FIGURE

1

G:\OAK2120\FIGURES\PROP-WELL.DWG

Shell-branded Service Station
2120 Montana Street
Oakland, California
Incident #98995740

CAMBRIA

Site Plan

Table 1. Soil Analytical Data - Shell-branded Service Station - 2120 Montana Ave., Oakland, California, Incident # 98995740

Sample ID	Depth (in fbg)	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
		← (Concentrations reported in ppm) →					
October 27, 1999 Samples:							
SB-1-5	5	54	<0.50	<0.050	<0.050	0.091	0.099
SB-1-10	10	12	<0.05	<0.0050	<0.0050	0.0093	0.030
SB-2-5	5	<1.0	<0.05	<0.0050	<0.0050	<0.0050	<0.0050
SB-2-10	10	2.0	0.27 (0.24)	0.0050	0.0063	<0.0050	<0.0050
SB-2-15	15	14	<0.05	0.019	0.032	0.064	0.072
SB-2-20	20	<1.0	<0.05	<0.0050	<0.0050	<0.0050	<0.0050
SB-3-5	5	<1.0	<0.05	<0.0050	<0.0050	<0.0050	<0.0050
SB-3-10	10	<1.0	0.11	<0.0050	<0.0050	<0.0050	<0.0050
SB-3-15	15	17	0.19	0.013	0.018	0.054	0.16

Abbreviations and Notes:

TPHg = Total purgable hydrocarbons as gasoline by modified EPA Method 8015.
Benzene, ethylbenzene, toluene, xylenes by EPA Method 8020.
MTBE = Methyl tertiary butyl ether by EPA Method 8020. Parenthesis indicate confirmation analysis by EPA Method 8260.
ppm = parts per million
fbg = feet below grade
<n = Below detection limits for n milligrams per kilograms.

Table 2. Groundwater Analytical Data - Shell Service Station - 2120 Montana Ave., Oakland, California, Incident # 98995740

Sample ID	Depth	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
		←		(Concentrations reported in ppb)		→	
October 27, 1999 Samples:							
SB-1-W	15	446	50.3	4.72	1.57	<0.500	4.53
SB-2-W	20	524	59.4	10.6	1.47	2.42	2.18
SB-3-W	20	2,380	3,210	6.75	6.63	46.4	75.2

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015.
Benzene, ethylbenzene, toluene, xylenes by EPA Method 8020.
MTBE = Methyl tertiary butyl ether by EPA Method 8020.
ppb = parts per billion
<n = Below detection limits for n ppb.

ATTACHMENT A

Laboratory Analytical Reports

Sequoia Analytical

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

March 17, 2000

Jeff Gaarder
Cambria - Oakland (Shell)
1144 65th St. Suite C
Oakland, CA 94608

RE: Shell 2120 Montana

Dear Jeff Gaarder

Enclosed are the results of analyses for sample(s) received by the laboratory on October 29, 1999.
If you have any questions concerning this report, please feel free to contact me.
Report revised and reissued due to the addition of Oxygenates for sample M911056-04.

Sincerely,

Kayvan Kimyai
Project Manager D.M.

CA ELAP Certificate Number 1210

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled:	10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received:	10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported:	3/17/00 13:39

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
SB-1-5	M911056-01	Soil	10/27/99
SB-1-10	M911056-02	Soil	10/27/99
SB-2-5	M911056-03	Soil	10/27/99
SB-2-10	M911056-04	Soil	10/27/99
SB-2-15	M911056-05	Soil	10/27/99
SB-2-20	M911056-06	Soil	10/27/99
SB-3-5	M911056-07	Soil	10/27/99
SB-3-10	M911056-08	Soil	10/27/99
SB-3-15	M911056-09	Soil	10/27/99
SB-1-W	M911056-10	Water	10/27/99
SB-2-W	M911056-11	Water	10/27/99
SB-3-W	M911056-12	Water	10/27/99

Kayvan Kimyai, Project Manager D.M.

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled:	10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received:	10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported:	3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Morgan Hill

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-1-W			**M911056-10**				**Water**	
Purgeable Hydrocarbons	9110266	11/8/99	11/8/99	DHS LUFT	50.0	**446**	ug/l	
Benzene	"	"	"	DHS LUFT	0.500	**4.72**	"	
Toluene	"	"	"	DHS LUFT	0.500	**1.57**	"	
Ethylbenzene	"	"	"	DHS LUFT	0.500	ND	"	
Xylenes (total)	"	"	"	DHS LUFT	0.500	**4.53**	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	2.50	**50.3**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*NR*	%	
SB-2-W			**M911056-11**				**Water**	
Purgeable Hydrocarbons	9110154	11/4/99	11/4/99	DHS LUFT	50.0	**524**	ug/l	P-01
Benzene	"	"	"	DHS LUFT	0.500	**10.6**	"	
Toluene	"	"	"	DHS LUFT	0.500	**1.47**	"	
Ethylbenzene	"	"	"	DHS LUFT	0.500	**2.42**	"	
Xylenes (total)	"	"	"	DHS LUFT	0.500	**2.18**	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	2.50	**59.4**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*132*	%	
SB-3-W			**M911056-12**				**Water**	
Purgeable Hydrocarbons	9110117	11/3/99	11/3/99	DHS LUFT	500	**2380**	ug/l	P-01
Benzene	"	"	"	DHS LUFT	5.00	**6.75**	"	
Toluene	"	"	"	DHS LUFT	5.00	**6.63**	"	
Ethylbenzene	"	"	"	DHS LUFT	5.00	**46.4**	"	
Xylenes (total)	"	"	"	DHS LUFT	5.00	**75.2**	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	25.0	**3210**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*97.3*	%	

