RO 404

CAMBRIA

August 6, 2001

AUG 0 9 2001

Ms. eva chu
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California
94502-6700

Cover w/ recommended sampling frequency reduction

Re: **Subsurface Investigation Report and Sampling Frequency Reduction Recommendation**
Shell-branded Service Station
8930 Bancroft Avenue
Oakland, California
Incident #: 98995742
Cambria Project #: 243-1408

Dear Ms. chu,

On behalf of Equiva Services LLC, Cambria Environmental Technology, Inc. (Cambria) is submitting the results of the subsurface investigation conducted at the referenced site on April 4, 2001. The scope of work for this investigation was described in our November 30, 2000 *Site Investigation Work Plan* and our January 25, 2001 *Site Investigation Work Plan Addendum.* The objective of this investigation was to evaluate the extent of hydrocarbons and methyl tert butyl ether (MTBE) in soil and groundwater downgradient of well MW-4. Presented below are the site background, investigation activities, and Cambria's conclusions and recommendations.

BACKGROUND

Site Location and History: The Shell-branded service station is located at the southeast corner of Bancroft Avenue and 90th Avenue in Oakland, California (Figure 1). The area surrounding the site is primarily mixed commercial and residential use. A review of historic aerial photographs and Sanborn maps performed by Cambria in 1999 indicated that the site was first developed as a gasoline service station in 1960.

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

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

1983 Well Installation: In May 1983, Gettler/Ryan Inc. (GRI) installed groundwater monitoring wells MW-1 through MW-6 (see Figure 2). The well installation was in response to reported gasoline-saturated soils discovered by an independent drilling contractor. The wells are constructed of 3-inch diameter schedule 40 PVC. No soil or groundwater analytical samples were collected during the well installation. Subsurface soils encountered typically consisted of silty to sandy clay with gravel.

1998 Well Sampling: In December 1998, Blaine Tech Services, Inc. developed and sampled the six monitoring wells. Based on hydrocarbon and MTBE detections in the groundwater samples, Cambria filed an Underground Storage Tank Unauthorized Release form, dated December 23, 1998, on behalf of Equilon Enterprises LLC.

1999 Underground Storage Tanks (USTs), Piping and Dispenser Replacement Sampling: In July 1999, three 10,000-gallon fiberglass USTs and associated piping and dispensers were removed and replaced at the site. Soil samples collected during UST and piping removal contained no benzene and up to 6.100 parts per million (ppm) MTBE.

Groundwater Monitoring: Quarterly monitoring of the site wells began in December 1998, and is ongoing. Static depth to groundwater in site monitoring wells on June 27, 2001 ranged from approximately 12.97 feet below grade (fbg) to approximately 14.95 fbg.

2000 Well Survey: During the fourth quarter 2000, Cambria performed a well survey to identify potential receptors within ½-mile of the site. This survey was performed using well/drilling logs provided by the California Department of Water Resources (DWR). The identified wells are shown on Figure 1, and known construction details are summarized in Table 1. Five wells, #'s 4, 5, 10, 28 and 29 on Table 1, were identified in the general downgradient direction from the site. The wells were identified as "irrigation/agricultural," "unknown," or "active water producing" wells. Results of the well survey were reported in Cambria's November 30, 2000 *Site Investigation Work Plan*.

As recommended in our November 30, 2000 *Site Investigation Work Plan*, Cambria staff performed field reconnaissance to verify the existence of the five wells. **Well #4 was located and was observed to be currently in use as an irrigation well.** Well #5 was located and observed to be abandoned. Well #'s 28 and 29 were located on Pacific Bell property and appear to be out-of-service monitoring wells. Cambria could not locate well #10 based on the location information given on the DWR well log. Well #10 is listed as an unknown well with similar owner information and construction details as well #11, which is a cathodic protection well (see Table 1 and Attachment A). Based on this information, well #10 is most likely a cathodic protection well.

2000 Conduit Study: During the fourth quarter 2000, Cambria performed a subsurface conduit study of areas adjacent to the site in order to determine whether or not underground utility trenches may be serving as preferential pathways for contaminant migration from the site. Cambria obtained local utility maps from the City of Oakland Public Works Department which show storm sewer and sanitary sewer conduits and their flow line elevations in relation to mean sea level (msl). Identified subsurface conduits are shown on Figure 2.

Based on the findings, adjacent sewer conduits exist at elevations which, at times, have been near or below the elevation of the groundwater onsite. These conduits have been identified at elevations of approximately 43 to 44 feet above msl. Groundwater elevations onsite have fluctuated over time from approximately 37 to 45 feet above msl. Based on these data, it is possible groundwater has previously flowed in the pervious backfill of adjacent conduits during periods of higher groundwater elevations. Results of the conduit study were reported in Cambria's November 30, 2000 *Site Investigation Work Plan*.

INVESTIGATION ACTIVITIES

To further define the extent of hydrocarbons and MTBE in groundwater, three direct-push Geoprobe™ soil borings were advanced within the City of Oakland right-of-way on the west side of Bancroft Avenue. No soil or water waste was generated by the investigation activities. Boring locations are shown on Figure 2. Analytical results for soil and groundwater are summarized in Tables 1 and 2, respectively. Laboratory analytical reports are presented as Attachment B. Boring logs and Cambria's standard field procedures for Geoprobe sampling are presented in Attachments C and D, respectively.

Sampling Procedures

Personnel Present:	Troy Buggle, Cambria Project Scientist.
Permits:	Alameda County Public Works Agency, Drilling Permit #W01-204 and City of Oakland Excavation Permit #X0100661(Attachment E).
Drilling Company:	Gregg Drilling of Martinez, California (C57 License # 485-165).
Drilling Date:	April 4, 2001.
Drilling Method:	Two-inch diameter Geoprobe™ with pneumatic hammer.

Number of Borings: Three soil borings, SB-A through SB-C (Figure 2).

Boring Depths: SB-A was advanced to 17 fbg, boring SB-B was advanced to 18 fbg, and boring SB-C was advanced to 26 fbg (Attachment C).

Soil Sampling Methods: Soil was continuously cored to total depth using Geoprobe™ sampling equipment. Discrete soil samples were collected every five feet and at selected lithological changes. Grab groundwater samples were collected from each boring when groundwater was encountered.

Sediment Lithology: Subsurface soils encountered during this investigation included sandy gravel, gravelly sand, silty sand, sandy silt and silt to the total explored depth of 26 fbg. Soil boring logs are included as Attachment C.

Groundwater Depths: Groundwater was first encountered in borings SB-A and SB-B at approximately 14 fbg. Groundwater was not encountered in boring SB-C.

Grab-Groundwater Sampling: Grab-groundwater samples were collected from the open borehole after groundwater was encountered and the Geoprobe™ withdrawn. The groundwater samples were collected at 14 to 16 fbg in borings SB-A and SB-B. Typical sampling methodology is described in Attachment D.

Chemical Analyses: All soil and grab groundwater samples were analyzed for total petroleum hydrocarbons by modified EPA Method 8015, and benzene, toluene, ethylbenzene, and xylenes and MTBE by EPA Method 8260.

Backfill Method: Upon completion of sampling activities, the borings were backfilled with neat-cement grout to match the existing grade.

Sampling Results

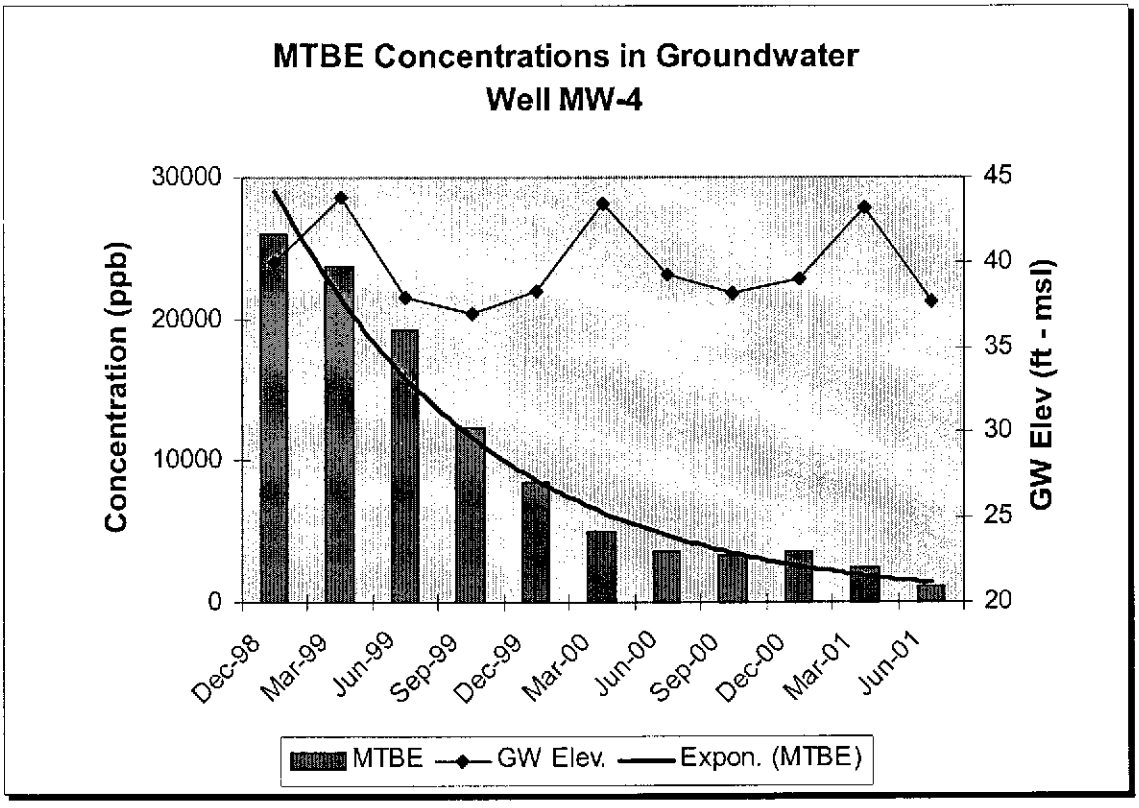
The silts and sands encountered in offsite borings SB-A, SB-B and SB-C are more coarse grained than the clays indicated on GRI's boring logs from monitoring well installation activities in May 1983. Groundwater was first encountered at approximately 14 fbg in boring SB-A and SB-B, which is deeper than the 7.28 to 9.07 fbg levels encountered during the March 2001

monitoring event. Groundwater was not encountered to the total explored depth of 26 fbg in boring SB-C.

Except for 0.055 parts ppm MTBE in soil sample SB-B-18.0, no analytes were reported in the soil samples collected from borings SB-A, SB-B, or SB-C. Except for 450 parts per billion (ppb) MTBE in grab-groundwater sample SB-B-H2O, no analytes were reported in the grab-groundwater samples collected from borings SB-A or SB-B.

MTBE Concentrations in Well MW-4

Historically, well MW-4 has contained the highest concentrations of MTBE in groundwater onsite. Between March and May 2000, approximately 2,000 gallons of groundwater were extracted from well MW-4 during weekly to bi-weekly vacuum extraction events. The graph below plots historical MTBE concentrations and groundwater elevation. As shown, MTBE concentrations in well MW-4 show a decreasing trend, typical of natural attenuation. Also clearly shown are seasonal fluctuations in groundwater elevation.



CONCLUSIONS AND RECOMMENDATIONS

No MTBE was detected in soil samples collected in offsite borings SB-A or SB-C. No MTBE was detected in the grab-groundwater samples collected boring from SB-A; groundwater was not encountered in boring SB-C. The MTBE concentration in the grab-groundwater sample collected from boring SB-B exhibits an order of magnitude decrease from groundwater concentrations reported in onsite well MW-4. Based on this data and the decreasing MTBE concentration trend in well MW-4, natural attenuation of MTBE appears to be occurring at the site

Given the demonstrated downgradient attenuation and steadily decreasing MTBE concentrations in groundwater at the site since December 1998, we recommend a sampling frequency reduction for groundwater monitoring at the site. We believe the sampling schedule outlined below allows adequate monitoring while simplifying the present schedule.

- Gauge depth to water quarterly in all site wells.
- Sample quarterly downgradient wells S-4 and S-5.
- Sample semi-annually wells crossgradient MW-2 and MW-6.
- Sample annually upgradient wells MW-1 and MW-3.

Additionally, we recommend completing a door-to-door well survey of properties within 500 feet downgradient of the site, including those northwest, west and southwest of the site. We plan on mailing questionnaires to the property owners, followed by a door-to-door reconnaissance of the survey area. Cambria will institute the modified sampling schedule for third quarter 2001 and begin the door-to-door survey immediately. Results of the survey will be presented in the third quarter 2001. A site conceptual model, summarizing site characteristics, is included as Attachment F.

what will be asked at door - to - door survey

8/15/01 Ask Jacklyn Jones to send survey to #4 - irrigation well property, identified in well survey.

