Weiss Associates Environmental and Geologic Services

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

94 JUL 12 PM 1:16

June 22, 1994

STID 381

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 94608
WA Job #81-612-104

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 second quarter 1994 and proposed work for the third quarter 1994.

Hydrocarbon Removal Summary	*Pounds Removed Second Quarter 1994*	*Cumulative Pounds Removed*
Separate-phase Hydrocarbon	0.9	14.82

Second Quarter 1994 Activities:

- Blaine Tech Services (BTS) of San Jose, California measured ground water depths and collected ground water samples from the wells. BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.

- BTS removed a total of 0.17 gallons of separate-phase hydrocarbons (SPHs) from skimmers in wells MW-1 and MW-4 and bailed SPHs from wells MW-5, MW-6 and MW-7 this quarter (Table 1). To date, approximately 2.47 gallons of SPHs have been removed by skimmers and additional bailing.

- Weiss Associates (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 are screened slightly deeper than the other site wells, these wells are contoured separately (Figure 3).

Anticipated Third Quarter 1994 Activities:

- WA will submit a report presenting the results of the third quarter 1994 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results, SPH removal data and ground water elevation contour maps.

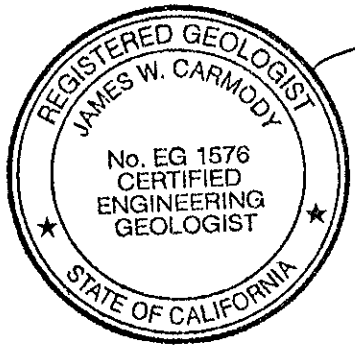
- SPH skimmers are installed in wells MW-1, MW-2, and MW-4. The skimmers will be purged of hydrocarbons quarterly until no SPHs are measured in these wells. Hydrocarbon volumes purged will be tabulated in subsequent quarterly status reports.

Conclusions and Recommendations:

Ground water elevations have increased. This elevation increase still continues to result in the reversal of the apparent ground water flow direction beneath the northern portion of the site compared to second quarter 1993. We will monitor ground water elevations in upcoming quarters to assess whether this trend continues.

Please call if you have any questions.

Sincerely,
Weiss Associates



J. Michael Asport
Technical Assistant

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

JMA/JWC:jma

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Attachments: A - BTS' 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

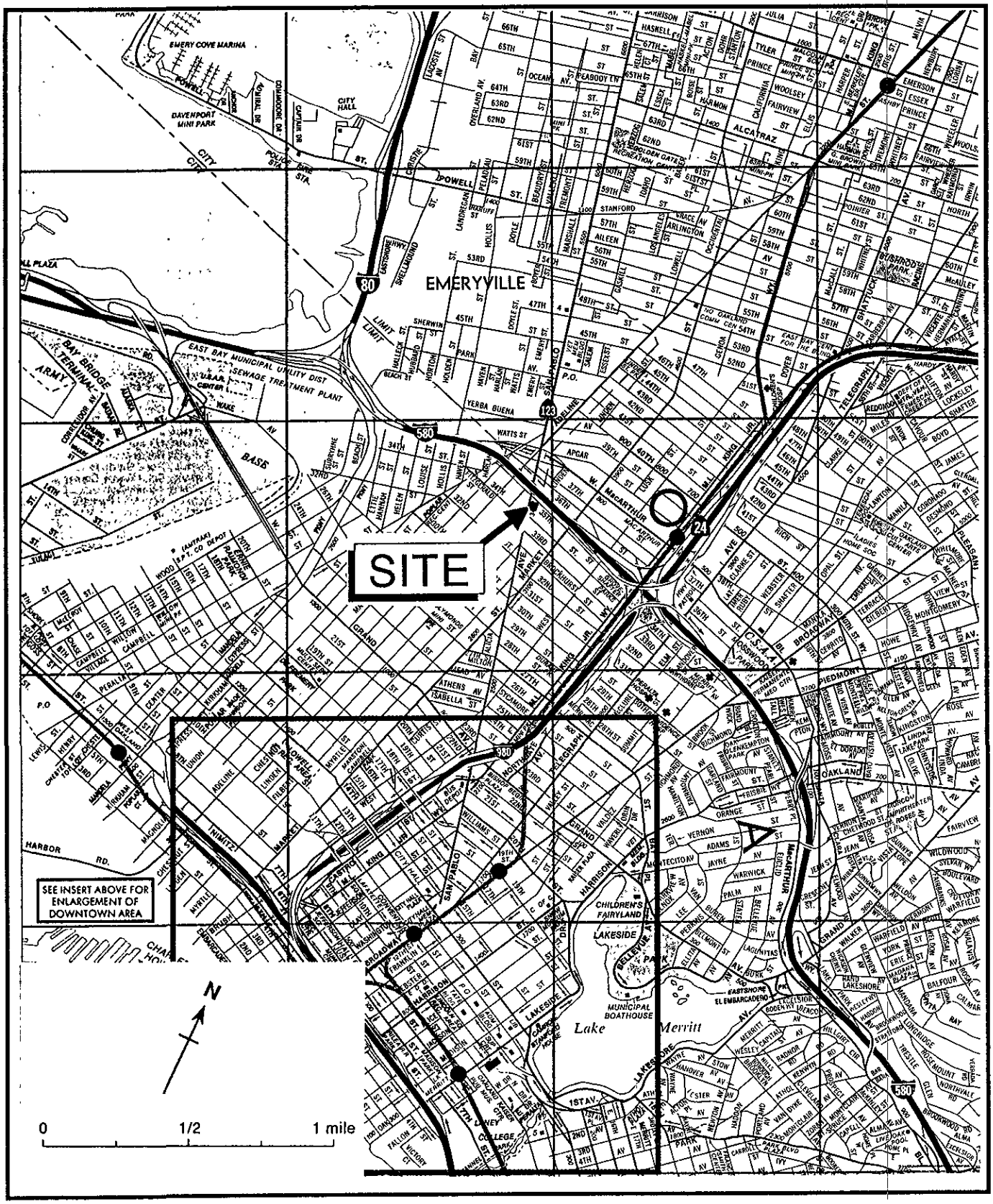

Figure 1. Site Location Map - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California

