5740 3597
DH

CAMBRIA

October 13, 2000

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

Re: **System Startup Report**
Hooshi's Auto Service
1499 MacArthur Blvd.
Oakland, California
Plant No. 11755, Permit No. 18303

Dear Mr. Cave:

On behalf of Olympian Oil Company, Cambria Environmental Technology, Inc. (Cambria), is submitting this system startup report for the remediation system located at the above referenced site. Described below are the system installation, equipment, startup, and performance and proposed system reporting.

SYSTEM INSTALLATION

In 1999, Cambria supervised the installation of the underground piping for a soil vapor extraction system according to CEC's agency-approved Corrective Action Plan. Underground remediation piping was installed to three wells, MW1, MW-2, and MW-5. Cambria also supervised the installation of a temporary power pole and electrical panel with 240V-3-phase, 200 ampere power supplied by PG&E. In January 2000, Cambria installed an all-electric catalytic oxidizer provided by EnviroSupply & Service Inc. of Fountain Valley, California. See Figure 1 for the location of remediation wells and the remediation enclosure.

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

Cambria Environmental Technology, Inc.

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

SYSTEM EQUIPMENT

The current remediation system consists of the following soil vapor extraction equipment:

- A trailer mounted all-electric Falco-100 catalytic oxidizer with heat exchanger manufactured by Falmouth Products of Falmouth, Massachusetts,
- A 50-gallon moisture knockout tank, and
- A regenerative blower capable of generating air flow of 100 cfm.

SYSTEM STARTUP AND PERFORMANCE

From June 26 to September 19, 2000, Cambria performed system troubleshooting and startup of the soil vapor (SVE) extraction system. Individual well flow, vacuum, and hydrocarbon concentration measurements were collected from all three SVE wells and from the catalytic oxidizer/blower. On September 19, 2000, system influent and effluent vapor samples were collected and submitted for laboratory analysis to McCampbell Analytical of Pacheco, California. Vapor sample result indicated destruction efficiency within permit requirements. As per the Bay Area Air Quality Management (BAAQMD) permit, a catalytic oxidizer operating temperature greater than 600 degrees Fahrenheit was maintained and system operation parameters were continuously measured using a chart recorder. During site visits, system operation parameters were also 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 .

Precursor Organics (TPHg) System Destruction Efficiency

Total System Flow: 35 cfm (9/19/00)
System Influent TPHg Concentration: 110 ppmv (9/19/00)
System Effluent TPHg Concentration: ND<10 ppmv (9/19/00)

As per BAAQMD permit requirements, the system destruction efficiency does not need to be calculated when the system effluent TPHg concentration is below 10 ppmv.

Benzene Vapor Emission Rate

Total System Flow: 35 cfm (9/19/00)
System Effluent Benzene Concentration: ND<0.15 ppmv (9/19/00)

0.15 ppmv * 35 ft^3/min * 1440 min/day * $1x10^{-6}$ * 78 g/mole * 1 lb-mole/386 ft^3 = **0.0015 lbs/day**

As shown above, the benzene vapor emission rate was calculated to be below the BAAQMD permit requirement of 0.10 lbs/day.

SYSTEM REPORTING

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

CLOSING

Please contact me at (510) 450-1983, if you have any questions regarding this report.

Sincerely,
Cambria Environmental Technology, Inc.

Ron Scheele RG
Senior Geologist

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

Figure 1- Site Plan
Table 1 - SVE System Performance and Analytical Results

Attachments: A - Laboratory Report

cc: Ms. Juliet Shin, ACDEH, 1131 Harbor Bay Parkway, 2nd Floor, Alameda, CA 94502
Ms. Naomi Gatzke, 1545 Scenic View Dr., San Leandro, CA 94577