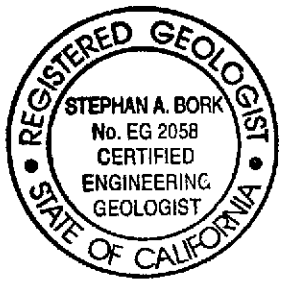
CLOSING

Please call Jacquelyn Jones at (510) 420-3316 if you have any questions or comments. Thank you for your assistance.

Sincerely,
Cambria Environmental Technology, Inc.

Shannon Couch
Staff Geologist

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



Figures:
1 - Well Survey Map
2 - Site Plan

Tables:
1 - Well Survey
2 - Soil Analytical Data
3 - Groundwater Analytical Data

Attachments:
A - Well Driller's Report Forms
B - Soil and Groundwater Analytical Reports
C - Soil Boring Logs
D - Standard Field Procedures for Geoprobe™ Sampling
E - Drilling Permits
F - Site Conceptual Model

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

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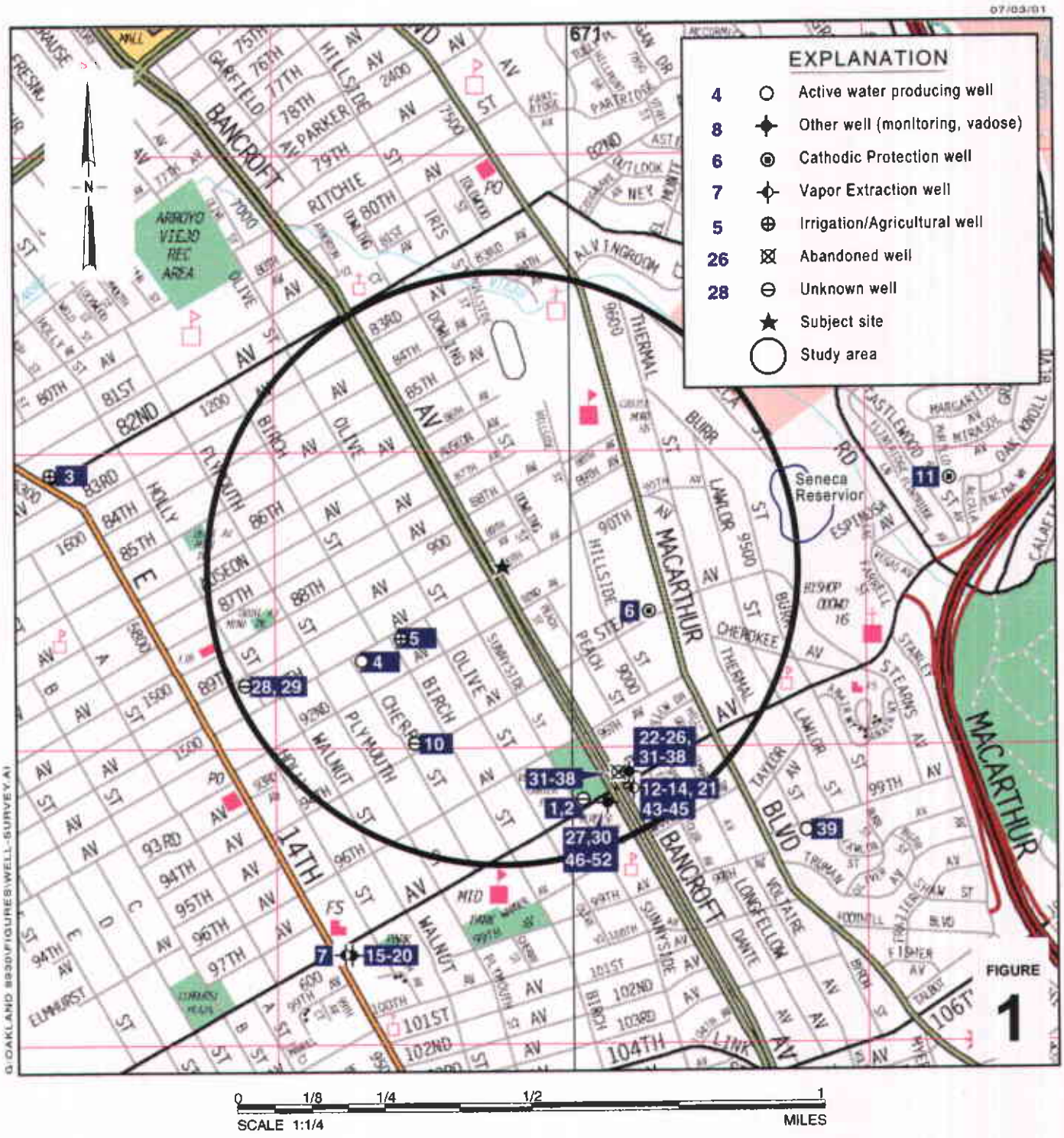


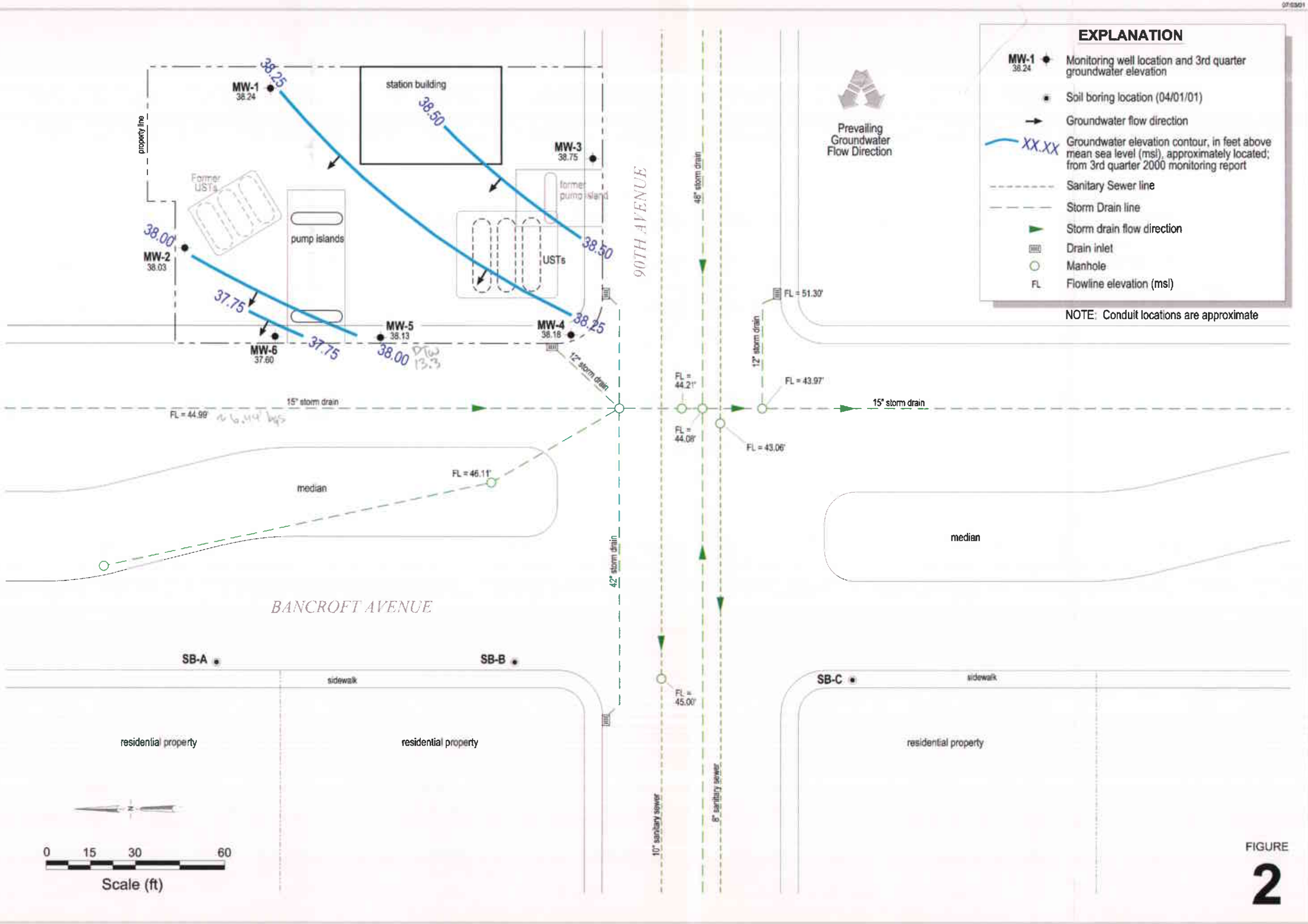
FIGURE 1

Shell-branded Service Station
8930 Bancroft Avenue
Oakland, California
Incident #98995742

CAMBRIA

Well Survey Map
(1/2 Mile Radius)

Site Plan



Shell-branded Service Station
8930 Bancroft Avenue
Oakland, California
Incident #98995742

CAMBRIA

FIGURE
2

Table 1. Well Survey - Shell-branded Service Station, Incident #98995742, 8930 Bancroft Avenue, Oakland, California.

Location	Well ID	Installation Date	Owner	Use	Depth (ft bgs)	Screened Interval (ft bgs)	Sealed Interval (ft bgs)
Well Locations provided by the State of California Water Resources Department							
1	2S/3W-23C1	Unknown	Auto Lite	Unk	120	Unknown	Unknown
2	Unknown	Unknown	Auto Lite	Unk	Unk	Unknown	Unknown
3	2S/3W-15K1	May 24, 1977	Alphense B. Perkins	Prod	Unk	Unknown	Unknown
4	2S/3W-14N1	June 1, 1977	Hueko Mills	Prod	50	20-50	0-20
5	2S/3W-14N2	October 5, 1977	Mr. Grambs	Prod	60	20-60	Unknown
6	2S/3W-14Q1	May 5, 1976	Pacific Gas & Electric	C.P.	120	Unknown	0-95
7	2S/3W-23E1	May 14, 1991	Arco Oil	Vap	9.8	4.8-9.8	0-4
8	2S/3W-20C9	October 17, 1990	Unocal Oil	Mon	46	26-46	0-22
9	2S/3W-20C10	October 17, 1990	Unocal Oil	Mon	45	25-45	0-20
10	2S/3W-23D1	April 26, 1976	Pacific Gas & Electric	Unk	120	Unknown	0-95
11	2S/3W-14J1	January 23, 1976	Pacific Gas & Electric	C.P.	120	Unknown	0-95
12	2S/3W-23C19	March 26, 1992	B. P. Oil	Vap	16.6	9-16.6	0-8
13	2S/3W-23C20	March 26, 1992	B. P. Oil	Vap	16.5	9-16.5	0-8
14	2S/3W-23C21	March 26, 1992	B. P. Oil	Vap	16.5	9-16.5	0-8
15	2S/3W23E8	January 21, 1993	Arco Oil	Mon	28.5	8.5-28.5	0-7
16	2S/3W-23E7	January 20, 1993	Arco Oil	Mon	29	9-29	0-7
17	2S/3W-23E3	July 8,1992	Arco Oil	Mon	24	9-24	0-8
18	2S/3W-23E4	July 7, 1992	Arco Oil	Mon	24	8-24	0-7
19	2S/3W-23E5	July 7, 1992	Arco Oil	Mon	24	9-24	0-7
20	2S/3W-23E6	July 8, 1992	Arco Oil	Mon	24	9-24	0-8
21	2S/3W-23C8	January 23, 1990	Unocal Oil	Mon	42	22-42	0-20
22	2S/3W-23C4	Unknown	Unocal Oil	Mon	32	7-32	0-6.5

Table 1. Well Survey - Shell-branded Service Station, Incident #98995742, 8930 Bancroft Avenue, Oakland, California.

