Weiss Associates Environmental and Geologic Services

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

January 22, 1996

eva chu
Alameda County Department of
Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

Re: **Fourth Quarter 1995**
Shell Service Station
WIC #204-0072-0403
1601 Webster Street
Alameda, California 94501
WA Job #81-0434-205

Dear Ms. chu:

This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

Fourth Quarter 1995 Activities:

- Weiss Associates (WA) conducted monthly operation and maintenance of the ground water oxygenation system on October 9, 1995. We turned the system off on that day in preparation of the scheduled ground water sampling on October 12. The oxygenation system was restarted on October 12, 1995 after ground water sampling.

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected water samples from the site wells (Figures 1 and 2). BTS' report, describing these sampling activities and presenting the analytic results is included as Attachment A.

- WA compiled the ground water elevation and analytic data (Tables 1 and 2), prepared a map showing ground water elevations and benzene concentrations (Figure 2), and tabulated ground water dissolved oxygen levels (Table 3).

Anticipated First Quarter 1996 Activities:

- WA will submit a report presenting the results of the first quarter 1996 ground water sampling and depth measurements. The report will include tabulated chemical analytic results and a ground water elevation contour map.

Conclusions and Recommendations:

WA recommends continued ground water sampling according to the frequencies described in our second quarter 1994 report. These sampling frequencies include sampling MW-1 and S-1 annually for total petroleum hydrocarbons as gasoline (TPH-G), benzene, ethylbenzene, toluene and xylenes (BETX) and halogenated volatile organic compounds (HVOCs) and sampling MW-2 and MW-3 quarterly for TPH-G, BETX and HVOCs. This frequency is sufficient to monitor hydrocarbon and dissolved oxygen concentrations, and the ground water flow direction at the site.

Please call if you have any questions.

Sincerely,
Weiss Associates

Grady Glasser
Technical Asst.

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

Attachments: A - BTS Associates' Ground Water Monitoring Report

cc: R. Jeff Granberry, Shell Oil Products Company, P.O. Box 4023, Concord, California 94524
Brad Boschetto, Shell Oil Products Company, P.O. Box 4848, Anaheim, CA 92803
John Jang, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

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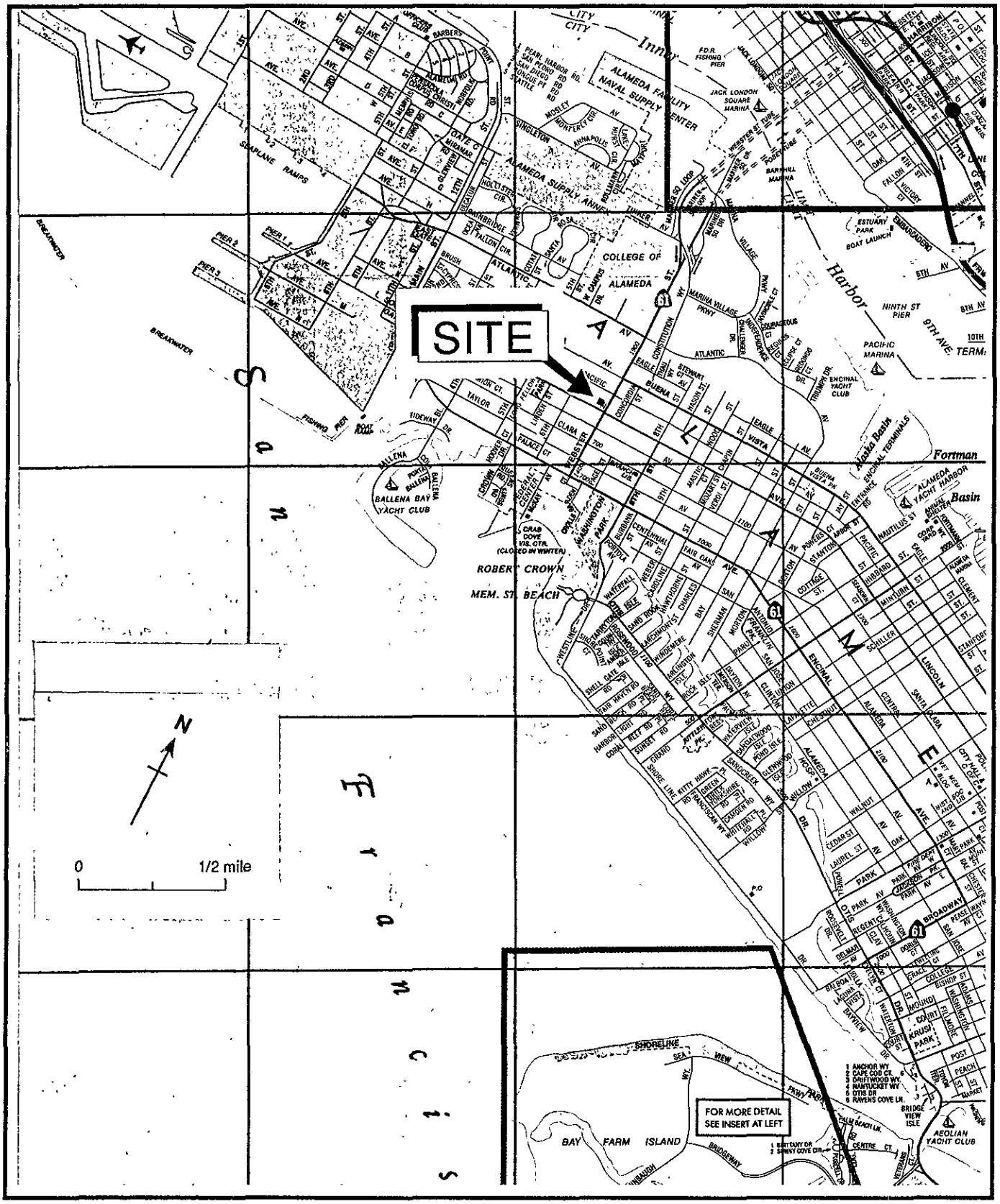

Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0403, 1601 Webster Street, Alameda, CA

8/20/90

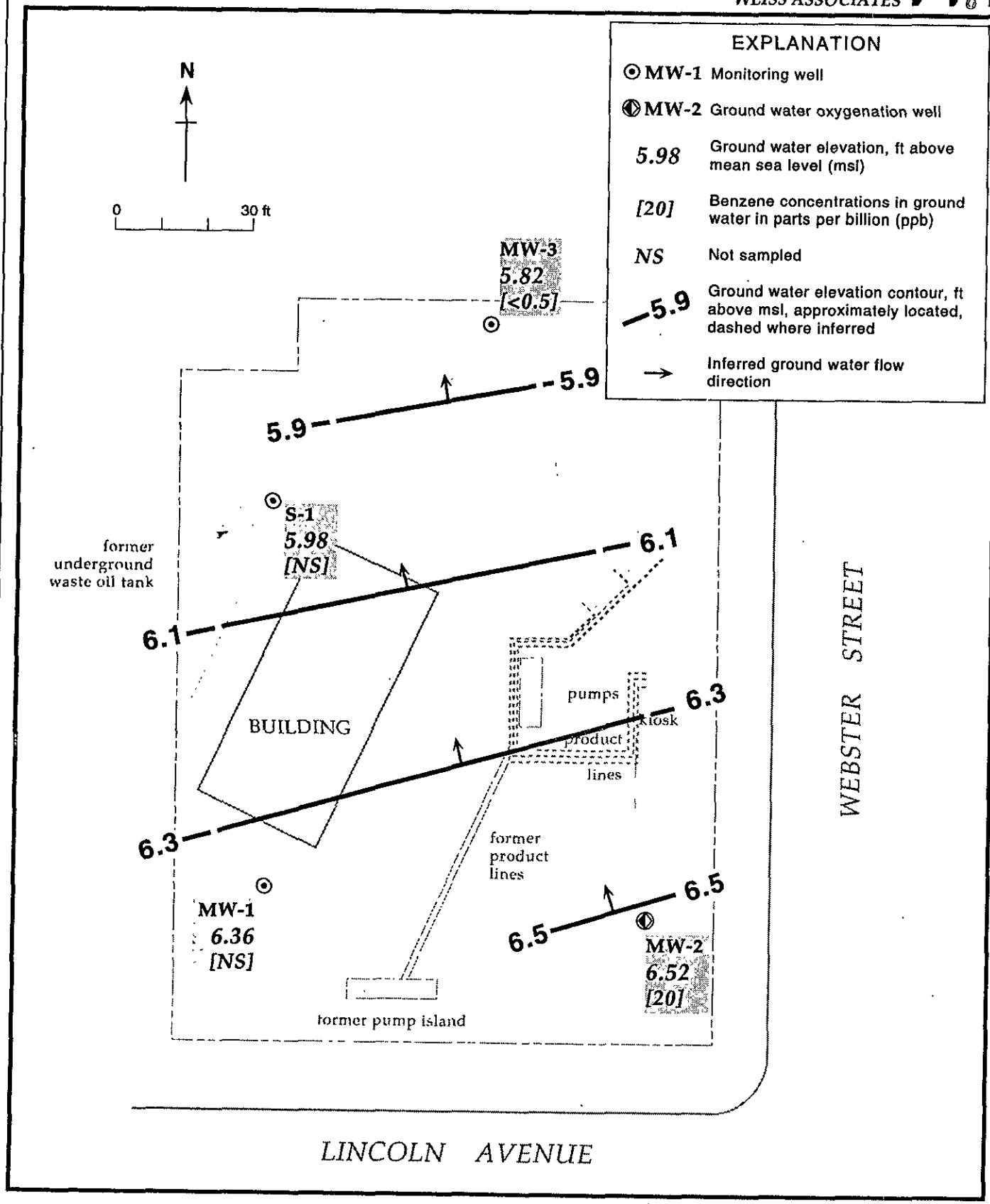

Figure 2. Monitoring Well Locations, Ground Water Elevation Contours and Benzene Concentrations in Ground Water - October 12, 1995 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0403, 1601 Webster Street Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	04/11/90	13.80	8.22	5.58
	07/18/90		9.14	4.66
	10/18/90		10.37	3.43
	01/25/91		10.41	3.39
	04/11/91		7.37	6.43
	07/18/91		8.86	4.94
	10/17/91		10.47	3.33
	01/24/92		9.18	4.62
	04/23/92		6.95	6.85
	07/22/92		8.01	5.79
	10/02/92		9.81	3.99
	01/05/93		7.26	6.54
	04/08/93	13.80[a]	5.85	7.95
	07/20/93		6.83	6.97
	10/15/93		8.07	5.73
	01/07/94		7.82	5.98
	04/13/94		6.91	6.89
	07/26/94		7.51	6.29
	10/06/94		8.71	5.09
	01/26/95		5.43	8.37
	04/20/95		5.50	8.30
	07/12/95		6.48	7.32
	10/12/95		**7.44**	**6.36**
MW-2	04/11/90	13.20	7.69	5.51
	07/18/90		8.56	4.64
	10/18/90		9.76	3.44
	01/25/91		9.78	3.42
	04/11/91		6.87	6.33
	07/18/91		8.27	4.93
	10/17/91		9.89	3.31
	01/24/92		8.60	4.60
	04/23/92		6.48	6.72
	07/02/92		7.37	5.83
	10/02/92		9.20	4.00
