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1626 Vallejo Street
San Francisco, CA 94123-5116

August 14, 2003

Mr. Don Hwang
Hazardous Materials Specialist
ACHCSA
1131 Harbor Bay Parkway
Alameda, CA 94501
(510) 567-6700 / FAX 337-9335
tpeacock@co.alameda.ca.us

SUBJECT: IIQ03 Monitoring/SVE System Progress Report
1432 Harrison Street, Oakland, CA 94612
SITE ID 498

Dear Mr. Hwang:

Attached is the IIQ03 Groundwater Monitoring/SVE Systems Progress Report for the above site. If you have a question, please contact me.

Sincerely yours,

Mark Borsuk

CAMBRIA

August 11, 2003

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

Re: **Groundwater Monitoring and System Progress Report**
Second Quarter 2003
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 – Second Quarter 2003*. Presented in the report are the second quarter 2003 activities and results and the anticipated third quarter 2003 activities. Attached is an additional copy for submittal to the Alameda County Health Care Service Agency (ACHCSA).

If you have any questions or comments regarding this report, please call me at (510) 420-3327.

Sincerely,
Cambria Environmental Technology, Inc.

Ron Scheele, R.G.
Senior Geologist

Attachments: Groundwater Monitoring and System Progress Report, Second Quarter 2003

Cambria Environmental Technology, Inc.

5900 Hollis Street
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Emeryville, CA 94608
Tel (510) 420-0700
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GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

SECOND QUARTER 2003

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

August 11, 2003

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

Gretchen M. Hellmann
Project Engineer

Ron Scheele, R.G.
Senior Geologist

CAMBRIA

GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

SECOND QUARTER 2003

1432 Harrison Street
Oakland, California
Cambria Project #540-0188-052

August 11, 2003

INTRODUCTION

On behalf of Mr. Mark Borsuk, Cambria Environmental Technology, Inc. (Cambria) has prepared this *Groundwater Monitoring and System Progress Report – Second Quarter 2003* for the above-referenced site (see Figure 1). Presented in this report are the second quarter 2003 groundwater monitoring and remediation activities and the anticipated third quarter 2003 activities.

SECOND QUARTER 2003 ACTIVITIES AND RESULTS

Monitoring Activities

Field Activities: On June 12, 2003, Cambria conducted quarterly monitoring activities. Cambria gauged and inspected for separate-phase hydrocarbons (SPH) in all monitoring wells. Groundwater samples were collected from wells MW-2, MW-4, and MW-5. Wells MW-3 and MW-6 are sampled on an annual basis, typically during the first quarter sampling event. Well MW-1 contained SPH and therefore, was not sampled. Groundwater monitoring field data sheets are presented as Appendix A. The groundwater monitoring data has been submitted to the Geotracker database. See Appendix D for the Geotracker electronic delivery confirmation.

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 MTBE by EPA Method 8021B by McCampbell Analytical, Inc. of Pacheco, California. The laboratory analytical report is included as Appendix B. Hydrocarbon concentrations are shown on Figure 1 and Table 1. The analytical data has been submitted to the Geotracker database. See Appendix D for the Geotracker electronic delivery confirmation.

Monitoring Results

Groundwater Flow Direction: Based on depth-to-water measurements collected during Cambria's June 12, 2003 site visit, groundwater generally flows beneath the site toward the northeast at a gradient of 0.025 feet/foot (Figure 1). The groundwater gradient is consistent with previous quarters. Depth to water and groundwater elevation data is presented in Table 1.

Hydrocarbon Distribution in Groundwater: During the second quarter event, SPH were measured at a thickness of 0.07 feet in well MW-1. The accumulation of SPH may be related to the close proximity of the well to the former USTs.

Hydrocarbon concentrations were detected in three of wells sampled this quarter. The maximum TPHg and benzene concentrations were detected in well MW-2 at 10,000 micrograms per liter (µg/L) and 2,100 µg/L respectively. MTBE was not detected in any of the wells. Hydrocarbon concentrations decreased in wells MW-4 and MW-5 and increased in well MW-2 relative to previous quarter. The drop in hydrocarbon concentrations in well MW-4 appears to correlate with a seasonal drop in the groundwater table that typically occurs during the second quarter. The rise in hydrocarbon concentrations in well MW-2 also appears to correlate with a seasonal drop in groundwater table. The close proximity of the well to the former USTs suggests that a larger mass of hydrocarbons may be present in the soil near the bottom of the smear zone.

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-horsepower positive-displacement blower, an oil-less air sparge blower, and an auto dialer connected to a phone line to provide remote notification of system status. 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.

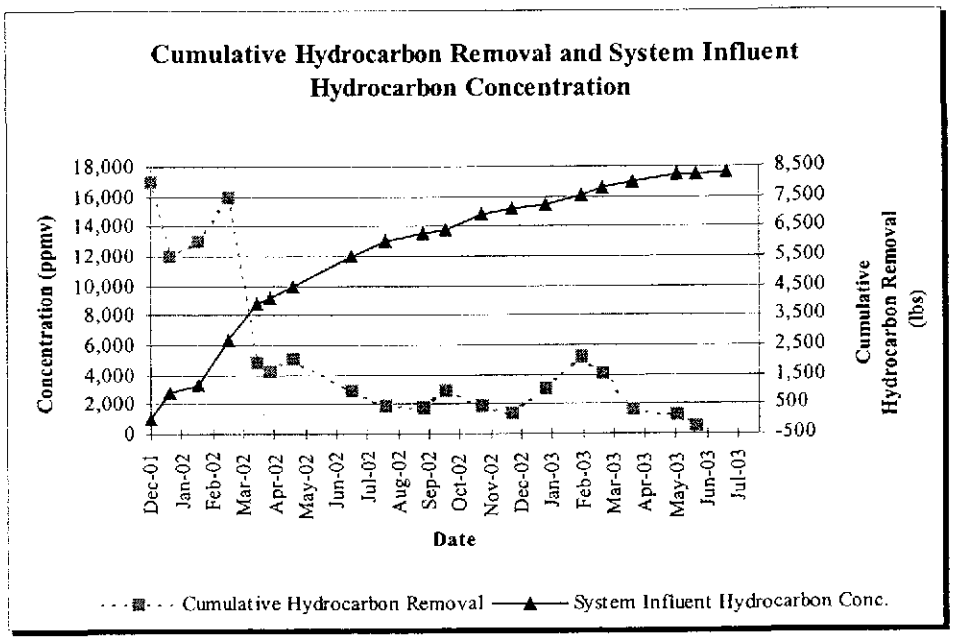
SVE/AS System Operation and Maintenance Activities: During the second quarter, Cambria performed system operation and maintenance (O&M) on the SVE/AS system approximately three times per month. Individual well flow, vacuum, and hydrocarbon concentration measurements were collected from all SVE wells and from the catalytic oxidizer/blower (see Tables 2 and 3). The individual well air sparge flow and pressure measurements were also collected. Air sparge flow gauges were cleaned and the filters on the AS blower were replaced. 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 District (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 April 3, May 15, and June 2, 2003. Vapor sample results indicated that the catalytic oxidizer was achieving proper destruction efficiency and was operating within BAAQMD air permit requirements. Table 2 summarizes SVE system operations and analytical results. The analytical laboratory reports from system vapor sampling are included as Attachment C.

On May 2, 2003, one drum of purge water was removed from the site by Dillard Environmental services of Byron, California for non-hazardous disposal. See Appendix E for the non-hazardous waste manifest.

SVE System Performance: The SVE system operated continuously throughout the second quarter. On March 17,2003, a system optimization event was performed to maximize hydrocarbon removal. The test resulted in an increase in system vacuum to increase the area affected and hydrocarbon removal rates. However, during the quarter influent vapor concentrations decreased from 1,600 to 526 parts per million volume (ppmv) and influent vapor flow rates decreased from 9.5 to 4.4 standard cubic feet per minute (see Table 2). Hydrocarbon removal rates also decreased from approximately 4.9 to 0.75 pounds per day. The drop in hydrocarbon removal is possibly due to lower air sparge flow



rates and less hydrocarbon mass in the subsurface. As of July 2, 2003, approximately 8,295 pounds of hydrocarbons had extracted and destroyed by soil vapor extraction activities (see graph above and Table 2).

