

# C A M B R I A

October 11, 2001

Mr. Don Hwang  
Alameda County Department of  
Environmental Health  
UST Local Oversight Program  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, CA 94502

OCT 18 2001

Re: **Groundwater Monitoring and System Progress Report**  
**Third Quarter 2001**  
Hooshi's Auto Service  
1499 MacArthur Blvd.  
Oakland, California 94602  
Cambria Project No. 129-0741



Dear Mr. Hwang:

On behalf of Ms. Naomi Gatzke, Cambria Environmental Technology, Inc. (Cambria) has prepared this groundwater monitoring and remediation system progress report for the above-referenced site. Presented in the report are the third quarter 2001 activities and the anticipated fourth quarter 2001 activities.

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

Sincerely,  
**Cambria Environmental Technology, Inc.**

Ron Scheele, RG  
Senior Geologist

Attachments: Groundwater Monitoring and System Progress Report, Third Quarter 2001

Oakland, CA  
San Ramon, CA  
Sonoma, CA

cc: Mr. Robert Cave, BAAQMD, Permit Services Division, 939 Ellis Street, San Francisco, California 94109  
Ms. Naomi Gatzke, 1545 Scenic View Dr., San Leandro, CA 94577

**Cambria  
Environmental  
Technology, Inc.**

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

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## GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

THIRD QUARTER 2001

Hooshi's Auto Service  
1499 MacArthur Blvd.  
Oakland, California 94602  
Cambria Project No. 129-0741

October 11, 2001



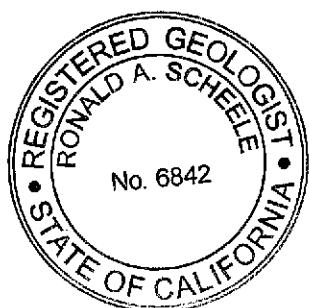
*Prepared for:*

Ms. Naomi Gatzke  
1545 Scenic View Drive  
San Leandro, California 94577

*Prepared by:*

Cambria Environmental Technology, Inc.

6262 Hollis Street  
Emeryville, California 94608



Matthew A. Meyers  
Staff Geologist

Ron Scheele, RG  
Senior Geologist

## **GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT**

### **THIRD QUARTER 2001**

**Hooshi's Auto Service  
1499 MacArthur Blvd.  
Oakland, California 94602  
Cambria Project No. 129-0741**

**October 11, 2001**

### **INTRODUCTION**

On behalf of Ms. Naomi Gatzke, Cambria Environmental Technology, Inc. (Cambria) has prepared this Groundwater Monitoring and System Progress Report for the above-referenced site (see Figure 1). Presented in the report are the third quarter 2001 groundwater monitoring and corrective action activities and the anticipated fourth quarter 2001 activities.

### **THIRD QUARTER 2001 ACTIVITIES**

#### **Monitoring Activities**

***Field Activities:*** On August 6, 2001, Cambria gauged water levels and inspected for separate phase hydrocarbons (SPH) in groundwater monitoring wells MW-1 through MW-6. On August 6, groundwater samples were obtained from monitoring wells that did not contain SPH. Field data sheets are presented as Appendix A.

***Sample Analyses:*** Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015, benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8020. When MTBE was detected by EPA Method 8020, the result was confirmed by EPA Method 8260. The groundwater analytical results are summarized in Table 1. The laboratory analytical report is included as Appendix B.

Third Quarter 2001 Monitoring  
and System Progress Report  
Hooshi's Auto Service  
October 11, 2001

## **Monitoring Results**

**Groundwater Flow Direction:** Based on field measurements collect on August 6, 2001, groundwater beneath the site flows towards the southwest at a gradient of 0.225 ft/ft (Figure 1). This is consistent with the historic groundwater flow direction and gradient. Depth to water and groundwater elevation data are presented in Table 1.

**Hydrocarbon Distribution in Groundwater:** No SPH were detected this quarter. TPHg concentrations ranged from 59 to 54,000 micrograms per liter ( $\mu\text{g}/\text{L}$ ), with the maximum TPHg concentration detected in well MW-2. The maximum concentration of benzene was detected in well MW-2, at 680  $\mu\text{g}/\text{L}$ . MTBE was detected only in well MW-1 and MW-2, at 4.0  $\mu\text{g}/\text{L}$  (as confirmed by EPA 8260). Table 1 summarizes the groundwater analytical results.

