



ENVIRONMENTAL
PROTECTION

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October 12, 1999

Project Number 192-01-03

8/24/99 event

Mr. Hooshang Hadjian
Foothill Beacon
7240 Dublin Boulevard
Dublin, CA 94568

Subject: Report of Groundwater Monitoring at Foothill Beacon, 16210 Foothill Boulevard, San Leandro, California

This Groundwater Monitoring Report describes the site history, field work and laboratory analysis results for a sampling event at the subject property.

The project site is located at 16210 Foothill Boulevard, San Leandro, California. The site is currently used as a convenience store that retails gasoline under the name Foothill Beacon.

SITE BACKGROUND

Four underground storage tanks were removed from this site by California Petroleum Equipment, Inc., of Fresno on January 28, 1997. There were two 8,000 gallon tanks and two 5,000 gallon tanks, single wall steel, and appeared to be in fair condition, with some pitting evident on the tanks with close inspection.

The Alameda County inspector probed the pitted areas and found two 1/4" to 1/2" holes at the end of one of the 5,000 gallon tanks. The holes were about three feet from the bottom of the tank at the weld by the tank cylinder and tank end. Although the metal was soft enough to disintegrate with the probing of a screw-driver, it appears that the tank did not leak from these spots. The tanks were sitting in about four feet of water, and if the tanks leaked, water would have been three to four feet deep in this tank. Since no water was pumped from the tank during service, the tank was apparently intact until removal. Groundwater was eleven feet below grade surface on the day of the tank removal, as measured by a tape measure.

Soil samples were collected from the tank excavation. Sample analysis results show up to 360 ppm TPH-g, up to 9.4 ppm MTBE, up to 2.3 ppm benzene, up to 2.3 ppm toluene, up to 3.0 ppm ethyl-benzene, and up to 98 ppm xylenes.

Three monitoring wells were installed and soil samples were taken by Parker Environmental Services on October 13, 1998, results found in Table 1.

**Table 1 - Soil Sample Analysis Results
Foothill Beacon
Samples Taken October 13, 1998**

Sample	TPH-g	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-1 @ 25.5'	ND	ND	ND	ND	ND	ND
MW-1 @ 30.5'	ND	ND	ND	ND	ND	ND
MW-2 @ 5.5'	ND	ND	ND	ND	ND	ND
MW-2 @ 10.5'	ND	ND	ND	ND	ND	ND
MW-2 @ 15.5'	ND	ND	ND	ND	ND	ND
MW-3 @ 5.5'	ND	1.8	ND	ND	0.005	0.019
MW-3 @ 10.5'	ND	0.38	ND	ND	ND	ND
MW-3 @ 15.5'	ND	0.34	ND	ND	ND	ND
Detect. Limit	1.0	0.05	0.005	0.005	0.005	0.005

ND means not detected. Results are in µg/L or parts per billion.

From the survey and depth to groundwater measurement data, the site groundwater on October 26, 1998 was approximately ten feet below grade surface (BGS) and the gradient direction was N 79.83 °E, with an apparent gradient of 0.0082 ft./ft. The gradient on November 2, 1998 was found to have an apparent gradient direction of S 69.30 °E, with an average gradient of 0.0036 ft./ft.

Groundwater samples were obtained from the wells on November 2, 1998 and analyzed for TPH as gasoline (EPA method 5030/8015) with BTEX and MTBE (method 602). Sample analysis shows no TPH-g, BTEX or MTBE detected in MW-1 and MW-2. TPH-g and BTEX were not detected in MW-3, but MTBE was detected at 190 parts per billion (ppb).

The first quarter groundwater monitoring of February 1999 showed groundwater about 10 feet BGS, with gradient direction S 63.15° E and apparent slope of 0.003 ft/ft. Sample analysis only showed MTBE in MW-3 at 340 ppb. All other analysis showed non-detect.

