CAMBRIA

295

June 6, 2001

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

JUN 11 2001

Re: **Soil Vapor Extraction and Site Investigation Report**
Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250
Cambria Project #243-0233

Dear Mr. Chan:

Cambria Environmental Technology, Inc. (Cambria) is submitting this *Soil Vapor Extraction and Site Investigation Report* on behalf of Equiva Services LLC. This [redacted] extraction [redacted] Cambria's [redacted] *Plan*.

To evaluate residual benzene concentrations in soil and groundwater, Cambria conducted a two-phase investigation. The initial phase of the investigation consisted of an SVE test, while the second phase of this investigation consisted of advancing five soil borings to groundwater. The work was performed to evaluate whether SVE is a viable remediation alternative for the site and to define the lateral extent of methyl tertiary-butyl ether (MTBE) and benzene in groundwater beneath the site. Based on an inquiry by Cambria regarding how to achieve site closure, the Alameda County Health Care Services Agency requested a site conceptual model (SCM) in a letter dated May 11, 2000. A site summary, description of the investigation techniques, results of the SVE test and soil boring investigation, an SCM, and conclusions and recommendations are presented below.

SITE SUMMARY

Site Location: The site is a former Shell service station located at the northeast corner of the intersection at 14th Street and Union street in Oakland, California (Figure 1). The site is surrounded by mixed residential and commercial properties. The property ceased operating as a gasoline service station in 1993.

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
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SOIL VAPOR EXTRACTION TEST

On October 16, 2000, Cambria performed an SVE pilot testing to determine the viability of SVE at this site. Cambria performed the field test to estimate 1) soil vapor concentrations, 2) soil vapor flow-rate, 3) radius of vacuum influence, and 4) potential mass removal rates. A brief SVE test was performed on existing vapor extraction wells VW/AS-1, VW/AS-3, VW/MW-2, VW/MW-4, and monitoring well MW-1, and a longer term SVE test was performed on well VW/AS-1.

SVE Test Equipment

The primary equipment used during testing consisted of a VR-Systems Internal Combustion Engine (ICE) model V-3. Emissions from the test were abated with the internal combustion engine. The ICE was equipped with a 3-gallon knockout drum to remove groundwater from the vapor stream. Flow-rate data was collected during the test using a pitot tube and a digital thermal anemometer. Vacuum was measured with magnehelic gauges. A portable photo-ionization detector (PID) was used to monitor soil vapor concentrations.

SVE Test Procedures

Cambria performed short-term SVE testing on vapor extraction wells VW/AS-1, VW/AS-3, VW/MW-2, VW/MW-4 and monitoring well MW-1. Short-term SVE tests lasted between 24 and [redacted] minutes. During each of these tests, groundwater entrained in the extracted vapor stream filled the knockout drum and the tests were stopped.

After short-term testing of the individual wells, well VW/AS-1 was selected for the longer-term test, based on high influent vapor concentrations and relatively high flow rates. Since groundwater infiltrated the vapor stream rapidly during the short-term testing on the well, the system was configured with a vacuum release valve to reduce the applied vacuum on the well. This measure prolonged the time before groundwater entered the vapor stream during the longer-term test. [redacted] long-term SVE test was conducted on well VW/AS-1 for [redacted]

Cambria collected measurements of the extracted vapor flow rate, vacuum applied to the wellhead, vacuum influence in nearby wells, and extracted vapor concentrations. Cambria also collected vapor samples from each well, and had them analyzed for total petroleum hydrocarbons as gasoline (TPHg) using EPA Method 8015M and benzene, toluene, ethylbenzene, xylenes (BTEX) and MTBE using EPA Method 8020. Samples with reported MTBE concentrations were re-analyzed using EPA Method 8260B. Construction details of all site wells are summarized in Table 1, and field test data is summarized in Table 2.

SVE Test Results

Influent volatile hydrocarbon concentrations measured with a PID ranged from 11 parts per million (ppm) (MW-1) to 9,610 ppm (VW/AS-1). PID data are summarized in Table 2.

Maximum TPHg and benzene concentrations detected during analytical testing of the bag samples were 3,140 parts per million by volume (ppmv) and 90.1 ppmv, respectively, from the VW/AS-1 sample collected after 18 minutes during the short-term individual well test of VW/AS-1. No MTBE was detected by EPA Method 8260B in any of the air samples. Analytical results of soil vapor samples and estimates of hydrocarbon-mass removed are summarized in Table 3. Soil vapor sample analytical results are presented in Attachment A.

Vapor extraction flow rates for individual well testing ranged from 0 to 94 cubic feet per minute (cfm) per well based on applied vacuum ranging from 10 to 185 inches of water. [redacted]

Estimated SVE Radius of Influence

To determine the effective radius of influence, Cambria measured induced vacuum in nearby wells during the individual well tests and long-term SVE testing of the above-referenced wells. [redacted]

Estimated Hydrocarbon Removal

Hydrocarbon removal was estimated using the measured analyte concentration and system flow rates. Based on the long term SVE test results, an average TPHg mass removal rate of 2.0 lbs/day was achieved. [redacted] 0.034 pounds.

SUBSURFACE INVESTIGATION

The procedures for this subsurface investigation are summarized below. Analytical results for soil and groundwater are summarized in Tables 4 and 5, respectively. Laboratory analytical reports are presented as Attachment A. Boring logs and Cambria's standard field procedures for Geoprobe sampling are presented in Attachments B and C, respectively.

Personnel Present: Shannon Couch, Staff Geologist, Cambria.

Permit: Alameda County Public Works Agency, Drilling Permit # W00-890 (Attachment D)

Drilling Company: Gregg Drilling, Inc. of Martinez, California (License C57-485-165).

Drilling Date: December 11, 2000.

Drilling Method: Geoprobe with pneumatic hammer.

Number of Borings: Five soil borings, GP-1 through GP-5 (Figure 1).

Boring Depths: 16 to 20.5 feet below grade (fbg) (Attachment B).

Sampling Interval: Discrete soil samples were collected every five feet. Groundwater grab samples were collected from each boring when groundwater was encountered. Due to equipment limitations, soil vapor samples were not collected from the borings.

Sediment Lithology: The site is underlain by silty sand and sand to the total explored depth of 20.5 fbg.

Groundwater Depths: Depth to groundwater, measured in site wells prior to the SVE test on October 16, 2000, ranged from 12.2 to 12.9 fbg.

Groundwater Flow Direction and Gradient: Groundwater typically flows to the northeast at approximately 0.002 to 0.003 ft/ft.

Chemical Analyses: All soil and groundwater samples were analyzed for TPHg, BTEX, and MTBE by EPA Method 8260.

Physical Analyses: Samples GP-2-11 and GP-5-10.5, chosen to represent vadose zone soil at the site, were analyzed for organic content, moisture content, density, and porosity. Results of these analyses are presented in Attachment A.

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

INVESTIGATION RESULTS

Hydrocarbon Results for Soil: No TPHg, benzene, or MTBE were detected in soil samples collected from this investigation.

Hydrocarbon Results for Groundwater: No TPHg or benzene was detected in groundwater samples from GP-2, GP-4, and GP-5. [redacted] was only detected in groundwater collected from boring GP-1 at 0.67 ppb.

SITE CONCEPTUAL MODEL

Cambria prepared a SCM for the site. The SCM is presented as Attachment E.

CONCLUSIONS AND RECOMMENDATIONS

Site Investigation Conclusions

[redacted] western property boundaries during previous assessment or periodic groundwater monitoring.

The only MTBE detection in grab groundwater samples was from boring GP-1 at 0.67 ppb. Given this very low concentration in only one grab groundwater sample, MTBE is not considered a significant issue at the site and likely originates either from an offsite source or from rainwater infiltration.

SVE Test Conclusions

Soil vapor analytical results from the SVE test and site assessment indicate that the extent of hydrocarbons in soil above the groundwater table is confined to the area near the former tank complex and former northern-most product island. & within

Although groundwater interfered with the SVE testing, SVE may be an effective method to remove hydrocarbons from soils above the groundwater table. [redacted] Because of this, a radius of influence for SVE was not estimated. To more accurately determine whether SVE is a viable remedial alternative at the site, additional testing with a more appropriately constructed well or wells would be required. or testing @ different site location

Recommendations

Although results of the subsurface investigation indicate slight downgradient attenuation of the hydrocarbon plume in groundwater, [redacted] Provided the hydrocarbon attenuation trend can be confirmed by the additional assessment, we recommend subsequent completion of a risk-based corrective action (RBCA) evaluation to assess the potential health risk from the hydrocarbons to onsite and offsite occupants. Results of the RBCA will be used to determine whether remediation is necessary at the site or if the site can be closed.

CLOSING

Please call Stephan Bork at (510) 420-3344 if you have any questions or comments. Thank you for you assistance.

Sincerely,
Cambria Environmental Technology, Inc.

James Loetterle
Staff 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

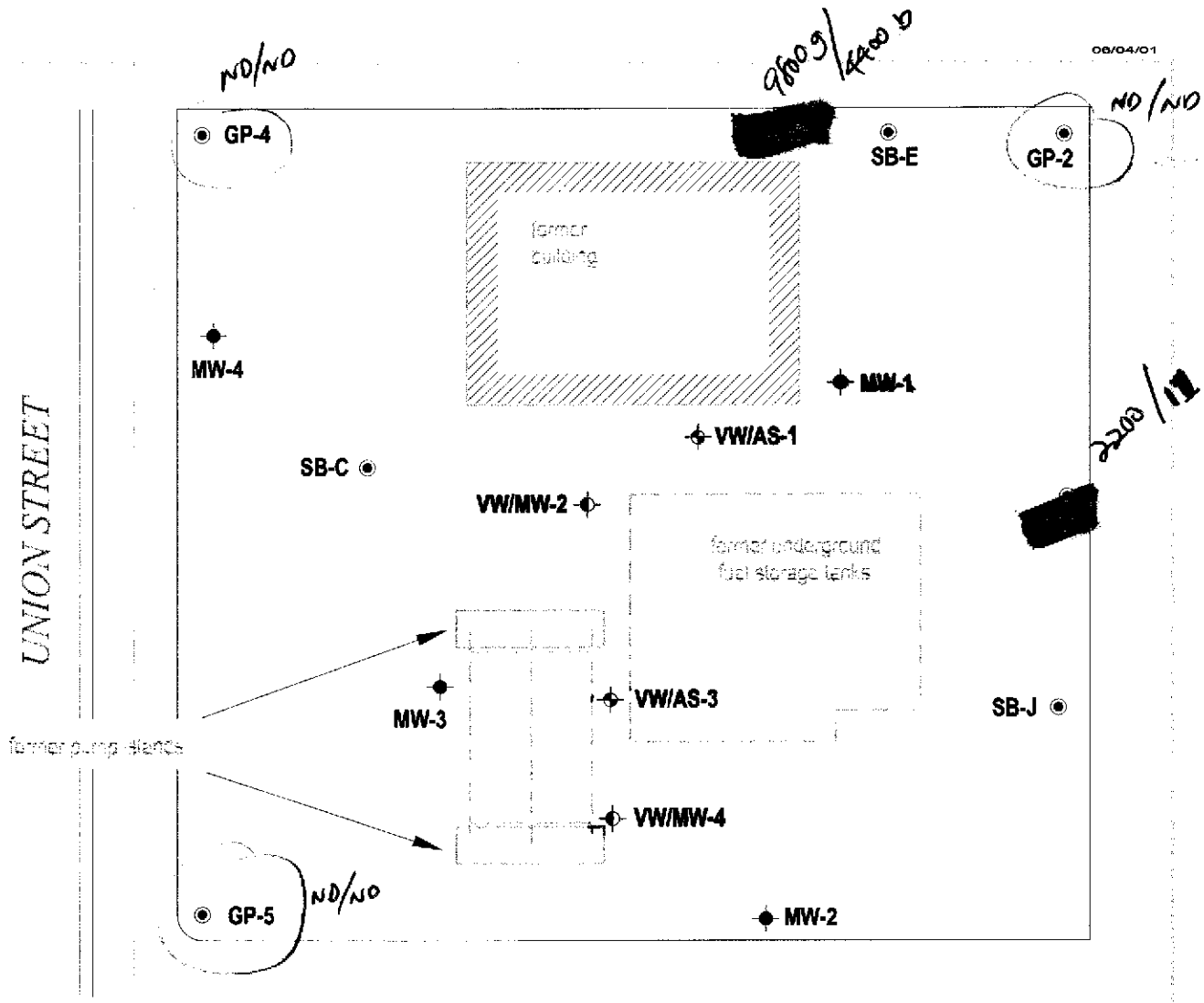
Figure: 1 - Soil Boring Locations Map

Tables:
1 - Well Construction Details
2 - Soil Vapor Extraction Test - Field Data Summary
3 - Estimated Hydrocarbon Mass Removal Summary
4 - Soil Analytical Data
5 - Groundwater Analytical Data

Attachment:
A - Laboratory Analytical Data
B - Boring Logs
C - Standard Field Procedures for Soil Borings
D - Drilling Permit
E - Site Conceptual Model

cc: Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, California 91501-7869
Tom Saberi, 1045 Airport Boulevard, Suite 12, South San Francisco, CA 94080
Matthew Dudley, Sedgwick, Detert, Moran, & Arnold, 1 Embarcadero Center, 16th Floor, San Francisco, California 94111-3628

G:\Oakland 1230 14th\VET Oct 2000\1230 14th St 2000 Geoprobe-SVE Test Rpt OCR.doc



EXPLANATION

SB-C ◉	Soil boring location (3/96)
GP-1 ◉	Soil boring location (12/00)
MW-1 ✦	Monitoring well location
VW/AS-1 ✦	Combination air sparge/soil vapor extraction well
VW/MW-2 ✦	Combination soil vapor extraction well/monitoring well

N

0 10 20

Scale (ft)

FIGURE

1

G:\OAKLAND\1230-14TH\FIGURES\BOR-LOC.DWG

Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250

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Soil Boring Locations Map

Table 1. Well Construction Details - Former Shell Service Station, Incident # 97088250, 1230 14th Street, Oakland, California.

Well I.D.	Casing Diameter (inches)	Top of Screen (fbg)	Total Depth (fbg)	DTW Before SVE test	DTW Range (fbg below TOC)	Static DTW on 10/17/00	Comments:
MW-1	2	7	22	12.85	6.5 - 13.5	12.61	
MW-2	2	7.5	22.5		5.5 - 12.5	11.80	
MW-3	2	7	22		6.8 - 12.9	12.10	
MW-4	2	5?	19.6		5.5 - 12.8	12.33	Log not found. Total depth from Blaine's field measurement.
VW/MW-2	2	6	22	12.15/12.30	5.8 - 13.0	12.21	
VW/MW-4	2	5	20		5.9 - 13.1	12.42	
VW/AS-1*	2	6	15				Vapor ext. well
	1	17.5	19.5	12.65	6.2 - 13.4	?	Sparge well
VW/AS-3*	2	6	15				Vapor ext. well
	1	18	20		4.8 - 12.9	12.13	Sparge well

Abbreviations and Notes:

fbg = Feet below grade
DTW = Depth to water.
TOC = Top of Casing
* = Co-axial wells completed for vapor extraction and air-sparge use.

Table 2. Soil Vapor Extraction Test - Field Data Summary - Former Shell Service Station, Incident # 97088250, 1230 14th Street, Oakland, California

Well ID	Cumulative Hours of Operation (hrs.)	Well Flow Rate (cfm)	Well Vacuum ("H_2O)	Influent PID Hydrocarbon Concentrations (ppmv)	Comments
December 16, 2000 SVE Pilot Test:					
VW/AS-3	0.13	0	167	---	
VW/AS-3	0.43	37.9	185	---	
VW/AS-3	0.48	0	0	---	System shut down due to groundwater infiltration.
VW/AS-3	0.8	---	---	---	Collect vapor sample.
VW/AS-3	0.91	47.5	160	600	System shut down. Stop VW/AS-3 SVE test.
VW/MW-2	0.15	46.5	50	239	
VW/MW-2	0.32	49.9	100	34	
VW/MW-2	0.38	54.9	115	---	System shut down due to groundwater infiltration.
VW/MW-2	---	---			Collect vapor sample.
VW/MW-2	0.46	54.6	110	190	
VW/MW-2	0.68	60.4	130	---	System shut down. Stop VW/MW-2 SVE test.
VW/AS-1	0.02	5.7	10	235	
VW/AS-1	0.06	15.6	50	9,610	
VW/AS-1	0.13	12.6	176	3,850	
VW/AS-1	0.2	---	---	---	System shut down due to groundwater infiltration.
VW/AS-1	0.31	60.4	185	5,400	
VW/AS-1	0.43	---	---	---	System shut down. Stop VW/AS-1 SVE test.
VW/AS-1 (long-term test)	0	35.8	35	854	Start Long Term SVE Test
VW/AS-1	0.06	20.3	100	1,300	
VW/AS-1	0.2	---	180	560	
VW/AS-1	0.216	0	0	---	System shut down due to groundwater infiltration.
VW/AS-1	0.216	---	---	---	System on - restarted
VW/AS-1	0.61	6.14	87.5	2,310	
VW/AS-1	0.98	---	91	2,480	
VW/AS-1	1.16	---	---	---	Stop VW/AS-1 Long Term SVE Test

Table 2. Soil Vapor Extraction Test - Field Data Summary - Former Shell Service Station, Incident # 97088250, 1230 14th Street, Oakland, California

Well ID	Cumulative Hours of Operation (hrs.)	Well Flow Rate (cfm)	Well Vacuum ("H_2O)	Influent PID Hydrocarbon Concentrations (ppmv)	Comments
MW-1	0.13	42.0	50	55	
MW-1	0.18	---	100	11	
MW-1	0.25	---	140	---	Collect vapor sample.
MW-1	0.26	---	---	---	System shut down due to groundwater infiltration.
MW-1	0.38	---	---	---	System shut down. Stop MW-1 SVE test.
VW/MW-4	0.02	71.3	70	185	
VW/MW-4	0.23	93.7	146	128	System shut down due to groundwater infiltration.
VW/MW-4	0.42	78.1	75	---	
VW/MW-4	0.48	79.2	122	---	System shut down. Stop VW/MW-4 SVE test.

Abbreviations and Notes:

cfm = Cubic feet per minute
ppmv = Parts per million by volume
"H_20 = Inches of water
--- = Not measured
SVE = Soil vapor extraction
TPHg = Total petroleum hydrocarbons as gasoline (C6-C12), analyzed by modified EPA Method 8015
Benzene and MTBE are analyzed by EPA Method 8020

Table 3. Estimated Hydrocarbon Mass Removal Summary - Former Shell Service Station, Incident # 97088250, 1230 14th Street, Oakland, Califor

Well ID	Cumulative Hours of Operation (hrs.)	System Flow Rate (cfm)	HYDROCARBON CONCENTRATION: Influent TPHg (ppmv)	Influent Benzene (ppmv)	TPHg Removal Rate (#/day)	Cumulative TPHg Removal (#)	Benzene Removal Rate (#/day)	Cumulative Benzene Removal (#)	Comments
December 16, 2000 SVE Pilot Test:									
VW/AS-3	0.13	0	---	---	---	---	---	---	Strart VW/AS-3 pilot test.
VW/AS-3	0.43	37.9	---	---	---	---	---	---	
VW/AS-3	0.48	0	---	---	---	---	---	---	
VW/AS-3	0.8	47.5	868	20.5	13.2	0.441	0.283	0.009	End test. Vapor sample collected.
VW/AS-3	0.91	47.5	---	---	---	---	---	---	
VW/MW-2	0.15	46.5	---	---	---	---	---	---	Start VW/MW-2 pilot test.
VW/MW-2	0.32	49.9	---	---	---	---	---	---	
VW/MW-2	0.38	54.9	---	---	---	---	---	---	
VW/MW-2	0.46	54.6	---	---	---	---	---	---	
VW/MW-2	0.68	60.4	141	2.25	2.7	0.077	0.04	0.001	End test. Vapor sample collected.
VW/AS-1	0.02	5.7	---	---	---	---	---	---	Start VW/AS-1 pilot test.
VW/AS-1	0.06	15.6	---	---	---	---	---	---	
VW/AS-1	0.13	12.6	---	---	---	---	---	---	
VW/AS-1	0.2	---							
VW/AS-1	0.31	60.4	3,140	90.1	60.8	0.786	1.58	0.020	Collect vapor sample.
VW/AS-1	0.43	---	---	---	---	---	---	---	End test.
VW/AS-1 (Long Term Test)	0	35.8	---	---	---	---	---	---	Start VW/AS-1 long term test.
VW/AS-1	0.06	20.3	---	---	---	---	---	---	
VW/AS-1	0.2	---	---	---	---	---	---	---	
VW/AS-1	0.216	0	---	---	---	---	---	---	
VW/AS-1	0.216	---	---	---	---	---	---	---	
VW/AS-1	0.61	6.14	1,020	12.4	2.01	0.051	0.02	0.001	Collect vapor sample.
VW/AS-1	0.98	---	---	---	---	---	---	---	
VW/AS-1	1.16	---	---	---	---	---	---	---	End long term test.
MW-1	0.13	42.0	---	---	---	---	---	---	Start MW-1 pilot test.
MW-1	0.18	---	---	---	---	---	---	---	
MW-1	0.25	---	---	---	---	---	---	---	
MW-1	0.26	40	39	14.3	0.51	0.005	0.17	0.002	Collect vapor sample.
MW-1	0.38	---	---	---	---	---	---	---	End Test.