## **Corrective Action Activities**

**SVE System Status:** The SVE system was removed from the site in the second quarter. Additional site remediation may be performed in the future pending the preparation and agency approval of an Interim Remedial Action Plan.

## **ANTICIPATED FOURTH QUARTER 2001 ACTIVITIES**

### **Monitoring Activities**

Cambria will gauge the site wells, check the wells for SPH, and collect groundwater samples from all wells not containing SPH. Groundwater samples will be analyzed for TPHg by Modified EPA Method 8015 and BTEX and MTBE by EPA Method 8020. Any samples containing MTBE will be confirmed by EPA Method 8260. Cambria will prepare a groundwater monitoring report summarizing the monitoring activities and results.

### **Corrective Action Activities:**

Cambria plans to revise the remediation system after preparation and agency approval of an Interim Remedial Action Plan.

## **ATTACHMENTS**

Figure 1 – Groundwater Elevation Contour and Hydrocarbon Concentration Map

Table 1 – Groundwater Elevation and Analytical Data

Appendix A – Groundwater Monitoring Field Data Sheets

Appendix B – Analytical Results for Groundwater Sampling

**Hooshi's Auto Service**

1499 MacArthur Boulevard

Oakland, California

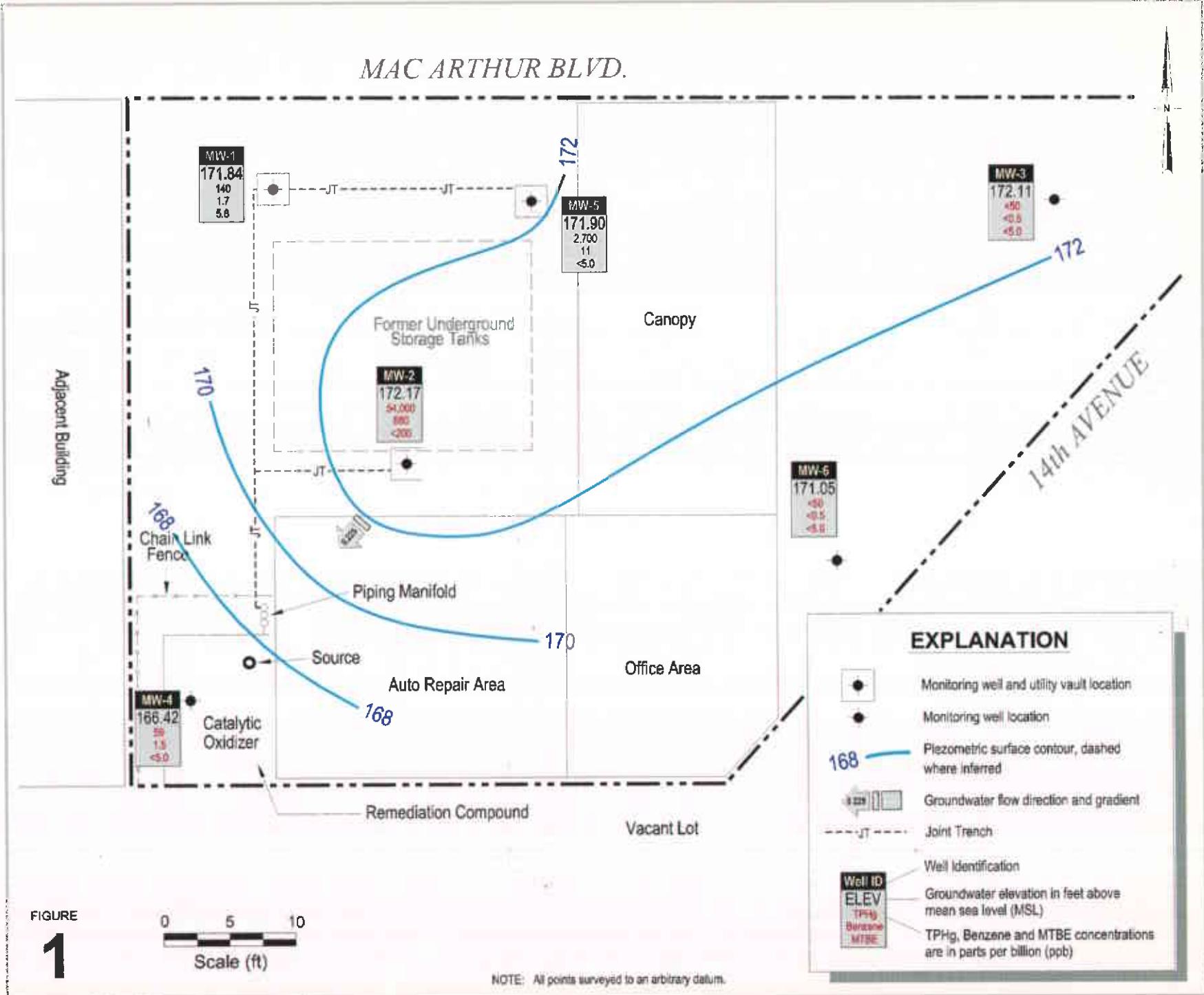
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## Groundwater Elevation Contour Map and Hydrocarbon Concentration Map