AS System Performance: AS system operated throughout the second quarter except for a two week period from April 28 to May 15, 2003 due to system maintenance. The AS system was adjusted to cycle each AS well between 15 and 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. Air pressures ranged from 2 to 10 pounds per square inch (psi) and injection flow rates ranged from 0.5 to 4 cubic feet per minute (cfm). On May 27, 2003, the air flow rates in wells AS-2, AS-3, and AS-4 were decreased slightly from 1 cfm to minimize the potential for SPH accumulation in well MW-1.

ANTICIPATED THIRD QUARTER 2003 ACTIVITIES

Groundwater Sampling: Cambria will gauge all wells, check wells for SPH, and collect groundwater samples from all wells not containing SPH. As per the annual sampling schedule, wells MW-3 and MW-6 won't be sampled again until during the first quarter 2004. Groundwater samples will be analyzed for TPHg by Modified EPA Method 8015 and BTEX and MTBE by EPA Method 8021B. MTBE detected in samples from wells MW-1, MW-2, MW-4, and MW-5 will be analyzed by EPA Method 8260. Groundwater monitoring and sampling results will be submitted to the State's Geotracker Database. Cambria will summarize groundwater monitoring activities and results in the *Groundwater Monitoring and System Progress Report - Third Quarter 2003.*

Remediation System: Cambria will continue to perform operation and maintenance of the SVE/AS system approximately two to three times per month during the third quarter of 2003. 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 hydrocarbon meter measurements from the individual wells. Cambria will evaluate the performance of the remediation system and include the results with the *Groundwater Monitoring and System Progress Report - Third Quarter 2003.*

System Modification: To address the SPH in well MW-1, Cambria proposes the connection of well MW-1 to the remediation system for SVE. New underground remediation piping will be installed from the remediation system to well MW-1. If well MW-1 does not allow for sufficient vapor flow

(screed from 16 to 20 feet below grade surface), a new SVE well will be installed in the same oversized well box. Hydrogen vapor concentrations and flow from well MW-1 will be monitored to determine whether a new SVE well is necessary.

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 Groundwater Sampling
Appendix C - Analytical Results for SVE System Operation
Appendix D – Geotracker Electronic Delivery Confirmations
Appendix E – Non-Hazardous Waste Manifest

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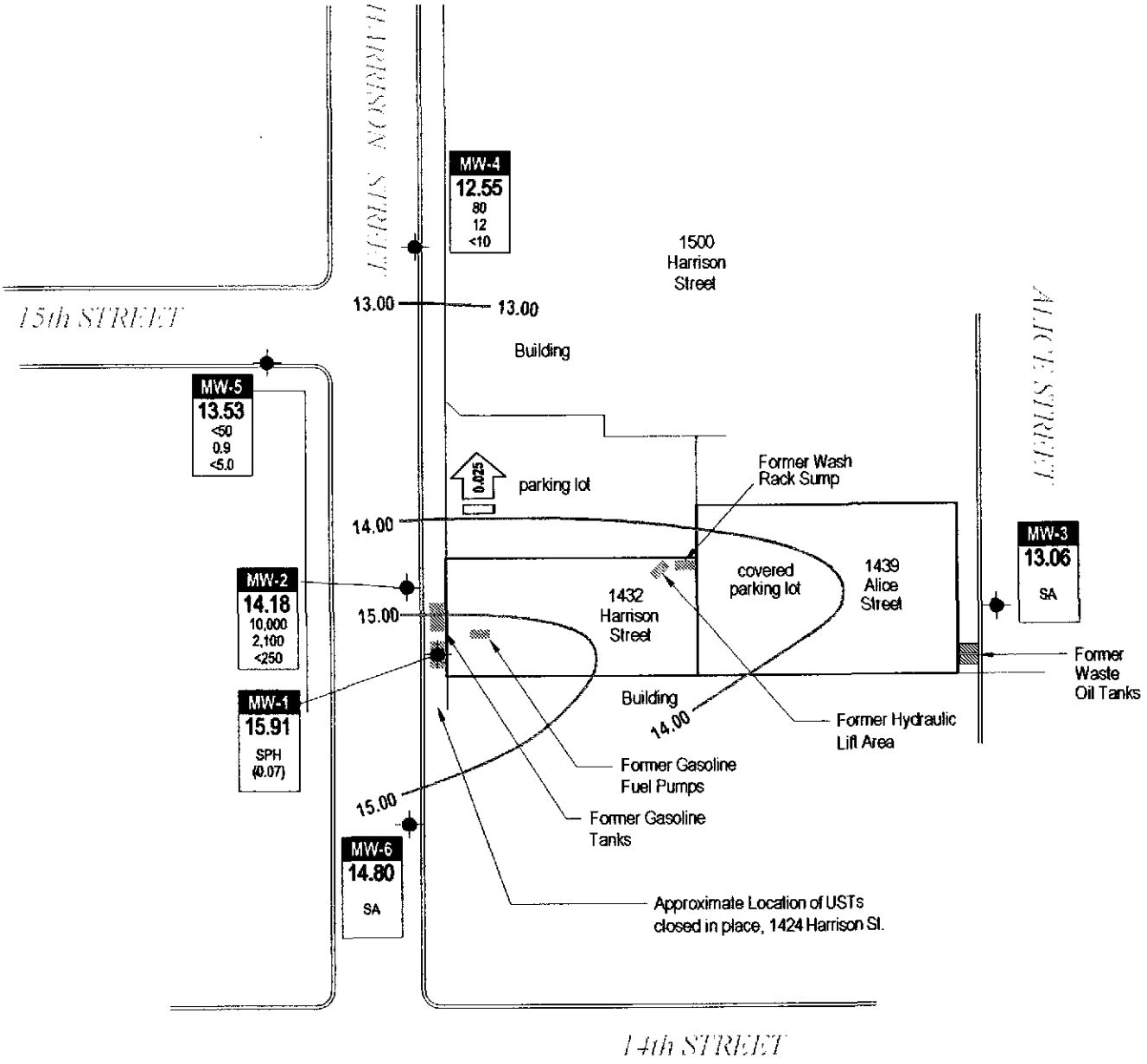

EXPLANATION

- Groundwater monitoring well
- 14.00 — Groundwater elevation contour, in feet above mean sea level (msl)
- 0.004 — Groundwater flow direction and gradient
- SPH — Well contained separate phase hydrocarbons; not sampled
- Well ID / ELEV / TPHg / Benzene / MTBE — Well designation; Groundwater elevation, in feet above mean sea level (msl); Hydrocarbons in groundwater, in micrograms per liter (µg/L)
- SA — Sampled Annually

N

0 50 100

Scale (ft)

FIGURE

1

H:\SS-SOS\CREEK\FIGURES\SOS1SQ99.DWG

1432 Harrison Street

Oakland, California

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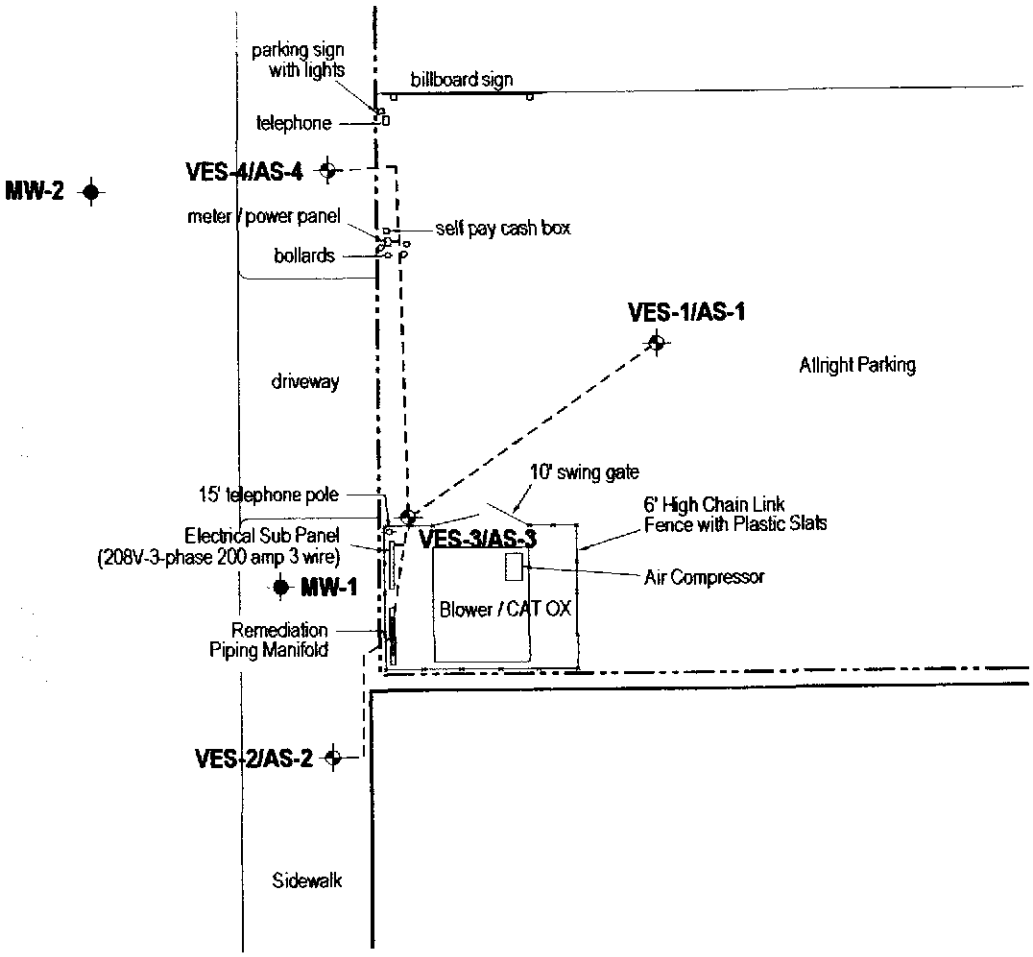
Groundwater Elevation and Analytical Summary

