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HWANG

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1626 Vallejo Street
San Francisco, CA 94123-5116

November 30, 2002

Mr. Thomas Peacock
Supervising HMS, LOP
ACHCSA
1131 Harbor Bay Parkway
Alameda, CA 94501
(510) 567-6700 / FAX 337-9335
tpeacock@co.alameda.ca.us

SUBJECT: IIIQ02 Monitoring & SVE System Progress Report
1432 Harrison Street, Oakland, CA 94612
SITE ID 498

Dear Mr. Peacock:

Attached is the IIIQ02 Groundwater Monitoring and SVE Systems Progress Report for the above site. If you have a question, please contact me.

Sincerely yours,

Mark Borsuk

CAMBRIA

November 25, 2002

Mr. Mark Borsuk
1626 Vallejo St.
San Francisco, CA 94123-5116

Re: **Groundwater Monitoring and System Progress Report**
Third Quarter 2002
1432 Harrison Street
Oakland, California
Cambria Project #540-0188

Dear Mr. Borsuk:

As you requested, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring and system progress report for the above-referenced site. Presented in the report are the third quarter 2002 activities and results and the anticipated fourth quarter 2002 activities. Attached are two additional copies for submittal to ACHCSA and BAAQMD regulatory agencies.

If you have any questions or comments regarding this report, please call me at (510) 450-1983.

Sincerely,
Cambria Environmental Technology, Inc.

Ron Scheele, RG
Senior Geologist

Attachments: Groundwater Monitoring and System Progress Report, Third Quarter 2002

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

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CAMBRIA

GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

THIRD QUARTER 2002

1432 Harrison Street
Oakland, California
Cambria Project #540-0188

November 25, 2002

Prepared for:

Mr. Mark Borsuk
1626 Vallejo St.
San Francisco, CA 94123-5116

Prepared by:

Cambria Environmental Technology, Inc.
6262 Hollis Street
Emeryville, California 94608

REGISTERED GEOLOGIST • RONALD A. SCHEELE • No. 6842 • STATE OF CALIFORNIA •

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Matthew A. Meyers
Staff Geologist

Ron Scheele, RG
Senior Geologist

CAMBRIA

GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

THIRD QUARTER 2002

1432 Harrison Street
Oakland, California
Cambria Project #540-0188-038

November 25, 2002

INTRODUCTION

On behalf of Mr. Mark Borsuk, Cambria Environmental Technology, Inc. (Cambria) has prepared this groundwater monitoring and system progress report for the above-referenced site (see Figure 1). Presented in this report are the third quarter 2002 groundwater monitoring and remediation activities and the anticipated fourth quarter 2002 activities.

THIRD QUARTER 2002 ACTIVITIES AND RESULTS

Monitoring Activities

Field Activities: On September 3, 2002, Cambria conducted quarterly monitoring activities. Cambria gauged and inspected for separate-phase hydrocarbons (SPH) in wells MW-1 through MW-6 (see Figure 1). Groundwater samples were collected from wells MW-1, MW-2, MW-4, and MW-5. Wells MW-3 and MW-6 are sampled on an annual basis. Field Data Sheets are presented as Appendix A. Groundwater elevations are shown on Figure 1 and Table 1. The groundwater monitoring results have been submitted to the State's "Geotracker Database." The electronic delivery confirmations are presented in Appendix E.

Sample Analyses: Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015, and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8021B by McCampbell Analytical, Inc. of Pacheco, California. Analytical results for the third quarter are included as Appendix B. Hydrocarbon concentrations are shown on Figure 1 and Table 1. Analytical results have been submitted to the State's "Geotracker Database." The electronic delivery confirmations are presented in Appendix E.

Monitoring Results

Groundwater Flow Direction: Based on depth-to-water measurements collected during Cambria's September 3, 2002 site visit, groundwater flows beneath the site toward the northeast at a gradient of 0.008 ft/ft (Figure 1). On September 11, 2002, all monitoring wells (MW-1 through MW-6) were re-surveyed horizontally and vertically by Virgil Chavez Land Surveying of Vallejo, California (see Appendix D for the *Monitoring Well Survey* report for details). It was determined that wells MW-4, MW-5, and MW-6 had been previously surveyed to a nearby alternate benchmark making the groundwater elevations in these wells 3 ft higher than the other site wells. The groundwater gradient is no longer split as seen during previous quarters, and currently all groundwater flow is toward the northeast. The historical groundwater elevations in Table 1 were corrected to account for the 3 ft discrepancy in the benchmark elevations. The horizontal and vertical survey data have been submitted to the Geotracker database. See Appendix E for the electronic delivery confirmations.

Hydrocarbon Distribution in Groundwater: Hydrocarbon concentrations have increased in all wells sampled this quarter as compared with the previous sampling event. The maximum TPHg, benzene, and MTBE concentrations were detected in well MW-1 at 2,500,000, 31,000, and 2,500,000 micrograms per liter (µg/L), respectively. Hydrocarbon concentrations may have risen but are still within the seasonal range of fluctuation. MTBE concentrations in MW-1 appear to be highly anomalous and could be a possible laboratory error. No MTBE has been detected in MW-1 in the past sampling events. Groundwater samples collected in the fourth quarter will be analyzed by EPA Method 8260 to confirm the presence of MTBE in MW-1.

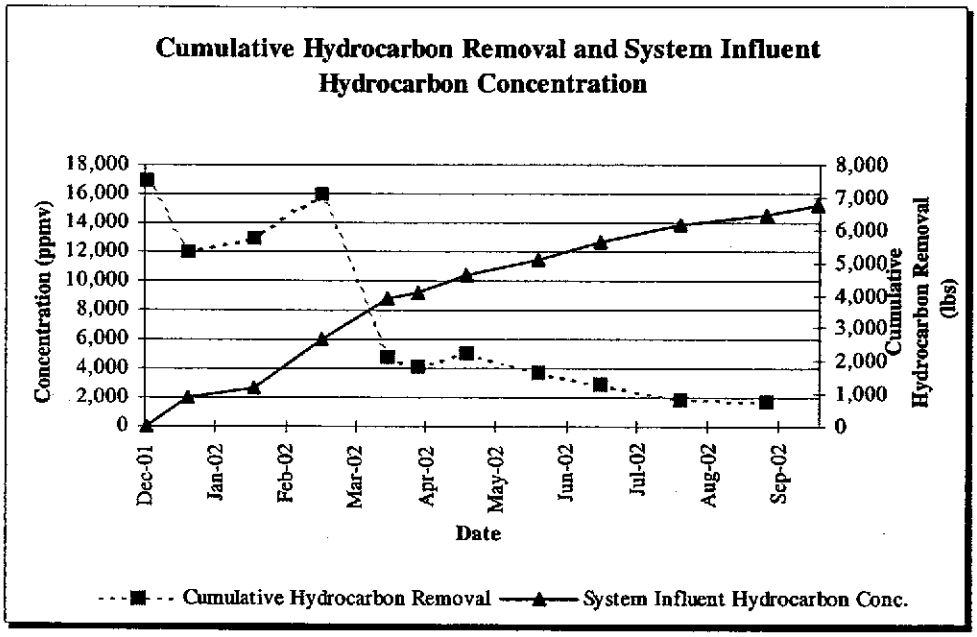
Corrective Action Activities

System Design: The soil vapor extraction (SVE) and air sparging (AS) remediation system consists of a trailer mounted all-electric catalytic oxidizer with heat exchanger, a 10-hp positive-displacement blower, an oil-less air sparge blower, and an auto dialer connected to a phone line to provide remote notification of system operations. Four coaxial remediation wells (VES-1/AS-1, VES-2/AS-2, VES-3/AS-3, VES-4/AS-4) are individually connected to a central manifold in the remediation system enclosure. See Figure 2 for the location of remediation enclosure and wells.

SVE System Operations and Maintenance Activities: During the third quarter, Cambria performed system operation and maintenance of the SVE system two to three times per month. Individual well flow, vacuum, and hydrocarbon concentration measurements were collected from all SVE wells and from the catalytic oxidizer/blower (see Tables 2 and 3). During site visits, system operation parameters were also recorded in specialized field forms for future system optimization and agency

inspection. As per the Bay Area Air Quality Management (BAAQMD) permit, a catalytic oxidizer operating temperature greater than 600 degrees Fahrenheit was maintained, and system operation parameters were continuously measured using a chart recorder. System influent and effluent vapor samples were collected and submitted for laboratory analysis on July 2, August 5, and September 10, 2002. Table 2 summarizes soil vapor extraction system operations and analytical results. The analytical laboratory reports from system vapor sampling are included as Attachment C.

SVE System Performance: The SVE system operated continuously throughout the third quarter. The SVE system operated with the manual dilution valve closed completely. Monthly well vapor hydrocarbon concentrations ranged from 1,800 to 3,000 ppmv and were less than the previous quarter (See Table 2). Hydrocarbon removal rates ranged from approximately 7 to 16 lbs/day. Total well hydrocarbon concentrations and hydrocarbon removal rates continue to exhibit decreasing trends. Vapor sample lab results indicated that the catalytic oxidizer was achieving proper destruction efficiency and was operating within permit requirements. To date, a total of 6,740 pounds of hydrocarbons have been destroyed by soil vapor extraction activities (see graph below and Table 2). Please note that all historical flow-rate measurements were converted to "standard" cubic feet per minute to account for affects of vacuum. As a result hydrocarbon removal rates and total mass removed were revised slightly downward.