August 6, 2001

**FIGURE**  
**1**



# CAMBRIA

**Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California**

Well ID TOC (ft*)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**) (ft)	Separate Phase Hydrocarbons	TPHg	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE	Notes
MW-1	1/4/93	--	--	--	539	130	12	22	13	--	
<i>I81.00</i>	4/22/93	--	--	--	1,130	75	8.0	38	11	--	
	12/27/94	--	--	--	770	22	6.6	14	21	--	
	6/27/96	14.11	166.89	--	3,300	260	34	59	170	80	
	12/10/96	13.71	167.29	--	1,500	84	11	22	32	34	
	5/8/98	13.85	167.15	--	3,200	300	12	62	36	<120	a
	8/17/98	14.11	166.89	--	1,700	160	18	32	27	39	a
	11/4/98	14.28	166.72	--	1,100	11	4.3	3.6	6.5	<50	a
	2/17/99	13.41	167.59	--	320	200	47	72	75	57	a
	5/27/99	14.16	166.84	--	2,500	81	12	29	41	<80	a
	8/19/99	14.18	166.82	--	780	19	<0.5	5.7	4.5	28	a
<i>I80.83</i>	11/23/99	14.43	166.40	--	1,300	24	0.64	1.8	3.3	<100	a
	2/17/00	13.85	166.98	--	1,300	60	9.1	22	19	22 (16)	a,b
	5/9/00	14.01	166.82	--	2,700	55	13	19	25	34 (29)	a
	8/15/00	14.24	166.59	--	--	--	--	--	--	--	
	12/1/00	8.75	172.08	--	480	6.4	5.9	1.1	3.9	18 (21)	a
<i>I80.63</i>	2/8/01	8.49	172.14	--	64	<0.5	<0.5	<0.5	<0.5	6.1 (5.6)	a,c
	4/9/01	8.71	171.92	--	--	--	--	--	--	--	
	4/24/01	7.90	172.73	--	77	<0.5	<0.5	<0.5	<0.5	5.6 (3.7)	c
	8/6/01	8.83	171.80	--	140	1.7	0.55	<0.5	0.63	5.8 (4.0)	a
MW-2	1/4/93	--	--	--	149,000	21,700	25,000	ND	7,760	--	
<i>I80.45</i>	4/22/93	--	--	--	136,300	9,900	15,870	15,300	2,190	--	
	12/27/94	--	--	--	94,000	11,000	18,000	2,700	16,000	--	
	6/27/96	12.61	168.64	1.00	--	--	--	--	--	--	
	12/10/99	11.10	169.55	0.25	--	--	--	--	--	--	
	5/8/98	10.81	169.66	0.03	--	--	--	--	--	--	
	8/17/98	12.16	168.31	0.02	--	--	--	--	--	--	
	11/4/98	12.61	167.86	0.02	--	--	--	--	--	--	
	2/17/99	9.82	170.66	0.04	--	--	--	--	--	--	
	5/27/99	11.07	169.48	0.13	--	--	--	--	--	--	
	8/19/99	12.79	167.68	0.02	--	--	--	--	--	--	
<i>I80.24</i>	11/23/99	12.14	168.20	0.12	--	--	--	--	--	--	
	2/17/00	10.01	170.37	0.18	--	--	--	--	--	--	
	5/9/00	10.88	169.38	0.03	--	--	--	--	--	--	

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**Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California**