Sequoia Analytical

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www.sequoialabs.com

Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Conventional Chemistry Parameters by APHA/EPA Methods
Sequoia Analytical - Morgan Hill

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-1-10			M911056-02				Soil	
Moisture	9110185	11/3/99	11/3/99	EPA 160.3	0.100	**14.4**	%	
Fractional Organic Carbon	9110345	11/9/99	11/9/99	EPA 415.1	0.00200	**0.284**	"	
SB-2-15			M911056-05				Soil	
Moisture	9110185	11/3/99	11/3/99	EPA 160.3	0.100	**24.0**	%	
Fractional Organic Carbon	9110345	11/9/99	11/9/99	EPA 415.1	0.00200	**0.235**	"	
SB-3-15			M911056-09				Soil	
Moisture	9110185	11/3/99	11/3/99	EPA 160.3	0.100	**20.4**	%	
Fractional Organic Carbon	9110345	11/9/99	11/9/99	EPA 415.1	0.00200	**0.149**	"	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-1-5			**M911056-01**				**Soil**	**P-06**
Purgeable Hydrocarbons	9K08002	11/8/99	11/8/99	EPA 8015/8020	10	**54**	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.050	ND	"	
Toluene	"	"	"	EPA 8015/8020	0.050	ND	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.050	**0.091**	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.050	**0.099**	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.50	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*			%	*S-01*
SB-1-10			**M911056-02**				**Soil**	**P-03**
Purgeable Hydrocarbons	9K08002	11/8/99	11/8/99	EPA 8015/8020	1.0	**12**	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Toluene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	**0.0093**	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.0050	**0.030**	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.050	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*92.0*	%	
SB-2-5			**M911056-03**				**Soil**	
Purgeable Hydrocarbons	9K08002	11/8/99	11/8/99	EPA 8015/8020	1.0	ND	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Toluene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.0050	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.050	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*89.3*	%	
SB-2-10			**M911056-04**				**Soil**	**P-01**
Purgeable Hydrocarbons	9K08002	11/8/99	11/9/99	EPA 8015/8020	1.0	**2.0**	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	**0.0050**	"	
Toluene	"	"	"	EPA 8015/8020	0.0050	**0.0063**	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.0050	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.050	**0.27**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*91.7*	%	
SB-2-15			**M911056-05**				**Soil**	**P-03**
Purgeable Hydrocarbons	9K08002	11/8/99	11/8/99	EPA 8015/8020	1.0	**14**	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	**0.019**	"	

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-2-15 (continued)			**M911056-05**				**Soil**	**P-03**
Toluene	9K08002	11/8/99	11/8/99	EPA 8015/8020	0.0050	**0.032**	mg/kg	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	**0.064**	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.0050	**0.072**	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	*0.050*	*ND*	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*75.0*	%	
SB-2-20			**M911056-06**				**Soil**	
Purgeable Hydrocarbons	9K08002	11/8/99	11/8/99	EPA 8015/8020	1.0	ND	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Toluene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.0050	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.050	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*90.7*	%	
SB-3-5			**M911056-07**				**Soil**	
Purgeable Hydrocarbons	9K08002	11/8/99	11/8/99	EPA 8015/8020	1.0	ND	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Toluene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.0050	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.050	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*89.0*	%	
SB-3-10			**M911056-08**				**Soil**	
Purgeable Hydrocarbons	9K08002	11/8/99	11/10/99	EPA 8015/8020	1.0	ND	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Toluene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	ND	"	
Xylenes (total)	"	"	"	EPA 8015/8020	0.0050	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.050	**0.11**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*82.3*	%	
SB-3-15			**M911056-09**				**Soil**	**P-01**
Purgeable Hydrocarbons	9K08002	11/8/99	11/9/99	EPA 8015/8020	1.0	**17**	mg/kg	
Benzene	"	"	"	EPA 8015/8020	0.0050	**0.013**	"	
Toluene	"	"	"	EPA 8015/8020	0.0050	**0.018**	"	
Ethylbenzene	"	"	"	EPA 8015/8020	0.0050	**0.054**	"	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled:	10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received:	10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported:	3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-3-15 (continued)			**M911056-09**				**Soil**	**P-01**
Xylenes (total)	9K08002	11/8/99	11/9/99	EPA 8015/8020	0.0050	**0.16**	mg/kg	
Methyl tert-butyl ether	"	"	"	EPA 8015/8020	0.050	**0.19**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*40-140*		*82.3*	*%*	