AS System Performance: Air sparging (AS) operations were performed continuously throughout the third quarter. During July and August air sparging operations were not performed in well AS/VES-1 due to a silt-clogged well screen. On August 27, 2002, Cambria removed the silt and re-initiated air sparging in well AS/VES-1. During the third quarter, air was injected at a pressure of 2 to 11 psi and at a low air flow rate of 1 to 2 cfm into air sparge wells (AS-1, AS-2, AS-3, and AS-4). The AS system was setup to cycle on and off every 30 minutes and to operate only between the hours of 7 am to 6 pm to reduce system noise from the air sparge blower during the evening and early morning hours. No measurable thickness of SPH was observed in MW-1 during the third quarter.

On August 28, 2002, Cambria collected measurements to determine hydrocarbon mass removal rates of individual wells and evaluate the effects of air sparging activities. Air flow rates and hydrocarbon concentrations significantly increased in each SVE well when air sparging was conducted on the associated coaxial air sparge well. Measurements indicated that air sparging is having a positive effect of increasing hydrocarbon mass removal rates while remediating the groundwater.

ANTICIPATED FOURTH QUARTER 2002 ACTIVITIES

Groundwater Sampling: Cambria will gauge all wells, check the wells for SPH, and collect groundwater samples from wells MW-1, MW-2, MW-4, and MW-5. In view of the recent high MTBE concentrations detected in MW-1, Well MW-6 also will be sampled even though it was recently placed on a reduced annual sampling schedule. Groundwater samples will be analyzed for TPHg by Modified EPA Method 8015 and BTEX and MTBE by EPA Method 8021B. Any samples containing MTBE will be confirmed by EPA Method 8260. Cambria will prepare a quarterly Groundwater Monitoring and System Progress Report and submit groundwater monitoring and sampling results to the State's "Geotracker Database." Included in the report will be a summary of the groundwater monitoring activities and sampling results.

Remediation System: Cambria will continue to perform operation and maintenance of the SVE/AS system twice per month during the fourth quarter of 2002. Optimization activities may include vacuum and flow adjustments to soil vapor extraction wells and pressure and flow adjustments to air sparging wells as hydrocarbon concentrations change in the individual wells. System influent and effluent samples will be collected on a monthly basis along with Horiba gas analyzer readings from the individual wells. System operation records will be kept for a period of two years for possible future BAAQMD inspection.

Cambria will evaluate the performance of the remediation system and combine the results in a quarterly Groundwater Monitoring and System Progress Report. Included in the report will be tables

summarizing the concentration, flow, and vacuum of system and individual wells, along with the analytical results.

APPENDIXES

Figure 1 - Groundwater Elevation and Analytical Summary
Figure 2 - Soil Vapor Extraction/Air Sparging System

Table 1 - Groundwater Elevations and Analytical Data
Table 2 - SVE System Performance and Soil Vapor Analytical Results
Table 3 - SVE System Parameters

Appendix A - Groundwater Monitoring Field Data Sheets
Appendix B - Analytical Results for Quarterly Groundwater Sampling
Appendix C - Analytical Results for SVE System Operation
Appendix D - Well Survey Report
Appendix E - Electronic Delivery Confirmation

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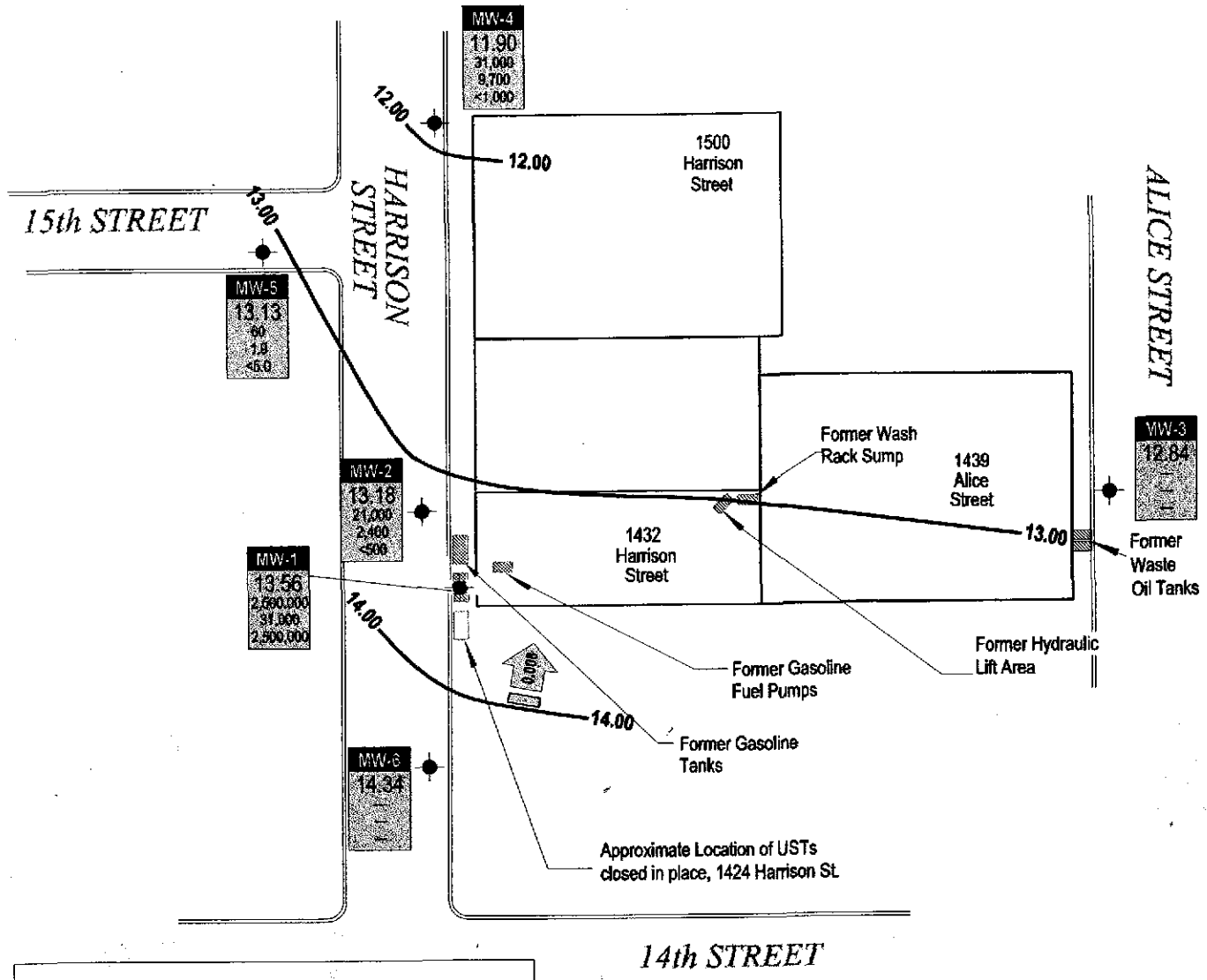

EXPLANATION

- Groundwater monitoring well
- 14 — Groundwater elevation contour, in feet above mean sea level (msl)
- Groundwater flow direction and gradient
- Well ID — Well designation
  - ELEV — Groundwater elevation, in feet above mean sea level (msl)
  - TPHg / Benzene / MTBE — Hydrocarbons in groundwater, in micrograms per liter (µg/L)

N

0 50 100

Scale (ft)

FIGURE 1

H:\EB-2004\OAK-169\FIGURES\3QM02-MP.DWG

1432 Harrison Street

Oakland, California

CAMBRIA

Groundwater Elevation and Analytical Summary

September 3, 2002

Borsuk Properties

1432 Harrison Street

Oakland, California

MW-2

HARRISON STREET

Electr
(208V-single-phase 200 ar

MW-1

R
Pipir

VE

Soil Vapor Extraction / Air Sparge System (As-Built)

CAMBRIA

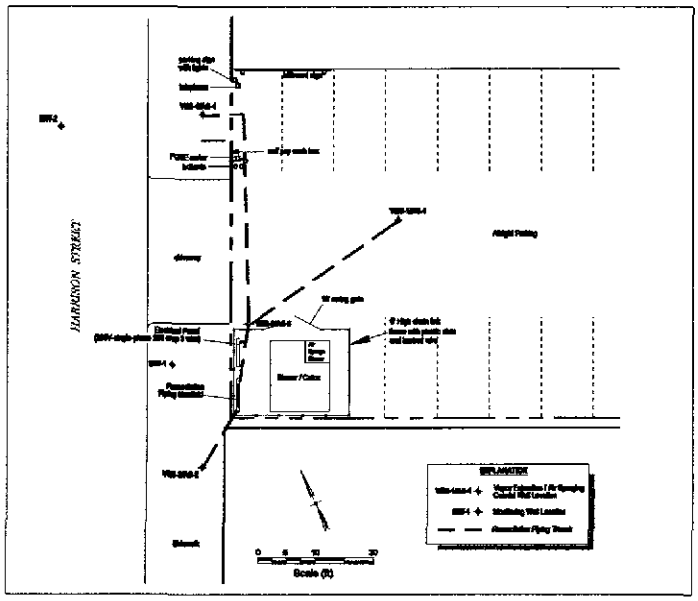

FIGURE 2

08/05/02

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Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.

