Weiss Associates *Environmental and Geologic Services*

5500 Shellmound Street, Emeryville, CA 94608-2411 *Fax: 510-547-5043* *Phone: 510-547-5420*

April 12, 1993

Dennis Byrne
Alameda County Department of
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621-1426

Re: Shell Service Station
WIC #204-5508-5306
3420 San Pablo Avenue
Oakland, California
WA Job #81-612-203

Dear Mr. Byrne:

This letter describes recently completed and anticipated activities at the Shell service station referenced above (Figure 1.) This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are descriptions and results of activities performed in the first quarter 1993 and proposed work for the second quarter 1993.

First Quarter 1993 Activities:

- Blaine Tech Services (BTS) of San Jose, California measured ground water depths in eight of the eleven site wells and collected ground water samples from three of the wells. Five of the wells contained floating hydrocarbons and were not sampled. Wells MW-9 and MW-11 were recently paved over and well MW-10 was blocked by a car. BTS' report describing these activities and presenting analytic results for ground water is included as Attachment A. Ground water elevation data is presented in Table 1 and analytic results from ground water are presented in Table 2.

- BTS purged about 0.52 gallons of floating hydrocarbons from well MW-1 and about 0.25 gallons from with MW-2 (Table 3).

- WA prepared a ground water elevation contour map for wells screened in the first water bearing zone (Figure 2). Since wells MW-1, MW-3, MW-4 and MW-5 screen a deeper water-bearing zone than the other site wells, these wells are contoured separately (Figure 3).

- Floating hydrocarbon skimmers were installed in wells MW-1, MW-2, MW-4 and MW-6. The skimmers will be purged of hydrocarbons monthly until no floating hydrocarbons are mesured in these wells. Hydrocarbon volumes purged will be tabulated in subsequent quarterly status reports.

Anticipated Second Quarter 1993 Activities:

WA will submit a report presenting the results of the second quarter 1993 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results, floating hydrocarbons removal data and a ground water elevation contour map.

Conclusions and Recommendations:

Ground water has risen about five to six feet compared to last quarter, which may explain the floating hydrocarbons that are recently detected in the wells. WA will monitor the floating hydrocarbon thickness and begin monthly floating hydrocarbon purging if the skimmers do not appear to be sufficient to remove floating hydrocarbons.

Please call if you have any questions.

REGISTERED GEOLOGIST
JOSEPH P. THEISEN
No. EG-1645
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Sincerely,
Weiss Associates

J. Michael Asport
Technical Assistant

Joseph P. Theisen, C.E.G.
Senior Hydrogeologist

JMA/JPT:jma

J:\SHELL\600\QMRPTS\612QMFE3.WP

Attachments: Figures
Tables
A - Emcon Associates Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Lisa McCann, California Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612