June 12, 2003



EXPLANATION

- VES-1/AS-1 — Vapor Extraction / Air Sparging Coaxial Well Location
- MW-1 — Monitoring Well Location
- Underground Remediation Piping

N

0 10 20

Scale (ft)

FIGURE

2

H:\BB-2004\BORSUK\FIGURES\SYSTEM.DWG

Borsuk Properties

1432 Harrison Street

Oakland, California

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Soil Vapor Extraction/ Air Sparge System (As Built)

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Table 1. Groundwater Elevations and Analytical Data - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID	Date	Depth to Groundwater	SPH Thickness	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
TOC (feet)		(feet)	(feet)	(feet)	←		(µg/L)			→	
MW-1	8/1/1994	--	--	--	170,000	35,000	51,000	2,400	13,000	--	--
34.95	12/21/1994	19.53	--	15.42	180,000	41,000	64,000	3,100	100,000	--	--
	3/13/1995	18.66	--	16.29	150,000	31,000	45,000	2,500	17,000	--	--
	6/27/1995	18.20	--	16.75	71,000	17,000	18,000	1,600	7,700	--	--
	7/7/1995	18.35	--	16.60	71,000	17,000	18,000	1,600	7,700	--	--
	9/28/1995	18.20	--	16.75	110,000	27,000	34,000	1,700	14,000	--	--
	12/20/1995	19.96	--	14.99	120,000	33,000	43,000	2,300	15,000	--	--
	3/26/1996	19.27	--	15.68	140,000	29,000	36,000	1,900	13,000	<200*	d
	6/20/1996	18.64	--	16.31	110,000	30,000	38,000	2,200	13,000	<200*	--
	9/26/1996	19.35	--	15.60	170,000	28,000	40,000	2,200	15,000	ND**	--
	10/28/1996	19.58	--	15.37	--	--	--	--	--	--	--
	12/12/1996	19.68	--	15.27	110,000	36,000	47,000	2,500	16,000	ND*	--
	3/31/1997	18.80	--	16.15	160,000	24,000	39,000	1,900	13,000	ND*	--
	6/27/1997	19.26	--	15.69	130,000	25,000	36,000	2,000	14,000	ND*	--
	9/9/1997	19.70	--	15.25	99,000	22,000	27,000	1,600	13,000	270*	--
	12/18/1997	19.25	--	15.70	160,000	30,000	44,000	2,200	15,000	ND***	--
	3/12/1998	17.52	--	17.43	190,000	20,000	49,000	2,500	18,000	ND***	--
	6/22/1998	18.63	--	16.32	90,000	19,000	40,000	2,100	16,000	--	--
	9/18/1998	18.60	--	16.35	190,000	29,000	48,000	2,400	17,000	--	--
	12/23/1998	19.18	--	15.77	140,000	24,000	44,000	2,000	8,200	--	--
	3/29/1999	18.52	--	16.43	181,000	22,200	40,100	1,844	12,200	--	--
	6/23/1999	18.60	--	16.35	80,000	20,000	33,000	1,600	11,000	--	--
	9/24/1999	19.05	--	15.90	117,000	15,100	20,700	1,550	11,800	--	--
	12/23/1999	19.95	--	15.00	186,000	25,900	39,000	1,990	12,400	--	--
	3/21/2000	18.48	--	16.47	210,000	35,000	42,000	2,200	13,000	<3,000	a
	7/3/2000	18.95	--	16.00	200,000	33,000	46,000	2,200	15,000	<200*	a
	9/7/2000	19.45	Sheen	15.50	--	--	--	--	--	--	--
	12/5/2000	19.90	--	15.05	220,000	42,000	57,000	2,700	17,000	<200	a
	3/6/2001	18.20	--	16.75	180,000	27,000	39,000	2,000	13,000	<1200 (<20)	a,l
	6/8/2001	20.14	--	14.81	170,000	28,000	40,000	1,900	13,000	<200	a
	8/27/2001	21.19	--	13.76	130,000	24,000	33,000	1,600	11,000	<350	a
	10/25/2001	21.74	--	13.21	160,000	22,000	28,000	1,500	10,000	<350	a
	3/1/2002	21.39	0.41	13.85	--	--	--	--	--	--	--
	6/10/2002	22.30	--	12.65	210,000	30,000	51,000	3,100	22,000	<1,000*	a
34.96	9/3/2002	21.40	--	13.56	2,500,000	31,000	170,000	29,000	170,000	2,500,000	a
	12/22/2002	20.50	--	14.46	89,000	2,600	9,300	530	28,000	<1,700	a,m
	1/23/2003	18.57	--	16.39	130,000	600	1,600	<100	41,000	<50***	a,b,l
	6/12/2003	**19.10**	**0.07**	**15.91**	--	--	--	--	--	--	--

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Table 1. Groundwater Elevations and Analytical Data - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID *TOC (feet)*	Date	Depth to Groundwater (feet)	SPH Thickness (feet)	Groundwater Elevation (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					← (µg/L) →						
MW-2	8/1/1994	--	--	--	130,000	28,000	35,000	3,000	12,000	--	--
35.18	12/21/1994	19.91	--	15.27	200	140,000	200,000	3,500	22,000	--	--
	3/13/1995	19.15	--	16.03	500	9,200	23,000	7,000	36,000	--	--
	6/27/1995	18.74	--	16.44	120,000	23,000	30,000	2,700	13,000	--	--
	7/7/1995	18.80	--	16.38	120,000	23,000	30,000	2,700	13,000	--	--
	9/28/1995	19.30	--	15.88	110,000	23,000	29,000	2,500	11,000	--	--
	12/20/1995	20.24	--	14.94	83,000	980	1,800	2,200	10,000	--	--
	3/26/1996	19.69	--	15.49	150,000	23,000	32,000	2,800	12,000	<200*	d
	6/20/1996	19.20	--	15.98	94,000	15,000	23,000	2,400	12,000	<200*	--
	9/26/1996	19.80	--	15.38	150,000	20,000	29,000	2,800	12,000	ND**	--
	10/28/1996	20.18	--	15.00	--	--	--	--	--	--	--
	12/12/1996	20.17	--	15.01	58,000	3,100	11,000	1,700	8,100	220*	--
	3/31/1997	19.67	--	15.51	38,000	6,000	7,900	690	3,300	ND*	--
	6/27/1997	19.68	--	15.50	62,000	13,000	16,000	1,300	6,000	ND*	--
	9/9/1997	20.20	--	14.98	81,000	16,000	18,000	1,800	8,600	ND***	--
	12/18/1997	19.80	--	15.38	110,000	18,000	26,000	2,200	9,500	ND***	--
	3/12/1998	18.07	--	17.11	120,000	16,000	26,000	2,200	9,400	ND***	--
	6/22/1998	18.29	--	16.89	38,000	9,800	9,500	1,500	6,000	--	--
	9/18/1998	19.09	--	16.09	68,000	12,000	16,000	1,400	5,900	--	--
	12/23/1998	19.67	--	15.51	180,000	16,000	22,000	2,200	8,300	--	--
	3/29/1999	18.97	--	16.21	16,600	1,380	1,920	373	1,840	--	--
	6/23/1999	18.25	--	16.93	41,000	10,000	9,400	1,100	5,000	--	--
	9/24/1999	19.60	--	15.58	40,600	4,880	3,490	1,090	4,560	--	--
	12/23/1999	20.21	--	14.97	61,900	6,710	9,320	1,150	5,360	--	--
	3/21/2000	18.93	--	16.25	98,000	14,000	21,000	1,600	6,900	<1600	a
	7/3/2000	19.38	--	15.80	140,000	18,000	33,000	2,600	11,000	<200*	a
	9/7/2000	19.83	--	15.35	110,000	17,000	21,000	2,200	9,700	<100***	a,l
	12/5/2000	20.30	--	14.88	130,000	19,000	28,000	2,500	11,000	<200	a
	3/6/2001	19.57	--	15.61	32,000	3,400	3,400	580	2,500	<200	a
	6/8/2001	20.59	--	14.59	72,000	9,400	9,200	1,300	5,800	<200	a
	8/27/2001	21.79	--	13.39	110,000	17,000	28,000	2,600	11,000	<950	a
	10/25/2001	22.05	--	13.13	110,000	15,000	18,000	2,000	8,700	<350	a
	3/1/2002	21.80	--	13.38	3,100	370	180	62	330	<5.0*	a
	6/10/2002	22.83	--	12.35	7,800	2,000	1,100	76	570	<100*	a
35.21	9/3/2002	22.03	--	13.18	21,000	2,400	2,900	320	1,400	<500	a
	12/22/2002	22.70	--	12.51	630	48	56	19	82	<5.0	a
	1/23/2003	20.49	--	14.72	1,100	27	32	19	150	<25	a
	6/12/2003	**21.03**	--	**14.18**	**10,000**	**2,100**	**1,600**	**150**	**660**	**<250**	**a**

