CAMBRIA

March 12, 2001

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

New report.

Re: **Subsurface Investigation Report and Request for Closure**
Former Shell-branded Service Station
2101 Park Blvd.
Oakland, California
Equiva Incident # 97088251
Cambria Project # 243-0865

229

Dear Mr. Chan:

On behalf of Equiva Services LLC (Equiva), Cambria Environmental Technology, Inc. (Cambria) is submitting this *Subsurface Investigation Report* for work performed at the referenced site. This work was requested by the Alameda County Health Care Services Agency (ACHCSA) in a letter dated March 14, 2000. The scope of work was proposed by Cambria in a work plan dated April 14, 2000 and approved by the ACHCSA in a letter dated May 1, 2000. The investigation included the installation of one onsite and one offsite soil boring and collection of soil and groundwater samples for chemical analyses. The purpose of this investigation was to further define the lateral extent of hydrocarbon impact. A brief site history and an investigation summary are presented below.

SITE BACKGROUND

Site Description: The site is a former Shell-branded service station located at the intersection of Park Boulevard and Newton Avenue in Oakland, California. The site is currently being used as a Goodyear Tire service center with a service building, seven hydraulic lifts, a waste-oil tank and a trash enclosure. The former site layout included three separate generations of underground fuel storage tanks (USTs), two separate generations of waste-oil tanks and three dispenser islands. Earlier site history is documented in Enviros' February 24, 1995 *Site Assessment Report*

The site is located in a mixed commercial and residential area (Figure 1). Topography slopes generally toward the south

Oakland, CA
San Ramon, CA
Sonoma CA
Portland OR

Cambria
Environmental
Technology, Inc.

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

CAMBRIA

1995 Subsurface Investigation: On May 16, 1995, Enviros of Sonoma, California drilled nine exploratory soil borings using the Geoprobe® drilling system (Figure 2). Groundwater samples were collected from exploratory borings S-D and S-L.

On June 15, 1995, Enviros installed groundwater monitoring wells S-1, S-2, and S-3 (Figure 2). The wells were constructed of 2-inch diameter threaded Schedule 40 PVC well casing and were screened from 3 to 18 feet below grade (fbg), in the first encountered water-bearing zone. Results of both phases of this investigation are summarized in Enviros' August 8, 1995 *Site Assessment Report.*

2000 Risk Assessment: To evaluate the potential health risk to on-site occupants, Cambria conducted a risk-based corrective action (RBCA) analysis following the guidelines set forth by the City of Oakland for petroleum release sites. This analysis is summarized in Cambia's January 19, 2000 *Tier 2 Risk-Based Corrective Action* report. The City of Oakland RBCA approach is consistent with American Society for Testing and Materials E 1739-95 and general USEPA and Cal-EPA risk assessment guidance. Cambria's RBCA analysis concluded that current site conditions do not pose a significant risk to onsite workers or near-site residents.

Groundwater Monitoring: Wells S-1, S-2, and S-3 are currently gauged and sampled quarterly. Quarterly monitoring has been ongoing at this site from June 1995 to present. Depth to water, as measured in onsite monitoring wells, has ranged from approximately 2 to 6 fbg. The groundwater flow direction onsite is generally to the south.

Lithology: Lithology encountered during the drilling of the exploratory soil borings consists predominantly of clay with lesser amounts of silt, clayey sand, sand, and gravel to the maximum explored depth of approximately 18 fbg.

INVESTIGATION PROCEDURES

Using a Geoprobe® drill rig, Cambria advanced one onsite and one offsite soil boring to groundwater. The soil boring locations are shown on Figure 2. Cambria's *Standard Field Procedures for Soil Borings* are included as Attachment A

Permits: A drilling permit was obtained from the City of Oakland Public Works department for two soil borings (Permit = MOO-2175) A copy of the permit is included as Attachment B

Drilling Date: September 29, 2000

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

CAMBRIA

Personnel Present:	*Title:*	*Company:*
Troy Buggle	Project Scientist	Cambria
Paul Rodgers	Driller	Gregg Drilling

Soil Lithology: Lithology encountered during this investigation were primarily sands, clays and silts to a depth of 14 fbg, the maximum explored depth of this investigation. Soil boring logs are included as Attachment C.

Groundwater: Groundwater was encountered at 5 fbg in boring EB-2 and at 14 fbg in EB-1.

Soil Sampling: During drilling activities, Cambria collected four soil samples from EB-1, installed offsite in the expected downgradient direction from the site. As directed by the ACHCSA in their May 1, 2000 correspondence approving Cambria's April 2000 work plan, no soil samples were collected from EB-2.