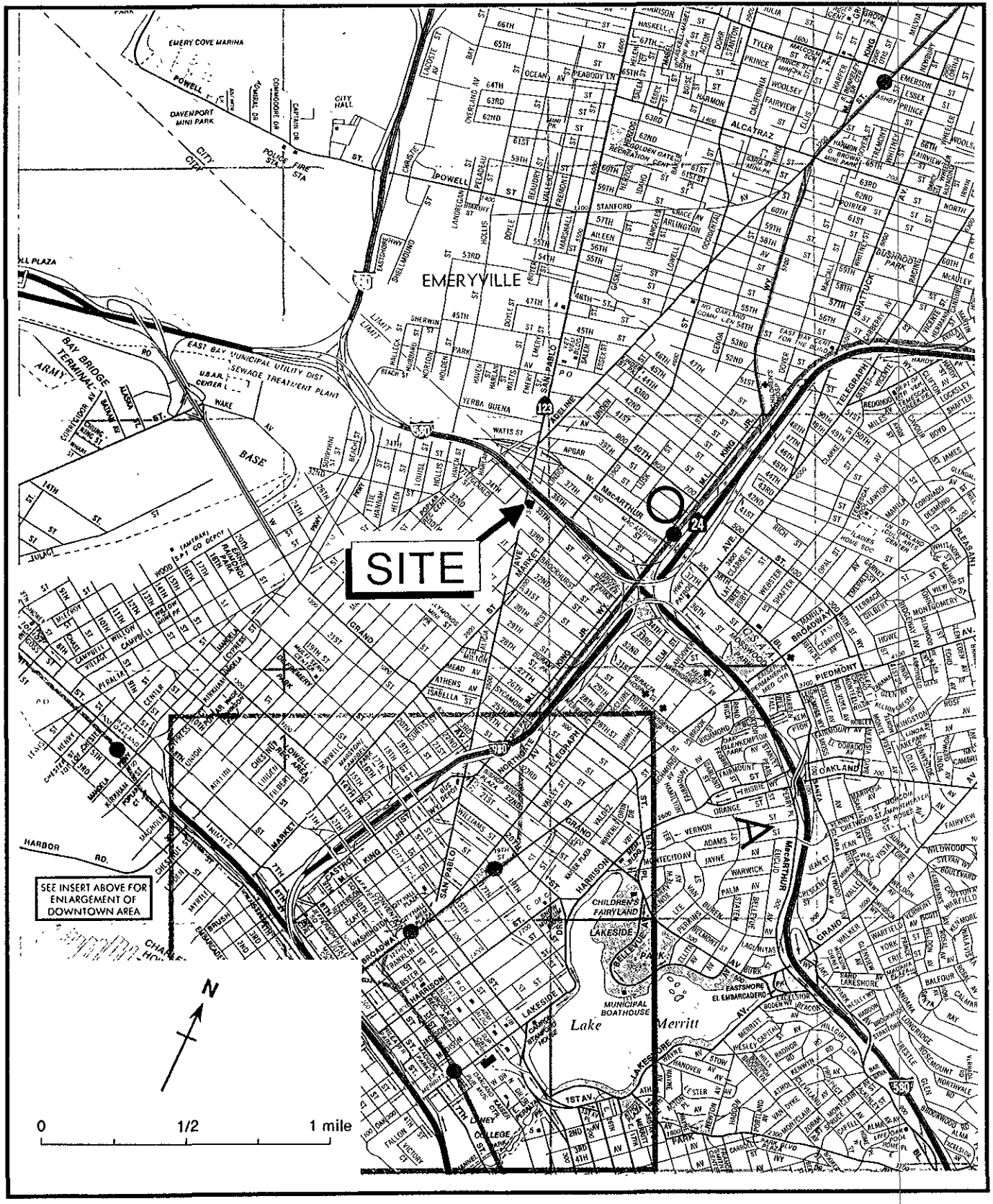

Figure 1. Site Location Map - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California

