CAMBRIA

#113

November 17, 2000

Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Site Investigation Report**
Shell-branded Service Station
4411 Foothill Boulevard
Oakland, California
Incident #98995746
Cambria Project # 242-0897

Dear Mr. Chan:

On behalf of Equiva Services LLC (Equiva), Cambria Environmental Technology, Inc (Cambria) is submitting the results of the site investigation conducted on January 7, 2000 at the above referenced site. The work was requested in a November 10, 1999 letter from the Alameda County Health Care Services Agency (ACHCSA). The investigation was conducted in accordance with our December 13, 1999 *Letter Response and Work Plan*. Presented below are summaries of the site background, investigation procedures, investigation results, and conclusions.

BACKGROUND

Site Location: The site is located on the southwest corner of the intersection of Foothill Boulevard and High Street in Oakland California (Figure 1). The neighborhood in the immediate vicinity of the site is mixed commercial and residential, with service stations occupying the northeastern and northwestern corners of the intersection. Fremont High School is located on the southeastern intersection corner.

Soil Lithology: Soil encountered at the site consists primarily of sand, silt, and clayey silt.

Groundwater Depth and Flow Direction: Depth to groundwater has ranged from 6.0 to 12.0 feet below ground surface (ft bgs) since groundwater monitoring was initiated in December of 1992. Groundwater flow direction onsite has ranged from northeast to northwest; however,, groundwater generally flows east to southeast.

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

1144 65th Street
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1992 Waste Oil Tank Removal: The environmental investigation at the Shell-branded site was initiated in November 1992, following the removal of an underground waste-oil tank. A soil sample was collected at the bottom of the excavation at a depth of approximately 11 ft bgs. No total petroleum hydrocarbons as gasoline (TPHg), diesel (TPHd), benzene, toluene, ethylbenzene, xylenes (BTEX), oil and grease, halogentated volatile organics compounds or metals were detected in the sample. Total lead was detected at 6.7 parts per million (ppm) in the sample. Details of the waste oil tank removal and sampling activities are presented in the GeoStrategies Inc. report dated March 26, 1992.

1992 Monitoring Well Installation: A single monitoring well (S-1) was installed in the vicinity of the waste-oil tank location. Details of the monitoring well installation are presented in GeoStrategies' *Monitoring Well Installation Report* dated January 19, 1993.

1993 Monitoring Well Installations: Monitoring wells S-2 and S-3 were installed by Hydro Environmental Technologies Inc. (HETI) on May 21, 1993. Details of the well installations are presented in HETI's report dated July 22, 1993.

1995 Soil and Groundwater Investigation: Pacific Environmental Group of San Jose, California (PEG) conducted a geoprobe investigation in June 1995. The investigation consisted of advancing eight onsite soil borings and two offsite borings for the collection of soil and groundwater samples. Details of the PEG investigation are presented in the PEG's *Site Investigation* report dated September 12, 1995.

1998 Product Equipment Upgrades: Paradiso Mechanical of San Leandro, California upgraded the service station in November 1998 by adding secondary containment to the gasoline turbines and dispensers. Details of dispenser upgrade and sampling activities are presented in Cambria's *Dispenser Soil Sampling Report* dated November 30, 1998.

January 1999 Letter Response and Work Plan: In response to the ACHCSA letter to Equiva dated December 7, 1998, Cambria prepared a *Letter Response and Work Plan* dated January 11, 1999. In the January 1999 work plan, Cambria proposed an additional onsite groundwater monitoring well (S-4) and enhanced groundwater oxygenation via hydrogen peroxide injection into existing site wells.

March 1999 Work Plan Addendum: Additional information regarding the location of proposed well S-4 and the use of hydrogen peroxide was requested by the AHCSA in a phone conversation with Cambria on February 1, 1999. As a result, Cambria submitted a *Work Plan Addendum*

dated March 18, 1999. In the March 1999 addendum, Cambria relocated proposed well S-4 to the location shown on Figure 2. Also, Cambria proposed the application of oxygen release compound (ORC) in lieu of hydrogen peroxide.

April 1999 ACHCSA Letter: The ACHCSA requested further information regarding the application of ORC in an April 30, 1999 letter to Equiva. In addition, the ACHCSA requested Cambria perform a feasibility study to evaluate preventative alternatives to the migration of MTBE. Cambria provided the requested information in the *Letter Response* dated June 15, 1999. Subsequently, in September 1999 ORC's were installed in wells S-1, S-2, and BW-A.

November 1999 ACHCSA Letter: In a letter dated November 10, 1999, the ACHCSA requested a site conceptual model and work plan be prepared for the site. Cambria submitted *a Letter Response and Work Plan* dated December 13, 1999.

January 2000 ACHCSA Letter: In a letter dated January 5, 2000, the ACHCSA confirmed receipt of Cambria's December 13, 1999 work plan.

August 2000 ACHCSA Letter: In a letter dated August 1, 2000, the ACHCSA requested a response the ACHCSA letter dated January 5, 2000.

Responses to the requests in the ACHCSA January 5, 2000 letter are presented below.

INVESTIGATION PROCEDURES

The procedures for this subsurface investigation, described in Cambria's approved work plan, are summarized below. The boring locations are shown on Figure 2. Analytical results for soil and groundwater samples are summarized in Tables 1 and 2, respectively. The certified laboratory analytical reports are presented in Attachment A. The soil boring and well logs and Cambria's Standard Field Procedures for Monitoring Wells are presented as Attachments B and C, respectively.

Per the ACHCSA request, well S-4 was proposed between the station building and southeastern dispenser island. However, a conduit was encountered while drilling boring SB-4, and the boring was relocated approximately 50 feet southeast. The second boring, SB-4B, was located adjacent to the southeast corner of the station building, and well S-4 was installed in that boring.

Personnel Present: Matthew Gaffney, Staff Geologist of Cambria.

Permit: Alameda County Public Works Agency Drilling Permit #99WR608 (Attachment D).

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

Drilling Date: January 7, 2000..

Drilling Method: Limited access, eight- and ten-inch hollow-stem auger.

Number of Borings/Wells: Two borings (SB-4 and SB-4B). Boring SB-4B was converted to groundwater monitoring well S-4.

Boring Depths: SB-4 was advanced to 25 ft bgs, and SB-4B was advanced to 20 ft bgs.

Sediment Lithology: Soils logged in borings SB-4 and SB-4B consisted primarily of silt, clayey silt, and sand of low to high estimated permeability.

Groundwater Depth: Groundwater was first encountered at 14.8 ft bgs in SB-4B and 20.0 ft bgs in SB-4.

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

- TPHg by modified EPA Method 8015;
- BTEX and MTBE by EPA Method 8020;
- MTBE concentrations reported in groundwater by EPA Method 8020 were confirmed by EPA Method 8260;
- All soil samples were analyzed for TPHd; and
- Selected soil samples were analyzed for organic carbon fraction, moisture content, dry bulk density and porosity (Attachment A).

Soil Disposal: Soil generated from the investigation was transported to Forward Landfill under approval number 921600.

Backfill Method: Boring SB-4 was backfilled with neat cement grout to match the existing grade.

Well Construction: Well S-4 was constructed using a using four-inch diameter schedule 40 PVC casing, 0.020-inch slotted well screen, and Monterey 2x12 sand filter pack (Attachment B).

Screened Interval: The screened interval of well S-4 is 5 to 20 ft bgs.

Well Development: Well S-4 was developed on March 29, 2000 using surge block agitation and pump evacuation by Blaine Tech Services of San Jose, California. The well development data was included in Cambria's *First Quarter 2000 Groundwater Monitoring Report* .

Well Elevation Survey: The top of casing elevation was surveyed by Virgil Chavez Land Surveying of Vallejo, California on February 3, 2000. Surveying results presented in Attachment E.

INVESTIGATION RESULTS

Hydrocarbon Distribution in Soil: In boring SB-4, the maximum concentrations of TPHd, TPHg, and benzene were found in sample SB-4-9.0, at concentrations of 244 ppm, 786 ppm, and 2.27 ppm, respectively. The maximum concentration of MTBE was reported in sample SB–4–16.0 at 0.893 ppm by EPA Method 8020.

In boring SB-4B, the maximum concentrations of TPHd and TPHg were detected in sample SB-4B-5.5 at 27.2 ppm and 28.2 ppm, respectively. The maximum concentration of benzene was detected in sample SB-4B-10.5 at 0.0696 ppm. The maximum concentration of MTBE by EPA Method 8020 was reported in sample SB-4B-19.0 at 0.233 ppm. MTBE was confirmed by EPA Method 8260 in sample SB-4B-19.0 at a concentration of 0.0549 ppm.

Hydrocarbon Distribution in Groundwater: TPHg, MTBE by EPA Method 8020, and benzene were reported in sample SB-4W20 from boring SB-4 at concentrations of 180,000 parts per billion (ppb), 7,100 ppb, and 31,000 ppb, respectively. MTBE was confirmed by EPA Method 8260 in sample SB4-W20 at a concentration of 5,400 ppb.

