RO266

MARK BORSUK
Attorney at Law
(415) 922-4740 / FAX 922-1485
mark@borsuk.com / www.borsuk.com
1626 Vallejo Street
San Francisco, CA 94123-5116

RO 266

January 24, 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: SVE System Startup Report – 1/17/02
1432 Harrison Street, Oakland, CA 94612
SITE ID 498

Dear Mr. Peacock:

Attached is the SVE System Startup Report data for the above site. If you have a question, please contact me.

Sincerely yours,

Mark Borsuk

CAMBRIA

January 17, 2002

Mr. Mark Borsuk
1626 Vallejo Street
San Francisco, California 94123

Re: **SVE System Startup Report**
1432 Harrison Street
Oakland, California
Cambria Project # 540-0188

Dear Mr. Borsuk,

Please find attached three copies of Cambria's System Startup Report for your site located at 1432 Harrison Street in Oakland, California. The additional copies are for you to forward onto Alameda County Health Services Department and for future reimbursement from the UST Cleanup Fund.

If you have any questions, please feel free to call me at (510) 450-1983.

Sincerely,
Cambria Environmental Technology, Inc.

Ron Scheele, RG
Senior Geologist

Attachment

H:\Sb-2004 (UST Fund)\Oakl-188-Borsuk\Correspondence\SVE startup coverletter.doc

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

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

CAMBRIA

January 17, 2002

Mr. Robert Cave
Bay Area Air Quality Management District
PERMIT SERVICES DIVISION
939 Ellis Street
San Francisco, California 94109

Re: **System Startup Report**
Borsuk Property
1432 Harrison Street
Oakland, California
Cambria Project No. #540-0188

Dear Mr. Cave:

On behalf of Mr. Mark Borsuk, Cambria Environmental Technology, Inc. (Cambria) has prepared this *System Startup Report* for the remediation system located at the above referenced site. Described below are the system installation, equipment, startup, performance and proposed system reporting.

System Installation

On July 23, 1999, Cambria installed four new coaxial remediation wells (VES-1/AS-1, VES-2/AS-2, VES-3/AS-3, VES-4/AS-4). Each coaxial vapor extraction well and air sparge well are located within the same individual well box. Boring logs and well construction details are included in Attachment C.

In December 2001, Cambria supervised the installation of a soil vapor extraction (SVE) and air sparging (AS) system. Underground piping, well vaults, and a well manifold were installed by Accutite of South San Francisco, California. Cambria also supervised the installation of a power meter and electric panel. On December 13, Cambria installed an all-electric catalytic oxidizer /blower system with a oil-less air sparge blower provided by Mako Industries of Huntington Beach, California. This system was connected to a 3-phase, 208 volt AC, 200 ampere power source provided by PG&E.

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SYSTEM EQUIPMENT

The current remediation system consists of the following equipment:

- A trailer mounted all-electric catalytic oxidizer with a 10 hp positive displacement blower manufactured by Solleco Thermal Process Equipment of Whittier, California.
- An oil-less air sparge blower manufactured by Becker Pumps Corp. of Cuyahoga Falls, Ohio.
- And a Sensaphone auto dialer connected to a phone line to provide remote notification of system operations.

SYSTEM STARTUP AND PERFORMANCE

On December 20, 2001, Cambria began startup of the SVE system. Individual well flow, vacuum, and hydrocarbon concentration measurements were collected from all four wells and from the catalytic oxidizer. System influent, mid-influent, and effluent vapor samples were collected and submitted for laboratory analysis to McCampbell Analytical of Pacheco, California. Influent hydrocarbon vapor concentrations were measured at 17,000 parts per million per volume (ppmv) prior to dilution. Due to the high influent hydrocarbon vapor concentrations, an air dilution valve was opened to reduce concentration and enable the system to operate with design parameters. Dilution air will be gradually decreased as influent vapor concentrations begin to drop over time. As influent vapor concentrations begin to drop below 2,000 ppmv, the air sparge blower will be started to help with cleanup of the hydrocarbon impacted groundwater which we anticipate will occur in the next few months.