	01/05/93		6.80	6.40
	04/08/93	13.20[a]	5.40	7.80
	07/20/93		6.05	7.15
	10/15/93		7.04	6.16
	01/07/94		6.99	6.21
	04/13/94		6.20	7.00
	07/26/94		6.63	6.57
	10/06/94		7.75	5.45

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0403, 1601 Webster Street Alameda, California (continued)

	01/26/95		4.49	8.71
	04/20/95		5.28	7.92
	07/12/95		5.84	7.36
	10/12/95		**6.68**	**6.52**
MW-3	04/08/93	12.80	5.48	7.32
	07/20/93		6.38	6.42
	10/15/93		7.53	5.27
	01/07/94		7.38	5.42
	04/13/94		6.50	6.30
	07/26/94		7.00	5.80
	10/06/94		8.10	4.70
	01/26/95		5.00	7.80
	04/20/95		5.24	7.56
	07/12/95		6.10	6.70
	10/12/95		**6.98**	**5.82**
S-1	09/11/89	13.77	9.82	3.95
	04/11/90		8.41	5.36
	07/18/90		9.31	4.46
	10/18/90		10.43	3.34
	01/25/91		10.49	3.28
	04/11/91		7.68	6.09
	07/18/91		8.95	4.82
	10/17/91		10.62	3.15
	01/24/92		9.32	4.45
	04/23/92		7.27	6.50
	07/02/92		8.19	5.58
	10/02/92		9.95	3.82
	01/05/93		7.64	6.13
	04/08/93	13.74[a]	6.10	7.64
	07/20/93		7.18	6.56
	10/15/93		8.39	5.35
	01/07/94		8.19	5.55
	04/13/94		7.22	6.52
	07/26/94		7.82	5.92
	10/06/94		9.01	4.73
	01/26/95		5.65	8.09
	04/20/95		6.82	6.92
	07/12/95		6.74	7.00
	10/12/95		**7.76**	**5.98**

Notes:

a = Top of casing resurveyed on March 30, 1993

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

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	c-1,2-DCE	1,2-DCA	TOG	DO (mg/l)
			← parts per billion (µg/L) →									
MW-1	04-11-90	8.22	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	
(Annually,	07-18-90	9.14	<50	---	<0.5	<0.5	<0.5	<0.5	3	<0.5	<5,000	
1st Qtr.)	10-18-90	10.37	<50	---	<0.5	<0.5	<0.5	<0.5	7.9	<0.5	<5,000	
	01-25-91	10.41	<50	---	<0.5	<0.5	<0.5	<0.5	5.6	<0.5	---	
	04-11-91	7.37	<50	---	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	---	
	07-18-91	8.86	<50	---	<0.5	<0.5	<0.5	<0.5	4.4	<0.5	---	
	10-17-91	10.47	<50	---	<0.5	<0.5	<0.5	<0.5	7.2	<0.5	---	
	01-24-92	9.18	<50	---	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	---	
	04-23-92	6.95	<50		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	
	07-02-92	8.01	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	
	10-02-92	9.81	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	
	01-05-93	7.26	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	
	04-08-93[a]	5.85	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	
	07-20-93[b]	6.83	<50	---	<0.5	<0.5	<0.5	<0.5	0.76	<0.5	---	
	10-15-93	8.07	<50	---	<0.5	<0.5	<0.5	<0.5	0.71	<0.5	---	
	01-07-94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	3.1	0.85	---	5.5
	04-13-94	6.91	<50	---	<0.5	<0.5	<0.5	<0.5	3.6	0.95	---	---
	07-26-94	7.51	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	2.8
	10-06-94[c]	8.71	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	4.0
	04/20/95	5.50	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---
MW-2	04-11-90	7.69	580	430	20	1.2	4.9	73	<0.5	1.1	<10,000	
(Quarterly)	07-18-90	8.56	1,400	---	110	71	310	310	<0.5	0.7	<5,000	
	10-18-90	9.76	1,900	1,300[d]	110	89	470	400	<0.5	0.9	<5,000	
	01-25-91	9.78	8,100	---	430	480	1,200	2,600	<0.5	0.8	---	
	04-11-91	6.87	2,600	---	130	250	150	330	<0.5	<0.5	---	
	07-15-91	8.27	1,300	---	100	84	59	120	<0.5	0.8	---	
	10-17-91	9.89	2,100	---	180	150	260	520	<0.5	0.6	---	
	01-24-92	8.60	7,100	---	450	960	450	1,600	110	<0.5	---	
	04-23-92	6.48	16,000	---	320	650	740	2,600	<2.5	<2.5	---	
	07-02-92	7.37	33,000	---	2,500	2,000	3,700	9,600	<50	<50	---	
	10-02-92	9.20	7,000	---	960	570	650	1,200	<50	<50	---	
	01-05-93	6.80	8,900	---	550	600	500	1,900	<2	<2	---	

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

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	c-1,2-DCE	1,2-DCA	TOG	DO (mg/l)
			← parts per billion (µg/L) →									
	04-08-93	5.40	13,000	---	670	900	580	2,900	0.68	<0.5	---	
	04-08-93[dup]	5.40	13,000	---	830	1,100	740	3,700	0.64	<0.5	---	
	07-20-93	6.05	10,000	---	1,200	1,100	630	4,000	0.87	<0.5	---	
	07-20-93[dup]	6.05	12,000	---	1,200	1,100	600	3,800	0.80	<0.5	---	
	10-15-93	7.04	24,000	---	1,400	1,200	3,400	5,200	<0.5	<0.5	---	
	10-15-93[dup]	7.04	19,000	---	1,200	1,000	2,800	4,400	<0.5	<0.5	---	
	01-07-94	6.99	27,000	---	1,300	1,900	2,700	7,900	<10	<10	---	
	01-07-94[dup]	6.99	33,000	---	1,100	1,700	2,300	6,900	<10	<10	---	
	04-13-94	6.20	16,000	---	460	820	93	2,700	<25	<25	---	3.6
	04-13-94[dup]	6.20	18,000	---	500	880	100	3,000	<25	<25	---	---
	07-26-94	6.63	25,000	---	1,600	1,500	1,500	6,800	<0.4	<0.4	---	3.2
	07-26-94[dup]	6.63	28,000	---	1,700	1,600	1,600	7,300	<0.4	<0.4	---	
	10-06-94	7.75	15,000	---	850	1,000	650	4,000	<0.4	<0.4	---	2.4
	10-06-94[dup]	7.75	17,000	---	1000	1,200	630	4,500	<0.4	<0.4	---	1.6
	01-26-95	4.49	3,200	---	63	300	14	1,000	<0.4	<0.4	---	
	01-26-95 [dup]	4.49	3,100	---	31	140	13	820	<0.4	<0.4	---	
	04/20/95	5.28	<50	---	4.4	1.3	<0.5	3.3	<0.4	<0.4	---	---
	04/20/95[dup]	5.28	<50	---	0.5	0.6	<0.5	3.3	<0.4	<0.4	---	---
	07/12/95	5.84	<50	---	1.1	<0.5	1.1	<0.5	---	---	---	10.4
	07/12/95 [dup]	5.84	<50	---	0.9	<0.5	0.8	<0.5	---	---	---	10.4
	10/12/95	**6.68**	**370**	**---**	**20**	**8.2**	**3.0**	**92**	**<0.5**	**<0.4**	**---**	**6.4**
MW-3 (Quarterly)	02-25-93	5.37	58	140	<0.5	2.5	<0.5	6.4	<0.5	1.5	<5,000	
	04-08-93	5.48	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	
	07-20-93[e]	6.38	<50	---	1.2	<0.5	<0.5	<0.5	<0.5	2.8	---	
	10-15-93[f]	7.53	60	---	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	---	
	01-07-94	7.38	74	---	<0.5	<0.5	<0.5	0.76	<0.5	0.91	---	4.6
	04-13-94	6.50	<50	---	<0.5	<0.5	<0.5	<0.5	<1.3	<1.3	---	---
	07-26-94	7.00	750[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	1.7
	10-06-94	8.10	1,900[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	3.0