Groundwater Sampling: Groundwater was first encountered in EB-1 at approximately 14 fbg and in EB-2 at approximately 5 fbg. Grab groundwater samples were collected from each soil boring where first encountered and submitted to Sequoia Analytical of Petaluma, California for chemical analyses.

Laboratory Analyses: All soil and groundwater samples collected during this investigation were submitted to Sequoia Analytical of Petaluma, California for chemical analyses as follows:

- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015, modified,
- Benzene, ethylbenzene, toluene, and total xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8020, and
- Any samples with MTBE reported by EPA Method 8020 were re-analyzed using EPA Method 8260.

Analytical results for soil samples are summarized in Table 1. Analytical results for groundwater samples are summarized in Table 2. Laboratory analytical reports are presented as Attachment D.

FINDINGS

Hydrocarbon Results in Soil: TPHg was detected in EB-1-8.0' at 114 mg/kg (parts per million or ppm) and benzene was detected in EB-1-8.0' and EB-1-11.0' at up to 0.746 ppm. No MTBE was detected in soil samples (by EPA Method 8015/8020 Modified).

CAMBRIA

Hydrocarbon Results in Groundwater: No TPHg, BTEX or MTBE was detected in groundwater from EB-2. In EB-1, TPHg and benzene were detected at concentrations of 2,250 and 287 µg/L (parts per billion or ppb), respectively. MTBE, originally reported at 4.46 ppb in EB-1 by EPA Method 8015/8020 Modified was not detected using EPA Method 8260. No analytes were detected in groundwater from offsite boring EB-2.

CONCLUSIONS AND RECOMMENDATIONS

The results of this and previous investigations indicate that the lateral extent of hydrocarbons in soil and groundwater has been adequately defined and there is no significant change in conditions from those described by Cambria's January 2000 RBCA analysis. Based on the results of this investigation and the previously submitted RBCA analysis, there is no significant risk to potential onsite or offsite receptors. Residual hydrocarbons in the subsurface will continue to degrade naturally over time. Therefore, on behalf of Equiva, Cambria respectfully requests environmental case closure for this site.

CAMBRIA

CLOSING

We appreciate the opportunity to work with you on this project. Please call Troy Buggle at (510) 420-3333 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Troy Buggle
Project Scientist

Stephan Bork, C.E.G., C.H.G.
Associate Hydrogeologist

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

Figures: 1 - Vicinity Map
2 - Site Plan

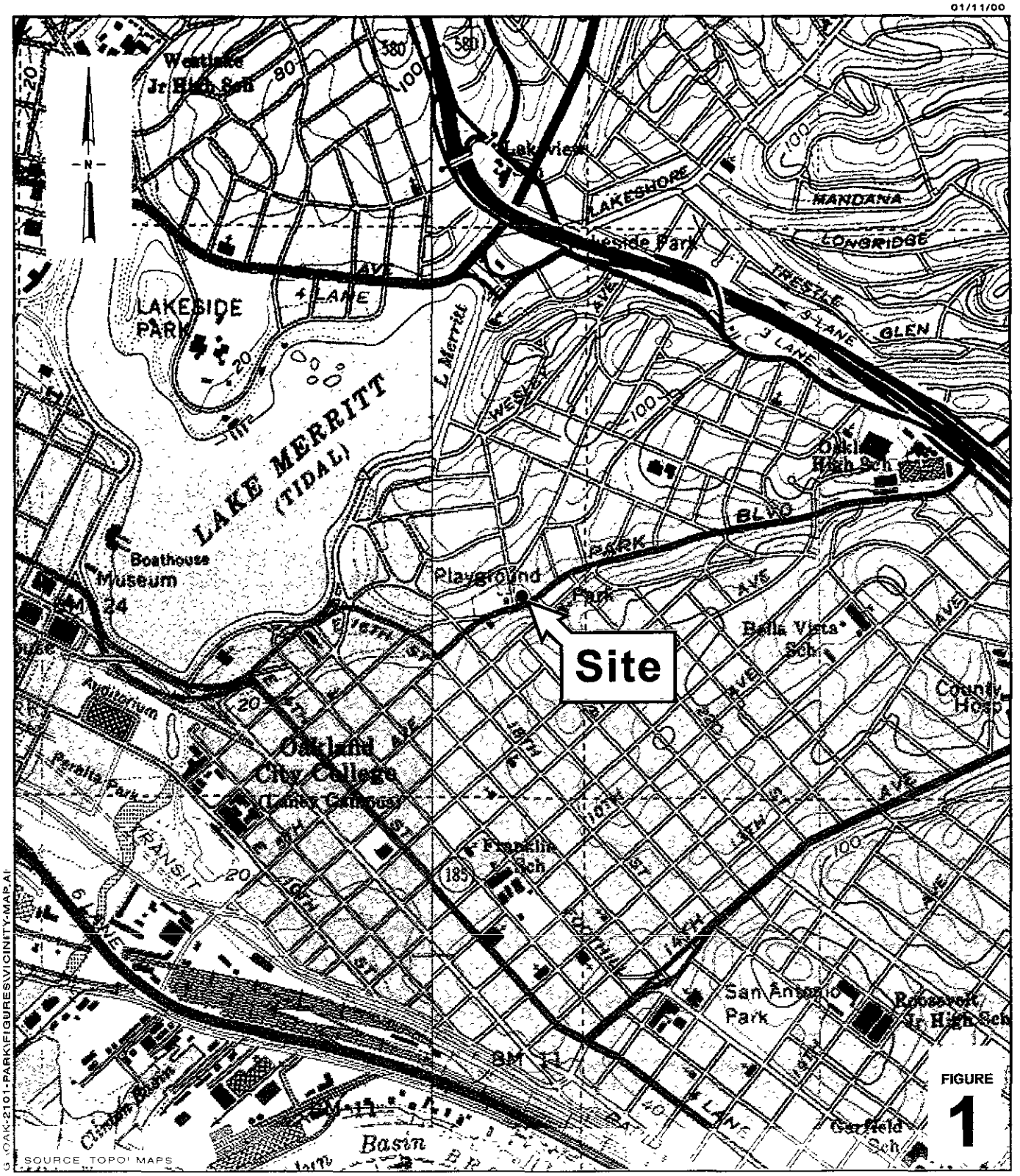
Tables: 1 - Laboratory Analytical Data for Soil Samples
2 - Laboratory Analytical Data for Groundwater Samples

