CAMBRIA

ENVIRONMENTAL PROTECTION
99 MAR -1 PM 12:48

February 26, 1999

Ms. Juliet Shin
Alameda County Department of
Environmental Health
UST Local Oversight Program
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Re: **Fourth Quarter ~~1998~~ 1998 Monitoring Report**
Hooshi's Auto Service
1499 MacArthur Blvd.
Oakland, California 94602

Dear Ms. Shin:

On behalf of Ms. Naomi English, Cambria Environmental Technology, Inc. (Cambria) has prepared this report presenting the fourth quarter 1998 ground water monitoring results for the site referenced above. Presented below are the fourth quarter 1998 activities, the current ground water flow direction, the current hydrocarbon distribution in ground water, and the anticipated first quarter 1999 activities.

FOURTH QUARTER 1998 ACTIVITIES

Quarterly Ground Water Sampling: On November 4, 1998 Cambria gauged and sampled all onsite and offsite ground water monitoring wells. The thickness of separate-phase hydrocarbons (SPH), when detected, was measured. The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-butyl ether (MTBE).

Remediation System: Cambria submitted an application for an air permit from the Bay Area Air Quality Management District for construction and operation of a soil-vapor extraction (SVE) system at the site on February 23, 1998. Once a permit has been granted, Cambria will begin installation of the SVE system.

GROUND WATER FLOW DIRECTION

Based on the November 4, 1998 depth-to-water measurements, ground water mounded in the vicinity of the former underground storage tanks (Figure 1). The ground water flow appears to be to the predominantly toward the north. Table 1 summarizes the ground water elevation data.

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

Cambria Environmental Technology, Inc.

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

HYDROCARBON DISTRIBUTION IN GROUND WATER

Separate phase hydrocarbons were measured in wells MW-2 and MW-5. A maximum benzene concentration of 11mg/kg was detected in well MW-1. MTBE was not detected in any well by EPA Method 8020 analysis. Table 1 summarizes the ground water analytical results. The laboratory reports are included in Attachment A. The water sampling field sheets are included as Attachment B.

ANTICIPATED FIRST QUARTER 1999 ACTIVITIES

Quarterly Ground Water Sampling: As requested by the Alameda County Department of Environmental Health, Cambria will gauge and collect water samples from each ground water monitoring well, and measure the thickness of any detected SPH. Samples will be analyzed for TPHg, BTEX, and MTBE. Cambria will tabulate the data, contour ground water elevations, and prepare a quarterly monitoring report.

***Remediation System*:** Cambria will install and begin operating a SVE system at the site upon permit approval. A SVE start-up report and updates will be presented in separate remediation reports.

CLOSING

Cambria appreciates the opportunity to provide environmental services to Ms. Naomi English. Please call me at (510) 420-3316 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

for John Riggi

John Riggi
Staff Geologist

Owen Ratchye, P.E.
Project Engineer

REGISTERED PROFESSIONAL ENGINEER
OWEN C. RATCHYE
No. C47749
Exp. 12/31/99
CIVIL
STATE OF CALIFORNIA

H:\SB-2004\Oakl - Hooshi's\QM\4Q98.wpd

Attachments: A - Analytical Results for Ground Water Sampling
B - Water Sampling Field Notes

cc: Ms. Naomi English, 1545 Scenic View Dr., San Leandro, CA 94577

Hooshi's Auto Service
1499 MacAurthur Boulevard
Oakland, California

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Ground Water Elevation Contour Map
November 4, 1998