As per the BAAQMD's permit, catalytic oxidizer operating temperature greater than 600 degrees Fahrenheit was maintained and continuously measured using a chart recorder. All system operation parameters were recorded in specialized field forms for future system optimization and agency inspection. See Table 1 for a summary of system operations and analytical results. As shown below, system operations meet all requirements described in the BAAQMD air permit including a hydrocarbon destruction efficiency of greater than 97% and a benzene emission rate of less than 0.02 lbs/day.

Precursor Organics (TPHg) System Destruction Efficiency

Total System Flow : 170 cfm
Total System Influent Concentration (after dilution): 920 ppmv
Total System Effluent Concentration : ND<10 ppmv

920 ppmv * 170 ft^3/min * 1440 min/day * $1x10^{-6}$ * 86 g/mole * 1 lb-mole/386 ft^3 = **50.18 lbs/day**
ND<10 ppmv * 170 ft^3/min * 1440 min/day * $1x10^{-6}$ * 86 g/mole * 1 lb-mole/386 ft^3 = **0.55 lbs/day**
1-(0.55 lbs/day / 50.18 lbs/day) x 100 = **>98.9%** (permit requirement: > 97.0%)

Benzene Vapor Emission Rate

<0.15 ppmv * 170 ft^3/min * 1440 min/day * $1x10^{-6}$ * 78 g/mole * 1lb-mole/386 ft^3 = **0.0074 lbs/day**
(Air permit requirement: <0.02 lbs/day)

SYSTEM REPORTING

Soil Vapor samples will be collected on a monthly basis and system performance will be evaluated and reports submitted to the BAAQMD on a quarterly basis. Records will be kept for a period of two years for possible future BAAQMD inspection.

CLOSING

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

Sincerely,
Cambria Environmental Technology, Inc.