TPHg, MTBE by EPA Method 8020, and benzene were reported in sample SB-4BW15, from boring SB-4B, at concentrations of 39,000 ppb, 4,700 ppb, and 3,000 ppb respectively. MTBE was confirmed by EPA Method 8260 in sample SB-4BW15 at a concentration of 4,600 ppb.

SENSITIVE RECEPTOR SURVEY

During February 2000, Cambria identified potential sensitive receptors within 1/2-mile of the site. Department of Water Resources records were reviewed in February 2000 to identify potential water wells and topographic maps were reviewed to identify any surface bodies of water. Results of the sensitive receptor survey are plotted on Figure 3 and included in Table 3.

Also include basements.

Oakland's Peralta Creek is located approximately 3,800 feet northwest of the site. No domestic, irrigation, or municipal water supply wells were identified within 1/2 mile of the site.

UTILITY PATHWAY SURVEY

Cambria performed a survey of utilities in the vicinity of the site. Utility locations are presented on Figure 2. Details of the utility survey were presented in Cambria's December 13, 1999 *Letter Response and Work Plan.*

depth & potential ~~for~~ impact

VACUUM ENHANCED GROUNDWATER EXTRACTION

Cambria performed two groundwater purging events from backfill well BW-A on July 30, 1999 and August 4, 1999, prior to installing ORCs. A total of approximately 2,800 gallons of groundwater was extracted.

CONCLUSIONS AND RECOMMENDATIONS

TPHg, benzene, and MTBE have impacted soil and groundwater in the vicinity of soil borings SB-4 and SB-4B. The highest concentrations of petroleum hydrocarbons and MTBE were detected in boring SB-4, closest to the product dispensers. We recommend that well S-4 be monitored quarterly along with the other site wells to establish hydrocarbon and MTBE concentration trends.

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.

Darren Croteau
Project Geologist

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

REGISTERED GEOLOGIST
STEPHAN A. BORK
No. EG 2058
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Figure 1: Vicinity Map
Figure 2: Soil Boring, Well, and Utility Location Map
Figure 3: Area Well Survey

Table 1: Soil Analytic Data
Table 2: Groundwater Analytic Data
Table 3: Well Survey

Attachments:
A – Certified Laboratory Analytical Report for Soil and Groundwater Samples
B – Soil Boring Logs
C – Standard Field Procedures for Monitoring Wells
D – Drilling Permit
E – Surveying Results

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

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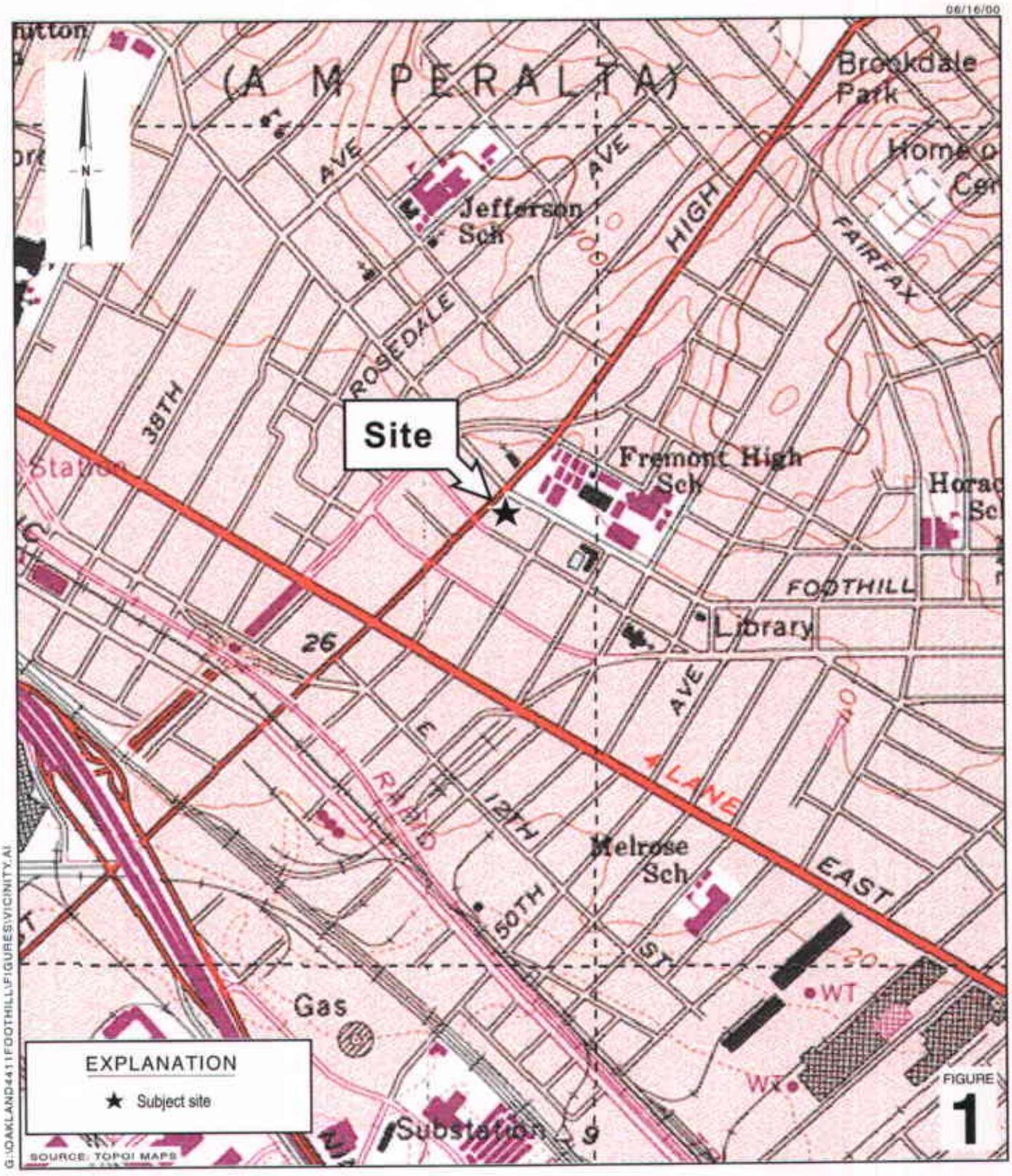

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Vicinity Map

11/16/00

Soil Boring, Well, and Utility Location Map

EAST 17th STREET

BOND STREET

FOOTHILL BOULEVARD

HIGH STREET

house

apartments

storage

apartments

house

commercial

house

apartments

C-1

C-2

C-3

C-4

C-5

C-6

C-7

C-8

kiosk

pump islands

Chevron Service Station

MW-2

MW-3

MW-4

MW-5

MW-6

MW-8

MW-9

Station Building

pump islands

BP Service Station

canopy

DISP-4

DISP-3

pump islands

underground storage tanks

Shell-branded Service Station

S-2

S-3

former waste oil tank

S-1

SB-4

DISP-2

pump islands

DISP-1

canopy

Station Building

S-4/SB-4B

EXPLANATION

- S-1 — Shell monitoring well location
- SB-4 — Soil boring location (01/07/00)
- DISP-1 — Dispenser sample location (08/26/99)
- C-1 — Chevron monitoring well location
- MW-2 — BP monitoring well location
- MW-3 — Groundwater extraction well
- Fire hydrant
- Storm drain
- Manhole
- Power pole
- Storm drain
- Sanitary sewer
- Overhead power lines

N

0 25 50

SCALE 1:50

FIGURE

2

Shell-branded Service Station
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Oakland, California
Incident #98995746

