Weiss Associates Environmental and Geologic Services

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February 2, 1993

Juliet Shin
Alameda County Department of
Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

Re: STID #3014
Shell Service Station
1601 Webster Street
Alameda, California
WA Job #81-434-100

Dear Ms. Shin:

As requested in your August 19, 1992 letter, this letter summarizes the results of Weiss Associates (WA) recent subsurface investigation at 1601 Webster Street, Alameda, California (Figure 1). The investigation objectives were to assess the extent of hydrocarbons in soil and ground water adjacent to well MW-2 and downgradient of the underground storage tanks (USTs) at the site. WA faxed you preliminary results on December 23, 1992, which was within the 45 day deadline indicated in your August 19, 1992 letter. A summary of our investigation results and our recommendations for additional work are presented below.

Between October 12 and 22, 1992, WA drilled seven soil borings near well MW-2 and north of the underground storage tanks (Figure 2). Analytic results for the soil and water samples collected from the borings are presented in Tables 1 and 2. Results of this work included:

- Hydrocarbons were not detected in any of the soil samples collected from borings BH-C, BH-G, BH-H and BH-I. However, hydrocarbons were detected in soil samples from borings BH-D, BH-E and BH-F. Hydrocarbons were also detected in ground water samples from all borings (Figure 3).

- Halogenated Volatile Organic Compounds (HVOCs) were not detected in any of the soil or ground water samples from the borings (Figure 3).

To assess the downgradient extent of hydrocarbons in ground water, WA recommends drilling and sampling one soil boring at the northern property line and installing a well in the boring (Figure 2). WA is also currently reviewing records to assess whether other wells are located at any nearby sites. Based on the analytic results for soil and ground water samples from the newly installed monitoring well, and the results of our record review we will determine whether additional monitoring wells should be installed. A complete investigation report will be submitted once the extent of hydrocarbons in groundwater is determined.

Please call us if you have any questions.

Sincerely,
Weiss Associates

N. Scott MacLeod
Project Geologist

JF/NSM/JPT:jf

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Attachments: A - Analytic Results for Soil and Ground Water
B - Soil Boring Logs for BH-C through BH-I

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Richard Quarante, Alameda Fire Department, 1300 Park Street, Alameda, California 94501
Richard Hiett, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