Ron Scheele, RG
Senior Project Geologist

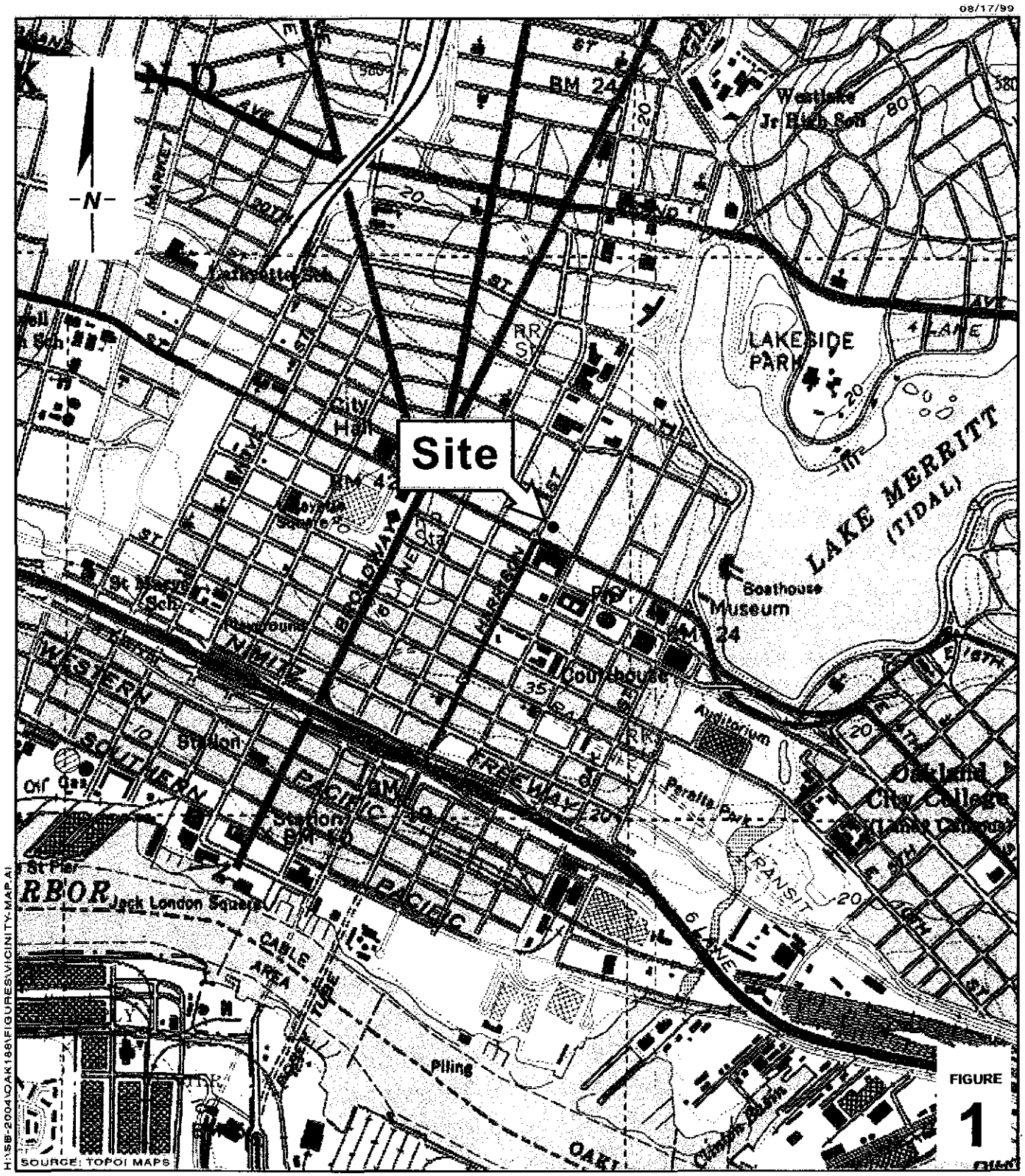
REGISTERED GEOLOGIST • RONALD A. SCHEELE • No. 6842 • STATE OF CALIFORNIA

Attachments: A - Figure
B - Table
C – Boring Logs and Well Construction Details
D – Laboratory Report

cc: Mr. Mark Borsuk, 1626 Vallejo Street, San Francisco, CA 94123-5116

(H)IR:\SB-2004\Oakl-188-Borsuk\O&M\SVE startup report.doc

08/17/99



H:\SB-2004\OAK188\FIGURES\VICINITY-MAP.AI

FIGURE 1

0 1/8 1/4 1/2 1

SCALE 1:1/4 MILE

Borsuk
1432 Harrison Street
Oakland, California

Vicinity Map

CAMBRIA

08/17/09

Soil Boring and Remediation Well Location Map

15th STREET

HARRISON STREET

ALICE STREET

14th STREET

MW-4

MW-5

MW-2

MW-1

MW-3

MW-6

VES-1

VES-2

VES-3

VES-4

CB-1

CB-2

1500 Harrison Street

building

parking facility

1439 Alice Street

building

1432 Harrison Street

parking facility

building

Former Gasoline Tanks

Former Gasoline Fuel Pumps

Former Wash Rack Sump

Former Hydraulic Lift Area

Former Waste Oil Tanks

Approximate Location of USTs closed in place, 1424 Harrison St.

N

0 25 50 100

Scale (ft)

EXPLANATION

VES-1 ⊕ Vapor Extraction / Air Sparging Well Location

CB-1 ◉ Soil Boring Location

MW-1 ⊕ Monitoring Well Location

NOTE: Wells MW-4, MW-5, and MW-6 installed in October, 1996.