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1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

MTBE Confirmation by EPA Method 8260A
Sequoia Analytical - Walnut Creek

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-2-10			**M911056-04**				**Soil**	
Di-isopropyl ether	9K10023	11/9/99	11/10/99	EPA 8260A	0.10	ND	mg/kg	
Ethanol	"	"	"	EPA 8260A	2.5	ND	"	A-01
Ethyl tert-butyl ether	"	"	"	EPA 8260A	0.10	ND	"	
tert-Amyl methyl ether	"	"	"	EPA 8260A	0.10	ND	"	
tert-Butyl alcohol	"	"	"	EPA 8260A	0.50	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8260A	0.10	**0.24**	"	
Surrogate: Dibromofluoromethane	"	"	"	*50-150*		*84.0*	%	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*50-150*		*70.0*	"	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE 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: 9110117	**Date Prepared: 11/3/99**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**9110117-BLK1**									
Purgeable Hydrocarbons	11/3/99			**ND**	ug/l	**50.0**				
Benzene	"			**ND**	"	**0.500**				
Toluene	"			**ND**	"	**0.500**				
Ethylbenzene	"			**ND**	"	**0.500**				
Xylenes (total)	"			**ND**	"	**0.500**				
Methyl tert-butyl ether	"			**ND**	"	**2.50**				
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*11.5*	"	*70-130*	*115*			
LCS	**9110117-BS1**									
Purgeable Hydrocarbons	11/3/99	250		235	ug/l	70-130	94.0			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*8.68*	"	*70-130*	*86.8*			
Matrix Spike	**9110117-MS1**		**M910886-01**							
Purgeable Hydrocarbons	11/3/99	250	ND	226	ug/l	60-140	**90.4**			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*8.66*	"	*70-130*	*86.6*			
Matrix Spike Dup	**9110117-MSD1**		**M910886-01**							
Purgeable Hydrocarbons	11/3/99	250	ND	225	ug/l	60-140	**90.0**	25	0.443	
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*8.26*	"	*70-130*	*82.6*			
Batch: 9110154	**Date Prepared: 11/4/99**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**9110154-BLK1**									
Purgeable Hydrocarbons	11/4/99			**ND**	ug/l	**50.0**				
Benzene	"			**ND**	"	**0.500**				
Toluene	"			**ND**	"	**0.500**				
Ethylbenzene	"			**ND**	"	**0.500**				
Xylenes (total)	"			**ND**	"	**0.500**				
Methyl tert-butyl ether	"			**ND**	"	**2.50**				
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.01*	"	*70-130*	*90.1*			
LCS	**9110154-BS1**									
Benzene	11/4/99	10.0		10.2	ug/l	70-130	102			
Toluene	"	10.0		9.98	"	70-130	99.8			
Ethylbenzene	"	10.0		10.2	"	70-130	102			
Xylenes (total)	"	30.0		30.3	"	70-130	101			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.27*	"	*70-130*	*92.7*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE 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*
Matrix Spike	**9110154-MS1**		**M910AAU-08**							
Benzene	11/4/99	10.0	ND	9.70	ug/l	60-140	**97.0**			
Toluene	"	10.0	ND	9.55	"	60-140	**95.5**			
Ethylbenzene	"	10.0	ND	9.74	"	60-140	**97.4**			
Xylenes (total)	"	30.0	ND	28.9	"	60-140	**96.3**			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*8.47*	"	*70-130*	*84.7*			
Matrix Spike Dup	**9110154-MSD1**		**M910AAU-08**							
Benzene	11/4/99	10.0	ND	9.94	ug/l	60-140	**99.4**	25	**2.44**	
Toluene	"	10.0	ND	9.79	"	60-140	**97.9**	25	**2.48**	
Ethylbenzene	"	10.0	ND	10.0	"	60-140	**100**	25	**2.63**	
Xylenes (total)	"	30.0	ND	29.5	"	60-140	**98.3**	25	**2.05**	
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*8.52*	"	*70-130*	*85.2*			
Batch: 9110266	**Date Prepared: 11/8/99**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**9110266-BLK1**									
Purgeable Hydrocarbons	11/8/99			**ND**	ug/l	**50.0**				
Benzene	"			**ND**	"	**0.500**				
Toluene	"			**ND**	"	**0.500**				
Ethylbenzene	"			**ND**	"	**0.500**				
Xylenes (total)	"			**ND**	"	**0.500**				
Methyl tert-butyl ether	"			**ND**	"	**2.50**				
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.64*	"	*70-130*	*96.4*			
LCS	**9110266-BS1**									
Benzene	11/8/99	10.0		10.1	ug/l	70-130	101			
Toluene	"	10.0		10.0	"	70-130	100			
Ethylbenzene	"	10.0		10.2	"	70-130	102			
Xylenes (total)	"	30.0		30.5	"	70-130	102			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*10.6*	"	*70-130*	*106*			
Matrix Spike	**9110266-MS1**		**M911010-02**							
Benzene	11/9/99	10.0	ND	10.1	ug/l	60-140	**101**			
Toluene	"	10.0	ND	10.0	"	60-140	**100**			
Ethylbenzene	"	10.0	ND	10.2	"	60-140	**102**			
Xylenes (total)	"	30.0	ND	30.3	"	60-140	**101**			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*8.76*	"	*70-130*	*87.6*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE 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*
Matrix Spike Dup	**9110266-MSD1**		**M911010-02**							
Benzene	11/9/99	10.0	ND	10.6	ug/l	60-140	**106**	25	**4.83**	
Toluene	"	10.0	ND	10.4	"	60-140	**104**	25	**3.92**	
Ethylbenzene	"	10.0	ND	10.6	"	60-140	**106**	25	**3.85**	
Xylenes (total)	"	30.0	ND	31.7	"	60-140	**106**	25	**4.52**	
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*8.57*	"	*70-130*	*85.7*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Conventional Chemistry Parameters by APHA/EPA Methods/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: 9110185	**Date Prepared: 11/3/99**				**Extraction Method: General Preparation**					
Duplicate	**9110185-DUP1**	**M911056-05**								
Moisture	11/3/99		24.0	24.0	%			20	0	
Batch: 9110345	**Date Prepared: 11/9/99**				**Extraction Method: General Preparation**					
Blank	**9110345-BLK1**									
Fractional Organic Carbon	11/9/99			ND	%	0.00200				
Duplicate	**9110345-DUP1**	**M911056-05**								
Fractional Organic Carbon	11/9/99		0.235	0.233	%			15	0.855	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9K08002	**Date Prepared: 11/8/99**					**Extraction Method: EPA 5030B [MeOH]**				
Blank	**9K08002-BLK1**									
Purgeable Hydrocarbons	11/8/99			**ND**	mg/kg	**1.0**				
Benzene	"			**ND**	"	**0.0050**				
Toluene	"			**ND**	"	**0.0050**				
Ethylbenzene	"			**ND**	"	**0.0050**				
Xylenes (total)	"			**ND**	"	**0.0050**				
Methyl tert-butyl ether	"			**ND**	"	**0.050**				
Surrogate: a,a,a-Trifluorotoluene	"	*0.600*		*0.556*	"	*40-140*	*92.7*			
LCS	**9K08002-BS1**									
Benzene	11/8/99	0.800		0.894	mg/kg	50-150	112			
Toluene	"	0.800		0.746	"	50-150	93.2			
Ethylbenzene	"	0.800		0.762	"	50-150	95.3			
Xylenes (total)	"	2.40		2.58	"	50-150	107			
Surrogate: a,a,a-Trifluorotoluene	"	*0.600*		*0.548*	"	*40-140*	*91.3*			
Matrix Spike	**9K08002-MS1**		**M911056-03**							
Benzene	11/8/99	0.800	ND	0.850	mg/kg	50-150	**106**			
Toluene	"	0.800	ND	0.712	"	50-150	**89.0**			
Ethylbenzene	"	0.800	ND	0.750	"	50-150	**93.7**			
Xylenes (total)	"	2.40	ND	2.48	"	50-150	**103**			
Surrogate: a,a,a-Trifluorotoluene	"	*0.600*		*0.476*	"	*40-140*	*79.3*			
Matrix Spike Dup	**9K08002-MSD1**		**M911056-03**							
Benzene	11/8/99	0.800	ND	0.838	mg/kg	50-150	**105**	20	**1.42**	
Toluene	"	0.800	ND	0.694	"	50-150	**86.7**	20	**2.56**	
Ethylbenzene	"	0.800	ND	0.728	"	50-150	**91.0**	20	**2.98**	
Xylenes (total)	"	2.40	ND	2.40	"	50-150	**100**	20	**3.28**	
Surrogate: a,a,a-Trifluorotoluene	"	*0.600*		*0.470*	"	*40-140*	*78.3*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