Well ID TOC (ft*)	Date	Depth to	Groundwater	Separate Phase	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		Groundwater (ft)	Elevation (ft**)	Hydrocarbons (ft)		←	(μg/L)	→			
	8/15/00	12.28	167.97	0.01	—	--	--	--	--	—	
	12/1/00	8.03	172.21	--	260,000	1,100	5,000	1,900	17,000	<100	a
	2/8/01	7.86	172.38	--	2,900	1.7	14	5.0	140	<5.0	c,d
	4/9/01	7.95	172.29	--	--	--	--	--	--	--	
	4/24/01	6.90	173.34	--	56,000	360	980	1,000	4,700	<5.0	a,b
	8/6/01	8.15	172.09	--	54,000	680	1,900	1,500	7,800	<200 (<10)	a,h,j
MW-3	1/4/93	--	--	--	1,610	772	14	11	ND	--	
I79.94	4/22/93	--	--	--	3,040	980	34	19	16		
	12/27/94	--	--	--	2,600	180	9.0	7.2	13		
	6/27/96	13.20	166.74	--	2,000	22	2.9	11	7.4	56	
	12/10/96	13.13	166.81	--	970	<0.5	<0.5	<0.5	<0.5	24	
	5/8/98	13.03	166.91	--	780	3.7	2.1	1.1	2.4	<32	a
	8/17/98	13.22	166.72	--	870	2.8	<0.5	<0.5	3.7	<5.0	b,c
	11/4/98	13.31	166.63	--	770	1.6	4.4	2.0	6.9	<30	c
	2/17/99	12.89	167.05	--	650	6.2	3.4	1.5	2.6	<5.0	b,c
	5/27/99	12.32	167.62	--	570	1.5	1.2	0.72	1.1	<20	a
	8/19/99	13.19	166.75	--	830	<0.5	1.9	<0.5	1.3	<20	c,d
I79.55	11/23/99	13.26	166.29	--	900	<0.5	1.8	0.56	1.4	<20	c,d
	2/17/00	12.78	166.77	--	250	<0.5	1.5	<0.5	0.62	<5.0	d
	5/9/00	12.92	166.63	--	690	<0.5	2.1	0.85	1.6	<5.0	a
	8/15/00	13.19	166.36	--	610	<0.5	2.3	0.75	1.2	<5.0	c,d
	12/1/00	7.50	172.05	--	120	<0.5	0.90	0.65	0.62	<5.0	c,d
	2/8/01	7.20	172.35	--	87	<0.5	<0.5	<0.5	<0.5	<5.0	c,d
	4/9/01	7.33	172.22	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	8/6/01	7.61	171.94	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	

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**Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California**

Well ID TOC (ft*)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**) (ft)	Separate Phase Hydrocarbons	TPHg	Benzene		Toluene	Ethylbenzene	Xylenes	MTBE	Notes
						←	(µg/L) →					
MW-4	6/27/96	17.03	163.51	--	720	2	0.5	2.5	23	3.2		
I80.54	12/10/96	8.50	172.04	--	80	2.4	<0.5	<0.5	6.6	<2.0		
	5/8/98	11.46	169.08	--	<50	0.60	<0.5	<0.5	<0.5	<5.0		
	8/17/98	13.98	166.56	--	<50	<0.5	<0.5	<0.5	0.5	<5.0		
	11/4/98	14.36	166.18	--	96	9.7	8.1	4.8	18	<5.0	a	
	2/17/99	8.39	172.15	--	<50	<0.5	<0.5	<0.5	0.5	<5.0		
	5/27/99	12.80	167.74	--	<50	<0.5	1.0	<0.5	2.9	<5.0		
	8/19/99	14.42	166.12	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	11/23/99	14.63	165.49	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
I80.12	2/17/00	8.15	171.97	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	5/9/00	12.81	167.31	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	8/15/00	14.29	165.83	--	<50	2.1	<0.5	<0.5	<0.5	<5.0		
	12/1/00	12.80	167.32	--	81	6.0	8.4	1.0	5.6	<5.0	a	
	2/8/01	12.57	167.55	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	4/9/01	12.50	167.62	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	8/6/01	14.00	166.12	--	59	1.5	<0.5	<0.5	<0.5	<5.0	a	
MW-5	6/27/96	13.62	166.74	0.16	--	--	--	--	--	--		
I80.23	12/10/96	13.26	167.77	1.00	--	--	--	--	--	--		
	5/8/98	13.15	167.11	0.04	--	--	--	--	--	--		
	8/17/98	13.36	166.89	0.02	--	--	--	--	--	--		
	11/4/98	13.52	166.73	0.02	--	--	--	--	--	--		
	2/17/99	13.02	167.23	0.02	--	--	--	--	--	--		
	5/27/99	13.80	166.71	0.35	--	--	--	--	--	--		
	8/19/99	13.45	166.86	0.10	--	--	--	--	--	--		
	11/23/99	14.03	166.35	0.36	--	--	--	--	--	--		
I80.09	2/17/00	13.28	167.02	0.26	--	--	--	--	--	--		
	5/9/00	13.55	166.77	0.29	--	--	--	--	--	--		
	8/15/00	13.58	166.54	0.04	--	--	--	--	--	--		
	12/1/00	8.00	172.09	0.00	54,000	240	1,700	870	1,000	<300	c,d	
	2/8/01	7.88	172.16	0.00	33,000	63	420	120	4,500	<50	a,b	
	4/9/01	7.97	172.07	0.00	--	--	--	--	--	--		
	4/24/01	7.00	173.04	0.00	3,200	<1.0	11	7	260	<5.0	c,d	
	8/6/01	8.17	171.87	--	2,700	11	40	21	240	<5.0	a	