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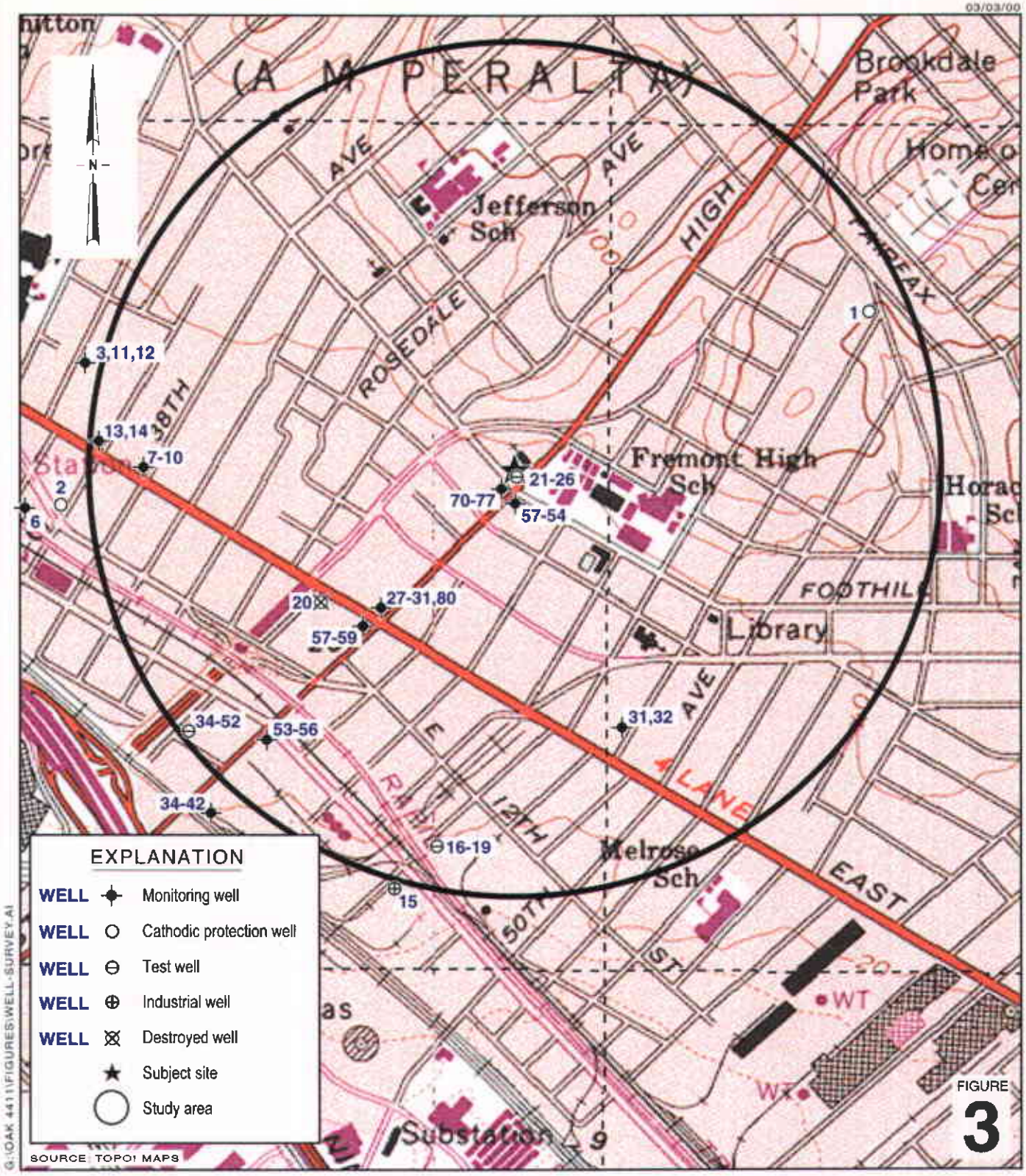

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Area Well Survey

(1/2-Mile Radius)

Table 1. Soil Analytic Data - Shell-branded Service Station - Incident # 98995744, 4411 Foothill Blvd., Oakland, California

Sample ID	Depth (feet)	TPHd	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
			← (Concentrations reported in mg/kg) →					
January 7, 2000								
SB-4-5.5	5.5	<1.0	<1.0	<0.025	<0.005	<0.005	<0.005	<0.005
SB-4-9.0	9.0	244.0	786	<1.25	2.27	1.68	8.1	26.5
SB-4-16.0	16.0	209.0	294	0.893	1.50	4.35	3.88	15.7
SB-4-19.5	19.5	<1.0	2.08	<0.025	0.212	0.0168	0.0168	0.0167
SB-4-24.5	24.5	<1.0	<1.0	<0.025	0.00724	<0.005	<0.005	<0.005
SB-4B-5.5	5.5	27.2	28.2	0.0603 (0.0345)	0.0176	<0.01	0.0408	0.0738
SB-4B-10.5	10.5	<5.0	6.19	<0.125	0.0696	<0.025	0.0915	<0.025
SB-4B-19.0	19.0	<5.0	<1.0	0.233 (0.0549)	0.0445	<0.005	<0.005	<0.005

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015.
TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015.
MTBE = Methyl tert-butyl ether by EPA Method 8020, (0.0345) = MTBE by EPA Method 8260.
Benzene, ethylbenzene, toluene, xylenes by EPA Method 8020.
ppm = parts per million
<n = Below detection limit of n ppm

Table 2. Groundwater Analytic Data - Shell-branded Service Station - Incident # 98995744, 4411 Foothill Blvd., Oakland, CA

Sample ID	Depth (feet)	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
		← (Concentrations reported in ppb) →					
January 7, 2000							
SB-4W20	20.0	180,000	7,100(5,400)	31,000	6,900	5,900	26,000
SB-4BW15	15	39,000	4,700(4,600)	3,000	160	2,100	4,300

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015.

MTBE = Methyl tert-butyl ether by EPA Method 8020, (5400) = MTBE by EPA Method 8260.

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

ppb = parts per billion.

<n = Below detection limit of n ppb.

Table 3. Well Survey - Shell-branded Service Station - Incident# 98995746, 4411 Foothill Blvd., Oakland, California

Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
1	2S3W 9D1	06/18/77	PG&E	CATH	120	95-120	0-95
2	2S/3W-8C2	01/29/75	PG&E	CATH	120	95-120	0-95
3	2S3W 8C1	03/23/90	August Manufactoring	MONT	34.5	14.5-35	0-14.5
4	2S/3W-8C1	07/26/77	Trust for Public Land	IRR	30	10-30	0-10
5	2S3W-8E1	12/13/73	PG&E	CATH	120	95-120	0-95
6	2S3W-8E2	12/13/73	Veron McIlrath	MONT	30	10-30	0-10
7	2S3W-8f1	05/04/90	Shell Oil Company	MONT	27	11-27	0-11
8	2S3W-8f2	05/04/90	Shell Oil Company	MONT	29	9-29	0-9
9	2S3W-8f3	05/04/90	Shell Oil Company	MONT	28	8-28	0-8
10	2S3W-8f4	06/24/92	Shell Oil Company	MONT	25	5-25	0-5
11	2S3W-8D2	09/14/90	August Manufactoring	MONT	25	15-25	0-15
12	2S3W-8D3	09/14/90	August Manufactoring	MONT	26.5	15-25	0-15
13	2S3W-8E3	02/01/93	Cheveron USA Inc.	MONT	20.5	5-20	0-5
14	2S3W-8E4	02/01/93	Cheveron USA Inc.	MONT	20.5	5-20	0-5
15	2S/3W-8Q1	01/09/62	National Lead Co.	IND	776	2-776	0-2
16	2S/3W-8K2	03/30/89	Peterson Properties	TEST	25	7-25	0-7
17	2S/3W-8K3	03/30/89	Peterson Properties	TEST	27	7-27	0-7
18	2S/3W-8K4	03/31/89	Peterson Properties	TEST	25	7-25	0-7
19	2S/3W-8L2	07/23/82	Peterson Properties	TEST	235	115-145 & 205-235	0-115
20	02S03W8F80	*7/9/1996	Pressure Cast	DEST	15	N/A	0-15
21	2S/3W-8G6	04/19/89	Mobil Oil Corporatin	TEST	30	20-30	0-20
22	2S/3W-8G7	04/19/89	Mobil Oil Corporatin	TEST	30	20-30	0-20
23	2S/3W-8G8	04/19/89	Mobil Oil Corporatin	TEST	30	20-30	0-20
24	2S/3W-8G9	04/19/89	Mobil Oil Corporatin	TEST	30	20-30	0-20
25	2S/3W-8G10	01/29/90	Mobil Oil Corporatin	TEST	32	20-32	0-20

Table 3. Well Survey - Shell-branded Service Station - Incident# 98995746, 4411 Foothill Blvd., Oakland, California

Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
26	2S/3W-8G11	01/29/90	Mobil Oil Corporatin	TEST	27	20-27	0-20
27	2S/3W-8G25	04/14/93	Joseph & Rosemarie Hess	MONT	45	30-45	0-30
28	2S/3W-8G26	04/15/93	Joseph & Rosemarie Hess	MONT	45	30-45	0-30
29	2S/3W-8G27	04/15/93	Joseph & Rosemarie Hess	MONT	45	31-45	0-31
30	2S/3W-8G31	08/28/92	Joseph & Rosemarie Hess	MONT	43	33-43	0-33
31	2S/3W-8G28	04/14/93	Florence Ginsburg	MONT	42	30-42	0-30
32	2S/3W-8J1	10/05/92	Bayview Fedwral	MONT	15	5-15	0-5
33	2S/3W-8J2	10/05/92	Bayview Fedwral	MONT	15	5-15	0-5
34	2S/3W-8L3	09/21/82	The Clorox Co.	TEST	244	135-155 & 179-234	0-135
35	2S/3W-8L4	08/05/82	The Clorox Co.	TEST	20	10-20	0-10
36	2S/3W-8L5	09/21/82	The Clorox Co.	TEST	25	10-25	0-10
37	2S/3W-8L6	08/06/82	The Clorox Co.	TEST	20	10-20	0-10
38	2S/3W-8L7	10/18/82	The Clorox Co.	TEST	20	10-20	0-10
39	2S/3W-8L8	08/09/82	The Clorox Co.	TEST	20	10-20	0-10
40	2S/3W-8L9	07/28/82	The Clorox Co.	TEST	85	40-80	0-40
41	2S/3W-8L10	07/30/82	The Clorox Co.	TEST	85	40-80	0-40
42	2S/3W-8L11	08/05/82	The Clorox Co.	TEST	75	30-70	0-30
43	2S/3W-8L12	08/10/82	The Clorox Co.	TEST	20	10-20	0-10
44	2S/3W-8L13	08/10/82	The Clorox Co.	TEST	75	30-70	0-30
45	2S/3W-8L14	08/03/82	The Clorox Co.	TEST	85	40-80	0-40
46	2S/3W-8L27	09/22/86	The Clorox Co.	MONT	29	13.5-23.5	0-13.5
47	2S/3W-8L28	09/17/86	The Clorox Co.	MONT	28	13-23	0-13
48	2S/3W-8L29	09/17/86	The Clorox Co.	MONT	25	12.5-22.5	0-12.5
49	2S/3W-8L30	09/12/86	The Clorox Co.	MONT	27	11-21	0-11
50	2S/3W-8L31	09/11/86	The Clorox Co.	MONT	25	10-20	0-10