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Table 1. Groundwater Elevations and Analytical Data - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID *TOC (feet)*	Date	Depth to Groundwater (feet)	SPH Thickness (feet)	Groundwater Elevation (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-3	8/1/1994	--	--	--	<50	<0.5	<0.5	<0.5	<2.0	--	--
33.97	12/21/1994	18.82	--	15.15	<50	<0.5	<0.5	<0.5	<0.5	--	e
(annual sampling)	3/13/1995	17.86	--	16.11	<50	<0.5	<0.5	<0.5	<0.5	--	f,g
	7/7/1995	18.25	--	15.72	--	--	--	--	--	--	h
	9/28/1995	18.00	--	15.97	--	--	--	--	--	--	--
	12/20/1995	18.74	--	15.23	--	--	--	--	--	--	--
	3/26/1996	18.25	--	15.72	--	--	--	--	--	--	--
	6/20/1996	18.35	--	15.62	--	--	--	--	--	--	--
	9/26/1996	19.12	--	14.85	--	--	--	--	--	--	--
	10/28/1996	19.11	--	14.86	--	--	--	--	--	--	--
	12/12/1996	18.61	--	15.36	--	--	--	--	--	--	--
	3/31/1997	18.35	--	15.62	--	--	--	--	--	--	--
	6/27/1997	18.81	--	15.16	--	--	--	--	--	--	--
	9/9/1997	19.18	--	14.79	--	--	--	--	--	--	--
	12/18/1997	18.64	--	15.33	--	--	--	--	--	--	--
	3/12/1998	17.56	--	16.41	--	--	--	--	--	--	--
	6/22/1998	18.64	--	15.33	--	--	--	--	--	--	--
	9/18/1998	18.33	--	15.64	--	--	--	--	--	--	--
	12/23/1998	18.60	--	15.37	--	--	--	--	--	--	--
	3/29/1999	17.85	--	16.12	--	--	--	--	--	--	--
	6/23/1999	18.67	--	15.30	--	--	--	--	--	--	--
	9/24/1999	18.64	--	15.33	--	--	--	--	--	--	--
	12/23/1999	19.32	--	14.65	--	--	--	--	--	--	--
	3/21/2000	17.89	--	16.08	--	--	--	--	--	--	--
	7/3/2000	18.40	--	15.57	--	--	--	--	--	--	--
	9/7/2000	18.75	--	15.22	--	--	--	--	--	--	--
	12/5/2000	19.03	--	14.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/2001	18.12	--	15.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/2001	20.02	--	13.95	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	8/27/2001	21.09	--	12.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	10/25/2001	21.29	--	12.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/1/2002	21.14	--	12.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	6/10/2002	21.99	--	11.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
34.01	9/3/2002	21.17	--	12.84	--	--	--	--	--	--	--
	12/22/2002	21.94	--	12.07	--	--	--	--	--	--	--
	1/23/2003	20.08	--	13.93	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/12/2003	**20.95**	--	**13.06**	--	--	--	--	--	--	--

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Table 1. Groundwater Elevations and Analytical Data - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID *TOC (feet)*	Date	Depth to Groundwater (feet)	SPH Thickness (feet)	Groundwater Elevation (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-4	10/28/1996	19.32	--	14.43	10,000	3,900	420	400	360	<200*	n
33.75	12/12/1996	19.42	--	14.33	11,000	4,200	410	420	260	32*	--
	3/31/1997	18.67	--	15.08	ND	ND	ND	ND	ND	ND*	--
	6/27/1997	19.08	--	14.67	160	49	1.2	ND	5.9	ND*	--
	9/9/1997	19.33	--	14.42	7,400	5,000	410	230	470	33*	--
	12/18/1997	19.17	--	14.58	710	170	8.0	ND	39	ND***	--
	3/12/1998	17.68	--	16.07	1,300	410	21	ND	57	ND***	--
	6/22/1998	17.63	--	16.12	ND	ND	ND	ND	ND	--	--
	9/18/1998	18.58	--	15.17	ND	42	1.6	ND	4.8	--	--
	12/23/1998	19.01	--	14.74	1,900	1,000	76	50	120	--	--
	3/29/1999	18.35	--	15.40	ND	ND	ND	ND	ND	--	--
	6/23/1999	17.58	--	16.17	ND	ND	ND	ND	ND	--	--
	9/24/1999	19.05	--	14.70	9,150	3,270	131	34	537	--	--
	12/23/1999	19.41	--	14.34	12,200	5,360	275	424	592	--	--
	3/21/2000	18.42	--	15.33	45,000	16,000	1,100	1,400	1,900	1400* (<35)***	a,l
	7/3/2000	18.82	--	14.93	33,000	10,000	720	840	1,800	<200*	a
	9/7/2000	19.21	--	14.54	26,000	8,800	800	740	1,500	<50***	a,c,l
	12/5/2000	19.60	--	14.15	41,000	11,000	840	930	1,900	<200	a
	3/6/2001	18.24	--	15.51	1,100	400	5.7	<0.5	20	<5.0	a
	6/8/2001	20.91	--	12.84	92	19	<0.5	<0.5	1	<5.0	a
	8/27/2001	21.63	--	12.12	49,000	17,000	1700	1,700	3,200	<260	a
	10/25/2001	21.70	--	12.05	57,000	16,000	1,500	1,600	2,600	<300	a
	3/1/2002	21.53	--	12.22	400	140	2.3	<0.5	12	<5.0*	a
	6/10/2002	22.23	--	11.52	<50	2.5	<0.5	<0.5	<0.5	<5.0*	--
	9/3/2002	21.85	--	11.90	31,000	9,700	300	650	1,100	<1,000	a
	12/22/2002	22.39	--	11.36	35,000	13,000	310	1,100	1,800	<1,500	a
	1/23/2003	20.61	--	13.14	51,000	18,000	430	1,500	2,200	<5.0***	a,l
	6/12/2003	**21.20**	--	**12.55**	**80**	**12**	**<0.5**	**<0.5**	**1.0**	**<10**	**a**