Well ID	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
TOC (ft)		(ft)	(ft)	(ft)	←		(µg/L)			→	
MW-1	8/1/1994	--	--	--	170,000	35,000	51,000	2,400	13,000	--	--
	12/21/1994	34.95	19.53	15.42	180,000	41,000	64,000	3,100	100,000	--	--
	3/13/1995	34.95	18.66	16.29	150,000	31,000	45,000	2,500	17,000	--	--
	6/27/1995	34.95	18.20	16.75	71,000	17,000	18,000	1,600	7,700	--	--
	7/7/1995	34.95	18.35	16.60	71,000	17,000	18,000	1,600	7,700	--	--
	9/28/1995	34.95	18.20	16.75	110,000	27,000	34,000	1,700	14,000	--	--
	12/20/1995	34.95	19.96	14.99	120,000	33,000	43,000	2,300	15,000	--	--
	3/26/1996	34.95	19.27	15.68	140,000	29,000	36,000	1,900	13,000	<200*	d
	6/20/1996	34.95	18.64	16.31	110,000	30,000	38,000	2,200	13,000	<200*	--
	9/26/1996	34.95	19.35	15.60	170,000	28,000	40,000	2,200	15,000	ND**	--
	10/28/1996	34.95	19.58	15.37	--	--	--	--	--	--	--
	12/12/1996	34.95	19.68	15.27	110,000	36,000	47,000	2,500	16,000	ND*	--
	3/31/1997	34.95	18.80	16.15	160,000	24,000	39,000	1,900	13,000	ND*	--
	6/27/1997	34.95	19.26	15.69	130,000	25,000	36,000	2,000	14,000	ND*	--
	9/9/1997	34.95	19.70	15.25	99,000	22,000	27,000	1,600	13,000	270*	--
	12/18/1997	34.95	19.25	15.70	160,000	30,000	44,000	2,200	15,000	ND***	--
	3/12/1998	34.95	17.52	17.43	190,000	20,000	49,000	2,500	18,000	ND***	--
	6/22/1998	34.95	18.63	16.32	90,000	19,000	40,000	2,100	16,000	--	--
	9/18/1998	34.95	18.60	16.35	190,000	29,000	48,000	2,400	17,000	--	--
	12/23/1998	34.95	19.18	15.77	140,000	24,000	44,000	2,000	8,200	--	--
	3/29/1999	34.95	18.52	16.43	181,000	22,200	40,100	1,844	12,200	--	--
	6/23/1999	34.95	18.60	16.35	80,000	20,000	33,000	1,600	11,000	--	--
	9/24/1999	34.95	19.05	15.90	117,000	15,100	20,700	1,550	11,800	--	--
	12/23/1999	34.95	19.95	15.00	186,000	25,900	39,000	1,990	12,400	--	--
	3/21/2000	34.95	18.48	16.47	210,000	35,000	42,000	2,200	13,000	<3,000	a
	7/3/2000	34.95	18.95	16.00	200,000	33,000	46,000	2,200	15,000	<200*	a
	9/7/2000	34.95	19.45	15.50	Free Product present (Sheen). No sample taken.						
	12/5/2000	34.95	19.90	15.05	220,000	42,000	57,000	2,700	17,000	<200	a
	3/6/2001	34.95	18.20	16.75	180,000	27,000	39,000	2,000	13,000	<1200 (<20)	a,l
	6/8/2001	34.95	20.14	14.81	170,000	28,000	40,000	1,900	13,000	<200	a
	8/27/2001	34.95	21.19	13.76	130,000	24,000	33,000	1,600	11,000	<350	a
	10/25/2001	34.95	21.74	13.21	160,000	22,000	28,000	1,500	10,000	<350	a
	3/1/2002	34.95	21.39	13.85x	Free Product present (thickness of 0.41ft). No sample taken.						
	6/10/2002	34.95	22.30	12.66x	210,000	30,000	51,000	3,100	22,000	<1,000*	a
	9/3/2002	**34.96**	**21.40**	**13.56**	**2,500,000**	**31,000**	**170,000**	**29,000**	**170,000**	**2,500,000**	**a**

Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.

Well ID *TOC (ft)*	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					← (µg/L) →						
MW-2	8/1/1994	--	--	--	130,000	28,000	35,000	3,000	12,000	--	--
	12/21/1994	35.18	19.91	15.27	200	140,000	200,000	3,500	22,000	--	--
	3/13/1995	35.18	19.15	16.03	500	9,200	23,000	7,000	36,000	--	--
	6/27/1995	35.18	18.74	16.44	120,000	23,000	30,000	2,700	13,000	--	--
	7/7/1995	35.18	18.80	16.38	120,000	23,000	30,000	2,700	13,000	--	--
	9/28/1995	35.18	19.30	15.88	110,000	23,000	29,000	2,500	11,000	--	--
	12/20/1995	35.18	20.24	14.94	83,000	980	1,800	2,200	10,000	--	--
	3/26/1996	35.18	19.69	15.49	150,000	23,000	32,000	2,800	12,000	<200*	d
	6/20/1996	35.18	19.20	15.98	94,000	15,000	23,000	2,400	12,000	<200*	--
	9/26/1996	35.18	19.80	15.38	150,000	20,000	29,000	2,800	12,000	ND**	--
	10/28/1996	35.18	20.18	15.00	--	--	--	--	--	--	--
	12/12/1996	35.18	20.17	15.01	58,000	3,100	11,000	1,700	8,100	220*	--
	3/31/1997	35.18	19.67	15.51	38,000	6,000	7,900	690	3,300	ND*	--
	6/27/1997	35.18	19.68	15.50	62,000	13,000	16,000	1,300	6,000	ND*	--
	9/9/1997	35.18	20.20	14.98	81,000	16,000	18,000	1,800	8,600	ND***	--
	12/18/1997	35.18	19.80	15.38	110,000	18,000	26,000	2,200	9,500	ND***	--
	3/12/1998	35.18	18.07	17.11	120,000	16,000	26,000	2,200	9,400	ND***	--
	6/22/1998	35.18	18.29	16.89	38,000	9,800	9,500	1,500	6,000	--	--
	9/18/1998	35.18	19.09	16.09	68,000	12,000	16,000	1,400	5,900	--	--
	12/23/1998	35.18	19.67	15.51	180,000	16,000	22,000	2,200	8,300	--	--
	3/29/1999	35.18	18.97	16.21	16,600	1,380	1,920	373	1,840	--	--
	6/23/1999	35.18	18.25	16.93	41,000	10,000	9,400	1,100	5,000	--	--
	9/24/1999	35.18	19.60	15.58	40,600	4,880	3,490	1,090	4,560	--	--
	12/23/1999	35.18	20.21	14.97	61,900	6,710	9,320	1,150	5,360	--	--
	3/21/2000	35.18	18.93	16.25	98,000	14,000	21,000	1,600	6,900	<1600	a
	7/3/2000	35.18	19.38	15.80	140,000	18,000	33,000	2,600	11,000	<200*	a
	9/7/2000	35.18	19.83	15.35	110,000	17,000	21,000	2,200	9,700	<100***	a,l
	12/5/2000	35.18	20.30	14.88	130,000	19,000	28,000	2,500	11,000	<200	a
	3/6/2001	35.18	19.57	15.61	32,000	3,400	3,400	580	2,500	<200	a
	6/8/2001	35.18	20.59	14.59	72,000	9,400	9,200	1,300	5,800	<200	a
	8/27/2001	35.18	21.79	13.39	110,000	17,000	28,000	2,600	11,000	<950	a
	10/25/2001	35.18	22.05	13.13	110,000	15,000	18,000	2,000	8,700	<350	a
	3/1/2002	35.18	21.80	13.38	3,100	370	180	62	330	<5.0*	a
	6/10/2002	35.18	22.83	12.35	7,800	2,000	1,100	76	570	<100*	a
	9/3/2002	**35.21**	**22.03**	**13.18**	**21,000**	**2,400**	**2,900**	**320**	**1,400**	**<500**	**a**

Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.