Attachments: A - Standard Field Procedures for Soil Borings
B - Drilling Permit
C - Soil Boring Logs
D - Laboratory Analytical Reports for Soil and Groundwater Samples

cc: Ms. Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, CA 91510-7869
Ms. Alice Heilman, 333 Keary Street, San Francisco, CA 94108
Mr. Frank Schlessinger, 333 Kearny Street, San Francisco, CA 94108

G:\Oakland 2101 Park\2001\GeoprobeInvestigationReport-1-2001 doc.rtf

01/11/00



G:\OAK-2101-PARK\FIGURES\VICINITY-MAP.AI

FIGURE 1

0 1/8 1/4 1/2 1

SCALE 1 1/4 MILE

Former Shell Service Station
2101 Park Boulevard
Oakland, California
Incident # 97088251

CAMBRIA

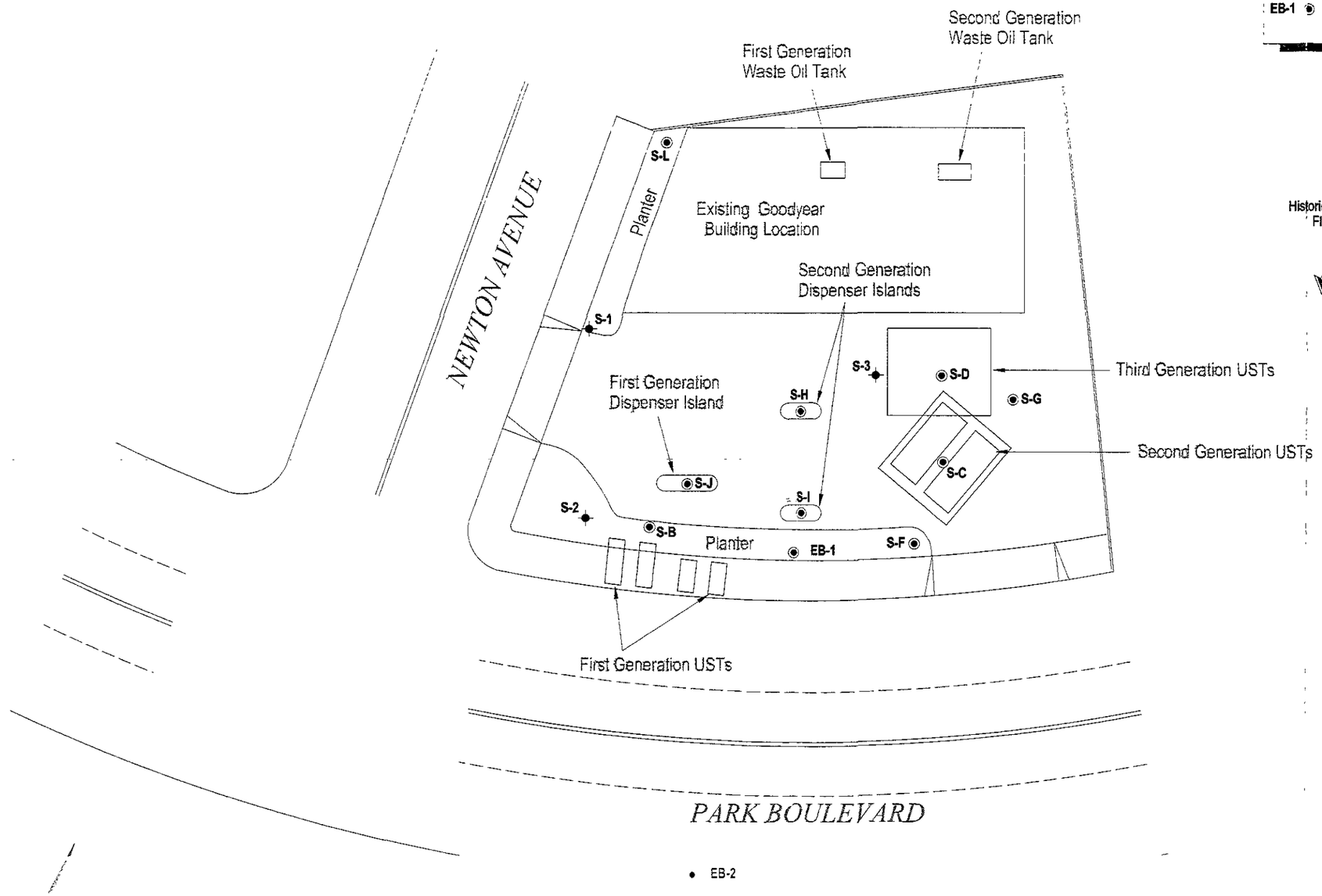
Vicinity Map

02/06/01

Site Plan

EXPLANATION

- S-1 ✦ Monitoring well location (June 15, 1995)
- S-L ◉ Soil boring location (May 16, 1995)
- EB-1 ◉ Soil boring location (September 29, 2000)



Historical Groundwater Flow Direction

FIGURE

2

Former Shell Service Station
2101 Park Boulevard
Oakland, California
Incident #97088251

CAMBRIA

Table 1. Laboratory Analytical **Data for Soil Samples**- Shell-branded Service Station - 2101 Park Blvd., Oakland, California

Sample ID	Date	Depth (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE (EPA 8260)
			← Concentrations reported in mg/kg (ppm) ** →						
EB-1-3.0	9/29/00	3	<1.000	<0.00500	<0.00500	<0.00500	<0.00500	<0.0500	NA