Table 3. Estimated Hydrocarbon Mass Removal Summary - Former Shell Service Station, Incident # 97088250, 1230 14th Street, Oakland, Califor

Well ID	Cumulative Hours of Operation (hrs.)	System Flow Rate (cfm)	HYDROCARBON CONCENTRATION: Influent TPHg (ppmv)	Influent Benzene (ppmv)	TPHg Removal Rate (#/day)	Cumulative TPHg Removal (#)	Benzene Removal Rate (#/day)	Cumulative Benzene Removal (#)	Comments
December 16, 2000 SVE Pilot Test:									
VW/MW-4	0.02	71.3	---	---	---	---	---	---	Start VW/MW-4 pilot test.
VW/MW-4	0.23	93.7	---	---	---	---	---	---	
VW/MW-4	0.42	78.1	142	0.885	3.56	0.062	0.02	0.000	Collect vapor sample.
VW/MW-4	0.48	79.2	---	---	---	---	---	---	End Test.
				Total Mass Removed (#):		**1.423**		**0.034**	

Abbreviations and Notes:

cfm = Cubic feet per minute
ppmv = Parts per million by volume
# = Pounds
ND = Below detection limits
--- = Not analyzed or not measured.
SVE = Soil vapor extraction
TPHg = Total petroleum hydrocarbons as gasoline (C6-C12), analyzed by modified EPA Method 8015
Benzene and MTBE are analyzed by EPA Method 8020
TPHg, MTBE, and benzene removal rate = Lab concentration(ppmv) x system flow rate (cfm) x (1lb-mole/386ft3) x molecular weight (86 lb/lb-mole for TPHg, 88.15 lb/lb-mole for MTBE, 78 lb/lb-

Cumulative TPHg, MTBE, and benzene removal = Cumulative sum of the current and previous removal

Table 4. Soil Analytical Data - Former Shell Service Station - 1230 14th Street, Oakland, California - Incident # 97088250

Sample ID	Depth (feet below grade)	TPHg	MTBE (8260)	Benzene	Toluene	Ethylbenzene	Xylenes
		←		(Concentrations reported in mg/Kg (ppm))			→
December 11, 2000 Soil Samples:							
GP-1-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-20	20.0	**120**	<0.020	<0.020	**0.022**	**0.64**	**1.1**
GP-2-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-2-10.5	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-2-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-10.0	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-15.0	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8260B.
MTBE = Methyl Tertiary Butyl Ether by EPA Method 8260.
Benzene, toluene, ehtylbenzene, xylenes by EPA Method 8260B.
ppm = parts per million .
< X = Below laboratory detection limit of X.

Table 5. Groundwater Analytical Data - Former Shell Service Station - 1230 14th Street, Oakland, California - Incident # 97088250

Sample ID	Depth (feet below grade)	TPHg	MTBE (8260)	Benzene	Toluene	Ethylbenzene	Xylenes
		← (Concentrations reported in ug/L (ppb)) →					
December 11, 2000 Groundwater Samples:							
GP-1-17	17.0	**2,200**	**0.67**	**11**	**3.8**	**69**	**170**
GP-2-16	16.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
GP-3-16	16.0	**9,800**	<20	**4400**	**120**	**650**	**90**
GP-4-16	16.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
GP-5-16	16.0	<50	<0.50	<0.50	<0.50	<0.50	**0.80**

TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8260B.
MTBE = Methyl Tertiary Butyl Ether by EPA Method 8260.
Benzene, toluene, ethylbenznee, xylenes by EPA Method 8260B.
ppb = parts per billion.
< X = Below laboratory detection limit of X.

Attachment A

Laboratory Analytical Data

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342
www.sequoialabs.com

October 24 , 2000

Darren Croteau
Cambria Environmental - Oakland
1144 65th St., Suite C
Oakland, CA 94608
RE: Equiva

Enclosed are the results of analyses for samples received by the laboratory on 10/17/00 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Stover
Project Manager

CA ELAP Certificate Number 2374

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342
www.sequoialabs.com

Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VW/MW-4	P010413-01	Air	10/16/00 00:00	10/17/00 17:00
VW/AS-1 (2)	P010413-02	Air	10/16/00 00:00	10/17/00 17:00
MW-1	P010413-03	Air	10/16/00 00:00	10/17/00 17:00
VW/AS-3	P010413-04	Air	10/16/00 00:00	10/17/00 17:00
VW/AS-1	P010413-05	Air	10/16/00 00:00	10/17/00 17:00
VW/MW-2	P010413-06	Air	10/16/00 00:00	10/17/00 17:00

Sequoia Analytical

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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
VW/MW-4 (P010413-01) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									
Gasoline (ppmv, MW 86.2)	**142**	14.2	ppmv	1	0100443	10/18/00	10/18/00	EPA 8015M/8020M	
Benzene (ppmv)	**0.885**	0.157	"	"	"	"	"	"	
Toluene (ppmv)	**0.472**	0.133	"	"	"	"	"	"	
Ethylbenzene (ppmv)	**0.277**	0.115	"	"	"	"	"	"	
Xylenes (total) (ppmv)	**0.815**	0.115	"	"	"	"	"	"	
Methyl tert-butyl ether (ppmv)	**1.86**	0.556	"	"	"	"	"	"	
Gasoline	**499**	50.0	ug/l	"	"	"	"	"	HC-12
Benzene	**2.82**	0.500	"	"	"	"	"	"	
Toluene	**1.77**	0.500	"	"	"	"	"	"	QR-04
Ethylbenzene	**1.20**	0.500	"	"	"	"	"	"	
Xylenes (total)	**3.53**	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**6.68**	2.50	"	"	"	"	"	"	QR-04
Surrogate: a,a,a-Trifluorotoluene		*108 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.7 %*	*65-135*		"	"	"	"	
VW/AS-1 (2) (P010413-02) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									
Gasoline (ppmv, MW 86.2)	**1020**	284	ppmv	20	0100443	10/18/00	10/18/00	EPA 8015M/8020M	
Benzene (ppmv)	**12.4**	3.14	"	"	"	"	"	"	
Toluene (ppmv)	**7.74**	2.66	"	"	"	"	"	"	
Ethylbenzene (ppmv)	ND	2.30	"	"	"	"	"	"	
Xylenes (total) (ppmv)	**3.09**	2.30	"	"	"	"	"	"	
Methyl tert-butyl ether (ppmv)	**23.9**	11.1	"	"	"	"	"	"	
Gasoline	**3600**	1000	ug/l	"	"	"	"	"	HC-12
Benzene	**39.9**	10.0	"	"	"	"	"	"	QR-04
Toluene	**29.1**	10.0	"	"	"	"	"	"	QR-04
Ethylbenzene	ND	10.0	"	"	"	"	"	"	
Xylenes (total)	**13.4**	10.0	"	"	"	"	"	"	
Methyl tert-butyl ether	**86.1**	50.0	"	"	"	"	"	"	QR-04
Surrogate: a,a,a-Trifluorotoluene		*107 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.7 %*	*65-135*		"	"	"	"	

Sequoia Analytical

1455 McDowell Blvd. North, Ste. D
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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (P010413-03) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									
Gasoline (ppmv, MW 86.2)	**39.4**	7.10	ppmv	0.5	0100443	10/18/00	10/18/00	EPA 8015M/8020M	
Benzene (ppmv)	**14.3**	0.0785	"	"	"	"	"	"	
Toluene (ppmv)	**0.925**	0.0665	"	"	"	"	"	"	
Ethylbenzene (ppmv)	**0.446**	0.0575	"	"	"	"	"	"	
Xylenes (total) (ppmv)	**0.735**	0.0575	"	"	"	"	"	"	
Methyl tert-butyl ether (ppmv)	ND	0.278	"	"	"	"	"	"	
Gasoline	**139**	25.0	ug/l	"	"	"	"	"	HC-12
Benzene	**45.5**	0.250	"	"	"	"	"	"	
Toluene	**3.48**	0.250	"	"	"	"	"	"	
Ethylbenzene	**1.93**	0.250	"	"	"	"	"	"	
Xylenes (total)	**3.19**	0.250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.25	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*109 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.7 %*	*65-135*		"	"	"	"	
VW/AS-3 (P010413-04) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									
Gasoline (ppmv, MW 86.2)	**868**	142	ppmv	10	0100443	10/18/00	10/18/00	EPA 8015M/8020M	
Benzene (ppmv)	**20.5**	1.57	"	"	"	"	"	"	
Toluene (ppmv)	**8.93**	1.33	"	"	"	"	"	"	
Ethylbenzene (ppmv)	**4.46**	1.15	"	"	"	"	"	"	
Xylenes (total) (ppmv)	**13.7**	1.15	"	"	"	"	"	"	
Methyl tert-butyl ether (ppmv)	**28.9**	5.56	"	"	"	"	"	"	
Gasoline	**3060**	500	ug/l	"	"	"	"	"	HC-12
Benzene	**65.4**	5.00	"	"	"	"	"	"	
Toluene	**33.6**	5.00	"	"	"	"	"	"	
Ethylbenzene	**19.3**	5.00	"	"	"	"	"	"	
Xylenes (total)	**59.5**	5.00	"	"	"	"	"	"	
Methyl tert-butyl ether	**32.8**	25.0	"	"	"	"	"	"	QR-04
Surrogate: a,a,a-Trifluorotoluene		*110 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*88.7 %*	*65-135*		"	"	"	"	

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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
VW/AS-1 (P010413-05) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									
Gasoline (ppmv, MW 86.2)	**3140**	710	ppmv	50	0100443	10/18/00	10/18/00	EPA 8015M/8020M	
Benzene (ppmv)	**90.1**	7.85	"	"	"	"	"	"	
Toluene (ppmv)	**44.1**	6.65	"	"	"	"	"	"	
Ethylbenzene (ppmv)	**9.25**	5.75	"	"	"	"	"	"	
Xylenes (total) (ppmv)	**22.7**	5.75	"	"	"	"	"	"	
Methyl tert-butyl ether (ppmv)	**52.7**	27.8	"	"	"	"	"	"	
Gasoline	**11100**	2500	ug/l	"	"	"	"	"	HC-12
Benzene	**206**	25.0	"	"	"	"	"	"	
Toluene	**166**	25.0	"	"	"	"	"	"	
Ethylbenzene	**40.1**	25.0	"	"	"	"	"	"	
Xylenes (total)	**98.3**	25.0	"	"	"	"	"	"	
Methyl tert-butyl ether	**190**	125	"	"	"	"	"	"	QR-04
Surrogate: a,a,a-Trifluorotoluene		*108 %*		*65-135*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.0 %*		*65-135*		"	"	"	
VW/MW-2 (P010413-06) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									
Gasoline (ppmv, MW 86.2)	**141**	71.0	ppmv	5	0100443	10/18/00	10/18/00	EPA 8015M/8020M	
Benzene (ppmv)	**2.25**	0.785	"	"	"	"	"	"	
Toluene (ppmv)	**1.42**	0.665	"	"	"	"	"	"	
Ethylbenzene (ppmv)	ND	0.575	"	"	"	"	"	"	
Xylenes (total) (ppmv)	ND	0.575	"	"	"	"	"	"	
Methyl tert-butyl ether (ppmv)	**4.42**	2.78	"	"	"	"	"	"	
Gasoline	**496**	250	ug/l	"	"	"	"	"	HC-12
Benzene	**7.16**	2.50	"	"	"	"	"	"	
Toluene	**5.32**	2.50	"	"	"	"	"	"	QR-04
Ethylbenzene	ND	2.50	"	"	"	"	"	"	
Xylenes (total)	ND	2.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	12.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*108 %*		*65-135*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.7 %*		*65-135*		"	"	"	

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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
VW/MW-4 (P010413-01) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									**R-05**
Methyl tert-butyl ether	ND	2.50	ug/l	5	0100465	10/19/00	10/19/00	EPA 8260B	
Surrogate: Dibromofluoromethane		*96.8 %*		*88-118*	"	"	"	"	
VW/AS-1 (2) (P010413-02) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									**R-05**
Methyl tert-butyl ether	ND	25.0	ug/l	50	0100465	10/19/00	10/19/00	EPA 8260B	
Surrogate: Dibromofluoromethane		*100 %*		*88-118*	"	"	"	"	
VW/AS-3 (P010413-04) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									**R-05**
Methyl tert-butyl ether	ND	12.5	ug/l	25	0100465	10/19/00	10/19/00	EPA 8260B	
Surrogate: Dibromofluoromethane		*104 %*		*88-118*	"	"	"	"	
VW/AS-1 (P010413-05) Air Sampled: 10/16/00 00:00 Received: 10/17/00 17:00									**R-05**
Methyl tert-butyl ether	ND	100	ug/l	200	0100465	10/19/00	10/19/00	EPA 8260B	
Surrogate: Dibromofluoromethane		*102 %*		*88-118*	"	"	"	"	

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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

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

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100443 - EPA 5030 waters										
Blank (0100443-BLK1)				Prepared & Analyzed: 10/18/00						
Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*318*		"	*300*		*106*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*261*		"	*300*		*87.0*	*65-135*			
LCS (0100443-BS1)				Prepared & Analyzed: 10/18/00						
Gasoline	2360	50.0	ug/l	2750		85.8	65-135			
Benzene	39.1	0.500	"	32.0		122	65-135			
Toluene	187	0.500	"	193		96.9	65-135			
Ethylbenzene	48.6	0.500	"	46.0		106	65-135			
Xylenes (total)	235	0.500	"	231		102	65-135			
Methyl tert-butyl ether	55.5	2.50	"	52.0		107	65-135			
Surrogate: a,a,a-Trifluorotoluene	*362*		"	*300*		*121*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*282*		"	*300*		*94.0*	*65-135*			
Matrix Spike (0100443-MS1)	**Source: P010402-11**			Prepared & Analyzed: 10/18/00						
Gasoline	2620	50.0	ug/l	2750	ND	95.3	65-135			
Benzene	40.6	0.500	"	32.0	ND	127	65-135			
Toluene	191	0.500	"	193	1.43	98.2	65-135			
Ethylbenzene	49.4	0.500	"	46.0	ND	107	65-135			
Xylenes (total)	238	0.500	"	231	1.15	103	65-135			
Methyl tert-butyl ether	63.8	2.50	"	52.0	ND	123	65-135			
Surrogate: a,a,a-Trifluorotoluene	*341*		"	*300*		*114*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*285*		"	*300*		*95.0*	*65-135*			

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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

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

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100443 - EPA 5030 waters										
Matrix Spike Dup (0100443-MSD1)	**Source: P010402-11**			Prepared & Analyzed: 10/18/00						
Gasoline	2510	50.0	ug/l	2750	ND	91.3	65-135	4.29	20	
Benzene	37.4	*0.500*	"	32.0	ND	117	65-135	8.21	20	
Toluene	171	0.500	"	193	1.43	87.9	65-135	11.0	20	
Ethylbenzene	47.4	0.500	"	46.0	ND	103	65-135	4.13	20	
Xylenes (total)	218	0.500	"	231	1.15	93.9	65-135	8.77	20	
Methyl tert-butyl ether	59.0	2.50	"	52.0	ND	113	65-135	7.82	20	
Surrogate: a,a,a-Trifluorotoluene	*326*		*"*	*300*		*109*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*287*		*"*	*300*		*95.7*	*65-135*			

Sequoia Analytical

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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100465 - EPA 5030 waters										
Blank (0100465-BLK1)				Prepared & Analyzed: 10/18/00						
Methyl tert-butyl ether	ND	0.500	ug/l							
Surrogate: Dibromofluoromethane	*4.79*		"	*5.00*		*95.8*	*88-118*			
Blank (0100465-BLK2)				Prepared & Analyzed: 10/19/00						
Methyl tert-butyl ether	ND	0.500	ug/l							
Surrogate: Dibromofluoromethane	*5.03*		"	*5.00*		*101*	*88-118*			
LCS (0100465-BS1)				Prepared & Analyzed: 10/18/00						
Methyl tert-butyl ether	4.95	0.500	ug/l	5.00		99.0	79-118			
Surrogate: Dibromofluoromethane	*4.79*		"	*5.00*		*95.8*	*88-118*			
LCS (0100465-BS2)				Prepared & Analyzed: 10/19/00						
Methyl tert-butyl ether	5.24	0.500	ug/l	5.00		105	79-118			
Surrogate: Dibromofluoromethane	*5.15*		"	*5.00*		*103*	*88-118*			
Matrix Spike (0100465-MS1)		**Source: P010156-01**		Prepared & Analyzed: 10/18/00						
Methyl tert-butyl ether	4.99	0.500	ug/l	5.00	ND	99.8	79-118			
Surrogate: Dibromofluoromethane	*4.85*		"	*5.00*		*97.0*	*88-118*			
Matrix Spike Dup (0100465-MSD1)		**Source: P010156-01**		Prepared & Analyzed: 10/18/00						
Methyl tert-butyl ether	5.12	0.500	ug/l	5.00	ND	102	79-118	2.57	20	
Surrogate: Dibromofluoromethane	*4.94*		"	*5.00*		*98.8*	*88-118*			

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Cambria Environmental - Oakland	Project: Equiva	
1144 65th St., Suite C	Project Number: 1230 14th St., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Darren Croteau	10/24/00 14:17

Notes and Definitions

HC-12	Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
QR-04	Results between the primary and confirmation columns varied by greater than 40% RPD.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SEQUOIA LABORATORIES

EQUIVA Services LLC Chain Of Custody Record

Equiva Project Manager (To be invoiced):	
Science & Engineering (S&E)	X
Technical Services (TS)	
CRMT Houston	

Karen Petryna

INCIDENT NUMBER (S&E): 9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT):

DATE: 10/17/00

PAGE: 1 OF 1

CONSULTANT COMPANY: Cambria Environmental Technology

ADDRESS: 1144 65th Street, Suite B

CITY: Oakland

TEL: 510-420-3331 FAX: 510-420-9170 E-MAIL: dcroteau@cambria-envcon

SITE ADDRESS (Street and City): 1230 14th Street, Oakland

PROJECT CONTACT (Report to): Darren Croteau

CONSULTANT PROJECT NO.: 242-0233

SAMPLER NAME(s) (Print): Darren Croteau

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☐ 10 DAYS ☐ 5 DAYS ☐ 72 HR ☒ 48 HR ☐ 24 HR ☐ <24 HR

☐ LA-RWQCB REPORT FORMAT UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST X HIGHEST per BORING ____ ALL ____

SPECIAL INSTRUCTIONS OR NOTES: Report Results in PPMV

TEMPERATURE ON RECEIPT (C)

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 Notes: Container/Preservative or PID Readings or Laboratory Notes
	VW/MW-4	10/16		Air	1	X		X			X										PQ10413-01
	VW/AS-1 (2)																					-02
	MW-1																					-03
	VW/AS-3																					-04
	VW/AS-1																					-05
	VW/MW-2																					-06

COOLER CUSTODY SEALS INTACT ☐ NOT INTACT ☐

COOLER TEMPERATURE 22 °C

Relinquished by: (Signature)	Received by: (Signature)	Date: 10/17/00	Time: 14:10
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

17:00

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

10/15/00 Revision

KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Darren Croteau
Cambria Environmental Technology, Inc.
1144 65th Street, Suite B
Oakland, CA 94608

Subject : 5 Water Samples and 18 Soil Samples
Project Name : 1230 14TH STREET, OAKLAND/#97088250
Project Number : 97088250
P.O. Number : Incident #97088250