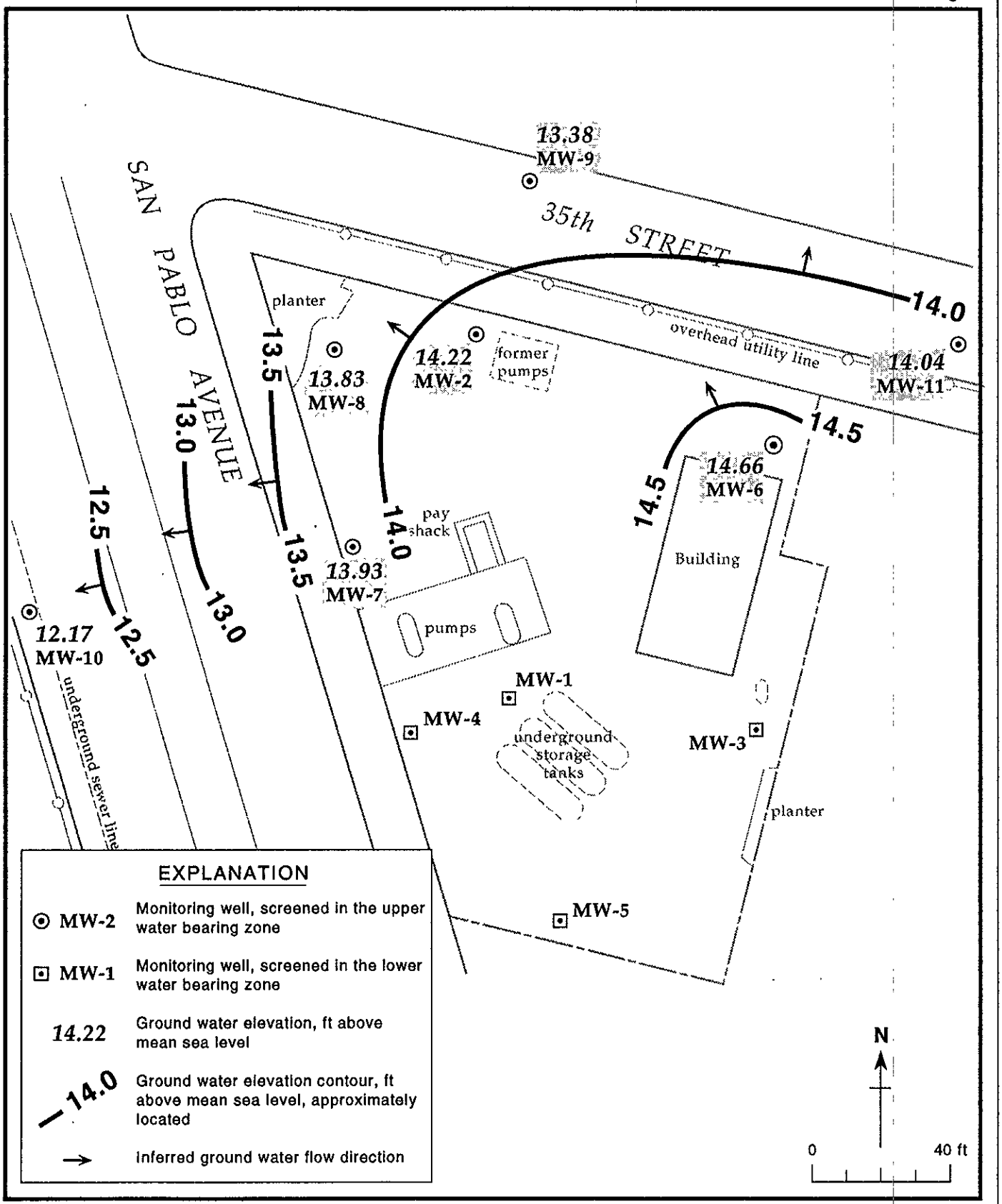

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours, Upper Water Bearing Zone - April 13, 1994 - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue, Oakland, California

