Weiss Associates *Environmental and Geologic Services*

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

July 27, 1994

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 #81-602-104

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

Second Quarter 1994 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured depths to ground water and collected ground water samples from the site wells. 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 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. As stated in our April 27, 1994 letter report[1], MW-2, MW-7, MW-8, MW-9 and MW-10 will be sampled semi-annually in the second and fourth quarters, and will not 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

As discussed in our April 27th letter; the hydraulic gradient in the central area of the site is variable. The apparent gradient measured this quarter is to the west. Benzene was detected in the ground water sample collected from well MW-5 at 0.65 parts per billion (ppb). The variable concentrations in this well are probably due to variations in the hydraulic gradient, and support our conclusion that MW-5 is not consistently downgradient of the source area, and that the general benzene trend in this well is decreasing.

Therefore, 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 do not show an increasing 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

JAW/JWC:jaw

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Attachments: A - BTS' Ground Water Monitoring Report
B - Sampling Frequency Modification Criteria

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, CA 94520
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

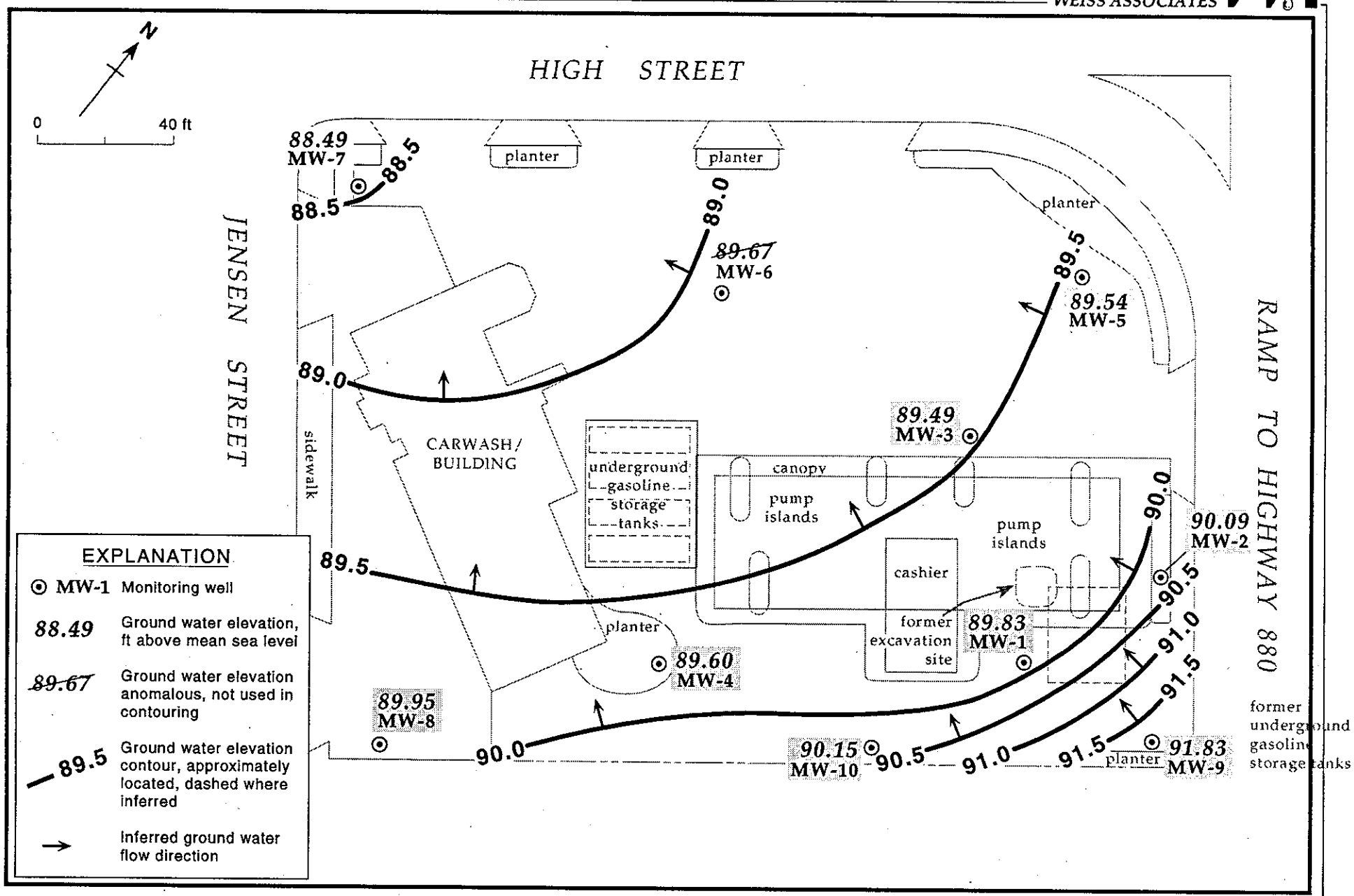

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - May 25, 1994 - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

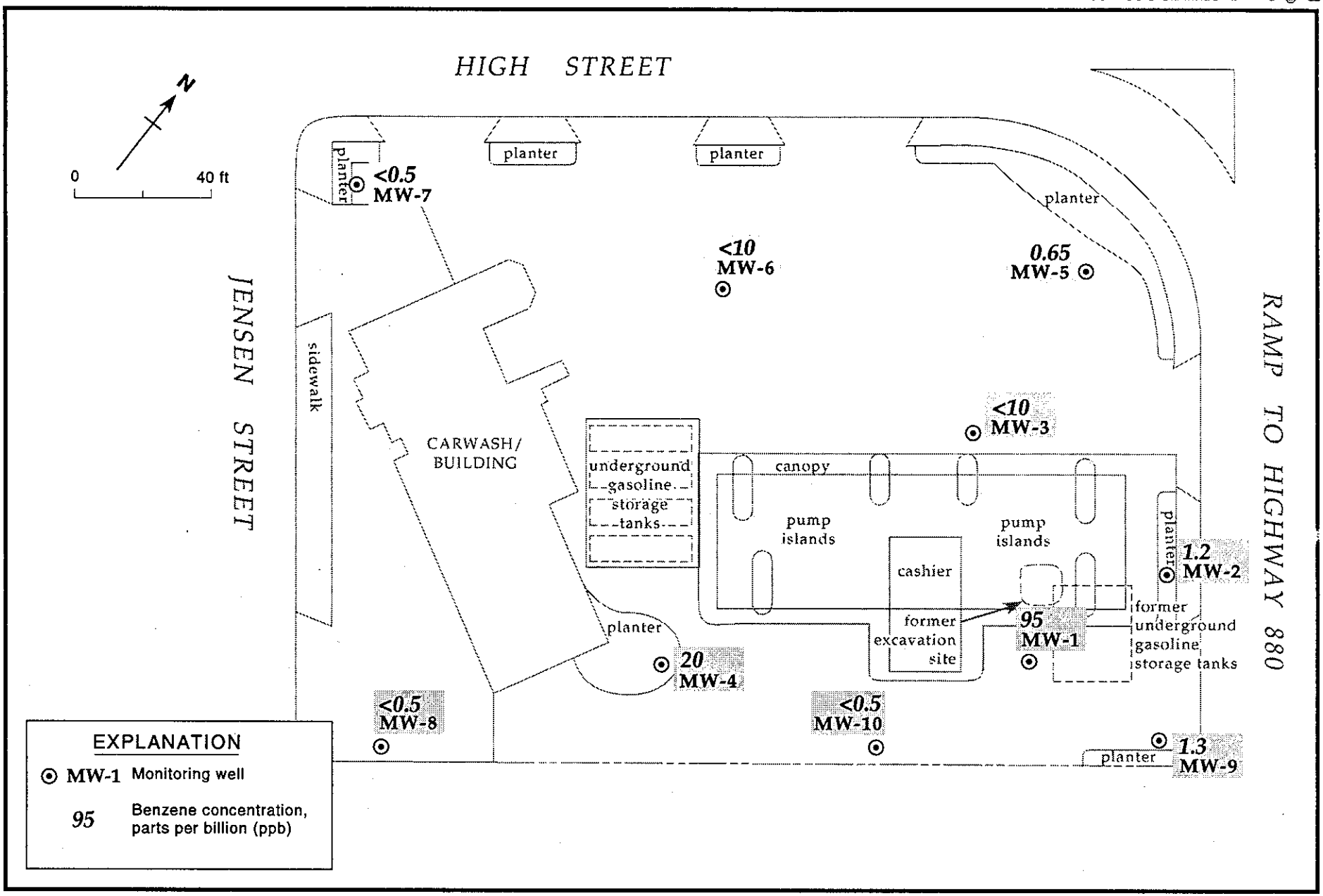

Figure 3. Benzene Concentrations in Ground Water Map - May 25, 1994 - Shell Service Station WIC #204-5508-5801, 630 High Street, Oakland, California

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	02/21/92	99.35	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**
MW-2	02/21/92	101.15	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**
MW-3	02/21/92	99.49	8.97	90.52
	05/22/92		9.32	90.17
	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**
MW-4	02/21/92	99.24	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

-- 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)
	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**
MW-5	02/21/92	100.08	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
	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**
MW-6	02/21/92	98.56	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**
MW-7	02/21/92	97.53	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

-- 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)
	11/23/93		8.70	88.83
	02/14/94		7.52	90.01
	05/25/94		**9.04**	**88.49**
MW-8	02/21/92	97.13	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**
MW-9	02/21/92	99.72	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**
MW-10	02/21/92	98.99	9.11	89.88
	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**

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

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
MW-1	02/24/92	8.31	7,300	8,900[a]	800	200	340	36	270	---
	05/22/92	10.02	7,600	18,000[ab]	---	140	300	<50	140	---
	07/07/92	10.06	---	---	---	---	---	---	---	---
	08/20/92	10.32	9,100	5,200[a]	---	530	860	340	540	---
	11/18/92	10.64	15,000	4,100[a]	---	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**	---
MW-2	02/23/92	10.08	<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	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	02/24/92	8.97	2,800	640[c]	---	15	<2.5	2.8	12	---
	05/22/92	9.32	3,700	220[ab]	---	27	20	11	110	---
	07/07/92	10.22	---	---	---	---	---	---	---	---
	08/20/92	10.44	13,000	340[a]	---	72	71	85	140	---
	11/18/92	10.79	2,100	430[a]	---	21	11	3.6	13	---
	02/09/93	9.35	3,300	83	---	21	6.1	5.6	<0.5	---
	02/02/93[dup]	9.35	3,500	130	---	18	7.2	8.8	<0.5	---
	06/16/93	9.56	3,500[d]	---	---	66	<0.5	6	<0.5	---
	08/24/93	10.51	3,400[d]	---	---	110	<5	<5	<5	---
	11/23/93	10.77	3,000	---	---	36	6.9	44	23	e
	02/14/94	9.61	4,700[f]	---	---	9.9	8.8	5.2	<5.0	---
	05/25/94	**10.00**	**1,200**	---	---	**<10**	**<10**	**<10**	**<10**	---
MW-4	02/24/92	7.60	2,000	8,300[a]	---	31	3.5	6.3	6.6	---
	05/22/92	9.90	3,600	3,400[ab]	---	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	---

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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	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
	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**	---
MW-5	02/23/92	9.24	240	180[a]	<0.5	1	<0.5	<0.5	1	---
	05/22/92	10.97	6,200	7,100[ab]	---	6	56	95	99	---
	07/07/92	10.98	---	NA	---	---	---	---	---	---
	08/20/92	11.14	7,400	120[a]	---	56	91	95	150	---
	11/18/92	11.21	3,300	320[a]	---	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**	---
MW-6	02/23/92	7.15	<50	60[c]	---	<0.5	<0.5	<0.5	<0.5	---
	05/22/92	9.55	<50	650[b]	---	<0.5	<0.5	<0.5	<0.5	---
	07/07/92	9.53	---	NA	---	---	---	---	---	---
	08/20/92	9.84	140[d]	510[b]	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92	10.03	200[d]	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[d]	---	---	<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[d]	---	---	<12.5	<12.5	<12.5	<12.5	---
	08/24/93[dup]	9.66	3,800[d]	---	---	<12.5	<12.5	<12.5	<12.5	---
	11/23/93	9.86	3,300[d]	---	---	<12	<12	<12	<12	nd
	02/14/94	8.27	14,000[h]	---	---	<12.5	<12.5	<12.5	<12.5	---
	05/25/94	**8.89**	**<1000[j]**	---	---	**<10**	**<10**	**<10**	**<10**	---
	05/25/94[dup]	**8.89**	**<1000[j]**	---	---	**<10**	**<10**	**<10**	**<10**	---
MW-7	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	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	---

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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	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
	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	---
	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	02/23/902	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[d]	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/24/93	8.32	50[d]	---	---	<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	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 Blank	02/24/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	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	---
	02/14/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	05/25/94		**<50**	---	---	**<0.5**	**<0.5**	**<0.5**	**<0.5**	---
Bailer Blank	08/20/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/18/92		<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	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X	VOCs
			<----------parts per billion (ug/L)---------->							
DTSC MCLs			NE	NE	NE	1	680	100[1]	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 = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possible gasoline or kerosene
b = Concentration reported as diesel is primarily due to a heavier petroleum product, possible motor oil or aged diesel fuel
c = Compounds detected within the diesel range are not characteristics of the standard diesel chromatographic pattern
d = Concentration reported as gasoline is partially or primarily due to the presence of a discrete hydrocarbon peak not indicative of gasoline
e = 26 ppb benzene detected using EPA Method 8240
f = 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
g = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline
h = The concentration reported as gasoline for sample MW-6 is primarily due to the presence of a discrete peak not indicative of gasoline
i = DTSC recommended action level; MCL not established
j = Sample diluted due to high-non hydrocarbon peak

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	12.0	0.80	2.4	5.4	80,000	310	1.73/1.58
	08/24/93							1.49/1.70
	11/23/93							1.77/2.80
	02/14/94							6.2/2.5
MW-4	06/17/93	1.5	3.50	11.0	4.2	8,200	200	1.86/4.82
	08/24/93							1.46/1.27
	11/23/93							5.29/6.59
	02/14/94							2.1/1.9
MW-5	06/17/93	8.8	0.07	0.21	1.0	3,200	490	1.53/2.72
	08/24/93							2.69/1.41
	11/23/93							8.20/3.09
	02/14/94							2.0/1.9
MW-6	06/17/93	0.8	0.06	0.19	1.1	2,000	450	8.46/9.73
	08/24/93							2.15/1.52
	11/23/93							3.86/6.75
	02/14/94							2.3/5.2
MW-9	06/17/93	14.0	0.22	0.66	0.8	9,200	2,300	1.51/2.17
	08/24/93							2.86/2.74
	11/23/93							3.41/3.78
	02/14/94							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

June 9, 1994

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

Attn: Daniel T. Kirk

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

QUARTER:
2nd quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 940525-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	5/25/94	TOC	ODOR	NONE	--	--	9.52	13.78
MW-2	5/25/94	TOC	--	NONE	--	--	11.06	19.07
MW-3	5/25/94	TOC	ODOR	NONE	--	--	10.00	17.24
MW-4	5/25/94	TOC	ODOR	NONE	--	--	9.64	18.28
MW-5	5/25/94	TOC	--	NONE	--	--	10.54	17.71
MW-6 *	5/25/94	TOC	ODOR	NONE	--	--	8.89	19.34
MW-7	5/25/94	TOC	--	NONE	--	--	9.04	19.30
MW-8	5/25/94	TOC	--	NONE	--	--	7.18	20.53
MW-9	5/25/94	TOC	--	NONE	--	--	7.89	11.48
MW-10	5/25/94	TOC	--	NONE	--	--	8.84	12.45

* Sample DUP was a duplicate sample taken from well MW-6.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 940525F2

Date: 5/25/94
Page 1 of 2

Site Address: 6310 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 #: 2938723

Comments:

Sampled by: [signature]

Printed Name: TOM Flory

LAB: Sequoia

CHECK ONE (1) BOX ONLY | C1/D1 | TURN AROUND TIME

Quarterly Monitoring	X	8441	24 hours ☐
Site Investigation	☐	8441	48 hours ☐
Soil Closure/Disposal	☐	8442	15 days ☒ (Normal)
Water Closure/Disposal	☐	8443	Other ☐ ____
Soil/Air Rem. or Sys. O & M	☐	8452	
Water Rem. or Sys. O & M	☐	8453	
Other	☐		

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

Analysis Required

Sample ID	Time	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	Preservation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1	1530	5/24/94			X		3						X		40 mL VOA	HCl		9405G19	-01
MW-2	1235				X								X						-02
MW-3	1510				X								X						-03
MW-4	1450				X								X						-04
MW-5	1430				X								X						-05
MW-6	1552				X								X						-06
MW-7	1412				X								X						-07
MW-8	1350	↓			X		↓						X						-08

	Printed Name:	Date:	Received (signature):	Printed Name:	Date:
Relinquished By (signature): [signature]	TOM Flory	5/24/94 Time: 1645	[signature]	Greg Fulteher	5-26-94 Time: 10:45
Relinquished By (signature): [signature]	Greg Fulteher	5-26-94 Time: 12:00	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature): [signature]	Printed Name: David Lawrence	Date: 5/26/94 Time: 1200

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: 940525F2

Date: 5/25/94
Page 2 of 2

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: [signature]

Printed Name: TOM FLORY

LAB: Sequoia

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
Quarterly Monitoring [X]	5461	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 [ ]		

Analysis Required

Sample ID / Time	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 40 ml VOA	Preparation Used HCl	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
mw-7 1300	5/25/94			X		3						X				X	X		9405G19-09	
mw-10 1322	↓			X		3						X				X	X		-10	
DUP —				X		3						X				X	X		-11	
EB 1305				X		3						X				X	X		-12	
TB LAB	↓			X		2						X				X	X		-13	

Relinquished By (signature):	Printed Name:	Date/Time	Received (signature):	Printed Name:	Date/Time
[signature]	TOM FLORY	Date: 5/26/94 Time: 10:45	[signature]	Greg Fultcher	Date: 5-26-94 Time: 10:45
[signature]	Greg Fultcher	Date: 5-26-94 Time: 12:00			Date: Time:
		Date: Time:	[signature]	David Lawrence	Date: 5/26/94 Time: 1200

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: 940525-F2, Shell, 630 High St.

Enclosed are the results from 13 water samples received at Sequoia Analytical on May 26,1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
4EG1901	Water, MW-1	5/25/94	EPA 5030/8015 Mod./8020
4EG1902	Water, MW-2	5/25/94	EPA 5030/8015 Mod./8020
4EG1903	Water, MW-3	5/25/94	EPA 5030/8015 Mod./8020
4EG1904	Water, MW-4	5/25/94	EPA 5030/8015 Mod./8020
4EG1905	Water, MW-5	5/25/94	EPA 5030/8015 Mod./8020
4EG1906	Water, MW-6	5/25/94	EPA 5030/8015 Mod./8020
4EG1907	Water, MW-7	5/25/94	EPA 5030/8015 Mod./8020
4EG1908	Water, MW-8	5/25/94	EPA 5030/8015 Mod./8020
4EG1909	Water, MW-9	5/25/94	EPA 5030/8015 Mod./8020
4EG1910	Water, MW-10	5/25/94	EPA 5030/8015 Mod./8020
4EG1911	Water, Dup	5/25/94	EPA 5030/8015 Mod./8020
4EG1912	Water, E.B.	5/25/94	EPA 5030/8015 Mod./8020
4EG1913	Water, TB	5/25/94	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:	940525-F2, Shell, 630 High St.	Sampled:	May 25, 1994
985 Timothy Drive	Sample Matrix:	Water	Received:	May 26, 1994
San Jose, CA 95133	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jun 6, 1994
Attention: Jim Keller	First Sample #:	4EG1901		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4EG1901 MW-1	Sample I.D. 4EG1902 MW-2	Sample I.D. 4EG1903 MW-3	Sample I.D. 4EG1904 MW-4	Sample I.D. 4EG1905 MW-5	Sample I.D. 4EG1906 MW-6
Purgeable Hydrocarbons	50	8,800	100	1,200	810	670	N.D.
Benzene	0.50	95	1.2	N.D.	20	0.65	N.D.
Toluene	0.50	N.D.	4.9	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	210	2.3	N.D.	N.D.	2.6	N.D.
Total Xylenes	0.50	63	13	N.D.	4.0	N.D.	N.D.
Chromatogram Pattern:		C6 - C12	C6 - C12	C8 - C12	C6 - C12	C6 - C12	--

Quality Control Data

Report Limit Multiplication Factor:	20	1.0	20	4.0	1.0	20
Date Analyzed:	5/26/94	5/27/94	5/27/94	5/27/94	5/27/94	5/27/94
Instrument Identification:	GCHP-17	GCHP-3	GCHP-17	GCHP-2	GCHP-17	GCHP-17
Surrogate Recovery, %: (QC Limits = 70-130%)	95	109	96	115	104	95

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:	940525-F2, Shell, 630 High St.	Sampled:	May 25, 1994
985 Timothy Drive	Sample Matrix:	Water	Received:	May 26, 1994
San Jose, CA 95133	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jun 6, 1994
Attention: Jim Keller	First Sample #:	4EG1907		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4EG1907 MW-7	Sample I.D. 4EG1908 MW-8	Sample I.D. 4EG1909 MW-9	Sample I.D. 4EG1910 MW-10	Sample I.D. 4EG1911 Dup	Sample I.D. 4EG1912 E.B.
Purgeable Hydrocarbons	50	N.D.	N.D.	56	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	1.3	N.D.	N.D.	N.D.
Toluene	0.50	0.63	1.1	4.0	1.1	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	1.4	N.D.	N.D.	N.D.
Total Xylenes	0.50	0.93	2.5	8.3	1.4	N.D.	N.D.
Chromatogram Pattern:		--	--	C6 - C12	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	20	1.0
Date Analyzed:	5/27/94	5/27/94	5/27/94	5/27/94	5/27/94	5/27/94
Instrument Identification:	GCHP-17	GCHP-17	GCHP-17	GCHP-17	GCHP-17	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	85	95	87	87	89	102

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:	940525-F2, Shell, 630 High St.	Sampled: May 25, 1994
985 Timothy Drive	Sample Matrix:	Water	Received: May 26, 1994
San Jose, CA 95133	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Jun 6, 1994
Attention: Jim Keller	First Sample #:	4EG1913	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 4EG1913 TB
Purgeable Hydrocarbons	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Total Xylenes	0.50	N.D.
Chromatogram Pattern:		--

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	5/27/94
Instrument Identification:	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	107

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.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: 940525-F2, Shell, 630 High St.
Matrix: Liquid
QC Sample Group: 4EG1901, 03, 05-11

Reported: Jun 6, 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#:	4EC9204	4EC9204	4EC9204	4EC9204
Date Prepared:	-	-	-	-
Date Analyzed:	5/26/94	5/26/94	5/26/94	5/26/94
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:	90	90	89	90
Matrix Spike Duplicate % Recovery:	91	91	89	90
Relative % Difference:	1.1	1.1	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

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

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

Client Project ID: 940525-F2, Shell, 630 High St.
Matrix: Liquid
QC Sample Group: 4EG1904

Reported: Jun 6, 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#:	4EF1902	4EF1902	4EF1902	4EF1902
Date Prepared:	-	-	-	-
Date Analyzed:	5/27/94	5/27/94	5/27/94	5/27/94
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:	96	95	95	93
Matrix Spike Duplicate % Recovery:	91	91	90	83
Relative % Difference:	5.3	4.3	5.4	11
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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Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: 940525-F2, Shell, 630 High St.
Matrix: Liquid
QC Sample Group: 4EG1902, 12, 13

Reported: Jun 6, 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#:	4EF1901	4EF1901	4EF1901	4EF1901
Date Prepared:	-	-	-	-
Date Analyzed:	5/27/94	5/27/94	5/27/94	5/27/94
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:	94	98	96	97
Matrix Spike Duplicate % Recovery:	94	93	92	93
Relative % Difference:	0.0	5.2	4.3	4.2
LCS Batch#:	-	-	-	-
Date Prepared:	-	-	-	-
Date Analyzed:	-	-	-	-
Instrument I.D.#:	-	-	-	-
LCS % Recovery:	-	-	-	-
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

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