Dear Mr. Croteau,

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

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-1-17** Matrix : Water Lab Number : 18632-01
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**11**	0.50	ug/L	EPA 8260B	12/22/2000
Toluene	**3.8**	0.50	ug/L	EPA 8260B	12/22/2000
Ethylbenzene	**69**	0.50	ug/L	EPA 8260B	12/22/2000
Total Xylenes	**170**	0.50	ug/L	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**0.67**	0.50	ug/L	EPA 8260B	12/22/2000
TPH as Gasoline	**2200**	50	ug/L	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	12/22/2000

Sample : **GP-2-16** Matrix : Water Lab Number : 18632-02
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	98.3		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	12/22/2000

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KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-3-16** Matrix : Water Lab Number : 18632-03
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**4400**	20	ug/L	EPA 8260B	12/22/2000
Toluene	**120**	20	ug/L	EPA 8260B	12/22/2000
Ethylbenzene	**650**	20	ug/L	EPA 8260B	12/22/2000
Total Xylenes	**90**	20	ug/L	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**< 20**	20	ug/L	EPA 8260B	12/22/2000
TPH as Gasoline	**9800**	2000	ug/L	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	98.4		% Recovery	EPA 8260B	12/22/2000

Sample : **GP-4-16** Matrix : Water Lab Number : 18632-04
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	12/22/2000

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KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-5-16** Matrix : Water Lab Number : 18632-05
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
Total Xylenes	**0.80**	0.50	ug/L	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	12/22/2000
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	98.4		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	12/22/2000

Sample : **GP-1-5** Matrix : Soil Lab Number : 18632-06
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/19/2000
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	12/19/2000
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	12/19/2000

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KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-1-10** Matrix : Soil Lab Number : 18632-07
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/19/2000
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	12/19/2000
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	12/19/2000

Sample : **GP-1-15** Matrix : Soil Lab Number : 18632-08
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/21/2000
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	12/21/2000
4-Bromofluorobenzene (Surr)	121		% Recovery	EPA 8260B	12/21/2000

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Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-2-5** Matrix : Soil Lab Number : 18632-09
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/21/2000
Toluene - d8 (Surr)	97.7		% Recovery	EPA 8260B	12/21/2000
4-Bromofluorobenzene (Surr)	120		% Recovery	EPA 8260B	12/21/2000

Sample : **GP-2-10.5** Matrix : Soil Lab Number : 18632-10
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/18/2000
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	12/18/2000
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	12/18/2000

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KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-2-15** Matrix : Soil Lab Number : 18632-11
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/20/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/20/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/20/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/20/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/20/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/20/2000
Toluene - d8 (Surr)	99.6		% Recovery	EPA 8260B	12/20/2000
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	12/20/2000

Sample : **GP-3-5** Matrix : Soil Lab Number : 18632-12
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	98.3		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	12/22/2000

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Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-3-10** Matrix : Soil Lab Number : 18632-13
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/19/2000
Toluene - d8 (Surr)	98.8		% Recovery	EPA 8260B	12/19/2000
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	12/19/2000

Sample : **GP-3-15** Matrix : Soil Lab Number : 18632-14
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/21/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/21/2000
Toluene - d8 (Surr)	97.6		% Recovery	EPA 8260B	12/21/2000
4-Bromofluorobenzene (Surr)	96.9		% Recovery	EPA 8260B	12/21/2000

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KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-4-5** Matrix : Soil Lab Number : 18632-15
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/19/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/19/2000
Toluene - d8 (Surr)	98.3		% Recovery	EPA 8260B	12/19/2000
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	12/19/2000

Sample : **GP-4-10** Matrix : Soil Lab Number : 18632-16
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/18/2000
Toluene - d8 (Surr)	99.1		% Recovery	EPA 8260B	12/18/2000
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	12/18/2000

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KIFF ANALYTICAL LLC

Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-4-15** Matrix : Soil Lab Number : 18632-17
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/18/2000
Toluene - d8 (Surr)	98.9		% Recovery	EPA 8260B	12/18/2000
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	12/18/2000

Sample : **GP-5-5** Matrix : Soil Lab Number : 18632-18
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	98.8		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	12/22/2000

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Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-5-10** Matrix : Soil Lab Number : 18632-19
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/22/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/22/2000
Toluene - d8 (Surr)	98.8		% Recovery	EPA 8260B	12/22/2000
4-Bromofluorobenzene (Surr)	99.9		% Recovery	EPA 8260B	12/22/2000

Sample : **GP-5-15** Matrix : Soil Lab Number : 18632-20
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/18/2000
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	12/18/2000
4-Bromofluorobenzene (Surr)	99.7		% Recovery	EPA 8260B	12/18/2000

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Report Number : 18632
Date : 01/02/2001

Project Name : **1230 14TH STREET, OAKLAND/#97088250**
Project Number : **97088250**

Sample : **GP-1-20** Matrix : Soil Lab Number : 18632-21
Sample Date :12/11/2000

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.020**	0.020	mg/Kg	EPA 8260B	12/20/2000
Toluene	**0.022**	0.020	mg/Kg	EPA 8260B	12/20/2000
Ethylbenzene	**0.64**	0.020	mg/Kg	EPA 8260B	12/20/2000
Total Xylenes	**1.1**	0.020	mg/Kg	EPA 8260B	12/20/2000
Methyl-t-butyl ether (MTBE)	**< 0.020**	0.020	mg/Kg	EPA 8260B	12/20/2000
TPH as Gasoline	**120**	5.0	mg/Kg	EPA 8260B	12/20/2000
Toluene - d8 (Surr)	99.7		% Recovery	EPA 8260B	12/20/2000
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	12/20/2000

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Report Number : 18632

Date : 01/02/2001

Project Name : **1230 14TH STREET,**

Project Number : **97088250**

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	12/21/2000
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	12/21/2000
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	12/21/2000
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	12/21/2000
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	12/21/2000
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	12/21/2000
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	12/21/2000
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	12/21/2000

Approved By: Joel Kiff

Report Number : 18632

Date : 01/02/2001

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **1230 14TH STREET,**

Project Number : **97088250**

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	18630-03	<0.50	24.8	23.3	20.1	20.4	ug/L	EPA 8260B	12/20/2000	81.0	87.4	7.57	70-130	25
Toluene	18630-03	<0.50	24.8	23.3	18.4	18.9	ug/L	EPA 8260B	12/20/2000	74.3	80.9	8.56	70-130	25
Tert-Butanol	18630-03	<5.0	24.8	23.3	27.4	25.8	ug/L	EPA 8260B	12/20/2000	110	111	0.253	70-130	25
Methyl-t-Butyl Ether	18630-03	<0.50	24.8	23.3	24.9	24.5	ug/L	EPA 8260B	12/20/2000	100	105	4.82	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 18632

Date : 01/02/2001

QC Report : Laboratory Control Sample (LCS)

Project Name : **1230 14TH STREET,**

Project Number : **97088250**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	19.5	ug/L	EPA 8260B	12/20/200	110	70-130
Toluene	19.5	ug/L	EPA 8260B	12/20/200	102	70-130
Tert-Butanol	97.6	ug/L	EPA 8260B	12/20/200	110	70-130
Methyl-t-Butyl Ether	19.5	ug/L	EPA 8260B	12/20/200	121	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 18632

Date : 01/02/2001

Project Name : **1230 14TH STREET,**

Project Number : **97088250**

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	12/18/2000
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	12/18/2000
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	12/18/2000
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	12/18/2000
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	12/18/2000

Approved By: Joel Kiff

Report Number : 18632

Date : 01/02/2001

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **1230 14TH STREET,**

Project Number : **97088250**

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	18624-12	<0.0050	0.0480	0.0483	0.0386	0.0396	mg/Kg	EPA 8260B	12/18/2000	80.5	82.0	1.82	70-130	25
Toluene	18624-12	<0.0050	0.0480	0.0483	0.0376	0.0384	mg/Kg	EPA 8260B	12/18/2000	78.4	79.5	1.34	70-130	25
Tert-Butanol	18624-12	<0.0050	0.0480	0.0483	0.0622	0.0610	mg/Kg	EPA 8260B	12/18/2000	130	126	2.67	70-130	25
Methyl-t-Butyl Ether	18624-12	<0.0050	0.0480	0.0483	0.0398	0.0407	mg/Kg	EPA 8260B	12/18/2000	83.1	84.4	1.62	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 18632

Date : 01/02/2001

QC Report : Laboratory Control Sample (LCS)

Project Name : **1230 14TH STREET,**

Project Number : **97088250**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	0.0387	mg/Kg	EPA 8260B	12/20/200	78.1	70-130
Toluene	0.0387	mg/Kg	EPA 8260B	12/20/200	75.4	70-130
Tert-Butanol	0.193	mg/Kg	EPA 8260B	12/20/200	81.9	70-130
Methyl-t-Butyl Ether	0.0387	mg/Kg	EPA 8260B	12/20/200	85.6	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project No. 00-322
26 December, 2000

KIFF Analytical LLC
720 Olive Drive, Suite D
Davis, California 95616

Attention: Mr. Joel Kiff

Subject: **KIFF Analytical 1230 14th Street**
KIFF # 97088250

LABORATORY TEST RESULTS

Dear: Mr. Kiff:

As requested, Sierra Testing Laboratories, Inc. has performed laboratory testing on two samples of material from the subject site. The samples were identified as GP-2-11 and GP-5-10.5. The samples were received by our laboratory on 14 December 2000. The tests performed on the submitted samples were as follows:

1) Organic Content (ASTM D2974)
2) Moisture Content and Density (ASTM D2937)
3) Porosity by Phase Relation

The results of the Moisture Content and Density tests are presented on Table 1, attached. The results of the Organic Content tests are presented on Table 2, attached. The results of the Porosity by Phase Relation tests are presented on Table 3, attached.

We appreciate the opportunity to be of service to you on this project and look forward to providing additional service, as needed, in the future.

Should you have any questions or require additional information, please contact our office at your convenience.

Very truly yours,

Chad M. Walker
Project Manager

Enclosures: Tables 1 thru 3.

Table 1

Moisture Content & Density (ASTM D2937)
1230 14th Street
Kiff Analytical Job #97088250
STL Job # 00-322

Sample Number	Vadose Moisture Content (%)	Dry Density (pcf)
GP-2-11	10.1	111.6
GP-5-10.5	11.0	111.4

Table 2

Organic Content (ASTM D2974)
1230 14th Street
Kiff Analytical Job #97088250
STL Job #00-322

Sample Name	Organic Content (%)
GP-2-11	3.2
GP-5-10.5	3.4

Table 3

Porosity by Phase Relation
1230 14th Street
Kiff Analytical Job #97088250
STL Job #00-322

Sample Name	Porosity
GP-2-11	0.3228
GP-5-10.5	0.2921

18632

KIFF ANALYTICAL SUBCONTRACT FORM

Please mail results to :

JOEL KIFF
KIFF ANALYTICAL
720 OLIVE DRIVE, SUITE D
DAVIS, CA 95616

Please fax to :

530-297-4803

Subcontract Lab: **Sierra Testing Laboratories**
5088-B Hillsdale Circle
El Dorado Hills, CA 95762

916-939-3460

PROJECT NAME : 1230 14TH STREET, OAKLAND

Account No. :

PROJECT NUMBER: 97088250 -mer 121300 1810

Sample	Matrix	Sampled	Tests	Due	Container
GP-2-11	SO	12/11/2000	Porosity	12/19/2000	
GP-5-10.5	SO	12/11/2000	Porosity	12/19/2000	
GP-2-11	SO	12/11/2000	Bulk Density	12/19/2000	
GP-5-10.5	SO	12/11/2000	Moisture Content	12/19/2000	
GP-5-10.5	SO	12/11/2000	Bulk Density	12/19/2000	
GP-2-11	SO	12/11/2000	~~Total Organic Carbon~~ Fractional Organic carbon	12/19/2000	
GP-2-11	SO	12/11/2000	Moisture Content	12/19/2000	
GP-5-10.5	SO	12/11/2000	~~Total Organic Carbon~~ Fractional Organic carbon	12/19/2000	

-mer 121300 1810

Relinquished by : Osama AlBalawi / Kiff Analytical Date/Time: 121300 / 1834 Received by: _____

Relinquished by: _____ / STL Date/Time: 12-26-00 / 12:00 Received by: _____

Relinquished by : _____ Date/Time: _____ Received by: _____

Equiva Enterprises LLC Chain of Custody Record

Equiva Project Manager (To be invoiced):	
Science & Engineering (S&E)	✓
Technical Services (TS)	
CRMT Houston	

KAREN PETRYNA

INCIDENT NUMBER (S&E)							
9	7	0	9	8	2	6	0

SAP or CRMT NUMBER (TS/CRMT)

DATE: 12/11/00 18632

PAGE: 1 OF 3

CONSULTANT COMPANY: CAMBRIA ENVIRONMENTAL

ADDRESS: 1144 65TH STREET SUITE E

CITY: OAKLAND

TEL: 510.420.0700 FAX: 510.420.9170 E-MAIL: SCOUCH@CAMBRIA-ENV.COM

SITE ADDRESS (Street and City): 1230 14TH STREET, OAKLAND

PROJECT CONTACT (Report to): DARREN CROTEAU

CONSULTANT PROJECT NO.: 242-0233-

SAMPLER NAME(s) (Print): SHANNON COUCH

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS)

☐ 10 DAYS ☑ ~~5~~ DAYS ☐ 72 HR ☐ 48 HR ☐ 24 HR ☐ <24 HR

☐ LA-RWQCB REPORT FORMAT UST AGENCY:

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

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT (C)

CONFIRM ALL MTBE DETECTIONS BY 8020 WITH 8260

REQUESTED ANALYSIS

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 Notes: Container/Preservative or PID Readings or Laboratory Notes
GP-1-17	12/11	9:40	WATER	4	X		X			X															-01
GP-2-16		12:00																							-02
GP-3-16		1:40																							-03
GP-4-16		3:00																							-04
GP-5-16		4:00	↓	↓																					-05
GP-1-5		8:30	SOIL	1																					-06
GP-1-10		8:40																							-07
GP-1-15		9:00																							-08
GP-2-5		10:55																							-09
GP-2-10.5	↓	11:00	↓	↓																					-10

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) KIFF ANALYTICAL	Date: 12/12/00	Time: 1150

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10/01/00 Revision

Q&Q Graphic (714) 898-9702

EQUIVA Enterprises LLC Chain Of Custody Record

Equiva Project Manager (To be invoiced):	
Science & Engineering (S&E)	✓
Technical Services (TS)	
CRMT Houston	

KAREN PETRYNA

INCIDENT NUMBER (S&E): 97088250

SAP or CRMT NUMBER (TS/CRMT):

DATE: 12/11/00 18632

PAGE: 2 OF 3

CONSULTANT COMPANY: CAMBRIA ENVIRONMENTAL

ADDRESS: 1144 65TH STREET, SUITE B

CITY: OAKLAND

TEL: 510.420.0700 FAX: 510.420.9170 E-MAIL: scouch@cambria-env.com

SITE ADDRESS (Street and City): 1230 14th STREET, OAKLAND

PROJECT CONTACT (Report to): Darren Croteau

CONSULTANT PROJECT NO.: 242-0233

SAMPLER NAME(s) (Print): Shannon Couch

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS)

☐ 10 DAYS ☒ 5 DAYS ☐ 72 HR ☐ 48 HR ☐ 24 HR ☐ <24 HR

☐ LA-RWQCB REPORT FORMAT UST AGENCY:

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

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT (C)

REQUESTED ANALYSIS

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 Notes: Container/Preservative or PID Readings or Laboratory Notes
GP-2-15	12/11	11:25	SOIL	1	X		X			X											-11
GP-3-5		12:20																			-12
GP-3-10		12:40																			-13
GP-3-15		1:15																			-14
GP-4-5		2:10																			-15
GP-4-10		2:22																			-16
GP-4-15		2:45																			-17
GP-5-5		3:20																			-18
GP-5-10		3:50																			-19
GP-5-15		3:55																			-20

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) Harold Brewer KIFF ANALYTICAL	Date: 12/12/00	Time: 1150

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10/01/00 Revision

Q&Q Graphic (714) 693-9702

EQUIVA Enterprises LLC Chain Of Custody Record

DATE: 12/11/00 18632.

PAGE: 3 OF 3

Equiva Project Manager (To be invoiced):

Science & Engineering (S&E)	✓	KAREN PETRYNA
Technical Services (TS)		
CRMT Houston		

INCIDENT NUMBER (S&E): 97088256

SAP or CRMT NUMBER (TS/CRMT):

CONSULTANT COMPANY: CAMBRIA ENVIRONMENTAL

ADDRESS: 1144 65TH Street

CITY: Oakland

TEL: 510.420.0700 FAX: 510.420.9170 E-MAIL: scouch@cambria-env.com

SITE ADDRESS (Street and City): 1230 14th Street, Oakland

PROJECT CONTACT (Report to): Darien Crotaun

CONSULTANT PROJECT NO.: 242-0233

SAMPLER NAME(s) (Print): Shannon Couch

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☐ 10 DAYS ☑ 5 DAYS ☐ 72 HR ☐ 48 HR ☐ 24 HR ☐ <24 HR

☐ LA-RWQCB REPORT FORMAT UST AGENCY:

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

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT (C)

REQUESTED ANALYSIS

Columns: 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-___); Physical Analyses {fraction organic carbon by EPA 415.1; % moisture by EPA 160.3; Bulk Density + total porosity by API RP-40}

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	EPA 5035	VOCs Halogenated/Aromatic (8021B)	Ethanol, Methanol (8015B)	Metals	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	Physical Analyses	Field Notes: Container/Preservative or PID Readings or Laboratory Notes
GP-1-20	12/11	9:30	SOIL	1	X		X			X												-21
GP-2-11	↓	11:00	↓	↓																	X	-22
GP-5-10.5	↓	3:50	↓	↓																	↓	-23

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) Harold Brewer KIFF ANALYTICAL	Date: 12/12/00	Time: 1150

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

10/01/00 Revision

Q&Q Graphic (714) 898-9702

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project No. 00-322
26 December, 2000

KIFF Analytical LLC
720 Olive Drive, Suite D
Davis, California 95616

Attention: Mr. Joel Kiff

Subject: **KIFF Analytical 1230 14th Street**
KIFF # 97088250

LABORATORY TEST RESULTS

Dear: Mr. Kiff:

As requested, Sierra Testing Laboratories, Inc. has performed laboratory testing on two samples of material from the subject site. The samples were identified as GP-2-11 and GP-5-10.5. The samples were received by our laboratory on 14 December 2000. The tests performed on the submitted samples were as follows:

1) Organic Content (ASTM D2974)
2) Moisture Content and Density (ASTM D2937)
3) Porosity by Phase Relation

The results of the Moisture Content and Density tests are presented on Table 1, attached. The results of the Organic Content tests are presented on Table 2, attached. The results of the Porosity by Phase Relation tests are presented on Table 3, attached.

We appreciate the opportunity to be of service to you on this project and look forward to providing *additional service, as needed, in the future.*

Should you have any questions or require additional information, please contact our office at your convenience.

Very truly yours,

Chad M. Walker
Project Manager

Enclosures: Tables 1 thru 3.

~~5068 B Hillsdale Circle~~, El Dorado Hills, CA 95762 (916) 939-3460 Fax (916) 939-3507

Table 1

Moisture Content & Density (ASTM D2937)
1230 14th Street
Kiff Analytical Job #97088250
STL Job # 00-322

Sample Number	Moisture Content (%)	Dry Density (pcf)
GP-2-11	10.1	111.6
GP-5-10.5	11.0	111.4

Table 2

Organic Content (ASTM D2974)
1230 14th Street
Kiff Analytical Job #97088250
STL Job #00-322

Sample Name	Organic Content (%)
GP-2-11	3.2
GP-5-10.5	3.4

Table 3

Porosity by Phase Relation
1230 14th Street
Kiff Analytical Job #97088250
STL Job #00-322

Sample Name	Porosity
GP-2-11	0.3228
GP-5-10.5	0.2921

Attachment B

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**	GP-1
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Dec-00
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Dec-00
PROJECT NUMBER	243-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA

REMARKS Hand augered to 5'. Located approximately 63' north of 14th Street and 81' east of Union Street.