2/13/92

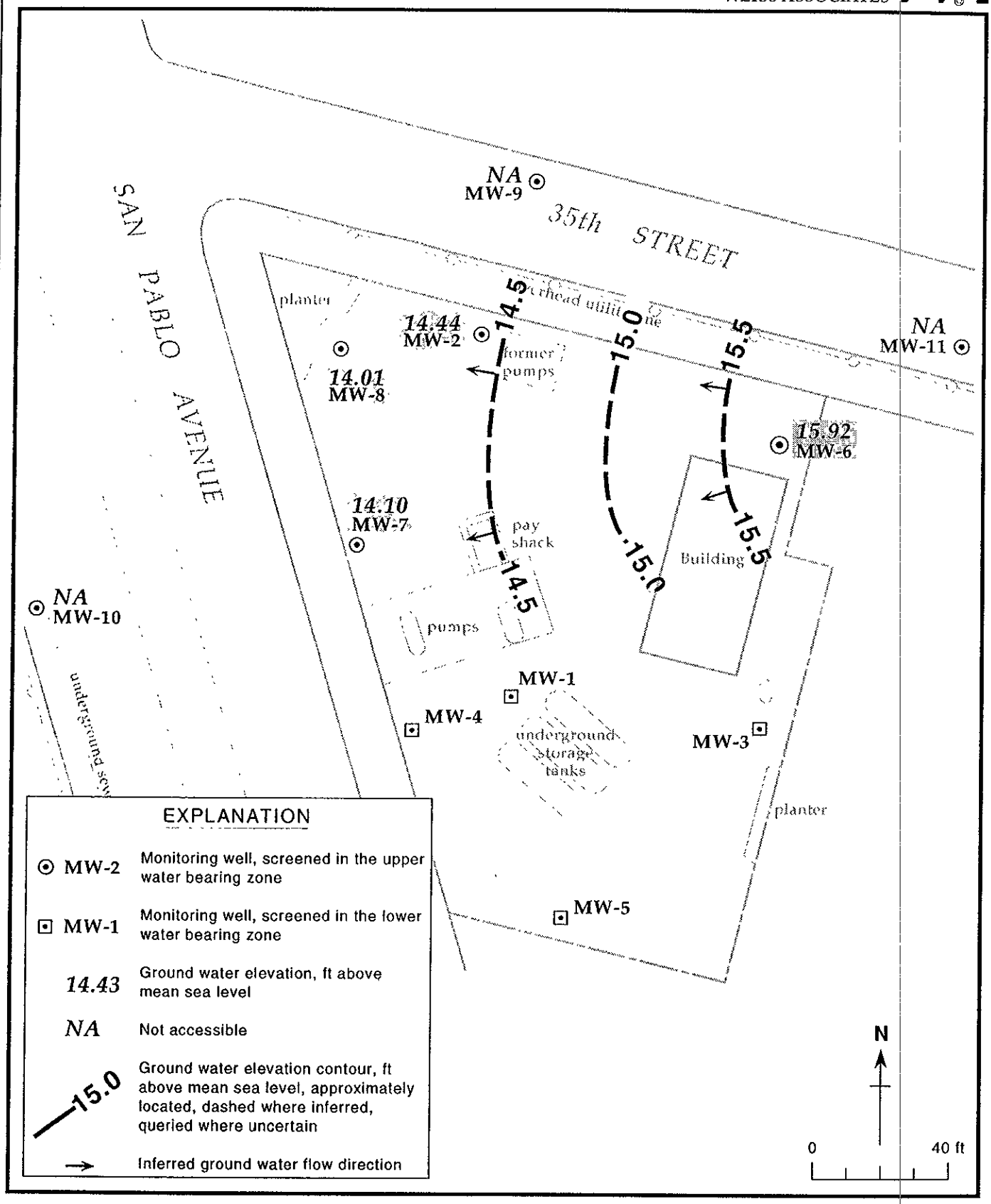

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours, Upper Water Bearing Zone - January 12, 1993 - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California