FIGURE

2

Borsuk

1432 Harrison Street

Oakland, California

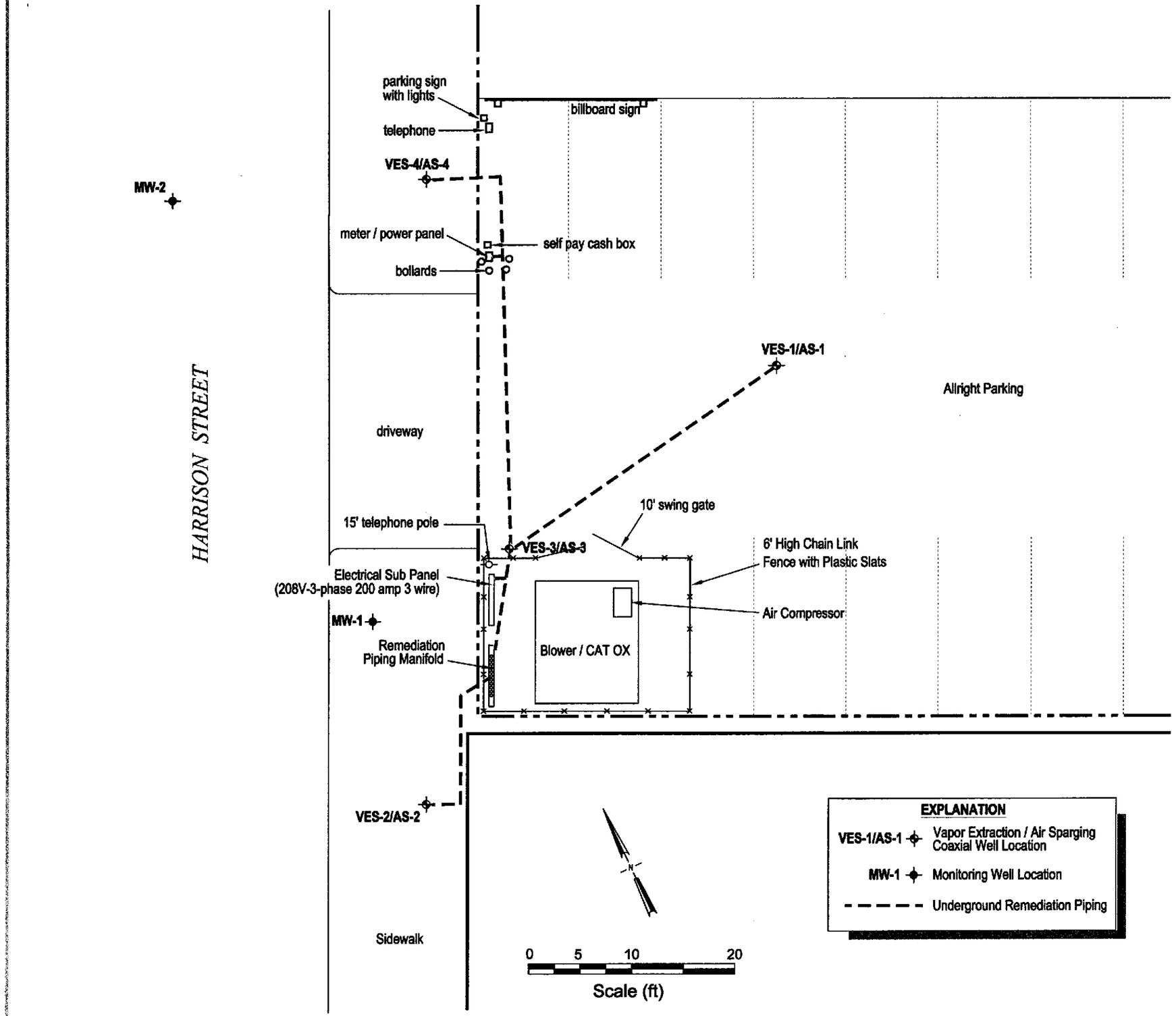
CAMBRIA

H:\SB-200\OAK-158\FIGURES\BOR-LOC.DWG

Borsuk Properties
1432 Harrison Street
Oakland, California

Remediation System Layout (As-Built)

CAMBRIA



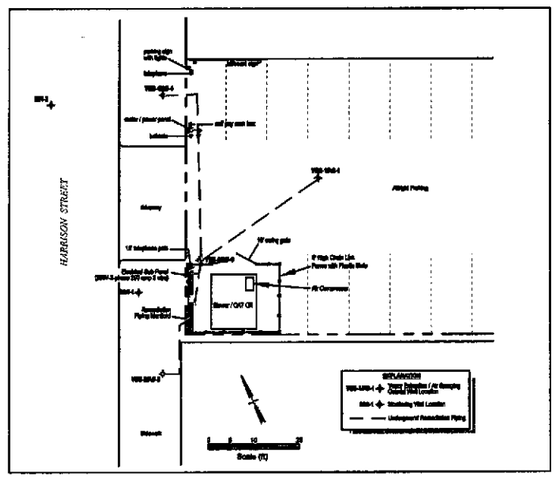


FIGURE 3

01/16/02

I:\SB-2004\OAK-188BORSUK\FIGURES\REMEDIATION\SYSTEM-AB.DWG

Table 1. SVE System - Performance and Soil Vapor Analytical Results - Borsuk Property - 1432 Harrison St - Oakland, California