Table 1. Groundwater Elevations and Analytical Data - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID *TOC (feet)*	Date	Depth to Groundwater (feet)	SPH Thickness (feet)	Groundwater Elevation (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-5	10/28/1996	19.88	--	14.75	90	4.0	0.6	<0.50	<0.50	16*	n
34.63	12/12/1996	20.09	--	14.54	230	5.6	0.9	ND	0.9	3.6*	--
	3/31/1997	19.24	--	15.39	90	3.1	ND	ND	ND	ND*	--
	6/27/1997	19.16	--	15.47	ND	ND	ND	ND	ND	ND*	--
	9/9/1997	19.93	--	14.70	ND	ND	ND	ND	ND	ND*	--
	12/18/1997	19.77	--	14.86	ND	ND	ND	ND	ND	ND***	--
	3/12/1998	19.77	--	14.86	79	2.3	ND	0.8	ND	ND*	--
	6/22/1998	18.08	--	16.55	ND	ND	ND	ND	ND	--	--
	9/18/1998	19.12	--	15.51	ND	ND	ND	ND	ND	--	--
	12/23/1998	19.60	--	15.03	ND	0.8	0.9	ND	ND	--	--
	3/29/1999	18.88	--	15.75	ND	ND	ND	ND	ND	--	--
	6/23/1999	18.05	--	16.58	ND	ND	ND	ND	ND	--	--
	9/24/1999	19.61	--	15.02	ND	ND	ND	ND	ND	--	--
	12/23/1999	20.01	--	14.62	ND	ND	ND	ND	ND	--	--
	3/21/2000	19.05	--	15.58	140	<0.5	<0.5	<0.5	<0.5	<5.0	k
	7/3/2000	19.40	--	15.23	85	8.1	3.1	1.6	7.8	<5.0*	a
	9/7/2000	19.62	--	15.01	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/5/2000	20.25	--	14.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/2001	19.07	--	15.56	91	5.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/2001	20.77	--	13.86	290	22.0	0.8	<0.5	<0.5	<5.0	a
	8/27/2001	21.33	--	13.30	660	24.0	2.2	1.3	4.0	<25	a
	10/25/2001	21.62	--	13.01	55	3.5	<0.5	<0.5	<0.5	<5.0	a
	3/1/2002	21.49	--	13.14	200	1.9	0.69	<0.5	<0.5	<5.0*	a
	6/10/2002	22.15	--	12.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	9/3/2002	21.50	--	13.13	60	1.9	<0.5	<0.5	0.77	<5.0	a
	12/22/2002	22.19	--	12.44	82	0.57	<0.5	0.68	<0.5	<5.0	a
	1/23/2003	20.27	--	14.36	<50	2.1	<0.5	<0.5	<0.5	<5.0	--
	6/12/2003	**21.10**	**--**	**13.53**	**<50**	**0.88**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	--

Table 1. Groundwater Elevations and Analytical Data - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID *TOC (feet)*	Date	Depth to Groundwater (feet)	SPH Thickness (feet)	Groundwater Elevation (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					← (µg/L) →						
MW-6	10/28/1996	20.02	--	15.87	<50	<0.50	<0.50	<0.50	<0.50	<2.0*	n
35.89	12/12/1996	20.18	--	15.71	ND	ND	ND	ND	ND	ND*	--
(annual sampling)	3/31/1997	19.81	--	16.08	--	--	--	--	--	--	--
	6/27/1997	19.76	--	16.13	--	--	--	--	--	--	--
	9/9/1997	20.06	--	15.83	ND	ND	ND	ND	ND	ND*	--
	12/18/1997	19.90	--	15.99	ND	ND	ND	ND	ND	--	--
	3/12/1998	18.00	--	17.89	ND	ND	ND	ND	ND	ND*	--
	6/22/1998	18.43	--	17.46	ND	ND	ND	ND	ND	--	--
	9/18/1998	19.10	--	16.79	ND	ND	ND	ND	ND	--	--
	12/23/1998	19.61	--	16.28	ND	ND	ND	ND	ND	--	--
	3/29/1999	18.92	--	16.97	ND	ND	ND	ND	ND	--	--
	6/23/1999	18.41	--	17.48	ND	ND	ND	ND	ND	--	--
	9/24/1999	19.61	--	16.28	ND	ND	ND	ND	ND	--	--
	12/23/1999	20.30	--	15.59	ND	ND	ND	ND	ND	--	--
	3/21/2000	18.97	--	16.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	7/3/2000	19.46	--	16.43	59	5.1	2.3	1.1	5.3	<5.0*	a
	9/7/2000	19.95	--	15.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/5/2000	20.50	--	15.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/2001	19.54	--	16.35	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/2001	20.92	--	14.97	<50	<0.5	<0.5	<0.5	<0.5	<5.1	--
	8/27/2001	21.37	--	14.52	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	10/25/2001	21.59	--	14.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/1/2002	21.33	--	14.56	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	6/10/2002	21.97	--	13.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	9/3/2002	21.55	--	14.34	--	--	--	--	--	--	--
	12/22/2002	22.25	--	13.64	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	1/23/2003	20.47	--	15.42	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/12/2003	**21.09**	--	**14.80**	--	--	--	--	--	--	--
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	--

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Table 1. Groundwater Elevations and Analytical Data - Borsuk Site, 1432 Harrison Street, Oakland, California

Well ID	Date	Depth to Groundwater	SPH Thickness	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
TOC (feet)		(feet)	(feet)	(feet)	←		(µg/L)			→	

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 hydrocarbons 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 greater than ~2 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 Street, Oakland, California

Date	Hour Meter Readings (hrs)	System Uptime (%)	System Vacuum ("H2O)	Total Well Flow Rate (prior to dilution) (scfm)	Total Well HC Conc. (ppmv) TPHg	System Inlet Temp. (degrees F)	System Flow Rate (after dilution) (scfm)	System Influent HC Conc. [1] (ppmv) TPHg	Effluent HC Conc. [1] (ppmv) TPHg	Effluent HC Conc. [1] (ppmv) Benz	HC Removal Rate [2] (lbs/day) TPHg	Emission Rate [2] (lbs/day) TPHg	Emission Rate [2] (lbs/day) Benz	TPHg Destruction Efficiency [3] (%)	Gasoline Cumulative Removal [4] (lbs)
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%	136	18.3	4,200	709	*	*	28	<0.15	24.67	0.16	<0.001	99.3	4086
5/6/2002	2655.2	80%	77	10.1	5,100	735	*	*	14	<0.15	16.58	0.05	<0.000	99.7	4499
6/5/2002	3373.2	100%	80	15.1	3,800	652	*	*	14	<0.15	18.41	0.07	<0.001	99.6	4995
7/2/2002	4024.9	101%	80	16.3	3,000	672	*	*	<15	0.16	15.70	<0.078	<0.001	99.5	5495
8/5/2002	4838.8	100%	80	11.6	1,900	667	*	*	<10	<0.15	7.10	<0.037	<0.001	--[3]	6027
9/10/2002	5700.9	100%	80	10.5	1,800	609	*	*	<10	<0.15	6.08	<0.034	<0.000	--[3]	6282
10/2/2002	6229.7	100%	81	14.0	2,900	801	*	*	<10	<0.15	13.04	<0.045	<0.001	--[3]	6416
11/6/2002	7073.8	100%	82	12.1	1,900	848	*	*	<10	<0.15	7.40	<0.039	<0.001	--[3]	6875
12/5/2002	7771.5	100%	90	8.4	1,400	840	*	*	<10	<0.15	3.78	<0.027	<0.000	--[3]	7090
1/8/2003	8580.5	99%	91	9.5	3,100	813	*	*	<10	<0.15	9.42	<0.030	<0.000	--[3]	7217

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

Date	Hour Meter Readings (hrs)	System Uptime (%)	System Vacuum ("H2O)	Total Well Flow Rate (prior to dilution) (scfm)	Total Well HC Conc. (ppmv) TPHg	System Inlet Temp. (degrees F)	System Flow Rate (after dilution) (scfm)	System Influent HC Conc. [1] (ppmv) TPHg	Effluent HC Conc. [1] (ppmv) TPHg	Effluent HC Conc. [1] (ppmv) Benz	HC Removal Rate [2] (lbs/day) TPHg	Emission Rate [2] (lbs/day) TPHg	Emission Rate [2] (lbs/day) Benz	TPHg Destruction Efficiency [3] (%)	Gasoline Cumulative Removal [4] (lbs)
2/12/2003	9424.0	100%	93	7.6	5,200	801	*	*	<10	<0.15	12.61	<0.024	<0.000	--[3]	7548
3/4/2003	9902.8	100%	90	5.5	4,100	798	*	*	<10	<0.15	7.27	<0.018	<0.000	--[3]	7800
4/3/2003	10623.3	100%	115	9.5	1,600	802	*	*	<10	<0.15	4.86	<0.030	<0.000	--[3]	8018
5/15/2003	11629.8	100%	119	6.7	1,300	840	*	*	<10	<0.15	2.80	<0.022	<0.000	--[3]	8222
6/2/2003	12061.5	100%	116	4.4	526	805	*	*	<10	<0.15	0.75	<0.014	<0.000	--[3]	8272
7/2/2003	12779.5	100%	120	9.0	--	--	*	*	--	--	--	--	--	--	8295

Notes and Abbreviations:

TPHg = Total petroleum hydrocarbons as gasoline

Benz = Benzene

HC = Hydrocarbon vapor concentrations measured as TPHg and/or benzene

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/386x10^{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.