Current Activities

Sampling and measurements were done on August 24, 1999. Prior to sampling, the groundwater elevations were measured using an electric water level meter. Initial depths below ground surface were as follows:

**Table 2: Groundwater Evaluation
Foothill Beacon
16210 Foothill Boulevard
Measured August 24, 1999**

Well	Casing Elevation	Depth to Water	Ground Water Elevation
MW-1	138.57	11.43	127.14
MW-2	137.94	10.65	127.29
MW-3	138.88	11.58	127.30

* elevation above mean sea level, in feet

Groundwater gradient direction on August 24, 1999 was S 52.26° E at an apparent slope of 0.0023 ft/ft. Figure 2 shows apparent groundwater gradient.

Between seven and fourteen gallons were removed from each well, more than three well volumes. All purge water was placed in a sealed plastic drum and remains on site. Samples were taken from the end of the discharge hose at a flow rate of less than one liter per minute. The water from each well was placed in two 40-milliliter vials filled so that there was no air (head space) remaining in them. Samples were labeled and placed on ice in a cooler for transport to a state certified hazardous materials testing laboratory, McCampbell Analytical of Pacheco, California.

Sampling equipment was cleaned in one bucket with TSP Substitute and rinsed in two separate buckets with tap water, then rinsed with deionized water after use at each well. All purge water and equipment wash water was placed in a plastic drum and remains on-site. A copy of the Water Level Measurements Form is attached to this report.

The samples were analyzed for TPH-gasoline, MTBE and BTEX using EPA Methods 8015 and 8020. A copy of the laboratory report and Chain of Custody form are attached to this report. Results are shown in Table 3 and Figure 3, the Hydrocarbon Concentration Map.

**Table 3 - Groundwater Sample Analysis Results
Foothill Beacon
Samples collected August 24, 1999**

Sample #	TPH-g	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-1	ND	ND	ND	ND	ND	ND
MW-2	ND	ND	ND	ND	ND	ND
MW-3	ND	81	ND	ND	ND	ND
Det. Limit	50	5.0	0.5	0.5	0.5	0.5

ND means not detected. Results are in µg/L or parts per billion.

The analysis results are similar to samples taken when the wells were installed and the first quarter – but the lowest results to date.

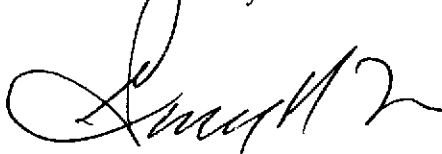
Future Directions

One additional quarterly monitoring event is scheduled. This additional sampling test will provide seasonal tracking of gradient as well as groundwater in MW-3. Copies of this report will be forwarded to the Alameda County Environmental Management Department, and to the California Regional Water Quality Control Board, San Francisco Bay Region.

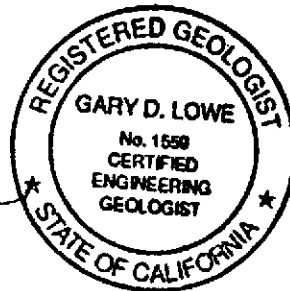
Sincerely:
PARKER ENVIRONMENTAL SERVICES

James D. Parker
President

Reviewed By:

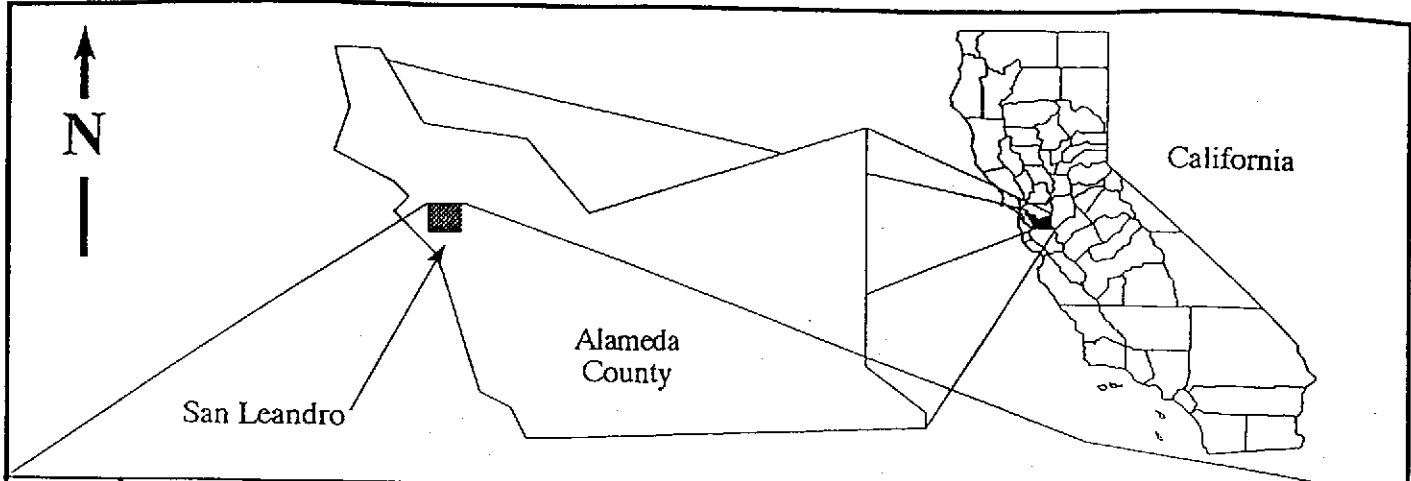


Gary D. Lowe, R.G., C.E.G.
Principal, Hydrogeologist
H₂OGEOL, A GroundWater Consultancy