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
				0			**FILL**; dark brown; damp; 10% silt, 90% fine to medium sand; no plasticity.		
		GP-1- 5.0		5			**Silty SAND**(SM); dark brown; damp; 15% silt, 85% fine sand; low plasticity.	5.0	
		GP-1- 10.0		10	SM		@ 10 fbg - reddish yellow brown; moist; 5% clay, 15% silt, 80% fine to medium sand; oxidation present.		Portland Type I/II Cement
		GP-1- 15.0		15			@ 15 fbg - reddish grey brown; 15% silt, 85% fine to medium sand.		
		GP-1- 20.0		20			@ 20 fbg - wet; 10% clay, 15% silt, 75% fine to medium sand.	20.5	Bottom of Boring @ 20.5 ft

WELL LOG (PID) G:\OAKLAN~2\GINT\OK-1230.GPJ DEFAULT.GDT 4/30/01

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**	GP-2
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Dec-00
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Dec-00
PROJECT NUMBER	243-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5'. Located approximately 102' north of 14th Street and 110' east of Union Street.

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							FILL; dark brown; damp; 10% silt, 90% fine to medium sand; no plasticity.		
		GP-2- 5.0		5	SP		**SAND**(SP); brown; damp; 10% silt, 90% fine sand; no plasticity.	5.0	Portland Type I/II Cement
		GP-2-10.0		10	SM		**Silty SAND**(SM); reddish brown; moist; 15% silt, 85% fine to medium sand; low plasticity; oxidation present.	10.0	
		GP-2-15.0		15			@ 15 fbg - reddish brown; wet; 15% silt, 85% fine to medium sand; low plasticity.	16.0	Bottom of Boring @ 16 ft

WELL LOG (PID) G:\OAKLAN-2\GINT\OK-1230.GPJ DEFAULT.GDT 4/30/01

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**	GP-3
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Dec-00
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Dec-00
PROJECT NUMBER	243-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5'. Located approximately.102' north of 14th Street and 70' east of Union Street.

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							FILL; dark brown; damp; 5% silt, 85% fine to medium sand; no plasticity.		
		GP-3- 5.0		5	SP		**SAND**(SP); reddish brown; damp; 10% silt, 90% fine sand; no plasticity.	5.0	
		GP-3- 10.0		10	SM		**Silty SAND**(SM); reddish yellow brown; damp; 15% silt, 85% fine to medium sand; low plasticity; oxidation present.	10.0	Portland Type I/II Cement
		GP-3- 15.0		15			@ 15 fbg - greyish brown; moist.	16.0	Bottom of Boring @ 16 ft

WELL LOG (PID) G:\OAKLAN~2\GINTOK~1\230.GPJ DEFAULT.GDT 4/30/01

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**	GP-4
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Dec-00
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Dec-00
PROJECT NUMBER	243-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA

REMARKS Hand augered to 5'. Located approximately 102' north of 14th Street and 15' east of Union Street.

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							FILL; dark brown; damp; 5% silt, 95% fine to medium sand; no plasticity.		
		GP-4- 5.0		5			**Silty SAND**(SM); reddish yellow brown; damp; 20% silt, 80% fine to medium sand; low plasticity; oxidation present.	5.0	Portland Type I/II Cement
		GP-4- 10.0		10	SM		@ 10 fbg -reddish brown.		
		GP-4- 15.0		15			@ 15 fbg - light brown; moist; 15% silt, 85% fine to medium sand.	16.0	Bottom of Boring @ 16 ft

WELL LOG (PID) G:\OAKLAN~2\GINT\OK-1230.GPJ DEFAULT.GDT 4/30/01

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**	GP-5
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	11-Dec-00
LOCATION	1230 14th Street, Oakland, California	**DRILLING COMPLETED**	11-Dec-00
PROJECT NUMBER	243-0233	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	*Not Surveyed*
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	S. Couch	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA

REMARKS Hand augered to 5'. Located approximately 15' north of 14th Street and 15' east of Union Street.

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							FILL; dark brown; damp; 10% silt, 90% fine to medium sand; no plasticity.	5.0	
		GP-5- 5.0		5			**SAND**(SP); brown; damp; 10% silt, 90% fine sand; no plasticity.		Portland Type I/II Cement
		GP-5-10.0		10	SP		@ 10 fbg - reddish brown; moist; 10% silt, 90% fine to medium sand.		
		GP-5-15.0		15	SM		**Silty SAND**(SM); reddish grey brown; wet; 15% silt, 85% fine to medium sand; low plasticity; oxidation present.	15.0 16.0	Bottom of Boring @ 16 ft

WELL LOG (PID) G:\OAKLAN~2\GINTOK-1230.GPJ DEFAULT.GDT 4/30/01

Attachment C

Standard Field Procedures for Soil Borings

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

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

Objectives

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

Soil Classification/Logging

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

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

Soil Boring and Sampling

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

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

Sample Storage, Handling and Transport

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

Field Screening

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

Water Sampling

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

Duplicates and Blanks

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

Grouting

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

Waste Handling and Disposal

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

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

F:\TEMPLATE\SOPS\BORINGSLH.WPD

Attachment D

Drilling Permit

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1230 15th Street Oakland

CLIENT
Name Equiva Services LLC
Address P.O. Box 7869 Phone ( )
City Burbank Zip 91510

APPLICANT
Name Cambria Environmental
Darren Crotteau Fax 510-420-9170
Address 1144 65th Street Ste B Phone 510-420-3331
City Oakland Zip 94608

TYPE OF PROJECT X Soil Borings

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	✓	Geoprobe	

DRILLER'S NAME Gregg Drilling
DRILLER'S LICENSE NO. C57 485165

WELL PROJECTS
Drill Hole Diameter [redacted] in. Maximum [redacted]
Casing Diameter NA in. Depth [redacted] ft.
Surface Seal Depth NA ft. Owner's Well Number

GEOTECHNICAL PROJECTS
Number of Borings 5 Maximum
Hole Diameter 2 in. Depth 15 ft.

ESTIMATED STARTING DATE 12/11/00
ESTIMATED COMPLETION DATE 12/11/00

FOR OFFICE USE
PERMIT NUMBER W00-890
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
Send a map of work site. A separate permit 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 12-8-00

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

APPLICANT'S SIGNATURE [signature] DATE 12/7/00

PLEASE PRINT NAME Darren Crotteau

Rev.5-13-00

Attachment E

Site Conceptual Model

SITE CONCEPTUAL MODEL

Date: April 30 2001

Cambria Environmental Technology, Inc.

Site Address:	1230 14th Street	**Incident Number:**	97088250
City:	Oakland	**Regulator:**	Alameda County Health Care *Service Agency*

Item	Evaluation Criteria	Comments/Discussion
1	**Hydrocarbon Source**	
1.1	Identify/Describe Release Source and Volume (if known)	Based on analytical data from tank excavation and product piping sampling activities, the source may have been the USTs and product piping. Volume is unknown.
1.2	Discuss Steps Taken to Stop Release Was this done; when?	In 1993, three 7,500 gallon single walled steel gasoline USTs, one 8,000 gallon single walled steel gasoline UST, one 550 gallon single walled steel waste oil UST, and two product dispensing islands were removed. Overexcavation of the gasoline UST and waste-oil UST pit was performed.
2	**Site Characterization**	
2.1	Current Site Use/Status	This site is currently a vacant lot in a mixed commercial/residential area.
2.2	Soil Definition Status No! →	Defined. The highest TPHg and benzene concentrations detected in soil were 18,000 mg/kg and 11,000 mg/kg in UST excavation samples collected in August 1993. Confirmation UST excavation sampling in 1995 found only low residual concentrations of TPHg, 570-5,600 ppm, and benzene, <0.50-72 ppm. December 2000 soil samples collected from borings advanced around the perimeter of the property indicate only one detection of TPHg at 120 ppm.
2.3	Separate-Phase Hydrocarbon Definition Status	No SPH has been detected at the site.
2.4	Groundwater Definition Status (BTEX) Cannot analyze well vs Grab gw spls	The BTEX plume is essentially defined around the perimeter of the site except to the north. Comparison of BTEX concentrations in MW-1 with the grab sample from GP-3 located 30 feet to the north indicates slight downgradient attenuation.
2.5	BTEX Plume Stability and Concentration Trends	BTEX concentrations are increasing in wells VW-AS-1, and VW/AS-3, probably due to fluctuating groundwater levels leaching hydrocarbons from impacted soil. BTEX concentrations appear to be decreasing in well VW/MW-2 and stable in MW-1. (BTEX has never been detected in wells MW-2, MW-3, or MW-4.)

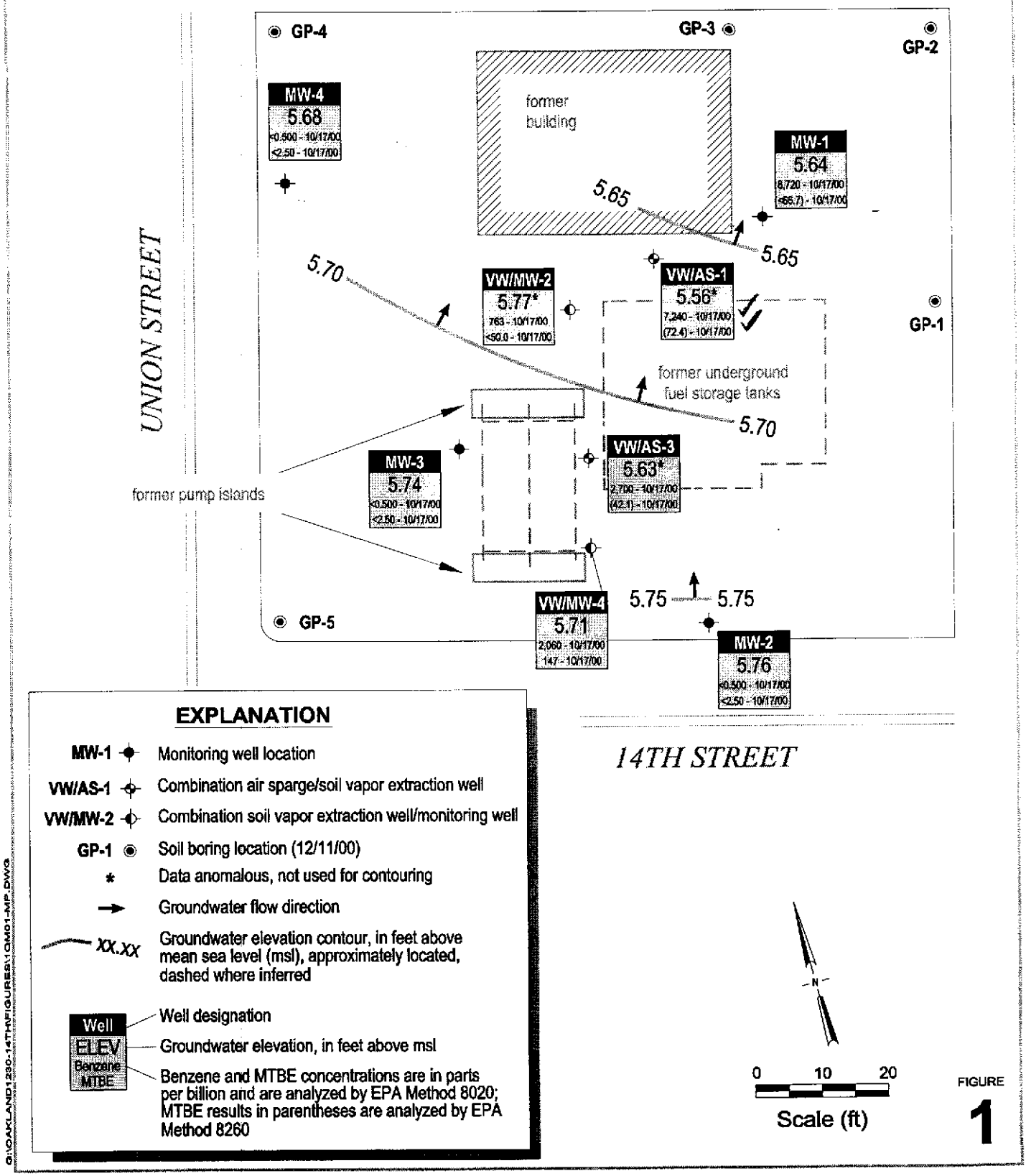
Upgradient wells!

Item	Evaluation Criteria	Comments/Discussion
2.6	Groundwater Definition Status (MTBE)	MTBE is essentially defined at the perimeter of the site. MTBE present onsite exists primarily near the former dispenser islands and the USTs, with a slight amount (0.67 ppm by EPA 8260) at the east edge of the site.
2.7	MTBE Plume Stability and Concentration Trends	The MTBE plume appears to be stable or decreasing.
2.8	Groundwater Flow Direction, Depth Trends and Gradient Trends	Groundwater flow direction is toward north and northeast at an approximate hydraulic gradient of 0.002. The depth to groundwater typically ranges from approximately 9 to 12 fbg.
2.9	Stratigraphy and Hydrogeology	Subsurface materials encountered consist primarily of silty sand, silty gravel, and sand to the total explored depth of 22.5 feet.
2.10	Preferential Pathways Analysis	[redacted]
2.11	Other Pertinent Issues	
3	**Remediation Status**	
3.1	Remedial Actions Taken	In 1993, three 7,500 gallon gasoline UST, one 8,000 gallon gasoline UST, and one 550 gallon waste oil UST were removed from the site. A tot[redacted] cubic yards of [redacted] UST removal. [redacted] naturally occurring hydrocarbon degradation.
3.2	Area Remediated	N/A
3.3	Remediation Effectiveness	N/A
4	**Well and Sensitive Receptor Survey**	
4.1	Shallow Groundwater Use	Shallow groundwater use is unknown.
4.2	Deep Groundwater Use	Deep groundwater use is unknown.
4.3	Well Survey Results	No well survey has been performed for the site.
4.4	Likelihood of Impact to Wells	Unknown
4.5	Likelihood of Impact to Surface Water	Unlikely. The closest surface body of water, San Francisco Bay, lies 2 miles south of the site.
5	**Risk Assessment**	
5.1	Site Conceptual Exposure Model (current and future uses)	Currently the site is a vacant lot located on the northwest corner of 14th Street and Union Street in Oakland, California. The site is surrounded by residential properties. Future site use is expected to be commercial.
5.2	Potential Exposure Pathways	Potential exposure pathways may include inhalation of vapors in indoor and outdoor air from soil and groundwater.
5.3	Risk Assessment Status	[redacted]

Item	Evaluation Criteria	Comments/Discussion
5.4	Identified Human Exceedances	No formal risk assessment has been performed.
5.5	Identified Ecological Exceedances	No formal risk assessment has been performed.

Attached: Soil and Groundwater Analytical Summary Tables and Figures
Soil boring and Monitoring Well Logs

G:\Oakland 1230 14th\VET Oct 2000\ 1230 14th Street SCM 1August 00.xls



EXPLANATION

- **MW-1** — Monitoring well location
- **VW/AS-1** — Combination air sparge/soil vapor extraction well
- **VW/MW-2** — Combination soil vapor extraction well/monitoring well
- **GP-1** — Soil boring location (12/11/00)
- ***** — Data anomalous, not used for contouring
- → Groundwater flow direction
- ~~ XX.XX — Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred

Well
ELEV
Benzene
MTBE

- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8020; MTBE results in parentheses are analyzed by EPA Method 8260

N

0 10 20

Scale (ft)

FIGURE **1**

G:\OAKLAND\1230-14TH\FIGURES\1QM01-MP.DWG

Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250

CAMBRIA

Groundwater Elevation Contour Map

January 9, 2001

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA
Wic #204-5508-3103

Well ID	Date	TPPH (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)	DO Reading (ppm)
MW-1	03/25/1996	37,000	7,400	1,500	720	3,300	<500	NA	18.58	9.53	9.05	NA
MW-1	06/21/1996	35,000	9,900	460	340	3,500	890	NA	18.58	10.72	7.86	NA
MW-1	09/26/1996	19,000	8,200	510	780	790	<250	NA	18.58	12.88	5.70	NA
MW-1	12/19/1996	27,000	120	1,200	1,400	2,800	<100	NA	18.58	12.59	5.99	NA
MW-1	12/19/1996	32,000	12,000	1,300	1,600	3,100	830	NA	18.58	12.59	5.99	NA
MW-1	03/25/1997	39,000	13,000	1,600	840	3,100	730	NA	18.58	11.10	7.48	1.2
MW-1	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.58	12.42	6.16	NA
MW-1	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.58	13.31	5.27	0.8
MW-1	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.58	12.65	5.93	0.3
MW-1	02/19/1998	16,000	5,500	450	500	800	<500	NA	18.58	6.46	12.12	2.4
MW-1	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.58	6.62	11.96	1.2
MW-1	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.58	11.83	6.75	2.8
MW-1	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.58	12.01	6.57	2.6
MW-1	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.58	9.15	9.43	2.2
MW-1	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.58	11.22	7.36	3.8
MW-1	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.58	11.89	6.69	3.0
MW-1	12/27/1999	34,800	8,660	953	956	2,770	<1,000	NA	18.58	13.55	5.03	2.4/2.1
MW-1	01/21/2000	40,600	14,700	1,850	1,210	3,670	<500	NA	18.58	13.42	5.16	2.8
MW-1	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.58	8.11	10.47	0.4
MW-1	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.58	9.78	8.80	3.0/3.4
MW-1	04/18/2000	18,300	8,060	543	528	872	<50.0	NA	18.58	NA	NA	NA
MW-1	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.58	13.11	5.47	5.2
MW-1	10/17/2000	15,800	6,720	435	587	887	351	<66.7	18.58	12.61	5.97	1.2/0.8
MW-1	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**18.58**	**12.94**	**5.64**	**0.3**
MW-2	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	8.19	9.71	NA
MW-2	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	9.94	7.96	NA
MW-2	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.15	5.75	NA

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA
Wic #204-5508-3103

Well ID	Date	TPPH (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)	DO Reading (ppm)
MW-2	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	17.90	11.70	6.20	NA
MW-2	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	9.25	8.65	1.8
MW-2	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	11.36	6.54	2.4
MW-2	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.56	5.34	1.1
MW-2	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.56	5.34	1.1
MW-2	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	11.15	6.75	0.7
MW-2	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	5.61	12.29	2.7
MW-2	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	17.90	5.58	12.32	3.2
MW-2	08/25/1998	NA	NA	NA	NA	NA	NA	NA	17.90	10.67	7.23	1.7
MW-2	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	17.90	11.65	6.25	0.4/0.8
MW-2	03/26/1999	NA	NA	NA	NA	NA	NA	NA	17.90	8.60	9.30	0.7
MW-2	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	17.90	10.30	7.60	2.3
MW-2	09/30/1999	NA	NA	NA	NA	NA	NA	NA	17.90	10.77	7.13	1.9
MW-2	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	17.90	12.21	5.69	0.7/0.7
MW-2	03/07/2000	NA	NA	NA	NA	NA	NA	NA	17.90	7.13	10.77	1.1
MW-2	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	17.90	8.35	9.55	1.8/1.8
MW-2	09/21/2000	NA	NA	NA	NA	NA	NA	NA	17.90	11.76	6.14	2.1
MW-2	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	17.90	11.80	6.10	0.9/0.6
MW-2	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**17.90**	**12.14**	**5.76**	**0.7**
MW-3	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	8.47	9.71	NA
MW-3	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	10.40	7.78	NA
MW-3	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	12.45	5.73	NA
MW-3	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	18.18	12.14	6.02	NA
MW-3	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	9.54	8.64	2.2
MW-3	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	11.66	6.52	3.6
MW-3	09/26/1997	<50	<0.50	<050	<0.50	<0.50	<2.5	NA	18.18	12.85	5.33	1.1
MW-3	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	11.44	6.74	0.6

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA
Wic #204-5508-3103

Well ID	Date	TPPH (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)	DO Reading (ppm)
MW-3	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	6.78	11.40	3.6
MW-3	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.18	6.82	11.36	3.8
MW-3	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.18	6.82	11.36	3.8
MW-3	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.18	11.09	7.09	1.2
MW-3	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	18.18	11.84	6.34	0.9/0.6
MW-3	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.18	8.57	9.61	0.8
MW-3	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.18	10.61	7.57	4.8
MW-3	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.18	11.53	6.65	1.4
MW-3	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.18	12.35	5.83	1.4/2.5
MW-3	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.17	7.36	10.81	5.8
MW-3	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	19.3	NA	18.17	8.39	9.78	6.5/5.1
MW-3	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.17	12.01	6.16	3.0
MW-3	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.17	12.10	6.07	2.0/1.0
MW-3	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**18.17**	**12.43**	**5.74**	**1.9**
MW-4	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	9.20	8.81	NA
MW-4	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	10.25	7.76	NA
MW-4	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	12.29	5.72	NA
MW-4	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	18.01	12.47	5.54	NA
MW-4	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	9.44	8.57	1.8
MW-4	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.57	6.44	6.2
MW-4 (D)	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.57	6.44	6.2
MW-4	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	12.75	5.26	2.1
MW-4	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.37	6.64	1.0
MW-4 (D)	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.37	6.64	1.0
MW-4	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	5.59	12.42	6.5
MW-4	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.01	5.65	12.36	2.6
MW-4	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.01	10.98	7.03	2.4