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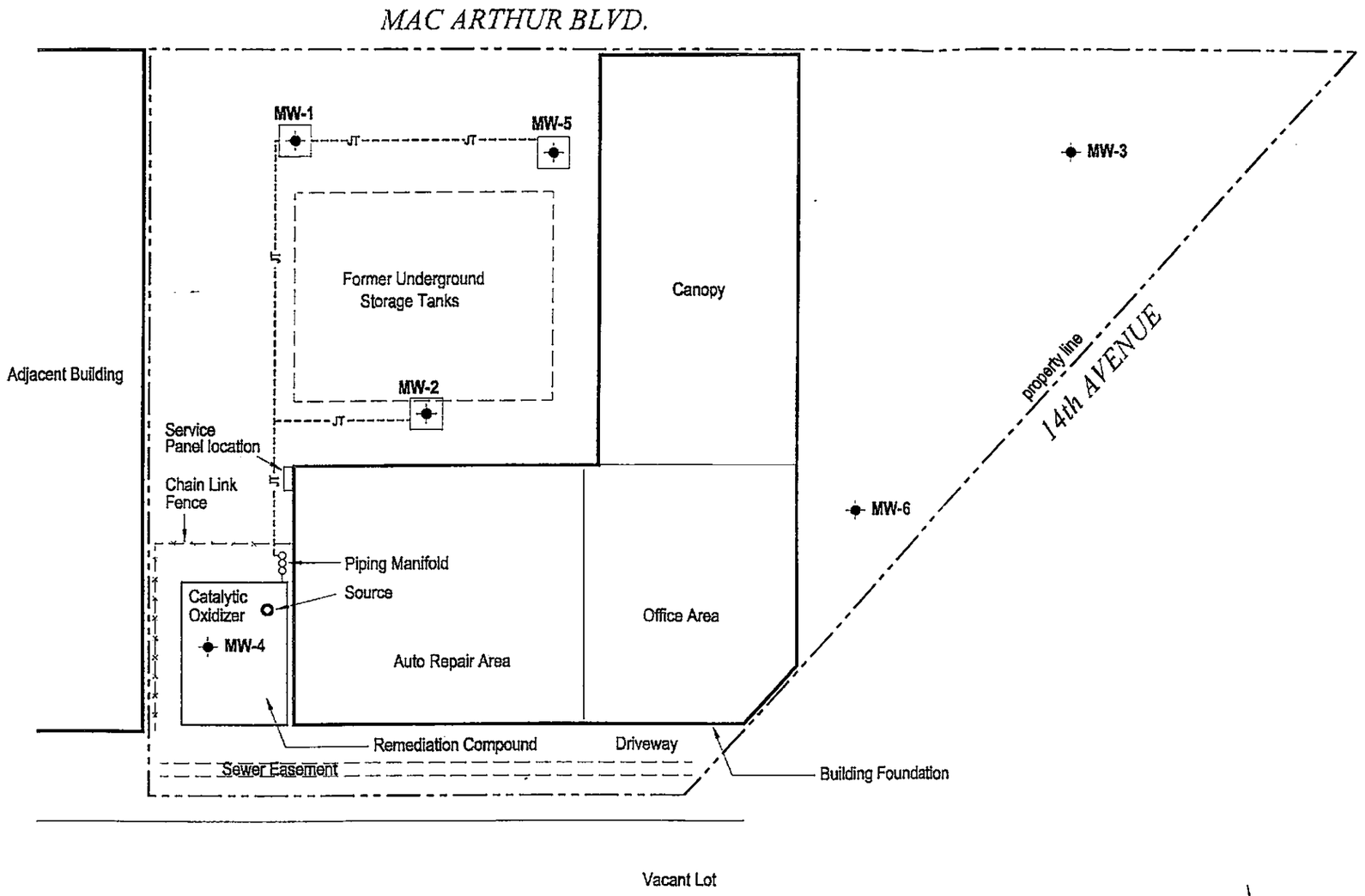
Hooshi's Auto Service

1499 MacAurthur Boulevard
Oakland, California

Site Plan



EXPLANATION

- Monitoring well and utility vault location
- Monitoring well location
- JT Joint Trench

N

0 5 10 20

Scale (ft)