Location	Well ID	Installation Date	Owner	Use	Depth (ft bgs)	Screened Interval (ft bgs)	Sealed Interval (ft bgs)
23	2S/3W-23C5	Unknown	Unocal Oil	Mon	30	5-30	0-4
24	2S/3W-23C6	Unknown	Unocal Oil	Mon	30	5-30	0-4
25	2S/3W-23C7	Unknown	Unocal Oil	Mon	33	7-33	0-6
26	2S/3W-23C22	August 12, 1991	Unocal Corp.	Mon	36	26-36	0-24.5
27	2S/3W-23B13	February 28, 1991	BP Oil Company	Mon	40	20-40	0-18
28	2S/3W-15R1	March 4, 1993	Pacific Bell	Unk	25	10-25	0-8.5
29	2S/3W-15R2	March 4, 1993	Pacific Bell	Unk	24	9-24	0-7
30	2S/3W-23B12	March 1, 1991	BP Oil Company	Mon	35	20-35	0-18
31	2S/3W-23C11	January 18, 1990	Unocal Oil	Mon	30	20-33	0-18
32	2S/3W-23C12	January 18, 1990	Unocal Oil	Mon	18	8-18	0-7
33	2S/3W-23C13	January 18, 1990	Unocal Oil	Mon	30	19-33	0-18
34	2S/3W-23C14	January 17, 1990	Unocal Oil	Mon	29	20-29	0-18
35	2S/3W-23C15	January 19, 1990	Unocal Oil	Mon	13	8-13	0-6.5
36	2S/3W-23C16	January 24, 1990	Unocal Oil	Mon	7	2-7	0-2
37	2S/3W-23C17	January 24, 1990	Unocal Oil	Mon	5	2-5	0-1.9
38	2S/3W-23C18	January 23, 1990	Unocal Oil	Mon	42	22-42	0-20
39	2S/3W-23B1	June 13, 1977	Mrs. Bennett	Prod	75	40-67	0-20
40	2S/3W-14J	Unknown	Union Water Co.	Unk	206	Unknown	Unknown
41	Unknown	Unknown	Union Water Co.	Unk	214	Unknown	Unknown
42	Unknown	Unknown	Union Water Co.	Unk	362	Unknown	Unknown
43	2S/3W-23B2	May 6, 1988	Mobile Oil Corp.	Mon	29	10-29	0-9
44	2S/3W-23B3	May 6, 1988	Mobile Oil Corp.	Mon	32	12-32	0-10
45	2S/3W-23B4	May 6, 1988	Mobile Oil Corp.	Mon	34	14-34	0-11.5

Table 1. Well Survey - Shell-branded Service Station, Incident #98995742, 8930 Bancroft Avenue, Oakland, California.

Location	Well ID	Installation Date	Owner	Use	Depth (ft bgs)	Screened Interval (ft bgs)	Sealed Interval (ft bgs)
46	2S/3W-23B5	June 5, 1990	BP Oil Company	Mon	35	15-35	0-18
47	2S/3W-23B6	June 5, 1990	BP Oil Company	Mon	40	20-40	0-18
48	2S/3W-23B7	June 6, 1990	BP Oil Company	Mon	35	15-35	0-18
49	2S/3W-23B8	June 6, 1990	BP Oil Company	Mon	35	15-35	0-18
50	2S/3W-23B9	June 5, 1990	BP Oil Company	Mon	40	15-40	0-15
51	2S/3W-23B10	February 27, 1991	BP Oil Company	Mon	45	20-45	0-18
52	2S/3W-23B11	February 28, 1991	BP Oil Company	Mon	35	20-35	0-18

Abbreviations & Notes:

Location = Column number referes to map location on Figure 1.
Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California.
Mon = Monitoring well.
Unk = Unknown.
Invs = Exploratory boring only, no well constructed.
Prod = Production well.
C.P. = Cathodic Protection Well
Vap = Vapor Extraction Well

Table 2. Soil Analytical Data - Shell-branded Service Station - 8930 Bancroft Avenue, Oakland, California - Incident #: 98995742

Sample ID	Depth (feet below grade)	TPHg	MTBE (8260)	Benzene	Toluene	Ethylbenzene	Xylenes
		←		(Concentrations reported in ppm)			→
April 4, 2001 Soil Samples:							
SB-A-10.5	10.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005
SB-A-15.0	15.0	<1.0	<0.005	<0.005	<0.05	<0.005	<0.05
SB-B-5.5	5.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005
SB-B-10.5	10.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02
SB-B-15.5	15.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005
SB-B-18.0	18.0	<1.0	**0.055**	<0.005	<0.005	<0.005	<0.005
SB-C-10.5	10.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005
SB-C-15.5	15.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005
SB-C-20.5	20.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005
SB-C-26.0	26.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005

Benzene, ethylbenzene, toluene, xylenes by EPA Method 8260B.
ppm = parts per million
< X = Below laboratory detection limit of X
NA = Not analyzed

Table 3. Groundwater Analytical Data - Shell-branded Service Station - 8930 Bancroft Avenue, Oakland, California - Incident # 98995742

Sample ID	Depth (feet)	TPHg	MTBE (8260)	Benzene	Toluene	Ethylbenzene	Xylenes
		←		(Concentrations reported in micrograms per liter)			→
April 4, 2001 Samples:							
SB-A-H2O	15.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
SB-B-H2O	14.0	<50	**450**	<0.50	<0.50	<0.50	<0.50

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8260B
MTBE = Methyl tert-butyl ether by EPA Method 8260B
Benzene, ethylbenzene, toluene, xylenes by EPA Method 8260B.
<x = Below detection limit of x micrograms per liter.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

ATTACHMENT A

Well Driller's Report Forms

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

WELL LOCATION SKETCH

NORTH BOUNDARY OF SECTION

NW ¼	NE ¼
SW ¼	SE ¼

½ MILE ½ MILE ½ MILE ½ MILE

Township 2 N(S)

Range 3 E(W)

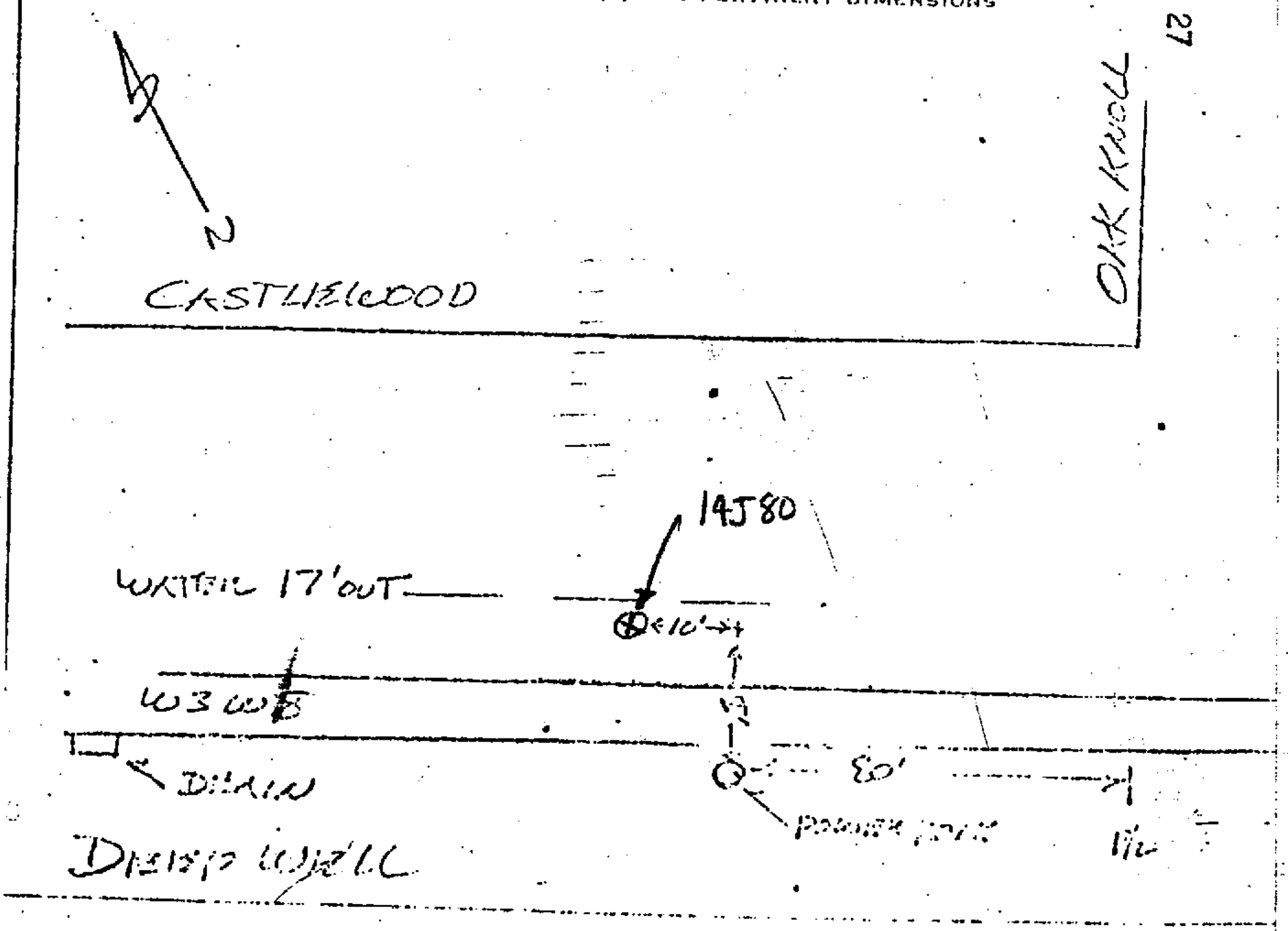
Section No. 14 J 80

A. Location of well in sectionized areas.

DEPT. OF WATER RESOURCES

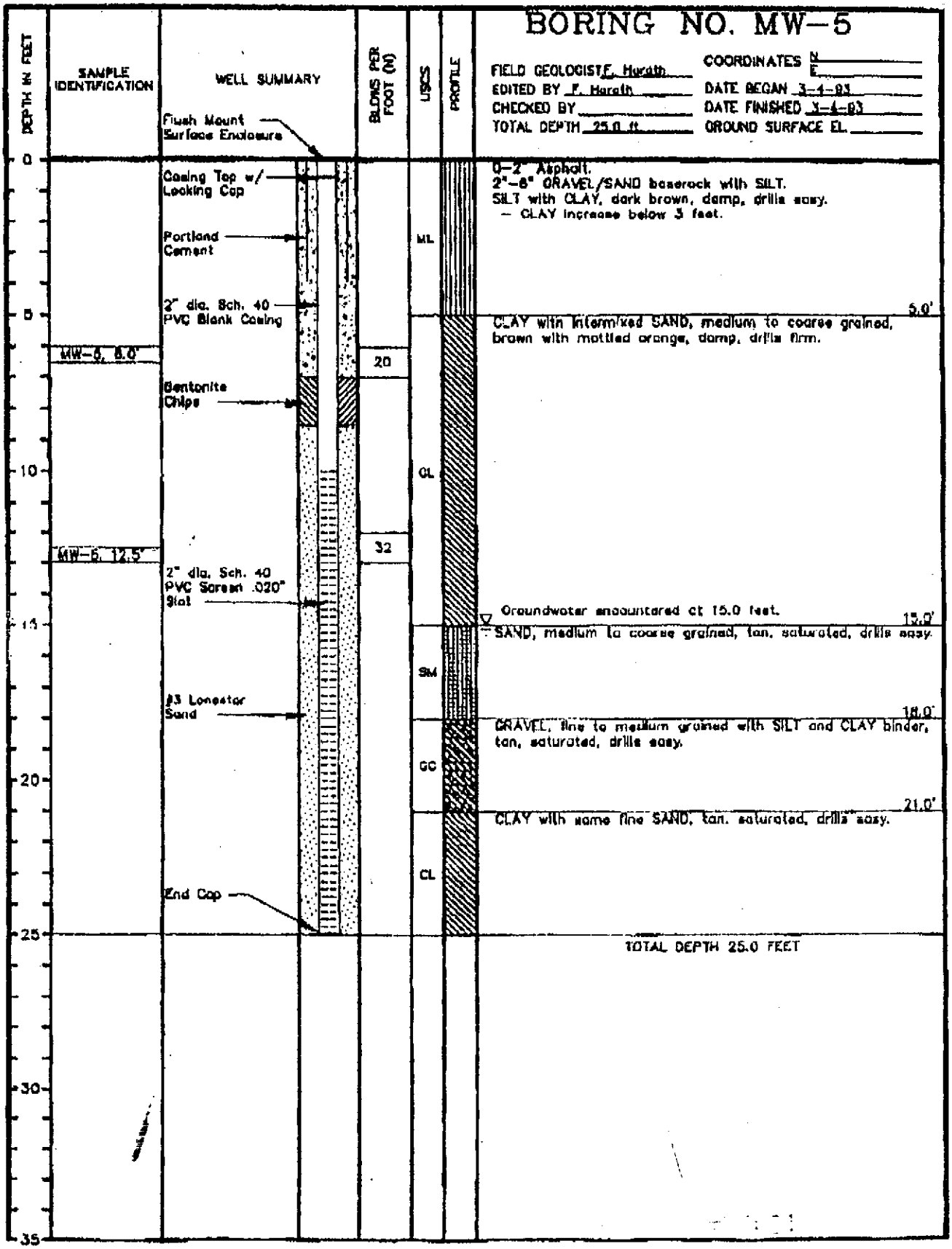
1995 SEP 2 PM 1 27

SHOW LOCATION OF RECTIFIER AND/OR ANODE(S) AND PERTINENT DIMENSIONS



BORING NO. MW-5

FIELD GEOLOGIST E. Hurath
EDITED BY F. Hurath
CHECKED BY
TOTAL DEPTH 25.0 ft
COORDINATES N E
DATE BEGAN 3-4-93
DATE FINISHED 3-4-93
GROUND SURFACE EL.