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Well ID	Date	TPPH (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)	DO Reading (ppm)
MW-4	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	18.01	11.83	6.18	1.3/1.2
MW-4	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.01	8.40	9.61	1.9
MW-4	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.01	10.53	7.48	7.6
MW-4	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.01	11.03	6.98	2.6
MW-4	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.01	12.53	5.48	1.9/0.8
MW-4	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.01	7.00	11.01	6.5
MW-4	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.01	8.57	9.44	5.1/5.1
MW-4	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.01	12.05	5.96	3.0
MW-4	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.01	11.96	6.05	5.5/1.2
MW-4	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**18.01**	**12.33**	**5.68**	**2.1**
VW/MW-2	03/25/1996	13,000	900	920	180	1,500	<250	NA	18.30	9.04	9.26	NA
VW/MW-2	06/21/1996	27,000	4,100	1,100	1,400	3,200	700	NA	18.30	10.48	7.82	NA
VW/MW-2	09/26/1996	27,000	5,300	1,900	980	2,200	<500	NA	18.30	12.52	5.78	NA
VW/MW-2 (D)	09/26/1996	29,000	5,800	2,200	1,100	2,500	<250	NA	18.30	12.52	5.78	NA
VW/MW-2	12/19/1996	50,000	6,200	5,100	1,700	5,600	590	NA	18.30	12.42	5.88	NA
VW/MW-2	03/25/1997	210	5.6	<0.50	0.52	<0.50	14	NA	18.30	9.83	8.47	2.0
VW/MW-2 (D)	03/25/1997	250	1.7	0.58	0.51	<0.50	4.7	NA	18.30	9.83	8.47	2.0
VW/MW-2	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.43	5.87	NA
VW/MW-2	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.98	5.32	0.9
VW/MW-2	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.20	6.10	0.4
VW/MW-2	02/19/1998	<50	1.5	<0.50	<0.50	0.71	<2.5	NA	18.30	5.83	12.47	3.6
VW/MW-2	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.30	5.80	12.50	1.0
VW/MW-2	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.30	11.72	6.58	4.8
VW/MW-2	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.30	11.69	6.61	2.7
VW/MW-2	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.30	8.75	9.55	2.8
VW/MW-2	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.30	10.72	7.58	4.7
VW/MW-2	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.30	12.24	6.06	4.9

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Well ID	Date	TPPH (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)	DO Reading (ppm)
VW/MW-2	12/27/1999	13,500	1,330	1,310	490	1,400	<250	NA	18.30	13.92	4.38	2.1/1.9
VW/MW-2	01/21/2000	12,100	2,200	1,080	429	1,120	<250	NA	18.30	13.26	5.04	2.8
VW/MW-2	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.28	7.87	10.41	3.7
VW/MW-2	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.28	9.65	8.63	3.7/4.1
VW/MW-2	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.28	NA	NA	NA
VW/MW-2	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.28	12.75	5.53	6.2
VW/MW-2	10/17/2000	4,070	763	589	214	501	<50.0	NA	18.28	12.21	6.07	0.8/0.7
VW/MW-2	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**18.28**	**12.51**	**5.77**	**0.7**
VW/MW-4	03/25/1996	83,000	6,500	7,000	2,000	11,000	<250	NA	18.14	8.45	9.69	NA
VW/MW-4 (D)	03/25/1996	84,000	6,400	7,000	2,100	12,000	<250	NA	18.14	8.45	9.69	NA
VW/MW-4	06/21/1996	110,000	14,000	15,000	3,700	17,000	1,700	NA	18.14	10.38	7.76	NA
VW/MW-4 (D)	06/21/1996	100,000	12,000	12,000	2,900	13,000	<1,000	NA	18.14	10.38	7.76	NA
VW/MW-4	09/26/1996	52,000	13,000	2,700	2,100	3,200	<500	NA	18.14	12.43	5.71	NA
VW/MW-4	12/19/1996	75,000	15,000	6,600	3,000	7,600	<1,250	NA	18.14	11.87	6.27	NA
VW/MW-4	03/25/1997	56,000	4,700	1,500	2,500	6,300	580	NA	18.14	9.60	8.54	2.4
VW/MW-4	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.36	5.78	NA
VW/MW-4	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.82	5.32	0.4
VW/MW-4	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.15	5.99	0.3
VW/MW-4	02/19/1998	4,100	320	40	44	520	<50	NA	18.14	5.85	12.29	1.8
VW/MW-4 (D)	02/19/98	4,300	340	44	47	540	<50	NA	18.14	5.85	12.29	1.8
VW/MW-4	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.14	5.87	12.27	1.8
VW/MW-4	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.14	10.96	7.18	2.5
VW/MW-4	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.14	11.28	6.86	0.9
VW/MW-4	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.14	8.45	9.69	1.9
VW/MW-4	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.14	9.70	8.44	3.6
VW/MW-4	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.14	11.78	6.36	2.6
VW/MW-4	12/27/1999	33,900	3,740	2,000	1,130	5,090	587	NA	18.14	12.63	5.51	0.4/0.2

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Well ID	Date	TPPH (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)	DO Reading (ppm)
VW/MW-4	01/21/200	13,900	1,560	568	227	1,990	<500	21.0a	18.14	13.07	5.07	1.0
VW/MW-4	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.13	7.82	10.31	0.9
VW/MW-4	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.13	9.18	8.95	1.4/1.9
VW/MW-4	04/18/2000	757	103	8.59	30.8	84.2	<25.0	NA	18.13	NA	NA	NA
VW/MW-4	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.13	12.18	5.95	5.0
VW/MW-4	10/17/2000	8,360	2,060	391	468	1,170	147	NA	18.13	12.03	6.10	0.7/0.8
VW/MW-4	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**18.13**	**12.42**	**5.71**	**0.9**
VW/AS-1	03/25/1996	NA	NA	NA	NA	NA	NA	NA	18.60	8.98	9.62	NA
VW/AS-1	06/21/1996	NA	NA	NA	NA	NA	NA	NA	18.60	10.95	7.65	NA
VW/AS-1	09/26/1996	NA	NA	NA	NA	NA	NA	NA	18.60	12.98	5.62	NA
VW/AS-1	12/19/1996	NA	NA	NA	NA	NA	NA	NA	18.60	12.67	5.93	NA
VW/AS-1	03/25/1997	NA	NA	NA	NA	NA	NA	NA	18.60	10.12	8.48	NA
VW/AS-1	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.60	12.34	6.26	NA
VW/AS-1	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.60	13.40	5.20	NA
VW/AS-1	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.60	11.96	6.64	5.2
VW/AS-1	02/19/1998	NA	NA	NA	NA	NA	NA	NA	18.60	6.22	12.38	1.3
VW/AS-1	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.60	6.20	12.40	1.0
VW/AS-1	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.60	11.59	7.01	1.6
VW/AS-1	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.60	11.74	6.86	1.3
VW/AS-1	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.60	9.20	9.40	1.3
VW/AS-1	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.60	11.08	7.52	2.1
VW/AS-1	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.60	11.94	6.66	1.9
VW/AS-1	12/27/1999	8,940	2,000	95.7	1,200	570	606	NA	18.60	11.01	7.59	1.6/1.8
VW/AS-1	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.59	7.35	11.24	NA
VW/AS-1	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.59	9.08	9.51	1.9/2.0
VW/AS-1	04/18/2000	20,800	6,550	1,220	2,270	1,720	<250	NA	18.59	NA	NA	NA
VW/AS-1	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.59	11.98	6.61	2.1

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VW/AS-1	10/17/2000	38,400	7,240	5,980	1,960	5,730	534	72.4	18.59	12.62	5.97	2.5/1.0
VW/AS-1	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**18.59**	**13.03**	**5.56**	**1.9**
VW/AS-3	03/25/1996	NA	NA	NA	NA	NA	NA	NA	18.17	8.50	9.67	NA
VW/AS-3	06/21/1996	NA	NA	NA	NA	NA	NA	NA	18.17	10.42	7.75	NA
VW/AS-3	09/26/1996	NA	NA	NA	NA	NA	NA	NA	18.17	12.49	5.68	NA
VW/AS-3	12/19/1996	NA	NA	NA	NA	NA	NA	NA	18.17	12.28	5.89	NA
VW/AS-3	03/25/1997	NA	NA	NA	NA	NA	NA	NA	18.17	9.61	8.56	NA
VW/AS-3	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.17	11.80	6.37	NA
VW/AS-3	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.17	12.89	5.28	NA
VW/AS-3	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.17	11.38	6.79	1.8
VW/AS-3	02/19/1998	NA	NA	NA	NA	NA	NA	NA	18.17	6.24	11.93	1.3
VW/AS-3	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.17	6.25	11.92	1.2
VW/AS-3	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.17	11.43	6.74	1.3
VW/AS-3	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.17	11.63	6.54	1.7
VW/AS-3	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.17	8.92	9.25	1.5
VW/AS-3	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.17	10.71	7.46	2.5
VW/AS-3	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.17	11.78	6.39	1.5
VW/AS-3	12/27/1999	488	47.9	2.60	16.9	8.50	35.4	NA	18.17	12.57	5.60	1.5/2.1
VW/AS-3	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.14	4.82	13.32	NA
VW/AS-3	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.14	8.69	9.45	2.0/2.4
VW/AS-3	04/18/2000	3,110	871	<5.00	141	56.8	78.2	NA	18.14	NA	NA	NA
VW/AS-3	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.14	11.65	6.49	2.5
VW/AS-3	10/17/2000	4,230	2,700	<50.0	542	344	<250	42.1	18.14	12.13	5.81	1.6/1.0
VW/AS-3	**01/09/2001**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**18.14**	**12.51**	**5.63**	**2.2**

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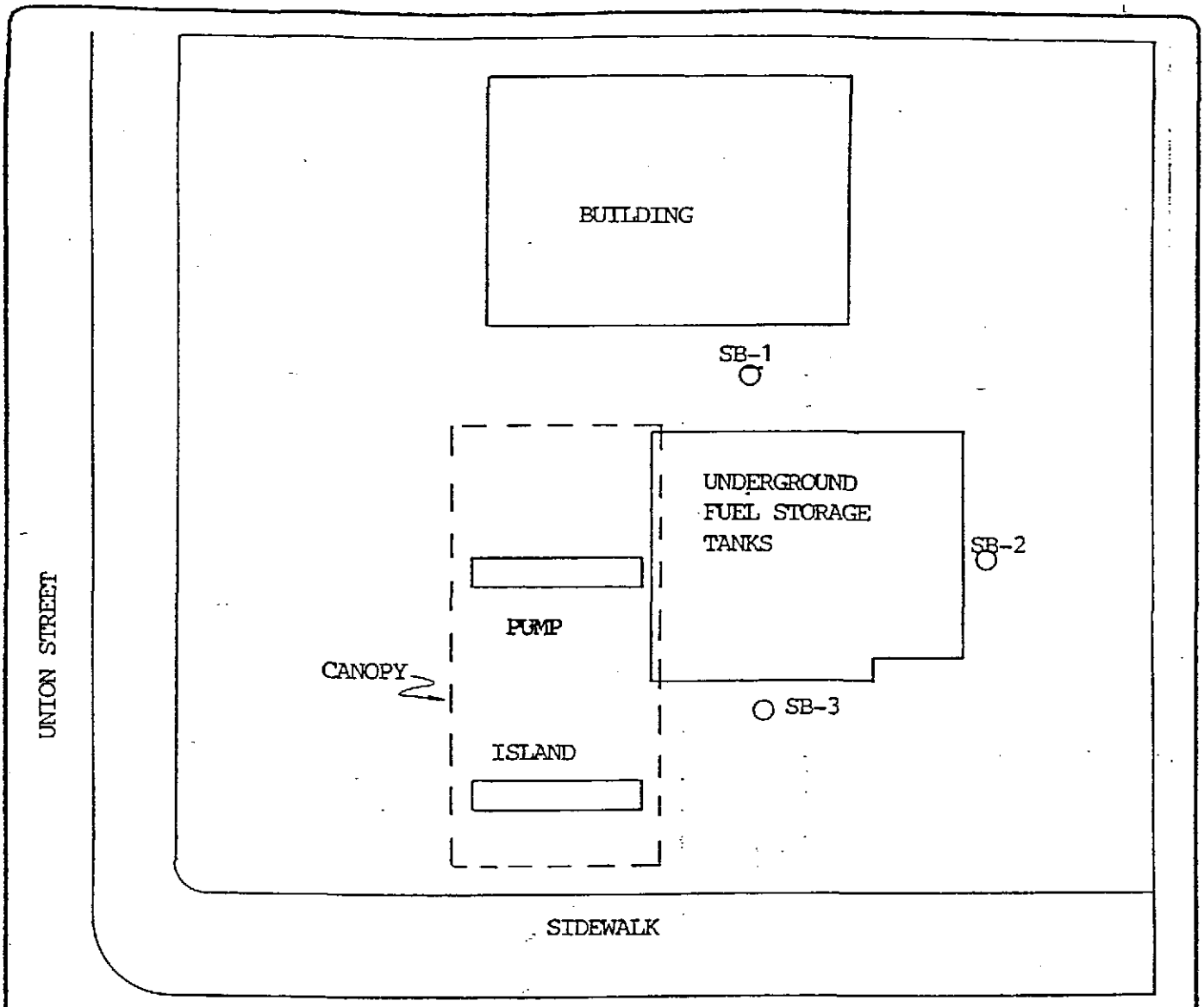
Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline 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
DO = Dissolved Oxygen
NA = Not applicable
ug/L = parts per billion
ppm = parts per million
msl = Mean sea level
ft = Feet
<n = Below detection limit
D = Duplicate sample
n/n = Pre-purge/Post-purge DO Readings

Notes:
a = Sample was analyzed outside of the EPA recommended holding time.



LEGEND

SB-1 SOIL BORING
○ NAME AND LOCATION

N

0 20
SCALE IN FEET

TANK PROTECT ENGINEERING
Of Northern California

SITE PLAN
1230 14TH STREET
OAKLAND, CALIFORNIA

FIGURE

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(415) 686-9600 • FAX (415) 686-9689

ink Protect Engineering of N. Calif	Client Project ID:	#1508-022191	Sampled: Feb 21, 1991
2821 Whipple Road	Sample Descript:	Soil	Received: Feb 22, 1991
Union City, CA 94587	Analysis Method:	California LUFT Manual, 12/87	Extracted: Feb 26, 1991
Attention: John Mrakovich	First Sample #:	102-0534	Analyzed: Feb 26, 1991
			Reported: Mar 1, 1991

ORGANIC LEAD

Sample Number	Sample Description	Sample Results mg/kg (ppm)
102-0534	SB1-6-6.5	N.D.
102-0535	SB1-10.5-11	N.D.
102-0536	SB1-15.5-16	N.D.
102-0537	SB2-6-6.5	N.D.
102-0538	SB2-10.5-11	N.D.
102-0539	SB2-15.5-16	N.D.
102-0540	SB3-6-6.5	N.D.
102-0541	SB3-10.5-11	N.D.
102-0542	SB3-15.5-16	N.D.

Detection Limits:	**0.005**

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

SEQUOIA ANALYTICAL

Julia R. Malerstein
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(415) 686-9600 • FAX (415) 686-9689

ank Protect Engineering of N. Calif	Client Project ID:	#1508-022191	Sampled: Feb 21, 1991
2821 Whipple Road	Matrix Descript:	Soil	Received: Feb 22, 1991
Union City, CA 94587	Analysis Method:	EPA 5030/8015/8020	Analyzed: Feb 28, 1991
Attention: John Mrakovich	First Sample #:	102-0534	Reported: Mar 1, 1991

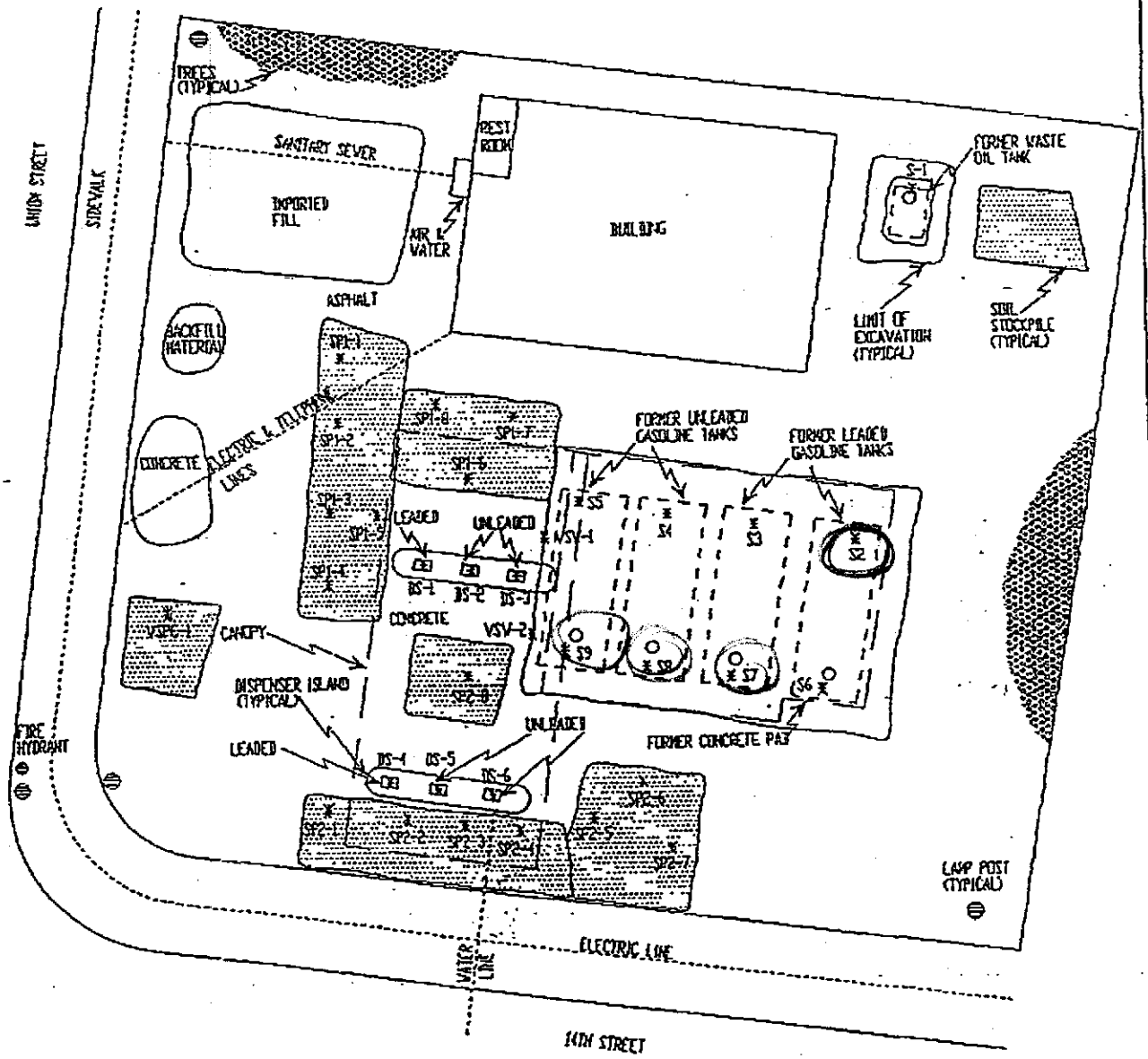
TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
102-0534	SB1-6-6.5	11	0.014	0.37	0.22	1.2
102-0535	SB1-10.5-11	4.6	0.15	0.50	0.13	0.68
102-0536	SB1-15.5-16	7.5	2.1	1.8	0.18	1.1
102-0537	SB2-6-6.5	N.D.	N.D.	N.D.	N.D.	0.034
102-0538	SB2-10.5-11	1.8	0.062	0.038	0.035	0.082
102-0539	SB2-15.5-16	6.1	1.2	1.4	0.15	0.80
102-0540	SB3-6-6.5	N.D.	0.038	0.0054	0.015	0.034
102-0541	SB3-10.5-11	1,600	18	98	35	190
102-0542	SB3-15.5-16	2.4	0.31	0.21	0.064	0.35
Detection Limits:		**1.0**	**0.0050**	**0.0050**	**0.0050**	**0.0050**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Julia R. Malerstein
Project Manager



LEGEND

- ○ FILL HOLE
- S-1 NAME AND LOCATION
- × OF SOIL SAMPLE

N

0 20

SCALE IN FEET

TANK PROTECT ENGINEERING

SITE PLAN

1230 14TH STREET
OAKLAND, CA

DATE	9/1/93
FIGURE	
FILE #	150-1
DRAWN BY	TH
CHECKED BY	AK

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 31, 1993 PEL # 9308104

TANK PROTECT ENGINEERING, INC. Attn: Jeff
Re: Twenty two soil samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: Sabek, Inc.
Project number: 150A082693
Project location: 1230 14th St.