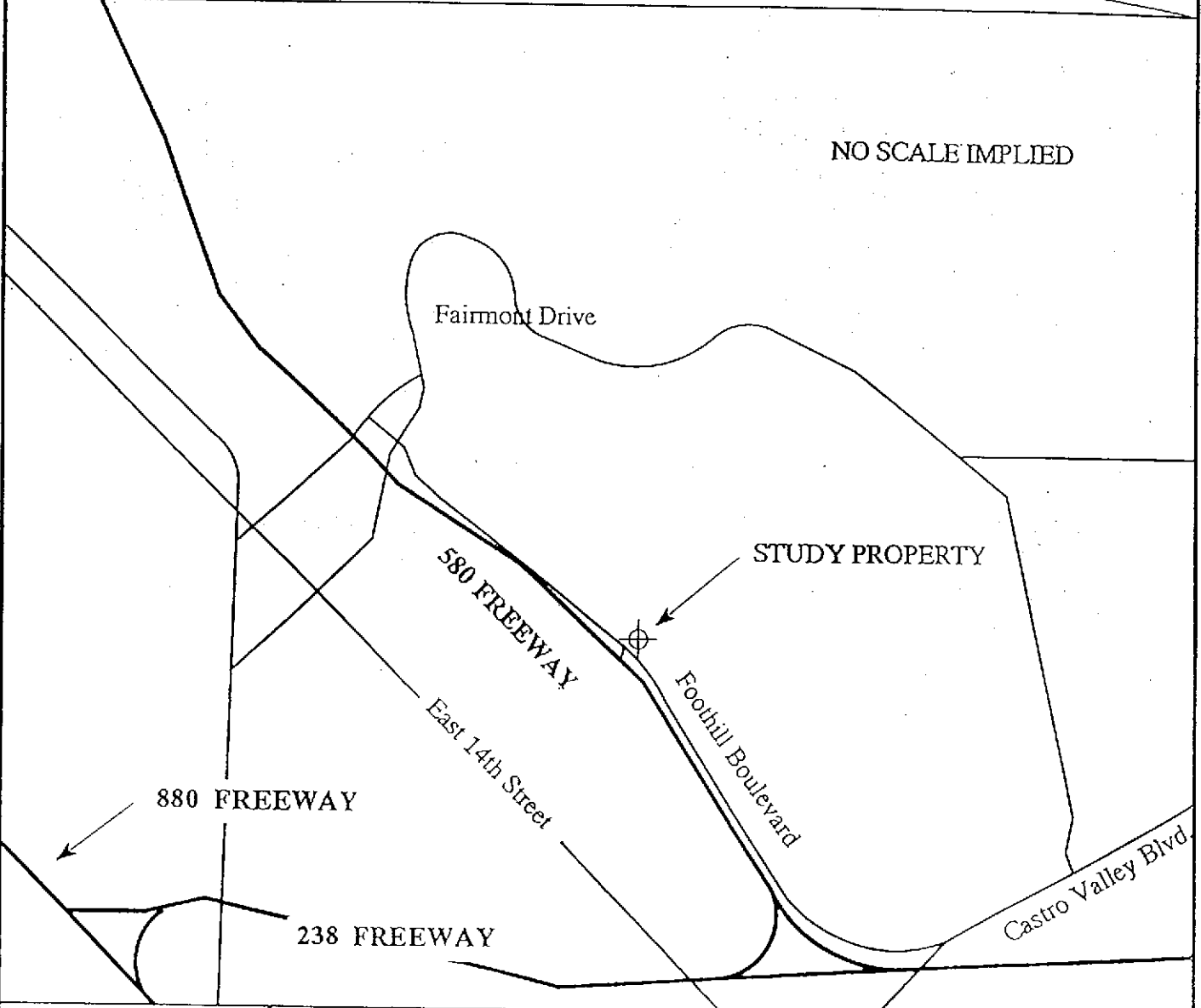


Attachments

cc: Mr. Robert Weston, Alameda County Environmental Management Department
Mr. Lester Feldman, San Francisco Bay Regional Water Quality Control Board