DRILLING CO.: West Hazmat Drilling
DRILL METHOD: 8" O.D. Hollow Stem Auger
SAMPLING METHOD: Split Spoon Sampler

PROJECT NO.: 104027
CLIENT: Pacific Bell
LOCATION: 8925 Holly Street
Oakland, California

PAGE 1 OF 1

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

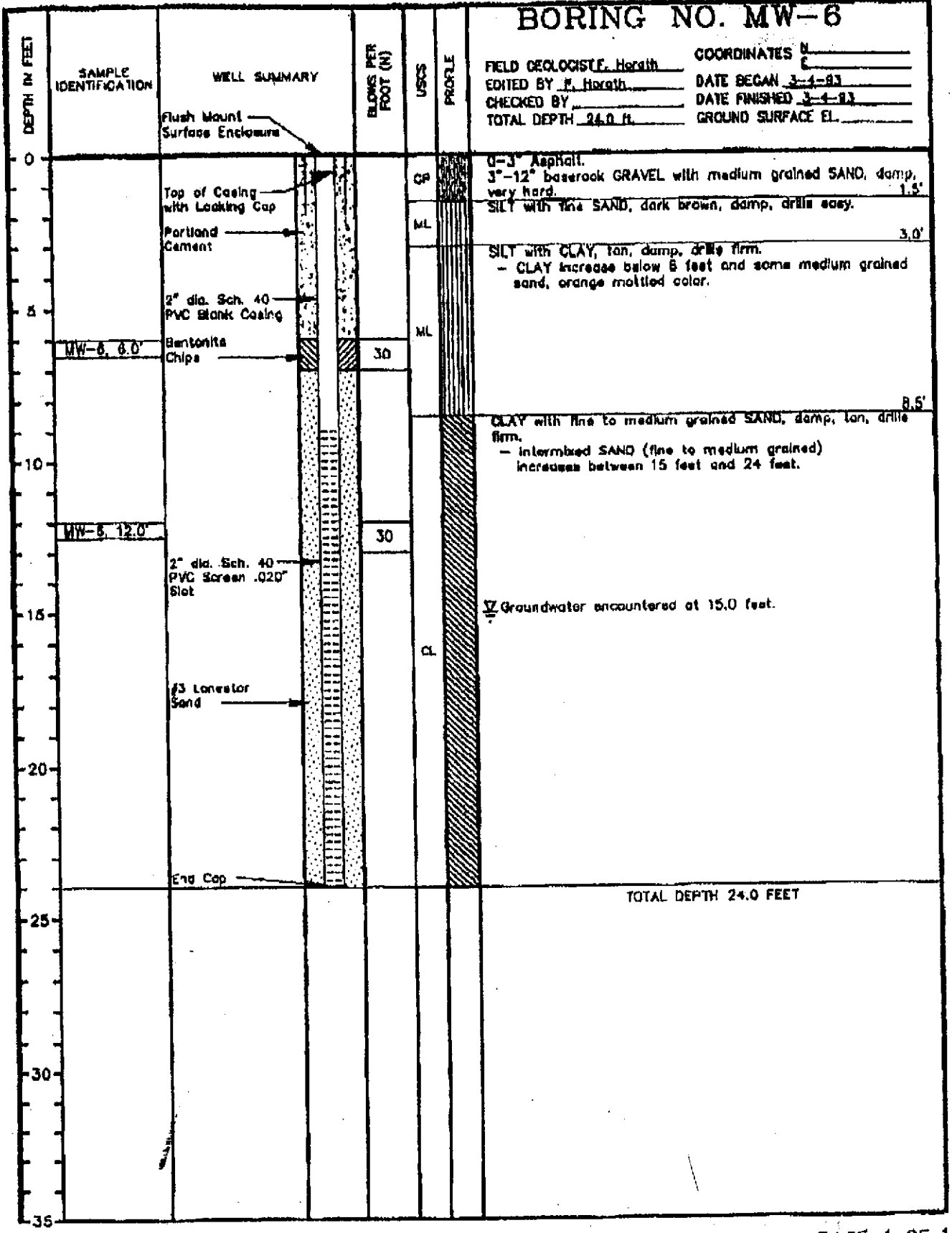
PERMIT 93097

28

05S03W15R02

BORING NO. MW-6

FIELD GEOLOGIST E. Horath
EDITED BY E. Horath
CHECKED BY
TOTAL DEPTH 24.0 ft
COORDINATES N
E
DATE BEGAN 3-4-93
DATE FINISHED 3-4-93
GROUND SURFACE EL.



PAGE 1 OF 1

DRILLING CO.: West Hazmat Drilling
DRILL METHOD: 8" O.D. Hollow Stem Auger
SAMPLING METHOD: Split Spoon Sampler

PROJECT NO.: 104027
CLIENT: Pacific Bell
LOCATION: 8925 Holly Street
Oakland, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

INTERNATIONAL TECHNOLOGY CORPORATION

29

ATTACHMENT B

Soil and Groundwater Analytical Reports

KIFF ANALYTICAL LLC

Report Number : 19875
Date : 04/16/2001

Stephan Bork
Cambria Environmental Technology, Inc.
1144 65th St. Suite B
Oakland, CA 94608

Subject : 2 Water Samples and 12 Soil Samples
Project Name : 8930 Bancroft Ave, Oakland, CA
Project Number : 243-1408
P.O. Number : Incident #98995742

Dear Mr. Bork,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 19875
Date : 04/16/2001

Project Name : **8930 Bancroft Ave, Oakland, CA**
Project Number : **243-1408**

Sample : **SBA-H2O** Matrix : Water Lab Number : 19875-04
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	04/13/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	04/13/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	04/13/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	04/13/2001
Methyl-t-butyl ether	**< 0.50**	0.50	ug/L	EPA 8260B	04/13/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	04/13/2001
Toluene - d8 (Surr)	99.6		% Recovery	EPA 8260B	04/13/2001
4-Bromofluorobenzene (Surr)	99.0		% Recovery	EPA 8260B	04/13/2001

Sample : **SBB-5.5'** Matrix : Soil Lab Number : 19875-05
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	04/12/2001

Approved By: Joel Kiff

720 Olive Drive. Suite D Davis. CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 19875
Date : 04/16/2001

Project Name : **8930 Bancroft Ave, Oakland, CA**
Project Number : **243-1408**

Sample : **SBA-10.5'** Matrix : Soil Lab Number : 19875-02
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/13/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	04/13/2001
4-Bromofluorobenzene (Surr)	98.6		% Recovery	EPA 8260B	04/13/2001

Sample : **SBA-15'** Matrix : Soil Lab Number : 19875-03
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	108		% Recovery	EPA 8260B	04/12/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D, Davis, CA 95616 530 297 4800

KIFF ANALYTICAL LLC

Report Number : 19875
Date : 04/16/2001

Project Name : **8930 Bancroft Ave, Oakland, CA**
Project Number : **243-1408**

Sample : **SBB-10.5'** Matrix : Soil Lab Number : 19875-06
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	04/12/2001

Sample : **SBB-15.5'** Matrix : Soil Lab Number : 19875-07
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	108		% Recovery	EPA 8260B	04/12/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 19875
Date : 04/16/2001

Project Name : **8930 Bancroft Ave, Oakland, CA**
Project Number : **243-1408**

Sample : **SBB-18'** Matrix : Soil Lab Number : 19875-08
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/13/2001
Methyl-t-butyl ether	**0.055**	0.0050	mg/Kg	EPA 8260B	04/13/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/13/2001
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	04/13/2001
4-Bromofluorobenzene (Surr)	99.5		% Recovery	EPA 8260B	04/13/2001

Sample : **SBB-H2O** Matrix : Water Lab Number : 19875-09
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	04/12/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	04/12/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**450**	1.0	ug/L	EPA 8260B	04/12/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	04/12/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D, Davis, CA 95616, 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 19875
Date : 04/16/2001

Project Name : **8930 Bancroft Ave, Oakland, CA**
Project Number : **243-1408**

Sample : **SBC-10.5'** Matrix : Soil Lab Number : 19875-11
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	99.0		% Recovery	EPA 8260B	04/12/2001

Sample : **SBC-15.5'** Matrix : Soil Lab Number : 19875-12
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	99.5		% Recovery	EPA 8260B	04/12/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 19875
Date : 04/16/2001

Project Name : **8930 Bancroft Ave, Oakland, CA**
Project Number : **243-1408**

Sample : **SBC-20.5'** Matrix : Soil Lab Number : 19875-13
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	99.8		% Recovery	EPA 8260B	04/12/2001

Sample : **SBC-26'** Matrix : Soil Lab Number : 19875-14
Sample Date :04/04/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	99.1		% Recovery	EPA 8260B	04/12/2001

Approved By: Joel Kiff

720 Olive Drive, Suite D, Davis, CA 95616, 530-297-4800

Report Number : 19875

Date : 04/16/2001

Project Name : **8930 Bancroft Ave,**

Project Number : **243-1408**

Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
Methyl-t-butyl ether	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	04/12/2001
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	04/12/2001
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	04/12/2001
4-Bromofluorobenzene (Surr)	98.0		% Recovery	EPA 8260B	04/12/2001

Approved By: Joel Kiff

Report Number : 19875

Date : 04/16/2001

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **8930 Bancroft Ave,**

Project Number : **243-1408**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Spike Recovery Data														
Benzene	19875-02	<0.0050	0.0485	0.0432	0.0396	0.0349	mg/Kg	EPA 8260B	04/15/200	81.6	80.6	1.18	70-130	25
Toluene	19875-02	<0.0050	0.0485	0.0432	0.0352	0.0304	mg/Kg	EPA 8260B	04/15/200	72.6	70.4	3.13	70-130	25
Tert-Butanol	19875-02	<0.0050	0.0485	0.0432	0.0514	0.0410	mg/Kg	EPA 8260B	04/15/200	106	94.7	11.1	70-130	25
Methyl-t-Butyl Ether	19875-02	<0.0050	0.0485	0.0432	0.0414	0.0394	mg/Kg	EPA 8260B	04/15/200	85.3	91.0	6.51	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 19875

Date : 04/16/2001

QC Report : Laboratory Control Sample (LCS)

Project Name : **8930 Bancroft Ave,**

Project Number : **243-1408**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	0.0389	mg/Kg	EPA 8260B	04/13/200	95.5	70-130
Toluene	0.0389	mg/Kg	EPA 8260B	04/13/200	92.4	70-130
Tert-Butanol	0.194	mg/Kg	EPA 8260B	04/13/200	87.9	70-130
Methyl-t-Butyl Ether	0.0389	mg/Kg	EPA 8260B	04/13/200	85.9	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 19875

Date : 4/16/2001

Project Name : **8930 Bancroft Ave,**

Project Number : **243-1408**

Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/13/2001
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	4/13/2001
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/13/2001
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	4/13/2001
Methyl-t-butyl ether	**< 0.50**	0.50	ug/L	EPA 8260B	4/13/2001
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	4/13/2001
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	4/13/2001
4-Bromofluorobenzene (Surr)	98.8		% Recovery	EPA 8260B	4/13/2001

Approved By: Joel Kiff

Report Number : 19875

Date : 4/16/2001

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **8930 Bancroft Ave,**

Project Number : **243-1408**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Spike Recovery Data														
Benzene	19875-09	<0.50	266	255	256	241	ug/L	EPA 8260B	4/13/2001	96.4	94.3	2.16	70-130	25
Toluene	19875-09	<0.50	266	255	228	212	ug/L	EPA 8260B	4/13/2001	85.9	83.1	3.31	70-130	25
Tert-Butanol	19875-09	<5.0	266	255	318	302	ug/L	EPA 8260B	4/13/2001	120	119	0.940	70-130	25
Methyl-t-Butyl Ether	19875-09	450	266	255	710	678	ug/L	EPA 8260B	4/13/2001	98.3	90.0	8.81	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 19875

Date : 4/16/2001

QC Report : Laboratory Control Sample (LCS)

Project Name : **8930 Bancroft Ave,**

Project Number : **243-1408**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	19.1	ug/L	EPA 8260B	4/12/2001	92.5	70-130
Toluene	19.1	ug/L	EPA 8260B	4/12/2001	86.6	70-130
Tert-Butanol	95.7	ug/L	EPA 8260B	4/12/2001	104	70-130
Methyl-t-Butyl Ether	19.1	ug/L	EPA 8260B	4/12/2001	101	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL

EQUIVA Services LLC Chain Of Custody Record 19875

720 Olive Drive, Suite D
Davis, CA 95616
(530) 297-4800 (530) 297-4803 fax

Equiva Project Manager to be invoiced: Karen Petryna

☒ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

INCIDENT NUMBER (S&E ONLY): 98995742

SAP # / CRMT NUMBER (TS/CRMT):

DATE: 4/6/01

PAGE: 1 of 2

CONSULTANT COMPANY: Cambria

ADDRESS: 1144 65th st, Suite B

CITY: Oakland, CA 94608

TELEPHONE: 510 420 0700 FAX: 510 420 9170 E-MAIL: Hayley@cambria-env.com

SITE ADDRESS (Street and City): 8930 Bancroft Ave, Oakland, CA

PROJECT CONTACT (Report to): Stephan Bork

CONSULTANT PROJECT NO.: 243-1408

SAMPLER NAME(S) (Print): TROY BUGGIE

LAB USE ONLY

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

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: _____

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

Standard TAT

~~Confirm~~ Confirm All MTBE by 8260.