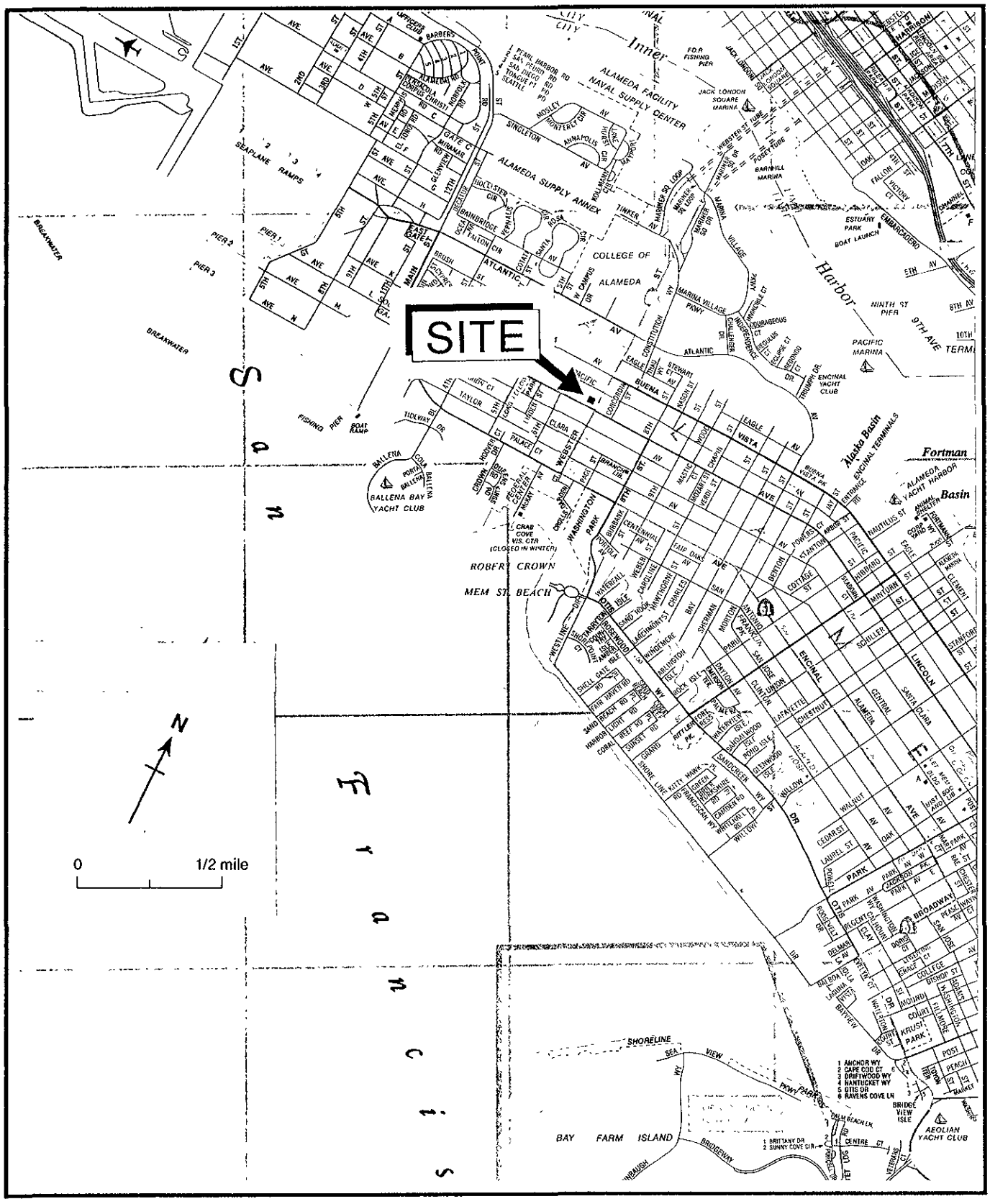

Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0403, 1601 Webster Street, Alameda, CA