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**Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California**

Well ID TOC (ft*)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**) (ft)	Separate Phase Hydrocarbons	TPHg	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE	Notes
MW-6	6/27/96	18.55	161.48	--	ND	ND	ND	ND	ND	--	
I80.03	12/10/99	11.79	168.24	--	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	
	5/8/98	11.62	168.41	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	8/17/98	12.66	167.37	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	11/4/98	13.56	166.47	--	68	3.8	3.7	2.8	11	<5.0	a
	2/17/99	12.91	167.12	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	5/27/99	13.03	167.00	--	<50	1.0	1.7	0.82	4.9	<5.0	
	8/19/99	13.10	166.93	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
I79.63	11/23/99	13.58	166.05	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/17/00	10.72	168.91	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	5/9/00	11.71	167.92	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	8/15/00	12.49	167.14	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	12/1/00	8.64	170.99	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/8/01	8.20	171.43	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/9/01	8.53	171.10	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	8/6/01	8.69	170.94	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
Trip Blank	5/8/98	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	11/4/98	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	5/27/99	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	11/23/99	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	12/1/00	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	

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**Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California**

Well ID TOC (ft*)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	Separate Phase Hydrocarbons (ft)	TPHg	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE	Notes
----------------------	------	---------------------------------	------------------------------------	--	------	---------	---------	------------------------	---------	------	-------

Abbreviations and Methods:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

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

MTBE = Methyl tertiary butyl ether by EPA Method 8020

(concentration in parentheses confirmed by EPA Method 8260)

µg/L = Micrograms per liter

TOC = Top of casing elevation

\* = wells surveyed to an arbitrary datum

\*\* = Calculated groundwater elevation corrected for SPH by the relation:

Groundwater Elevation = Well Elevation - Depth to Water +(0.8xSPH thickness (ft))

\*\*\* = Due to the air sparge system running during sampling, samples collected on 4/9/01

were anomalous. Well was resampled on 4/24/01 with the air sparge system off.

-- = not sampled.

Abbreviations and Methods (Cont'd):

MCLs = California primary maximum contaminant levels for drinking water (22 CCR 64444)

NE = MCLs not established

ND = Compound not detected, detection limit unknown

Notes:

a - The analytical laboratory noted that unmodified or weakly modified gasoline is significant.

b - The analytical laboratory noted that lighter than water immiscible sheen is present.

c - The analytical laboratory noted no recognizable pattern.

d - The analytical laboratory noted heavier gasoline range compounds are significant (aged gasoline?).

h - The analytical laboratory noted lighter than water immiscible sheen is present

j - The analytical laboratory noted sample diluted due to high organic content.