CAMBRIA

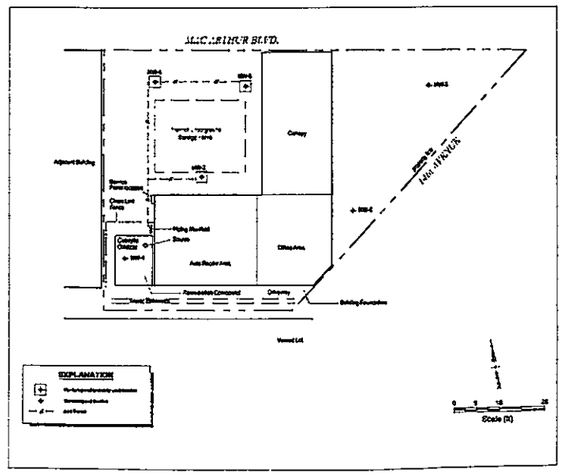


FIGURE 1

07/21/99

H:\SB-2004\HOOSHI\FIGURES\SITE-PLAN.DWG

Table 1. SVE System Performance and Analytical Results - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Date	Hour Meter Readings (hrs)	System Uptime (per interval) (%)	Total Well Flow Rate (prior to dilution) (cfm)	Total Well HC Conc. (ppmv)	System Inlet Temp. (degree F)	System Flow Rate (after dilution) (cfm)	System Influent HC Conc. [1] (ppmv)	System Effluent HC Conc. [2] (ppmv)		HC Removal Rate [3] (lbs/day)	Emission Rate (lbs/day)		TPHg Destruction Efficiency (%)	Gasoline Cumulative Removal (lbs)
							TPHg	TPHg	Benz	TPHg	TPHg	Benz		
9/19/00	0	--	8	110	628	35	19	<10	<0.15	0.28	0.1	0.002	*	0
10/5/00	388	101%												

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 lab results by Modified EPA Methods 8015 and 8020.
[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/386x$10^6$$ft^3$ x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene) x 1440 min/day.
[3] Gasoline 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 lab analytical results.
* As per BAAQMD permit requirements, system destruction efficiency is not calculated for effluent TPHg concentrations less than 10 ppmv

ATTACHMENT A

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: #129-0741; Hooshi's	Date Sampled: 09/19/00
		Date Received: 09/20/00
	Client Contact: Ron Scheele	Date Extracted: 09/20/00
	Client P.O:	Date Analyzed: 09/20/00

09/27/00

Dear Ron:

Enclosed are:

1). the results of **3** samples from your **#129-0741; Hooshi's** 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
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Cambria Environmental Technology	Client Project ID: #129-0741; Hooshi's	Date Sampled: 09/19/00
6262 Hollis Street		Date Received: 09/20/00
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 09/20-09/21/00
	Client P.O:	Date Analyzed: 09/20-09/21/00

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	Ethyl-benzene	Xylenes	% Recovery Surrogate
48052	IN	Air	110,a	---	0.24	1.4	0.32	2.3	108
48053	MID	Air	19,a	---	ND	0.19	ND	0.58	106
48054	EF	Air	ND	---	ND	ND	ND	ND	100
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	

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

* water and vapor 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

Hydrocarbons Analysis

Date: 09/20/00 Matrix: Water/Air

Extraction: N/A

SampleID: 40793 Instrument: GC-3

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
Surrogate1	0.000	97.0	103.0	100.00	97	103	6.0
Xylenes	0.000	280.0	298.0	300.00	93	99	6.2
Ethyl Benzene	0.000	94.0	101.0	100.00	94	101	7.2
Toluene	0.000	97.0	106.0	100.00	97	106	8.9
Benzene	0.000	100.0	110.0	100.00	100	110	9.5
MTBE	0.000	108.0	117.0	100.00	108	117	8.0
GAS	0.000	802.8	816.4	1000.00	80	82	1.7

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

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

RPD means Relative Percent Deviation

22073 ZC 211

McCAMPBELL ANALYTICAL INC.

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

CHAIN OF CUSTODY RECORD

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

Report To: Ron Scheele Bill To: SAME
Company: Cambria Environmental Technology
6262 Hollis Street
Emeryville, CA 94608
Tele: (510) 450-1983 Fax: (510) 450-8295
Project #: 129-0741 Project Name: Hooshi's
Project Location: Hooshi's 1499 Macarthur Blvd.
Sampler Signature:

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	BTEX & TPH as Gas (602/8020 + 8015)	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
IN	Hooshi's	9/19/00	12:30^A	1	BAG			X							X																48052
MID	Hooshi's	"	"	1	"			"							"																48053
EF	Hooshi's	"	"	1	"			"							"																48054

VOAS | O&G | METALS | OTHER
PRESERVATION APPROPRIATE CONTAINERS
ICE/T°
GOOD CONDITION
HEAD SPACE ABSENT

Relinquished By:	Date:	Time:	Received By:
	9/20/00	1204	
Relinquished By:	Date:	Time:	Received By:
	9/20/00	630	
Relinquished By:	Date:	Time:	Received By:

Remarks: Report in PPM. Fax results.
Reporting limit for TPHg of 10ppmv.
(20mL injection)