Date sampled: Aug 25-26, 1993
Date extracted: Aug 27-30, 1993
Date submitted: Aug 27, 1993
Date analyzed: Aug 27-30, 1993

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (mg/Kg)
DS-1	13	---	7.0	17	21	72	---
DS-2	2.0	---	5.3	8.9	12	31	---
DS-3	1.3	---	N.D.	5.9	6.1	18	---
DS-4	2.7	---	5.5	9.4	16	47	---
DS-5	3.4	---	5.9	11	18	61	---
DS-6	11	---	6.8	15	18	64	---
S-1 waste oil UST	67	1200	38	89	110	380	7700
S-2	2200	---	1400	3200	3500	13000	---
S-3	530	---	400	760	830	3100	---
S-4	40	---	31	59	66	290	---
S-5	1.4	---	N.D.	6.3	8.1	25	---
S-6	1600	---	970	2300	2700	10000	---
S-7	11000	---	6700	16000	18000	69000	---
S-8	18000	---	11000	26000	30000	110000	---
S-9	6200	---	3700	8700	10000	37000	---
SP1-1,2,3,4*	960	---	580	1400	1600	5900	---
SP1-5,6,7,8*	950	---	560	1400	1500	5700	---
SP2-1,2,3,4*	3500	---	2200	5100	5900	22000	---
SP2-5,6,7,8*	4800	---	2800	7100	8200	31000	---
VSPC-1	1.7	---	N.D.	6.6	9.6	28	---
VSW-1	4800	---	2900	7000	8000	30000	---
VSW-2	21	---	150	290	330	1300	---
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	82.3%	94.1%	84.0%	85.2%	83.1%	92.2%	---
Duplicate Spiked Recovery	92.0%	93.6%	89.5%	90.6%	88.4%	98.7%	---
Detection limit	1.0	1.0	5.0	5.0	5.0	5.0	10
Method of Analysis	5030/ 8015	3550/ 8015	8020	8020	8020	8020	5520 D & F

*Composited soil samples.

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

SEP 16 '93 16:04

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 02, 1993

PEL # 9308104

TANK PROTECT ENGINEERING, INC.

Attn: Jeff

Re: Five soil samples for Cadmium, Chromium, Lead, Nickel, and Zinc analyses.

Project name: Sabek, Inc.
Project location: 1230 14th St.
Project number: 150A082693

Date sampled: Aug 25-26,1993
Date extracted: Aug 31,1993

Date submitted: Aug 27, 1993
Date analyzed: Aug 31, 1993

RESULTS:

SAMPLE I.D.	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Nickel (mg/Kg)	Zinc (mg/Kg)
S-1	N.D.	43	47	36	35
S-2 ✓	---	---	N.D. ✓	---	---
S-6 ✓	---	---	N.D. ✓	---	---
DS-1 ✓	---	---	33 ✓	---	---
DS-4 ✓	---	---	11 ✓	---	---
STLC	1.0	5.0	5.0	20	250
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Detection limit	0.5	1.0	1.0	1.0	1.0
Method of Analysis	7130	7190	7420	7520	7950

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

PEL #: 9308104

August 31, 1993

Attn: Jeff

TANK PROTECT ENGINEERING, INC.

Project name : Sabek, Inc.
Project location: 1230 14th St.
Sample I.D.: S-1 waste oil pit

Project number: 150A082693

Date Sampled: Aug 25, 1993
Date Analyzed: Aug 30, 1993

Date Submitted: Aug 27, 1993

Method of Analysis: EPA 8010

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	91.6
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	87.8
Methylene Chloride	N.D.	-----
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	83.5
Chloroform	N.D.	-----
1,1,1-Trichloroethane	N.D.	89.2
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	101.6
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	103.8
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	-----
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

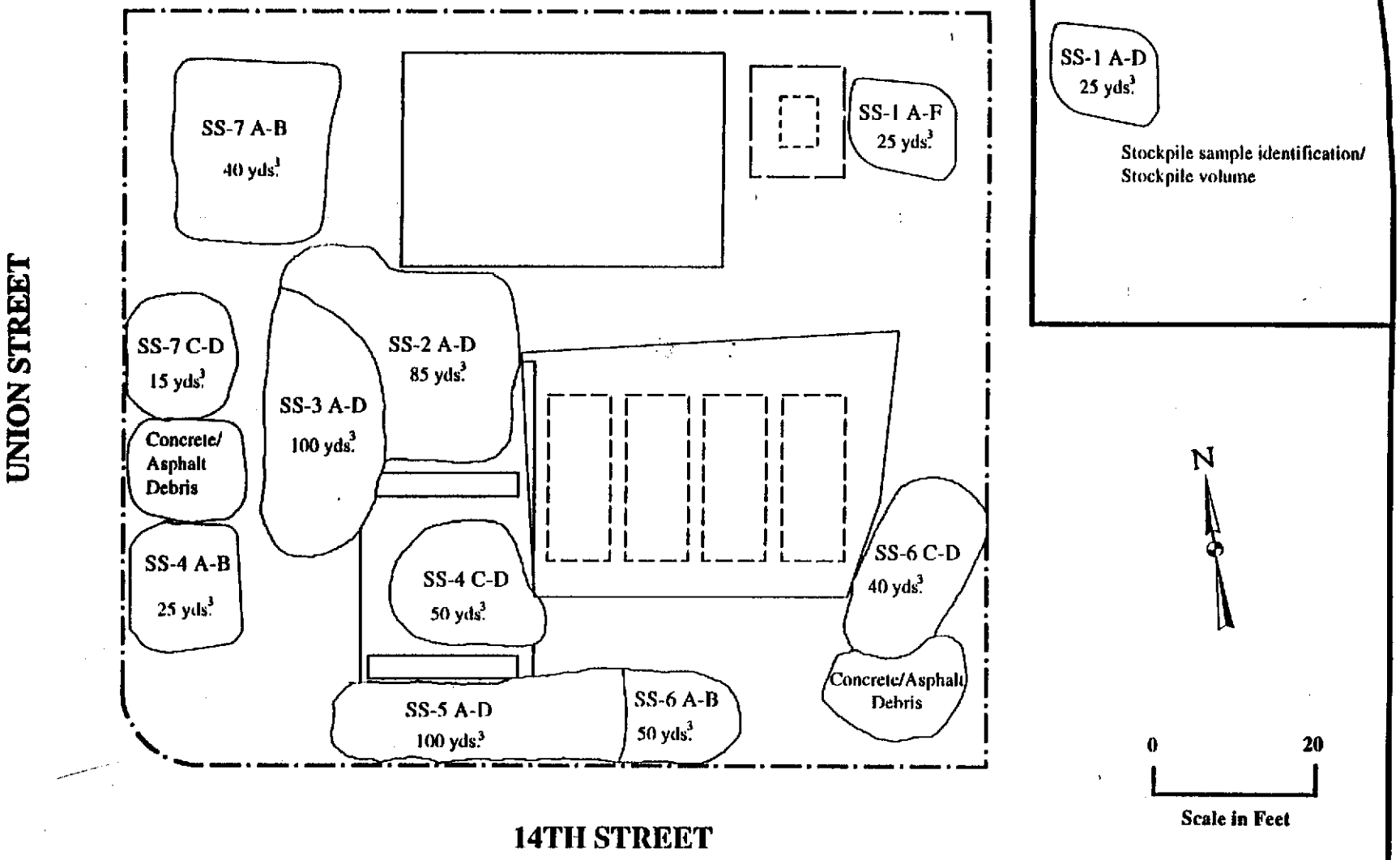


PLATE
1

STOCKPILE SAMPLING LOCATION MAP
Former Shell Service Station
1230 14th Street
Oakland, California

enviros®
95321

Drawn By: JPW

Date: 8-29-95

Approved By: _____ Date: 11-2-95

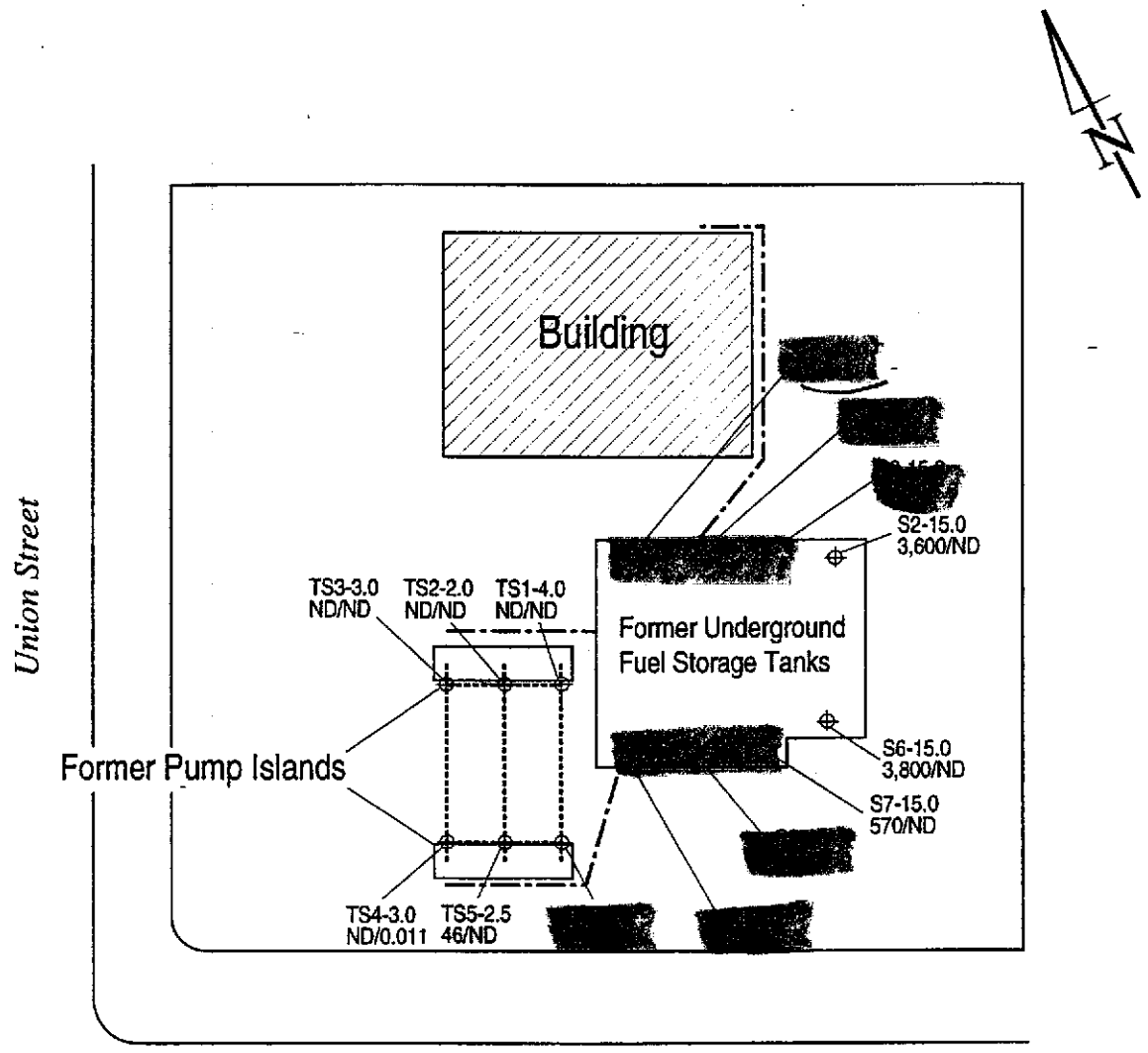
TABLE 1
SOIL STOCKPILE ANALYTICAL DATA

FORMER SHELL SERVICE STATION
1230 14TH STREET
OAKLAND, CALIFORNIA
WIC 204-5508-3103

SAMPLE NO.	ESTIMATED STOCKPILE VOLUME (YD^3)	SAMPLE DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYL BENZENE (PPM)	XYLENES (PPM)	TTLC LEAD (PPM)	ORGANIC LEAD (PPM)	STLC LEAD (PPM)
SS-1 (A-F)*	25	8-Aug-95	--	<0.0050	<0.0050	<0.0050	<0.0050	--	30	36
SS-2 (A-D)	85	8-Aug-95	<1.0	<0.0050	0.0070	<0.0050	0.022	37	<5.0	--
SS-3 (A-D)	100	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	0.012	43	<5.0	--
SS-4 (A-D)	75	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	0.0060	35	<5.0	--
SS-5 (A-D)	100	8-Aug-95	19	<0.0050	<0.0050	<0.0050	<0.0050	38	<5.0	--
SS-6 (A-D)	90	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	36	<5.0	--
SS-7 (A-D)	55	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	100	<5.0	2.6

Abbreviations:
TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
PPM = Parts Per Million
<x = Not Detected at detection limit of x

Note:
* See chemical analytical results for additional analyses.



LEGEND

- Sample ID-Depth (ft)
  TPHg/Benzene Concentration in ppm
- Former Vent Piping
- Former Product Piping
- ND = Not Detected

0 20
Scale (ft)

Base Map by Tank Protect Engineering

CAMBRIA
Environmental Technology, Inc.

1230 14th Street
Oakland, California

D:/PROJECT/SHELL/OAKLAND/SITE.DWG

Sample Locations
and Analytic Results

FIGURE
1

Table 1. Soil Analytic Data - Former Shell Service Station - 1230 14th Street, Oakland, California

Boring/ well ID	Date Sampled	Sample Depth (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
			All concentrations in parts per million (mg/kg)				
Product Piping Samples							
TS-1-4.0	11/27/95	4.0	<1.0	<0.0050	0.0050	<0.0050	<0.0050
TS-2-2.0	11/27/95	2.0	<1.0	<0.0050	0.0057	<0.0050	0.0075
TS-3-3.0	11/27/95	3.0	<1.0	<0.0050	<0.0050	<0.0050	0.0069
TS-4-3.0	11/27/95	3.0	<0.0	0.011	0.038	0.0073	0.043
TS-5-2.5	11/27/95	2.5	46	<0.10	<0.10	<0.10	2.0
TS-6-3.0	11/27/95	3.0	3,100	30	<6.0	33	230
Tankpit Excavation Samples							
S2-15.0	11/27/95	15.0	3,600	<6.0	140	78	430
S3-15.0	11/27/95	15.0	1,000	7.6	33	19	100
S4-15.0	11/27/95	15.0	5,600	72	280	110	580
S5-15.0	11/27/95	15.0	2,800	36	160	64	350
S6-15.0	11/27/95	15.0	3,800	<6.0	<6.0	76	350
S7-15.0	11/27/95	15.0	570	<0.50	<0.50	4.9	13
S8-15.0	11/27/95	15.0	3,200	60	200	69	350
S9-15.0	11/27/95	15.0	5,100	62	260	110	570

what about shallower samples ?

Abbreviations
TPHg = Total petroleum hydrocarbons as gasoline
<x.xx = not detected above x.xx ppm detection limit

Notes
TPHg analyzed by modified EPA Method 8015
Benzene, ethylbenzene, toluene and xylenes analyzed by EPA Method 8020

Table 1. Soil Analytic Data - Shell Oil Company, WIC #204-5508-3103, 1230 14th Street, Oakland, California

Soil Boring	Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	Petroleum Oil and Grease
		<----------ppm---------->					
Soil Samples							
SB-A/(MW-1)-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	160
SB-A/(MW-1)-16.0	03/06/96	9.8	1.9	0.4	0.22	1.1	57
SB-A/(MW-1)-20.5	03/06/96	5.9	0.89	0.049	0.19	0.25	80
SB-B/(MW-2)-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-B/(MW-2)-16.0	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-C-11.75	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-C-15.5	03/06/96	1.9	0.022	0.12	0.086	0.32	--
SB-D/(MW-3)-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-D/(MW-3)-15.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-E-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	<50
SB-E-16.0	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	200
SB-F(VW/AS)-1-5.5	03/07/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-F(VW/AS-1)-10.5	03/07/96	62	0.97	4.2	1.4	8.0	--
SB-F(VW/AS-1)-15.5	03/07/96	7.4	1.7	0.44	0.2	0.6	--
SB-F(VW/AS-1)-20.5	03/07/96	20	2.6	1.7	0.5	2.0	--

Table 1. Soil Analytic Data - Shell Oil Company, WIC #204-5508-3103, 1230 14th Street, Oakland, California

Soil Boring	Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	Petroleum Oil and Grease
		<----------ppm---------->					
SB-G(VW/MW-2)-8.5	03/07/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-G(VW/MW-2)-10.5	03/07/96	<1.0	0.0032	<0.0025	<0.0025	<0.0025	--
SB-G(VW/MW-2)-20.5	03/07/96	2.9	0.47	0.34	0.15	0.57	--
SB-H(VW/AS-3)-8.5	03/07/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-H(VW/AS-3)-10.5	03/07/96	<1.0	0.018	<0.0025	<0.0025	0.014	--
SB-H(VW/AS-3)-21.0	03/07/96	1.0	0.047	0.016	0.0037	0.017	--
SB-I(VW/MW-4)-5.5	03/08/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-I(VW/MW-4)-8.5	03/08/96	80	0.14	0.33	1.3	5.2	--
SB-I(VW/MW-4)-15.5	03/08/96	3.4	0.23	0.093	0.1	0.42	--
SB-J-10.5	03/08/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-K(MW-4)-10.5	03/08/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--

Notes:

TPHg = Total purgeable petroleum hydrocarbons as gasoline by EPA method Modified 8015.

Benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA method 8020.

Petroleum oil and grease (POG) by Standard Method 5520.