MTBE Confirmation by EPA Method 8260A/Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9K10023	**Date Prepared: 11/9/99**					**Extraction Method: EPA 5030B [MeOH]**				
Blank	**9K10023-BLK1**									
Di-isopropyl ether	11/10/99			**ND**	mg/kg	**0.10**				
Ethanol	"			**ND**	"	**2.5**				A-01a
Ethyl tert-butyl ether	"			**ND**	"	**0.10**				
tert-Amyl methyl ether	"			**ND**	"	**0.10**				
tert-Butyl alcohol	"			**ND**	"	**0.50**				
Methyl tert-butyl ether	"			**ND**	"	**0.10**				
Surrogate: Dibromofluoromethane	"	*2.50*		*2.65*	"	*50-150*	*106*			
Surrogate: 1,2-Dichloroethane-d4	"	*2.50*		*2.45*	"	*50-150*	*98.0*			
LCS	**9K10023-BS1**									
Methyl tert-butyl ether	11/10/99	2.50		2.61	mg/kg	70-130	104			
Surrogate: Dibromofluoromethane	"	*2.50*		*2.75*	"	*50-150*	*110*			
Surrogate: 1,2-Dichloroethane-d4	"	*2.50*		*2.60*	"	*50-150*	*104*			
Matrix Spike	**9K10023-MS1**	**W911084-06**								
Methyl tert-butyl ether	11/10/99	2.50	ND	1.78	mg/kg	60-150	**71.2**			
Surrogate: Dibromofluoromethane	"	*2.50*		*2.10*	"	*50-150*	*84.0*			
Surrogate: 1,2-Dichloroethane-d4	"	*2.50*		*1.75*	"	*50-150*	*70.0*			
Matrix Spike Dup	**9K10023-MSD1**	**W911084-06**								
Methyl tert-butyl ether	11/10/99	2.50	ND	1.99	mg/kg	60-150	**79.6**	25	**11.1**	
Surrogate: Dibromofluoromethane	"	*2.50*		*2.10*	"	*50-150*	*84.0*			
Surrogate: 1,2-Dichloroethane-d4	"	*2.50*		*1.75*	"	*50-150*	*70.0*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 10/27/99
1144 65th St. Suite C	Project Number:	2120 Montana	Received: 10/29/99
Oakland, CA 94608	Project Manager:	Jeff Gaarder	Reported: 3/17/00 13:39