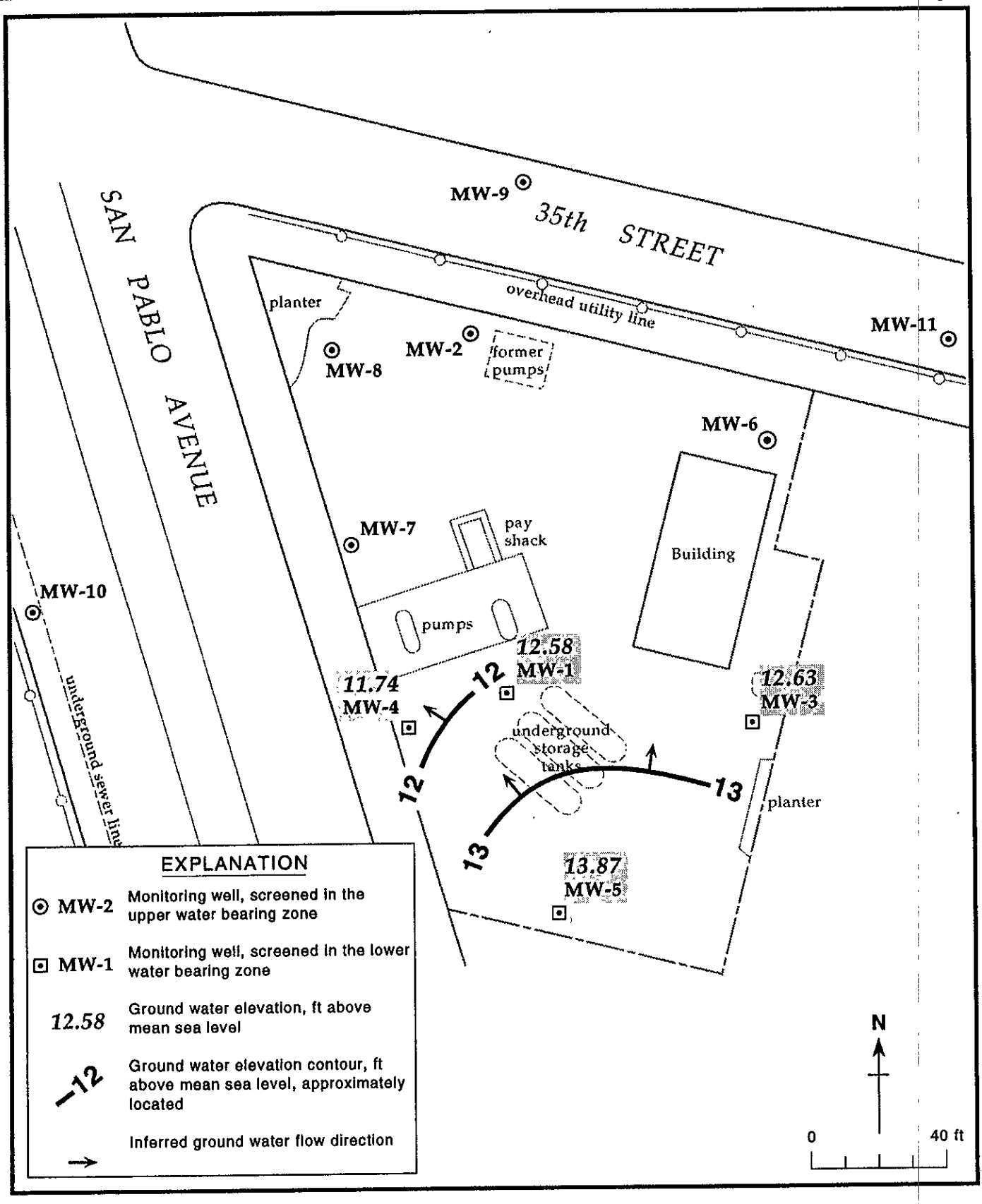

Figure 3. Monitoring Well Locations and Ground Water Elevation Contours, Lower Water Bearing Zone - April 13, 1994 - Shell Service Station WIC #204-5508-5306, 3420 San Pablo Avenue,

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

Well ID	Date	Separate-Phase Hydrocarbon Thickness (ft)	Vol. of Separate-Phase Hydrocarbon Removed (gal)	Cumulative Volume of Separate-Phase 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
	04/06/93	<0.01	0.13	0.65
	07/12/93	0.01	0.03	0.68
	10/13/93	0.01	0.01	0.69
	01/20/94	0.01	<0.01	0.70
	04/03/94	**0.02**	**0.02**	**0.72**
MW-2	10/12/92	0.03	---	---
	01/12/93	0.01	0.26	0.26
	04/06/93	<0.01	0.13	0.39
	04/03/94	**<0.01**	**<0.01**	**0.40**
MW-4	10/12/92	0.78	---	---
	01/12/93	1.0	---	---
	04/06/93	0.95	---	---
	07/12/93	0.03	1.06	1.06
	10/13/93	0.12	0.13	1.19
	01/20/94	0.02	<0.01	1.20
	04/13/94	**0.01**	**0.02**	**1.22**
MW-5	10/12/92	0.01	---	---
	01/12/93	<0.01	---	---
	10/13/93	0.03	---	---
	01/20/94	0.01	---	---
	04/13/94	**0.01**	**<0.01**	**0.01**
MW-6	10/12/92	0.48	---	---
	01/12/93	<0.01	---	---
	10/13/93	0.2	---	---
	01/20/94	0.02	---	---
	04/13/94	**0.01**	**<0.01**	**0.01**
MW-7	01/20/94	0.05	---	---
	04/13/94	**0.16**	**0.11**	**0.11**
	Total Separate-Phase Hydrocarbons Removed			2.47

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)	Separate-Phase Hydrocarbon Thickness	Ground Water Elevation (ft above msl)[a]
MW-1	08/06/91	21.28	10.86	---	10.43
	10/23/91		11.05	0.01	10.24
	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
	01/12/93		7.52	0.02	13.78
	04/06/93		7.13	<0.01	14.16
	07/12/93		11.02	0.01	10.27
	10/13/93		12.18	0.01	9.11[a]
	01/20/94		9.18	0.01	12.10
	04/13/94		**8.72**	**0.02**	**12.58**
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
	01/12/93		7.13	0.01	14.44
	04/06/93		6.40	<0.01	15.17
	07/12/93		8.75	---	12.81
	10/13/93		10.28	---	11.28
	01/20/94		---	---	---
	04/13/94		**7.35**	**<0.01**	**14.22**
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
	04/06/93		7.44	---	14.34
	07/12/93		10.62	---	11.16
	10/13/93		12.05	---	9.73
	01/20/94		9.62	---	12.16
	04/13/94		**9.15**	**---**	**12.63**