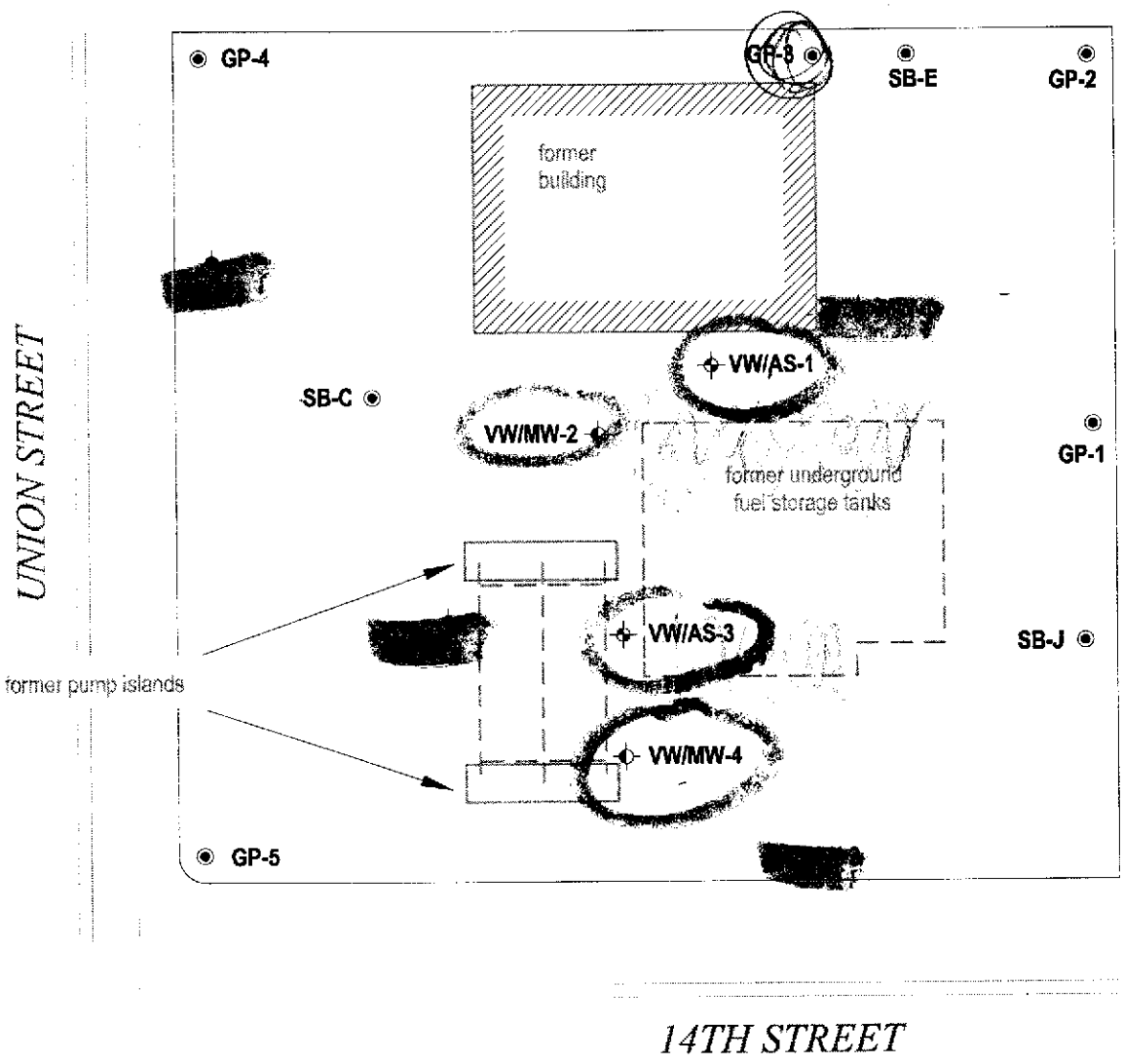
-- = Not sampled

ppm=parts per million

<x=not detected above x ppm

9800/4403

02/09/01



2200 | 11

G:\OAKLAND\1230-14TH\FIGURE\960R-LOC.DWG

EXPLANATION

SB-C ◉	Soil boring location (3/96)
GP-1 ◉	Soil boring location (12/00)
MW-1 ⊕	Monitoring well location
VW/AS-1 ⊕	Combination air sparge/soil vapor extraction well
VW/MW-2 ⊕	Combination soil vapor extraction well/monitoring well

N

0 10 20

Scale (ft)

FIGURE

1

Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250

CAMBRIA

Soil Boring Locations Map

TABLE 1
SOIL STOCKPILE ANALYTICAL DATA

FORMER SHELL SERVICE STATION
1230 14TH STREET
OAKLAND, CALIFORNIA
WIC 204-5508-3103

SAMPLE NO.	ESTIMATED STOCKPILE VOLUME (YD^3)	SAMPLE DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYL BENZENE (PPM)	XYLENES (PPM)	TTLC LEAD (PPM)	ORGANIC LEAD (PPM)	STLC LEAD (PPM)
SS-1 (A-F)*	25	8-Aug-95	--	<0.0050	<0.0050	<0.0050	<0.0050	--	30	36
SS-2 (A-D)	85	8-Aug-95	<1.0	<0.0050	0.0070	<0.0050	0.022	37	<5.0	--
SS-3 (A-D)	100	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	0.012	43	<5.0	--
SS-4 (A-D)	75	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	0.0060	35	<5.0	--
SS-5 (A-D)	100	8-Aug-95	19	<0.0050	<0.0050	<0.0050	<0.0050	38	<5.0	--
SS-6 (A-D)	90	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	36	<5.0	--
SS-7 (A-D)	55	8-Aug-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	100	<5.0	2.6

Abbreviations:
TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
PPM = Parts Per Million
<x = Not Detected at detection limit of x

Note:
* See chemical analytical results for additional analyses.

Table 1. Soil Analytic Data - Former Shell Service Station - 1230 14th Street, Oakland, California

Boring/ well ID	Date Sampled	Sample Depth (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
			All concentrations in parts per million (mg/kg)				
Product Piping Samples							
TS-1-4.0	11/27/95	4.0	<1.0	<0.0050	0.0050	<0.0050	<0.0050
TS-2-2.0	11/27/95	2.0	<1.0	<0.0050	0.0057	<0.0050	0.0075
TS-3-3.0	11/27/95	3.0	<1.0	<0.0050	<0.0050	<0.0050	0.0069
TS-4-3.0	11/27/95	3.0	<0.0	0.011	0.038	0.0073	0.043
TS-5-2.5	11/27/95	2.5	46	<0.10	<0.10	<0.10	2.0
TS-6-3.0	11/27/95	3.0	3,100	30	<6.0	33	230
Tankpit Excavation Samples							
S2-15.0	11/27/95	15.0	3,600	<6.0	140	78	430
S3-15.0	11/27/95	15.0	1,000	7.6	33	19	100
S4-15.0	11/27/95	15.0	5,600	72	280	110	580
S5-15.0	11/27/95	15.0	2,800	36	160	64	350
S6-15.0	11/27/95	15.0	3,800	<6.0	<6.0	76	350
S7-15.0	11/27/95	15.0	570	<0.50	<0.50	4.9	13
S8-15.0	11/27/95	15.0	3,200	60	200	69	350
S9-15.0	11/27/95	15.0	5,100	62	260	110	570

what about shallower samples ?

Abbreviations
TPHg = Total petroleum hydrocarbons as gasoline
<x.xx = not detected above x.xx ppm detection limit

Notes
TPHg analyzed by modified EPA Method 8015
Benzene, ethylbenzene, toluene and xylenes analyzed by EPA Method 8020

Table 1. Soil Analytic Data - Shell Oil Company, WIC #204-5508-3103, 1230 14th Street, Oakland, California

Soil Boring	Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	Petroleum Oil and Grease
		<----------ppm---------->					
Soil Samples							
SB-A/(MW-1)-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	160
SB-A/(MW-1)-16.0	03/06/96	9.8	1.9	0.4	0.22	1.1	57
SB-A/(MW-1)-20.5	03/06/96	5.9	0.89	0.049	0.19	0.25	80
SB-B/(MW-2)-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-B/(MW-2)-16.0	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-C-11.75	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-C-15.5	03/06/96	1.9	0.022	0.12	0.086	0.32	--
SB-D/(MW-3)-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-D/(MW-3)-15.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-E-10.5	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	<50
SB-E-16.0	03/06/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	200
SB-F(VW/AS)-1-5.5	03/07/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-F(VW/AS-1)-10.5	03/07/96	62	0.97	4.2	1.4	8.0	--
SB-F(VW/AS-1)-15.5	03/07/96	7.4	1.7	0.44	0.2	0.6	--
SB-F(VW/AS-1)-20.5	03/07/96	20	2.6	1.7	0.5	2.0	--

Table 1. Soil Analytic Data - Shell Oil Company, WIC #204-5508-3103, 1230 14th Street, Oakland, California

Soil Boring	Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	Petroleum Oil and Grease
		<----------ppm---------->					
SB-G(VW/MW-2)-8.5	03/07/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-G(VW/MW-2)-10.5	03/07/96	<1.0	0.0032	<0.0025	<0.0025	<0.0025	--
SB-G(VW/MW-2)-20.5	03/07/96	2.9	0.47	0.34	0.15	0.57	--
SB-H(VW/AS-3)-8.5	03/07/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-H(VW/AS-3)-10.5	03/07/96	<1.0	0.018	<0.0025	<0.0025	0.014	--
SB-H(VW/AS-3)-21.0	03/07/96	1.0	0.047	0.016	0.0037	0.017	--
SB-I(VW/MW-4)-5.5	03/08/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-I(VW/MW-4)-8.5	03/08/96	80	0.14	0.33	1.3	5.2	--
SB-I(VW/MW-4)-15.5	03/08/96	3.4	0.23	0.093	0.1	0.42	--
SB-J-10.5	03/08/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--
SB-K(MW-4)-10.5	03/08/96	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--

Notes:

TPHg = Total purgeable petroleum hydrocarbons as gasoline by EPA method Modified 8015.

Benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA method 8020.

Petroleum oil and grease (POG) by Standard Method 5520.

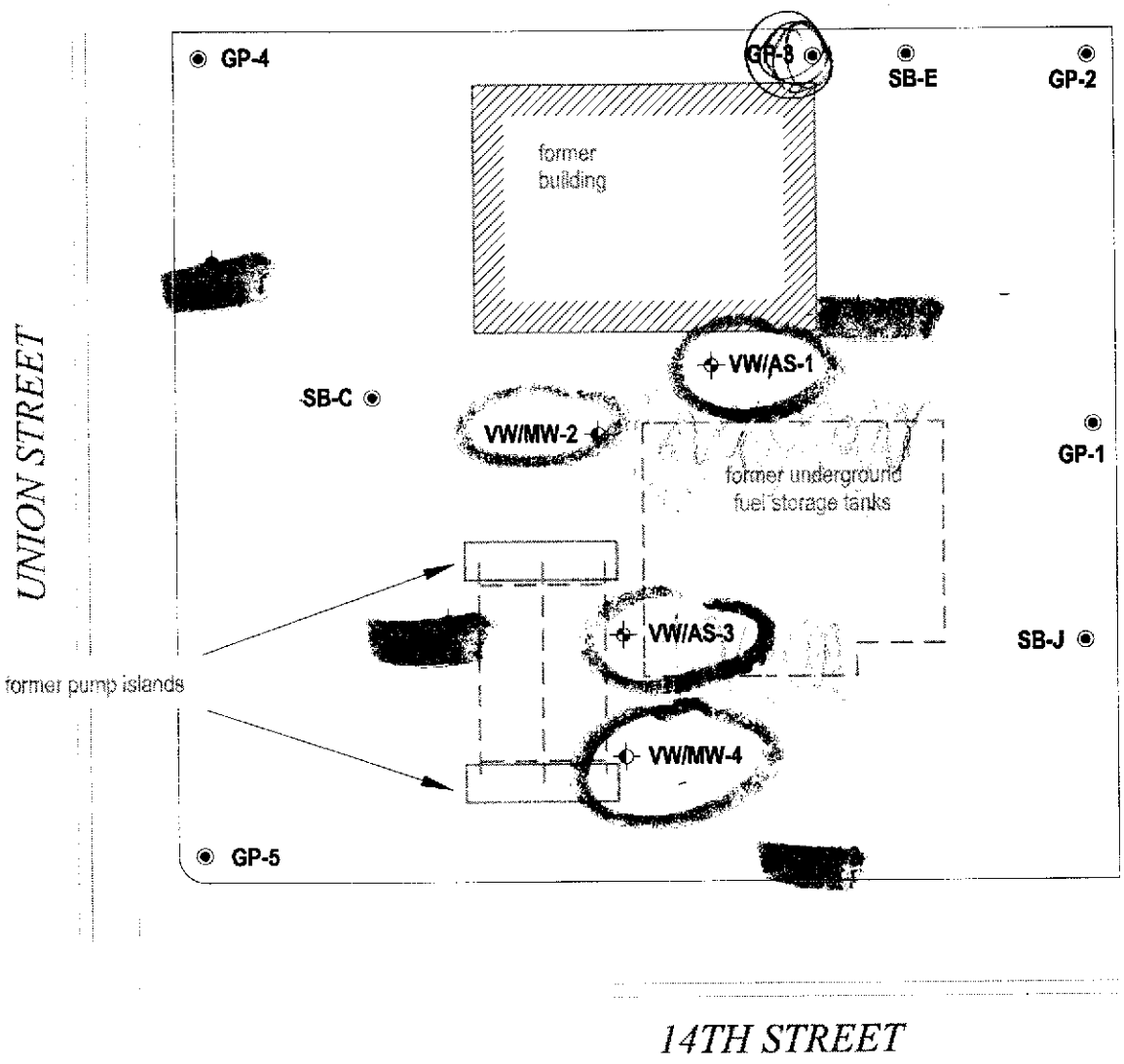
-- = Not sampled

ppm=parts per million

<x=not detected above x ppm

9800/4403

02/09/01



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G:\OAKLAND\1230-14TH\FIGURE\960R-LOC.DWG

EXPLANATION

SB-C ◉	Soil boring location (3/96)
GP-1 ◉	Soil boring location (12/00)
MW-1 ⊕	Monitoring well location
VW/AS-1 ⊕	Combination air sparge/soil vapor extraction well
VW/MW-2 ⊕	Combination soil vapor extraction well/monitoring well

N

0 10 20

Scale (ft)

FIGURE

1

Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250

CAMBRIA

Soil Boring Locations Map

Table 3. Soil Analytical Data - Former Shell Service Station - 1230 14th Street, Oakland, California - Incident # 97088250

Sample ID	Depth (feet below grade)	TPHg	MTBE (8260)	Benzene	Toluene	Ethylbenzene	Xylenes
			← (Concentrations reported in ppm) →				
December 11, 2000 Soil Samples:							
GP-1-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-20	20.0	120	<0.020	<0.020	**0.022**	**0.64**	**1.1**
GP-2-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-2-10.5	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-2-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-10.0	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-15.0	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8260B.
MTBE = Methyl Tertiary Butyl Ether by EPA Method 8260.
Benzene, toluene, ehtylbenzene, xylenes by EPA Method 8260B.
ppm = parts per million .
< X = Below laboratory detection limit of X.

Table 3. Soil Analytical Data - Former Shell Service Station - 1230 14th Street, Oakland, California - Incident # 97088250

Sample ID	Depth (feet below grade)	TPHg	MTBE (8260)	Benzene	Toluene	Ethylbenzene	Xylenes
			← (Concentrations reported in ppm) →				
December 11, 2000 Soil Samples:							
GP-1-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-1-20	20.0	120	<0.020	<0.020	**0.022**	**0.64**	**1.1**
GP-2-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-2-10.5	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-2-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-10.0	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-3-15.0	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-4-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-5	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-10	10.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
GP-5-15	15.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8260B.
MTBE = Methyl Tertiary Butyl Ether by EPA Method 8260.
Benzene, toluene, ehtylbenzene, xylenes by EPA Method 8260B.
ppm = parts per million .
< X = Below laboratory detection limit of X.

Table 4. Groundwater Analytical Data - Former Shell Service Station - 1230 14th Street, Oakland, California - Incident # 97088250

Sample ID	Depth (feet below grade)	TPHg	MTBE (8260)	Benzene	Toluene	Ethylbenzene	Xylenes
		←		(Concentrations reported in ppb)			→
December 11, 2000 Soil Samples:							
GP-1-17	17.0	**2,200**	**0.67**	**11**	**3.8**	**69**	**170**
GP-2-16	16.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
GP-3-16	16.0	**9,800**	<20	**4400**	**120**	**650**	**90**
GP-4-16	16.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
GP-5-16	16.0	<50	<0.50	<0.50	<0.50	<0.50	**0.80**

TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8260B.
MTBE = Methyl Tertiary Butyl Ether by EPA Method 8260.
Benzene, toluene, ethylbenznee, xylenes by EPA Method 8260B.
ppb = parts per billion.
< X = Below laboratory detection limit of X.

LOG OF EXPLORATORY BORING

PROJECT NUMBER 150 — BORING NO. SB-1

PROJECT NAME 1230 14th Street, Oakland, CA — PAGE

BY J. V. Mrakovich — DATE 2/21/91 — SURFACE ELEV. 17 FT

RECOVERY (FT/FT)	OVA (PPM)	PENETRATION (BLOWS/FT)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				1			ASPHALT
				2			AGGREGATE BASE: SANDY GRAVEL (GW), yellow-brown, medium to coarse, damp, no odor.
				3			FILL: SILTY SAND (SP), grey to black, fine to medium-grained, medium-dense, damp, gasoline odor.
				4			
1.5/1.5	-	27		5			
				6			Fill: As Above, mottled brown and blue-green, gasoline odor.
				7			
				8			
				9			
1.25/1.5	-	67		10			FILL: As Above, olive-green, very dense at 10 feet, medium dense at 15 feet, gasoline odor.
				11			
				12			
				13			
				14			
1.5/1.5	-	14		15			
				16			SILTY SAND (SP), olive-green, fine to medium grained, medium dense, saturated, stiff seam at 17.5 feet, gasoline odor.
			▽	17			Boring terminated at 20'.
				18			
				19			
				20			

REMARKS: Boring drilled with continuous-flight, 8-inch O. D., hollow-stem augers. Samples collected in a 2.5-inch O. D. California Sampler.

LOG OF EXPLORATORY BORING

PROJECT NUMBER 150 BORING NO. S8-2

PROJECT NAME 1230 14th Street, Oakland, CA PAGE

BY J. V. Mrakovich DATE 2/21/91 SURFACE ELEV. 17 FT

RECOVERY (FT/FT)	OVA (PPM)	PENETRATION (BLOWS/FT)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				1			ASPHALT
				2			FILL: SAND (SP), brown, fine to medium-grained, medium dense, damp, musty odor.
				3			
				4			
1.25/1.5	-	22		5			
				6			
				7			FILL: CLAYEY, SILTY SAND (SP), red-brown, 5% fine gravel, organics, damp, musty odor.
				8			FILL: SILTY SAND (SP), olive-green, fine to medium-grained, dense, damp, gasoline odor
				9			
1.5/1.5	-	50		10			
				11			
				12			
				13			
				14			Boring terminated at 15'; sampled to 16.5'.
1.5/1.5	-	53		15			
				16			

REMARKS: Boring drilled with continuous-flight, 8-inch O. D., hollow-stem augers. Samples collected in a 2.5-inch O. D. California Sampler.

LOG OF EXPLORATORY BORING

PROJECT NUMBER 150 BORING NO. SB-3

PROJECT NAME 1230 14th Street, Oakland, CA PAGE

BY J. V. Mrakovich DATE 2/21/91 SURFACE ELEV. 17 FT

RECOVERY (FT/FT)	OVA (PPM)	PENETRATION (BLOWS/FT)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				1			ASPHALT
				2			AGGREGATE BASE AND FILL: GRAVELLY SAND (SP), yellow-brown first 3-inches, then grey, fine to coarse-grained, red brick fragments, damp, strong gasoline odor.
				3			
				4			
1.5/1.5	-	34		5			SILTY SAND (SP), olive-green, fine to medium-grained, dense, damp, strong gasoline odor.
				6			FILL: As Above, mottled red-brown and grey, gasoline odor.
				7			
				8			FILL: As Above, brown, minor clay, very dense at 10 feet, dense and saturated at 15 feet, gasoline odor.
				9			
1.5/1.5	-	65		10			
				11			
				12			
				13			
				14			Boring terminated at 15'; sampled to 16.5'.
1.5/1.5	-	32		15			
				16			

REMARKS: Boring drilled with continuous-flight, 8-inch O. D., hollow-stem augers. Samples collected in a 2.5-inch O. D. California Sampler.

DRILLING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task02

Well ID MW-1 Boring ID SB-A

Location 14th Street, Oakland

Surface Elev. N/A ft,

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Silty GRAVEL(GM); brown/grey; damp; 2% clay, 20% silt, 20% very fine to medium grained sand, 58% pebble gravel; no plasticity; moderate estimated permeability.
5				Silty SAND(SM); dark brown; damp; 30% silt, 70% very fine to medium grained sand; no plasticity; moderate estimated permeability.
	3 7 9			Light brown; loose; 45% silt, 55% very fine to medium grained sand.
10				
	10 12 21			Medium dense; moist.
15				
	4 5 5			Brown/mottled grey; loose; wet; 1% clay, 20% silt, 79% fine to medium grained sand.
20				
	37 50			Sand(SP); grey; wet; 5% silt, 95% fine to medium grained sand; no plasticity; high estimated permeability.
25				
30				

TPHg (ppm)	Graphic Log	Well Construction Graphics	Depth (feet)	Well Construction Details
			0	T.O.C. Elev.
ND			5	
			10	
10			15	
6			20	
			25	Bottom of Well
			30	

Driller Gregg Drilling

Logged By DCE

Drilling Started 3/6/96

Drilling Completed 3/6/96

Construction Completed 3/6/96

Development Completed 3/21/96

Water Bearing Zones N/A

Development Yield N/A

Well Casing 2" Dia. 0' to 7'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 7' to 22'

Screen Type Schedule 40 PVC

Slot Size 0.020"

Drilling Mud N/A

Grout Type Portland I/II

Bentonite Seal 5' to 6'

Sand Pack Monterey Sand

Sand Pack Type #3 Sand

Static Water Level 9.53 ft Depth

Date 3/26/96

Notes: Well located at corner of former waste oil tank.