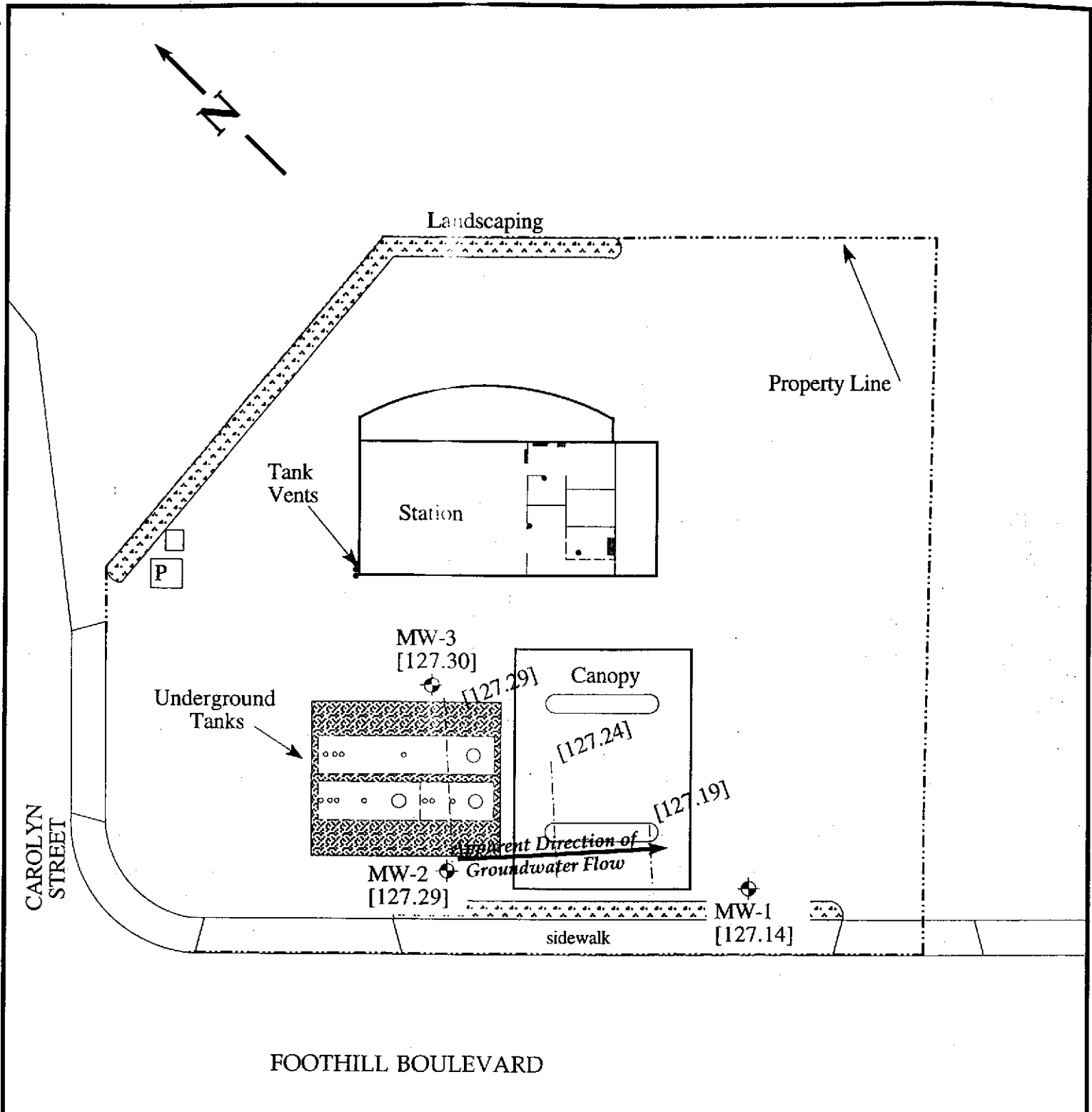
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PARKER
Environmental
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190 East 7th Street
Pittsburg, CA 94565
(510) 439-1024