Date	Hour Meter Readings (hrs)	System Uptime (%)	System Flow Rate (prior to dilution) (cfm)	Total Well HC Conc. (prior to dilution) (ppmv)	System Inlet Temp. (degrees F)	System Flow Rate (after dilution) (cfm)	Total System Influent HC Conc.[1] (ppmv)	Effluent HC Conc.[2] (ppmv)		HC Removal Rate[3] (lbs/day)	Emission Rate (lbs/day)		TPHg Destruction Efficiency[5] (%)	Gasoline Cumulative Removal (lbs)
							TPHg	TPHg	Benz	TPHg	TPHg	Benz		
12/20/01	13.0	--	--	17,000	825	170	920	<10	<0.15	50.18	<0.545	<0.007	--[5]	0
1/7/02	443.8	100%	--	12,000	825	105	1400	<10	<0.15	47.16	<0.337	<0.005	--[5]	901

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.

[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 (acfm) x 1 lb-mole/$386 \times 10^6 ft^3$ x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene) x 1440 min/day.

[3] Total TPHg 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.

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

Attachment C
Boring Logs and Well Construction Details

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

BORING/WELL LOG

CLIENT NAME	Borsuk	**BORING/WELL NAME**	VES-1
JOB/SITE NAME	1432 Harrison Street	**DRILLING STARTED**	23-Jul-99
LOCATION	Oakland, California	**DRILLING COMPLETED**	23-Jul-99
PROJECT NUMBER	540-0188	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	35.00 ft above msl
DRILLING METHOD	Hollow-stem auger - "Rhino" Rig	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	8"	**SCREENED INTERVAL**	VE: 5' - 20' bgs; AS: 28' - 30' bgs
LOGGED BY	R. Schultz	**DEPTH TO WATER (First Encountered)**	19.3 ft (23-Jul-99) ▽
REVIEWED BY	D. Elias, RG# 6584	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5' bgs; located in parking facility driveway, 30' from sidewalk.

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
							ASPHALT.	0.2
							CONCRETE.	0.5
					SW		**SAND with Silt**; (SW); dark brown; medium dense; damp; 14% silt, 86% fine to medium grained sand; no plasticity; high estimated permeability.	
		VES-1 @6.5'		5			@ 5.5' - dark yellowish brown (10YR4/6).	
								8.5
		VES-1 @11.5'		10	SM		**Silty SAND**; (SM); grey mottled brown; medium dense; damp; 5% clay, 25% silt, 70% fine to medium grained sand; low plasticity; moderate to high estimated permeability.	
								13.5
		VES-1 @16.5'		15			**SAND**; (SW); greyish brown; dense; damp; 10% silt, 90% fine to medium grained sand; no plasticity; high estimated permeability.	
<1.0								
				20			@ 20' - wet. ▽	
5,600		VES-1 @21.5'			SW			
				25			@ 25' - grey; medium dense; 5% silt, 95% fine to medium grained sand.	
		VES-1 @26.5'						
				30			@ 30' - grey.	30.5
<1.0		VES-1 @30.5'						

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #2/12
- 3"-diam., 0.020" Slotted Schedule 40 PVC
- Bentonite Seal
- 1"-diam., 0.020" Slotted Schedule 40 PVC

Bottom of Boring @ 30.5 ft

WELL LOG (TPH-G) H:\SB-2004\OAKL-1-2\GINT\BORSUK.GPJ DEFAULT.GDT 8/30/99

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

BORING/WELL LOG

CLIENT NAME	Borsuk	**BORING/WELL NAME**	VES-2
JOB/SITE NAME	1432 Harrison Street	**DRILLING STARTED**	22-Jul-99
LOCATION	Oakland, California	**DRILLING COMPLETED**	22-Jul-99
PROJECT NUMBER	540-0188	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	35.00 ft above msl
DRILLING METHOD	Hollow-stem auger - "Rhino" Rig	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	8"	**SCREENED INTERVAL**	VE: 5' - 20' bgs; AS: 27.5' - 29.5' bgs
LOGGED BY	R. Schultz	**DEPTH TO WATER (First Encountered)**	20.0 ft (22-Jul-99) ▽
REVIEWED BY	D. Elias, RG# 6584	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5' bgs; located in sidewalk in front of Auto Radio Headquarters.