Table 3. Well Survey - Shell-branded Service Station - Incident# 98995746, 4411 Foothill Blvd., Oakland, California

Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
51	2S/3W-8L32	09/23/86	The Clorox Co.	MONT	29.75	13-23	0-13
52	2S/3W-8L26	10/03/86	The Clorox Co.	MONT	55	37.5-52.5	0-37.5
53	2S/3W-8L22	10/24/86	Commerical Fueling Systems	MONT	11	5-11	0-5
54	2S/3W-8L23	10/24/86	Commerical Fueling Systems	MONT	11	5-11	0-5
55	2S/3W-8L24	10/24/86	Commerical Fueling Systems	MONT	11	5-11	0-5
56	2S/3W-8L25	10/24/86	Commerical Fueling Systems	MONT	11	5-11	0-5
57	2S/3W-8G29	03/15/93	Shell Oil Company	MONT	22	7-22	0-7
58	2S/3W-8G30	03/15/93	Shell Oil Company	MONT	20	7-20	0-7
59	2S/3W-8G35	11/17/92	Shell Oil Company	MONT	25	9.5-25	0-9.5
60	2S/3W-8G38	01/08/92	Grand Auto/Former Super Tire Site	MONT	43	33-43	0-33
61	2S/3W-8G16	09/19/90	Unocal Corporation	MONT	51	36-51	0-36
62	2S/3W-8G17	09/19/90	Unocal Corporation	MONT	51	35.5-51	0-35.5
63	2S/3W-8G18	09/19/90	Unocal Corporation	MONT	51	33-51	0-33
64	2S/3W-8G19	03/04/92	Unocal Corporation	MONT	50	30-50	0-30
65	2S/3W-8G32	04/08/93	Unocal Corporation	MONT	12.5	3.5-11.5	0-3.5
66	2S/3W-8G33	04/08/93	Unocal Corporation	MONT	12.5	3.5-11.5	0-3.5
67	2S/3W-8G34	04/08/93	Unocal Corporation	MONT	11	3.5-11	0-3.5
68	2S/3W-8G36	11/19/92	Unocal Corporation	MONT	50	29-49	0-29
69	2S/3W-8G37	11/19/92	Unocal Corporation	MONT	49	29-49	0-29
70	2S/3W-8G2	08/13/87	Cheveron USA Inc.	MONT	40	15-40	0-15
71	2S/3W-8G3	08/13/87	Cheveron USA Inc.	MONT	40	15-40	0-15
72	2S/3W-8G4	08/13/87	Cheveron USA Inc.	MONT	40	15-40	0-15
73	2S/3W-8G5	08/13/87	Cheveron USA Inc.	MONT	40	15-40	0-15
74	2S/3W-8G12	09/01/90	Cheveron USA Inc.	MONT	45	25-45	0-25
75	2S/3W-8G13	09/01/90	Cheveron USA Inc.	MONT	55	35-55	0-35

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Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
76	2S/3W-8G14	07/31/90	Cheveron USA Inc.	MONT	55	35-55	0-35
77	2S/3W-8G15	11/01/90	Cheveron USA Inc.	MONT	59	39-59	0-39

Abbreviations:

UNK = Unknown
N/A = Not available
CATH= Cathodic Protection
MONIT = Monitoring Well
IND = Industrial well
DEST = Destroyed well
IRR = Irrigation well
TEST = Test well
MUNI = Municipal supply well
* = Well destruction date

Notes:

All well data was supplied by the California Department of Water Resources

Attachment A

Certified Laboratory Analytical Report for Soil and Groundwater Samples

Sequoia
Analytical

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(408) 776-9600
FAX (408) 782-6308

March 3, 2000

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

RE: Shell 4411 Foothill Blvd., Oakland

Dear Darryk Ataide

Enclosed are the results of analyses for sample(s) received by the laboratory on January 12, 2000.
If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kayvan Kimyai
Project Manager D.M.

CA ELAP Certificate Number 1210

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
SB-4 5.5	M001425-01	Soil	1/7/00
SB-4 9.0	M001425-02	Soil	1/7/00
SB-4 16.0	M001425-03	Soil	1/7/00
SB-4 18.5	M001425-04	Soil	1/7/00
SB-4 19.5	M001425-05	Soil	1/7/00
SB-4 24.5	M001425-06	Soil	1/7/00
SB-4W20	M001425-07	Water	1/7/00
SB-4B 5.5	M001425-08	Soil	1/7/00
SB4B 10.5	M001425-09	Soil	1/7/00
SB4B 19.0	M001425-10	Soil	1/7/00
SB4B W15	M001425-11	Water	1/7/00

Kayvan Kimyai, Project Manager D.M.

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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-4 5.5			**M001425-01**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/21/00	DHS LUFT	1.00	ND	mg/kg	
Benzene	"	"	"	DHS LUFT	0.00500	ND	"	
Toluene	"	"	"	DHS LUFT	0.00500	ND	"	
Ethylbenzene	"	"	"	DHS LUFT	0.00500	ND	"	
Xylenes (total)	"	"	"	DHS LUFT	0.00500	ND	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	0.0250	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*79.0*	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*63.5*	"	
SB-4 9.0			**M001425-02**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/21/00	DHS LUFT	50.0	**786**	mg/kg	P-01
Benzene	"	"	"	DHS LUFT	0.250	**2.27**	"	
Toluene	"	"	"	DHS LUFT	0.250	**1.68**	"	
Ethylbenzene	"	"	"	DHS LUFT	0.250	**8.10**	"	
Xylenes (total)	"	"	"	DHS LUFT	0.250	**26.5**	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	1.25	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*79.0*	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*NR*	"	*S-06*
SB-4 16.0			**M001425-03**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/21/00	DHS LUFT	25.0	**294**	mg/kg	P-01
Benzene	"	"	"	DHS LUFT	0.125	**1.50**	"	
Toluene	"	"	"	DHS LUFT	0.125	**4.35**	"	
Ethylbenzene	"	"	"	DHS LUFT	0.125	**3.88**	"	
Xylenes (total)	"	"	"	DHS LUFT	0.125	**15.7**	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	0.625	**0.893**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*100*	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*NR*	"	*S-06*
SB-4 19.5			**M001425-05**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/21/00	DHS LUFT	1.00	**2.08**	mg/kg	P-01
Benzene	"	"	"	DHS LUFT	0.00500	**0.212**	"	
Toluene	"	"	"	DHS LUFT	0.00500	**0.0168**	"	
Ethylbenzene	"	"	"	DHS LUFT	0.00500	**0.0168**	"	
Xylenes (total)	"	"	"	DHS LUFT	0.00500	**0.0617**	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	0.0250	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*72.0*	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*63.0*	"	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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-4 24.5			**M001425-06**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/21/00	DHS LUFT	1.00	ND	mg/kg	
Benzene	"	"	"	DHS LUFT	0.00500	**0.00724**	"	
Toluene	"	"	"	DHS LUFT	0.00500	ND	"	
Ethylbenzene	"	"	"	DHS LUFT	0.00500	ND	"	
Xylenes (total)	"	"	"	DHS LUFT	0.00500	ND	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	0.0250	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*75.5*	*%*	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*66.5*	"	
SB-4B 5.5			**M001425-08**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/20/00	DHS LUFT	2.00	**28.2**	mg/kg	P-04
Benzene	"	"	"	DHS LUFT	0.0100	**0.0176**	"	
Toluene	"	"	"	DHS LUFT	0.0100	ND	"	
Ethylbenzene	"	"	"	DHS LUFT	0.0100	**0.0408**	"	
Xylenes (total)	"	"	"	DHS LUFT	0.0100	**0.0738**	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	0.0500	**0.0603**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*83.5*	*%*	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*58.5*	"	*S-02*
SB4B 10.5			**M001425-09**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/21/00	DHS LUFT	5.00	**6.19**	mg/kg	P-04
Benzene	"	"	"	DHS LUFT	0.0250	**0.0696**	"	
Toluene	"	"	"	DHS LUFT	0.0250	ND	"	
Ethylbenzene	"	"	"	DHS LUFT	0.0250	**0.0915**	"	
Xylenes (total)	"	"	"	DHS LUFT	0.0250	ND	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	0.125	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*94.0*	*%*	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*63.0*	"	
SB4B 19.0			**M001425-10**				**Soil**	
Purgeable Hydrocarbons	0010487	1/19/00	1/21/00	DHS LUFT	1.00	ND	mg/kg	
Benzene	"	"	"	DHS LUFT	0.00500	**0.0445**	"	
Toluene	"	"	"	DHS LUFT	0.00500	ND	"	
Ethylbenzene	"	"	"	DHS LUFT	0.00500	ND	"	
Xylenes (total)	"	"	"	DHS LUFT	0.00500	ND	"	
Methyl tert-butyl ether	"	"	"	DHS LUFT	0.0250	**0.233**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*79.5*	*%*	
Surrogate: 4-Bromofluorobenzene	"	"	"	*60-140*		*69.5*	"	