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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)	Separate-Phase Hydrocarbon Thickness	Ground Water Elevation (ft above msl)[a]
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
	01/12/93		7.12	1.0	13.99
	04/06/93		7.23	0.95	13.84
	07/12/93		10.08	0.03	10.25
	10/13/93		11.35	0.12	9.06
	01/20/94		9.06	0.02	11.26
	04/13/94		**8.58**	**0.01**	**11.74**
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
	01/12/93		6.10	<0.01	14.81
	04/06/93		6.18	---	14.73
	07/12/93		9.59	---	11.32
	10/13/93		10.80	0.03	10.13[a]
	01/20/94		7.42	0.01	13.49
	04/13/94		**7.05**	**0.01**	**13.87**
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
	10/12/92		13.36	0.48	9.34
	01/12/93		6.40	<0.01	15.92
	04/06/93		5.93	---	16.39
	07/12/93		10.25	---	12.07
	10/13/93		12.28	0.2	10.20[a]
	01/20/94		9.14	0.02	13.20
	04/13/94		**7.67**	**0.01**	**14.66**

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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)	Separate-Phase Hydrocarbon Thickness	Ground Water Elevation (ft above msl)[a]
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
	04/06/93		5.92	---	14.44
	07/12/93		7.27	---	13.09
	10/13/93		9.40	---	10.96
	01/20/94		7.03	0.05	13.37
	04/13/94		**6.56**	**0.16**	**13.93**
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
	04/06/93		5.72	---	15.23
	07/12/93		7.65	---	13.30
	10/13/93		8.25	---	12.70
	01/20/94		7.25	---	13.70
	04/13/94		**7.12**	**---**	**13.83**
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]		---	---	---
	04/06/93[b]		---	---	---
	07/12/93[b]		---	---	---
	10/13/92		11.17	---	10.02
	01/20/94		8.03	---	13.16
	04/13/94		**7.81**		**13.38**

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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)	Separate-Phase Hydrocarbon Thickness	Ground Water Elevation (ft above msl)[a]
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]		---	---	---
	04/06/93		6.70	---	13.04
	07/12/93[b]		8.05	---	11.69
	10/13/93		8.25	---	11.49
	01/20/94		7.20	---	12.54
	04/13/94		**7.57**	**---**	**12.17**
MW-11	10/23/91	22.06	14.0	---	8.06
	01/28/92		8.74	---	3.32
	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]		---	---	---
	04/06/93[b]		---	---	---
	07/12/93[b]		---	---	---
	10/13/93		11.47	---	10.59
	01/20/94		9.09	---	12.97
	04/13/94		**8.02**	**---**	**14.04**

Notes:

a = When separate-phase hydrocarbons are present ground water elevation is adjusted using the relation: Ground Water Elevation = Top-of-casing elevation - depth to water + (0.8 x hydrocarbon thickness).

b = Well inaccessible, coverd by construction debris.

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 billion (ug/L)---------->				
MW-1	08/06/91[SPH]	10.86	---	---	---	---	---
	10/23/91	11.05	32,000	2,700	550	360	3,700
	01/28/92	10.84	14,000	1,000	450	106	1,600
	05/05/92	9.42	98,000	11,000	3,500	1,200	18,000
	07/13/92	11.36	11,000	1,100	740	130	1,300
	10/12/92[SPH]	13.14	---	---	---	---	---
	01/12/93[SPH]	7.52	---	---	---	---	---
	04/06/93[SPH]	7.13	---	---	---	---	---
	07/12/93[SPH]	11.02	---	---	---	---	---
	10/13/93[SPH]	12.18	---	---	---	---	---
	01/20/94[SPH]	9.18	---	---	---	---	---
	04/13/94[SPH]	8.72	---	---	---	---	---
MW-2	08/06/91	9.72	50,000	15,000	2,700	1,400	13,000
	10/23/91	10.03	120,000	11,000	3,500	1,400	19,000
	01/28/92	8.78	49,000	7,400	1,800	800	8,300
	05/05/92	7.58	52,000	12,000	2,200	1,100	12,000
	07/13/92	9.63	47,000	15,000	4,500	2,400	16,000
	10/12/92[SPH]	11.66	---	---	---	---	---
	01/12/93[SPH]	7.13	---	---	---	---	---
	04/06/93[SPH]	6.40	---	---	---	---	---
	07/12/93	8.75	59,000	12,000	2,400	950	11,000
	10/13/93	10.28	54,000	14,000	3,700	1,200	22,000
	01/20/94	---	---	---	---	---	---
	04/13/94	7.35	79,000	9,400	2,100	740	12,000
	04/13/94[dup]	7.35	110,000	11,000	2,400	710	13,000
MW-3	08/06/91	11.18	430	8	4	1	15
	10/23/91	11.69	390	2.1	0.48	<0.3	2
	01/28/92	9.99	190	<0.5	<0.5	<0.5	<0.5
	05/04/92	9.46	190	<1	<1	<1	0.71
	07/20/92	11.29	200[a]	<0.5	<0.5	<0.5	<0.5
	10/12/92	13.10	180[a]	<0.5	<0.5	<0.5	<0.5
	01/12/93	7.32	180	<0.5	0.9	2.3	5.6
	01/12/93[dup]	7.32	260	<0.5	<0.5	<0.5	<0.5
	04/06/93[a]	7.44	280	<0.5	<0.5	<0.5	<0.5
	07/12/93	10.62	310[a]	<0.5	<0.5	<0.5	<0.5
	10/13/93[a]	12.05	150	<0.5	<0.5	<0.5	<0.5
	01/20/94	9.62	180	<0.5	<0.5	<0.5	<0.5
	04/13/94	9.15	270	<0.5	<0.5	<0.5	<0.5
MW-4	08/06/91	10.57	1,300	28	68	18	150
	10/23/91	10.46	1,900	97	38	6.1	77
	01/28/92	9.54	200	7.6	3	<0.5	3.3
	05/04/92	8.33	690	98	13	3	<1