FOOTHILL BEACON
16210 Foothill Boulevard
San Leandro, California
Figure 1 - Vicinity Map



FOOTHILL BOULEVARD

580 FREEWAY

Scale: 1" = 30'

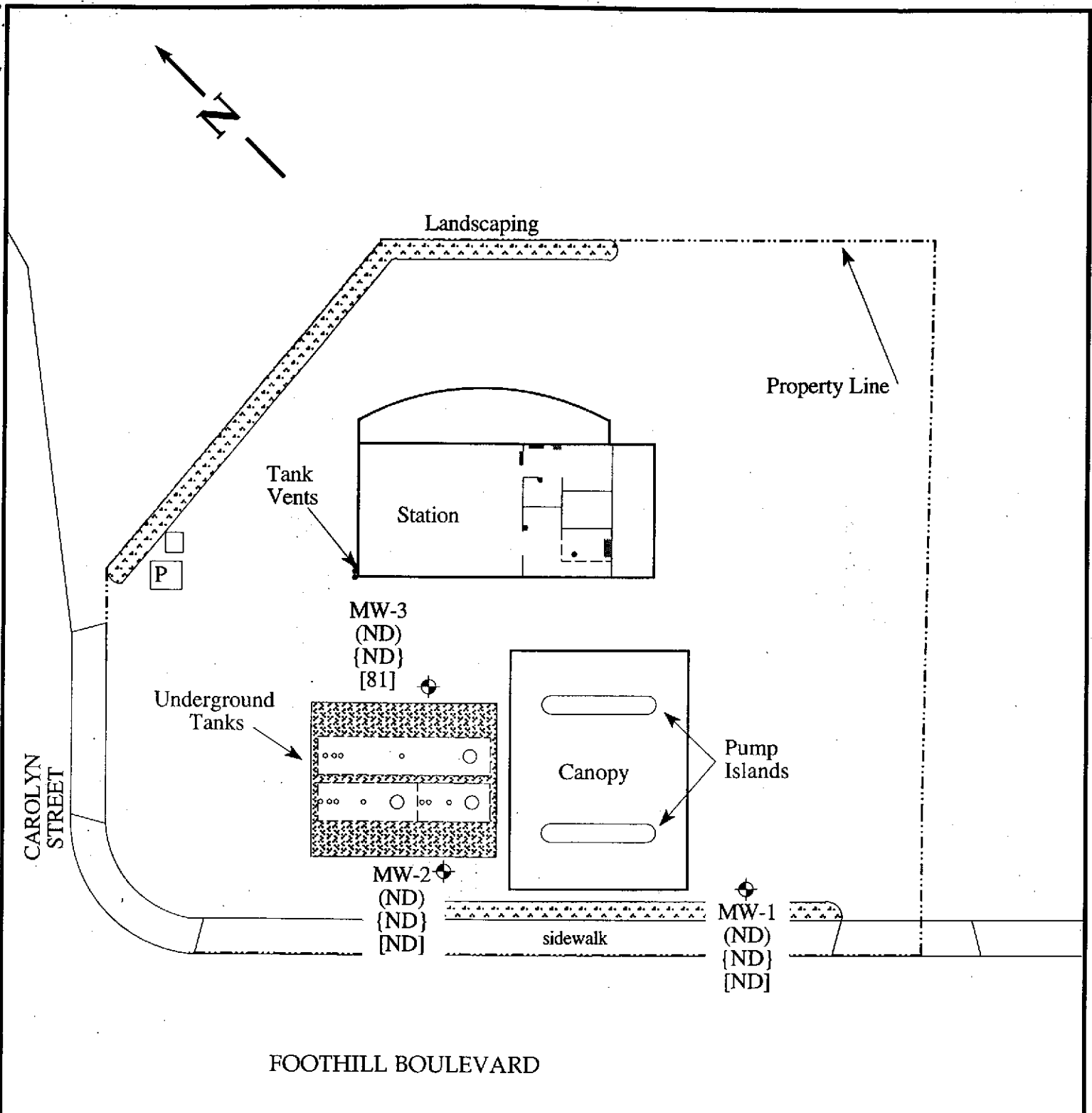
Wells measured on August 24, 1999

- ⊕ = monitoring well
- [X.X] = groundwater elevation
- - - = line of equal elevation

Location of site features are approximate.

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Figure 2 - Groundwater Gradient
Foothill Beacon
16210 Foothill Boulevard
San Leandro, CA



Key:

- ◆ = monitoring well
- (X.X) = TPH-g
- {X.X} = Benzene
- [X.X] = MTBE

580 FREEWAY

Samples collected August 24, 1999.
Results are in parts per billion (ppb).

Scale: 1" = 30'

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Figure 3, Groundwater Sample Results
Foothill Beacon
16210 Foothill Boulevard
San Leandro, CA

Location of site features are approximate.



McCAMPBELL ANALYTICAL INC.

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<http://www.mccampbell.com> E-mail: main@mccampbell.com

Parker Environmental Services 190 East 7 th Street Pittsburg, CA 94565	Client Project ID: Foothill Beacon, San Leandro	Date Sampled: 08/24/99
	Client Contact: Jim Parker	Date Received: 08/30/99
	Client P.O.:	Date Analyzed: 08/30/99
		Date Extracted: 08/30/99

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	Ethylbenzene	Xylenes	% Recovery Surrogate
18212	93/FB/MW-1	W	ND	ND	ND	ND	ND	ND	96
18213	93/FB/MW-2	W	ND	ND	ND	ND	ND	ND	96
18214	93/FB/MW-3	W	ND	81	ND	ND	ND	ND	88
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	0.5	
	S	1.0 mg/kg	0.05	0.005	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.

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/29/99-08/30/99

Matrix: WATER

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample (#17000)	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	100.4	102.1	100.0	100.4	102.1	1.7
Benzene	0.0	9.6	9.2	10.0	96.0	92.0	4.3
Toluene	0.0	9.5	9.2	10.0	95.0	92.0	3.2
Ethyl Benzene	0.0	9.6	9.4	10.0	96.0	94.0	2.1
Xylenes	0.0	29.5	28.2	30.0	98.3	94.0	4.5
TPH(diesel)	0.0	8420	8662	7500	112	115	2.8
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = ((\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD})) \times 2 \times 100$$

PARKER ENVIRONMENTAL SERVICES LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW-1 Project Name: Foothill Beacon
16210 Foothill Blvd., San Leandro, CA Date: 8/24/99

Sampled by: James Young Weather Conditions: _____

Well Location: _____ Well Casing Diameter: 2-inch Depth of Well Casing: 29.29

Measuring Point: Top of PVC Casing Initial Depth to Water: 11.43 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 4.54/13.62 Well Borehole Volume: _____

Purging Method: Centrifugal Pump/Peristaltic Pump
Grundfos Submersible Pump
Centrifugal Pump/ES-60 Submersible
ES-40/-60 Submersible Pump X

Sampling Method: Peristaltic Pump
Grundfos Submersible Pump
Teflon Bailer
ES Sub. Pump @ <1L/min. X

Purging Rate: See below Total Discharge: 15 Casing Volumes Purged: 3.30

Comments: _____

Waste Water Disposal: To drum.