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1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
SB-4 5.5			**M001425-01**				**Soil**	
Diesel Range Hydrocarbons	0010539	1/20/00	1/24/00	DHS LUFT	1.00	ND	mg/kg	
Surrogate: n-Pentacosane	"	"	"	*50-150*		*80.8*	*%*	
SB-4 9.0			**M001425-02**				**Soil**	
Diesel Range Hydrocarbons	0010539	1/20/00	1/25/00	DHS LUFT	10.0	**244**	mg/kg	D-15
Surrogate: n-Pentacosane	"	"	"	*50-150*		*132*	*%*	
SB-4 16.0			**M001425-03**				**Soil**	
Diesel Range Hydrocarbons	0010539	1/20/00	1/25/00	DHS LUFT	5.00	**209**	mg/kg	D-15
Surrogate: n-Pentacosane	"	"	"	*50-150*		*180*	*%*	*S-02*
SB-4 19.5			**M001425-05**				**Soil**	
Diesel Range Hydrocarbons	0010539	1/20/00	1/24/00	DHS LUFT	1.00	ND	mg/kg	
Surrogate: n-Pentacosane	"	"	"	*50-150*		*83.8*	*%*	
SB-4 24.5			**M001425-06**				**Soil**	
Diesel Range Hydrocarbons	0010539	1/20/00	1/24/00	DHS LUFT	1.00	ND	mg/kg	
Surrogate: n-Pentacosane	"	"	"	*50-150*		*86.2*	*%*	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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-4 18.5			**M001425-04**				**Soil**	
Moisture	0010464	1/14/00	1/14/00	EPA 160.3	0.0100	**19.3**	%	
Total Organic Carbon	0010622	1/24/00	1/24/00	EPA 9060 mod.	50.0	**68.4**	mg/kg	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SB-4B 5.5			**M001425-08**				**Soil**	
Diesel (C10-C24)	0020527	2/23/00	2/24/00		5.00	**27.2**	mg/kg	HC-12
Surrogate: o-Terphenyl	"	"	"	*50.0-150*		*92.5*	%	
SB4B 10.5			**M001425-09**				**Soil**	
Diesel (C10-C24)	0020527	2/23/00	2/25/00		5.00	ND	mg/kg	
Surrogate: o-Terphenyl	"	"	"	*50.0-150*		*89.2*	%	
SB4B 19.0			**M001425-10**				**Soil**	
Diesel (C10-C24)	0020527	2/23/00	2/25/00		5.00	ND	mg/kg	
Surrogate: o-Terphenyl	"	"	"	*50.0-150*		*94.9*	%	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SB-4 16.0			**M001425-03**				**Soil**	**R-05,O-04**
Methyl tert-butyl ether	0020430	2/18/00	2/18/00		25.0	ND	ug/kg	
Surrogate: Dibromofluoromethane	"	"	"	*80.0-120*		*95.4*	%	
SB-4B 5.5			**M001425-08**				**Soil**	**O-04**
Methyl tert-butyl ether	0020523	2/29/00	2/29/00		12.5	**34.5**	ug/kg	
Surrogate: Dibromofluoromethane	"	"	"	*80.0-120*		*101*	%	
SB4B 19.0			**M001425-10**				**Soil**	**O-04**
Methyl tert-butyl ether	0020523	2/29/00	2/29/00		5.00	**54.9**	ug/kg	
Surrogate: Dibromofluoromethane	"	"	"	*80.0-120*		*97.6*	%	

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1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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-4W20			**M001425-07**				**Water**	**P-01**
Purgeable Hydrocarbons	0A20002	1/20/00	1/20/00	EPA 8015M/8020	50000	**180000**	ug/l	
Benzene	"	"	"	EPA 8015M/8020	500	**31000**	"	
Toluene	"	"	"	EPA 8015M/8020	500	**6900**	"	
Ethylbenzene	"	"	"	EPA 8015M/8020	500	**5900**	"	
Xylenes (total)	"	"	"	EPA 8015M/8020	500	**26000**	"	
Methyl tert-butyl ether	"	"	"	EPA 8015M/8020	2500	**7100**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*106*	%	
SB4B W15			**M001425-11**				**Water**	**P-01**
Purgeable Hydrocarbons	0A20003	1/20/00	1/20/00	EPA 8015M/8020	10000	**39000**	ug/l	
Benzene	"	"	"	EPA 8015M/8020	100	**3000**	"	
Toluene	"	"	"	EPA 8015M/8020	100	**160**	"	
Ethylbenzene	"	"	"	EPA 8015M/8020	100	**2100**	"	
Xylenes (total)	"	"	"	EPA 8015M/8020	100	**4300**	"	
Methyl tert-butyl ether	"	"	"	EPA 8015M/8020	500	**4700**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70-130*		*89.7*	%	

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
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Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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-4W20			**M001425-07**				**Water**	**O-04**
Methyl tert-butyl ether	0A24012	1/24/00	1/24/00	EPA 8260A	400	**5400**	ug/l	
Surrogate: Dibromofluoromethane	"	"	"	*50-150*		*100*	%	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*50-150*		*100*	"	
SB4B W15			**M001425-11**				**Water**	**O-04**
Methyl tert-butyl ether	0B23015	2/23/00	2/23/00	EPA 8260A	100	**4600**	ug/l	
Surrogate: Dibromofluoromethane	"	"	"	*50-150*		*110*	%	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*50-150*		*106*	"	

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1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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: 0010487	**Date Prepared: 1/19/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0010487-BLK1**									
Purgeable Hydrocarbons	1/20/00			**ND**	mg/kg	**1.00**				
Benzene	"			**ND**	"	**0.00500**				
Toluene	"			**ND**	"	**0.00500**				
Ethylbenzene	"			**ND**	"	**0.00500**				
Xylenes (total)	"			**ND**	"	**0.00500**				
Methyl tert-butyl ether	"			**ND**	"	**0.0250**				
Surrogate: a,a,a-Trifluorotoluene	"	*0.0200*		*0.0172*	"	*70-130*	*86.0*			
Surrogate: 4-Bromofluorobenzene	"	*0.200*		*0.155*	"	*60-140*	*77.5*			
LCS	**0010487-BS1**									
Purgeable Hydrocarbons	1/20/00	5.00		5.09	mg/kg	70-130	102			
Surrogate: a,a,a-Trifluorotoluene	"	*0.0200*		*0.0215*	"	*70-130*	*108*			
Surrogate: 4-Bromofluorobenzene	"	*0.200*		*0.156*	"	*60-140*	*78.0*			
LCS Dup	**0010487-BSD1**									
Purgeable Hydrocarbons	1/20/00	5.00		5.20	mg/kg	70-130	104	25	2.14	
Surrogate: a,a,a-Trifluorotoluene	"	*0.0200*		*0.0244*	"	*70-130*	*122*			
Surrogate: 4-Bromofluorobenzene	"	*0.200*		*0.154*	"	*60-140*	*77.0*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0010539	**Date Prepared: 1/20/00**					**Extraction Method: EPA 3580A**				
Blank	**0010539-BLK1**									
Diesel Range Hydrocarbons	1/24/00			**ND**	mg/kg	**1.00**				
Surrogate: n-Pentacosane	"	*1.67*		*1.63*	"	*50-150*	*97.6*			
LCS	**0010539-BS1**									
Diesel Range Hydrocarbons	1/24/00	16.7		13.8	mg/kg	60-140	82.6			
Surrogate: n-Pentacosane	"	*1.67*		*1.55*	"	*50-150*	*92.8*			
Matrix Spike	**0010539-MS1**									
Diesel Range Hydrocarbons	1/24/00	16.7		1490	mg/kg	50-150	**NR**			Q-03
Surrogate: n-Pentacosane	"	*1.67*		*5.70*	"	*50-150*	*NR*			*Q-03*
Matrix Spike Dup	**0010539-MSD1**									**Q-03**
Diesel Range Hydrocarbons	1/24/00	16.7		951	mg/kg	50-150	**NR**	50	**44.2**	
Surrogate: n-Pentacosane	"	*1.67*		*5.30*	"	*50-150*	*NR*			