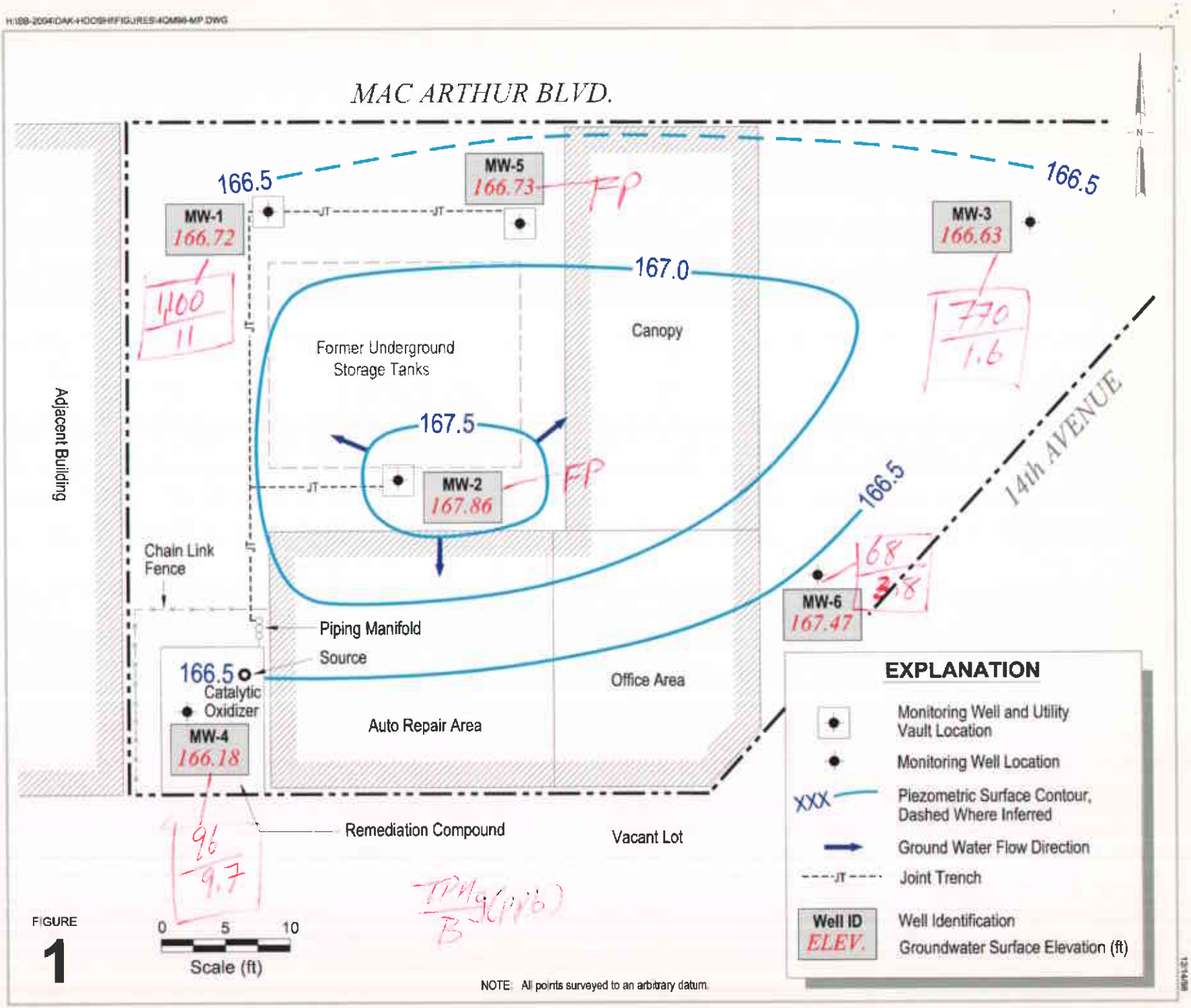

FIGURE
1

Table 1. Ground Water Elevations and Analytical Data

Hooshi's Auto Service, 1499 MacArthur Boulevard
Oakland, California

Well ID *TOC* *(ft*)*	Date	Depth to Ground Water (ft)	Ground Water Elevation (ft*)	Separate Phase Hydrocarbons (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					← (µg/L) →						
MW-1	6/27/96	14.11	166.89	--	3,300	260	34	59	170	80	
181.00	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
MW-2	6/27/96	12.61	167.84	1.00	--	--	--	--	--	--	
180.45	5/8/98	10.81	169.64	0.03	--	--	--	--	--	--	
	8/17/98	12.16	168.29	0.02	--	--	--	--	--	--	
	11/4/98	**12.61**	**167.86**	**0.02**	--	--	--	--	--	--	
MW-3	6/27/96	13.20	166.74	--	2	22	2.9	11	7.4	56	
179.94	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,j
	11/4/98	**13.31**	**166.63**	--	**770**	**1.6**	**4.4**	**2.0**	**6.9**	**<30**	j
MW-4	6/27/96	17.03	163.51	--	720	2	0.5	2.5	23	3.2	
180.54	5/8/98	11.46	168.48	--	<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
MW-5	6/27/96	13.62	166.61	0.16	--	--	--	--	--	--	
180.23	5/8/98	13.15	166.79	0.04	--	--	--	--	--	--	
	8/17/98	13.36	166.87	0.02	--	--	--	--	--	--	
	11/4/98	**13.52**	**166.73**	0.02	--	--	--	--	--	--	

MW-6	6/27/96	18.55	161.48	--	ND	ND	ND	ND	ND	--	
180.03	5/8/98	11.62	168.32	--	<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**
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**	
MCLs	--	--	--	--	NE	1	150	700	1,750	NE	

Table 1. Ground Water Elevations and Analytical Data

Hooshi's Auto Service, 1499 MacArthur Boulevard
Oakland, California

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 tert-butyl ether by EPA Method 8020

DO = Dissolved oxygen

µg/L = Micrograms per liter

mg/L = Milligrams per liter

TOC = Top of casing elevation

Abbreviations and Methods (Cont'd):

* = elevations surveyed to an arbitrary datum

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.