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Purgeable (8015m)	TPH - Extractable (8015m)	BTEX / MTBE (8021B)	BTEX / MTBE + Oxygenates (8260B)	VOCs Full List + Oxygenates (8260B)	MTBE (8260B) Confirmation, See Note	EPA 5035 Extraction for Volatiles	VOCs Halogenated/Aromatic (8021B)	Ethanol, Methanol (8015B)	Metals (Specify)	TRPH (418.1)	Vapor VOCs BTEX / MTBE (TO-15)	Vapor VOCs Full List (TO-15)	Vapor TPH (ASTM 3416m)	Vapor Fixed Gases (ASTM D1946)	Test for Disposal (4B–)	FIELD NO3: Container/Preservative or PID Readi or Laboratory es
	SBA- 5.5'	4/4	9:45	S	1																	Hold
	SBA- 10.5'	4/4	9:50	S	1	X		X														
	SBA- 15'	4/4	9:55	S	1	X		X														
	SBA- H_2O	4/4	10:25	GW	4	X		X														
	SBB- 5.5'	4/4	11:00	S	1	X		X														
	SBB- 10.5'	4/4	11:10	S	1	X		X														
	SBB- 15.5'	4/4	11:15	S	1	X		X														
	SBB- 18'	4/4	11:20	S	1	X		X														
	SBB- H_2O	4/4	11:40	GW	4	X		X														

Relinquished by: (Signature) Troy A Bugg 4/6/01 10:15	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) Karl Brown Kiff Analytical	Date: 040601	Time: 1210

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10/23/00 Revision

KIFF ANALYTICAL

EQUIVA Services LLC Chain Of Custody Record

1487?

720 Olive Drive, Suite D
Davis, CA 95616
(530) 297-1800 (530) 297-4803 fax

Equiva Project Manager to be Invoiced: Karen Petryna

- [X] SCIENCE & ENGINEERING
- [ ] TECHNICAL SERVICES
- [ ] CRMT HOUSTON

INCIDENT NUMBER (S&E ONLY): 9 8 9 9 5 7 4 2

SAP or CRMT NUMBER (TS/CRMT):

DATE: 4/6/01

PAGE: 2 of __

CONSULTANT COMPANY: Cambria	SITE ADDRESS (Street and City): 8930 Bancroft Ave, Oakland, CA
ADDRESS: 1144 65th st, Suite B	PROJECT CONTACT (Report to): Stephan Bork
	CONSULTANT PROJECT NO.: 243-1408
CITY: Oakland, CA 94608	SAMPLER NAME(S) (Print): TROY BUGGLE
TELEPHONE: 510 420 0700 / FAX: 510 420 9170 / E-MAIL: tbuggle@cambria-env.com	LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): [ ] 10 DAYS [X] 5 DAYS [ ] 72 HOURS [ ] 48 HOURS [ ] 24 HOURS [ ] LESS THAN 24 HOURS

[ ] LA - RWQCB REPORT FORMAT [ ] UST AGENCY: ________

GC/MS MTBE CONFIRMATION: HIGHEST ______ HIGHEST per BORING ______ ALL ______

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C°

Standard TAT

~~Confirm~~ Confirm All MTBE by 8260.

REQUESTED ANALYSIS

Field Sample Identification	Date	Time	Matrix	No. of Cont.	TPH - Purgeable (8015m)	TPH - Extractable (8015m)	BTEX / MTBE (8021B)	BTEX / MTBE + Oxygenates (8260B)	VOCs Full List + Oxygenates (8260B)	MTBE (8260B) Confirmation, See Note	EPA 5035 Extraction for Volatiles	VOCs Halogenated/Aromatic (8021B)	Ethanol, Methanol (8015B)	Metals (Specify)	TRPH (418.1)	Vapor VOCs BTEX / MTBE (TO-15)	Vapor VOCs Full List (TO-15)	Vapor TPH (ASTM 3416m)	Vapor Fixed Gases (ASTM D1946)	Test for Disposal (4B-)	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes	
SBC-5.5'	4/4	12:15	S	1																	Hold	-10
SBC-10.5'	4/4	12:20	S	1	X		X															-11
SBC-15.5'	4/4	12:30	S	1	X		X															-12
SBC-20.5'	4/4	12:40	S	1	X		X															-13
SBC-26'	4/4	12:55	S	1	X		X															-14

1723

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Troy A Buggle 4/6/01 10:15			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Harold Brown Kiff Analytical	040601	1210

10/23/00 Revision

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

ATTACHMENT C

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-A
JOB/SITE NAME	Former Shell-branded service station	**DRILLING STARTED**	04-Apr-01
LOCATION	8930 Bancroft, Oakland, CA	**DRILLING COMPLETED**	04-Apr-01
PROJECT NUMBER	243-1408	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	15.0 ft (04-Apr-01) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5. Located approx. 125' north of the northwest corner of Bancroft and 90th Ave.

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								CONCRETE	2.0	
						GP		**Sandy GRAVEL** (GP); brown; 30% sand, 70% gravel; no plasticity.	3.0	
								Silty SAND (SM); brown; 5% clay, 40% silt, 55% sand; low plasticity.		
					5					
			SB-A-5.5					@ 5.5' bgs- low-medium plasticity.		
						SM		@ 8' bgs- 10% clay, 40% silt, 50% sand; medium plasticity.		
					10					
			SB-A-10.5					@ 12' bgs- 5% clay, 35% silt, 50% sand, 10% gravel; low plasticity.		
								▽	15.0	
			SB-A-15		15			**Gravelly SAND** (SPG); brown, 5% silt, 50% sand, 45% gravel, low plasticity.		
									17.0	Bottom of Boring @ 17 ft

WELL LOG (PID/TPHG) G:\OA2CE3~1\GINT\OA8930.GPJ DEFAULT.GDT 7/27/01

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-B
JOB/SITE NAME	Former Shell-branded service station	**DRILLING STARTED**	04-Apr-01
LOCATION	8930 Bancroft, Oakland, CA	**DRILLING COMPLETED**	04-Apr-01
PROJECT NUMBER	243-1408	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	14.0 ft (04-Apr-01) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5'. Located approx. 25' north of the northwest corner of Bancroft and 90th Ave.

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								CONCRETE	2.0	
								Silty SAND (SM); brown, 5% clay, 40% silt, 55% sand; medium plasticity.		
			SB-B-5.5		5			@ 5' bgs- 40% silt, 60% sand; low plasticity.		
						SM		@ 7' bgs- 5% clay, 40% silt, 55% sand; low to medium plasticity.		
			SB-B-10.5		10			@ 10' bgs- 10% clay, 40% silt, 50% sand. ▽		
			SB-B-15.5		15			@ 15' bgs- 5% clay, 35% silt, 50% sand, 10 % gravel; low plasticity.	16.0	
						SP		**Gravelly SAND** (SP); brown, 20% silt, 40% sand, 40% gravel; low plasticity.	18.0	
			SB-B-18.0							Bottom of Boring @ 18 ft

WELL LOG (PID/TPHG) G:\OA2CE3~1\GINT\OA8930.GPJ DEFAULT.GDT 7/27/01

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-C
JOB/SITE NAME	Former Shell-branded service station	**DRILLING STARTED**	04-Apr-01
LOCATION	8930 Bancroft, Oakland, CA	**DRILLING COMPLETED**	04-Apr-01
PROJECT NUMBER	243-1408	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5'. Located approx. 20' south of the southwest corner of Bancroft and 90th Ave.

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								CONCRETE	2.0	
						SM		**Silty SAND** (SM); brown; soft; 40% silt, 55% sand, 5% gravel; low plasticity.	5.0	
			SB-C-5.5		5	ML		**Sandy SILT** (ML); brown; 10% clay, 45% silt, 35% sand, 10% gravel; medium plasticity.	10.0	
			SB-C-10.5		10	SM		**Silty SAND** (SM); brown; stiff; 5% clay, 45% silt, 50% sand; low plasticity. @ 12' bgs- 20% clay, 40% silt, 40% sand; medium plasticity.	15.0	
			SB-C-15.5		15	ML		**Clayey SILT** (ML); brown; stiff; 30% clay, 45% silt, 25% sand; low plasticity. @ 17' bgs- 30% clay, 45% silt, 15% sand, 10% gravel. @ 20' bgs- 30% clay, 45% silt, 25% sand.	23.0	
			SB-C-20.5		20					
			SB-C-26.0		25	SM		**Silty SAND** (SM); brown; stiff; 15% clay, 40% silt, 45% sand; medium plasticity.	26.0	Bottom of Boring @ 26 ft

WELL LOG (PID/TPHG) G:\OA2CE3~1\GINT\OA8930.GPJ DEFAULT.GDT 7/27/01

ATTACHMENT D

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 E

Drilling Permits

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554 MANLON MAGAT,LANES/FRANK CODD (510) 670-5783
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 8930 Bancroft Ave
Oakland CA

CLIENT
Name Equiva Svc. LLC
Address P.O. Box 7869 Phone 551 645 9306
City Burbank, CA Zip 91510-7869

APPLICANT
Name Troy Buggle
Cambria Env. Tech. Fax 510 420 9170
Address 3144 - 65th St. Ste. B Phone 510 420 3323
City Oakland, CA Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation		
Cathodic Protection	[ ]	General	[ ]	
Water Supply	[ ]	Contamination	[X]	3 borings (see map)
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	[X]		

DRILLER'S NAME Gregg Drilling
DRILLER'S LICENSE NO. C-57 # 485765

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth ____ ft.
Surface Seal Depth ____ ft. Owner's Well Number ____

GEOTECHNICAL PROJECTS
Number of Borings 3 Maximum
Hole Diameter 2" in. Depth 20 ft.

ESTIMATED STARTING DATE 4/4/01
ESTIMATED COMPLETION DATE 4/4/01

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

APPLICANT'S SIGNATURE Troy A Bugle DATE 4/2/01
PLEASE PRINT NAME TROY BUGGLE

FOR OFFICE USE

PERMIT NUMBER W01-204
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
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 by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

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

F. WELL DESTRUCTION
See attached requirements for destruction of shallow wells. Send a map of work site. A different permit application is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 4-2-01

Rev. 6 -5-00

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PERMIT NUMBER	SITE ADDRESS/LOCATION
X0100661	8930 Bancroft Ave, Oakland, CA
APPROX. START DATE: 4/4/01 / APPROX. END DATE: 4/4/01	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number): 510 420 0700
CONTRACTOR'S LICENSE # AND CLASS: 740582	CITY BUSINESS TAX #

ATTENTION:

1) State law requires that the contractor/owner call *Underground Service Alert (USA)* two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: _____

2) **48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.**

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. _____, B&PC for this reason _____.

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name Cambria Environmental Technology, Inc.

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Signature of Permittee: Steven A. Bengal ☐ Agent for ☒ Contractor ☐ Owner — Date: 4/3/01

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☒ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☒ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☒ YES ☐ NO
ISSUED BY: [signature]		DATE ISSUED: 4/3/01	

ATTACHMENT F

Site Conceptual Model

SITE CONCEPTUAL MODEL
6/25/01
Cambria Environmental Technology, Inc.