8/20/90

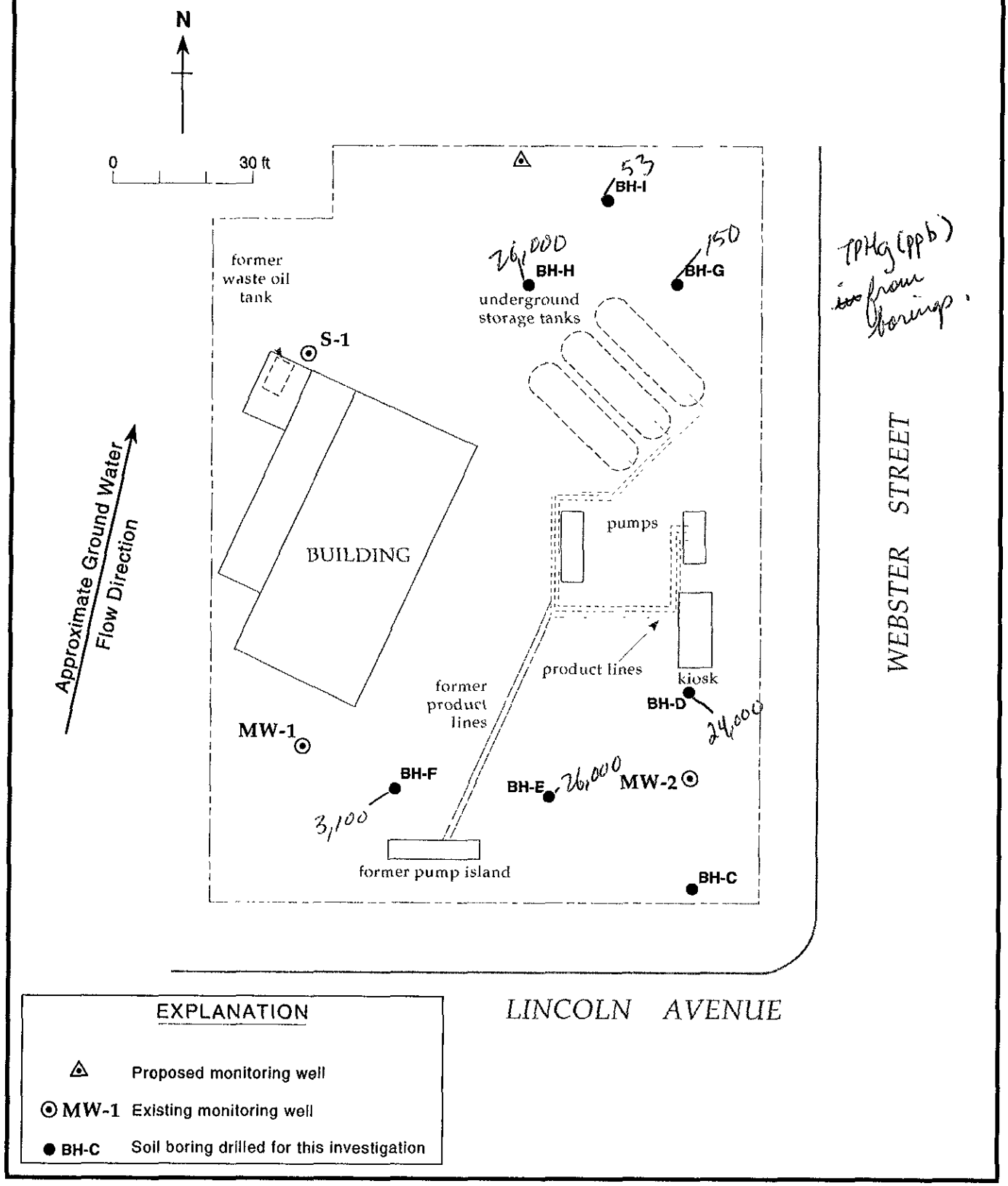

Figure 2. Proposed Monitoring Well Location - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