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ATTACHMENT A

Analytical Results for Ground Water Sampling

McCAMPBELL ANALYTICAL INC.
110 Second 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: #129-0741; Hooshi's Auto	Date Sampled: 11/04/98
1144 65th Street, Suite C		Date Received: 11/06/98
Oakland, CA 94608	Client Contact: John Riggi	Date Extracted: 11/08-11/10/98
	Client P.O:	Date Analyzed: 11/08-11/10/98

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
98279	MW-4	W	96,a	ND	9.7	8.1	4.8	18	103
98280	MW-3	W	770,j	ND<30	1.6	4.4	2.0	6.9	106
98281	MW-1	W	1100,a	ND<50	11	4.3	3.6	6.5	106
98282	MW-6	W	68,a	ND	3.8	3.7	2.8	11	107
98283	Trip Blank	W	ND	ND	ND	ND	ND	ND	90
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

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/09/98-11/10/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#98261)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	93.7	91.2	100.0	93.7	91.2	2.8
Benzene	0.0	10.2	9.5	10.0	102.0	95.0	7.1
Toluene	0.0	11.0	9.7	10.0	110.0	97.0	12.6
Ethyl Benzene	0.0	10.6	9.9	10.0	106.0	99.0	6.8
Xylenes	0.0	31.8	29.8	30.0	106.0	99.3	6.5
TPH(diesel)	0.0	151	171	150	100	114	12.7
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

ok

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

12925 xC362

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: John Rigg Bill To:
Company: Cambria Environmental Technology
1144 65th Street, Suite C
Oakland, CA 94608
Tele: (510) 420-0700 Fax: (510) 420-9170
Project #: 129-0741 Project Name:
Project Location: Oakland 1499 MacArthur Blvd. Hoosh's Auto
Sampler Signature: KHSHIRD

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)/ 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	Other	Other	Other	Comments
(+) MW-4	Hoosh's	11-4/98	125	4		X						X			X																		98279
(+) MW-3	↓	↑	130	4		X						X			X																		98280
(+) MW-1			135	4		X						X			X																		98281
(+) MW-6			145	4		X						X			X																		98282
TB-1	↓	↓	200	1		X						X			X																		98283

Relinquished By:	Date:	Time:	Received By:
KHSHIRD	11-4	305	JMG 608
	Date:	Time:	Received By:
	11-6	12:00	Dana A Rathin
Relinquished By:	Date:	Time:	Received By:

Remarks:

ICE/● ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOAS	O&G	METALS	OTHER
✓			

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ATTACHMENT B

Water Sampling Field Notes

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WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-4	11:30		14.36		19.94	
MW-3			13.31		20.4	
MW-1			14.28		20.1	
MW-6			13.56		20.2	
MW-2		12.59	12.61	.02	20.1	SLIGHT ODOR
MW-5	12:00	13.51	13.52	.01	20.9	ODOR
			Not on well sampling form			

Measured By: Keith S. McDuell

Date: 11-4-98

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WELL SAMPLING FORM

Project Name: **Hooshi's Auto**	Cambria Mgr: **OR**	Well ID: MW-1
Project Number: 129-0741	Date: **11/4/98**	Well Yield:
Site Address: **1499 MacArthur Blvd. Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2 **" pvc**
		Technician(s): **KM**
Initial Depth to Water: 14.28	Total Well Depth: 20.1'	Water Column Height: 5.82
Volume/ft: 0.16	1 Casing Volume: 0.93	4 Casing Volumes: 3.7
Purging Device: **sub pump**	Did Well Dewater?: No	Total Gallons Purged: 3.7
Start Purge Time: 12:50	Stop Purge Time: 12:56	Total Time: 6 min