Notes and Definitions

#	Note
A-01	Sample ran after an ethanol standard which had a recovery (72%) less than the method specifies (80%).
A-01a	Sample ran after an ethanol standard which had a recovery (72%) less than the method specifies (80%).
P-01	Chromatogram Pattern: Gasoline C6-C12
P-03	Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
P-06	Chromatogram Pattern: Gasoline C6-C12+ Unidentified Hydrocarbons >C8
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
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

CORE LABORATORIES

CL File No.: 57111-99264

Sequoia Analytical
(Morgan Hill)
M911056

Sample Fraction	Sample Desc.	Sample Date	Total Porosity %	Bulk Density		Matrix Density g/cc	Description
				Dry g/cc	Natural g/cc		
M911056-02	Soil	27-Oct-99	31.3	1.83	2.12	2.66	Gray vf-gran silty clayey sand
M911056-05	Soil	27-Oct-99	45.4	1.40	1.86	2.57	Gray clayey silt
M911056-09	Soil	27-Oct-99	38.3	1.60	1.98	2.59	Gray clayey silt

Grain and pore volumes were determined by Boyle's Law methods as per API RP-40.
Sample densities and total porosity were calculated as per API RP-40.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date:
Page of

Site Address: 2120 Mountain Oakland CA

INCIDENT #
98995740

Shell Engineer: Kevin Petryna
Phone No.: 551-615-9306
Fax #: 615-5647

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

Consultant Contact: Matt J. Gaffney
Phone No.: 510-420-0700
Fax #: 420-9170

Comments:

Sampled by: Matt J. Gaffney

Printed Name: Matt J Gaffney

Analysis Required

LAB: SEQ

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Total for Disposal	Combination TPH 8015 & BTEX 8020 /MTBE	Physical Parameters: FOC, Moisture, Porosity	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SB-1-5	10/27		X			1						X						Confirm Highest MTBE w/EPA 8260	
SB-1-10						1						X	X						
SB-2-5						1						X							
SB-2-10						1						X						Confirm highest MTBE w/ EPA 8260	
SB2-15						1						X	X						
SB2-20						1						X							

Relinquished by (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date: 10/28/97 Time: 10:20
Relinquished by (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date: Time:
Relinquished by (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date: Time:

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 10/21/99
Page 2 of 2

Site Address: 2120 Monticello Ave, Oakland
WIC#: Incident # 98995740

Shell Engineer: Karen Petryna — Phone No.: 925 645-9306 — Fax #: 645-5647

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

Consultant Contact: Matt Gaffney — Phone No.: 510 420-0700 — Fax #: 420-9170

Comments:

Sampled by: MGAEF

Printed Name: Matt Gaffney

LAB: SEQ

CHECK OIL (1) BOX ONLY	C/D#
G.W. Monitoring	4441
Site Investigation	X 4441
Soil Classify/Disposal	4442
Water Classify/Disposal	4443
Soil/Air Rem. or Sys. O & M	4452
Water Rem. or Sys. O & M	4453
Other	

TURN AROUND TIME
24 hours
48 hours
15 days / Normal
Other

NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.