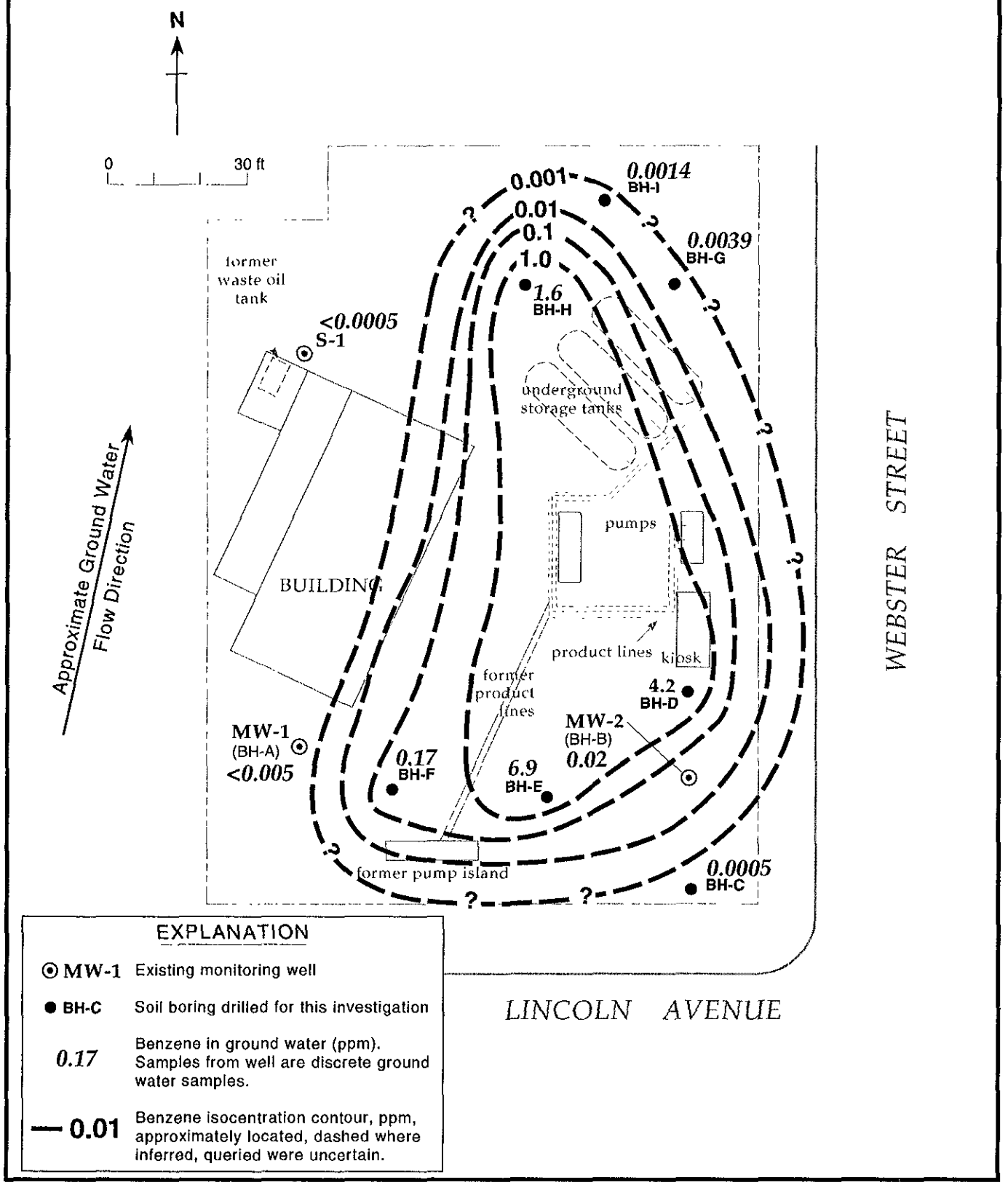

Figure 3. Benzene Concentrations in Ground Water - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Table 1. Analytic Results for Soil - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Soil Boring (Well ID)	Sample Depth (ft)	Date Sampled	Approximate Ground Water Depth (ft)	TPH-G	TPH-D*	B	E	T	X	HVOCs	TOG
				<----------parts per million (mg/kg)---------->							
BH-A	4.8	4-3-90	8.5	<1	---	<0.0025	<0.0025	0.0032	0.0030	---	---
(MW-1)	7.8	4-3-90		<1	<1[a]	<0.0025	<0.0025	0.0029	<0.0025	ND	<50
	10.8	4-3-90		<1	---	0.0026	<0.0025	0.010	0.0037	---	---
BH-B	5.2	4-3-90	7.5	<1	---	<0.0025	<0.0025	0.0048	0.013	---	---
(MW-2)	6.8	4-3-90		1.3	<1[a]	0.0034	0.010	0.017	0.079	ND	<50
	10.2	4-3-90		20	---	0.530	0.750	3.800	4.000	---	---
	15.2	4-3-90		32	---	0.15	0.67	1.8	2.6	---	---
	20.2	4-3-90		<1	---	0.0049	0.0047	0.023	0.029	---	---
BH-C	5.5	10-12-92	9.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	11.0	10-12-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	0.0017[b]	<30
BH-D	5.5	10-12-92	9.5	100	---	<0.005	1.8	<0.005	5.4	ND	<30
	10.5	10-12-92		<0.5	---	<0.005	0.007	<0.005	0.032	ND	<30
BH-E	5.5	10-22-92	10.0	14	---	0.026	0.20	0.40	1.2	0.072	<30
	10.5	10-22-92		170	---	<0.005	3.6	3.0	22	ND	110
	13.5	10-22-92		0.87	---	0.11	0.019	0.097	0.089	ND	<30
BH-F	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.5	10-22-92		26	---	0.065	0.65	0.27	3.6	0.070	47
BH-G	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.0	10-22-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
BH-H	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.0	10-22-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
BH-I	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.5	10-22-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
HVOCs = Halogenated volatile organic compounds by EPA Method 8010
TOG = Total oil and grease by APHA Standard Method 503D&E
ppm = parts per million