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
							CONCRETE.	0.4
							SAND with Silt; (SW); dark brown; medium dense; damp; 14% silt, 86% fine to medium grained gravel; no plasticity; high estimated permeability.	
				5			@ 5' - dark yellowish brown (10YR4/6); dense.	
		VES-2 @6.5'			SW			
				10			@ 10' - dark greenish grey (Gley 3/1); dense.	
		VES-2 @11.5'						
							SAND; (SW); dark greenish grey; dense; damp to moist; 10% silt, 90% fine to medium grained sand; no plasticity; high estimated permeability.	13.5
2.2		VES-2 @16.5'		15				
				20			@ 20' - wet. ▽	
		VES-2 @21.5'			SW			
				25				
4,300		VES-2 @26.5'						
<1.0		VES-2 @30'		30				30.0

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #2/12
- 3"-diam., 0.020" Slotted Schedule 40 PVC
- Bentonite Seal
- Native Soil
- 1"-diam., 0.020" Slotted Schedule 40 PVC with Filter Cloth

Bottom of Boring @ 30 ft

WELL LOG (TPH-G) H:\SB-2004\OAKL-1-2\GINT\BORSUK.GPJ DEFAULT.GDT 8/30/99

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

BORING/WELL LOG

CLIENT NAME	Borsuk	**BORING/WELL NAME**	VES-3
JOB/SITE NAME	1432 Harrison Street	**DRILLING STARTED**	23-Jul-99
LOCATION	Oakland, California	**DRILLING COMPLETED**	23-Jul-99
PROJECT NUMBER	540-0188	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	35.00 ft above msl
DRILLING METHOD	Hollow-stem auger - B-61	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	8"	**SCREENED INTERVAL**	VE: 5' - 20' bgs; AS: 28' - 30' bgs
LOGGED BY	R. Schultz	**DEPTH TO WATER (First Encountered)**	20.0 ft (23-Jul-99)
REVIEWED BY	D. Elias, RG# 6584	**DEPTH TO WATER (Static)**	NA

REMARKS Hand augered to 4' bgs; located in parking lot near Auto Radio Headquarters.

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	DEPTH (ft bgs)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
					ASPHALT.	0.3
	10, 14, 20	VES-3 @5.5'	5	SW	**SAND with Silt**; (SW); brown; dense; damp; 14% silt, 86% sand; no plasticity; high estimated permeability.	
	9, 13, 20	VES-3 @10.5'	10	SM	**Silty SAND**; (SM); grey-green; dense; damp; 20% silt, 80% sand; low plasticity; moderate to high estimated permeability.	7.0
1.3	18, 20, 30	VES-3 @15.5'	15	SW	**SAND**; (SW); greenish grey; dense; damp; 5% silt, 95% sand; high estimated permeability.	12.5
2,100	18, 45, 50	VES-3 @20.5'	20	SW	@ 20' - grey; very dense. ▽	
	10, 50, 50	VES-3 @25.5'	25	SW		
1.4	20, 20, 50	VES-3 @30.5'	30	SW		30.5

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #2/12
- 3"-diam., 0.020" Slotted Schedule 40 PVC
- Bentonite Seal
- Native Soil
- 1"-diam., 0.020" Slotted Schedule 40 PVC with Filter Cloth

Bottom of Boring @ 30.5 ft

WELL LOG (TPH-G) H:\SB-2004\OAKL-1-2\GINT\BORSUK.GPJ DEFAULT.GDT 8/30/99

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

BORING/WELL LOG

CLIENT NAME	Borsuk	**BORING/WELL NAME**	VES-4
JOB/SITE NAME	1432 Harrison Street	**DRILLING STARTED**	23-Jul-99
LOCATION	Oakland, California	**DRILLING COMPLETED**	23-Jul-99
PROJECT NUMBER	540-0188	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	35.00 ft above msl
DRILLING METHOD	Hollow-stem auger - "Rhino" Rig	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	8"	**SCREENED INTERVAL**	VE: 5' - 20' bgs; AS: 27' - 27' bgs
LOGGED BY	R. Schultz	**DEPTH TO WATER (First Encountered)**	20.0 ft (23-Jul-99) ▽
REVIEWED BY	D. Elias, RG# 6584	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5' bgs; located in sidewalk near Douglas/Alright site boundary.