* = Flow Rate and Hydrocarbon Concentrations are now measured from the well manifold because there is no longer any dilution air affecting the calculation of the hydrocarbon removal rate.

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

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	12/13/2001	--	--	36,000	open
	12/20/2001	25	6.5	43,000	open
	12/27/2001	48	12.4	41,000	open
	1/7/2002	100	20.5	>10,000	open
	2/8/2002	140	27.0	>10,000	open
	3/5/2002	34	6.3	>10,000	open
	4/2/2002	83	13.5	10070	open
	4/15/2002	101	28.2	10070	open
	5/22/2002	80	22.5	9980	open
	5/27/2002	81	4.5	27000	open
	6/5/2002	77	22.1	11110	open
	6/21/2002	81	H2O	7810	open
	7/2/2002	82	25	10400	open
	7/26/2002	81	22.5	5210	open
	8/5/2002	80	5.5	6020	open
	9/10/2002	80	5.2	9180	open
	10/2/2002	80	10.5	11070	open
	11/6/2002	82	9.0	4850	open
	12/5/2002	90	8.5	4000	open
	1/8/2003	92	5.1	2340	open
	1/24/2003	95	4.0	2350	open
	3/4/2003	90	3.6	1750	open
	3/17/2003	93	7.5	1360	open
	4/3/2003	115	4.0	720	open
	4/14/2003	116	--	1180	open
	5/7/2003	117	3.5	660	open
	5/15/2003	119	6.0	1950	open
	5/27/2003	117	4.1	1600	open
	6/13/2003	118	3.9	1525	open
	6/23/2003	118	--	--	open
VES-2	12/13/2001	--	--	40,000	open
	12/20/2001	25	6.0	42,500	open
	12/27/2001	48	12.1	35,000	open
	1/7/2002	100	21.5	>10,000	open
	2/8/2002	140	25.1	>10,000	open
	3/5/2002	34	7.6	>10,000	open
	4/2/2002	83	13.2	--	open
	4/15/2002	102	24.1	1347	open
	5/22/2002	81	26.1	1888	open
	5/27/2002	81	9.5	4710	open
	6/5/2002	79	20.7	2090	open
	6/21/2002	82	47	1820	open
	7/2/2002	81	28.9	5210	open
	7/26/2002	81	13.1	1515	open
-->VES-2	8/5/2002	80	10.5	1925	open
	9/10/2002	80	8.9	1850	open

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)
	10/2/2002	80	8.5	3370	open
	11/6/2002	82	9.0	2180	open
	12/5/2002	90	--	1870	open
	1/8/2003	92	--	6210	open
	1/24/2003	95	4	9630	open
	3/4/2003	90	2.5	5790	open
	3/17/2003	93	--	2020	open
	4/3/2003	115	--	3230	open
	4/14/2003	116	--	2980	open
	5/7/2003	117	9.0	700	open
	5/15/2003	119	8.0	475	open
	5/27/2003	117	5.3	515	open
	6/13/2003	118	4.1	525	open
	6/23/2003	118	--	--	open
VES-3	12/13/2001	--	--	38,000	open
	12/20/2001	25	7.0	41,500	open
	12/27/2001	48	12.0	61,000	open
	1/7/2002	100	22.5	>10,000	open
	2/8/2002	140	26.5	>10,000	open
	3/5/2002	47	7.5	>10,000	open
	4/2/2002	84	11.1	--	open
	4/15/2002	102	24.8	4260	open
	5/22/2002	85	16.5	7090	open
	5/27/2002	81	6.7	7010	open
	6/5/2002	85	14.7	5290	open
	6/21/2002	80	25.5	3450	open
	7/2/2002	82	32.2	4820	open
	7/26/2002	81	9.3	3400	open
	8/5/2002	80	4.5	3380	open
	9/10/2002	80	7.1	3150	open
	10/2/2002	80	4.0	2140	open
	11/6/2002	82	5.5	1215	open
	12/5/2002	90	4.5	1015	open
	1/8/2003	92	5.5	3840	open
	1/24/2003	95	3.0	6040	open
	3/4/2003	90	3.5	3430	open
	3/17/2003	93	1.3	1980	open
	4/3/2003	115	3.5	1900	open
	4/14/2003	116	--	1950	open
	5/7/2003	117	1.5	1320	open
	5/15/2003	119	2.6	1530	open
	5/27/2003	117	1.6	1250	open
	6/13/2003	118	1.5	1000	open
	6/23/2003	118	--	--	open

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-4	12/13/2001	--	--	35,000	open
	12/20/2001	25	4.9	46,500	open
	12/27/2001	48	12.2	53,000	open
	1/7/2002	100	23.0	>10,000	open
	2/8/2002	140	28.1	>10,000	open
	3/5/2002	47	9.3	>10,000	open
	4/2/2002	84	11.5	--	open
	4/15/2002	102	22.5	5350	open
	5/22/2002	80	21.7	570	open
	5/27/2002	81	6.3	10460	open
	6/5/2002	80	18	4490	open
	6/21/2002	81	41.5	2580	open
	7/2/2002	81	38	9690	open
	7/26/2002	81	2.3	2230	open
	8/5/2002	80	4.4	6160	open
	9/10/2002	80	5.5	2410	open
	10/2/2002	80	3.5	1777	open
	11/6/2002	82	4.5	920	open
	12/5/2002	90	7.0	420	open
	1/8/2003	92	4.0	1805	open
	1/24/2003	95	5.0	2720	open
	3/4/2003	90	4.0	1390	open
	3/17/2003	93	1.0	1300	open
	4/3/2003	115	2.3	1090	open
	4/14/2003	116	--	1050	open
	5/7/2003	117	1.8	610	open
	5/15/2003	119	2.7	2100	open
	5/27/2003	117	2.0	1850	open
	6/13/2003	118	2.0	1800	open
	6/23/2003	118	–	–	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

CAMBRIA

APPENDIX A

Groundwater Monitoring Field Data Sheets

CAMBRIA

Groundwater Monitoring Field Sheet

Well ID	Time	DTP	DTW	Product Thickness	Amount of Product Removed	Casing Diam.	Comment
MW-1	12:25	19.03	19.10				
MW-2	12:20		21.03				
MW-3	12:00		20.95				
MW-4	12:10		21.20				
MW-5	12:05		21.10				
MW-6	12:15		21.09				

Project Name: Borsuk

Project Number/Task: 540-0188/052

Measured By: S. Hill

Date: 6-12-03

CAMBRIA

WELL SAMPLING FORM

Project Name: Borsuk	Cambria Mgr: GH	Well ID: MW-2
Project Number: 540-0188	Date: 6-12-03	Well Yield:
Site Address: 1432 Harrison St. Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2 ☐ pvc
		Technician(s): SG
Initial Depth to Water: 21.03	Total Well Depth: 25.40	Water Column Height: 4.37
Volume/ft: 0.16	1 Casing Volume: 0.69	3 Casing Volumes: 2.09
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 2
Start Purge Time: 14:05	Stop Purge Time: 14:19	Total Time: 14 mins

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
14:10	1	19.0	7.13	945	
14:15	1.5	19.4	7.22	939	
14:20	2	19.2	7.20	970	

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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-2	6-12-03	14:25	3 VOA	HCl	TPHg BTEX MTBE	8015/8020 8260

CAMBRIA

WELL SAMPLING FORM

Project Name: Borsuk	Cambria Mgr: GH	Well ID: MW-4
Project Number: 540-0138	Date: 6-12-03	Well Yield:
Site Address: 1432 Harrison St. Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2 ☐ pvc
		Technician(s): SG
Initial Depth to Water: 21.20	Total Well Depth: 24.50	Water Column Height: 3.30
Volume/ft: 0.16	1 Casing Volume: 0.52	3 Casing Volumes: 1.58
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 1.5
Start Purge Time: 12:50	Stop Purge Time: 13.09	Total Time: 14mins

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
12:55	.75	18.9	7.12	3999	
13:05	1.00	19.1	7.29	3999	
13:10	1.5	19.3	7.24	3999	

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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	6-12-03	13:15	3 VOA	HCl	TPHg BTEX MTBE	8015/8020 8260