Site Address:	8930 Bancroft Avenue	**Incident Number:**	98995742
City:	Oakland, CA	**Regulator:**	Alameda County Health Care Services Agency

Item	Evaluation Criteria	Comments/Discussion
1	**Hydrocarbon Source**	
1.1	Identify/Describe Release Source and Volume (if known)	Six observation wells were installed on site in 1983 in response to gasoline saturated soils as discovered by an independent drilling contractor. The wells were developed and sampled in 1998. As a result of hydrocarbon concentrations in water samples, an unauthorized Release Form (Form 5) dated December 17, 1998 was filed with the City of Oakland Fire Department. Petroleum hydrocarbons and MTBE were detected, with concentrations of TPHg ranging from ND to 940 ppb and MTBE ranging from ND to 26,000 ppb. The volume and source of the release is unknown.
1.2	Discuss Steps Taken to Stop Release	Able Maintenance and Construction removed three 10,000-gallon fiberglass gasoline USTs on July 8, 1999. Gasoline dispensers and associated product piping were also removed on this date. The hydraulic hoist located on site was pumped out in July of 1999 and abandoned in place by Able Maintenance. Approximately 750 tons of soil associated with the equipment removal were transported to Forward Landfill for disposal.
2	**Site Characterization**	
2.1	Current Site Use/Status	The site is an active Shell-branded service station located at the northeast corner of Bancroft and 90th Avenues in Oakland, California. The site is surrounded by mixed residential and commercial property.
2.2	Soil Definition Status	During the July 1998 tank removal, all UST excavation soil samples were below detection limits for TPHg except for sample T1-2-13 which contained 3.2 ppm of TPHg. The highest MTBE concentrations were detected in UST excavation samplesT-1-13 and T3-1-13 at 6.10 ppm and 6.20 ppm, respectively. TPHg and BTEX contamination in soil is defined by non-detection in soil borings downgradient (SB- A and SB-B) and crossgradient (SB-C) of the site. The soil borings are approximately 120 to 150 feet downgradient and crossgradient of the site. The only contaminant concentration reported in borings SB-A, SB-B and SB-C was MTBE in SB-B at 0.055 ppm approximately 18 fbg.

Item	Evaluation Criteria	Comments/Discussion
2.3	Separate-Phase Hydrocarbon Definition Status	No SPH has been detected at the site.
2.4	Groundwater Definition Status (BTEX)	The lateral extent of BTEX has been adequately defined upgradient of the site by non-detection in wells MW-1 and MW-3. Only low concentrations of BTEX have been detected in MW-2, MW-5, and MW-6 in the crossgradient and downgradient directions.
2.5	BTEX Plume Stability and Concentration Trends	Based on quarterly monitoring data for all six wells since December 1998, the BTEX plume appears to be shrinking.
2.6	Groundwater Definition Status (MTBE)	The lateral extent of MTBE has been adequately defined upgradient and crossgradient of the site by non-detection in wells MW-1 through MW-3. The April 2001 assessment data indicate significant downgradient attenuation of MTBE; therefore, MTBE is essentially defined in all lateral directions. The vertical extent of MTBE has not yet been defined. However, given the apparent lack of pumping wells in the vicinity, no significant vertical migration of MTBE is expected.
2.7	MTBE Plume Stability and Concentration Trends	Based on periodic monitoring since December 1998, MTBE concentrations are decreasing.
2.8	Groundwater Flow Direction, Depth Trends and Gradient Trends	Groundwater flow ranges from northwest to west at approximately 0.005 ft/ft. Depth to groundwater in onsite wells has ranged from 11.0-14.0 feet bgs.
2.9	Stratigraphy and Hydrogeology	The site is underlain by low to high permeability sediments consisting of interbedded sandy gravel, silty sand, gravelly sand, and silt to the total explored depth of 26.0 ft.
2.10	Preferential Pathways Analysis	Cambria obtained storm drain and sanitary sewer line maps from the City of Oakland. Flow-line elevations for storm drain and sewer lines range from 43.97 to 51.30 above mean sea level (amsl). Groundwater ranges from 43.24 to 44.12 amsl in onsite wells. Therefore, the sanitary sewer and storm drain lines identified encounter groundwater at least seasonally and may affect groundwater flow. However, given the low concentrations of analytes in onsite groundwater, significant migration of dissolved chemicals in groundwater from the site is not expected.
2.11	Other Pertinent Issues	
2.14	Known Environmental Documents for Site	See attached list.
3	**Remediation Status**	
3.1	Remedial Actions Taken	Weekly groundwater extraction was performed on well MW-4 from March to May 2000.
3.2	Area Remediated	Remediation focused on groundwater in the vicinity of MW-4.

Item	Evaluation Criteria	Comments/Discussion
3.3	Remediation Effectiveness	Groundwater extraction activities have removed a total of 1,875 gallons of groundwater, <0.00565 pounds of TPPH, <0.00006 lbs of benzene, and 0.09687 pounds of MTBE.
4	**Well and Sensitive Receptor Survey**	
4.1	Designated Beneficial Water Use	Municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply (RWQCB basin plan).
4.2	Shallow Groundwater Use	Shallow wells within a half-mile of the site are associated with irrigation or monitoring use. Other shallow groundwater use is unknown.
4.3	Deep Groundwater Use	There is no known use of deep groundwater in the site vicinity.
4.4	Well Survey Results	In a 2000 potential receptor survey by Cambria, 52 wells were identified within a one-half mile radius of the site: 4 production wells, 8 wells of unknown use, and 40 wells used for monitoring, cathodic protection, or testing purposes. Five wells, identified as irrigation, unknown, and active water producing wells, are located downgradient of the site. Cambria staff located the wells and discovered that only well # 4 was active (see attached well survey map).
4.5	Likelihood of Impact to Wells	Unlikely given that the potential receptor well is approximately 1/4 mile southwest (downgradient) of the release and recent assessment results show significant downgradient MTBE attenuation 110 feet downgradient of the site.
4.6	Likelihood of Impact to Surface Water	Unlikely given that no surface bodies of water were identified within a half-mile radius.
5	**Risk Assessment**	
5.1	Site Conceptual Exposure Model (current and future uses)	The site is an active Shell-branded service station surrounded by mixed commercial and residential property. Benzene is the most significant chemical of concern with regard to human health risk. The BTEX plume lies primarily beneath the southwestern portion of the site and extends downgradient into but not across Bancroft Avenue. The highest benzene concentrations in soil and groundwater soil exist under the UST complex.
5.2	Exposure Pathways	Potentially complete exposure pathways include onsite commercial occupant inhalation of vapors from impacted soil and groundwater, and dermal exposure, particle inhalation, and ingestion of impacted soil by onsite construction workers.
5.3	Risk Assessment Status	No formal RBCA has been performed for the site.
5.4	Identified Human Exceedances	NA
5.5	Identified Ecological Exceedances	NA

Item	Evaluation Criteria	Comments/Discussion
6	**Additional Recommended Data or Tasks**	
6.1		
6.2		
6.3		
6.4		

Attached:

Known Environmental Documents

Latest QMR map (6/01)

Latest groundwater monitoring tables (6/01)

Well Survey map and table (11/00)

Boring/Well logs (4/01)

Well Logs (12/83)

UST Removal Sample Location Map and Tables (7/99)

G:\Oakland 8930 Bancroft\2001 site investigation\8930 SCM 5-01.xls

Environmental Documents Available to Cambria Environmental		
Date	Title/Subject	Company
05/17/01	First Quarter 2001 Monitoring and Remediation Report	Cambria Environmental
09/20/99	Underground Storage Tank Closure Report	Cambria Environmental
06/25/01	Subsurface Investigation Report	Cambria Environmental
12/23/98	Site Summary	Cambria Environmental
12/23/98	Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report	Cambria Environmental
11/30/00	Site Investigation Work Plan	Cambria Environmental

Groundwater Elevation Contour Map

June 27, 2001

CAMBRIA

Shell-branded Service Station
8930 Bancroft Avenue
Oakland, California
Incident #98995742

FIGURE
1

WELL CONCENTRATIONS
Shell-branded Service Station
8930 Bancroft Avenue
Oakland, CA
Wic #204-5508-1305

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-1	12/17/1998	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	53.19	11.87	41.32
MW-1	03/09/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	53.19	8.21	44.98
MW-1	06/16/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	53.19	15.04	38.15
MW-1	09/30/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	53.19	16.02	37.17
MW-1	12/23/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	53.19	14.78	38.41
MW-1	03/22/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	53.19	8.44	44.75
MW-1	06/01/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	53.19	13.71	39.48
MW-1	09/08/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	53.19	14.95	38.24
MW-1	12/04/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	5.82	NA	53.19	13.85	39.34
MW-1	03/09/2001	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	53.19	9.07	44.12
MW-1	**06/27/2001**	**<50**	**NA**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**	**NA**	**53.19**	**14.90**	**38.29**
MW-2	12/17/1998	9,900	NA	<5.0	37	22	47	48	<20	52.66	11.65	41.01
MW-2	03/09/1999	2,760	NA	12.3	7.50	85.4	444	<50.0	NA	52.66	8.07	44.59
MW-2	06/16/1999	2,570	NA	36.3	11.6	6.19	10.8	<50.0	NA	52.66	14.63	38.03
MW-2	09/30/1999	1,960	NA	19.1	3.20	4.55	26.9	<25.0	NA	52.66	15.63	37.03
MW-2	12/23/1999	145	NA	1.30	<0.500	<0.500	0.899	<2.50	NA	52.66	14.42	38.24
MW-2	03/22/2000	6,060	NA	18.9	<10.0	210	651	<100	NA	52.66	8.19	44.47
MW-2	06/01/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	52.66	11.46	41.20
MW-2	09/08/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	52.66	14.63	38.03
MW-2	12/04/2000	201	NA	1.35	<0.500	3.39	8.58	<2.50	NA	52.66	13.45	39.21
MW-2	03/09/2001	396	NA	2.82	<0.500	8.69	18.7	<2.50	NA	52.66	8.89	43.77
MW-2	**06/27/2001**	**<50**	**NA**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**	**NA**	**52.66**	**14.88**	**37.78**
MW-3	12/17/1998	<50	NA	<0.50	<0.50	<0.50	<0.50	10	11	51.30	11.85	39.45
MW-3	03/09/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	51.30	6.53	44.77

WELL CONCENTRATIONS
Shell-branded Service Station
8930 Bancroft Avenue
Oakland, CA
Wic #204-5508-1305

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-3	06/16/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	51.30	12.71	38.59
MW-3	09/30/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	5.14	NA	51.30	14.07	37.23
MW-3	12/23/1999	<500	NA	<5.00	<5.00	<5.00	<5.00	<25.0	NA	51.30	12.82	38.48
MW-3	03/22/2000	<50.0	NA	<0.500	1.48	<0.500	1.90	<5.00	NA	51.30	6.81	44.49
MW-3	06/01/2000	<50.0	NA	<0.500	0.821	<0.500	<0.500	4.39	NA	51.30	11.85	39.45
MW-3	09/08/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	3.62	NA	51.30	12.55	38.75
MW-3	12/04/2000	<50.0	NA	<0.500	<0.500	<0.500	0.588	4.74	NA	51.30	11.65	39.65
MW-3	03/09/2001	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	51.30	7.28	44.02
MW-3	**06/27/2001**	**<50**	**NA**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**	**NA**	**51.30**	**13.16**	**38.14**
MW-4	12/17/1998	700	NA	4.3	0.88	<0.50	<0.50	21,000	26,000	50.73	10.80	39.93
MW-4	03/09/1999	83.9	NA	<0.500	<0.500	<0.500	<0.500	17,900	23,700	50.73	6.91	43.82
MW-4	06/16/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	10,600	19,200	50.73	12.84	37.89
MW-4	09/30/1999	51.2	NA	<0.500	<0.500	<0.500	<0.500	12,200	12,300	50.73	13.74	36.99
MW-4	12/23/1999	<100	NA	<1.00	<1.00	<1.00	<1.00	7,990	8,400	50.73	12.40	38.33
MW-4	03/22/2000	<500	NA	<5.00	<5.00	<5.00	<5.00	4,970	5,020	50.73	7.32	43.41
MW-4	06/01/2000	<100	NA	<1.00	<1.00	<1.00	<1.00	5,260	3,580	50.73	11.50	39.23
MW-4	09/08/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	3,610	3,300a	50.73	12.55	38.18
MW-4	12/04/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	2,960	3,520a	50.73	11.77	38.96
MW-4	03/09/2001	<50.0	NA	<0.500	<0.500	<0.500	<0.500	1,930	2,500	50.73	7.48	43.25
MW-4	**06/27/2001**	**<50**	**NA**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1,100**	**1,100**	**50.73**	**12.97**	**37.76**
MW-5	12/17/1998	750	NA	<0.50	17	1.8	3.5	33	32	51.43	11.51	39.92
MW-5	03/09/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<5.00	NA	51.43	7.15	44.28
MW-5	06/16/1999	646	NA	9.26	1.05	<1.00	<1.00	<10.0	NA	51.43	13.47	37.96
MW-5	09/30/1999	484	NA	1.93	0.511	<0.500	<0.500	159	NA	51.43	14.41	37.02

WELL CONCENTRATIONS
Shell-branded Service Station
8930 Bancroft Avenue
Oakland, CA
Wic #204-5508-1305