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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 billion (ug/L)---------->				
	07/13/92	9.87	1,500	140	17	2.9	12
	07/13/92[dup]	9.87	870	95	10	1.9	7.1
	10/12/92[SPH]	12.43	---	---	---	---	---
	01/12/93[SPH]	7.12	---	---	---	---	---
	04/06/93[SPH]	7.23	---	---	---	---	---
	07/12/93[SPH]	10.08	---	---	---	---	---
	10/13/93[SPH]	11.35	---	---	---	---	---
	01/20/94[SPH]	9.06	---	---	---	---	---
	04/13/84[SPH]	8.58	---	---	---	---	---
MW-5	08/06/91	10.23	9,100	210	240	27	660
	10/23/91	10.89	12,000	92	230	18	450
	01/28/92	8.45	3,300	130	180	10	220
	05/04/92	8.05	3,900	95	260	<12.5	120
	07/13/92	10.00	4,100	180	250	12	73
	10/12/92[SPH]	11.83	---	---	---	---	---
	01/12/93[SPH]	6.10	---	---	---	---	---
	04/06/93	6.18	6,200	71	53	<0.5	150
	07/12/93	9.59	3,400	130	170	<0.5	130
	10/13/93[SPH]	10.80	---	---	---	---	---
	01/20/94[SPH]	7.42	---	---	---	---	---
	04/13/94[SPH]	7.05	---	---	---	---	---
MW-6	08/06/91	10.61	28,000	1,400	1,300	200	4,200
	10/23/91	11.68	53,000	1,400	1,800	230	6,700
	01/28/92	8.90	87,000	1,200	2,000	470	6,600
	05/05/92	8.01	230,000	<500	3,200	<500	11,000
	07/13/92	10.77	2,700,000	<2,500	14,000	3,500	36,000
	10/12/92[SPH]	8.68	---	---	---	---	---
	01/12/93[SPH]	6.40	---	---	---	---	---
	04/06/93	5.93	320,000	2,500	5,400	980	14,000
	07/12/93	10.25	31,000	1,100	1,700	150	4,500
	07/12/93[dup]	10.25	25,000	1,200	2,000	270	4,800
	10/13/93[SPH]	12.28	---	---	---	---	---
	01/20/94[SPH]	9.14	---	---	---	---	---
	04/13/94[SPH]	7.67	---	---	---	---	---
MW-7	08/06/91	8.00	13,000	4,300	770	76	730
	10/23/91	8.16	18,000	3,200	660	31	770
	01/28/92	7.11	5,000	1,200	220	<10	54
	05/05/92	6.47	9,500	3,100	620	72	880
	07/13/92	7.73	20,000	4,200	1,600	130	1,100
	10/12/92	9.97	16,000	2,500	560	<50	170
	01/12/93	6.26	15,000	2,300	690	<0.5	440

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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 billion (ug/L)---------->				
	04/06/93	5.92	26,000	5,400	1,200	310	3,000
	04/06/93[dup]	5.92	21,000	5,200	1,200	180	3,000
	07/12/93	7.27	10,000[a]	3,000	510	100	530
	10/13/93	9.40	59,000	13,000	4,400	4,400	20,000
	01/20/94[SPH]	7.03	---	---	---	---	---
	04/13/94[SPH]	6.56	---	---	---	---	---
MW-8	08/06/91	9.60	32,000	3,700	1,400	1,100	6,100
	10/23/91	9.73	63,000	4,800	1,300	1,300	6,900
	01/28/92	7.72	32,000	1,900	1,400	750	6,300
	05/05/92	6.48	180,000	2,200	2,700	2,000	13,000
	07/13/92	8.55	56,000	4,500	2,700	1,500	9,100
	10/12/92	9.97	34,000	2,400	1,400	550	6,400
	10/12/92[dup]	9.97	34,000	3,100	1,500	700	7,200
	01/12/93	6.94	110,000	2,100	2,400	1,200	12,000
	04/06/93	5.72	38,000	2,500	1,100	840	4,900
	07/12/93	7.65	27,000	2,800	1,200	990	5,300
	10/13/93	8.25	32,000	3,300	1,600	1,300	8,400
	10/13/93[dup]	8.25	47,000	3,200	1,600	1,300	8,500
	01/20/94	7.25	78,000	1,900	1,300	670	6,600
	01/20/94[dup]	7.25	60,000	1,700	1,100	680	5,500
	04/13/94	7.12	41,000	1,300	1,200	720	6,00
MW-9	08/06/91	10.33	11,000	1,700	520	95	1,400
	10/23/91	11.13	20,000	1,000	<0.3	47	940
	01/28/92	9.02	3,500	120	280	<10	36
	05/04/92	7.67	7,700	1,200	380	<50	630
	07/20/92	10.26	11,000	910	220	<50	1,200
	10/12/92	12.19	2,100	340	77	15	44
	01/12/93[b]	---	---	---	---	---	---
	04/06/93[b]	---	---	---	---	---	---
	07/12/93[b]	---	---	---	---	---	---
	10/13/93	11.17	2,900	140	<5	<5	120
	01/20/94	8.03	1,700	380	150	6.9	400
	04/13/94	7.81	6,000	1,000	450	<20	420
MW-10	10/23/91	8.57	27,000	1,600	1,800	110	510
	01/28/92	7.60	3,800	360	170	14	39
	05/04/92	7.54	3,000	360	140	<12.5	26
	07/20/92	8.59	15,000	400	180	<25	67
	10/12/92	10.23	16,000	320	360	<50	100
	01/12/93[b]	---	---	---	---	---	---
	04/06/93	6.70	14,000	370	880	<0.5	210
	07/12/93[b]	8.05	10,000	440	890	58	220