EB-1-4.0	9/29/00	4	<1.000	<0.00500	<0.00500	<0.00500	<0.00500	<0.0500	NA
EB-1-8.0	9/29/00	8	**114.000**	**0.746** ✓	<0.250	**1.260**	**3.380**	<2.500	NA
EB-1-11.0	9/29/00	11	<5.000	**0.702** ✓	**0.141**	**0.0701**	**0.375**	<0.250	NA

Abbreviations and Notes:

** = Concentrations reported in mg/kg (ppm), converted from µg/kg.

TPHg = Total petroleum hydrocarbons as gasoline (EPA method 8015).

MTBE = Methyl tert butyl ether by EPA Method 8020.

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

MTBE (EPA 8260) = Methyl tert-butyl ether by EPA Method 8260 (concentrations converted to parts per million).

NA = Not analyzed

Table 2. Laboratory Analytical Data for Groundwater Samples- Shell-branded Service Station - 2101 Park Blvd., Oakland, California

Sample ID	Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE (EPA 8260)
		← Concentrations reported in µg/L (ppb) →						
EB-1	9/29/00	**2,250**	**287**	**179**	**94.1**	**394**	**4.46**	<5.00
EB-2	9/29/00	<50.0	<0.00500	<0.500	<0.500	<0.500	<2.50	NA

Abbreviations and Notes

Concentrations reported in µg/L (ppb), converted from µg/kg.

TPHg = Total petroleum hydrocarbons as gasoline (EPA method 8015).

MTBE = Methyl tert butyl ether by EPA Method 8020.

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

MTBE (EPA 8260) = Methyl tert butyl ether by EPA Method 8260 (concentrations converted to parts per million).