CAMBRIA

WELL SAMPLING FORM

Project Name: Borsuk	Cambria Mgr: GH	Well ID: MW-5
Project Number: 540-0188	Date: 6/12/03	Well Yield:
Site Address: 1432 Harrison St. Oakland, Ca	Sampling Method: disposable bailer	Well Diameter: 2" pvc Technician(s): SG
Initial Depth to Water: 21.10	Total Well Depth: 28.34	Water Column Height: 7.24
Volume/ft: 0.16	1 Casing Volume: 1.15	3 Casing Volumes: 3.47
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3.5
Start Purge Time: 13:30	Stop Purge Time: 13:44	Total Time: 14 mins

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
13:35	1.5	19.2	7.40	1029	
13:40	2.5	19.1	7.20	1145	
13:45	3.5	19.1	7.18	1170	

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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	6-12-03	13:50	3 VOA	HCl	TPHg BTEX MTBE	8015/8020 8260

CAMBRIA

APPENDIX B

Analytical Results for 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: #540-0188-052; Borsuk	Date Sampled: 06/12/03
5900 Hollis St, Suite A		Date Received: 06/23/03
Emeryville, CA 94608	Client Contact: Gretchen Hellmann	Date Reported: 06/27/03
	Client P.O.:	Date Completed: 06/27/03

WorkOrder: 0306478

June 27, 2003

Dear Gretchen:

Enclosed are:

1). the results of **3** analyzed samples from your **#540-0188-052; 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: #540-0188-052; Borsuk	Date Sampled: 06/12/03
5900 Hollis St, Suite A		Date Received: 06/23/03
Emeryville, CA 94608	Client Contact: Gretchen Hellmann	Date Extracted: 06/23/03-06/24/03
	Client P.O.:	Date Analyzed: 06/23/03-06/24/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0306478

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-2	W	10,000,a	ND<250	2100	1600	150	660	50	104
002A	MW-4	W	80,a	ND<10	12	ND	ND	1.0	1	105
003A	MW-5	W	ND	ND	0.88	ND	ND	ND	1	102
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 µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 / mineral spirit?); 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

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0306478

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 7478 Spiked Sample ID: 0306470-009A

	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(btex)£	ND	60	97.5	97.6	0.0861	110	113	2.52	70	130
MTBE	ND	10	99.3	101	1.40	106	98	7.51	70	130
Benzene	ND	10	94.6	95.5	0.974	101	105	4.63	70	130
Toluene	ND	10	95.2	96.3	1.16	93.3	99	5.99	70	130
Ethylbenzene	ND	10	98.3	99.4	1.10	101	107	5.63	70	130
Xylenes	ND	30	100	100	0	95.7	100	4.43	70	130
%SS:	103	100	101	103	2.26	94.4	102	7.73	70	130

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.

% 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.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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.

McCampbell Analytical Inc.
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http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0306478

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 7483 Spiked Sample ID: 0306480-004A

	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(btex)£	99.08	60	132, F1	118	4.83	111	109	1.53	70	130
MTBE	860.8	10	NR	NR	NR	112	116	2.83	70	130
Benzene	44.22	10	NR	NR	NR	104	107	3.00	70	130
Toluene	0.6622	10	114	103	9.80	97.1	99.9	2.84	70	130
Ethylbenzene	ND	10	104	104	0	104	105	1.30	70	130
Xylenes	0.88	30	93.1	96.4	3.41	96	100	4.08	70	130
%SS:	113	100	124	115	7.33	98.8	101	2.32	70	130

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

NONE

F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.

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

% 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.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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.

0306478

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: Gretchen Hellman Bill To: Cambria Env. Tech

Company: Cambria Environmental Technology Inc.

5900 Hollis Street

Emeryville, CA 94608 E-mail:

Tele: 510-420-3305 Fax: ~~510-450-8295~~ 510-420-9170

Project #: 540-0188-052 Project Name: Borsuk

Project Location: 1432 Harrison St. Oakland, Ca

Sampler Signature: S. Hall

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	Analysis Request: BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	Analysis Request: TPH as Diesel (8015)	Analysis Request: Total Petroleum Oil & Grease (5520 E&F/B&F)	Analysis Request: Total Petroleum Hydrocarbons (418.1)	Analysis Request: EPA 601 / 8010	Analysis Request: BTEX ONLY (EPA 602 / 8020)	Analysis Request: EPA 608 / 8080	Analysis Request: EPA 608 / 8080 PCB's ONLY	Analysis Request: EPA 624 / 8240 / 8260	Analysis Request: EPA 625 / 8270	Analysis Request: PAH's / PNA's by EPA 625 / 8270 / 8310	Analysis Request: CAM-17 Metals	Analysis Request: LUFT 5 Metals	Analysis Request: Lead (7240/7421/239.2/6010)	Analysis Request: RCI	Other: Confirm all MTBE with 8260	Comments
+ MW-2		6-12-03	14:25	2	VOA	X					X	X			X														X	X
+ MW-4		6-12-03	13:15	2	VOA	X					X	X			X														X	X
+ MW-5		6-12-03	13:50	3	VOA	X					X	X			X														X	X

Relinquished By:	Date:	Time:	Received By:
S. Hall	6-12-03	4:30	secure location
S. Hall	6/23	1118	2364
2364	6/23	1640	V. Lopez 6-23-03 4:30

Remarks: watch hold time

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0306478

Client:
Cambria Env. Technology
5900 Hollis St, Suite A
Emeryville, CA 94608

TEL: (510) 420-0700
FAX: (510) 420-3394
ProjectNo: #540-0188-052; Borsuk
PO:

Date Received: 6/23/03
Date Printed: 6/23/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests						
					V8021B/8015C						
0306478-001	MW-2	Water	6/12/03 2:25:00 PM	☐	A						
0306478-002	MW-4	Water	6/12/03 1:15:00 PM	☐	A						
0306478-003	MW-5	Water	6/12/03 1:50:00 PM	☐	A						

Prepared by: Michelle Miller

Comments:

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.

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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 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #540-0188-55; BORSUK	Date Sampled: 04/03/03
		Date Received: 04/04/03
	Client Contact: Gretchen Hellmann	Date Reported: 04/09/03
	Client P.O.:	Date Completed: 04/09/03

WorkOrder: 0304078

April 09, 2003

Dear Gretchen:

Enclosed are:

1). the results of **2** analyzed samples from your **#540-0188-55; 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.
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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology	Client Project ID: #540-0188-55; BORSUK	Date Sampled: 04/03/03
5900 Hollis St, Suite A		Date Received: 04/04/03
Emeryville, CA 94608	Client Contact: Gretchen Hellmann	Date Extracted: 04/04/03-04/05/03
	Client P.O.:	Date Analyzed: 04/04/03-04/05/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0304078

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	1600,a	ND<20	6.7	13	ND<3.0	9.8	20	102
002A	EFF	A	ND	ND	ND	ND	ND	ND	1	88.7

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

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 / mineral spirit?); 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

Angela Rydelius, Lab Manager

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A WorkOrder: 0304078

EPA Method: SW8021B/8015Cm	Extraction: SW5030B	BatchID: 6439	Spiked Sample ID: 0304084-001B

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	106	112	5.68	102	103	0.864	80	120
MTBE	ND	10	88.1	100	12.8	97.6	98.6	0.950	80	120
Benzene	ND	10	103	109	5.31	92	92.7	0.768	80	120
Toluene	ND	10	101	105	4.01	92.8	93.9	1.16	80	120
Ethylbenzene	ND	10	101	98.8	2.13	92.8	93.2	0.425	80	120
Xylenes	ND	30	93.3	92.7	0.717	95.3	95.7	0.349	80	120
%SS:	102	100	92.8	99.8	7.26	99.7	100	0.638	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: 0304078

Client:
Cambria Env. Technology
5900 Hollis St, Suite A
Emeryville, CA 94608

TEL: (510) 450-1983
FAX: (510) 450-8295
ProjectNo: #540-0188-55; BORSUK
PO:

Date Received: **4/4/03**
Date Printed: **4/4/03**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests 8021B/8015
0304078-001	INF	Air	4/3/03 5:00:00 AM		A
0304078-002	EFF	Air	4/3/03 5:00:00 PM		A

Prepared by: Melissa Valles

Comments:

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.