DRILLING LOG

Client: Shell-WIC#204-5508-3103

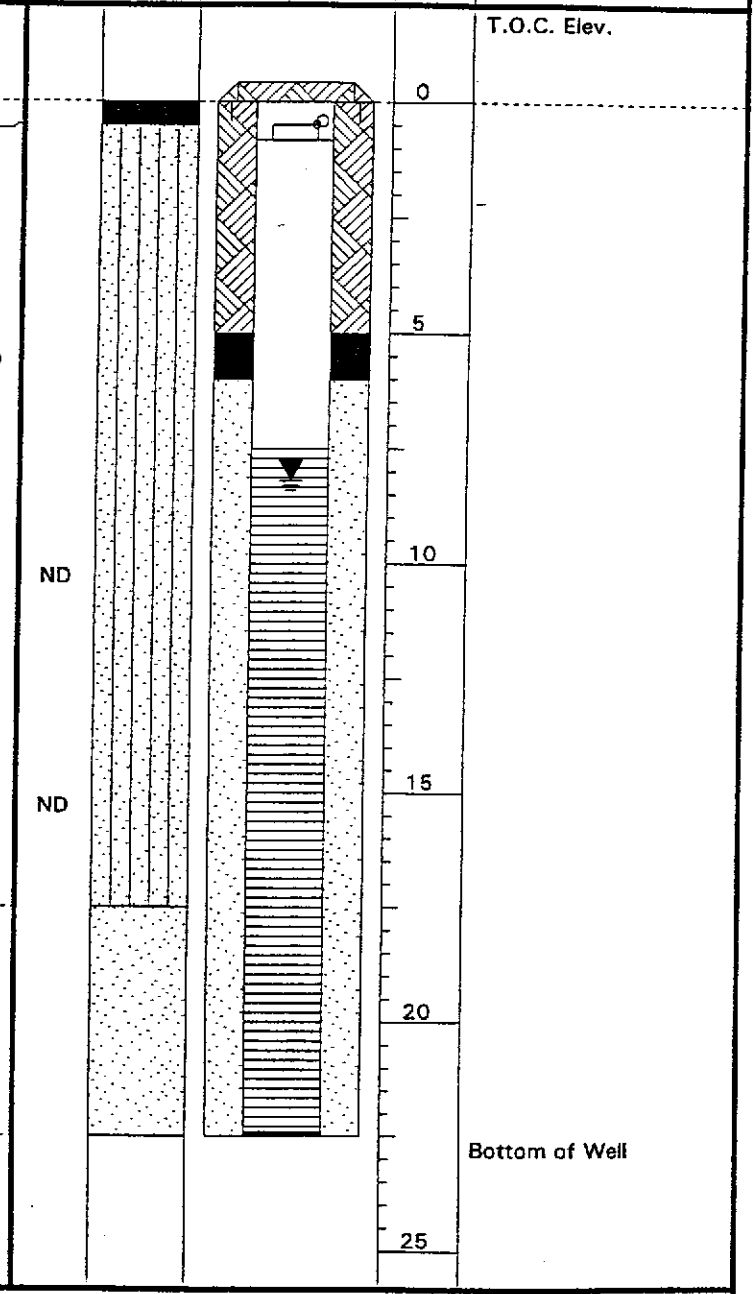
Project No: 24-233 Phase Task02

Well ID MW-2 Boring ID SB-B

Location 14th Street, Oakland

Surface Elev. N/A ft.

Depth (feet)	Blow Count	Sample Interval	Lithologic Description
0	Ground Surface		
			Asphalt
			Silty SAND(SM); brown; damp; 35% silt, 65% fine to medium grained sand; no plasticity; moderate estimated permeability.
5	6 8 11		Mottled orange/grey; medium dense; damp; 1% clay, 34% silt, 65% fine to medium grained sand.
10	8 14 16		Moist.
15			Dense, wet.
			Sand(SP); brown; very dense; wet; 5% silt, 95% fine to medium grained sand; no plasticity; high estimated permeability.
20	28 50		
25			



Driller: Gregg Drilling	Development Yield: N/A	Bentonite Seal: 5' to 6'
Logged By: DCE	Well Casing: 2" Dia. 0' to 7.5'	Sand Pack: Monterey Sand
Drilling Started: 3/6/96	Casing Type: Schedule 40 PVC	Sand Pack Type: #3 Sand
Drilling Completed: 3/6/96	Well Screen: 2" Dia. 7.5' to 22.5'	Static Water Level: 8.19 ft Depth
Construction Completed: 3/6/96	Screen Type: Schedule 40 PVC	Date: 3/26/96
Development Completed: 3/21/96	Slot Size: 0.020"	Notes: Well located on southern edge of property.
Water Bearing Zones: N/A	Drilling Mud: N/A	
	Grout Type: Portland I/II	

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task02

Well ID MW-3 Boring ID SB-D

Location 14th Street, Oakland

Surface Elev. N/A ft. Page 1 of 1

Depth (feet)	Blow Count	Sample Interval	Lithologic Description
0	Ground Surface		
			Asphalt
			Silty SAND(SM); dark brown; damp; 35% silt, 65% very fine to medium grained sand; no plasticity; moderate estimated permeability.
5	8 9 12		Brown/mottled orange and grey; medium dense; 3% clay, 35% silt, 62% very fine to medium grained sand; low plasticity; moderate to low permeability.
10			Brown; moist.
15	5 7 9		Moist to wet; 1% clay, 35% silt, 64% very fine to medium grained sand; no plasticity; moderate permeability.
20	8 10 23		
25			

TPHg (ppm)	Graphic Log	Well Construction Graphics	Depth (feet)	Well Construction Details
				T.O.C. Elev.
			0	
ND			5	
ND			10	
			15	
			20	
			25	Bottom of Well

Driller Gregg Drilling

Logged By DCE

Drilling Started 3/6/96

Drilling Completed 3/6/96

Construction Completed 3/6/96

Development Completed 3/21/96

Water Bearing Zones N/A

Development Yield N/A

Well Casing 2" Dia. 0' to 7'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 7' to 21.5'

Screen Type Schedule 40 PVC

Slot Size 0.020"

Drilling Mud N/A

Grout Type Portland I/II

Bentonite Seal 5' to 6'

Sand Pack Monterey Sand

Sand Pack Type #3 Sand

Static Water Level 8.47 ft Depth

Date 3/26/96

Notes: Boring located west of the former pump islands.

DRILLING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task02

Well ID VW/MW-2 Boring ID SB-G

Location 14th Street, Oakland

Surface Elev. N/A ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description	TPHg (ppm)
0	Ground Surface				
5	4 5 6			Silty Sandy GRAVEL(GW); brown; damp; 2% clay, 20% silt, 30% fine to medium grained sand; 48% pebble gravel; no plasticity; moderate to high estimated permeability.	
				Loose; sampler blocked by rock in fill.	
10	4 8 13			Silty SAND(SM); brown; medium dense; damp to moist; 25% silt, 75% fine to medium grained sand; moderate estimated permeability.	ND
15	20 25 29			Grey.	ND
20	8 10 12			Wet.	
25	15 50 50			Brown; very dense; wet; 15% silt, 85% very fine to medium grained sand; moderate to high estimated permeability.	3.0

Graphic Log

Well Construction Graphics

Depth (feet)	Well Construction Details
0	T.O.C. Elev.
5	
10	
15	
20	
25	Bottom of Well

Driller Gregg Drilling

Logged By DCE

Drilling Started 3/7/96

Drilling Completed 3/7/96

Construction Completed 3/7/96

Development Completed 3/21/96

Water Bearing Zones N/A

Development Yield N/A

Well Casing 2" Dia. 0' to 6'

Casing Type Schedule 40 PVC

Well Screen 2" Dia. 6' to 22'

Screen Type Schedule 40 PVC

Slot Size 0.020"

Drilling Mud N/A

Grout Type Portland I/II

Bentonite Seal 4' to 5'

Sand Pack Monterey Sand

Sand Pack Type #3 Sand

Static Water Level 9.04 ft Depth

Date 3/26/96

Notes: Well located at the center of the property.

WELL 83103 5/21/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: Shell-WIC#204-5508-3103

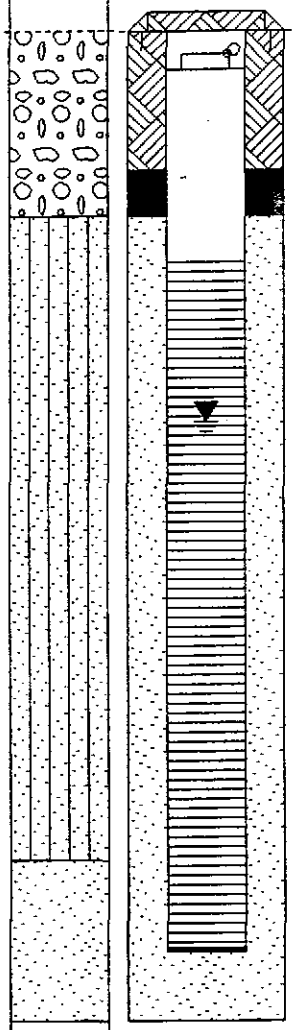
Project No: 24-233 Phase Task02

Well ID VW/MW-4 Boring ID SB-I

Location 14th Street, Oakland

Surface Elev. N/A ft, Page 1 of 1

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description	TPHg (ppm)
0	Ground Surface				
				Silty Sandy GRAVEL(GW); brown; damp; 2% clay, 20% silt, 30% fine to coarse grained sand; 48% pebble gravel; no plasticity; moderate to high estimated permeability.	
5	10 15 20	X		**Silty SAND**(SM); brown/mottled grey; medium dense; damp; 3% clay, 25% silt, 72% fine to medium grained sand; low plasticity; low to moderate permeability.	ND
	20 27 40	X		Grey; dense; 1% clay, 25% silt, 74% fine to medium grained sand; no plasticity; moderate permeability.	80.0
10	20 50	X		Very dense.	
15	8 10 15	X		Medium dense; 1% clay; 30% silt; 69% fine to medium grained sand.	3.0
				Sand(SP); brown; very dense; damp; 5% silt, 95% medium to coarse grained sand; no plasticity; high estimated permeability.	
20	30 50	X			
25					



Well Construction Details

T.O.C. Elev.

Bottom of Well

Driller	Gregg Drilling	Development Yield	N/A	Bentonite Seal	3' to 4'
Logged By	DCE	Well Casing	2" Dia. 0' to 5'	Sand Pack	Monterey Sand
Drilling Started	3/8/96	Casing Type	Schedule 40 PVC	Sand Pack Type	#3 Sand
Drilling Completed	3/8/96	Well Screen	2" Dia. 5' to 20'	Static Water Level	8.45 ft Depth
Construction Completed	3/8/96	Screen Type	Schedule 40 PVC	Date	3/26/96
Development Completed	3/21/96	Slot Size	0.020"	Notes:	Boring located at the corner of former southern pump island.
Water Bearing Zones	N/A	Drilling Mud	N/A		
		Grout Type	Portland I/II		

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: **Shell-WIC#204-5508-3103**

Project No: **24-233** Phase Task02

Well ID **VW/AS-1** Boring ID **SB-F**

Location **14th Street, Oakland**

Surface Elev. **N/A ft.**

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Depth (feet)	Blow Count	Sample	Interval	Lithologic Description	TPHg (ppm)
0	Ground Surface				
				Asphalt	
				Silty SAND(SM); dark brown; damp; 30% silt, 70% very fine to medium grained sand; no plasticity; moderate estimated permeability.	
5	6 20 30	X		Red brown/mottled grey; medium dense; 1% clay, 44% silt, 55% very fine to coarse grained sand.	ND
	8 20 24	X			
10	20 35 40	X		Red brown; very dense; damp.	62.0
15	8 10 12	X		Grey/mottled red-brown; medium dense; moist; 3% clay, 42% silt, 55% very fine to coarse grained sand; low plasticity; moderate to low plasticity.	7.0
20	25 50	X		Grey; very dense; wet; 45% silt, 55% very fine to coarse grained sand; no plasticity.	20.0
25					

Graphic Log

Well Construction Graphics

Depth (feet)	Well Construction Details
	T.O.C. Elev.
0	
5	
10	
15	
20	Bottom of Well
25	

Driller **Gregg Drilling**	Development Yield **N/A**	Bentonite Seal **4' to 5'/15' to 17'**
Logged By **DCE**	Well Casing **1",2"** Dia. **0',0'** to **6',17.5'**	Sand Pack **Monterey Sand**
Drilling Started **3/7/96**	Casing Type **Schedule 40 PVC**	Sand Pack Type **#3 Sand**
Drilling Completed **3/7/96**	Well Screen **1",2"** Dia.**6',17.5**to **15,19.5**	Static Water Level **8.98** ft Depth
Construction Completed **3/7/96**	Screen Type **Schedule 40 PVC**	Date **3/26/96**
Development Completed **3/21/96**	Slot Size **0.020"**	Notes: **Boring located between station building and former USTs.**
Water Bearing Zones **N/A**	Drilling Mud **N/A**	
	Grout Type **Portland I/II**	

WELL 83103 5/21/96

Cambria Environmental Technology, Inc.

DRILLING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task02

Well ID VW/AS-3 Boring ID SB-H

Location 14th Street, Oakland

Surface Elev. N/A ft.

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description	TPHg (ppm)
0	Ground Surface				
				Silty Sandy GRAVEL(GW); brown; damp; 2% clay, 20% silt, 30% fine to medium grained sand; 48% pebble gravel; no plasticity; moderate to high estimated permeability.	
5	14 18 12	X		Dense; no recovery.	
	8 8 8	X		Silty SAND(SM); grey green; medium dense; damp to moist; 20% silt, 80% fine to medium grained sand; moderate estimated permeability.	ND
10	4 8 12	X		25% silt, 75% fine to medium grained sand.	ND
15	6 8 18	X		Wet; 1% clay, 25% silt, 74% fine to medium grained sand.	
20	25 50	X		Very dense; 15% silt, 85% very fine to medium grained sand.	1.0
25					

Graphic Log

Well Construction Graphics

Depth (feet)	Well Construction Details
	T.O.C. Elev.
0	
5	
10	
15	
20	Bottom of Well
25	

Driller: Gregg Drilling	Development Yield: N/A	Bentonite Seal: 4' to 5'/15' to 17'
Logged By: DCE	Well Casing: 1",2" Dia. 0',0' to 6',18'	Sand Pack: Monterey Sand
Drilling Started: 3/7/96	Casing Type: Schedule 40 PVC	Sand Pack Type: #3 Sand
Drilling Completed: 3/7/96	Well Screen: 1",2" Dia. 6',18' to 15',20'	Static Water Level: 8.50 ft Depth
Construction Completed: 3/7/96	Screen Type: Schedule 40 PVC	Date: 3/26/96
Development Completed: 3/21/96	Slot Size: 0.020"	Notes: Well located between the two former pump islands.
Water Bearing Zones: N/A	Drilling Mud: N/A	
	Grout Type: Portland I/II	

WELL 83103 5/21/96

Cambria Environmental Technology, Inc.

BORING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task 02

Boring ID SB-J

Location 14th Street, Oakland

Surface Elev. N/A ft.

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Depth Feet	Blow Count	Sample	Interval	Lithologic Description	TPHg (ppm)	Graphic Log	Boring Completion Graphics	Depth Feet	Additional Comments
0	Ground Surface							0	
				Asphalt					
				Silty SAND(SM); dark brown; damp; 30% silt, 70% very fine to fine grained sand; no plasticity; moderate estimated permeability.					
5	10 10 13			Clayey to Silty SAND(SM); red brown/mottled grey; medium dense; damp; 12% clay, 20% silt, 68% very fine to fine grained sand; low plasticity; low estimated permeability.				5	
10	20 20 25			Silty SAND(SM); Red/brown/mottled tan; dense; damp; 1% clay, 20% silt, 79% fine to medium grained sand; no plasticity; moderate permeability.	ND			10	
15	10 20 70			Brown; wet; 20% silt, 80% fine to medium grained sand.				15	Bottom of Boring
20								20	

Driller Gregg Drilling

Logged By DCE

Water-Bearing Zones N/A

Drilling Started 3/8/96

Drilling Completed 3/8/96

Grout Type Portland I/II

Notes: Boring located on southeastern edge of the property.

BOR 83103 4/5/96

Cambria Environmental Technology, Inc.

BORING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task 02

Boring ID SB-E

Location 14th Street, Oakland

Surface Elev. N/A ft,

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Depth Feet	Blow Count	Sample Interval	Lithologic Description	TPHg (ppm)	Graphic Log	Boring Completion Graphics	Depth Feet	Additional Comments
0	Ground Surface						0	
5			Silty SAND(SM); dark brown; damp; 4% clay; 40% silt; 56% fine to medium grained sand; low plasticity; low to moderate estimated permeability.				5	
10	4 8 9		Red brown/mottled grey; medium dense; damp; 3% clay, 37% silt, 60% fine to medium grained sand; no to low plasticity; moderate estimated permeability.				10	
15	11 14 21		Brown; 35% silt, 65% fine to medium grained sand; no plasticity.	ND			15	
20	4 4 6		Loose; 1% clay, 34% silt, 65% fine to medium grained sand; moderate to low estimated permeability.	ND			20	
25	11 19 22		Medium dense; wet; 35% silt, 65% fine to medium grained sand; moderate estimated permeability.				25	Bottom of Boring

Driller Gregg Drilling

Logged By DCE

Water-Bearing Zones N/A

Drilling Started 3/6/96

Drilling Completed 3/6/96

Grout Type Portland I/II

Notes: Boring located on the northeastern corner of the property.

BOR 83103 4/5/96

BORING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task 02

Boring ID SB-C

Location 14th Street, Oakland

Surface Elev. N/A ft,

Depth Feet	Blow Count	Sample Interval	Lithologic Description
0	Ground Surface		
			Asphalt
			Silty SAND(SM); dark brown; damp; 25% silt, 75% fine to medium grained sand; no plasticity; moderate estimated permeability. Occasional gravel to 1/4".
			No gravel.
5	2 3 4		Light brown; loose.
10	10 17 16		Medium dense.
			Sandy SILT(ML); brown; loose; damp; 5% clay, 50% silt, 45% very fine to medium grained sand; low plasticity; low permeability.
15	4 4 5		
			Sand(SP); brown; dense; wet; 10% silt, 90% fine to medium grained sand; no plasticity; high estimated permeability.
20	15 27 28		
25			

TPHg (ppm)	Graphic Log	Boring Completion Graphics	Depth Feet	Additional Comments
			0	
ND			5	
			10	
2.00			15	
			20	Bottom of Boring
			25	

Driller Gregg Drilling

Logged By DCE

Water-Bearing Zones N/A

Drilling Started 3/6/96

Drilling Completed 3/6/96

Grout Type Portland I/II

Notes: Boring located near the west corner of the station building.

BOR 83103 4/5/96

BORING LOG

Client: Shell-WIC#204-5508-3103

Project No: 24-233 Phase Task 02

Boring ID SB-C

Location 14th Street, Oakland

Surface Elev. N/A ft,

Depth Feet	Blow Count	Sample Interval	Lithologic Description
0	Ground Surface		
			Asphalt
			Silty SAND(SM); dark brown; damp; 25% silt, 75% fine to medium grained sand; no plasticity; moderate estimated permeability. Occasional gravel to 1/4".
			No gravel.
5	2 3 4		Light brown; loose.
10	10 17 16		Medium dense.
			Sandy SILT(ML); brown; loose; damp; 5% clay, 50% silt, 45% very fine to medium grained sand; low plasticity; low permeability.
15	4 4 5		
			Sand(SP); brown; dense; wet; 10% silt, 90% fine to medium grained sand; no plasticity; high estimated permeability.
20	15 27 28		
25			

TPHg (ppm)	Graphic Log	Boring Completion Graphics	Depth Feet	Additional Comments
			0	
ND			5	
			10	
2.00			15	
			20	Bottom of Boring
			25	

Driller Gregg Drilling

Logged By DCE

Water-Bearing Zones N/A

Drilling Started 3/6/96

Drilling Completed 3/6/96

Grout Type Portland I/II

Notes: Boring located near the west corner of the station building.

Cambria Environmental Technology, Inc.