## **APPENDIX A**

Groundwater Monitoring Field Data Sheets

CAMBRI

## WELL DEPTH MEASUREMENTS

Project Name: Hopshii's

Project Number: 129-074

Measured By: Q. Bell

Date: 8-6-01

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## WELL SAMPLING FORM

Project Name: Hooshi's	Cambria Mgr: RS	Well ID: MW-1
Project Number: 129-0741	Date: 8-6-01	Well Yield:
Site Address: 1499 MacArthur Boulevard Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 8.83	Total Well Depth: 19.90	Water Column Height: 11.07
Volume/ft: 0.16	1 Casing Volume: 1.77	3 Casing Volumes: 5.31
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 12:10	Stop Purge Time: 12:16	Total Time: 6mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
12:12	1.5	17.4	7.35	720	
12:14	3	18.9	7.30	729	
12:17	5	19.1	7.39	747	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-1	8-6-01	12:22	4 voa's	HCL	TPHg, BTEX, MTBE	8020 8015

## WELL SAMPLING FORM

Project Name: Hooshi's	Cambria Mgr: RS	Well ID: MW-2
Project Number: 129-0741	Date: 8-6-01	Well Yield:
Site Address: 1499 MacArthur Boulevard Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 8.15	Total Well Depth: 19.80	Water Column Height: 11.65
Volume/ft: 0.16	1 Casing Volume: 1.86	3 Casing Volumes: 5.59
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5.5
Start Purge Time: 12:55	Stop Purge Time: 13:01	Total Time: 6mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
12:57	1.5	18.4	7.63	1270	
13:00	3.5	18.9	7.52	913	sheen
13:02	5.5	18.7	7.50	954	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-2	8-6-01	13:07	4 voa's	HCL	TPHg, BTEX, MTBE	8020 8015

CAMBRIA

## WELL SAMPLING FORM

Project Name: Hooshi's	Cambria Mgr: RS	Well ID: MW-3
Project Number: 129-0741	Date: 8-6-01	Well Yield:
Site Address: 1499 MacArthur Boulevard Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): SC
Initial Depth to Water: 7.61	Total Well Depth: 19.78	Water Column Height: 12.71
Volume/ft: 0.16	1 Casing Volume: 1.94	3 Casing Volumes: 5.84
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 6
Start Purge Time: 11:30	Stop Purge Time: 11:20	Total Time: 9 mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
11:22	2	18.4	7.55	821	
11:25	4	18.1	7.51	892	
11:30	6	18.5	7.59	890	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-3	8-6-01	11:35	4 voa's	HCL	TPHg, BTEX, MTBE	8020 8015

CAMBRIA

## WELL SAMPLING FORM

Project Name: Hooshi's	Cambria Mgr: RS	Well ID: ML-4
Project Number: 129-0741	Date: 8-6-01	Well Yield:
Site Address: 1499 MacArthur Boulevard Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 14.00	Total Well Depth: 14.72	Water Column Height: 5.72
Volume/ft: 0.16	1 Casing Volume: 0.91	3 Casing Volumes: 2.73
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 11:45	Stop Purge Time: 11:49	Total Time: 4 mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
11:47	1	18.7	7.27	754	
11:48	2	18.5	7.09	890	
11:50	3	18.1	7.15	871	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
ML-4	8-6-01	11:55	4 voa's	HCL	TPHg, BTEX, MTBE	8020 8015

## WELL SAMPLING FORM

Project Name: Hooshi's	Cambria Mgr: RS	Well ID: MW-5
Project Number: 129-0741	Date: 8-6-01	Well Yield:
Site Address: 1499 MacArthur Boulevard Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 3.17	Total Well Depth: 14.50	Water Column Height: 6.33
Volume/ft: 0.16	1 Casing Volume: 1.01	3 Casing Volumes: 3.03
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 12:35	Stop Purge Time: 12:39	Total Time: 4 mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
12:37	1	18.4	7.35	790	o des
12:38	2	18.9	7.32	859	
12:40	3	18.9	7.24	870	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	8-6-01	12:45	4 voa's	HCL	TPHg, BTEX, MTBE	8020 8015
				*		

CAMBRIA

## WELL SAMPLING FORM

Project Name: Hooshi's	Cambria Mgr: RS	Well ID: MW-6
Project Number: 129-0741	Date: 8-6-01	Well Yield:
Site Address: 1499 MacArthur Boulevard Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 8.69	Total Well Depth: 20.00	Water Column Height: 11.31
Volume/ft: 0.16	1 Casing Volume: 1.80	3 Casing Volumes: 5.42
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 10:55	Stop Purge Time: 11:04	Total Time: 9 mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
10:57	1.5	18.7	7.58	1170	
11:00	3	18.7	7.30	920	
11:05	5	18.7	7.42	959	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-6	8-6-01	11:10	4 voa's	HCL	TPHg, BTEX, MTBE	8020 8015