NA = Not analyzed

ATTACHMENT A

Standard Field Procedures for Soil Borings and Monitoring Wells

CAMBRIA

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

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

Objectives

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

Soil Classification/Logging

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

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

Soil Boring and Sampling

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

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

ATTACHMENT B

Drilling Permit

ALAMEDA COUNTY PUBLIC WORKS AGENCY

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

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2101 Park Blvd. Oakland, CA

CLIENT
Name Equiva Services LLC
Address PO Box 7869 Phone
City Burbank, CA 91510-7869 Zip

APPLICANT
Name Cambria Environmental - Tray Buggle Fax 510 420 9170
Address 1144 65th St. Suite B Phone 510 420 3333
City Oakland, CA Zip 94608

TYPE OF PROJECT

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

Soil borings →

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 LICENSE NO. C57 485-165 Gregg Drilling

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

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

ESTIMATED STARTING DATE 9/29/00
ESTIMATED COMPLETION DATE 9/29/00

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

APPLICANT'S SIGNATURE Tray A Buggle DATE 9/27/00

FOR OFFICE USE

PERMIT NUMBER W00-620
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 work the 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/sand mixture. Upper 2-3 ft replace in kind or with compacted cuttings.

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

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED [signature] DATE 9-27-a

Post-it® Fax Note 7671 | Date 9/27/00 | # of pages ▶ 2
To James Yoo | From Tray BUGGLE
Co./Dept. | Co. Cambria
Phone # | Phone # 510 420 3333
Fax # | Fax # 510 420 9170

ATTACHMENT C

Soil Boring Logs

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

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	EB-1
JOB/SITE NAME	2101 Park Boulvard, Oakland, CA	**DRILLING STARTED**	29-Sep-00
LOCATION	2101 Park Boulevard, Oakland, CA	**DRILLING COMPLETED**	29-Sep-00
PROJECT NUMBER	243-0865	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	*Hydraulic push*	***TOP OF CASING ELEVATION***	NA
BORING DIAMETER	2 inches	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	14.0 ft (29-Sep-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5 fbg. Located approx. 9 feet from curb, and 82 feet from northeast corner of Park and Newton.		

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							FILL (FILL) sand, gravel		
					CL		**CLAY** (CL) brown; stiff; with silt and sand.	3.0	
				5			**Sandy, Clayey, SILT** (ML) grey; stiff; contains odor.	5.0	Portland Type I/II Cement
				10	ML				
		EB-1					@ 14 fbg - wet; very stiff. ▽	14.0	Bottom of Boring @ 14 ft

WELL LOG (SHELL) G:\OAKLAND\2101.GPJ DEFAULT.GDT 2/12/01

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**	EB-2
JOB/SITE NAME	2101 Park Boulvard, Oakland, CA	**DRILLING STARTED**	29-Sep-00
LOCATION	2101 Park Boulevard, Oakland, CA	**DRILLING COMPLETED**	29-Sep-00
PROJECT NUMBER	243-0865	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2 inches	**SCREENED INTERVAL**	NA
LOGGED BY	T. Buggle	**DEPTH TO WATER (First Encountered)**	5.0 ft (29-Sep-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5 fbg. Located approx. 2 feet from curb in Park Blvd., accross the street from EB-1.

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	Portland Type I/II Cement
							Sandy CLAY (FILL)		
		EB-2		5			▽	5.0	Bottom of Boring @ 5 ft

WELL LOG (SHELL) G:\OAKLAN-4\GINT\OAKL2101.GPJ DEFAULT.GDT 2/12/01

ATTACHMENT D

Laboratory Analytical Reports for Soil and Groundwater Samples

Sequoia Analytical

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

October 23 , 2000

Troy Buggle
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 10/02/00 17:30. 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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EB-2	P010020-01	Water	09/29/00 09:10	10/02/00 17:30
EB-1	P010020-02	Water	09/29/00 11:00	10/02/00 17:30
EB-1-3.0'	P010020-03	Soil	09/29/00 09:45	10/02/00 17:30
EB-1-4.0'	P010020-04	Soil	09/29/00 09:50	10/02/00 17:30
EB-1-8.0'	P010020-05	Soil	09/29/00 10:00	10/02/00 17:30
EB-1-11.0'	P010020-06	Soil	09/29/00 10:05	10/02/00 17:30

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

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
EB-2 (P010020-01) Water Sampled: 09/29/00 09:10 Received: 10/02/00 17:30									
Gasoline	ND	50.0	ug/l	1	0100053	10/03/00	10/04/00	EPA 8015M/8020M	
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		*104 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.7 %*	*65-135*		"	"	"	"	
EB-1 (P010020-02) Water Sampled: 09/29/00 11:00 Received: 10/02/00 17:30									
Gasoline	**2250**	50.0	ug/l	1	0100053	10/03/00	10/04/00	EPA 8015M/8020M	
Benzene	**287**	0.500	"	"	"	"	"	"	
Toluene	**179**	0.500	"	"	"	"	"	"	
Ethylbenzene	**94.1**	0.500	"	"	"	"	"	"	
Xylenes (total)	**394**	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**4.46**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*108 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.0 %*	*65-135*		"	"	"	"	
EB-1-3.0' (P010020-03) Soil Sampled: 09/29/00 09:45 Received: 10/02/00 17:30									
Gasoline	ND	1000	ug/kg	1	0090730	10/03/00	10/03/00	EPA 8015M/8020M	
Benzene	ND	5.00	"	"	"	"	"	"	
Toluene	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	ND	5.00	"	"	"	"	"	"	
Xylenes (total)	ND	5.00	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	50.0	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*117 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.3 %*	*65-135*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