CAE

03472

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:	Gretchen Hellmann	Bill To:	SAME
Company:	Cambria Environmental Technology, Inc.		
	5900 Hollis Street Suite A		
	Emeryville, CA 94608	E-mail:	ghellmann@cambria-env.com
Tele:	510 420-3305	Fax:	510 420-9170
Project #:	540-0188-55	Project Name:	BORSUK
Project Location:	1432 Harrison Street, Oakland, CA		
Sampler Signature:			

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	Comments
INF	System	4/3/03	5PM	1	Tb			X							X																
EFF	System	4/3/03	5PM	1	Tb			X							X																

VOAS | O&G | METALS | OTHER

PRESERVATION | LAB | PRESERVED IN LAB

Relinquished By:	Date:	Time:	Received By:
	4/3/03	6:30PM	Second Laxton
	4/4/03	0930	298
298	4/4/03	1635	

Remarks: Report in ppm(v); Reporting Limit is 10 ppm(v).

Use 20 mL injection volume.

Please email 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: #540-0188-55; Borsuk	Date Sampled: 05/15/03
5900 Hollis St, Suite A		Date Received: 05/16/03
Emeryville, CA 94608	Client Contact: Gretchen Hellmann	Date Reported: 05/22/03
	Client P.O.:	Date Completed: 05/22/03

WorkOrder: 0305267

May 22, 2003

Dear Gretchen:

Enclosed are:

1). the results of **2** analyzed samples from your **#540-0188-55; 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: #540-0188-55; Borsuk	Date Sampled: 05/15/03
5900 Hollis St, Suite A		Date Received: 05/16/03
Emeryville, CA 94608	Client Contact: Gretchen Hellmann	Date Extracted: 05/16/03
	Client P.O.:	Date Analyzed: 05/16/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0305267

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	1300,a	ND<15	4.7	ND<3.0	6.8	12	10	115
002A	EFF	A	ND	ND	ND	ND	ND	ND	1	99.9

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

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 / mineral spirit?); 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

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A WorkOrder: 0305267

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6935 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(btex)£	N/A	60	N/A	N/A	N/A	97.7	96.9	0.824	70	130
MTBE	N/A	10	N/A	N/A	N/A	91.9	94.1	2.42	70	130
Benzene	N/A	10	N/A	N/A	N/A	92.7	91.5	1.35	70	130
Toluene	N/A	10	N/A	N/A	N/A	96.4	95.9	0.598	70	130
Ethylbenzene	N/A	10	N/A	N/A	N/A	98.3	95.7	2.66	70	130
Xylenes	N/A	30	N/A	N/A	N/A	103	100	3.28	70	130
%SS:	N/A	100	N/A	N/A	N/A	98.1	97.6	0.599	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.

% 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.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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.

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0305267

Client:
Cambria Env. Technology
5900 Hollis St, Suite A
Emeryville, CA 94608

TEL: (510) 450-1983
FAX: (510) 450-8295
ProjectNo: #540-0188-55; Borsuk
PO:

Date Received: 5/16/03
Date Printed: 5/16/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests					
					M8021B/8015C					
0305267-001	INF	Air	5/15/03 4:30:00 PM	☐	A					
0305267-002	EFF	Air	5/15/03 4:00:00 PM	☐	A					

Prepared by: Melissa Valles

Comments:

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.

coke

0305267

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:	Gretchen Hellmann	Bill To:	SAME
Company:	Cambria Environmental Technology, Inc.		
	5900 Hollis Street Suite A		
	Emeryville, CA 94608	E-mail:	ghellmann@cambria-env.com
Tele:	510 420-3305	Fax:	510 420-9170
Project #:	540-0188-55	Project Name:	BORSUK
Project Location:	1432 Harrison Street, Oakland, CA		
Sampler Signature:			

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other
INF	System	5/15/03	4:30p	1	Tb			X						
EFF	System	5/15/03	4:00p	1	Tb			X						

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 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
INF	X														
EFF	X														

Other: TOAS | O&G | METALS | OTHER

Comments

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

Relinquished By:	Date:	Time:	Received By:
	5/16/03	5:30	Secured Location
	5/16/03	1120	298
298	5/16/03	1455	

Remarks: Report in ppm(v); Reporting Limit is 10 ppm(v).

Use 20 mL injection volume.

Please ~~FAX~~ email 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 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #540-0188-55; BORSUK	Date Sampled: 06/02/03
		Date Received: 06/03/03
	Client Contact: Gretchen Hellmann	Date Reported: 06/09/03
	Client P.O.:	Date Completed: 06/06/03

WorkOrder: 0306072

June 06, 2003

Dear Gretchen:

Enclosed are:

1). the results of **2** analyzed samples from your **#540-0188-55; 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: #540-0188-55; BORSUK	Date Sampled: 06/02/03
5900 Hollis St, Suite A		Date Received: 06/03/03
Emeryville, CA 94608	Client Contact: Gretchen Hellmann	Date Extracted: 06/03/03-06/04/03
	Client P.O.:	Date Analyzed: 06/03/03-06/04/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0306072

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	526,a	ND<1.7	2.8	5.74	ND<1.7	8.88	6.7	---#
002A	EFF	A	ND	ND	ND	ND	ND	ND	1	106

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

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 / mineral spirit?); 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

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A WorkOrder: 0306072

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 7174 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(btex)£	N/A	60	N/A	N/A	N/A	107	112	4.29	70	130
MTBE	N/A	10	N/A	N/A	N/A	108	105	2.09	70	130
Benzene	N/A	10	N/A	N/A	N/A	110	105	4.67	70	130
Toluene	N/A	10	N/A	N/A	N/A	100	98.3	2.09	70	130
Ethylbenzene	N/A	10	N/A	N/A	N/A	106	106	0	70	130
Xylenes	N/A	30	N/A	N/A	N/A	96.7	100	3.39	70	130
%SS:	N/A	100	N/A	N/A	N/A	104	99.5	4.31	70	130

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.

% 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.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0306072

Client:
Cambria Env. Technology
5900 Hollis St, Suite A
Emeryville, CA 94608

TEL: (510) 450-1983
FAX: (510) 450-8295
ProjectNo: #540-0188-55; BORSUK
PO:

Date Received: 6/3/03
Date Printed: 6/3/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests					
					M8021B/8015C					
0306072-001	INF	Air	6/2/03 5:30:00 PM	☐	A					
0306072-002	EFF	Air	6/2/03 5:30:00 PM	☐	A					

Prepared by: Melissa Valles

Comments:

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.

Coke

030601 2

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: Gretchen Hellmann Bill To: SAME

Company: Cambria Environmental Technology, Inc.

5900 Hollis Street Suite A

Emeryville, CA 94608 E-mail:ghellmann@cambria-env.com

Tele: 510 420-3305 Fax: 510 420-9170

Project #: 540-0188-55 Project Name: BORSUK

Project Location: 1432 Harrison Street, Oakland, CA

Sampler Signature:

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
INF	System	6/2/03	5:30p	1	Tb			X						
EFF	System	6/2/03	5:30p	1	Tb			X						

Analysis Request	Other	Comments
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		
X		
X		

Relinquished By:	Date:	Time:	Received By:
	6/4/03	6:30pm	Seemed together
Relinquished By:	Date:	Time:	Received By:
	06/03	10:20	888
Relinquished By: 888	Date:	Time:	Received By:
	06/03	1905	

Remarks: Report in ppm(v); Reporting Limit is 10 ppm(v).

Use 20 mL injection volume.

Please FAX results.

Email

CAMBRIA

APPENDIX D

Geotracker Electronic Delivery Confirmations

AB2886 Electronic Delivery

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

Your EDF file has been succcessfully uploaded!

Confirmation Number: 7171505451
Date/Time of Submittal: 7/24/2003 5:24:29 PM
Facility Global ID: T0600100682
Facility Name: A BACHARACH TR & B BORSUK
Submittal Title: 2nd Qtr 2003, Analytical Data - Borsuk
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:	**2nd Qtr 2003, GW Depth Data - Borsuk**
Submittal Date/Time:	**7/24/2003 5:25:42 PM**
Confirmation Number:	**9065383732**

Back to Main Menu

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

CAMBRIA

APPENDIX E

Non-Hazardous Waste Manifest

NON-HAZARDOUS WASTE MANIFEST

COPY

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. BOKSUK

Manifest Document No.

2. Page 1 of

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

5. Transporter 1 Company Name

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a.			025	
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

GENERATOR

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Matt Meyers | Signature | Date: Month 05 Day 02 Year 03

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: PAUL RANDALS | Signature | Date: Month 5 Day 2 Year 03

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: T. M. Om. | Signature | Date: Month Day Year