Well ID	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
TOC (ft)		(ft)	(ft)	(ft)	←		(µg/L)			→	
MW-3	8/1/1994	--	--	--	<50	<0.5	<0.5	<0.5	<2.0	--	--
	12/21/1994	33.97	18.82	15.15	<50	<0.5	<0.5	<0.5	<0.5	--	e
	3/13/1995	33.97	17.86	16.11	<50	<0.5	<0.5	<0.5	<0.5	--	f,g
	7/7/1995	33.97	18.25	15.72	--	--	--	--	--	--	h
	9/28/1995	33.97	18.00	15.97	--	--	--	--	--	--	--
	12/20/1995	33.97	18.74	15.23	--	--	--	--	--	--	--
	3/26/1996	33.97	18.25	15.72	--	--	--	--	--	--	--
	6/20/1996	33.97	18.35	15.62	--	--	--	--	--	--	--
	9/26/1996	33.97	19.12	14.85	--	--	--	--	--	--	--
	10/28/1996	33.97	19.11	14.86	--	--	--	--	--	--	--
	12/12/1996	33.97	18.61	15.36	--	--	--	--	--	--	--
	3/31/1997	33.97	18.35	15.62	--	--	--	--	--	--	--
	6/27/1997	33.97	18.81	15.16	--	--	--	--	--	--	--
	9/9/1997	33.97	19.18	14.79	--	--	--	--	--	--	--
	12/18/1997	33.97	18.64	15.33	--	--	--	--	--	--	--
	3/12/1998	33.97	17.56	16.41	--	--	--	--	--	--	--
	6/22/1998	33.97	18.64	15.33	--	--	--	--	--	--	--
	9/18/1998	33.97	18.33	15.64	--	--	--	--	--	--	--
	12/23/1998	33.97	18.60	15.37	--	--	--	--	--	--	--
	3/29/1999	33.97	17.85	16.12	--	--	--	--	--	--	--
	6/23/1999	33.97	18.67	15.30	--	--	--	--	--	--	--
	9/24/1999	33.97	18.64	15.33	--	--	--	--	--	--	--
	12/23/1999	33.97	19.32	14.65	--	--	--	--	--	--	--
	3/21/2000	33.97	17.89	16.08	--	--	--	--	--	--	--
	7/3/2000	33.97	18.40	15.57	--	--	--	--	--	--	--
	9/7/2000	33.97	18.75	15.22	--	--	--	--	--	--	--
	12/5/2000	33.97	19.03	14.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/2001	33.97	18.12	15.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/2001	33.97	20.02	13.95	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	8/27/2001	33.97	21.09	12.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	10/25/2001	33.97	21.29	12.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/1/2002	33.97	21.14	12.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	6/10/2002	33.97	21.99	11.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	9/3/2002	**34.01**	**21.17**	**12.84**	--	--	--	--	--	--	--

Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.

Well ID *TOC (ft)*	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					← (µg/L) →						
MW-4	10/28/1996	33.75	19.32	14.43	10,000	3,900	420	400	360	<200*	n
	12/12/1996	33.75	19.42	14.33	11,000	4,200	410	420	260	32*	--
	3/31/1997	33.75	18.67	15.08	ND	ND	ND	ND	ND	ND*	--
	6/27/1997	33.75	19.08	14.67	160	49	1.2	ND	5.9	ND*	--
	9/9/1997	33.75	19.33	14.42	7,400	5,000	410	230	470	33*	--
	12/18/1997	33.75	19.17	14.58	710	170	8.0	ND	39	ND***	--
	3/12/1998	33.75	17.68	16.07	1,300	410	21	ND	57	ND***	--
	6/22/1998	33.75	17.63	16.12	ND	ND	ND	ND	ND	--	--
	9/18/1998	33.75	18.58	15.17	ND	42	1.6	ND	4.8	--	--
	12/23/1998	33.75	19.01	14.74	1,900	1,000	76	50	120	--	--
	3/29/1999	33.75	18.35	15.40	ND	ND	ND	ND	ND	--	--
	6/23/1999	33.75	17.58	16.17	ND	ND	ND	ND	ND	--	--
	9/24/1999	33.75	19.05	14.70	9,150	3,270	131	34	537	--	--
	12/23/1999	33.75	19.41	14.34	12,200	5,360	275	424	592	--	--
	3/21/2000	33.75	18.42	15.33	45,000	16,000	1,100	1,400	1,900	1400* (<35)***	a,l
	7/3/2000	33.75	18.82	14.93	33,000	10,000	720	840	1,800	<200*	a
	9/7/2000	33.75	19.21	14.54	26,000	8,800	800	740	1,500	<50***	a,l,m
	12/5/2000	33.75	19.60	14.15	41,000	11,000	840	930	1,900	<200	a
	3/6/2001	33.75	18.24	15.51	1,100	400	5.7	<0.5	20	<5.0	a
	6/8/2001	33.75	20.91	12.84	92	19	<0.5	<0.5	1	<5.0	a
	8/27/2001	33.75	21.63	12.12	49,000	17,000	1700	1,700	3,200	<260	a
	10/25/2001	33.75	21.70	12.05	57,000	16,000	1,500	1,600	2,600	<300	a
	3/1/2002	33.75	21.53	12.22	400	140	2.3	<0.5	12	<5.0*	a
	6/10/2002	33.75	22.23	11.52	<50	2.5	<0.5	<0.5	<0.5	<5.0*	
	9/3/2002	**33.75**	**21.85**	**11.90**	**31,000**	**9,700**	**300**	**650**	**1,100**	**<1,000**	a

Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.

Well ID *TOC (ft)*	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-5	10/28/1996	34.63	19.88	11.73	90	4.0	0.6	<0.50	<0.50	16*	n
	12/12/1996	34.63	20.09	14.54	230	5.6	0.9	ND	0.9	3.6*	--
	3/31/1997	34.63	19.24	15.39	90	3.1	ND	ND	ND	ND*	--
	6/27/1997	34.63	19.16	15.47	ND	ND	ND	ND	ND	ND*	--
	9/9/1997	34.63	19.93	14.70	ND	ND	ND	ND	ND	ND*	--
	12/18/1997	34.63	19.77	14.86	ND	ND	ND	ND	ND	ND***	--
	3/12/1998	34.63	19.77	14.86	79	2.3	ND	0.8	ND	ND*	--
	6/22/1998	34.63	18.08	16.55	ND	ND	ND	ND	ND	--	--
	9/18/1998	34.63	19.12	15.51	ND	ND	ND	ND	ND	--	--
	12/23/1998	34.63	19.60	15.03	ND	0.8	0.9	ND	ND	--	--
	3/29/1999	34.63	18.88	15.75	ND	ND	ND	ND	ND	--	--
	6/23/1999	34.63	18.05	16.58	ND	ND	ND	ND	ND	--	--
	9/24/1999	34.63	19.61	15.02	ND	ND	ND	ND	ND	--	--
	12/23/1999	34.63	20.01	14.62	ND	ND	ND	ND	ND	--	--
	3/21/2000	34.63	19.05	15.58	140	<0.5	<0.5	<0.5	<0.5	<5.0	k
	7/3/2000	34.63	19.40	15.23	85	8.1	3.1	1.6	7.8	<5.0*	a
	9/7/2000	34.63	19.62	15.01	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/5/2000	34.63	20.25	14.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/2001	34.63	19.07	15.56	91	5.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/2001	34.63	20.77	13.86	290	22.0	0.8	<0.5	<0.5	<5.0	a
	8/27/2001	34.63	21.33	13.30	660	24.0	2.2	1.3	4.0	<25	a
	10/25/2001	34.63	21.62	13.01	55	3.5	<0.5	<0.5	<0.5	<5.0	a
	3/1/2002	34.63	21.49	13.14	200	1.9	0.69	<0.5	<0.5	<5.0*	a
	6/10/2002	34.63	22.15	12.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	9/3/2002	**34.63**	**21.50**	**13.13**	**60**	**1.9**	**<0.5**	**<0.5**	**0.77**	**<5.0**	a

Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.

Well ID *TOC (ft)*	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					← (µg/L) →						
MW-6	10/28/1996	35.89	20.02	12.87	<50	<0.50	<0.50	<0.50	<0.50	<2.0*	n
	12/12/1996	35.89	20.18	15.71	ND	ND	ND	ND	ND	ND*	--
	3/31/1997	35.89	19.81	16.08	--	--	--	--	--	--	--
	6/27/1997	35.89	19.76	16.13	--	--	--	--	--	--	--
	9/9/1997	35.89	20.06	15.83	ND	ND	ND	ND	ND	ND*	--
	12/18/1997	35.89	19.90	15.99	ND	ND	ND	ND	ND	--	--
	3/12/1998	35.89	18.00	17.89	ND	ND	ND	ND	ND	ND*	--
	6/22/1998	35.89	18.43	17.46	ND	ND	ND	ND	ND	--	--
	9/18/1998	35.89	19.10	16.79	ND	ND	ND	ND	ND	--	--
	12/23/1998	35.89	19.61	16.28	ND	ND	ND	ND	ND	--	--
	3/29/1999	35.89	18.92	16.97	ND	ND	ND	ND	ND	--	--
	6/23/1999	35.89	18.41	17.48	ND	ND	ND	ND	ND	--	--
	9/24/1999	35.89	19.61	16.28	ND	ND	ND	ND	ND	--	--
	12/23/1999	35.89	20.30	15.59	ND	ND	ND	ND	ND	--	--
	3/21/2000	35.89	18.97	16.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	7/3/2000	35.89	19.46	16.43	59	5.1	2.3	1.1	5.3	<5.0*	a
	9/7/2000	35.89	19.95	15.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/5/2000	35.89	20.50	15.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/2001	35.89	19.54	16.35	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/2001	35.89	20.92	14.97	<50	<0.5	<0.5	<0.5	<0.5	<5.1	--
	8/27/2001	35.89	21.37	14.52	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	10/25/2001	35.89	21.59	14.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/1/2002	35.89	21.33	14.56	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	6/10/2002	35.89	21.97	13.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	9/3/2002	**35.89**	**21.55**	**14.34**	--	--	--	--	--	--	--

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Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.