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
EB-1-4.0' (P010020-04) Soil Sampled: 09/29/00 09:50 Received: 10/02/00 17:30									
Gasoline	ND	1000	ug/kg	1	0090730	10/03/00	10/03/00	EPA 8015M/8020M	
Benzene	ND	5.00	"	"	"	"	"	"	
Toluene	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	ND	5.00	"	"	"	"	"	"	
Xylenes (total)	ND	5.00	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	50.0	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98.7 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*88.5 %*	*65-135*		"	"	"	"	
EB-1-8.0' (P010020-05) Soil Sampled: 09/29/00 10:00 Received: 10/02/00 17:30									
Gasoline	**114000**	50000	ug/kg	50	0090567	10/03/00	10/03/00	EPA 8015M/8020M	
Benzene	**746**	250	"	"	"	"	"	"	
Toluene	ND	250	"	"	"	"	"	"	
Ethylbenzene	**1260**	250	"	"	"	"	"	"	
Xylenes (total)	**3380**	250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*96.3 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95 3 %*	*65-135*		"	"	"	"	
EB-1-11.0' (P010020-06) Soil Sampled: 09/29/00 10:05 Received: 10/02/00 17:30									
Gasoline	ND	5000	ug/kg	5	0090730	10/03/00	10/03/00	EPA 8015M/8020M	
Benzene	**702**	25.0	"	"	"	"	"	"	
Toluene	**141**	25.0	"	"	"	"	"	"	
Ethylbenzene	**70.1**	25.0	"	"	"	"	"	"	
Xylenes (total)	**375**	25.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94.2 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95 2 %*	*65-135*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EB-1 (P010020-02) Water Sampled: 09/29/00 11:00 Received: 10/02/00 17:30									**HT-04,R-05**
Methyl tert-butyl ether	ND	5.00	ug/l	10	0100422	10/17/00	10/18/00	EPA 8260B	
Surrogate: Dibromofluoromethane		*118 %*	*88-118*		"	"	"	"	

The results of this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

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 0090567 - EPA 5030 soils MeOH										
Blank (0090567-BLK1)				Prepared & Analyzed: 09/26/00						
Gasoline	ND	50000	ug/kg							
Benzene	ND	250	"							
Toluene	ND	250	"							
Ethylbenzene	ND	250	"							
Xylenes (total)	ND	250	"							
Methyl tert-butyl ether	ND	2500	"							
Surrogate: a,a,a-Trifluorotoluene	*27600*		"	*30000*		*92.0*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*27100*		"	*30000*		*90.3*	*65-135*			
Blank (0090567-BLK3)				Prepared & Analyzed: 10/03/00						
Gasoline	ND	50000	ug/kg							
Benzene	ND	250	"							
Toluene	ND	250	"							
Ethylbenzene	ND	250	"							
Xylenes (total)	ND	250	"							
Methyl tert-butyl ether	ND	2500	"							
Surrogate: a,a,a-Trifluorotoluene	*30100*		"	*30000*		*100*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*28400*		"	*30000*		*94.7*	*65-135*			
LCS (0090567-BS1)				Prepared & Analyzed: 09/26/00						
Benzene	10000	250	ug/kg	10000		100	65-135			
Toluene	9660	250	"	10000		96.6	65-135			
Ethylbenzene	9260	250	"	10000		92.6	65-135			
Xylenes (total)	27600	250	"	30000		92.0	65-135			
Methyl tert-butyl ether	7870	2500	"	10000		78.7	65-135			
Surrogate: a,a,a-Trifluorotoluene	*28500*		"	*30000*		*95.0*	*65-135*			
LCS (0090567-BS3)				Prepared & Analyzed: 10/03/00						
Benzene	10600	250	ug/kg	10000		106	65-135			
Toluene	10400	250	"	10000		104	65-135			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			
Surrogate: a,a,a-Trifluorotoluene	*29300*		"	*30000*		*101*	*65-135*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