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
12:50		19.0	6.7	1130	✓
12:52		19.6	6.6	1084	clear
12:54		19.8	6.6	1150	
12:56		19.6	6.8	1149	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-1	**11/4/98**	1:35	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020**
↓	↓	↓	↓			
↓	↓	↓	↓			
↓	↓	↓	↓			

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WELL SAMPLING FORM

Project Name: **Hooshi's Auto**	Cambria Mgr: **OR**	Well ID: MW-2
Project Number: 129-0741	Date: **11/4/98**	Well Yield:
Site Address: **1499 MacArthur Blvd. Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2"" **pvc**
		Technician(s): **KM**
Initial Depth to Water: 12.61	Total Well Depth: 20.1	Water Column Height: 7.49
Volume/ft: 0.16	1 Casing Volume: 1.19	4 Casing Volumes: 4.7
Purging Device: **sub pump**	Did Well Dewater?:	Total Gallons Purged: 4.7
Start Purge Time:	Stop Purge Time:	Total Time:

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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
	11/4/98		**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020**

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WELL SAMPLING FORM

Project Name: **Hooshi's Auto**	Cambria Mgr: **OR**	Well ID: MW-3
Project Number: 129-0741	Date: **11/4/98**	Well Yield:
Site Address: **1499 MacArthur Blvd. Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2" **" pvc**
		Technician(s): **KM**
Initial Depth to Water: 13.31	Total Well Depth: 20.4	Water Column Height: 7.09
Volume/ft: 0.16	1 Casing Volume: 1.13	4 Casing Volumes: 4.53
Purging Device: **sub pump**	Did Well Dewater?: No	Total Gallons Purged: 4.53
Start Purge Time: 12:40	Stop Purge Time: 12:48	Total Time: 8 min

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
12:40		20.5	6.8	874	
12:42		21.0	6.7	817	clear
12:44		20.7	6.8	856	
12:46		20.7	6.6	881	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-3	**11/4/98**	1:30	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020**
↓	↓	↓	↓			
↓	↓	↓	↓			
↓	↓	↓	↓			

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WELL SAMPLING FORM

Project Name: **Hooshi's Auto**	Cambria Mgr: **OR**	Well ID: MW-4
Project Number: 129-0741	Date: **11/4/98**	Well Yield:
Site Address: **1499 MacArthur Blvd. Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2" **pvc**
		Technician(s): **KM**
Initial Depth to Water: 14.36	Total Well Depth: 19.94	Water Column Height: 5.58
Volume/ft: 0.16	1 Casing Volume: 0.89	4 Casing Volumes: 3.5
Purging Device: **sub pump**	Did Well Dewater?: No	Total Gallons Purged: 3.5
Start Purge Time: 12:30	Stop Purge Time: 12:38	Total Time: 8 min

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
12:30	.89	23.1	7.6	1011	
12:33		19.4	7.1	1064	
12:35		19.1	7.0	920	
12:38		18.9	7.0	10.48	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	**11/4/98**	1:25	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020**

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WELL SAMPLING FORM

Project Name: **Hooshi's Auto**	Cambria Mgr: **OR**	Well ID: MW-5
Project Number: 129-0741	Date: **11/4/98**	Well Yield:
Site Address: **1499 MacArthur Blvd. Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2" **pvc**
		Technician(s): **KM**
Initial Depth to Water:	Total Well Depth: 20.9	Water Column Height: 7.38
Volume/ft: 0.16	1 Casing Volume: 1.1	4 Casing Volumes: 4.7
Purging Device: **sub pump**	Did Well Dewater?:	Total Gallons Purged: 4.7
Start Purge Time:	Stop Purge Time:	Total Time:

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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
	11/4/98		**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020**

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WELL SAMPLING FORM

Project Name: **Hooshi's Auto**	Cambria Mgr: **OR**	Well ID: MW-6
Project Number: 129-0741	Date: **11/4/98**	Well Yield:
Site Address: **1499 MacArthur Blvd. Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2" **pvc**
		Technician(s): **KM**
Initial Depth to Water: 13.56	Total Well Depth: 20.2	Water Column Height: 6.64
Volume/ft: 0.16	1 Casing Volume: 1.06	4 Casing Volumes: 4.2
Purging Device: **sub pump**	Did Well Dewater?: No	Total Gallons Purged: 4.2
Start Purge Time: 1:00	Stop Purge Time: 1:08	Total Time: 8 min

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
1:00		20.0	6.7	1512	
1:02		20.5	6.7	1499	Clear
1:04		20.0	6.8	1575	
1:06		20.3	6.7	1589	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-6	**11/4/98**	1:45	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE**	**8020**