Well ID	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
TOC (ft)		(ft)	(ft)	(ft)	←		(µg/L)			→	
Trip Blank	3/21/2000	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	9/7/2000	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--

Abbreviations

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

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

-- = Not Sampled/Not Analyzed

<n = Not detected in sample above n µg/L.

ND = Not detected at minimum quantitation limit. See laboratory reports.

µg/L = micrograms per liter

MTBE = Methyl tert-butyl ether

* = MTBE by EPA Method 8020

** = MTBE by EPA Method 8240

*** = MTBE by EPA Method 8260

VOCs = volatile organic compounds

x = Groundwater elevation adjusted for free product by the relation:

Groundwater Elevation = Well Elevation - Depth to Water + (0.7 x free product thickness)

Notes

a = Unmodified or weakly modified gasoline is significant.

b = Lighter than water immiscible sheen is present.

c = Liquid sample that contains greater than ~5 vol. % sediment.

d = MTBE result confirmed by secondary column or GC/MS analysis.

e = Sample analyzed for purgeable hydrocarbons by EPA method 8010, no purgeable halocarbons were detected.

f = Sample analyzed for VOCs by EPA method 8240, no non-BTEX compounds were detected.

g = Sample analyzed for Total Petroleum Hydrocarbons as motor oil (TPHmo) by EPA method Modified 8015, no TPHmo was detected.

h = Analytic sampling discontinued. Approved by Alameda County Department of Environmental Health.

i = Lighter than gasoline range compounds are significant.

j = Gasoline range compounds having broad chromatographic peaks are significant.

k = No recognizable pattern.

l = Sample diluted due to high organic content.

m= Liquid sample that contains greather than 5 vol. % sediment.

n = TOC well elevation was increased by 3 ft based on a benchmark discrepancy discovered during a well survey performed on September 11, 2002

Table 2. SVE System - Performance and Soil Vapor Analytical Results - Borsuk Site - 1432 Harrison St - Oakland, California

Date	Hour Meter Readings (hrs)	System Uptime (%)	System Vacuum ("H2O)	System Flow Rate (prior to dilution) (scfm)	Total Well HC Conc. (prior to dilution) (ppmv)	System Inlet Temp. (degrees F)	System Flow Rate (after dilution) (scfm)	Total System Influent HC Conc. [1] (ppmv)	Effluent HC Conc. [1] (ppmv)		HC Removal Rate [2] (lbs/day)	Emission Rate [2] (lbs/day)		TPHg Destruction Efficiency [3] (%)	Gasoline Cumulative Removal [4] (lbs)
								TPHg	TPHg	Benz	TPHg	TPHg	Benz		
12/20/2001	13.0	--		--	17,000	825	170	920	<10	<0.15	50.18	<0.545	<0.007	--[3]	0
1/7/2002	443.8	100%		--	12,000	1017	105	1,400	<10	<0.15	47.16	<0.337	<0.005	--[3]	901
2/4/2002	576.2	20%		--	13,000	916	150	1,100	<10	<0.15	52.94	<0.481	<0.007	--[3]	1161
3/5/2002	1268.2	99%		--	16,000	1020	135	1,000	<10	<0.15	43.31	<0.433	<0.006	--[3]	2687
4/2/2002	1939.9	100%		--	4,800	715	114	390	<10	<0.15	14.26	<0.366	<0.005	--[3]	3899
4/15/2002	2253.2	100%	90	22.5	4,200	709	30	*	28	<0.15	30.34	0.27	<0.001	99.3	4086
5/6/2002	2655.2	80%	77	10.5	5,100	735	35	*	14	<0.15	17.20	0.16	<0.002	99.7	4594
6/5/2002	3373.2	100%	80	15.7	3,800	652	22.5	*	14	<0.15	19.15	0.10	<0.001	99.6	5108
7/2/2002	4024.9	101%	80	17.0	3,000	672	26.5	*	<15	0.16	16.33	<0.13	0.001	99.5	5628
8/5/2002	4838.8	100%	80	12.1	1,900	667	23.8	*	<10	<0.15	7.39	<0.08	<0.001	--[3]	6182
9/10/2002	5700.9	100%	80	23.0	1,800	609	23.5	*	<10	<0.15	13.27	<0.08	<0.001	--[3]	6447
10/2/2002	6229.7	100%	81	10.4	--	651	18.5	--	--	--	--	--	--	--	6740

Table 2. SVE System - Performance and Soil Vapor Analytical Results - Borsuk Site - 1432 Harrison St - Oakland, California

Date	Hour Meter Readings (hrs)	System Uptime (%)	System Vacuum ('H2O)	System Flow Rate (prior to dilution) (scfm)	Total Well HC Conc. (prior to dilution) (ppmv)	System Inlet Temp. (degrees F)	System Flow Rate (after dilution) (scfm)	Total System Influent HC Conc. [1] (ppmv)	Effluent HC Conc. [1] (ppmv)		HC Removal Rate [2] (lbs/day)	Emission Rate [2] (lbs/day)		TPHg Destruction Efficiency [3] (%)	Gasoline Cumulative Removal [4] (lbs)
								TPHg	TPHg	Benz	TPHg	TPHg	Benz		

Notes and Abbreviations:

TPHg = Total petroleum hydrocarbons as gasoline

Benz = Benzene

HC Conc. = Hydrocarbon Concentrations

ppmv = Parts per million by volume. Analytical lab results converted from micrograms per liter (ug/l) to ppmv assumes the molecular weight of gasoline to be equal to that of hexane. at 1 atmosphere of pressure and 20 degrees Celsius.

scfm = standard cubic feet per minute

[1] TPHg and benzene concentrations based on Horiba gas analyzer measurements and/or lab results by Modified EPA Methods 8015 and 8020.
Laboratory analytic results for TPHg and benzene are converted from ug/l to ppmv using conversion rates of 0.28 for TPHg and 0.308 for benzene.

[2] The hydrocarbon removal/emission rate is based on the Bay Area Air Quality Management's District's (BAAQMD) Procedures for Soil Vapor Extraction where Rate = concentration (ppmv) x flow rate (cfm) x 1 lb-mole/386x$10^6$$ft^3$ x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene) x 1440 min/day.

[3] As per BAAQMD Permit, destruction efficiency requirements are waived if system TPHg effluent concentration is <10.

[4] Gasoline Cumulative Removal = The previous removal rates multiplied by the interval days of operation plus the previous total removal amount. The total TPHg removal is based on analytic results and/or field measurements.

* = Total System Influent Hydrocarbon Concentrations based on Total Well Hydrocarbon Concentrations collected at the well manifold because manual air dilution valve is closed

I:\SB-2004\Oakl-188-Borsuk\O&M\SVE System Table

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Table 3. SVE System Parameters - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID	Date	Well Vacuum (inches of H_2O)	Flow Rate (cfm)	*Hydrocarbon Vapor Concentration (ppmv)	Status (open/closed)
VES-1	12/13/01	--	--	36,000	open
	12/20/01	25	6.5	43,000	open
	12/27/01	48	12.4	41,000	open
	1/7/02	100	20.5	>10,000	open
	2/8/02	140	27.0	>10,000	open
	3/5/02	34	6.3	>10,000	open
	4/2/02	83	13.5	10070	open
	4/15/02	101	28.2	10070	open
	5/22/02	80	22.5	9980	open
	6/5/02	77	22.1	11110	open
	6/21/02	81	H2O	7810	open
	7/2/02	82	25	10400	open
	7/26/02	81	22.5	5210	open
	8/5/02	80	5.5	6020	open
	5/27/02	81	4.5	27000	open
	9/10/02	80	5.2	9180	open
	10/2/02	80	10.5	11070	open
VES-2	12/13/01	--	--	40,000	open
	12/20/01	25	6.0	42,500	open
	12/27/01	48	12.1	35,000	open
	1/7/02	100	21.5	>10,000	open
	2/8/02	140	25.1	>10,000	open
	3/5/02	34	7.6	>10,000	open
	4/2/02	83	13.2	--	open
	4/15/02	102	24.1	1347	open
	5/22/02	81	26.1	1888	open
	6/5/02	79	20.7	2090	open
	6/21/02	82	47	1820	open
	7/2/02	81	28.9	5210	open
	7/26/02	81	13.1	1515	open
	8/5/02	80	10.5	1925	open
	5/27/02	81	9.5	4710	open
	9/10/02	80	8.9	1850	open
	10/2/02	80	8.5	3370	open