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 0090567 - EPA 5030 soils MeOH										
Matrix Spike (0090567-MS1)	**Source: P009529-11**			Prepared & Analyzed: 09/26/00						
Benzene	10800	250	ug/kg	10000	1200	96.0	65-135			
Toluene	11300	250	"	10000	2150	91.5	65-135			
Ethylbenzene	8860	250	"	10000	375	84.9	65-135			
Xylenes (total)	27500	250	"	30000	2240	84.2	65-135			
Methyl tert-butyl ether	7610	2500	"	10000	ND	73.6	65-135			
Surrogate: a,a,a-Trifluorotoluene	*25700*		"	*30000*		*85.7*	*65-135*			
Matrix Spike Dup (0090567-MSD1)	**Source: P009529-11**			Prepared & Analyzed: 09/26/00						
Benzene	10200	250	ug/kg	10000	1200	90.0	65-135	5.71	20	
Toluene	10400	250	"	10000	2150	82 5	65-135	8 29	20	
Ethylbenzene	8810	250	"	10000	375	84.4	65-135	0.566	20	
Xylenes (total)	27100	250	"	30000	2240	82.9	65-135	1 47	20	
Methyl tert-butyl ether	7500	2500	"	10000	ND	72.5	65-135	1.46	20	
Surrogate: a,a,a-Trifluorotoluene	*26000*		"	*30000*		*86.7*	*65-135*			
Batch 0090730 - EPA 5030 soils										
Blank (0090730-BLK1)				Prepared & Analyzed: 09/30/00						
Gasoline	ND	1000	ug/kg							
Benzene	ND	5.00	"							
Toluene	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Xylenes (total)	ND	5.00	"							
Methyl tert-butyl ether	ND	50.0	"							
Surrogate: a,a,a-Trifluorotoluene	*592*		"	*600*		*98.7*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*578*		"	*600*		*96.3*	*65-135*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

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 0090730 - EPA 5030 soils										
Blank (0090730-BLK2)				Prepared & Analyzed: 10/03/00						
Gasoline	ND	1000	ug/kg							
Benzene	ND	5.00	"							
Toluene	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Xylenes (total)	ND	5.00	"							
Methyl tert-butyl ether	ND	50.0	"							
Surrogate: a,a,a-Trifluorotoluene	*572*		"	*600*		*95.3*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*606*		"	*600*		*101*	*65-135*			
LCS (0090730-BS1)				Prepared & Analyzed: 09/30/00						
Gasoline	2010	1000	ug/kg	2000		101	65-135			
Surrogate: 4-Bromofluorobenzene	*597*		"	*600*		*99.5*	*65-135*			
LCS (0090730-BS2)				Prepared & Analyzed: 10/03/00						
Gasoline	1930	1000	ug/kg	2000		96.5	65-135			
Surrogate: 4-Bromofluorobenzene	*616*		"	*600*		*103*	*65-135*			
Matrix Spike (0090730-MS1)	**Source: P009590-02**			Prepared & Analyzed: 09/30/00						
Gasoline	1820	1000	ug/kg	2000	ND	88.3	65-135			
Surrogate: 4-Bromofluorobenzene	*553*		"	*600*		*92.2*	*65-135*			
Matrix Spike Dup (0090730-MSD1)	**Source: P009590-02**			Prepared & Analyzed: 09/30/00						
Gasoline	1770	1000	ug/kg	2000	ND	85.8	65-135	2.79	20	
Surrogate: 4-Bromofluorobenzene	*538*		"	*600*		*89.7*	*65-135*			
Batch 0100053 - EPA 5030 waters										
Blank (0100053-BLK1)				Prepared & Analyzed: 10/03/00						
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	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*335*		"	*300*		*111*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*293*		"	*300*		*97.3*	*65-135*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

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 0100053 - EPA 5030 waters										
LCS (0100053-BS1)				Prepared & Analyzed: 10/03/00						
Gasoline	899	50.0	ug/l	1000		89.9	65-135			
Surrogate: 4-Bromofluorobenzene	*285*		"	*300*		*95.0*	*65-135*			
Matrix Spike (0100053-MS1)		**Source: P009640-01**		Prepared & Analyzed: 10/03/00						
Gasoline	866	50 0	ug/l	1000	ND	86.6	65-135			
Surrogate: 4-Bromofluorobenzene	*280*		"	*300*		*93 3*	*65-135*			
Matrix Spike Dup (0100053-MSD1)		**Source: P009640-01**		Prepared & Analyzed: 10/03/00						
Gasoline	867	50.0	ug/l	1000	ND	86.7	65-135	0.115	20	
Surrogate: 4-Bromofluorobenzene	*282*		"	*300*		*94.0*	*65-135*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