UST AGENCY: _____

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 624)	Test for Disposal	Combination TPH 8015 & BTEX 8020 / MTBE	Physical Parameters for Density, Moisture, Porosity	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SB3-5	10/21					1						X							Confirm highest MTBE w/ 8260
SB3-10						1						X							
SB3-15						1						X	X						
~~SB3-20~~						1						X							
SB1-W				X		3						X							Confirm highest MTBE w/ 8260
SB2-W				X		3						X							
SB3-W				X		4						X							

Relinquished By (signature)	Printed Name	Date	Time	Received (signature)	Printed Name	Date	Time
	Eric Oahlman					10/25/99	10:20

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

ATTACHMENT B

Soil Boring Logs

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-1
JOB/SITE NAME	2120 Montana Street, Oakland	**DRILLING STARTED**	27-Oct-99
LOCATION	2120 Montana Street, Oakland	**DRILLING COMPLETED**	27-Oct-99
PROJECT NUMBER	242-0733	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	M. Gaffney	**DEPTH TO WATER (First Encountered)**	12.5 ft (27-Oct-99) ▽
REVIEWED BY	A. Le May, RG	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand Augered to 5 feet		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							CONCRETE	0.5	Portland Type I/II
							Silty SAND; (SM); brown; dry; 5% clay, 25% silt, 65% sand, 5% gravel; high estimated permeability.		
		SB-1 5.0		5	SM		@ 5'-gray; dry; 10% silt 80% sand, 10% gravel; low plasticity.		
		SB-1 10.0		10			**SAND**; Gray; dry; 10% silt, 80% sand, 10% gravel; high estimated permeability. ▽	10.0	
					SP				
				15			@ 15'- orange; 10% silt, 90% solidified coarse grained sand; medium estimated permeability.	16.0	Bottom of Boring @ 16 ft

WELL LOG (TPH-G) G:\OA8300-1\GINT\GINT.GPJ DEFAULT.GDT 3/30/00

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-2
JOB/SITE NAME	2120 Montana Street, Oakland	**DRILLING STARTED**	27-Oct-99
LOCATION	2120 Montana Street, Oakland	**DRILLING COMPLETED**	27-Oct-99
PROJECT NUMBER	242-0733	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	M. Gaffney	**DEPTH TO WATER (First Encountered)**	16.5 ft (27-Oct-99)
REVIEWED BY	A. Le May, RG	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand Augered to 5 feet		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							CONCRETE	0.5	Portland Type I/II
		SB-2 5.0		5			**Silty SAND**; gray green; dry; 5% clay, 25% silt, 65% sand, 5% gravel; medium plasticity; high estimated permeability.		
		SB-2 8.0					@ 5'-gray; 30% silt, 65% sand, 5% gravel; high estimated permeability.		
				10	SM		@ 12'-gray green; moist; 30% silt, 70% sand; medium estimated permeability.		
				15			@ 15'-brown; medium estimated permeability.		
		SB-2 16					@ 16.5'- wet; medium estimated permeability. ▽		
		SB-2 20		20				20.0	Bottom of Boring @ 20 ft

WELL LOG (TPH-G) G:\OA8300-11GINTGINT.GPJ DEFAULT.GDT 3/30/00

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	SB-3
JOB/SITE NAME	2120 Montana Street, Oakland	**DRILLING STARTED**	27-Oct-99
LOCATION	2120 Montana Street, Oakland	**DRILLING COMPLETED**	27-Oct-99
PROJECT NUMBER	242-0733	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	M. Gaffney	**DEPTH TO WATER (First Encountered)**	16.0 ft (27-Oct-99) ▽
REVIEWED BY	A. Le May, RG	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand Augered to 5 feet		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							CONCRETE	0.5	
							Silty SAND; gray brown; dry; 5% clay, 15% silt, 65% sand, 10% gravel; high estimated permeability.	0.5	
								0.5	
		SB-3 5.0		5			@ 5'-brown; 5% clay, 30% silt, 60% sand, 5% gravel; medium estimated permeability.		
					SM				
		SB-3 10.0		10			@ 9'- gray; dry; 20% silt, 80% sand; low estimated permeability.		Portland Type I/II
		SB-3 15.0		15			**Gravelly SAND**; (ML); brown; dry; 10% silt, 60% sand, 30% gravel; medium estimated permeability. ▽	15.0	
					SP				
				20				20.0	Bottom of Boring @ 20 ft

WELL LOG (TPH-G) G:\OAB300-1\GINT\GINT.GPJ DEFAULT.GDT 3/30/00

ATTACHMENT C

Standard Field Procedures for GeoProbe Sampling

CAMBRIA

STANDARD FIELD PROCEDURES FOR GEOPROBE® SAMPLING

This document describes Cambria Environmental Technology's standard field methods for GeoProbe® soil and ground water sampling. 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 separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed 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.

Field Screening

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech® or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Grab Ground Water Sampling

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. 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 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 quality assurance/quality control (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.

ATTACHMENT D

Drilling Permit

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 308, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5240 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2120 Mountain Ave
OAKLAND CA

California Coordinates Source _____ ft. Accuracy ± ___ ft.
CCN _____ ft. CCE _____ ft.
APN 26-859-22-1

CLIENT
Name EQUILVA Services LLC
Address P.O BOX 6249 Phone 559-645-5643
City CARSON CA Zip 94509

APPLICANT
Name Cambria Environ. Mat Gaffney
Fax 510-420-9170
Address 1144 65th St Phone 510-420-3336
City OAKLAND Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☒
Water Supply	☐	Contamination	☒
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other _____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☒		

DRILLER'S LICENSE NO. C57 # 485165

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

GEOTECHNICAL PROJECTS
Number of Borings 3 Maximum
Hole Diameter 2 in. Depth _____ ft.