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Table 3. SVE System Parameters - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID	Date	Well Vacuum (inches of H_2O)	Flow Rate (cfm)	*Hydrocarbon Vapor Concentration (ppmv)	Status (open/closed)
VES-3	12/13/01	--	--	38,000	open
	12/20/01	25	7.0	41,500	open
	12/27/01	48	12.0	61,000	open
	1/7/02	100	22.5	>10,000	open
	2/8/02	140	26.5	>10,000	open
	3/5/02	47	7.5	>10,000	open
	4/2/02	84	11.1	--	open
	4/15/02	102	24.8	4260	open
	5/22/02	85	16.5	7090	open
	6/5/02	85	14.7	5290	open
	6/21/02	80	25.5	3450	open
	7/2/02	82	32.2	4820	open
	7/26/02	81	9.3	3400	open
	8/5/02	80	4.5	3380	open
	5/27/02	81	6.7	7010	open
	9/10/02	80	7.1	3150	open
	10/2/02	80	4.0	2140	open
VES-4	12/13/01	--	--	35,000	open
	12/20/01	25	4.9	46,500	open
	12/27/01	48	12.2	53,000	open
	1/7/02	100	23.0	>10,000	open
	2/8/02	140	28.1	>10,000	open
	3/5/02	47	9.3	>10,000	open
	4/2/02	84	11.5	--	open
	4/15/02	102	22.5	5350	open
	5/22/02	80	21.7	570	open
	6/5/02	80	18	4490	open
	6/21/02	81	41.5	2580	open
	7/2/02	81	38	9690	open
	7/26/02	81	2.3	2230	open
	8/5/02	80	4.4	6160	open
	5/27/02	81	6.3	10460	open
	9/10/02	80	5.5	2410	open
	10/2/02	80	3.5	1777	open

Notes:

* = Hydrocarbon concentrations are measured using a Horiba MEXA-554 gas analyzer. Concentration readings above 10,000 ppmv are above the instrument calibration and are not reliable.

-- = Data not available or not collected

H2O = unable to get reading due to the presence of water

APPENDIX A

Groundwater Monitoring Field Data Sheets

CAMBRIA

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	10:35	very heavy sheen	21.40		25.05	
MW-2	10:25		22.03		25.40	
MW-3	10:10		21.17		23.90	
MW-4	10:20		21.85		24.50	
MW-5	10:15		21.50		28.34	
MW-6	10:30		21.55		28.00	

Project Name: Borsuk

Project Number: 540-0188

Measured By: A Hall

Date: 9-3-02

F:\TEMPLATE\FORMS\FIELD\GW-DEPTH.WPD

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WELL SAMPLING FORM

Project Name: Borsuk	Cambria Mgr: RAS	Well ID: MW-1
Project Number: 540-0488	Date: 9-3-02	Well Yield:
Site Address: 1432 Harrison St. Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 4" pvc
		Technician(s): SG
Initial Depth to Water: 21.40	Total Well Depth: 25.05	Water Column Height: 3.65
Volume/ft: 0.65	1 Casing Volume: 2.37	3 Casing Volumes: 7.11
Purging Device: 4" pvc bailer	Did Well Dewater?: no	Total Gallons Purged: 7
Start Purge Time: 12:25	Stop Purge Time: 12:39	Total Time: 14 mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
12:30	2.5	21.7	7.49	790	
12:35	5	21.8	7.44	924	
12:40	7	21.7	7.47	980	

Fe = **mg/L** **ORP =** **mV** **DO =** **mg/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-1	9-3-02	12:45	4voa	HCl		

CAMBRIA

WELL SAMPLING FORM

Project Name: Borsuk	Cambria Mgr: RAS	Well ID: MW-5
Project Number: 540-0188	Date: 9-3-02	Well Yield:
Site Address: 1432 Harrison St. Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 21.50	Total Well Depth: 28.34	Water Column Height: 6.84
Volume/ft: 0.16	1 Casing Volume: 1.09	3 Casing Volumes: 3.27
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 10:40	Stop Purge Time: 10:54	Total Time: 14mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
10:45	1	19.1	7.41	920	
10:50	2	20.0	7.28	739	
10:55	3	20.1	7.22	780	

Fe = **mg/L** **ORP =** **mV** **DO =** **mg/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	9-3-02	11:00	4voa	HCl		

CAMBRIA

WELL SAMPLING FORM

Project Name: Bassuck	Cambria Mgr: RAS	Well ID: MW-2
Project Number: 540-0188	Date: 9-3-02	Well Yield:
Site Address: 1432 Harrison St. Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 22.03	Total Well Depth: 25.40	Water Column Height: 3.37
Volume/ft: 0.16	1 Casing Volume: 0.53	3 Casing Volumes: 1.59
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 1.50
Start Purge Time: 11:55	Stop Purge Time: 12:09	Total Time: 14 mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
12:00	.75	20.1	7.14	309	
12:05	1.00	20.2	7.18	620	
12:10	1.75	20.4	7.15	659	

Fe = **mg/L** **ORP =** **mV** **DO =** **mg/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-2	9-3-02	12:15	4 voa	HCl		

CAMBRIA

WELL SAMPLING FORM

Project Name: Borsuk	Cambria Mgr: RAS	Well ID: MW-4
Project Number: 5402-0188	Date: 9-3-02	Well Yield:
Site Address: 1432 Harrison St. Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2 pvc
		Technician(s): SG
Initial Depth to Water: 21.85	Total Well Depth: 24.50	Water Column Height: 2.65
Volume/ft: 0.16	1 Casing Volume: 0.42	3 Casing Volumes: 1.27
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 1.50
Start Purge Time: 11:10	Stop Purge Time: 11:24	Total Time: 14 mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
11:15	.75	20.4	7.30	519	
11:20	1.00	20.5	7.24	570	
11:25	1.75	20.5	7.27	599	

Fe = **mg/L** **ORP =** **mV** **DO =** **mg/L**

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	9-3-02	11:30	4 VOA	HCl		

CAMBRIA

Supplemental Billing Form

Standard and State Fund Rates 2002

Add 3

Date: 9-3-02

Project Name: Borsuk

Employee Name Sanjiv Gill

Project #: 540-0188 Task 038

00003	Air Compressor	Day	35.00	
00060	Bailer (PVC)	Day	8.00	
00004	Bailer (products thickness)	Day	20.00	
00005	Bailer (Teflon)	Day	20.00	
00051	Generator	Day	50.00	
00023	Hand Auger Kit w/ core sampler/hammer	Day	30.00	
00049	Meter - Combustible Gas/O2 Level	Day	50.00	
00001	Meter - Dissolved Oxygen Meter	Day	40.00	
00008	Meter - Interface	Day	40.00	1
00002	Meter - pH, Conductivity, Temperature	Day	40.00	1
00052	Meter - Photo-Ionization Detector (PID)	Day	100.00	
00233	Meter - Flame-Ionization Detector (FID)	Day	150.00	
00037	Meter- Turbidity	Day	20.00	
00057	Meter - Vacuum/Pressure Gauges	Day	20.00	
00050	Meter - Vapor Flow Meter	Day	20.00	
00066	Meter - Water Level	Day	25.00	1
00058	Pump - DC Purging 2" (3 gpm to 40ft deep)	Day	15.00	
00040	Pump - Hand Purging, 2" (3 gpm to 40 ft deep)	Day	15.00	4
00044	Pump - Submersible 2" (6 gpm)	Day	50.00	
00045	Pump - Submersible 4" (40 gpm)	Day	60.00	
00011	Pump - Trash (150 gpm)	Day	55.00	
00235	Traffic Control - Cones	Each 25	6.00	1
00097	Traffic Control - Signs, Barricades (no flagmen or lightboards)	Day	30.00	
00241	Report Production (Standard, <1/2 in)	Each	25.00	
00242	Report Production (Oversized, >1/2 in)	Each	50.00	
00056	Bailers (Disposable) Polypropylene	Each	6.00	4
00020	Personal Protective Equipment: Level C (per person/day)	Unit	40.00	
00010	Personal Protective Equipment: Level D (per person /day)	Unit	0.00	
00236	Padlocks	Each	10.00	
00038	Soil Sampling Liners (Brass)	Each	6.00	
00234	Soil Sampling Liners (Stainless Steel)	Each	10.00	
00239	Tedlar Bags (1 Liter)	Each	10.00	
00025	Film	Photo	2.00	
00035	55-Gallon Drum	Each	40.00	
00014	Miscellaneous field supplies (gloves, water, rope, caution tape, etc.)	Unit	25.00	1
	Standard			
00061	Mileage	Mile	0.40	
00063	Truck (2WD Pick-up, van)	Day	55.00	
00236	Specialized vehicle (4WD)	Day	75.00	
00015	Per diem	Day	85.00	
	UST Fund			
00067	Mileage - Truck/Auto (2WD Pick-up, van) if miles/day under 120	Mile	0.50	10
00063	Truck (2WD Pick-up, van) if miles/day over 120	Day	80.00	
00061	Mileage - Spelalized vehicle (4WD) if miles/day under 125	Mile	0.60	
00236	Specialized vehicle (4WD) if miles/day over 125	Day	75.00	
00015	Per diem	Day	85.00	

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No

Report To: Ron Scheels Bill To: Cambria Env.