-- 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 billion (ug/L)---------->				
	10/13/93	8.25	15,000	1,000	810	51	170
	01/20/94	7.20	12,000	820	1,100	56	350
	04/13/94	7.57	18,000	760	700	36	130
MW-11	10/23/91	8.06	140	<12	0.37	<0.3	0.56
	01/28/92	13.32	<50	<0.5	<0.5	<0.5	<0.5
	05/04/92	13.77	<50	<0.5	<0.5	<0.5	<0.5
	07/13/92	11.56	140[b]	<0.5	<0.5	<0.5	<0.5
	10/12/92	12.40	75[b]	<0.5	<0.5	<0.5	<0.5
	01/12/93[b]	---	---	---	---	---	---
	04/06/93[b]	---	---	---	---	---	---
	07/12/93	---	---	---	---	---	---
	10/13/93	11.47	<50	<0.5	<0.5	<0.5	<0.5
	01/20/94	9.09	<50	<0.5	<0.5	<0.5	<0.5
	04/13/94	8.02	<50	<0.5	<0.5	<0.5	<0.5
Bailer Blank	07/13/92		<50	<0.5	<0.5	<0.5	<0.5
	07/20/92		<50	<0.5	<0.5	<0.5	<0.5
	10/12/92		<50	<0.5	<0.5	<0.5	<0.5
	04/13/94		<50	<0.5	<0.5	0.67	<0.5
Trip Blank	01/28/92		<50	<0.5	<0.5	<0.5	<0.5
	05/05/92		<50	<0.5	<0.5	<0.5	<0.5
	07/13/92		<50	<0.5	<0.5	<0.5	<0.5
	07/20/92		<50	<0.5	<0.5	<0.5	<0.5
	10/12/92		<50	<0.5	<0.5	<0.5	<0.5
	01/12/93		<50	<0.5	<0.5	<0.5	<0.5
	04/06/93		<50	<0.5	<0.5	<0.5	<0.5
	07/12/93		<05	<0.5	<0.5	<0.5	<0.5
	10/13/93		<50	<0.5	<0.5	<0.5	<0.5
	01/20/94		<50	<0.5	<0.5	<0.5	<0.5
	04/13/94		<50	<0.5	<0.5	<0.5	<0.5
DTSC MCLs			NE	0.001	0.680	0.10[c]	1.750

-- 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)

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
dup = Duplicate sample
SPH = Not sampled, separate-phase hydrocarbons detected in well

Notes:

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

ATTACHMENT A

WEISS ASSOCIATES SOIL VAPOR EXTRACTION TEST REPORT

BLAINE TECH SERVICES INC.

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

May 10, 1994

A CLUSTER OF NEARLY IDENTICAL
ANALYTICAL POSITIVES
FOUND IN EQUIPMENT RINSATE BLANKS
TAKEN WITH LABORATORY SUPPLIED
-- BUT UNTESTED AND UNCERTIFIED --
WATER

To whom it may concern:

Sequoia Analytical reports finding low level Toluene and Total Xylenes in a number of recent Equipment Rinsate Blanks, including the Equipment Blank from this site. Toluene was present in all of these Equipment Blank samples, but only in a narrow range between 0.52 ppb and 2.3 ppb. Total Xylenes were found in several of the samples in a range between 0.55 ppm and 0.71 ppb.

We reviewed our work and found no protocol or procedural errors which could have caused the contamination that was found. In fact, the contamination found in the blanks could not have come from any of the wells that were sampled *prior* to collecting the blanks since all these wells were, uniformly, none detected (as were the wells *following* the blanks). Moreover, positives were found in work performed at different sites, in work done on different days, and in work done by different personnel. These facts combined with the surprising uniformity of the results enabled us to rule out random airborne contamination such as would be detected by EPA Field Blanks. We identified the most likely source of the contamination as the unanalyzed water that the laboratory supplies to us and which we then use in collecting Equipment Rinsate Blanks and return to the laboratory.

By Friday April 22, 1994, Sequoia Analytical personnel informed us that they had reviewed their own work and found no indication of either in-lab contamination or contaminant carry-over in any particular instrument. Reshooting more sample material validated their earlier findings. On Monday April 25, 1994 Diane Lawver, Vice President of Sequoia Analytical and QA Director said she saw the water used in the blanks as a possible source, but thought the contamination was more likely to be coming from the commercially prepared sample bottles into which the commercial water was decanted. She indicated they have encountered certain batches of commercially prepared sample bottles that are contaminated with these same Toluene and Total Xylene constituents.

We conclude that these particular results are false positives which should be disregarded. However, the broader issue of Quality Control and QA on the materials used to take Equipment Rinsate Blanks will be explored further in discussions with the laboratory and Shell Oil Company.

Richard C. Blaine
President

BLAINE
TECH SERVICES INC.

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

May 3, 1994

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:
2nd quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 940413-F-2

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 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.

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 are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less water may be removed 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. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

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 sites 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.