ESTIMATED STARTING DATE September 23, 1999
ESTIMATED COMPLETION DATE October 30, 1999

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Mat J. Gaffney DATE 9/15/99

FOR OFFICE USE

PERMIT NUMBER 99WR558
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACFWA office five days prior to proposed starting date.
2. Submit to ACFWA within 90 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 geotechnical projects.
3. Permit 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 INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of 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 bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached.

(G.) SPECIAL CONDITIONS SEE ATTACHED INFORMATION.

APPROVED Frank L. Cade DATE 9-15-

ATTACHMENT E

Previous Transmittals to ACHCSA

FAXED 9/22/99

CAMBRIA

To:	Amir K. Gholami
Company:	AHCSA
Address:	1131 Harbor Bay Parkway, Suite 250
	Alameda, CA 94502
Phone:	(510) 567-6700
From:	Darryk Ataide
Phone:	(510) 420-3339
Date:	September 22, 1999
Re:	2120 Montana Ave. Oakland, CA

Transmittal

Mr. Gholami,

This transmittal serves as a response to your September 8, 1999 letter to Equilon Enterprises LLC regarding the referenced site. As requested in your letter, following is a Site Plan showing the revised location for proposed boring SB-2. Also, Cambria will insure that grab water samples are analyzed for oxygenates: TAME, DIPE, ETBE, TBA, EDB, and EDC.

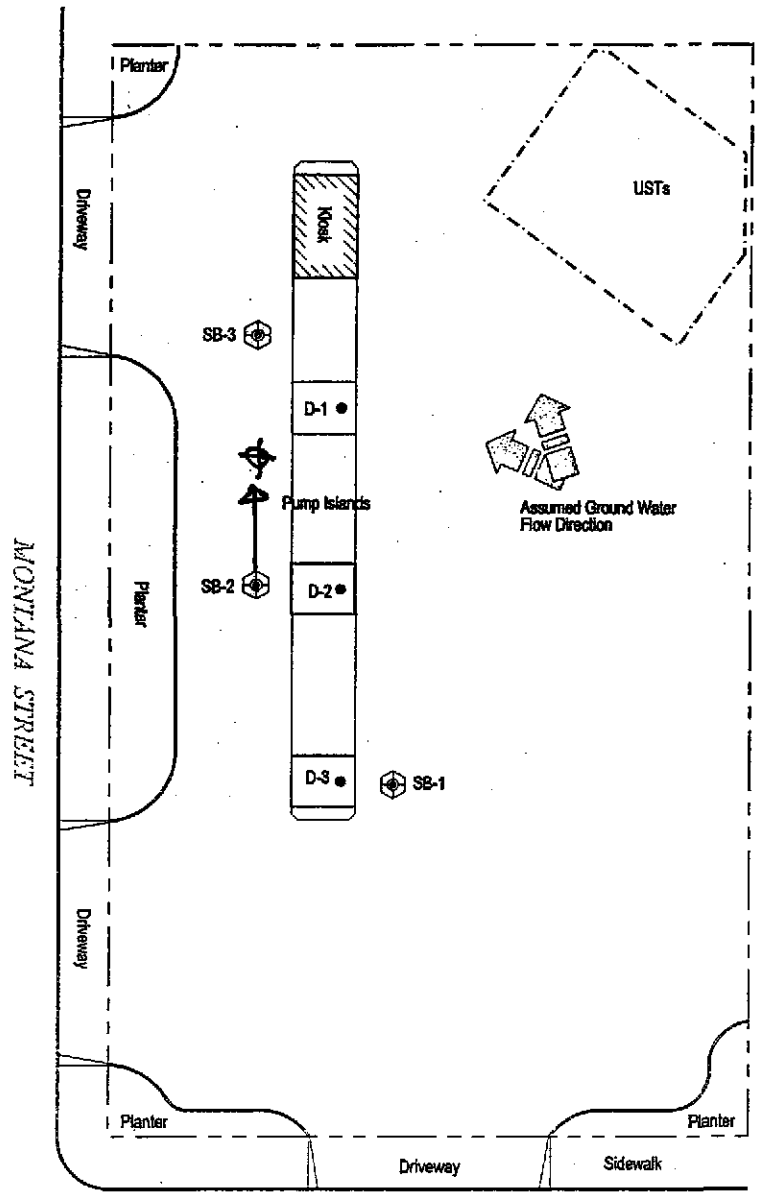
We trust this meets the requirements of your September 8, 1999 letter. Unless we hear otherwise, Cambria will proceed with the proposed investigation which is currently scheduled for October 27, 1999. We appreciate your continued assistance with this project, please call me if you have any questions or comments.