Company: Cambria Environmental Technology Inc.

6262 Hollis Street

Emeryville, CA 94608 E-mail:

Tele: 510-450-1983 Fax: 510-450-8295

Project #: 540-0188-038 Project Name: Borsuk

Project Location: 1432 Harrison St. Oakland, Ca

Sampler Signature: J. [illegible]

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other: confirm all MTBE hits with 8260	Other: Results in lowest possible detection
MW-1		9-3-02	12:45	4	VOA	X					X	X			X															X	X
MW-2		9-3-02	12:15	4	VOA	X					X	X			X															X	X
MW-4		9-3-02	11:30	4	VOA	X					X	X			X															X	X
MW-5		9-3-02	11:00	4	VOA	X					X	X			X															X	X

Relinquished By:	Date:	Time:	Received By:
[signature]	9-3-02	4:00	secure location
Relinquished By: [signature]	Date: 9/11	Time: 4:10	Received By: [signature] VOAs
Relinquished By:	Date:	Time:	Received By:

Remarks:

COPY

APPENDIX B

Analytical Results for Quarterly Groundwater Sampling

McCampbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188; Borsuk	Date Sampled: 09/03/02
6262 Hollis St.		Date Received: 09/11/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Reported: 09/18/02
	Client P.O.:	Date Completed: 09/18/02

September 18, 2002

Dear Ron:

Enclosed are:

1). the results of 4 analyzed samples from your **#540-0188; Borsuk project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188; Borsuk	Date Sampled: 09/03/02
6262 Hollis St.		Date Received: 09/11/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 09/15/02-09/17/02
	Client P.O.:	Date Analyzed: 09/15/02-09/17/02

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0209170

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	2,500,000,a	2,500,000	31,000	170,000	29,000	170,000	1E+04	115
002A	MW-2	W	21,000,a	ND<500	2400	2900	320	1400	100	96.2
003A	MW-4	W	31,000,a	ND<1000	9700	300	650	1100	200	98.1
004A	MW-5	W	60,a	ND	1.9	ND	ND	0.77	1	92.3
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
		S	NA	NA	NA	NA	NA	NA	1	mg/Kg

*water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, product/oil/non-aqueous liquid samples in mg/L, and TCLP extracts in ug/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0209170

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 3924 Spiked Sample ID: 0209162-002A

Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	ND	60	104	103	0.867	109	103	5.32	80	120
MTBE	ND	10	90.1	87.3	3.22	95.1	92.7	2.59	80	120
Benzene	ND	10	89.7	87.1	3.02	91.3	86.5	5.47	80	120
Toluene	ND	10	82.9	82.1	1.04	87.1	82.3	5.66	80	120
Ethylbenzene	ND	10	90.9	89.7	1.40	95.8	88.7	7.80	80	120
Xylenes	ND	30	84	87.3	3.89	93	84.3	9.77	80	120
%SS:	101	100	95.6	95.7	0.128	96.4	96.7	0.313	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

CETC

0209170

CHAIN OF CUSTODY RECORD

McCAMPBELL ANALYTICAL INC.
110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

TURN AROUND TIME: ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No

Report To: Ron Scheels Bill To: Cambria Env.

Company: Cambria Environmental Technology Inc.

6262 Hollis Street

Emeryville, CA 94608 E-mail:

Tele: 510-450-1983 Fax: 510-450-8295

Project #: 540-0188 Project Name: Borsuk

Project Location: 1432 Harrison St. Oakland, Ca

Sampler Signature: J. Rell

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other: confirm all MTBE hits with 8260	Other: Results in Lowest possible detection	Comments
MW-1		9-3-02	12:15	4	VOA	X					X	X			X															X	X	
MW-2		9-3-02	12:15	4	VOA	X					X	X			X															X	X	
MW-4		9-3-02	11:30	4	VOA	X					X	X			X															X	X	
MW-5		9-3-02	11:00	4	VOA	X					X	X			X															X	X	

ICE/t ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
PRESERVATION APPROPRIATE ✓
CONTAINERS
PRESERVED IN LAB

VOC | GC/MS | METALS | OTHER

Relinquished By:	Date:	Time:	Received By:
J. Rell	9-3-02	4:00	secure location
Relinquished By:	Date:	Time:	Received By:
	9/11	4:10	
Relinquished By:	Date:	Time:	Received By:

Remarks:

LOG BY SV

McCampbell Analytical Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0209170

Client:
Cambria Env. Technology
6262 Hollis St.
Emeryville, CA 94608

TEL: (510) 450-1983
FAX: (510) 450-8295
ProjectNo: #540-0188; Bors
PO:

11-Sep-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests						
					<>	8021B/8015					
0209170-001	MW-1	Water	9/3/02 12:45:00 PM		A	A					
0209170-002	MW-2	Water	9/3/02 12:15:00 PM			A					
0209170-003	MW-4	Water	9/3/02 11:30:00 AM			A					
0209170-004	MW-5	Water	9/3/02 11:00:00 AM			A					

Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

APPENDIX C

Analytical Results for SVE System Operation

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188-44	Date Sampled: 07/02/02
6262 Hollis St.		Date Received: 07/03/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Reported: 07/10/02
	Client P.O.:	Date Completed: 07/10/02

July 10, 2002

Dear Ron:

Enclosed are:

1). the results of 2 samples from your **#540-0188-44 project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188-44	Date Sampled: 07/02/02
6262 Hollis St.		Date Received: 07/03/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 07/03/02-07/04/02
	Client P.O.:	Date Analyzed: 07/03/02-07/04/02

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0207065

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	3000,a	ND<70	34	62	ND<10	24	50	—#
002A	EFF	A	ND	ND	0.16	0.25	ND	0.25	0.5	108

% ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	15	1.5	0.15	0.15	0.15	0.25	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

*water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, and TCLP extracts in ug/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A WorkOrder: 0207065

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 2783 Spiked Sample ID: 0207061-002A

Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	uL/L	uL/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	ND	60	109	102	5.93	97.3	92.4	5.19	80	120
MTBE	ND	10	102	95.9	6.31	107	114	6.63	80	120
Benzene	ND	10	111	107	3.61	111	105	5.55	80	120
Toluene	ND	10	114	110	3.43	112	110	1.79	80	120
Ethylbenzene	ND	10	116	110	5.07	114	107	5.89	80	120
Xylenes	ND	30	117	113	2.90	113	107	6.06	80	120
%SS:	102	100	102	99.3	2.83	104	97.3	7.05	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or their RPDs near 0% if: a) the sample is inhomogeneous AND contains significant concentrations of analyze relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

McCampbell Analytical Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0207065

Client:

Cambria Env. Technology
6262 Hollis St.
Emeryville, CA 94608

TEL: (510) 450-1983
FAX: (510) 450-8295
ProjectNo: #540-0188-44
PO:

03-Jul-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests 8021B/8015
0207065-001	INF	Air	7/2/02 3:30:00 PM		A
0207065-002	EFF	Air	7/2/02 3:30:00 PM		A

Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NOV 05

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (925) 798-1620 Fax: (925) 798-1622

Report To: Ron Scheele Bill To: SAME
Company: Cambria Environmental Technology
6262 Hollis Street
Emeryville, CA 94608
Tele: (510) 450-1983 Fax: (510) 450-8295
Project #: 540-0188-44 Project Name: BORSUK
Project Location: 1432 HARRISON ST OAKLAND CA
Sampler Signature:

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: BTEX & TPH as Gas (8021/8015) / 8015 MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	HVOCs ONLY (EPA 502 /8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
INF	Oakland	7/2/02	3:30	1	Bag			X							X																
EFF	↓	7/2/02	3:30	1	Bag			X							X																

VOAS O&G METALS OTHER
PRESERVATION APPROPRIATE CONTAINERS
HEADSPACE ABSENT
CL2 CORRECT

Relinquished By:	Date:	Time:	Received By:
	7/2/02	5pm	Laurel Locator
Relinquished By:	Date:	Time:	Received By:
	7/3/02	10am	
Relinquished By:	Date:	Time:	Received By:
	7/3/02	1415	

Remarks:
REPORT IN ppmv; 10 ppmv limit
20 ml injection volume
PLEASE FAX RESULTS

McCampbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188-44; Borsuk	Date Sampled: 08/05/02
6262 Hollis St.		Date Received: 08/06/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Reported: 08/13/02
	Client P.O.:	Date Completed: 08/13/02

August 13, 2002

Dear Ron:

Enclosed are:

1). the results of 2 samples from your **#540-0188-44; Borsuk project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188-44; Borsuk	Date Sampled: 08/05/02
6262 Hollis St.		Date Received: 08/06/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 08/07/02
	Client P.O.:	Date Analyzed: 08/07/02