Starting Time: 7:45

Time Pump on: 7:50

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.	Dil. Factor	S.C. (µS/cm)	Color
8/24/99	8:06	13	7.30	67.5		x	= 2570	
	8:08	13 1/2	7.29	67.4		x	= 2570	
	8:09	14	7.29	67.7		x	= 2580	
	8:11	14 1/2	7.29	67.8		x	= 2560	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	

Sample Identification: 93/FB/MW-1 Sample Time: 8:12

TURBIDITY ANALYSIS

Finishing Time: _____ Time Analyzed: _____ NTU Value: _____

PARKER ENVIRONMENTAL SERVICES LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW-2 Project Name: Foothill Beacon
16210 Foothill Blvd., San Leandro, CA Date: 8/24/89

Sampled by: [Signature] Weather Conditions: _____

Well Location: _____ Well Casing Diameter: 2-inch Depth of Well Casing: 24.55

Measuring Point: Top of PVC Casing Initial Depth to Water: 10.65 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 2.27/6.80 Well Borehole Volume: _____

Purging Method: Centrifugal Pump/Peristaltic Pump Sampling Method: Peristaltic Pump
Grundfos Submersible Pump
Centrifugal Pump/ES-60 Submersible
ES-40/60 Submersible Pump X
Teflon Bailer
ES Sub. Pump @ <1L/min. X

Purging Rate: See below Total Discharge: 8.5 Casing Volumes Purged: 3.74

Comments: _____

Waste Water Disposal: To drum.

Starting Time: 8:16

Time Pump on: 8:21

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.	Dil. Factor	S.C. (µS/cm)	Color
8/24/89	8:30	6.5	7.26	68.0		x	= 2450	
	8:32	7	7.26	68.3		x	= 2450	
	8:33	7.5	7.25	68.5		x	= 2450	
	8:34	8	7.25	68.5		x	= 2450	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	

Sample Identification: 93 /FB/MW-2 Sample Time: 8:36

TURBIDITY ANALYSIS

Finishing Time: _____ Time Analyzed: _____ NTU Value: _____

PARKER ENVIRONMENTAL SERVICES LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW-3 Project Name: Foothill Beacon
16210 Foothill Blvd., San Leandro, CA Date: 8/24/99

Sampled by: D. Maxwell Weather Conditions: _____

Well Location: _____ Well Casing Diameter: 2-inch Depth of Well Casing: 24.37

Measuring Point: Top of PVC Casing Initial Depth to Water: 11.38 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 2.08/6.25 Well Borehole Volume: _____

Purging Method: Centrifugal Pump/Peristaltic Pump Sampling Method: Peristaltic Pump
Grundfos Submersible Pump
Centrifugal Pump/ES-60 Submersible
ES-40/-60 Submersible Pump X
ES Sub. Pump @ <1L/min. X

Purging Rate: See below Total Discharge: 8 Casing Volumes Purged: 3.85

Comments: _____

Waste Water Disposal: To drum.

Starting Time: 8:42

Time Pump on: 8:47

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.	Dil. Factor	S.C. (µS/cm)	Color
8/24/99	8:51	6	7.42	68.1		x	= 2100	
	8:53	6.5	7.39	68.2		x	= 2110	
	8:54	7	7.37	68.3		x	= 2110	
	8:55	7.5	7.35	68.4		x	= 2110	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	

Sample Identification: 93 /FB/MW-3 Sample Time: 8:57

TURBIDITY ANALYSIS

Finishing Time: _____ Time Analyzed: _____ NTU Value: _____