## **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 Environmental Technology 6262 Hollis Street Emeryville, CA 94608	Client Project ID: #129-0741; Hooshi's	Date Sampled: 08/06/01
	Client Contact: Ron Scheele	Date Received: 08/09/01
	Client P.O:	Date Extracted: 08/09/01
		Date Analyzed: 08/09/01

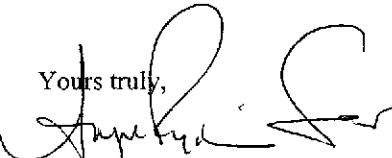
08/16/01

Dear Ron:

Enclosed are:

- 1). the results of 6 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



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Cambria Environmental Technology 6262 Hollis Street Emeryville, CA 94608	Client Project ID: #129-0741; Hooshi's	Date Sampled: 08/06/01
		Date Received: 08/09/01
	Client Contact: Ron Scheele	Date Extracted: 08/09-08/13/01
	Client P.O:	Date Analyzed: 08/09-08/13/01

**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	Ethyl-benzene	Xylenes	% Recovery Surrogate
74476	MW-1	W	140,a	5.8	1.7	0.55	ND	0.63	109
74477	MW-2	W	54,000,a,h	ND<200	680	1900	1500	7800	100
74478	MW-3	W	ND	ND	ND	ND	ND	ND	102
74479	MW-4	W	59,a	ND	1.5	ND	ND	ND	95
74480	MW-5	W	2700,a	ND	11	40	21	240	100
74481	MW-6	W	ND	ND	ND	ND	ND	ND	96
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L	5.0	0.5	0.5	0.5	0.5		
	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005		

\* water and vapor samples are reported in ug/L, 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



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Cambria Environmental Technology 6262 Hollis Street Emeryville, CA 94608	Client Project ID: #129-0741; Hooshi's	Date Sampled: 08/06/01
		Date Received: 08/09/01
	Client Contact: Ron Scheele	Date Extracted: 08/13/01
	Client P.O:	Date Analyzed: 08/13/01

**Methyl tert-Butyl Ether \***

EPA method 8260 modified

Lab ID	Client ID	Matrix	MTBE*	% Recovery Surrogate
74476	MW-1	W	4.0	106
74477	MW-2	W	ND<10,j,h	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		1.0 ug/L	
	S		5.0 ug/kg	

\* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director



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## QC REPORT

### EPA 8015m + 8020

Date: 08/09/01

Extraction: TTLC

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD	
	Sample	MS	MSD	Amount Spiked	MS		
<u>SampleID:</u> 80301						<u>Instrument:</u> GC-3	
Surrogate1	ND	96.0	98.0	100.00	96	98	2.1
Xylenes	ND	26.3	26.0	30.00	88	87	1.1
Ethylbenzene	ND	8.6	8.6	10.00	86	86	0.0
Toluene	ND	9.0	8.9	10.00	90	89	1.1
Benzene	ND	9.6	9.3	10.00	96	93	3.2
MTBE	ND	9.7	9.7	10.00	97	97	0.0
TPH (gas)	ND	82.2	82.6	100.00	82	83	0.5

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

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

RPD means Relative Percent Deviation



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## QC REPORT

### VOCs (EPA 8240/8260)

Date: 08/13/01-08/14/01

Extraction: N/A

Matrix: Water

Compound	Concentration: ug/L			%Recovery			RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
<u>SampleID:</u> 81001							<u>Instrument:</u> GC-4
Surrogate	ND	101.0	105.0	100.00	101	105	3.9
Methyl tert-Butyl Ether	ND	9.2	8.7	10.00	92	87	5.6

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

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

RPD means Relative Percent Deviation

~~27201 ZC 447~~

McCAMPBELL ANALYTICAL INC.  
110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622

Report To: Ron Schieele

Bill To: Cambria Env. Tech

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  
Blvd. Oakland, CA

**Sampler Signature:**

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## CHAIN OF CUSTODY RECORD

TURN AROUND TIME       
 8 HOURS 24 HOURS 48 HOURS 6 DAYS

RUSH 24 HOUR 48 HOUR 5 DAY