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0208087

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	1900,a	ND<25	15	35	3.0	47	20	---#
002A	EFF	A	ND	ND	ND	ND	ND	ND	1	97.8

% ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	10	1.5	0.15	0.15	0.15	0.25	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

*vapor samples are reported in uL/L, water samples in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, and TCLP extracts in ug/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A WorkOrder: 0208087

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 3333 Spiked Sample ID: N/A

Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	uL/L	uL/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	N/A	60	N/A	N/A	N/A	100	110	9.26	80	120
MTBE	N/A	10	N/A	N/A	N/A	99.1	113	13.5	80	120
Benzene	N/A	10	N/A	N/A	N/A	99.2	114	13.9	80	120
Toluene	N/A	10	N/A	N/A	N/A	113	119	5.13	80	120
Ethylbenzene	N/A	10	N/A	N/A	N/A	105	117	11.0	80	120
Xylenes	N/A	30	N/A	N/A	N/A	107	117	8.96	80	120
%SS:	N/A	100	N/A	N/A	N/A	103	108	4.95	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

0208087

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (925) 798-1620 Fax: (925) 798-1622

Report To: Ron Scheele Bill To: SAME

Company: Cambria Environmental Technology
6262 Hollis Street
Emeryville, CA 94608

Tele: (510) 450-1983 Fax: (510) 450-8295

Project #: 540-0188-44 Project Name: BORSUK

Project Location: 1432 HARRISON ST OAKLAND CA

Sampler Signature:

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (8021/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 608 / 8080	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
INF	Oakland	8/5/02	2pm	1	Bag			X							X												
EFF	↓	8/5/02	2pm	1	Bag			X							X												

Other: VOAS O&G METALS OTHER

ICE/t° NO
APPROPRIATE CONTAINERS
HEAD SPACE ABSENT
PRESERVATION APPROPRIATE

Relinquished By:	Date:	Time:	Received By:
	8/5/02	9am	Secured Location
Relinquished By:	Date:	Time:	Received By:
	8/6/02	1255	
Relinquished By:	Date:	Time:	Received By:
	8/6/02	1650	

Remarks:
REPORT IN ppmv; 10 ppmv limit
20 ml injection volume
PLEASE FAX RESULTS

McCampbell Analytical Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0208087

Client:
Cambria Env. Technology
6262 Hollis St.
Emeryville, CA 94608

TEL: (510) 450-1983
FAX: (510) 450-8295
ProjectNo: #540-0188-44; B
PO:

06-Aug-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests						
					8021B/8015						
0208087-001	INF	Air	8/5/02 2:00:00 PM		A						
0208087-002	EFF	Air	8/5/02 2:00:00 PM		A						

Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

McCampbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188-44; Borsuk	Date Sampled: 09/10/02
6262 Hollis St.		Date Received: 09/11/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Reported: 09/16/02
	Client P.O.:	Date Completed: 09/16/02

September 16, 2002

Dear Ron:

Enclosed are:

1). the results of **2** analyzed samples from your **#540-0188-44; Borsuk project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188-44; Borsuk	Date Sampled: 09/10/02
6262 Hollis St.		Date Received: 09/11/02
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 09/11/02-09/12/02
	Client P.O.:	Date Analyzed: 09/11/02-09/12/02

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0209154

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	1800,a	ND<25	16	18	ND<5.0	35	20	--#
002A	EFF	A	ND	ND	ND	ND	ND	ND	1	109

ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	10	1.5	0.15	0.15	0.15	0.25	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

*vapor samples are reported in uL/L, water samples in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, and TCLP extracts in ug/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCampbell Analytical Inc.
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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A WorkOrder: 0209154

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 3919 Spiked Sample ID: 0209150-002A

Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	uL/L	uL/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	ND	60	109	108	0.405	115	112	2.96	80	120
MTBE	7.241	10	88.9	96.3	4.48	96.1	97.1	1.07	80	120
Benzene	ND	10	95.5	99.5	4.10	99.4	97.5	1.94	80	120
Toluene	ND	10	91.9	94.8	3.14	93.7	93.1	0.569	80	120
Ethylbenzene	ND	10	97	99.5	2.55	101	97.8	3.13	80	120
Xylenes	ND	30	93	93.3	0.358	96.7	93	3.87	80	120
%SS:	98.3	100	96.3	98.5	2.29	102	98.8	2.91	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

McCampbell Analytical Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0209154

Client:

Cambria Env. Technology
6262 Hollis St.
Emeryville, CA 94608

TEL: (510) 450-1983
FAX: (510) 450-8295
ProjectNo: #540-0188-44; B
PO:

11-Sep-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests						
					V8021B/8015C						
0209154-001	INF	Air	9/10/02 11:00:00 AM		A						
0209154-002	EFF	Air	9/10/02 11:00:00 AM		A						

Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

0209154

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Ron Scheele Bill To: SAME

Company: Cambria Environmental Technology
6262 Hollis Street
Emeryville, CA 94608

Tele: (510) 450-1983 Fax: (510) 450-8295

Project #: 540-0188-44 Project Name: BORSUK

Project Location: 1432 HARRISON ST OAKLAND CA

Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	Analysis Request: BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
INF	Oakland	9/10/02	11am	1	Bag			X							X																
EFF	↓	9/10/02	11am	1	Bag			X							X																

ICE/T
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB

VOAs | O&G | METALS | OTHER
PRESERVATION APPROPRIATE
CONTAINERS PRESERVED IN LAB

Relinquished By:	Date:	Time:	Received By:
	9/10/02	6pm	Samuel Location
	09/11	1025	
	09/11	1340	Melissa Keller

Remarks:
REPORT IN ppmv; 10 ppmv limit
20 ml injection volume
PLEASE FAX RESULTS

APPENDIX D

Well Survey Report

Virgil Chavez Land Surveying
312 Georgia Street, Suite 225
Vallejo, California 94590-5907
(707) 553-2476 • Fax (707) 553-8698

September 11, 2002
Project No.: 2111-34

Matt Meyers
Cambria Environmental
6262 Hollis Street
Emeryville, CA 94608

Subject: Monitoring Well Survey
1432 Harrison Street
Oakland, CA

Dear Matt:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on August 27, 2002. The benchmark for this survey was a cut square at mid-return of the southwest corner of 15th & Harrison. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83). Benchmark Elevation = 34.99 feet (NGVD 29).

Latitude	Longitude	Northing	Easting	Elev.	Desc.
				35.96	RIM MW-1
37.8033936	-122.2671803	2119815.99	6051139.28	34.96	TOC MW-1
				35.37	RIM MW-2
37.8035141	-122.2671705	2119859.82	6051142.93	35.21	TOC MW-2
				34.77	RIM MW-3
37.8030501	-122.2660914	2119685.01	6051451.46	34.01	TOC MW-3
				34.15	RIM MW-4
37.8040122	-122.2668380	2120039.32	6051242.41	33.75	TOC MW-4
				35.06	RIM MW-5
37.8039498	-122.2672194	2120018.69	6051131.80	34.63	TOC MW-5
				36.21	RIM MW-6
37.8031609	-122.2673888	2119732.42	6051077.44	35.89	TOC MW-6

Sincerely,

Virgil D. Chavez, PLS 6323

APPENDIX E

Electronic Delivery Confirmation

AB2886 Electronic Delivery

Main Menu | View/Add Facilities | Upload EDD | Check EDD

UPLOADING A GEO_XY FILE

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Title:	**Borsuk, XY Survey Data**
Submittal Date/Time:	**9/16/2002 10:27:43 AM**
Confirmation Number:	**7766250431**

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(AUTH_RP)

CONTACT SITE ADMINISTRATOR.

AB2886 Electronic Delivery

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UPLOADING A GEO_Z FILE

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Title:	**Borsuk, Elevation Survey Data**
Submittal Date/Time:	**9/16/2002 10:44:32 AM**
Confirmation Number:	**5954487442**

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Logged in as CAMBRIA-EM (AUTH_RP) CONTACT SITE ADMINISTRATOR.

AB2886 Electronic Delivery

Main Menu | View/Add Facilities | Upload EDD | Check EDD

Your EDF file has been succcessfully uploaded!

Confirmation Number: 8832020282
Date/Time of Submittal: 11/23/2002 3:10:18 PM
Facility Global ID: T0600100682
Facility Name: A BACHARACH TR & B BORSUK
Submittal Title: 3rd Qtr 2002, Groundwater Analytical Data
Submittal Type: GW Monitoring Report

Logged in as CAMBRIA-EM (AUTH_RP) CONTACT SITE ADMINISTRATOR.

AB2886 Electronic Delivery

Main Menu | View/Add Facilities | Upload EDD | Check EDD

UPLOADING A GEO_WELL FILE

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Title:	**Borsuk 3rd Qtr 2002 Groundwater Elevation Data**
Submittal Date/Time:	**11/23/2002 3:13:50 PM**
Confirmation Number:	**3976948380**

Back to Main Menu

Logged in as CAMBRIA-EM (AUTH_RP) CONTACT SITE ADMINISTRATOR.