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-5	12/23/1999	944	NA	4.59	17.7	3.79	16.7	214	NA	51.43	14.07	37.36
MW-5	03/22/2000	8,770	NA	197	96.5	<50.0	188	2,450	NA	51.43	7.31	44.12
MW-5	06/01/2000	227	NA	0.565	<0.500	<0.500	<0.500	35.9	NA	51.43	12.15	39.28
MW-5	09/08/2000	159	NA	0.606	<0.500	<0.500	1.74	1,000	NA	51.43	13.30	38.13
MW-5	12/04/2000	1,510	NA	19.2	<10.0	<10.0	134	1,360	NA	51.43	12.19	39.24
MW-5	03/09/2001	3,460	NA	37.9	121	40.6	208	235	NA	51.43	7.79	43.64
MW-5	**06/27/2001**	**310**	**NA**	**0.97**	**<0.50**	**<0.50**	**<0.50**	**14**	**NA**	**51.43**	**13.89**	**37.54**
MW-6	12/17/1998	940	NA	27	0.32	2.4	2.3	3.0	3.2	51.88	11.37	40.51
MW-6	03/09/1999	336	NA	7.78	1.60	2.40	6.36	<10.0	NA	51.88	8.10	43.78
MW-6	06/16/1999	308	NA	2.45	<0.500	<0.500	<0.500	7.39	NA	51.88	14.49	37.39
MW-6	09/30/1999	80.2	NA	<0.500	<0.500	<0.500	<0.500	24.8	NA	51.88	15.30	36.58
MW-6	12/23/1999	149	NA	0.518	<0.500	<0.500	<0.500	6.43	NA	51.88	13.19	38.69
MW-6	03/22/2000	382	NA	3.31	2.18	0.619	2.35	5.61	NA	51.88	8.27	43.61
MW-6	06/01/2000	158	NA	0.830	<0.500	<0.500	1.10	10.9	NA	51.88	11.13	40.75
MW-6	09/08/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	51.88	14.28	37.60
MW-6	12/04/2000	231	NA	4.93	<0.500	<0.500	<0.500	4.57	NA	51.88	12.62	39.26
MW-6	03/09/2001	789	NA	11.6	2.72	<2.00	<2.00	28.0	NA	51.88	8.65	43.23
MW-6	**06/27/2001**	**140**	**NA**	**<0.50**	**1.1**	**<0.50**	**<0.50**	**<2.5**	**NA**	**51.88**	**14.95**	**36.93**

WELL CONCENTRATIONS
Shell-branded Service Station
8930 Bancroft Avenue
Oakland, CA
Wic #204-5508-1305

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

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
TEPH = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8020
MTBE = methyl-tertiary-butyl ether by EPA Method 8020
TOC = Top of Casing Elevation
GW = Groundwater
ug/L = parts per billion
msl = Mean sea level
ft = Feet
<n = Below detection limit
NA = Not applicable

Notes:
a = This sample analyzed outside of EPA recommended holding time.

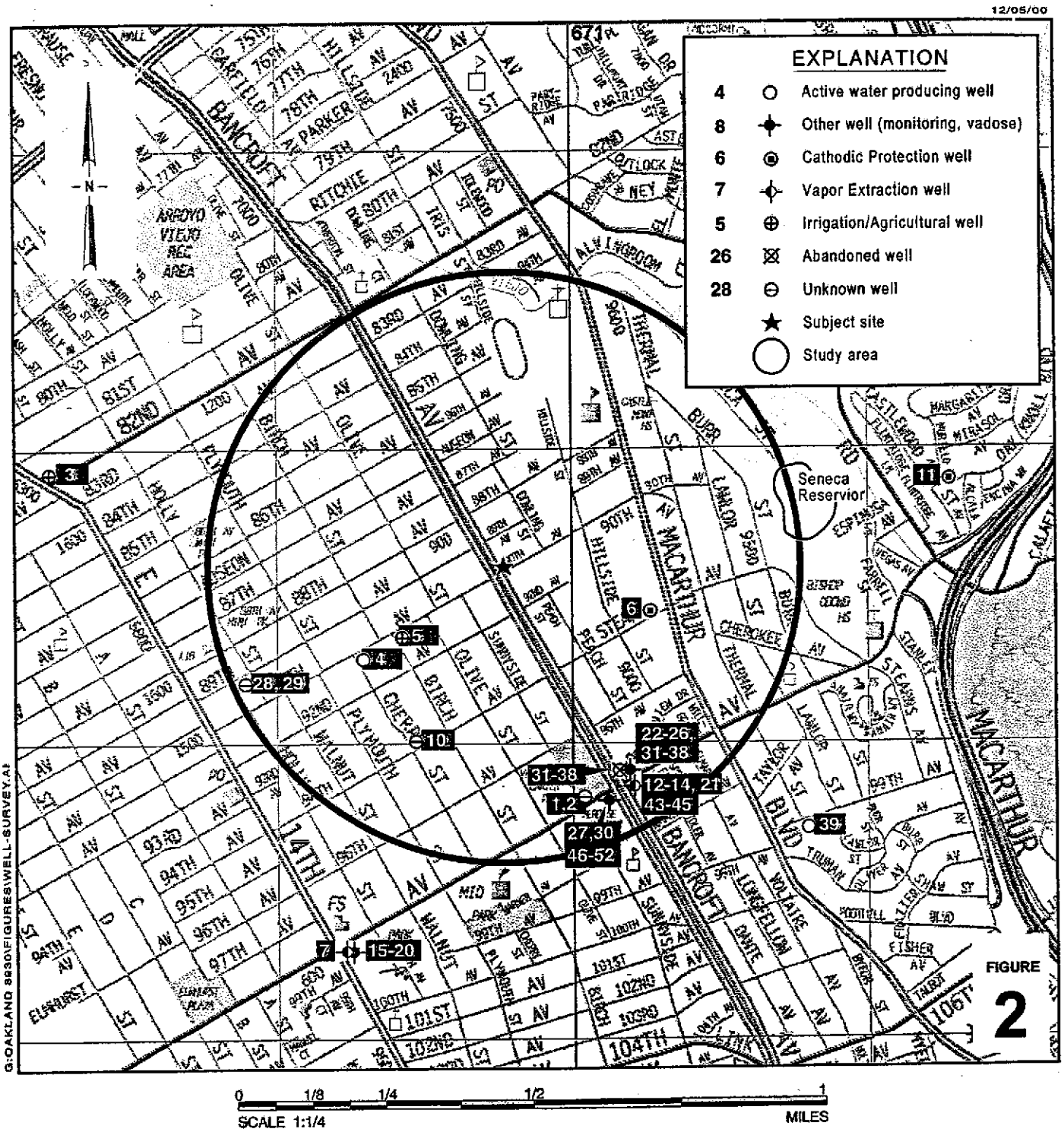


FIGURE 2

Shell-branded Service Station
8930 Bancroft Avenue
Oakland, California
Incident #98995742

CAMBRIA

Well Survey Map
(1/2 Mile Radius)

Table 1. Well Survey - Shell-branded Service Station, Incident #98995742, 8930 Bancroft Avenue, Oakland, California.

Location	Well ID	Installation Date	Owner	Use	Depth (ft bgs)	Screened Interval (ft bgs)	Sealed Interval (ft bgs)
Well Locations provided by the State of California Water Resources Department							
1	2S/3W-23C1	Unknown	Auto Lite	Unk	120	Unknown	Unknown
2	Unknown	Unknown	Auto Lite	Unk	Unk	Unknown	Unknown
3	2S/3W-15K1	May 24, 1977	Alphense B. Perkins	Prod	Unk	Unknown	Unknown
4	2S/3W-14N1	June 1, 1977	Hueko Mills	Prod	50	20-50	0-20
5	2S/3W-14N2	October 5, 1977	Mr. Grambs	Prod	60	20-60	Unknown
6	2S/3W-14Q1	May 5, 1976	Pacific Gas & Electric	C.P.	120	Unknown	0-95
7	2S/3W-23E1	May 14, 1991	Arco Oil	Vap	9.8	4.8-9.8	0-4
8	2S/3W-20C9	October 17, 1990	Unocal Oil	Mon	46	26-46	0-22
9	2S/3W-20C10	October 17, 1990	Unocal Oil	Mon	45	25-45	0-20
10	2S/3W-23D1	April 26, 1976	Pacific Gas & Electric	Unk	120	Unknown	0-95
11	2S/3W-14J1	January 23, 1976	Pacific Gas & Electric	C.P.	120	Unknown	0-95
12	2S/3W-23C19	March 26, 1992	B. P. Oil	Vap	16.6	9-16.6	0-8
13	2S/3W-23C20	March 26, 1992	B. P. Oil	Vap	16.5	9-16.5	0-8
14	2S/3W-23C21	March 26, 1992	B. P. Oil	Vap	16.5	9-16.5	0-8
15	2S/3W23E8	January 21, 1993	Arco Oil	Mon	28.5	8.5-28.5	0-7
16	2S/3W-23E7	January 20, 1993	Arco Oil	Mon	29	9-29	0-7
17	2S/3W-23E3	July 8,1992	Arco Oil	Mon	24	9-24	0-8
18	2S/3W-23E4	July 7, 1992	Arco Oil	Mon	24	8-24	0-7
19	2S/3W-23E5	July 7, 1992	Arco Oil	Mon	24	9-24	0-7
20	2S/3W-23E6	July 8, 1992	Arco Oil	Mon	24	9-24	0-8
21	2S/3W-23C8	January 23, 1990	Unocal Oil	Mon	42	22-42	0-20
22	2S/3W-23C4	Unknown	Unocal Oil	Mon	32	7-32	0-6.5

Table 1. Well Survey - Shell-branded Service Station, Incident #98995742, 8930 Bancroft Avenue, Oakland, California.

Location	Well ID	Installation Date	Owner	Use	Depth (ft bgs)	Screened Interval (ft bgs)	Sealed Interval (ft bgs)
23	2S/3W-23C5	Unknown	Unocal Oil	Mon	30	5-30	0-4
24	2S/3W-23C6	Unknown	Unocal Oil	Mon	30	5-30	0-4
25	2S/3W-23C7	Unknown	Unocal Oil	Mon	33	7-33	0-6
26	2S/3W-23C22	August 12, 1991	Unocal Corp.	Mon	36	26-36	0-24.5
27	2S/3W-23B13	February 28, 1991	BP Oil Company	Mon	40	20-40	0-18
28	2S/3W-15R1	March 4, 1993	Pacific Bell	Unk	25	10-25	0-8.5
29	2S/3W-15R2	March 4, 1993	Pacific Bell	Unk	24	9-24	0-7
30	2S/3W-23B12	March 1, 1991	BP Oil Company	Mon	35	20-35	0-18
31	2S/3W-23C11	January 18, 1990	Unocal Oil	Mon	30	20-33	0-18
32	2S/3W-23C12	January 18, 1990	Unocal Oil	Mon	18	8-18	0-7
33	2S/3W-23C13	January 18, 1990	Unocal Oil	Mon	30	19-33	0-18
34	2S/3W-23C14	January 17, 1990	Unocal Oil	Mon	29	20-29	0-18
35	2S/3W-23C15	January 19, 1990	Unocal Oil	Mon	13	8-13	0-6.5
36	2S/3W-23C16	January 24, 1990	Unocal Oil	Mon	7	2-7	0-2
37	2S/3W-23C17	January 24, 1990	Unocal Oil	Mon	5	2-5	0-1.9
38	2S/3W-23C18	January 23, 1990	Unocal Oil	Mon	42	22-42	0-20
39	2S/3W-23B1	June 13, 1977	Mrs. Bennett	Prod	75	40-67	0-20
40	2S/3W-14J	Unknown	Union Water Co.	Unk	206	Unknown	Unknown
41	Unknown	Unknown	Union Water Co.	Unk	214	Unknown	Unknown
42	Unknown	Unknown	Union Water Co.	Unk	362	Unknown	Unknown
43	2S/3W-23B2	May 6, 1988	Mobile Oil Corp.	Mon	29	10-29	0-9
44	2S/3W-23B3	May 6, 1988	Mobile Oil Corp.	Mon	32	12-32	0-10
45	2S/3W-23B4	May 6, 1988	Mobile Oil Corp.	Mon	34	14-34	0-11.5

Table 1. Well Survey - Shell-branded Service Station, Incident #98995742, 8930 Bancroft Avenue, Oakland, California.