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 0100422 - EPA 5030 waters										
Blank (0100422-BLK1)				Prepared & Analyzed: 10/17/00						
Methyl tert-butyl ether	ND	0.500	ug/l							
Surrogate: Dibromofluoromethane	*4.83*		"	*5.00*		*96.6*	*88-118*			
Blank (0100422-BLK2)				Prepared & Analyzed: 10/17/00						
Methyl tert-butyl ether	ND	0.500	ug/l							
Surrogate: Dibromofluoromethane	*5.08*		"	*5.00*		*102*	*88-118*			
LCS (0100422-BS1)				Prepared & Analyzed: 10/17/00						
Methyl tert-butyl ether	4.98	0.500	ug/l	5.00		99.6	79-118			
Surrogate: Dibromofluoromethane	*4.99*		"	*5.00*		*99.8*	*88-118*			
LCS (0100422-BS2)				Prepared & Analyzed: 10/17/00						
Methyl tert-butyl ether	5.42	0.500	ug/l	5.00		108	79-118			
Surrogate: Dibromofluoromethane	*5.12*		"	*5.00*		*102*	*88-118*			
Matrix Spike (0100422-MS1)	**Source: P010139-10**			Prepared & Analyzed: 10/17/00						
Methyl tert-butyl ether	5.40	0.500	ug/l	5.00	ND	108	79-118			
Surrogate: Dibromofluoromethane	*5.00*		"	*5.00*		*100*	*88-118*			
Matrix Spike Dup (0100422-MSD1)	**Source: P010139-10**			Prepared & Analyzed: 10/17/00						
Methyl tert-butyl ether	5.47	0.500	ug/l	5.00	ND	109	79-118	1.29	20	
Surrogate: Dibromofluoromethane	*5.13*		"	*5.00*		*103*	*88-118*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 2101 Park Blvd., Oakland	**Reported:**
Oakland CA, 94608	Project Manager: Troy Buggle	10/23/00 17:01

Notes and Definitions

HT-04	This sample was analyzed beyond the EPA recommended holding time.
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

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lab Name: Sequoia

Lab Address: Petaluma, CA

TEL:( ) FAX:( )

EQUIVA Services LLC

, 2940 2

CHAIN OF CUSTODY RECORD

Company Contact(s) for Invoice: Karen Petryna

Technical Services

INCIDENT NUMBER: 9 7 0 8 8 2 5 1

DATE: 9/29/00

PAGE: 1 OF 1

EQUIVA PROJECT CONSULTANT (Name and Company): Troy Buggle / Cambria

ADDRESS: 1144-65th St, Suite B

CITY: Oakland, CA - 94608

TEL: 510 420 3333 FAX: 510 420 9170 E-MAIL: tbuggle@cambria-env.com

SITE ADDRESS: 2101 Park Blvd., Oakland, CA

EQUIVA CONTACT: Karen Petryna

CONSULTANT PROJECT NO.: 242-0865

SAMPLER(S). (SIGNATURE): Troy A Buggle

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS)

[X] 10 DAYS [ ] 5 DAYS [ ] 72 HR [ ] 48 HR [ ] 24 HR [ ] <24 HR

[ ] LA-RWQCB REPORT FORMAT UST AGENCY: Alameda County HSA

MTBE CONFIRMATION HIGHEST ___ HIGHEST per BORING ___ ALL X

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT (C)

COOLER CUSTODY SEALS INTACT [ ]

NOT INTACT [ ]

MAR 1 4 2001

COOLER TEMPERATURE 5 °C

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Purgeable (8015m) TPH-Gas.	TPH - Extractable (8015m)	BTEX / MTBE (8021B)	BTEX / MTBE + Oxygenates (8260B)	VOCs Full List + Oxygenates (8260B)	MTBE Confirmation, if detected by 8021	Ethanol, Methanol (8015B)	Metals (Specify)	TRPH (418.1)	Methane (RSK-175)	Ferrous Iron +2	Sulfate, Nitrate (300.0)	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-)	Other:	Field PID Reading or Laboratory Notes
	EB-2	9/29/00	9:10	W	5	X		X			X											-01		
	EB-1	9/29/00	11:00	W	5	X		X			X											-02		
	EB-1 - 3.0'	9/29/00	9:45	S	1	X		X			X											-03		
	EB-1 - 4.0'	9/29/00	9:50	S	1	X		X			X											-04		
	EB-1 - 8.0'	9/29/00	10:00	S	1	X		X			X											-05		
	EB-1 - 11.0'	9/29/00	10:05	S	1	X		X			X											-06		

Relinquished by (Signature): Troy A Buggle	9/29/00 3:30	Received by: (Signature)	Date: 10/2/00 Time: 15:30
Relinquished by: (Signature)		Received by: (Signature)	Date: 10/2/00 Time: 17:30
Relinquished by (Signature)		Received by: (Signature)	Date: Time: