Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: **510-450-6000**

September 27, 1994

3737

Barney Chan
Alameda County Department
of Environmental Health
1131 Harbor Bay Parkway,
2nd Floor
Alameda, CA 94502-6577

Re: Shell Service Station
WIC #204-5508-5801
630 High Street
Oakland, California
ACDEH STID #3737
WA Job #81-0602-104

Dear Mr. Chan:

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 2652.d. Included below are descriptions and results of activities performed in the third quarter 1994 and proposed work for the fourth quarter 1994.

Third Quarter 1994 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured depths to ground water and collected ground water samples from MW-1 and MW-3 through MW-6. BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.

- Weiss Associates (WA) compiled the ground water elevation and analytic data (Tables 1, 2 and 3), prepared a ground water elevation contour map (Figure 2) and a benzene concentration in ground water map (Figure 3).

Anticipated Fourth Quarter 1994 Activities:

- WA will submit a report presenting the results of the fourth quarter 1994 ground water depth measurements and ground water sampling. As stated in our April 27, 1994 letter report[1], wells MW-2, MW-7, MW-8, MW-9 and MW-10 will be sampled bi-annually in the second and fourth quarters, and threfore will be sampled next quarter. The report will include tabulated chemical analytic results, a ground water elevation contour map and a benzene concentration in ground water map.

Discussion

WA recommends that quarterly sampling of wells MW-1, MW-3, MW-4, MW-5, and MW-6 continue. If, in the future, benzene concentrations in these wells show a stable or decreasing trend, we will request a designation as a Non-Attainment Area.

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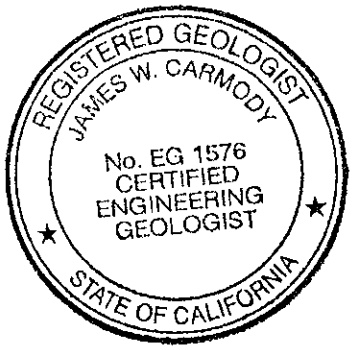
[1] Weiss Associates, Quarterly letter to Barney Chan of the Alameda County of Environmental Health, April 27, 1994, 3 pp. plus attachments.

Please call if you have any questions.



Sincerely,
Weiss Associates

John Wolf
Technical Assistant

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

JW/JWC:jw

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Attachments: A - BTS' Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 4023, Concord, CA 94524
Paul McAllister, Shell Oil Company, P.O. Box 1380, Houston, TX 77251
Richard Hiett, Water Quality Control Board - San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, CA 94612

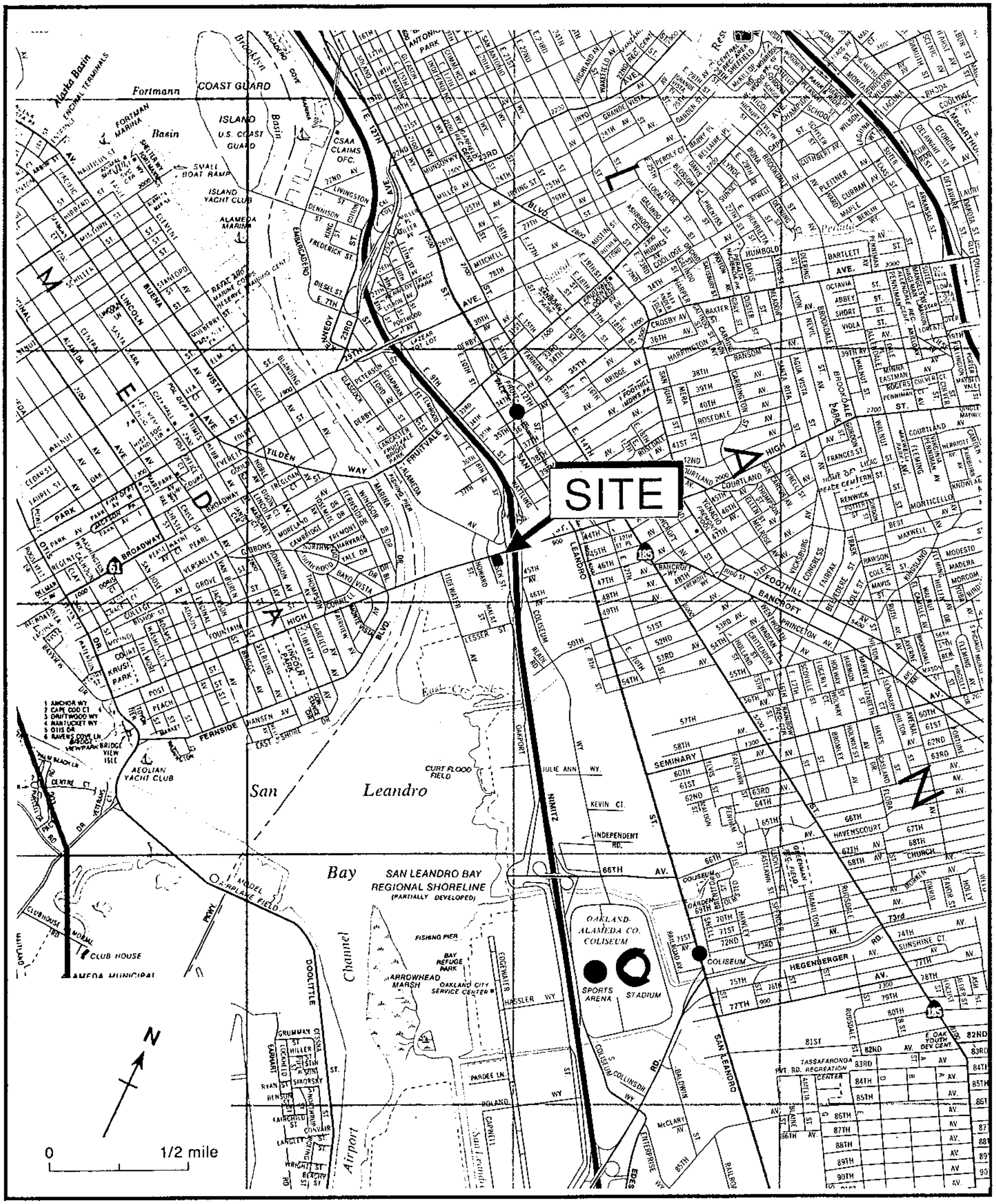

Figure 1. Site Location Map - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

2/28/92

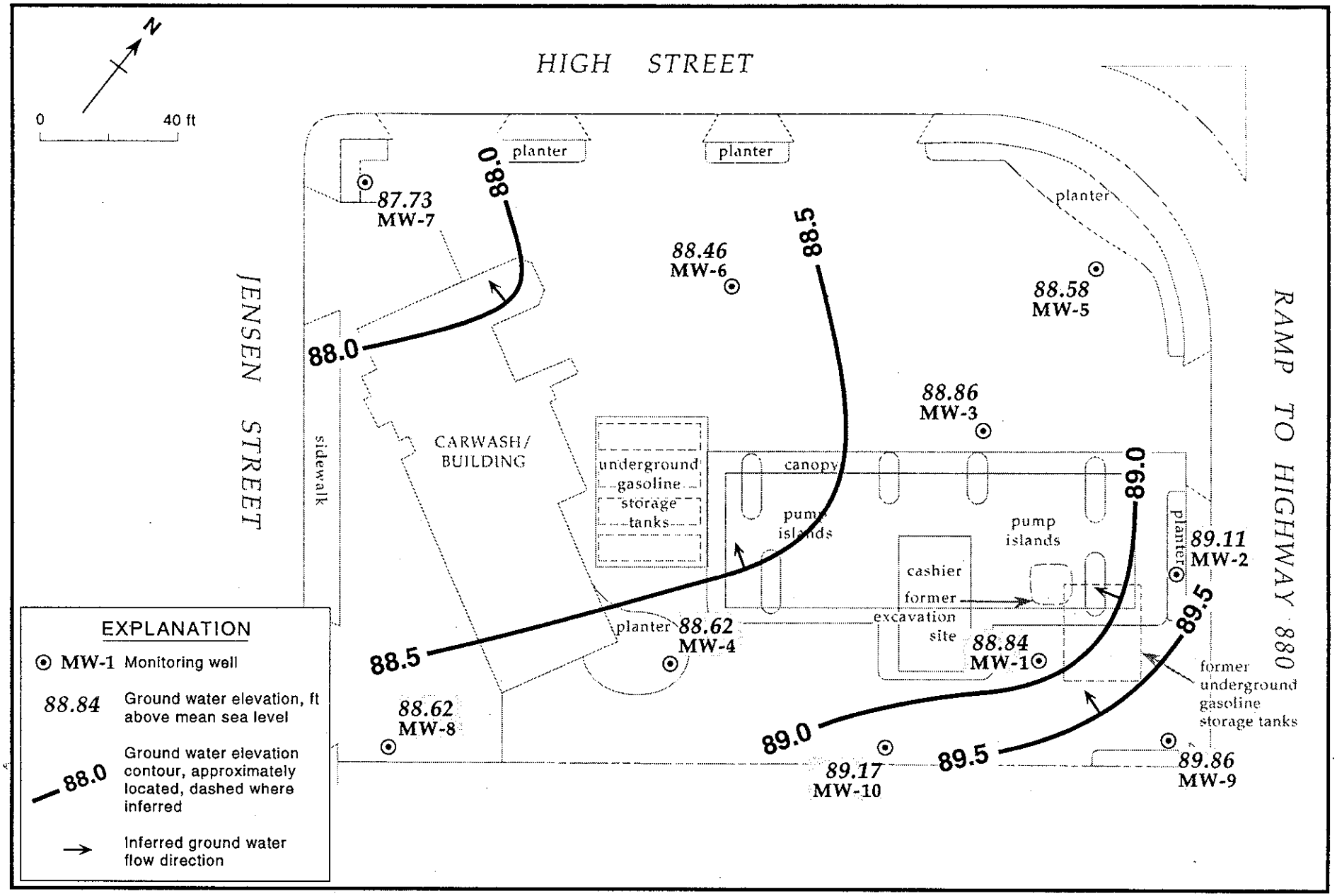

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - August 4, 1994 - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

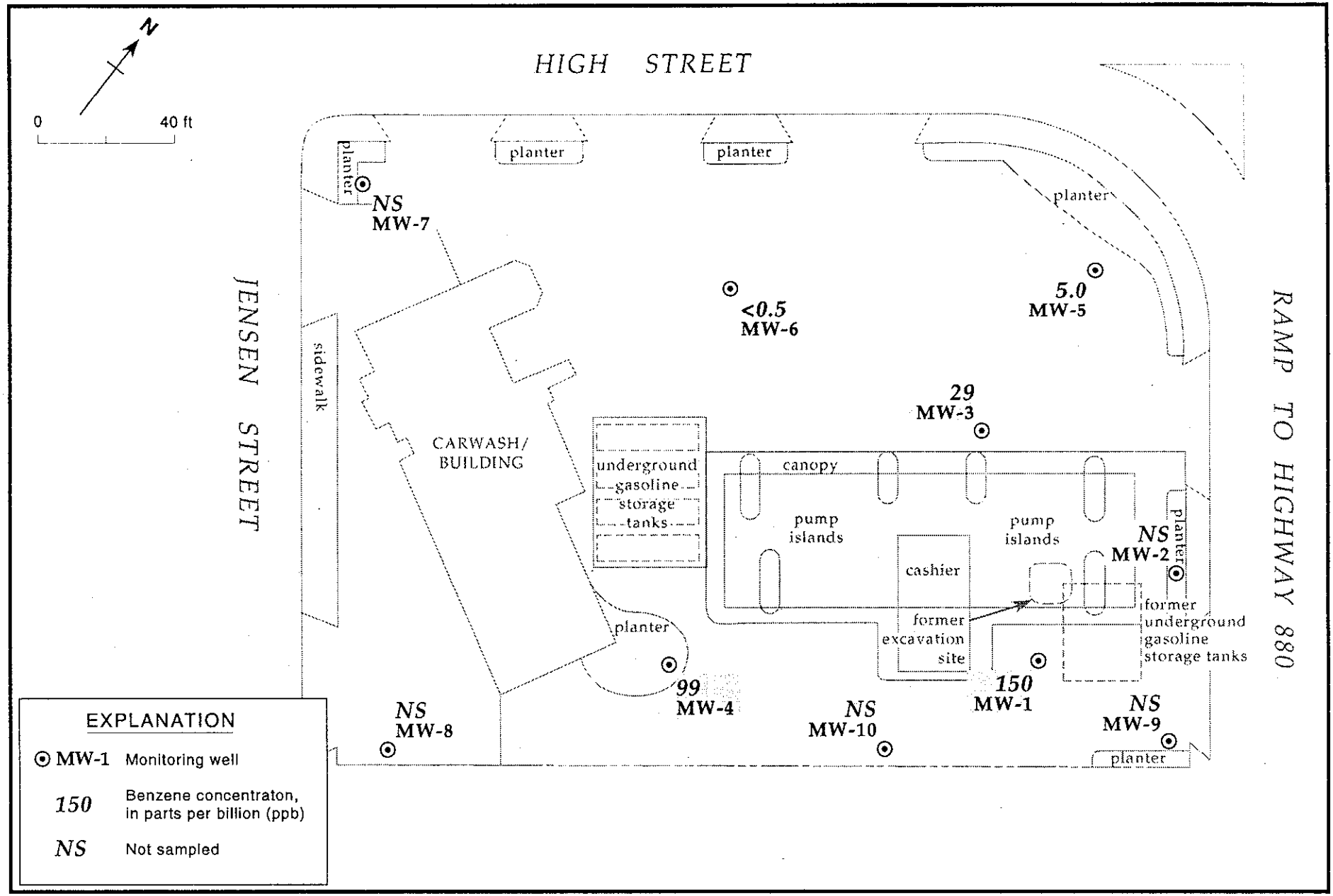

Figure 3. Benzene Concentrations in Ground Water - August 4, 1994 - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

S602-011.ai

09/12/94

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	01/29/91	99.35	10.79	88.56
	04/30/91		9.48	89.87
	07/22/91		10.53	88.82
	02/21/92		8.31	91.04
	05/22/92		10.02	89.33
	07/07/92		10.06	89.29
	08/20/92		10.32	89.03
	11/18/92		10.64	88.71
	02/09/93		8.71	90.64
	06/16/93		9.71	89.64
	08/24/93		10.23	89.12
	11/23/93		10.48	88.87
	02/14/94		9.17	90.18
	05/25/94		9.52	89.83
	08/04/94		**10.51**	**88.84**
MW-2	01/29/91	101.15	13.25	87.90
	04/30/91		10.94	90.21
	07/22/91		12.14	89.01
	02/21/92		10.08	91.07
	05/22/92		11.52	89.63
	07/07/92		11.50	89.65
	08/20/92		11.72	89.43
	11/18/92		13.06	88.09
	02/09/93		10.06	91.09
	06/16/93		11.60	89.55
	08/24/93		12.16	88.99
	11/23/93		12.74	88.41
	02/14/94		10.91	90.24
	05/25/94		11.06	90.09
	08/04/94		**12.04**	**89.11**
MW-3	01/29/91	99.49	11.09	88.40
	04/30/91		9.57	89.92
	07/22/91		10.66	88.83
	02/21/92		8.97	90.52
	05/22/92		9.32	90.17

-- Table 1 continues on next page --

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	07/07/92		10.22	89.27
	08/20/92		10.44	89.05
	11/18/92		10.79	88.70
	02/09/93		9.35	90.14
	06/16/93		9.56	89.93
	08/24/93		10.51	88.98
	11/23/93		10.77	88.72
	02/14/94		9.61	89.88
	05/25/94		10.00	89.49
	08/04/94		**10.63**	**88.86**
MW-4	01/29/91	99.24	10.76	88.48
	04/30/91		9.45	89.79
	07/22/91		10.34	88.90
	02/21/92		7.60	91.64
	05/22/92		9.90	89.34
	07/07/92		10.02	89.22
	08/20/92		10.32	88.92
	11/18/92		10.51	88.73
	02/09/93		8.13	91.11
	06/16/93		9.60	89.64
	08/24/93		10.05	89.19
	11/23/93		10.25	89.99
	02/14/94		8.83	90.41
	05/25/94		9.64	89.60
	08/04/94		**10.62**	**88.62**
MW-5	01/29/91	100.08	11.72	88.36
	04/30/91		10.45	89.63
	07/22/91		11.43	88.65
	02/21/92		9.24	90.84
	05/22/92		10.97	89.11
	07/07/92		10.98	89.10
	08/20/92		11.14	88.94
	11/18/92		11.21	88.87
	02/09/93		10.01	90.07
	06/16/93		11.05	89.03

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Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	08/24/93		11.32	88.76
	11/23/93		11.35	88.73
	02/14/94		10.34	89.74
	05/25/94		10.54	89.54
	08/04/94		**11.50**	**88.58**
MW-6	01/29/91	98.56	10.23	88.33
	04/30/91		9.15	89.41
	07/22/91		10.10	88.46
	02/21/92		7.15	91.41
	05/22/92		9.55	89.01
	07/07/92		9.53	89.03
	08/20/92		9.84	88.72
	11/18/92		10.03	88.53
	02/09/93		7.91	90.65
	06/16/93		8.74	89.82
	08/24/93		9.66	88.90
	11/23/93		9.86	88.70
	02/14/94		8.27	90.29
	05/25/94		8.89	89.67
	08/04/94		**10.10**	**88.46**
MW-7	01/29/91	97.53	8.91	88.62
	04/30/91		8.38	89.15
	07/22/91		9.13	88.40
	02/21/92		6.87	90.66
	05/22/92		8.08	89.45
	07/07/92		8.82	88.71
	08/20/92		8.89	88.64
	11/18/92		9.54	87.99
	02/09/93		7.84	89.69
	06/16/93		7.80	89.73
	08/24/93		8.51	89.02
	11/23/93		8.70	88.83
	02/14/94		7.52	90.01
	05/25/94		9.04	88.49
	08/04/94		**9.80**	**87.83**

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Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-8	01/29/91	97.13	8.47	88.66
	04/30/91		7.64	89.49
	07/22/91		8.36	88.77
	02/21/92		6.54	90.59
	05/22/92		7.68	89.45
	07/07/92		8.16	88.97
	08/20/92		8.25	88.88
	11/18/92		8.32	88.81
	02/09/93		5.58	91.55
	06/16/93		7.19	89.94
	08/24/93		7.98	89.15
	11/23/93		8.09	89.04
	02/14/94		9.42	87.71
	05/25/94		7.18	89.95
	08/04/94		**8.51**	**88.62**
MW-9	01/29/91	99.72	8.27	91.45
	04/30/91		7.62	92.10
	07/22/91		8.48	91.24
	02/21/92		6.91	92.81
	05/22/92		8.64	91.08
	07/07/92		7.55	92.17
	08/20/92		7.38	92.34
	11/18/92		10.17	89.55
	02/09/93		6.89	92.83
	06/16/93		8.74	90.98
	08/24/93		8.32	91.40
	11/23/93		8.17	91.55
	02/14/94		7.67	92.05
	05/25/94		7.89	91.83
	08/04/94		**9.76**	**89.96**
MW-10	01/29/91	98.99	10.81	88.18
	04/30/91		8.79	90.20
	07/22/91		9.94	89.05
	02/21/92		9.11	89.88

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Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	05/22/92		9.14	89.85
	07/07/92		9.87	89.12
	08/20/92		9.30	89.69
	11/18/92		10.21	88.78
	02/09/93		7.63	91.36
	06/16/93		8.57	90.42
	08/24/93		9.61	89.38
	11/23/93		10.10	88.89
	02/14/94		9.01	89.98
	05/25/94		8.84	90.15
	08/04/94		**9.82**	**89.17**

Table 2. Analytical Results for Ground Water Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
MW-1	01/29/91	10.79	11,000	21,000[a]	<500	310	500	41	400	---
Quarterly	04/30/91	9.48	8,300	2,100	<500	250	310	32	300	---
	07/22/91	10.53	11,000	3,800	<500	310	290	36	280	---
	02/24/92	8.31	7,300	8,900[b]	800	200	340	36	270	---
	05/22/92	10.02	7,600	18,000[bc]	---	140	300	<50	140	---
	07/07/92	10.06	---	---	---	---	---	---	---	---
	08/20/92	10.32	9,100	5,200[b]	---	530	860	340	540	---
	11/18/92	10.64	15,000	4,100[b]	---	220	790	50	340	---
	02/09/93	8.71	7,000	1,200		130	220	23	160	---
	06/16/93	9.71	4,800	---	---	150	320	31	130	---
	08/24/93	10.23	10,000	---	---	170	610	27	170	---
	11/23/93	10.48	7,600	---	---	190	430	<12	140	---
	11/23/93[dup]	10.48	4,800	---	---	190	430	15	130	---
	02/14/94	9.17	8,000	---	---	150	210	47	68	---
	02/14/94[dup]	9.17	8,900	---	---	160	230	45	76	---
	05/25/94	9.52	8,800	---	---	95	210	<10	63	---
	08/04/94	10.51	6,200	---	---	150	350	14	180	---
	08/04/94[dup]	10.51	6,200	---	---	170	280	16	160	---
MW-2	01/29/91	13.25	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	---
Bi-annual	04/30/91	10.94	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	---
2nd and	07/22/91	12.14	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	---
4th	02/23/92	10.08	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
Quarter	05/22/92	11.52	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	07/07/92	11.50	---	---	---	---	---	---	---	---
	08/20/92	11.72	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92	13.06	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/09/93	10.046	95	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/16/93	11.60	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93	12.16	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/23/93	12.74	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/14/94	10.91	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/25/94	11.06	100	---	---	1.2	2.3	4.9	13	---
MW-3	01/29/91	11.09	2,300	410[a]	<500	17	10	14.1	230	---
Quarterly	04/30/91	9.57	<50	260	<500	22	7.0	4.0	17	---
	07/22/91	10.66	2,000	310	<500	51	<0.5	<0.5	<0.5	---
	02/24/92	8.97	2,800	640[d]	---	15	<2.5	2.8	12	---
	05/22/92	9.32	3,700	220[bc]	---	27	20	11	110	---
	07/07/92	10.22	---	---	---	---	---	---	---	---
	08/20/92	10.44	13,000	340[b]	---	72	71	85	140	---
	11/18/92	10.79	2,100	430[b]	---	21	11	3.6	13	---
	02/09/93	9.35	3,300	83	---	21	6.1	5.6	<0.5	---

-- Table 2 continues on next page --

Table 2. Analytical Results for Ground Water Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
	02/02/93[dup]	9.35	3,500	130	---	18	7.2	8.8	<0.5	---
	06/16/93	9.56	3,500[e]	---	---	66	<0.5	6	<0.5	---
	08/24/93	10.51	3,400[e]	---	---	110	<5	<5	<5	---
	11/23/93	10.77	3,000	---	---	36	6.9	44	23	f
	02/14/94	9.61	4,700[g]	---	---	9.9	8.8	5.2	<5.0	---
	05/25/94	10.00	1,200	---	---	<10	<10	<10	<10	---
	08/04/94	10.63	2,600	---	---	29	14	<5	11	---
MW-4	01/29/91	10.76	2,600	1,300	<500	83	<0.5	<0.5	110	---
Quarterly	04/30/91	9.45	2,600	750	<500	22	7.0	4.0	17	---
	07/22/91	10.34	4,300	1,200	<500	120	<0.5	<0.5	10	---
	02/24/92	7.60	2,000	8,300[b]	---	31	3.5	6.3	6.6	---
	05/22/92	9.90	3,600	3,400[bc]	---	55	3	5	10	---
	07/07/92	10.02	---	---	---	---	---	---	---	---
	08/20/92	10.32	3,100	3,400	---	100	14	45	45	---
	11/18/92	10.51	2,200	1,400	---	32	4.2	12	24	---
	02/09/93	8.13	1,500	180	---	1.1	<0.5	<0.5	<0.5	---
	06/16/93	9.60	1,100	---	---	120	5.1	47	19	---
	08/24/93	10.05	2,700	---	---	46	25	11	0.97	---
	11/23/93	10.25	2,500	---	---	23	3.7	5.7	16	---
	02/14/94	8.83	1,500	---	---	12	<2.5	7.8	<2.5	---
	05/25/94	9.64	810	---	---	20	<2	<2	4.0	---
	08/04/94	10.62	2,300	---	---	99	6.3	15	24	---
MW-5	01/29/91	11.72	3,100	720	<500	86	24	<0.5	28	---
Quarterly	04/30/91	10.45	<50	90	<500	46	9.0	<0.5	9	---
	07/22/91	11.43	1,700	300	<500	23	6,700	<0.5	10,000	---
	02/23/94	9.24	240	180[h]	<0.5	1	<0.5	<0.5	1	---
	05/22/92	10.97	6,200	7,100[bc]	---	6	56	95	99	---
	07/07/92	10.98	---	---	---	---	---	---	---	---
	08/20/92	11.14	7,400	120[b]	---	56	91	95	150	---
	11/18/92	11.21	3,300	320[b]	---	27	20	<12.5	470	---
	02/09/93	10.01	160	<50	---	<0.5	<0.5	<0.5	<0.5	---
	06/16/93	11.05	140	---	---	0.8	<0.5	<0.5	<0.5	---
	08/24/93	11.32	1,000	---	---	7.9	2.2	<1	<1.5	---
	11/23/93	11.35	2,000	---	---	67	11	15	33	---
	02/14/94	10.34	660	---	---	1.3	0.5	<0.5	0.7	---
	05/25/94	10.54	670	---	---	0.65	2.6	<0.5	<0.5	---
	08/04/94	11.50	700	---	---	5.0	1.2	<0.5	<0.5	---
MW-6	01/29/91	10.23	<50	860	<500	<0.5	<0.5	<0.5	<0.5	---
Quarterly	04/30/91	9.15	<50	1,100	<500	<0.5	<0.5	<0.5	<0.5	---
	07/22/91	10.10	<50	1,200	<500	<0.5	<0.5	<0.5	<0.5	---

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Table 2. Analytical Results for Ground Water Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
	02/23/92	7.15	<50	60[d]	---	<0.5	<0.5	<0.5	<0.5	---
	05/22/92	9.55	<50	650[c]	---	<0.5	<0.5	<0.5	<0.5	---
	07/07/92	9.53	---	---	---	---	---	---	---	---
	08/20/92	9.84	140[e]	510[c]	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92	10.03	200[e]	350	---	<0.5	<0.5	<0.5	<0.5	---
	02/09/93	7.91	14,000	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/16/93	8.74	5,700[e]	---	---	<0.5	<0.5	22	34	---
	06/16/93[dup]	8.74	5,600	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93	9.66	4,300[e]	---	---	<12.5	<12.5	<12.5	<12.5	---
	08/24/93[dup]	9.66	3,800[e]	---	---	<12.5	<12.5	<12.5	<12.5	---
	11/23/93	9.86	3,300[e]	---	---	<12	<12	<12	<12	nd
	02/14/94	8.27	14,000[i]	---	---	<12.5	<12.5	<12.5	<12.5	---
	05/25/94	8.89	<1,000[j]	---	---	<10	<10	<10	<10	---
	05/25/94[dup]	8.89	<1,000[j]	---	---	<10	<10	<10	<10	---
	08/04/94	10.10	250[k]	---	---	<0.5	<0.5	<0.5	<0.5	---
MW-7	01/28/91	8.91	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	---
Bi-annual	05/01/91	8.38	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	---
(2nd & 4th	07/23/91	9.13	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	---
Quarters)	02/23/92	6.87	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/22/92	8.08	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	07/07/92	8.82	---	---	---	---	---	---	---	---
	08/20/92	8.89	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92	9.54	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/09/93	7.84	72	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/16/93	7.80	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93	8.51	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/23/93	8.70	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/14/94	7.52	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/25/94	9.04	<50	---	---	<0.5	<0.5	0.63	0.93	---
MW-8	01/28/91	8.47	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	---
Bi-annual	05/01/91	7.64	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	---
(2nd & 4th	07/23/91	8.36	<50	<50	600	<0.5	<0.5	<0.5	<0.5	---
Quarters)	02/23/92	6.54	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/22/92	7.68	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	07/07/92	8.16	---	---	---	---	---	---	---	---
	08/20/92	8.25	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92	8.32	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/09/93	5.58	63	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/16/93	7.19	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93	7.98	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/23/93	8.09	<50	---	---	<0.5	<0.5	<0.5	<0.5	---

-- Table 2 continues on next page --

Table 2. Analytical Results for Ground Water Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
	02/14/94	9.42	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/25/94	7.18	<50	---	---	<0.5	<0.5	1.1	2.5	---
MW-9	01/28/91	8.27	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	---
Bi-annual	05/01/91	7.62	<50	<50	<500	0.6	<0.5	<0.5	1.1	---
(2nd & 4th	07/23/91	8.48	<50	<50	800	<0.5	<0.5	<0.5	<0.5	---
Quarters)	02/23/92	6.91	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/22/92	8.64	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	07/07/92	7.55	---	---	---	---	---	---	---	---
	08/20/92	7.38	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/20/92[dup]	7.38	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92	10.17	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92[dup]	10.17	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/09/93	6.89	290	110	---	6	<0.5	<0.5	<0.5	---
	06/16/93	8.74	90[e]	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93	8.32	50[e]	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/23/93	8.17	<50	---	---	<0.5	<0.5	<0.5	<0.5	nd
	02/14/94	7.67	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/25/94	7.89	56	---	---	1.3	1.4	4.0	8.3	---
MW-10	01/28/91	10.81	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
Bi-annual	05/01/91	8.79	<50	460	<500	<0.5	<0.5	<0.5	<0.5	---
(2nd & 4th	07/23/91	9.94	<50	<50	900	<0.5	<0.5	<0.5	<0.5	---
Quarter)	02/23/92	9.11	<50	120	---	<0.5	<0.5	<0.5	<0.5	---
	05/22/92	9.14	<50	310	---	<0.5	<0.5	<0.5	<0.5	---
	07/07/92	9.87	---	---	---	---	---	---	---	---
	08/20/92	9.30	<50	460	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92	10.21	<50	470	---	<0.5	<0.5	<0.5	<0.5	---
	02/09/93	7.63	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/16/93	8.57	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93	9.61	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/23/93	10.10	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/11/94	9.01	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/25/94	8.84	<50	---	---	<0.5	<0.5	1.1	1.4	---
Travel	02/24/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
Blank	05/22/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/20/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	02/09/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/16/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/23/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	---

-- Table 2 continues on next page --

Table 2. Analytical Results for Ground Water Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
	02/14/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/25/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/04/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
Bailer	08/20/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
Blank	11/18/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
DTSC MCLs			NE	NE	NE	1	680	100[l]	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 EPA Method 8015
B = Benzene by EPA Method
E = Ethylbenzene by EPA Method
T = Toluene by EPA Method
X = Xylenes by EPA Method
VOC = Volatile organic compounds by EPA Method 8240
NE = Not established
--- = Not analyzed
<n = Not detected at detection limits of n ppb
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
nd = not detected at or above the reporting limit for the analysis as performed
dup = Duplicate sample

Notes:

a = Compounds detected and calculated as diesel do not match the diesel standard; pattern is characteristic of weathered diesel.
b = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possible gasoline or kerosene
c = Concentration reported as diesel is primarily due to a heavier petroleum product, possible motor oil or aged diesel fuel
d = Compounds detected within the diesel range are not characteristics of the standard diesel chromatographic pattern
e = Concentration reported as gasoline is partially or primarily due to the presence of a discrete hydrocarbon peak not indicative of gasoline
f = 26 ppb benzene detected using EPA Method 8240
g = The concentration reported as gasoline for MW-3 is due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline
h = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline
i = The concentration reported as gasoline for sample MW-6 is primarily due to the presence of a discrete peak not indicative of gasoline
j = Sample diluted due to high-non hydrocarbon peak.
k = The positive result has an atypical pattern for gasoline analysis.
l = DTSC recommended action level; MCL not established.

Table 3. Analytical Results for Nutrients, Hydrocarbon Utilizing Bacteria and Dissolved Oxygen for Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

Well	Date Sampled	Potassium (mg/L)	Phosphorous (mg/L)	Phosphate (mg/L)	Kjeldahl Nitrogen (mg/L)	Heterotrophic Bacteria Plate Count (CFU/ml)	Hydrocarbon Utilizing Bacteria (CFU/ml)	Dissolved Oxygen[a] (mg/L)
MW-1	06/17/93 08/24/93 11/23/93 02/14/94	12.0	0.80	2.4	5.4	80,000	310	1.73/1.58 1.49/1.70 1.77/2.80 6.2/2.5
MW-4	06/17/93 08/24/93 11/23/93 02/14/94	1.5	3.50	11.0	4.2	8,200	200	1.86/4.82 1.46/1.27 5.29/6.59 2.1/1.9
MW-5	06/17/93 08/24/93 11/23/93 02/14/94	8.8	0.07	0.21	1.0	3,200	490	1.53/2.72 2.69/1.41 8.20/3.09 2.0/1.9
MW-6	06/17/93 08/24/93 11/23/93 02/14/94	0.8	0.06	0.19	1.1	2,000	450	8.46/9.73 2.15/1.52 3.86/6.75 2.3/5.2
MW-9	06/17/93 08/24/93 11/23/93 02/14/94	14.0	0.22	0.66	0.8	9,200	2,300	1.51/2.17 2.86/2.74 3.41/3.78 4.6/5.2

Abbreviations and Notes:

CFU/ml = Colony forming units per milliliter
a = Field measurement of dissolved oxygen concentrations before and after well purging

ATTACHMENT A

BTS' 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

August 12, 1994

Shell Oil Company
P.O. Box 4023
Concord, CA 94524

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-5508-5801
630 High Street
Oakland, California

QUARTER:
3rd quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 940804-K-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 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 National Environmental Testing, Inc. in Santa Rosa, California. NET is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #178.

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 *	8/4/94	TOC	--	NONE	--	--	10.51	13.83
MW-2	8/4/94	TOC	--	NONE	--	--	12.04	19.08
MW-3	8/4/94	TOC	ODOR	NONE	--	--	10.63	17.26
MW-4	8/4/94	TOC	ODOR	NONE	--	--	10.62	18.23
MW-5	8/4/94	TOC	ODOR	NONE	--	--	11.50	17.76
MW-6	8/4/94	TOC	--	NONE	--	--	10.10	19.34
MW-7	8/4/94	TOC	--	NONE	--	--	9.80	19.38
MW-8	8/4/94	TOC	--	NONE	--	--	8.51	20.53
MW-9	8/4/94	TOC	--	NONE	--	--	9.76	11.45
MW-10	8/4/94	TOC	--	NONE	--	--	9.82	12.50

* Sample DUP was a duplicate sample taken from well MW-1.

1783

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 940804-K1

Date: 8/4/94
Page 1 of 1

Site Address: 630 HIGH ST. OAKLAND

WIC#: 204-5508-5801

Shell Engineer: DANIEL KIRK — Phone No.: (510) 675-6168, Fax #: 675-6160

Consultant Name & Address: BLAINE TECH SERVICES, INC 985 TIMOTHY DR. SAN JOSE, CA

Consultant Contact: JIM KELLER — Phone No.: 408-995-5535, Fax #: 2938773

Comments:

Sampled by: KCB

Printed Name: KEITH BROWN

Analysis Required — LAB: Net

CHECK ONE (1) BOX ONLY	CT/DT
Quarterly Monitoring [X]	5461
Site Investigation [ ]	5441
Soil Classify/Disposal [ ]	5442
Water Classify/Disposal [ ]	5443
Soil/Air Rem. or Sys. O & M [ ]	5452
Water Rem. or Sys. O & M [ ]	5453
Other [ ]	

TURN AROUND TIME: 24 hours [ ] 48 hours [ ] 16 days [X] (Normal) Other [ ]

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

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
MW1	8/4			W		3						X								
MW3	↓			↓		3						X								
MW4						3						X								
MW5						3						X								
MW6						3						X								
DUP						3						X								
EB						3						X								
TB	↓			↓		2						X								

CUSTODY SEALED 8/5/94 [signature] seal intact

Relinquished By (signature):	Printed Name:	Date / Time	Received (signature):	Printed Name:	Date / Time
[signature]	Keith Brown	Date: 8/5/94 Time: 12:50	[signature]	GP Lumbre	Date: 8/5/94 Time: 12:50
[signature]	GP LUMBRE	Date: 8/5/94 Time: 16:30	Received (signature):	Printed Name:	Date: Time:
(VIA NCS)		Date: Time:	[signature]	K Temple	Date: 8/6/94 Time: 1030

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

NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Jim Keller
Blaine Tech Services
985 Timothy Dr.
San Jose, CA 95133

Date: 08/16/1994
NET Client Acct. No: 1821
NET Pacific Job No: 94.03448
Received: 08/06/1994

Client Reference Information

SHELL, 630 High St., Oakland, Job No. 940804-K1

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Judy Ridley FOR
Project Coordinator

Jim Hoch
Operations Manager

Enclosure(s)

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: MW 1
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211240

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/12/1994
DILUTION FACTOR*	10						08/13/1994
as Gasoline	6,200	FE	500	ug/L	5030		08/12/1994
Carbon Range:	C5-C14						08/12/1994
METHOD 8020 (GC,Liquid)	--						08/12/1994
Benzene	150	FE	5	ug/L	8020		08/12/1994
Toluene	14		5	ug/L	8020		08/13/1994
Ethylbenzene	350	FE	5	ug/L	8020		08/12/1994
Xylenes (Total)	180	FE	5	ug/L	8020		08/12/1994
SURROGATE RESULTS	--						08/12/1994
Bromofluorobenzene (SURR)	95			% Rec.	5030		08/12/1994

FE : Compound quantitated at a 50X dilution factor.

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: MW 3
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211241

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/13/1994
DILUTION FACTOR*	10						08/13/1994
as Gasoline	2,600		500	ug/L	5030		08/13/1994
Carbon Range:	C5-C14						08/13/1994
METHOD 8020 (GC,Liquid)	--						08/13/1994
Benzene	29		5	ug/L	8020		08/13/1994
Toluene	ND		5	ug/L	8020		08/13/1994
Ethylbenzene	14		5	ug/L	8020		08/13/1994
Xylenes (Total)	11		5	ug/L	8020		08/13/1994
SURROGATE RESULTS	--						08/13/1994
Bromofluorobenzene (SURR)	126	MI		% Rec.	5030		08/13/1994

MI : Matrix Interference Suspected

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: MW 4
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211242

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/12/1994
DILUTION FACTOR*	1						08/13/1994
as Gasoline	2,300		50	ug/L	5030		08/13/1994
Carbon Range:	C5-C14						08/12/1994
METHOD 8020 (GC,Liquid)	--						08/12/1994
Benzene	99	FD	0.5	ug/L	8020		08/12/1994
Toluene	15	FD	0.5	ug/L	8020		08/12/1994
Ethylbenzene	6.3		0.5	ug/L	8020		08/13/1994
Xylenes (Total)	24		0.5	ug/L	8020		08/13/1994
SURROGATE RESULTS	--						08/12/1994
Bromofluorobenzene (SURR)	108			% Rec.	5030		08/12/1994

FD : Compound quantitated at a 20X dilution factor.

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: MW 5
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211243

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/12/1994
DILUTION FACTOR*	1						08/12/1994
as Gasoline	700		50	ug/L	5030		08/12/1994
Carbon Range:	C5-C14						08/12/1994
METHOD 8020 (GC,Liquid)	--						08/12/1994
Benzene	5.0		0.5	ug/L	8020		08/12/1994
Toluene	ND		0.5	ug/L	8020		08/12/1994
Ethylbenzene	1.2		0.5	ug/L	8020		08/12/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/12/1994
SURROGATE RESULTS	--						08/12/1994
Bromofluorobenzene (SURR)	185	MI		% Rec.	5030		08/12/1994

MI : Matrix Interference Suspected

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: MW 6
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211244

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/12/1994
DILUTION FACTOR*	1						08/12/1994
as Gasoline	250	G-	50	ug/L	5030		08/12/1994
Carbon Range:	C5-C8						08/12/1994
METHOD 8020 (GC,Liquid)	--						08/12/1994
Benzene	ND		0.5	ug/L	8020		08/12/1994
Toluene	ND		0.5	ug/L	8020		08/12/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/12/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/12/1994
SURROGATE RESULTS	--						08/12/1994
Bromofluorobenzene (SURR)	111			% Rec.	5030		08/12/1994

G- : The positive result has an atypical pattern for Gasoline analysis.

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: DUP
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211245

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/13/1994
DILUTION FACTOR*	10						08/13/1994
as Gasoline	6,500		500	ug/L	5030		08/13/1994
Carbon Range:	C5-C14						08/13/1994
METHOD 8020 (GC,Liquid)	--						08/13/1994
Benzene	170		5	ug/L	8020		08/13/1994
Toluene	16		5	ug/L	8020		08/13/1994
Ethylbenzene	280		5	ug/L	8020		08/13/1994
Xylenes (Total)	160		5	ug/L	8020		08/13/1994
SURROGATE RESULTS	--						08/13/1994
Bromofluorobenzene (SURR)	115			% Rec.	5030		08/13/1994

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: EB
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211246

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/12/1994
DILUTION FACTOR*	1						08/12/1994
as Gasoline	ND		50	ug/L	5030		08/12/1994
Carbon Range:	--						08/12/1994
METHOD 8020 (GC,Liquid)	--						08/12/1994
Benzene	ND		0.5	ug/L	8020		08/12/1994
Toluene	ND		0.5	ug/L	8020		08/12/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/12/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/12/1994
SURROGATE RESULTS	--						08/12/1994
Bromofluorobenzene (SURR)	117			% Rec.	5030		08/12/1994

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

SAMPLE DESCRIPTION: TB
Date Taken: 08/04/1994
Time Taken:
NET Sample No: 211247

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/12/1994
DILUTION FACTOR*	1						08/12/1994
as Gasoline	ND		50	ug/L	5030		08/12/1994
Carbon Range:	--						08/12/1994
METHOD 8020 (GC,Liquid)	--						08/12/1994
Benzene	ND		0.5	ug/L	8020		08/12/1994
Toluene	ND		0.5	ug/L	8020		08/12/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/12/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/12/1994
SURROGATE RESULTS	--						08/12/1994
Bromofluorobenzene (SURR)	99			% Rec.	5030		08/12/1994

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)						
as Gasoline	102.0	1.02	1.00	mg/L	08/12/1994	lss
Benzene	99.0	4.95	5.00	ug/L	08/12/1994	lss
Toluene	97.8	4.89	5.00	ug/L	08/12/1994	lss
Ethylbenzene	96.8	4.84	5.00	ug/L	08/12/1994	lss
Xylenes (Total)	97.3	14.6	15.0	ug/L	08/12/1994	lss
Bromofluorobenzene (SURR)	97.0	97	100	% Rec.	08/12/1994	lss
TPH (Gas/BTXE,Liquid)						
as Gasoline	108.0	1.08	1.00	mg/L	08/13/1994	lss
Benzene	94.0	4.70	5.00	ug/L	08/13/1994	lss
Toluene	96.0	4.80	5.00	ug/L	08/13/1994	lss
Ethylbenzene	89.2	4.46	5.00	ug/L	08/13/1994	lss
Xylenes (Total)	93.3	14.0	15.0	ug/L	08/13/1994	lss
Bromofluorobenzene (SURR)	100.0	100	100	% Rec.	08/13/1994	lss

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	08/12/1994	lss
Benzene	ND	0.5	ug/L	08/12/1994	lss
Toluene	ND	0.5	ug/L	08/12/1994	lss
Ethylbenzene	ND	0.5	ug/L	08/12/1994	lss
Xylenes (Total)	ND	0.5	ug/L	08/12/1994	lss
Bromofluorobenzene (SURR)	88		% Rec.	08/12/1994	lss
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	08/13/1994	lss
Benzene	ND	0.5	ug/L	08/13/1994	lss
Toluene	ND	0.5	ug/L	08/13/1994	lss
Ethylbenzene	ND	0.5	ug/L	08/13/1994	lss
Xylenes (Total)	ND	0.5	ug/L	08/13/1994	lss
Bromofluorobenzene (SURR)	94		% Rec.	08/13/1994	lss

Ref: SHELL, 630 High St., Oakland, Job No. 940804-K1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)										
as Gasoline	117.0	105.0	10.8	1.00	ND	1.17	1.05	mg/L	08/12/1994	lss
Benzene	112.0	102.7	8.7	37.5	ND	42.0	38.5	ug/L	08/12/1994	lss
Toluene	106.6	101.7	4.7	80.6	ND	85.9	82.0	ug/L	08/12/1994	lss
TPH (Gas/BTXE,Liquid)										
as Gasoline	90.0	106.0	16.2	1.00	ND	0.90	1.06	mg/L	08/12/1994	lss
Benzene	91.2	101.3	10.4	37.5	ND	34.2	38.0	ug/L	08/12/1994	lss
Toluene	95.4	101.6	6.2	80.6	ND	76.9	81.9	ug/L	08/12/1994	lss
TPH (Gas/BTXE,Liquid)										
as Gasoline	111.0	112.0	0.9	1.00	ND	1.11	1.12	mg/L	08/13/1994	lss
Benzene	100.2	100.7	0.5	40.6	ND	40.7	40.9	ug/L	08/13/1994	lss
Toluene	99.5	99.9	0.4	84.4	ND	84.0	84.3	ug/L	08/13/1994	lss

COOLER RECEIPT FORM

Project: Shell, Oakland, 940804-K1 Log No: 1783
Cooler received on: 8-6-94 and checked on 8-8-94 by J. Sorensen
(signature)

Were custody papers present?.....YES NO

Were custody papers properly filled out?.....YES NO

Were the custody papers signed?.....YES NO

Was sufficient ice used?.....YES NO 1.4°C

Did all bottles arrive in good condition (unbroken)?.....YES NO

Did bottle labels match COC?.....YES NO

Were proper bottles used for analysis indicated?.....YES NO

Correct preservatives used?.....YES NO

VOA vials checked for headspace bubbles?.....YES NO
Note which voas (if any) had bubbles:*

Sample descriptor:	Number of vials:

*All VOAs with headspace bubbles have been set aside so they will not be used for analysis.....YES NO

List here all other jobs received in the same cooler:

Client Job #	NET log #

(coolerrec)