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 Sequoia Analytical Laboratory in Redwood City, California. Sequoia Analytical Laboratory is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1210.

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/lp

attachments: table of well gauging data
chain of custody
certified analytical report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
ATTN: Michael Asport

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	4/13/94	TOC	FREE PRODUCT	8.70	0.02	80	8.72	--
MW-2 *	4/13/94	TOC	SHEEN/ODOR	--	--	--	7.35	19.26
MW-3	4/13/94	TOC	--	NONE	--	--	9.15	27.40
MW-4	4/13/94	TOC	FREE PRODUCT	8.57	0.01	80	8.58	--
MW-5	4/13/94	TOC	FREE PRODUCT	7.04	0.01	30	7.05	--
MW-6	4/13/94	TOC	FREE PRODUCT	7.66	0.01	25	7.67	--
MW-7	4/13/94	TOC	FREE PRODUCT	6.40	0.16	400	6.56	--
MW-8	4/13/94	TOC	SHEEN/ODOR	--	--	--	7.12	19.96
MW-9	4/13/94	TOC	ODOR	NONE	--	--	7.81	19.73
MW-10	4/13/94	TOC	SHEEN/ODOR	--	--	--	7.57	18.81
MW-11	4/13/94	TOC	--	NONE	--	--	8.02	18.84

* Sample DUP was a duplicate sample taken from well MW-2.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 940413-F2

Date:
Page 1 of 2

Site Address: 3420 San Pablo Ave. Oakland

WIC#: 204-5506-5306

Shell Engineer: Dan Kirk
Phone No.: (510) 675-6168
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc.
985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller
Phone No.: (408) 995-5535
Fax #: 293-8773

Comments:

Sampled by: TF / KCB

Printed Name: Tom Flory Keith Brown

Analysis Required

LAB: Sequoia

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
Quarterly Monitoring [X]	5441	24 hours [ ]
Site Investigation [ ]	5441	48 hours [ ]
Soil Classify/Disposal [ ]	5442	16 days [X] (Normal)
Water Classify/Disposal [ ]	5443	Other [ ]
Soil/Air Rem. or Sys. O & M [ ]	5452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M [ ]	5453	
Other [ ]		

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
MW2	4/14			W		3						X							01 A-C	
MW 3	4/13			W		3						X							02	12 18
MW 8	4/14			W		3						X							03	
MW 9	4/14			W		3						X							04	
MW10	4/14			W		3						X							05	
MW11	4/13			W		3						X							06	
EB	4/13			W		3						X							07	
DUP	4/14			W		3						X							08	

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
[signature]	Keith Brown	Date: 4/15/94 Time: [illegible]	S. Wright	S. WRIGHT	Date: 4/15 Time: [illegible]
S. Wright	S. WRIGHT	Date: 4/15/94 Time: 12:18	Elaine Cabrera	Elaine Cabrera	Date: 4/15 Time: 1213
		Date: Time:			Date: Time:

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 940413-F2

Date:
Page 2 of 2

Site Address: 3420 San Pablo Ave. Oakland

WIC#: 204-5506-5306

Shell Engineer: Dan Kirk
Phone No.: (510) 675-6168
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller
Phone No.: (408) 995-5535
Fax #: 293-8773

Comments:

Sampled by: TF/KCB

Printed Name: Tom Flory / Keith Brown

LAB: Sequoia

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
TB	4/13			W		2						X							09A/B	12 15

CHECK ONE (1) BOX ONLY — CT/DI — TURN AROUND TIME

- Quarterly Monitoring [X] $441 — 24 hours [ ]
- Site Investigation [ ] $441 — 48 hours [ ]
- Soil Closure/Disposal [ ] $442 — 15 days [X] (Normal)
- Water Closure/Disposal [ ] $443 — Other [ ]
- Soil/Air Rem. or Sys. O & M [ ] $462
- Water Rem. or Sys. O & M [ ] $463
- Other [ ]

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

Relinquished By (signature):	Printed Name:	Date: 4/13/94 Time: 4:00 PM	Received (signature):	Printed Name:	Date: 4/13/94 Time: 16:45
Relinquished By (signature):	Printed Name:	Date: 4/14/94 Time: 12:15	Received (signature):	Printed Name:	Date: 4/15 Time: 12:15
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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Project: 940413-F2, Shell 3420 San Pablo Av

Enclosed are the results from 9 water samples received at Sequoia Analytical on April 15,1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
4D92101	Water, MW2	4/14/94	EPA 5030/8015 Mod./8020
4D92102	Water, MW3	4/13/94	EPA 5030/8015 Mod./8020
4D92103	Water, MW8	4/14/94	EPA 5030/8015 Mod./8020
4D92104	Water, MW9	4/14/94	EPA 5030/8015 Mod./8020
4D92105	Water, MW10	4/14/94	EPA 5030/8015 Mod./8020
4D92106	Water, MW11	4/13/94	EPA 5030/8015 Mod./8020
4D92107	Water, EB	4/13/94	EPA 5030/8015 Mod./8020
4D92108	Water, DUP	4/14/94	EPA 5030/8015 Mod./8020
4D92109	Water, TB	4/13/94	EPA 5030/8015 Mod./8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services, Inc.	Client Project ID:	940413-F2, Shell 3420 San Pablo Av	Sampled: Apr 13-14, 1994
985 Timothy Drive	Sample Matrix:	Water	Received: Apr 15, 1994
San Jose, CA 95133	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Apr 28, 1994
Attention: Jim Keller	First Sample #:	4D92101	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4D92101 MW2	Sample I.D. 4D92102 MW3	Sample I.D. 4D92103 MW8	Sample I.D. 4D92104 MW9	Sample I.D. 4D92105 MW10	Sample I.D. 4D92106 MW11
Purgeable Hydrocarbons	50	79,000	270	41,000	6,000	18,000	N.D.
Benzene	0.50	9,400	N.D.	1,300	1,000	760	N.D.
Toluene	0.50	740	N.D.	720	N.D.	36	N.D.
Ethyl Benzene	0.50	2,100	N.D.	1,200	450	700	N.D.
Total Xylenes	0.50	12,000	N.D.	6,000	420	130	N.D.
Chromatogram Pattern:		C4 - C12	C8 - C12	C4 - C12	C4 - C12	C4 - C12	--