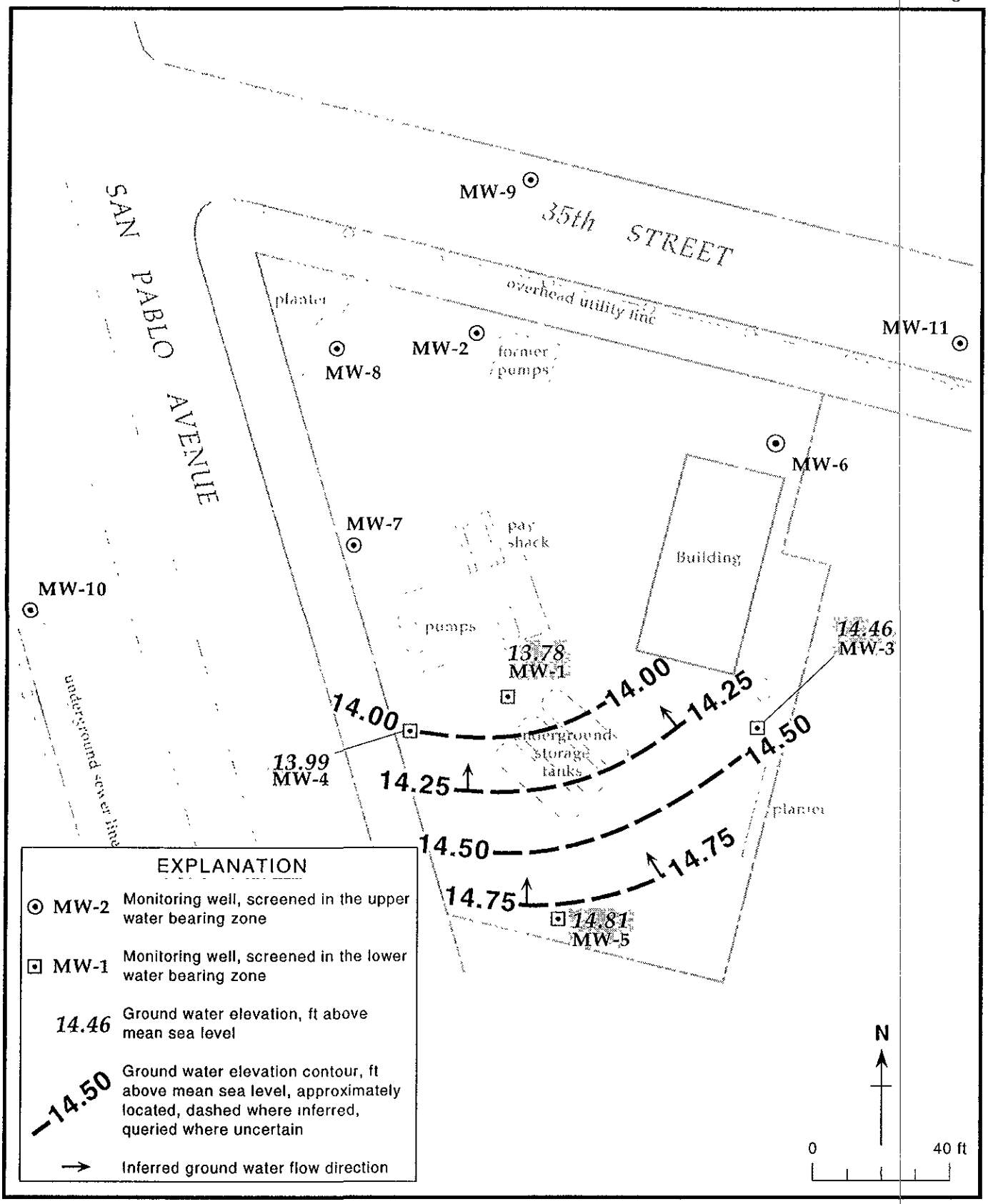

Figure 3. Monitoring Well Locations and Ground Water Elevation Contours, Lower Water Bearing Zone - January 12, 1993 - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California

4/7/93

Table 1. Floating Hydrocarbon Removal - Shell Service Station WIC #204-5508-5306, 3420 San Pablo, Avenue, Oakland, California

Well ID	Date	Floating Hydrocarbon Thickness (ft)	Vol. of Floating Hydrocarbon Removed (gal)	Cumulative Volume of Floating Hydrocarbons Removed (gal)
MW-1	10/23/91	0.01	—	—
	05/04/92	<0.01	—	—
	10/12/92	0.09	—	—
	01/12/93	0.02	0.52	0.52
MW-2	10/12/92	0.03	—	—
	01/12/93	0.01	—	—
MW-4	10/12/92	0.78	—	—
	01/12/93	1.0	0.26	0.26
MW-5	10/12/92	0.01	—	—
	01/12/93	<0.01	—	—
MW-6	10/12/92	0.48	—	—
	01/12/93	<0.01	—	—
	Total Floating Hydrocarbons Removed			0.78

Table 2. Ground Water Elevations - Shell Service Station WIC #204-5508-5306, 3420 San Pablo, Avenue, Oakland, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Floating Hydrocarbon Thickness	Ground Water Elevation (ft above msl)
MW-1	08/06/91	21.28	10.86		10.43
	10/23/91		11.05	0.01	10.24[a]
	01/28/92		10.84		10.44
	05/04/92		9.42	<0.01	11.86
	07/13/92		11.36		9.92
	10/12/92		13.14	0.09	8.21[a]
	01/12/93		7.52	0.02	13.78[a]
MW-2	08/06/91	21.56	9.72		11.84
	10/23/91		10.03		11.53
	01/28/92		8.78		12.78
	05/04/92		7.58		13.98
	07/13/92		9.63		11.93
	10/12/92		11.66	0.03	9.92[a]
	01/12/93		7.13	0.01	14.44[a]
MW-3	08/06/91	21.78	11.18		10.60
	10/23/91		11.69		10.09
	01/28/92		9.99		11.79
	05/04/92		9.46		12.32
	07/13/92		11.29		10.49
	10/12/92		13.10		8.68
	01/12/93		7.32		14.46
MW-4	08/06/91	20.31	10.57		9.74
	10/23/91		10.46		9.85
	01/28/92		9.54		10.77
	05/04/92		8.33		11.98
	07/13/92		9.87		10.44
	10/12/92		12.43	0.78	8.50[a]
	01/12/93		7.12	1.0	13.99[a]
MW-5	08/06/91	20.91	10.23		10.68
	10/23/91		10.89		10.02
	01/28/92		8.45		12.46
	05/04/92		8.05		12.86
	07/13/92		10.00		10.91
	10/12/92		11.83	0.01	9.09[a]
	01/12/93		6.10	<0.01	14.81
MW-6	08/06/91	22.32	10.61		11.71
	10/23/91		11.68		10.64
	01/28/92		8.90		13.42
	05/04/92		8.01		14.31
	07/13/92		10.77		11.55