ND = No VOCs detected.
<n = Not detected at detection limits of n ppm

Notes:

a = Total petroleum hydrocarbons as motor oil (TPH-MO) were not detected at a dection limit of 10 ppm.
b = Methylene Chloride detected at 0.0017 ppm

Samples from borings BH-A and BH-B were analyzed by National Environmental Testing (NET) Pacific, Inc., Santa Rosa, California. Samples from borings BH-C through BH-I were analyzed by Anametrix, Inc. of San Jose, California.

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Sample ID	Date Sampled	Approximate Ground Water Depth (ft)	TPH-G	TPH-D	B	E	T	X	VOCs	TOG	Metals/ Other
			<----------parts per million (mg/kg)---------->								
MW-1	04-11-90	8.5	<0.05	<0.05[a]	<0.0005	<0.0005	<0.0005	<0.0005	[b]	<10	---
MW-2	04-11-90	7.5	0.58	0.43[a]	20	0.0012	0.0049	0.073	0.0011[c]	<10	---
S-1	04-11-90	[d]	<0.05	<0.05[a]	<0.0005	<0.0005	<0.0005	<0.0005	[e]	<10	---
BH-C	10-12-92	9.5	0.074	---	0.0005	<0.0005	<0.0005	<0.0005	[b]	---	---
BH-D	10-12-92	9.5	24	---	4.2	4.4	<0.0005	2.8	[b]	---	---
BH-E	10-22-92	10.0	26	---	6.9	2.2	13	12	[b]	<7	---
BH-F	10-22-92	10.5	3.1	---	0.17	0.31	0.11	0.55	[b]	<14	---
BH-G	10-22-92	10.5	0.15	---	0.0039	0.0038	0.0098	0.013	[b]	<6	---
BH-H	10-22-92	10.5	26	---	1.6	1.9	0.28	2.8	[b]	<6	---
BH-I	10-22-92	10.5	0.053	---	0.0014	0.0031	0.0013	0.053	[b]	<8	---
DHS MCLs			NE	NE	0.001	0.680	0.10[f]	1.750	0.05[g]	NE	---

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
VOCs = Volatile organic compounds including halogenated volatile organic compounds by EPA Method 624
SVOCs = Semi-volatile organic compounds by EPA Method 625
TOG = Total oil and grease by APHA Standard Method 503D&E
ppm = parts per million
<n = Not detected at laboratory reporting limit of n ppm
DHS MCL = Department of Health Services Maximum Contaminant Level
NE = DHS action levels not established
--- = Not analyzed of not applicable

Notes:

a = Total petroleum hydrocarbons as motor oil (TPH-MO) were not detected at a detection limit of 0.05 ppm.
b = No VOCs detected
c = 1,2-dichloroethane detected at 0.0011 ppm
d = Acetone detected at 0.12 ppm
e = Ground water depth not available
f = DHS recommended action level for drinking water
g = MCL for 1,2-dichloroethane

Samples from wells MW-1, MW-2 and S-1 were analyzed by National Environmental Testing (NET) Pacific, Inc., Santa Rosa, California. Samples from borings BH-C through BH-I were analyzed by Anametrix, Inc. of San Jose, California.