Thank You,

D. Ataide

Darryk Ataide
Project Manager

c.c. Karen Petryna, Equiva Services LLC



EXPLANATION

SB-1 ⊕ Proposed Soil Boring and Hydropunch Location

D-1 ● Soil Sampling Location

N

0 15 30

Scale (ft)

FIGURE

1

G:\OAK2120\FIGURES\SITE-MAP.DWG

Shell-branded Service Station
2120 Montana Street
Oakland, California
Incident #98995740

CAMBRIA

Site Map

Via Fax 10/19/99

CAMBRIA

To:	Amir K. Gholami
Company:	AHCSA
Address:	1131 Harbor Bay Parkway, Suite 250
	Alameda, CA 94502
Phone:	(510) 567-6700
From:	Darryk Ataide
Phone:	(510) 420-3339
Date:	October 19, 1999
Re:	2120 Montana Ave. Oakland, CA

Transmittal

Mr. Gholami,

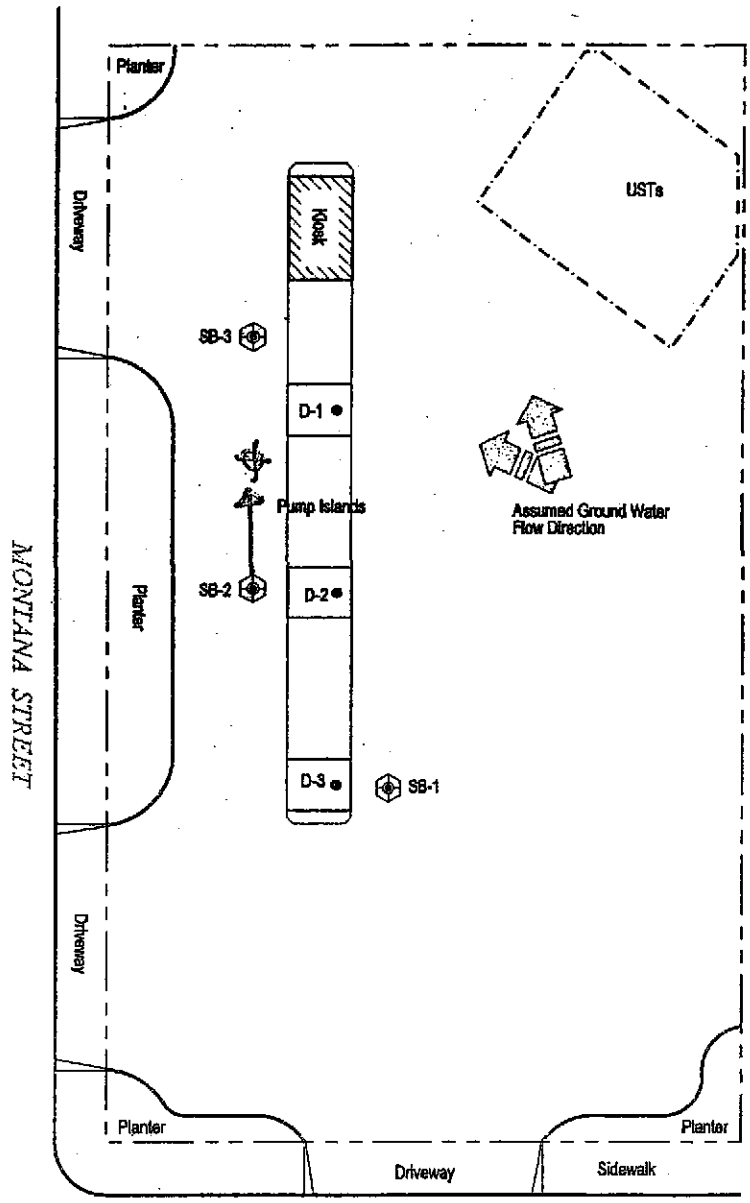
This transmittal serves as a response to your October 6, 1999 letter to Equilon Enterprises LLC regarding the referenced site. As requested in your letter, following is a Site Plan showing the revised location for proposed boring SB-2. Also, Cambria will insure that grab water samples are analyzed for oxygenates: TAME, DIPE, ETBE, TBA, EDB, and EDC.

We trust this meets the requirements of your October 6, 1999 letter. Unless we hear otherwise, Cambria will proceed with the proposed investigation which is currently scheduled for October 27, 1999. We appreciate your continued assistance with this project, please call me if you have any questions or comments.

Thank You,

Darryk Ataide
Project Manager

c.c. Karen Petryna, Equiva Services LLC



EXPLANATION

SB-1 ⊕ Proposed Soil Boring and Hydropunch Location

D-1 ● Soil Sampling Location

N

0 15 30

Scale (ft)

FIGURE

1

G:\OAK2120\FIGURES\SITE-MAP.DWG

Shell-branded Service Station
2120 Montana Street
Oakland, California
Incident #98995740

CAMBRIA

Site Map

ATTACHMENT F

Standard Field Procedures for Monitoring Wells

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.