— Table 2 continues on next page —

Table 2. Ground Water Elevations - Shell Service Station WIC #204-5508-5306, 3420 San Pablo, Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Floating Hydrocarbon Thickness	Ground Water Elevation (ft above msl)
	10/12/92		13.36	0.48	9.34[a]
	01/12/93		6.40	<0.01	15.92
MW-7	08/06/91	20.36	8.00		12.36
	10/23/91		8.16		12.20
	01/28/92		7.11		13.25
	05/04/92		6.47		13.89
	07/13/92		7.73		12.63
	10/12/92		8.68		11.68
	01/12/93		6.26		14.10
MW-8	08/06/91	20.95	9.60		11.35
	10/23/91		9.73		11.22
	01/28/92		7.72		13.23
	05/04/92		6.48		14.47
	07/13/92		8.55		12.40
	10/12/92		9.97		10.98
	01/12/93		6.94		14.01
MW-9	08/06/91	21.19	10.33		10.86
	10/23/91		11.13		10.06
	01/28/92		9.02		12.17
	05/04/92		7.67		13.52
	07/13/92		10.26		10.93
	10/12/92		12.19		9.0
	01/12/93[b]		—		—
MW-10	10/23/91	19.74	8.57		11.17
	01/28/92		7.60		12.14
	05/04/92		7.54		12.20
	07/13/92		8.59		11.15
	10/12/92		10.23		9.51
	01/12/93[b]		—		—
MW-11	10/23/91	22.06	14.0		8.06
	01/28/92		8.74		13.32
	05/04/92		8.29		13.77
	07/13/92		10.50		11.56
	10/12/92		12.40		9.66
	01/12/93[b]		—		—

Notes:

a = Ground water elevation corrected to include 80 percent of the floating product thickness measured in the well

b = Well inaccessible

Table 3. Analytical Results for Ground Water - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X
			<----------parts per million (mg/L)---------->				
MW-1	08/06/91	10.86[a]	---	---	---	---	---
	10/23/91	11.05	32	2.7	0.55	0.36	3.7
	01/28/92	10.84	14	1.0	0.45	0.16	1.6
	05/05/92	9.42	98	11	3.5	1.2	18
	07/13/92	11.36	11	1.1	0.74	0.13	1.3
	10/12/92	13.14[a]	---	---	---	---	---
	01/12/93	7.52[a]	---	---	---	---	---
MW-2	08/06/91	9.72	50	15	2.7	1.4	13.0
	10/23/91	10.03	120	11	3.5	1.4	19.0
	01/28/92	8.78	49	7.4	1.8	0.8	8.3
	05/05/92	7.58	52	12	2.2	1.1	12
	07/13/92	9.63	47	15	4.5	2.4	16
	10/12/92	11.66[a]	---	---	---	---	---
	01/12/93	7.13[a]	---	---	---	---	---
MW-3	08/06/91	11.18	0.43	0.008	0.004	0.001	0.015
	10/23/91	11.69	0.39	0.0021	0.00048	<0.0003	0.002
	01/28/92	9.99	0.19	<0.0005	<0.0005	<0.0005	<0.0005
	05/04/92	9.46	0.19	<0.001	<0.001	<0.001	0.00071
	07/20/92	11.29	0.20[b]	<0.0005	<0.0005	<0.0005	<0.0005
	10/12/92	13.10	0.18[b]	<0.0005	<0.0005	<0.0005	<0.0005
	01/12/93	7.32	0.18	<0.0005	0.0009	0.0023	0.0056
	01/12/93[c]	7.32	0.26	<0.0005	<0.0005	<0.0005	<0.0005
MW-4	08/06/91	10.57	1.3	0.028	0.068	0.018	0.15
	10/23/91	10.46	1.9	0.097	0.038	0.0061	0.077
	01/28/92	9.54	0.20	0.0076	0.0030	<0.0005	0.0033
	05/04/92	8.33	0.69	0.098	0.013	0.003	<0.001
	07/13/92	9.87	1.5	0.14	0.017	0.0029	0.012
	07/13/92[c]	9.87	0.87	0.095	0.010	0.0019	0.0071
	10/12/92	12.43[a]	---	---	---	---	---
	01/12/93	7.12[a]	---	---	---	---	---
MW-5	08/06/91	10.23	9.1	0.21	0.24	0.027	0.66
	10/23/91	10.89	12.0	0.092	0.23	0.018	0.45
	01/28/92	8.45	3.3	0.13	0.18	0.01	0.22
	05/04/92	8.05	3.9	0.095	0.26	<0.0125	0.12
	07/13/92	10.00	4.1	0.18	0.25	0.012	0.073
	10/12/92	11.83[a]	---	---	---	---	---
	01/12/93	6.10[a]	---	---	---	---	---
MW-6	08/06/91	10.61	28.0	1.4	1.3	0.20	4.2
	10/23/91	11.68	53.0	1.4	1.8	0.23	6.7
	01/28/92	8.90	87	1.2	2.0	0.47	6.6