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1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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: 0010464	**Date Prepared: 1/14/00**				**Extraction Method: General Preparation**					
Duplicate	**0010464-DUP1**		**M001425-04**							
Moisture	1/14/00		19.3	19.2	%			20	**0.519**	
Batch: 0010622	**Date Prepared: 1/24/00**				**Extraction Method: General Preparation**					
Blank	**0010622-BLK1**									
Total Organic Carbon	1/24/00			**ND**	mg/kg	**50.0**				
LCS	**0010622-BS1**									
Total Organic Carbon	1/24/00	2000		1840	mg/kg	80-120	92.0			
Matrix Spike	**0010622-MS1**		**M001425-04**							
Total Organic Carbon	1/24/00	4000	68.4	4150	mg/kg	75-125	**102**			
Matrix Spike Dup	**0010622-MSD1**		**M001425-04**							
Total Organic Carbon	1/24/00	4000	68.4	4210	mg/kg	75-125	**104**	20	**1.44**	

Sequoia Analytical

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

Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0020527	**Date Prepared: 2/23/00**					**Extraction Method: CA LUFT - orb shaker**				
Blank	**0020527-BLK1**									
Diesel (C10-C24)	2/24/00			**ND**	mg/kg	**5.00**				
Surrogate: o-Terphenyl	"	*3.33*		*3.20*	"	*50.0-150*	*96.1*			
LCS	**0020527-BS1**									
Diesel (C10-C24)	2/24/00	33.3		33.3	mg/kg	50.0-150	100			
Surrogate: o-Terphenyl	"	*3.33*		*3.17*	"	*50.0-150*	*95.2*			
Matrix Spike	**0020527-MS1**		**P002595-01**							
Diesel (C10-C24)	2/24/00	33.3	7130	5290	mg/kg	50.0-150	**NR**			QM-4X
Surrogate: o-Terphenyl	"	*3.33*		*2.38*	"	*50.0-150*	*71.5*			
Matrix Spike	**0020527-MS2**		**P002595-01**							
Diesel (C10-C24)	2/24/00	33.3	7130	2560	mg/kg	50.0-150	**NR**			QM-4X
Surrogate: o-Terphenyl	"	*3.33*		*0.603*	"	*50.0-150*	*18.1*			*S-06a*
Matrix Spike Dup	**0020527-MSD1**		**P002595-01**							
Diesel (C10-C24)	2/24/00	33.3	7130	5200	mg/kg	50.0-150	**NR**	35.0		QM-4X,QR-4X
Surrogate: o-Terphenyl	"	*3.33*		*2.28*	"	*50.0-150*	*68.5*			
Matrix Spike Dup	**0020527-MSD2**		**P002595-01**							
Diesel (C10-C24)	2/24/00	33.3	7130	5200	mg/kg	50.0-150	**NR**	35.0		**-81**,QR-4X
Surrogate: o-Terphenyl	"	*3.33*		*2.15*	"	*50.0-150*	*64.6*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0020430	**Date Prepared: 2/17/00**					**Extraction Method: EPA 5035**				
Blank	**0020430-BLK1**									
Methyl tert-butyl ether	2/17/00			**ND**	ug/kg	**5.00**				
Surrogate: Dibromofluoromethane	"	*50.0*		*48.2*	"	*80.0-120*	*96.4*			
Blank	**0020430-BLK2**									
Methyl tert-butyl ether	2/18/00			**ND**	ug/kg	**5.00**				
Surrogate: Dibromofluoromethane	"	*50.0*		*45.9*	"	*80.0-120*	*91.8*			
LCS	**0020430-BS1**									
Methyl tert-butyl ether	2/17/00	50.0		47.9	ug/kg	75.8-124	95.8			
Surrogate: Dibromofluoromethane	"	*50.0*		*45.5*	"	*80.0-120*	*91.0*			
LCS	**0020430-BS2**									
Methyl tert-butyl ether	2/18/00	50.0		45.1	ug/kg	75.8-124	90.2			
Surrogate: Dibromofluoromethane	"	*50.0*		*45.1*	"	*80.0-120*	*90.2*			
Matrix Spike	**0020430-MS1**		**P002295-04**							
Methyl tert-butyl ether	2/17/00	50.0	ND	47.7	ug/kg	75.8-124	**95.4**			
Surrogate: Dibromofluoromethane	"	*50.0*		*44.4*	"	*80.0-120*	*88.8*			
Matrix Spike Dup	**0020430-MSD1**		**P002295-04**							
Methyl tert-butyl ether	2/17/00	50.0	ND	46.0	ug/kg	75.8-124	**92.0**	35.0	**3.63**	
Surrogate: Dibromofluoromethane	"	*50.0*		*43.3*	"	*80.0-120*	*86.6*			
Batch: 0020523	**Date Prepared: 2/23/00**					**Extraction Method: EPA 5035**				
Blank	**0020523-BLK1**									
Methyl tert-butyl ether	2/23/00			**ND**	ug/kg	**5.00**				
Surrogate: Dibromofluoromethane	"	*50.0*		*53.2*	"	*80.0-120*	*106*			
Blank	**0020523-BLK2**									
Methyl tert-butyl ether	2/29/00			**ND**	ug/kg	**5.00**				
Surrogate: Dibromofluoromethane	"	*50.0*		*53.9*	"	*80.0-120*	*108*			
LCS	**0020523-BS1**									
Methyl tert-butyl ether	2/23/00	50.0		54.4	ug/kg	75.8-124	109			
Surrogate: Dibromofluoromethane	"	*50.0*		*48.4*	"	*80.0-120*	*96.8*			

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
LCS	**0020523-BS2**									
Methyl tert-butyl ether	2/29/00	50.0		51.6	ug/kg	75.8-124	103			
Surrogate: Dibromofluoromethane	"	*50.0*		*53.2*	"	*80.0-120*	*106*			
Matrix Spike	**0020523-MS1**		**P002537-02**							
Methyl tert-butyl ether	2/23/00	50.0	ND	44.3	ug/kg	75.8-124	**88.6**			
Surrogate: Dibromofluoromethane	"	*50.0*		*47.3*	"	*80.0-120*	*94.6*			
Matrix Spike Dup	**0020523-MSD1**		**P002537-02**							
Methyl tert-butyl ether	2/23/00	50.0	ND	46.3	ug/kg	75.8-124	**92.6**	35.0	**4.42**	
Surrogate: Dibromofluoromethane	"	*50.0*		*48.1*	"	*80.0-120*	*96.2*			

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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: 0A20002	**Date Prepared: 1/20/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0A20002-BLK1**									
Purgeable Hydrocarbons	1/20/00			**ND**	ug/l	**50**				
Benzene	"			**ND**	"	**0.50**				
Toluene	"			**ND**	"	**0.50**				
Ethylbenzene	"			**ND**	"	**0.50**				
Xylenes (total)	"			**ND**	"	**0.50**				
Methyl tert-butyl ether	"			**ND**	"	**2.5**				
Surrogate: a,a,a-Trifluorotoluene	"	*30.0*		*41.8*	"	*70-130*	*139*			*S-03*
LCS	**0A20002-BS1**									
Benzene	1/20/00	20.0		22.0	ug/l	70-130	110			
Toluene	"	20.0		21.9	"	70-130	109			
Ethylbenzene	"	20.0		22.7	"	70-130	114			
Xylenes (total)	"	60.0		68.0	"	70-130	113			
Surrogate: a,a,a-Trifluorotoluene	"	*30.0*		*30.7*	"	*70-130*	*102*			
Matrix Spike	**0A20002-MS1**		**W001243-04**							
Benzene	1/20/00	20.0	ND	20.1	ug/l	70-130	**101**			
Toluene	"	20.0	ND	20.3	"	70-130	**101**			
Ethylbenzene	"	20.0	ND	22.4	"	70-130	**112**			
Xylenes (total)	"	60.0	ND	67.1	"	70-130	**112**			
Surrogate: a,a,a-Trifluorotoluene	"	*30.0*		*30.8*	"	*70-130*	*103*			
Matrix Spike Dup	**0A20002-MSD1**		**W001243-04**							
Benzene	1/20/00	20.0	ND	22.4	ug/l	70-130	**112**	20	**10.8**	
Toluene	"	20.0	ND	22.8	"	70-130	**114**	20	**11.6**	
Ethylbenzene	"	20.0	ND	22.9	"	70-130	**114**	20	**2.21**	
Xylenes (total)	"	60.0	ND	68.9	"	70-130	**115**	20	**2.65**	
Surrogate: a,a,a-Trifluorotoluene	"	*30.0*		*32.6*	"	*70-130*	*109*			
Batch: 0A20003	**Date Prepared: 1/20/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0A20003-BLK1**									
Purgeable Hydrocarbons	1/20/00			**ND**	ug/l	**50**				
Benzene	"			**ND**	"	**0.50**				
Toluene	"			**ND**	"	**0.50**				
Ethylbenzene	"			**ND**	"	**0.50**				
Xylenes (total)	"			**ND**	"	**0.50**				
Methyl tert-butyl ether	"			**ND**	"	**2.5**				