Location	Well ID	Installation Date	Owner	Use	Depth (ft bgs)	Screened Interval (ft bgs)	Sealed Interval (ft bgs)
46	2S/3W-23B5	June 5, 1990	BP Oil Company	Mon	35	15-35	0-18
47	2S/3W-23B6	June 5, 1990	BP Oil Company	Mon	40	20-40	0-18
48	2S/3W-23B7	June 6, 1990	BP Oil Company	Mon	35	15-35	0-18
49	2S/3W-23B8	June 6, 1990	BP Oil Company	Mon	35	15-35	0-18
50	2S/3W-23B9	June 5, 1990	BP Oil Company	Mon	40	15-40	0-15
51	2S/3W-23B10	February 27, 1991	BP Oil Company	Mon	45	20-45	0-18
52	2S/3W-23B11	February 28, 1991	BP Oil Company	Mon	35	20-35	0-18

Abbreviations & Notes:

Location = Column number referes to map location on Figure 1.
Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California.
Mon = Monitoring well.
Unk = Unknown.
Invs = Exploratory boring only, no well constructed.
Prod = Production well.
C.P. = Cathodic Protection Well
Vap = Vapor Extraction Well

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-A
JOB/SITE NAME	Former Shell-branded service station	**DRILLING STARTED**	04-Apr-01
LOCATION	8930 Bancroft, Oakland, CA	**DRILLING COMPLETED**	04-Apr-01
PROJECT NUMBER	243-1408	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	15.0 ft (04-Apr-01) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5. Located approx. 125' north of the northwest corner of Bancroft and 90th Ave.

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								CONCRETE	2.0	
						GP		**Sandy GRAVEL** (GP); brown; 30% sand, 70% gravel; no plasticity.	3.0	
								Silty SAND (SM); brown; 5% clay, 40% silt, 55% sand; low plasticity.		
					5					
			SB-A-5.5					@ 5.5' bgs- low-medium plasticity.		
						SM		@ 8' bgs- 10% clay, 40% silt, 50% sand; medium plasticity.		
					10					
			SB-A-10.5					@ 12' bgs- 5% clay, 35% silt, 50% sand, 10% gravel; low plasticity.		
								▽	15.0	
			SB-A-15		15			**Gravelly SAND** (SPG); brown, 5% silt, 50% sand, 45% gravel, low plasticity.		
									17.0	Bottom of Boring @ 17 ft

WELL LOG (PID/TPHG) G:\OA2CE3~1\GINT\OA8930.GPJ DEFAULT.GDT 7/27/01

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-B
JOB/SITE NAME	Former Shell-branded service station	**DRILLING STARTED**	04-Apr-01
LOCATION	8930 Bancroft, Oakland, CA	**DRILLING COMPLETED**	04-Apr-01
PROJECT NUMBER	243-1408	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	14.0 ft (04-Apr-01) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5'. Located approx. 25' north of the northwest corner of Bancroft and 90th Ave.

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								CONCRETE	2.0	
								Silty SAND (SM); brown, 5% clay, 40% silt, 55% sand; medium plasticity.		
					5			@ 5' bgs- 40% silt, 60% sand; low plasticity.		
			SB-B-5.5					@ 7' bgs- 5% clay, 40% silt, 55% sand; low to medium plasticity.		
						SM				
					10			@ 10' bgs- 10% clay, 40% silt, 50% sand.		
			SB-B-10.5					▽		
					15			@ 15' bgs- 5% clay, 35% silt, 50% sand, 10 % gravel; low plasticity.	16.0	
			SB-B-15.5			SP		**Gravelly SAND** (SP); brown, 20% silt, 40% sand, 40% gravel; low plasticity.	18.0	Bottom of Boring @ 18 ft
			SB-B-18.0							

WELL LOG (PID/TPHG) G:\OA2CE3~1\GINT\OA8930.GPJ DEFAULT.GDT 7/27/01

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-C
JOB/SITE NAME	Former Shell-branded service station	**DRILLING STARTED**	04-Apr-01
LOCATION	8930 Bancroft, Oakland, CA	**DRILLING COMPLETED**	04-Apr-01
PROJECT NUMBER	243-1408	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA

REMARKS Hand augered to 5'. Located approx. 20' south of the southwest corner of Bancroft and 90th Ave.

PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								CONCRETE	2.0	
						SM		**Silty SAND** (SM); brown; soft; 40% silt, 55% sand, 5% gravel; low plasticity.	5.0	
			SB-C-5.5		5	ML		**Sandy SILT** (ML); brown; 10% clay, 45% silt, 35% sand, 10% gravel; medium plasticity.	10.0	
			SB-C-10.5		10	SM		**Silty SAND** (SM); brown; stiff; 5% clay, 45% silt, 50% sand; low plasticity. @ 12' bgs- 20% clay, 40% silt, 40% sand; medium plasticity.	15.0	
			SB-C-15.5		15	ML		**Clayey SILT** (ML); brown; stiff; 30% clay, 45% silt, 25% sand; low plasticity. @ 17' bgs- 30% clay, 45% silt, 15% sand, 10% gravel. @ 20' bgs- 30% clay, 45% silt, 25% sand.	23.0	
			SB-C-20.5		20					
			SB-C-26.0		25	SM		**Silty SAND** (SM); brown; stiff; 15% clay, 40% silt, 45% sand; medium plasticity.	26.0	Bottom of Boring @ 26 ft

WELL LOG (PID/TPHG) G:\OA2CE3~1\GINT\OA8930.GPJ DEFAULT.GDT 7/27/01

Gallier - Ryan Inc — GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: SHELL OIL CO. JOB #: OR -5050

LOCATION: 90th + BANCROFT DATE: 5.31.83

CITY: OAKLAND WELL #: 1

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		A.C. PAVING
2"		AGGREGATE
6"		DARK BROWN SILTY CLAY
2½'		BROWN SILTY CLAY
4'		GRAVEL W/CLAY
10'		LIGHT BROWN SILTY CLAY - DRY
14'		LIGHT BROWN SILTY CLAY - WET
16'		GRAVEL W/CLAY - WET
		TD = 16.7H

FOREMAN: DAVID BYRON SHEET: 1 OF: 1

Collier - Ryan Inc. — General Contractors

WELL BORING LOG

COMPANY: Shell Oil Co. JOB #: OR -5050

LOCATION: 90th & Bancroft DATE: 5-31-83

CITY: Oakland WELL #: 2

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		
2"		A.C. Paving
6"		Aggregate
2'		Dark Brown Silty Clay
10'		Brown Clay w/Gravel
14'		Dark Gray Silty Clay w/Sand - Wet - Vapor
19'		Brown Silty Clay w/Gravel - Wet
		Light Brown Silty Clay - Wet
		TD = 19.15

FOREMAN: David Byron SHEET: 1 OF: 1

Gallier - Ryan Inc. — General Contractors

WELL BORING LOG

COMPANY: Shell Oil Co.

JOB #: 83-5050

LOCATION: 90th. & Bancroft

DATE: 5.31.83

CITY: Oakland

WELL #: 3

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		A.C. Paving
2"		Aggregate
6"		Dark Brown Silty Clay
3'		Dark Brown Clay w/Silt
5'		Light Brown Clay w/Silt
8'		Brown Clay w/Silt
10'		Light Brown Clay w/Gravel - Damp
13'		Light Brown Clay w/Gravel - Wet
		TD = 13.72

FOREMAN: David Byron

SHEET: 1 OF: 1

Gallier - Ryan Inc. — Geotechnical Consultants

WELL BORING LOG

COMPANY: SHELL OIL CO

JOB #: DR -5050

LOCATION: 90 th + BANCROFT

DATE: 5.31.83

CITY: OAKLAND

WELL #: 4

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft		
2"		A.C. PAVING
6"		AGGREGATE
2½'		DARK BROWN SILTY CLAY
11'		BROWN SANDY CLAY
13'		GRAVEL
		LIGHT BROWN SILTY CLAY - WET
		TD = 19.69

FOREMAN: DAVID BYRON

SHEET: 1 OF: 1

Geiller - Ryan Inc. — GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: SHELL OIL CO.

LOCATION: 90TH. & BANCROFT

CITY: OAKLAND

JOB #: OR - 5050

DATE: 5-31-83

WELL #: 5

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		A.C. PAVING
4"		AGGREGATE
8"		DARK BROWN SILTY CLAY
2'		BROWN SANDY CLAY
3'		BROWN SANDY CLAY W/GRAVEL
6'		GRAVEL W/SILT
7'		BROWN CLAY
10'		BROWN SILTY CLAY
17'		BROWN SILTY CLAY W/GRAVEL WET
		TD = 19.73

FOREMAN: DAVID BYRON

SHEET: 1 OF: 1

Gettler - Ryan Inc. — General Contractors

WELL BORING LOG

COMPANY: Shell Oil Co. JOB #: 83 - 5050

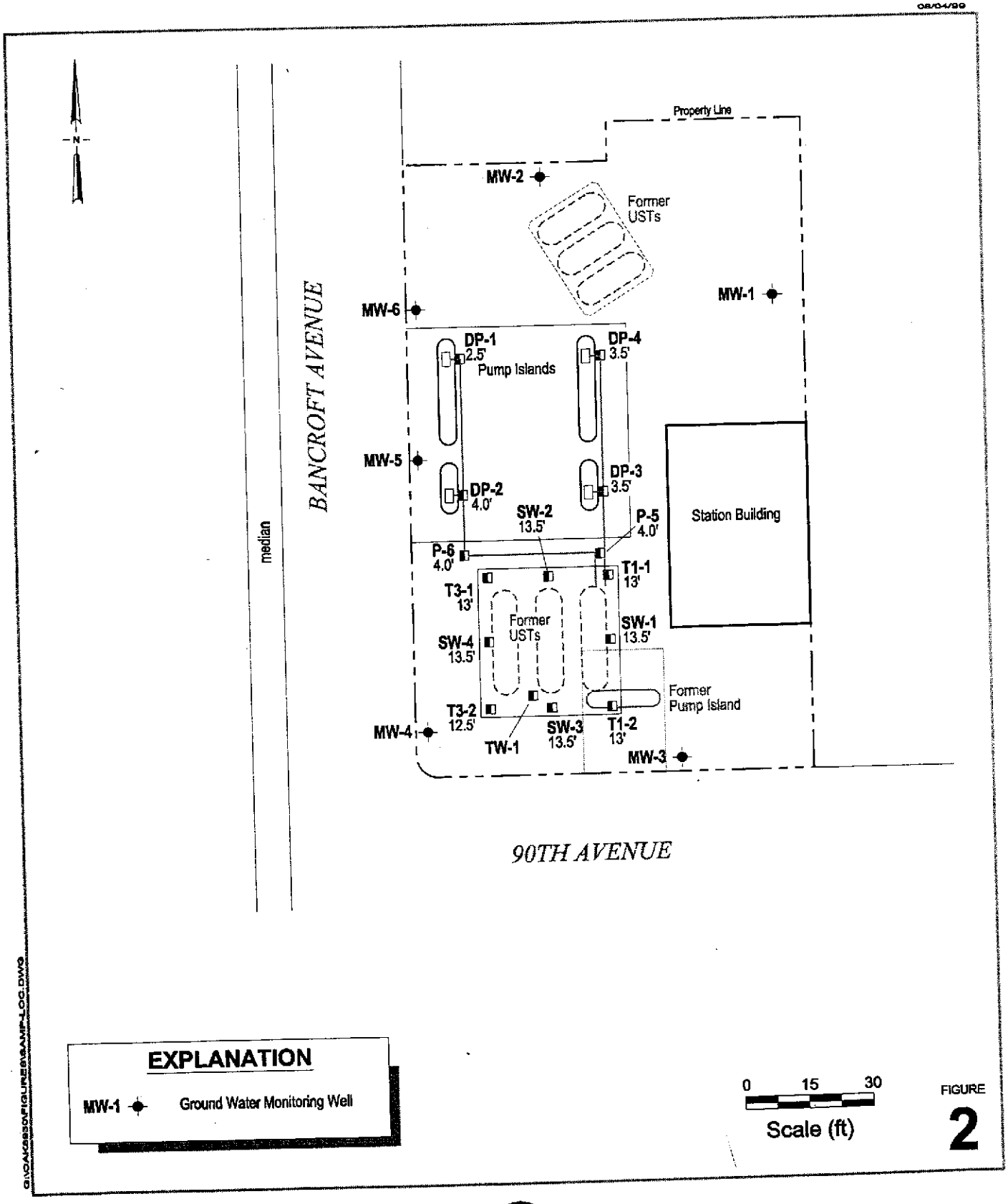
LOCATION: 90th + Bancroft DATE: 5.31.83

CITY: Oakland WELL #: 6

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		
3"		A.C. Paving
7"		Aggregate
3'		Dark Brown Silty Clay
5½'		Dark Brown Silty Clay w/Gravel
9'		Brown Clay
12'		Brown Silty Clay w/Gravel
14'		Brown Clay
		Brown Silty Clay w/Gravel - Wet - Vapor
		TD = 19.96

FOREMAN: David Byron

SHEET: 1 OF: 1



Shell-branded Service Station
8930 Bancroft Avenue
Oakland, California
Incident #98995742

CAMBRIA

UST Removal Sample Locations