-- Table 3 continues on next page --

Table 3. Analytical Results for Ground Water - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X
			<----------parts per million (mg/L)---------->				
	05/05/92	8.01	230	<0.5	3.2	<0.5	11
	07/13/92	10.77	2,700	<2.5	14	3.5	36
	10/12/92	8.68[a]	---	---	---	---	---
	01/12/93	6.40[a]	---	---	---	---	---
MW-7	08/06/91	8.00	13.0	4.3	0.77	0.076	0.73
	10/23/91	8.16	18.0	3.2	0.66	0.031	0.77
	01/28.92	7.11	5.0	1.2	0.22	<0.01	0.054
	05/05/92	6.47	9.5	3.1	0.62	0.072	0.88
	07/13/92	7.73	20	4.2	1.6	0.13	1.1
	10/12/92	9.97	16	2.5	0.56	<0.05	0.17
	01/12/93	6.26	15	2.3	0.69	<0.0005	0.44
MW-8	08/06/91	9.60	32.0	3.7	1.4	1.1	6.1
	10/23/91	9.73	63.0	4.8	1.3	1.3	6.9
	01/28/92	7.72	32	1.9	1.4	0.75	6.3
	05/05/92	6.48	180	2.2	2.7	2.0	13
	07/13/92	8.55	56	4.5	2.7	1.5	9.1
	10/12/92	9.97	34	2.4	1.4	0.55	6.4
	10/12/92[c]	9.97	34	3.1	1.5	0.70	7.2
	01/12/93	6.94	110	2.1	2.4	1.2	12
MW-9	08/06/91	10.33	11.0	1.7	0.52	0.095	1.4
	10/23/91	11.13	20.0	1.0	<0.0003	0.047	0.94
	01/28/92	9.02	3.5	0.12	0.028	<0.01	0.036
	05/04/92	7.67	7.7	1.2	0.38	<0.05	0.63
	07/20/92	10.26	11	0.91	0.22	<0.05	1.2
	10/12/92	12.19	2.1	0.34	0.077	0.015	0.044
	01/12/93	---[a]	---	---	---	---	---
MW-10	10/23/91	8.57	27	1.6	1.8	0.11	0.51
	01/28/92	7.60	3.8	0.36	0.17	0.014	0.039
	05/04/92	7.54	3.0	0.36	0.14	<0.0125	0.026
	07/20/92	8.59	15	0.40	0.18	<0.025	0.067
	10/12/92	10.23	16	0.32	0.36	<0.05	0.10
	01/12/93[d]	---[a]	---	---	---	---	---
MW-11	10/23/91	8.06	0.14	<0.012	0.00037	<0.0003	0.00056
	01/28/92	13.32	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	05/04/92	13.77	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	07/13/92	11.56	0.14[b]	<0.0005	<0.0005	<0.0005	<0.0005
	10/12/92	12.40	0.075[b]	<0.0005	<0.0005	<0.0005	<0.0005
	01/12/93[d]	---[a]	---	---	---	---	---

-- Table 3 continues on next page --

Table 3. Analytical Results for Ground Water - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X
			<----------parts per million (mg/L)---------->				
Bailer Blank	07/13/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	07/20/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	10/12/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
Trip Blank	01/28/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	05/05/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	07/13/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	07/20/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	10/12/92		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	01/12/93		<0.05	<0.0005	<0.0005	<0.0005	<0.0005
DTSC MCLs			NE	0.001[e]	0.680	0.10[e]	1.750