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
							CONCRETE.	0.4
							SAND with Silt; (SW); brown; dense; damp; 14% silt, 86% sand; no plasticity; high estimated permeability.	
		VES-4 @6.5'		5	SW			
		VES-4 @11.5'		10				
							SAND; (SW); grey-brown; medium dense; damp; 5% silt, 95% sand; high estimated permeability.	13.5
<1.0		VES-4 @16.5'		15	SW			
							SAND with Silt; (SW); grey-brown; dense; damp; 14% silt, 86% sand; no plasticity; high estimated permeability. ▽	18.5
		VES-4 @21.5'		20	SW			
							SAND; (SW); dark grey; dense; damp; 5% silt, 95% sand; high estimated permeability.	23.0
4,300		VES-4 @26.5'		25	SW			
<1.0		VES-4 @30'		30				30.0

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #2/12
- 3"-diam., 0.020" Slotted Schedule 40 PVC
- Bentonite Seal
- Monterey Sand #2/12 to 28.5'; Native Soil from 28.5' to 30'
- 1"-diam., 0.020" Slotted Schedule 40 PVC with Filter Cloth
- Bottom of Boring @ 30 ft

WELL LOG (TPH-G) H:\SB-2004\OAKL-1-2\GINT\BORSUK.GPJ DEFAULT.GDT 8/30/99

Attachment D
Laboratory Report

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 Environmental Technology 6262 Hollis Street Emeryville, CA 94608	Client Project ID: #540-0188-44; Borsuk	Date Sampled: 12/20/01
		Date Received: 12/21/01
	Client Contact: Ron Scheele	Date Extracted: 12/21/01
	Client P.O:	Date Analyzed: 12/21/01

12/31/01

Dear Ron:

Enclosed are:

1). the results of **3** 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,

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

Cambria Environmental Technology	Client Project ID: #540-0188-44; Borsuk	Date Sampled: 12/20/01
6262 Hollis Street		Date Received: 12/21/01
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 12/21/01
	Client P.O:	Date Analyzed: 12/21/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)†	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
87355	INF	Air	17,000,c,a	ND<10	160	78	2.5	3.9	---#
87356	MID	Air	920,c,a	ND	7.7	5.7	0.57	1.0	---#
87357	EFF	Air	ND	ND	ND	ND	ND	ND	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 unless otherwise stated; ND means not detected above the reporting limit		Air	10 uL/L	1.5	0.15	0.15	0.15	0.25	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and air samples are reported in uL/L(ppmv), wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP 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 (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

EPA 8015m + 8020

Date: 12/21/01 **Extraction:** EPA 5030 **Matrix:** Air

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 122101					Instrument: GC-12		
Surrogate1	ND	98.0	102.0	100.00	98	102	4.0
Xylenes	ND	32.7	33.5	30.00	109	112	2.4
Ethylbenzene	ND	10.6	11.4	10.00	106	114	7.3
Toluene	ND	10.4	11.2	10.00	104	112	7.4
Benzene	ND	10.1	10.9	10.00	101	109	7.6
MTBE	ND	9.2	9.5	10.00	92	95	3.2
TPH (gas)	ND	94.5	95.4	100.00	94	95	1.0

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

29395 ZC551

McCAMPBELL ANALYTICAL INC.

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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: BORSOK
Project Location: 14th & HARRISON OAKLAND
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 (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	BORSOK	12/20/01	10:30	1	Bag			X							X																87355
MID	↓	↓	11:30	1	Bag			X							X																87356
EFF	↓	↓	12pm	1	Bag			X							X																87357

VOAS / O&G / METALS / OTHER

ICE/ℓ
GOOD CONDITION
HEADSPACE ABSENT
PRESERVATION APPROPRIATE
CONTAINERS

Relinquished By:	Date:	Time:	Received By:
	12/20/01	8pm	Sewed location
Relinquished By:	Date: 12/21/01	Time: 12:30	Received By: GURMEET
Relinquished By:	Date: 12/21/01	Time: 1515	Received By: ER ℓ

ER ℓ 12/21/01 1635

Remarks:
REPORT IN ppmv ; 10 ppmv Limit
20 ml injection Vol.