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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*
Blank (continued)	**0A20003-BLK1**									
Surrogate: a,a,a-Trifluorotoluene	*1/20/00*	*30.0*		*29.8*	*ug/l*	*70-130*	*99.3*			
LCS	**0A20003-BS1**									
Benzene	1/20/00	20.0		21.8	ug/l	70-130	109			
Toluene	"	20.0		22.3	"	70-130	111			
Ethylbenzene	"	20.0		22.6	"	70-130	113			
Xylenes (total)	"	60.0		64.5	"	70-130	108			
Surrogate: a,a,a-Trifluorotoluene	"	*30.0*		*32.2*	"	*70-130*	*107*			
LCS Dup	**0A20003-BSD1**									
Benzene	1/20/00	20.0		23.4	ug/l	70-130	117	20	7.08	
Toluene	"	20.0		24.0	"	70-130	120	20	7.34	
Ethylbenzene	"	20.0		24.2	"	70-130	121	20	6.84	
Xylenes (total)	"	60.0		69.0	"	70-130	115	20	6.74	
Surrogate: a,a,a-Trifluorotoluene	"	*30.0*		*31.6*	"	*70-130*	*105*			

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

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: 0A24012	**Date Prepared: 1/24/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0A24012-BLK1**									
Methyl tert-butyl ether	1/24/00			**ND**	ug/l	**2.0**				
Surrogate: Dibromofluoromethane	"	*50.0*		*51.0*	"	*50-150*	*102*			
Surrogate: 1,2-Dichloroethane-d4	"	*50.0*		*52.0*	"	*50-150*	*104*			
LCS	**0A24012-BS1**									
Methyl tert-butyl ether	1/24/00	50.0		50.0	ug/l	70-130	100			
Surrogate: Dibromofluoromethane	"	*50.0*		*50.0*	"	*50-150*	*100*			
Surrogate: 1,2-Dichloroethane-d4	"	*50.0*		*51.0*	"	*50-150*	*102*			
LCS Dup	**0A24012-BSD1**									
Methyl tert-butyl ether	1/24/00	50.0		49.5	ug/l	70-130	99.0	25	1.01	
Surrogate: Dibromofluoromethane	"	*50.0*		*50.0*	"	*50-150*	*100*			
Surrogate: 1,2-Dichloroethane-d4	"	*50.0*		*51.0*	"	*50-150*	*102*			
Batch: 0B23015	**Date Prepared: 2/23/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0B23015-BLK1**									
Methyl tert-butyl ether	2/23/00			**ND**	ug/l	**2.0**				
Surrogate: Dibromofluoromethane	"	*50.0*		*58.0*	"	*50-150*	*116*			
Surrogate: 1,2-Dichloroethane-d4	"	*50.0*		*55.0*	"	*50-150*	*110*			
LCS	**0B23015-BS1**									
Methyl tert-butyl ether	2/23/00	50.0		64.4	ug/l	70-130	129			
Surrogate: Dibromofluoromethane	"	*50.0*		*56.0*	"	*50-150*	*112*			
Surrogate: 1,2-Dichloroethane-d4	"	*50.0*		*55.0*	"	*50-150*	*110*			
LCS Dup	**0B23015-BSD1**									
Methyl tert-butyl ether	2/23/00	50.0		61.8	ug/l	70-130	124	25	4.12	
Surrogate: Dibromofluoromethane	"	*50.0*		*55.0*	"	*50-150*	*110*			
Surrogate: 1,2-Dichloroethane-d4	"	*50.0*		*56.0*	"	*50-150*	*112*			

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Cambria - Oakland (Shell)	Project:	Shell	Sampled: 1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received: 1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported: 3/3/00 14:06

Notes and Definitions

#	Note
D-15	Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
HC-12	Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
O-04	This sample was analyzed outside the EPA recommended holding time.
P-01	Chromatogram Pattern: Gasoline C6-C12
P-04	Chromatogram Pattern: Weathered Gasoline C6-C12 + Unidentified Hydrocarbons C6-C12
Q-03	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QR-4X	The RPD was outside QC acceptance limits for the MS/MSD due to analyte concentration at 4 times or greater the spike concentration.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
S-03	The surrogate recovery for this sample is outside of established control limits. Review of associated QC indicates the recovery for this surrogate does not represent an out-of-control condition.
S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.
S-06a	The recovery of this surrogate is outside control limits due to sample dilution which was required by high analyte concentration and/or matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported

Sequoia Analytical

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Cambria - Oakland (Shell)	Project:	Shell	Sampled:	1/7/00
1144 65th St. Suite C	Project Number:	4411 Foothill Blvd.	Received:	1/12/00
Oakland, CA 94608	Project Manager:	Darryk Ataide	Reported:	3/3/00 14:06

Notes and Definitions

#	Note
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

CORE LAB

PETROLEUM SERVICES

February 7, 2000

Sequoia Analytical
885 Jarvis Drive
Morgan Hill, CA 95073
ATTN: Kayvan Kimyai

Subject : Transmittal of Geotechnical Analysis Data
M001425
Core Lab File No. 57111-00011

A soil sample was submitted to our Bakersfield laboratory for geotechnical analysis. Determinations of bulk density and total porosity were requested. Grain and pore volumes were determined by Boyles Law double-cell methods utilizing an extended range helium porosimeter. The bulk densities and total porosity measurements and calculations were performed as described in **API RP-40**, API Recommended Practice for Core-Analysis Procedure, 1960. Accompanying this letter please find the results of this study.

We appreciate this opportunity to be of service to you and to Sequoia Analytical. Should you have any questions, or if we may be of further help in the future, please do not hesitate to contact us.

Very truly yours, 1

Jeff Smith NW

Jeffry L. Smith
Laboratory Supervisor - Rock Properties

JLS:nw
1 original report: Addressee

CORE LABORATORIES

Sequoia Analytical

(Morgan Hill)

M001425

CL File No.: 57111-00011

Sample Fraction	Sample Desc.	Sample Date	Total Porosity %	Bulk Density		Matrix Density g/cc	Description
				Dry g/cc	Natural g/cc		
M001425-04	Soil	7-Jan-00	39.5	1.60	1.99	2.64	Gray v 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.

SEQUOIA ANALYTICAL RELOG SHEET

REASON FOR RELOG (CIRCLE): Client Request Login Correction Other

CLIENT: CAMBRIA
PROJECT ID: M001425
PROJ. MANAGER: KAYVAN KIMYAI
DATE REC'D: 2-12-00 MATRIX: LIQUID

DATE RELOG: 2-15-00
DATE DUE: 2-16-00
DATE SAMP: 11/07/00
T.A.T 24 Hour

PREVIOUSLY LOGGED SAMPLES

[ ] TAT Change status to: _____
Change status as of Day: _____ Time: _____

[x] CHANGE ANALYSES: [ ] RERUN:

Cancel Analyses: [ ] Use "R" test code: [ ]
Add to this work order: [x] Assign new sample number: [ ]
Create new work order: [ ] Paperwork to PM ONLY: [ ]

New work order #: _____

Sample Number	Analyses
M001425-07	MTBE 8260 (SUB TO S.C) RUN Couldn't Run

SAMPLES ON HOLD

Add analyses to existing work order: [ ] Number: _____
Create a new work order: [ ]

Sample description	Analyses

TAT _____

Client Authorization (Person/Date/Time) COC - 2-15-00 / 12:34

Project Manager _____

(Please submit to ~~sample control with a copy~~ of the COC & log-in sheets) Rev 1.5 VTC 6/19/95

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date:
Page 1 of 2

Site Address: 4411 Foothill Blvd. OAKLAND

INCIDENT # 98995746

Shell Engineer: Karen Petryna | Phone No.: | Fax #:

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

Consultant Contact: Dustyk Ataide | Phone No.: 510-420-0700 | Fax #: 510-420-9170

Comments:

Sampled by: Matt Jaffney

Printed Name:

Analysis Required

LAB: _____

CHECK ONE (1) BOX ONLY	C/NR	TURN AROUND TIME
G.W. Monitoring	☑ 4441	24 hours ☐
Site Investigation	☒ 4441	48 hours ☐
Soil Classify/Disposal	☐ 4442	72 hours ☒ Normal
Water Classify/Disposal	☐ 4443	Other ☐ ____
Soil/Air Rem. or Sys. O & M	☐ 4452	NOTE: Notify lab as soon as possible of 24/48 hr. TAT.
Water Rem. or Sys. O & M	☐ 4453	
Other	☐	

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of cont.	TPH (EPA 8015 Mod. GC)	TPH (EPA 8015 Mod. Diesel) only	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Textile Disposal	Combination TPH 8015 & BTEX 8020 & MTBE	Physical: Dry Bulk Density, Porosity, Total & Moisture Content	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SB4 5.5	1/7/00		X			1		X				X				01		Confirm	Highest Soil
SB-4 9.0						1		X				X				02		MTBE w/	EPA 8260
SB-4 16.0						1		X				X				03			
SB-4 18.5						1							X			04		M001425	
SB-4 19.5						1		X				X				05			
SB-4 24.5						1		X				X				06			
SB-4 DUP 20				X		3		X				X				07		Confirm Highest Water MTBE w/ EPA 8260	

Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
Matt Jaffney	Matt Jaffney	1/10/00	2:00		JOHN FRICK	1/11/00	1140
Relinquished By (signature):	Printed Name:	1-12-		Received (signature):	Printed Name: Phal Lyeton	1-12	1130
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature): BN (MH)	Printed Name:	Date: 1/12/00	Time: 17:14