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
TPH-MO = Total petroleum hydrocarbons as motor oil 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
NE = Not established
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
--- = Not analyzed
<n = Not detected at detection limits of n ppb

Notes:

a = Not sampled due to presence of floating hydrocarbons
b = Concentration reported as gasoline is due to the presence of a discrete hydrocarbon peak that is not indicative of gasoline
c = Duplicate sample
d = Not sampled. Well inaccessible
e = DTSC recommended action level; MCL not established

ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

January 18, 1993

Shell Oil Company
P.O. Box 5278
Concord, CA 94520-9998

Attn: Daniel T. Kirk

SITE:
Shell WIC # 204-5508-5306
3420 San Pablo Avenue
Oakland, California

QUARTER:
1st quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930112-M-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in response to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a TABLE OF WELL GAUGING DATA. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of the water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	4	01-12-93	TOP OF PIPE	FREE PRODUCT	7.50	0.02	2000	7.52	--
MW-2	4	01-12-93	TOP OF PIPE	FREE PRODUCT	7.12	0.01	1000	7.13	--
MW-3 *	4	01-12-93	TOP OF PIPE	--	NONE	--	--	7.32	27.50
MW-4	4	01-12-93	TOP OF PIPE	FREE PRODUCT	6.12	1.0	--	7.12	--
MW-5	4	01-12-93	TOP OF PIPE	FREE PRODUCT	6.10	<0.01	--	6.10	--
MW-6	4	01-12-93	TOP OF PIPE	FREE PRODUCT	6.10	<0.01	--	6.40	--

* Sample MW-12 was a duplicate sample taken from well MW-3.

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-7	4	01-12-93	TOP OF PIPE	--	NONE	--	--	6.26	19.67
MW-8	4	01-12-93	TOP OF PIPE	SHEEN/ODOR	--	--	--	6.94	20.0
MW-9	--	01-12-93	INACCESSIBLE						
MW-10	--	01-12-93	INACCESSIBLE						
MW-11	--	01-12-93	INACCESSIBLE						

STANDARD PROCEDURES

Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water may be removed in cases where more evacuation is needed to achieve stabilization of water parameters. Less than three case volumes of water may be obtained in cases where the well dewaters and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site.

Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such site is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

Sample Containers

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

Sampling

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

Sample Designations

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label. Either the requested analyses or the specific analytes are written on the sample label (e.g. TPH-G, BTEX).

Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to Anametrix, Inc. in San Jose, California. Anametrix, Inc. is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1234.

Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the

generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.
Please call if we can be of any further assistance.

Richard C. Blaine

RCB/lpn

attachments: chain of custody
certified analytical report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
ATTN: Kristina Koltavary

SHELL OIL COMPANY 9301121
RETAIL ENVIRONMENTAL ENGINEERING - WEST

(18) CHAIN OF CUSTODY RECORD
Serial No:

Date:
Page 1 of 1

Site Address: 3420 San Pablo, Oakland
WIC#: 204-5508-5306
Shell Engineer: Daniel Kirk
Phone No.: (510)675-5171
Fax #:
Consultant Name & Address: Blaine Tech Services, 985 Timothy, San Jose
Consultant Contact: Glen Bennett
Phone No.: (408)995-5535
Fax #:
Comments:
Sampled by: Jim McCann
Printed Name: JIM McCANN

LAB: Kramer Ix

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1) MW-3	1/12/93			X		3						X								
(2) MW-7	"			"		2						X								
(3) MW-8	"			"		3						X								
(4) MW-12	"			"		3						X								
(5) TRIP BLANK	"			"		2						X								

CHECK ONE (1) BOX ONLY — CT/DI

- Quarterly Monitoring ☒ 6441
- Site Investigation ☐ 6441
- Soil Closure/Disposal ☐ 6442
- Water Closure/Disposal ☐ 6443
- Soil/Air Rem. or Sys. O & M ☐ 6462
- Water Rem. or Sys. O & M ☐ 6463
- Other ☐