Quality Control Data

Report Limit Multiplication Factor:	200	1.0	200	40	50	1.0
Date Analyzed:	4/22/94	4/22/94	4/22/94	4/22/94	4/25/94	4/22/94
Instrument Identification:	GCHP-17	GCHP-17	GCHP-17	GCHP-2	GCHP-3	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	80	126	84	96	103	100

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services, Inc.	Client Project ID:	940413-F2, Shell 3420 San Pablo Av	Sampled:	Apr 14, 1994
985 Timothy Drive	Sample Matrix:	Water	Received:	Apr 15, 1994
San Jose, CA 95133	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Apr 28, 1994
Attention: Jim Keller	First Sample #:	4D92107		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4D92107 EB	Sample I.D. 4D92108 DUP	Sample I.D. 4D92109 TB
Purgeable Hydrocarbons	50	N.D.	110,000	N.D.
Benzene	0.50	N.D.	11,000	N.D.
Toluene	0.50	0.67	710	N.D.
Ethyl Benzene	0.50	N.D.	2,400	N.D.
Total Xylenes	0.50	N.D.	13,000	N.D.
Chromatogram Pattern:		C7	C4 - C12	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	500	1.0
Date Analyzed:	4/21/94	4/21/94	4/22/94
Instrument Identification:	GCHP-3	GCHP-3	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	103	97	99

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

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Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: 940413-F2, Shell 3420 San Pablo Av
Matrix: Liquid

QC Sample Group: 4D92101-03, 05

Reported: Apr 28, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD Batch#:	4DC2414	4DC2414	4DC2414	4DC2414
Date Prepared:	-	-	-	-
Date Analyzed:	4/25/94	4/25/94	4/25/94	4/25/94
Instrument I.D.#:	GCHP-17	GCHP-17	GCHP-17	GCHP-17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	98	98	99	100
Matrix Spike Duplicate % Recovery:	98	98	99	100
Relative % Difference:	0.0	0.0	0.0	0.0
LCS Batch#:	-	-	-	-
Date Prepared:	-	-	-	-
Date Analyzed:	-	-	-	-
Instrument I.D.#:	-	-	-	-
LCS % Recovery:	-	-	-	-
% Recovery Control Limits:	71-133	72-128	72-130	71-120

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

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Client Project ID: 940413-F2, Shell 3420 San Pablo Av
Matrix: Liquid
QC Sample Group: 4D92104, 06
Reported: Apr 28, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD Batch#:	4D68703	4D68703	4D68703	4D68703
Date Prepared:	-	-	-	-
Date Analyzed:	4/22/94	4/22/94	4/22/94	4/22/94
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	100	100	100	100
Matrix Spike Duplicate % Recovery:	97	97	97	97
Relative % Difference:	3.0	3.0	3.0	3.0
LCS Batch#:	-	-	-	-
Date Prepared:	-	-	-	-
Date Analyzed:	-	-	-	-
Instrument I.D.#:	-	-	-	-
LCS % Recovery:	-	-	-	-
% Recovery Control Limits:	71-133	72-128	72-130	71-120

Please Note:
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Client Project ID: 940413-F2, Shell 3420 San Pablo Av
Matrix: Liquid
QC Sample Group: 4D92107, 08
Reported: Apr 28, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD Batch#:	4D93504	4D93504	4D93504	4D93504
Date Prepared:	4/21/94	4/21/94	4/21/94	4/21/94
Date Analyzed:	4/21/94	4/21/94	4/21/94	4/21/94
Instrument I.D.#:	GCHP-3	GCHP-3	GCHP-3	GCHP-3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	96	99	100	100
Matrix Spike Duplicate % Recovery:	96	92	95	83
Relative % Difference:	0.0	7.3	5.1	19
LCS Batch#:	-	-	-	-
Date Prepared:	-	-	-	-
Date Analyzed:	-	-	-	-
Instrument I.D.#:	-	-	-	-
LCS % Recovery:	-	-	-	-
% Recovery Control Limits:	71-133	72-128	72-130	71-120

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San Jose, CA 95133
Attention: Jim Keller

Client Project ID: 940413-F2, Shell 3420 San Pablo Av
Matrix: Liquid
QC Sample Group: 4D92109
Reported: Apr 28, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD Batch#:	4D68703	4D68703	4D68703	4D68703
Date Prepared:	-	-	-	-
Date Analyzed:	4/22/94	4/22/94	4/22/94	4/22/94
Instrument I.D.#:	GCHP-3	GCHP-3	GCHP-3	GCHP-3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	96	96	97	93
Matrix Spike Duplicate % Recovery:	86	87	90	90
Relative % Difference:	11	9.8	7.5	3.3
LCS Batch#:	-	-	-	-
Date Prepared:	-	-	-	-
Date Analyzed:	-	-	-	-
Instrument I.D.#:	-	-	-	-
LCS % Recovery:	-	-	-	-
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

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