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date:
Page 2 of 2

Site Address: 4411 Foothill Blvd Oakland

INCIDENT #: 98995746

Shell Engineer: Karen Petryna | Phone No.: | Fax #:

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

Consultant Contact: D. ATaide | Phone No.: 510-420-0700 | Fax #: 510-420-9170

Comments: Matt T. Gaffney

Sampled by:

Printed Name:

LAB: _____

CHECK ONE (1) BOX ONLY	C/I/D#	TURN AROUND TIME
G.W. Monitoring	4461	24 hours
Site Investigation	4461	48 hours
Soil Classify/Disposal	4462	72 hours (Normal)
Water Classify/Disposal	4463	Other
Soil/Air Rem. or Sys. O & M	4462	NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.
Water Rem. or Sys. O & M	4463	
Other		

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of cont.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020 & MTBE			Asbestos	Container Size	Preservation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SB4B 5.5	1/7/00		X			1	X					X					8		Confirm	highest MTBE
SB4B 10.5						1	X					X					9		w/8260	
SB4B 19.0			↓			1	X					X					10			
																			M001425	
SB4B W15	↓			X		3	X					X					11		→ Confirm MTBE w/ 8260	

Relinquished By (signature):	Printed Name:	Date:	Received (signature):	Printed Name:	Date:
Matt T. Gaffney	Matt T Gaffney	1/10/00 Time: 2:00		JOHN TRICK	1/11/00 Time: 1140
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 THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

SEQUOIA ANALYTICAL RELOG SHEET

REASON FOR RELOG (CIRCLE): (Client Request) Login Correction Other

CLIENT: Cambria
PROJECT ID: MDD1425
PROJ. MANAGER: KAYVAN KIMYAI
DATE REC'D: 1-12-00 MATRIX: SOLID / H_2O

DATE RELOG: 2-18-00
DATE DUE: 2-23-00
DATE SAMP: 1-7-00
T.A.T 2 DAY EXT

PREVIOUSLY LOGGED SAMPLES

☐ TAT Change status to: _____
Change status as of Day: _____ Time: _____

☑ CHANGE ANALYSES: ☐ RERUN:

Cancel Analyses: ☐ Use "R" test code: ☐
Add to this work order: ☑ Assign new sample number: ☐
Create new work order: ☐ Paperwork to PM ONLY: ☐

New work order #: _____

Sample Number	Analyses
MDD1425-08	MTBE by 8260, DIESEL
MDD1425-10	MTBE by 8260, DIESEL, SUB TO PET
MDD1425-11	MTBE by 826..
MDD1425-09	DIESEL

SAMPLES ON HOLD

Add analyses to existing work order: ☐ Number: _____
Create a new work order: ☐

Sample description	Analyses

TAT _____

Client Authorization (Person/Date/Time) Matt Gaffney, 2-18-0 11:57

Project Manager 24 hour turn

(Please submit to sample control with a copy of the COC & log-in sheets) Rev 1.5 VTC 6/19/95

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**	S-4 (SB-4B)
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	07-Jan-00
LOCATION	4411 Foothill Blvd, Oakland	**DRILLING COMPLETED**	07-Jan-00
PROJECT NUMBER	242-0897	**WELL DEVELOPMENT DATE (YIELD)**	29-Mar-00
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	39.06 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	38.70 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20 ft bgs
LOGGED BY	M. Gaffney	**DEPTH TO WATER (First Encountered)**	14.8 ft (07-Jan-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand Augered to 5 fbg		

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
					SP		**ASPHALT** **SAND**: (SP); light brown; loose; dry; 10% silt, 80% medium to coarse grained sand, 10% gravel; high estimated permeability.	0.3
					ML		**SILT**: (ML); light brown; medium stiff; dry; 5% clay, 85% silt, 10% fine grained sand; medium plasticity, medium estimated permeability. @ 4.0' - 5% clay, 75% silt, 15% sand; medium plasticity, low estimated permeability.	3.0
	N/A N/A	SB-4B 5.5		5				
								7.5
	N/A N/A	SB-4B 10.5		10	SP		**SAND**: (SP); grey green; loose; dry; 10% silt, 80% medium grained sand, 10% gravel; high estimated permeability.	
	N/A N/A N/A			15			▽	
	N/A N/A N/A	SB-4B 19.0		20	ML		@ 19' - wet. **Clayey SILT**: (ML); light brown with black and red spots; hard; wet; 20% clay, 75% silt, 5% fine grained gravel; medium plasticity, low estimated permeability.	19.3 20.0

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #2/16
- 4"-diam., 0.010" Slotted Schedule 40 PVC
- Bottom of Boring @ 20 ft

WELL LOG (SHELL) C:\WINDOWS\DESKTOP\GINT.GPJ DEFAULT.GDT 11/2/00

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-4
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	07-Jan-00
LOCATION	4411 Foothill Blvd, Oakland	**DRILLING COMPLETED**	07-Jan-00
PROJECT NUMBER	242-0897	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	NA
LOGGED BY	M. Gaffney	**DEPTH TO WATER (First Encountered)**	20.0 ft (07-Jan-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand Augered to 5 fbg		

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					SP		**ASPHALT** **SAND**; (SP); light brown to dark grey; loose; dry; 10% silt, 80% fine to medium grained sand, 10% gravel; high estimated permeability.	0.3 4.0	
	N/A N/A	SB-4 5.5		5	ML		**Clayey Sandy SILT**; (ML); dark gray; stiff; dry; 20% clay, 60% silt, 20% fine grained sand; medium plasticity, low estimated permeability.		Portland Type I/II
	N/A N/A N/A N/A N/A	SB-4 9.0		10				11.0	
	N/A N/A				SW		**Silty SAND**; (SW); grey; loose; dry; 10% clay, 40% silt, 40% coarse grained sand, 10% gravel; low plasticity; medium estimated permeability.	12.0	
	N/A N/A N/A N/A N/A	SB-4 16.0		15	ML		**Clayey SILT**; (ML); green; soft; dry; 15% clay, 80% silt, 5% fine grained sand; medium plasticity, low estimated permeability.		
	N/A N/A N/A	SB-4 18.5 SB-4 19.5		20			@ 19.5' - light brown; 20 % clay, 80% silt; medium plasticity, low estimated permeability . ▽		Bentonite Seal
	N/A N/A N/A	SB-4 24.5		25			@ 24.0' - light brown with black spots; hard; damp; medium plasticity, low estimated permeability.	25.0	Bottom of Boring @ 25 ft

WELL LOG (SHELL) C:\WINDOWS\DESKTOP\GINT.GPJ DEFAULT.GDT 11/2/00

Attachment C

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.

Attachment D

Drilling Permit

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5448 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 4411 Foothill Blvd. Oakland

California Coordinates Source _____ ft. Accuracy ± ___ ft.
CCN _____ ft. CCE _____ ft.
APN 35-2402-8-1

CLIENT
Name Equiva Enterprises LLC
Address P.O. Box 6249 Phone 562-695-5643
City Carson CA Zip 90749

APPLICANT
Name Cambria Env. - Matt Gaffney
Fax (510) 420-0700
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 Gregg Drilling

WELL PROJECTS
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4" in. Depth 30' ft.
Surface Seal Depth _____ ft. Number 3-1

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

ESTIMATED STARTING DATE 10/12/99
ESTIMATED COMPLETION DATE 12/31/99

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

APPLICANT'S SIGNATURE Matt J. Gaffney DATE _____

FOR OFFICE USE

PERMIT NUMBER 99WR608
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 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for 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 SHEET

APPROVED Frank L Cedel DATE 10/8/99

FAXED 10-12-99

Attachment E

Surveying Results

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

February 18, 2000
Project No. 1823-03

Matt Gaffney
Cambria Environmental
1144 65th Street, Suite C
Oakland, Ca. 94608

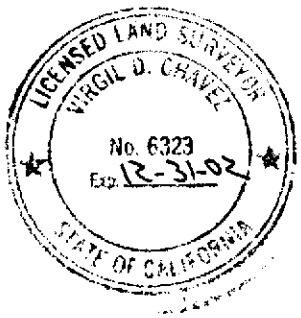
Subject: Monitoring Well Survey
4411 Foothill Blvd.
Oakland, Ca.

Dear Matt:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was performed on February 3, 2000. The face of the existing building was used as reference line for top of casing locations. The benchmark for the survey was City of Oakland No. 1589, a cut square in the sidewalk, at the midreturn at the west corner of High Street and Foothill Blvd.
Benchmark Elevation = 38.54' MSL.

Well No.	Rim Elevation	TOC Elevation	Station	Offset
S - 1	38.30'	38.04'	0+84.45	-17.71(Lt.)
S - 2	38.78'	38.47'	0+44.25	93.31(Rt.)
S - 3	37.30'	36.85'	1+36.94	14.16(Rt.)
S - 4	39.06'	38.70'	0-19.28	2.16(Rt.)
NE Bldg. Cor.			0+00	0.00
NW Bldg. Cor.			0+57.42	0.00

Measurements taken at approximate north side of top of box, top of casings were marked at location of measurements.



Sincerely,

Virgil D. Chavez, PLS 6323