TURN AROUND TIME

- 24 hours ☐
- 48 hours ☐
- 16 days ☒ (Normal)
- Other ☐ ____

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

	Printed Name	Date	Time	Received (signature)	Printed Name	Date	Time
Relinquished by (signature):	JIM McCANN	1-13-93	1615	Jenny S. Carrizosa	Jenny S. Carrizosa	1-13-93	1615
Relinquished by (signature):	JENNY S. CARRIZOSA	1-13-93	1625		Maria Barajas	1/13/93	1625
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

2nd Copy of Custody

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301121
Date Received : 01/13/93
Project ID : 204-5508-5306
Purchase Order: MOH-B813

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9301121- 1	MW-3
9301121- 2	MW-7
9301121- 3	MW-8
9301121- 4	MW-12
9301121- 5	T. BLANK

This report consists of 6 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Director

1-25-93
Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301121
Date Received : 01/13/93
Project ID : 204-5508-5306
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9301121- 1	MW-3	WATER	01/12/93	TPHg/BTEX
9301121- 2	MW-7	WATER	01/12/93	TPHg/BTEX
9301121- 3	MW-8	WATER	01/12/93	TPHg/BTEX
9301121- 4	MW-12	WATER	01/12/93	TPHg/BTEX
9301121- 5	T. BLANK	WATER	01/12/93	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301121
Date Received : 01/13/93
Project ID : 204-5508-5306
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported for samples MW-3 and MW-12 are primarily due to the presence of a discrete hydrocarbon peak not indicative of gasoline.

Cheryl Bowmer 1/22/93
Department Supervisor Date

Anna Shan 1/25/93
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9301121
Matrix : WATER
Date Sampled : 01/12/92

Project Number : 204-5508-5306
Date Released : 01/22/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-3 -01	Sample I.D.# MW-7 -02	Sample I.D.# MW-8 -03	Sample I.D.# MW-12 -04	Sample I.D.# T. BLANK -05
Benzene	0.5	ND	2300	2100	ND	ND
Toluene	0.5	2.3	ND	1200	ND	ND
Ethylbenzene	0.5	0.9	690	2400	ND	ND
Total Xylenes	0.5	5.6	440	12000	ND	ND
TPH as Gasoline	50	180	15000	110000	260	ND
% Surrogate Recovery		65%	105%	100%	100%	114%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		01/15/93	01/15/93	01/19/93	01/15/93	01/15/93
RLMF		1	100	1000	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst 1/25/93 Date

Supervisor 1/22/93 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9301121
Matrix : WATER
Date Sampled : N/A

Project Number : 204-5508-5306
Date Released : 01/22/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# BJ1501E3 BLANK	Sample I.D.# BJ1903E3 BLANK
Benzene	0.5	ND	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	ND	ND
TPH as Gasoline	50	ND	ND
% Surrogate Recovery		110%	111%
Instrument I.D.		HP4	HP4
Date Analyzed		01/15/93	01/19/93
RLMF		1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst 1/25/93 Date

Supervisor 1/22/93 Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 204-5508-5306 MW-12	Anametrix I.D.	: 9301121-04
Matrix	: WATER	Analyst	: IS
Date Sampled	: 01/12/93	Supervisor	:
Date Analyzed	: 01/15/93	Date Released	: 01/22/93
		Instrument I.D.	: HP4

COMPOUND	SPIKE AMT (ug/L)	SAMPLE CONC (ug/L)	REC MS (ug/L)	%REC MS	REC MD (ug/L)	%REC MD	RPD	%REC LIMITS
BENZENE	20.0	0.0	20.1	101%	20.5	102%	2%	49-159
TOLUENE	20.0	0.0	20.6	103%	21.0	105%	2%	53-156
ETHYLBENZENE	20.0	0.0	21.6	108%	22.1	111%	2%	54-151
TOTAL XYLENES	20.0	0.0	21.6	108%	21.8	109%	1%	56-157
p-BFB				95%		99%		53-147

* Quality control established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW0115
Matrix	: WATER	Analyst	:
Date Sampled	: N/A	Supervisor	:
Date Analyzed	: 01/15/93	Date Released	: 01/22/93
		Instrument ID	: HP4

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	20.7	103%	49-159
Toluene	20.0	20.9	104%	53-156
Ethylbenzene	20.0	21.4	107%	54-151
TOTAL Xylenes	20.0	21.3	107%	56-157
P-BFB			93%	53-147

* Limits established by Anametrix, Inc.