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

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	c-1,2-DCE	1,2-DCA	TOG	DO (mg/l)
			← parts per billion (µg/L) →									
	01-26-95	5.00	580[g]	---	<0.5	<0.5	<0.5	1.3	<0.4	<0.4	---	1.3
	04/20/95	5.24	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---
	07/12/95	6.10	50	---	4.2	<0.5	2.9	0.9	---	---	---	7.2
	10/12/95	**6.98**	**<50**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.4**	**---**	**7.1**
	10/12/95	**6.98**	**<50**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.4**	**---**	**7.1**
S-1	09-04-87[h]		---	---	<5	<5	<5	<5	<0.5	<0.5	---	
(Annually,	09-11-89[i]	9.82	<50	<100	<0.5	<1	<1	<3	<0.5	<0.5	<1,000	
1st Qtr.)	04-11-90	8.41	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	
	07-18-90	9.31	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	
	10-18-90	10.43	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	
	01-25-91	10.49	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	04-11-91	7.68	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	07-18-91	8.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10-17-91	10.62	<50	---	<0.5	<0.5	<0.5	<5	---	---	---	
	01-24-92	9.32	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	04-23-92	7.27	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	07-02-92	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10-02-92	9.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	01-05-93	7.64	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	04-08-93	6.10	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	07-20-93	7.18	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10-15-93	8.39	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	01-07-94	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	
	04-13-94	7.22	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	6.8
	07-26-94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	10-06-94	9.01	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	2.6
	04/20/95	6.82	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	6.0
Trip	07-18-90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
Blank	10-18-90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	01-25-91		<50	---	<0.5	<0.5	<0.5	0.8	---	---	---	

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

Well ID and Sample Frequency	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	c-1,2-DCE	1,2-DCA	TOG	DO (mg/l)
			← parts per billion (µg/L) →									
	04-11-91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	07-18-91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10-17-91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	01-24-92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	04-23-92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	07-02-92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10-02-92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	01-05-93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	04-08-93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	07-20-93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10-15-93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	01-07-94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	04-13-94		<50	---	<0.5	<0.5	<0.5[j]	<0.5	---	---	---	
	07-26-94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10-06-94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	01-26-95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	04/20/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	07/12/95		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
	10/12/95		**<50**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**---**	**---**	
DTSC MCLs			NE	NE	1	680	100[k]	1,750	6.0	0.5	NE	

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, 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
B = Benzene by EPA Method 602, 624, or 8020
E = Ethylbenzene by EPA Method 602, 624, or 8020
T = Toluene by EPA Method 602, 624, or 8020
X = Xylenes by EPA Method 602, 624, or 8020
c-1,2-DCE = cis-1,2-dichloroethene by EPA Method 601 or 624
1,2-DCA = 1,2-dichloroethane by EPA Method 601 or 624
TOG = Total non-polar oil and grease by American Public Health Association Standard Method 503E
<n = Not detected at detection limit of n ppb
DTSC MCL = California Department of Toxic Substances Control maximum contaminant level for drinking water
NE = Not established
--- = Not analyzed/measured
dup = Duplicate sample
DO = Dissolved Oxygen in mg/L

Notes:

a = Chloroform detected at 0.0071 ppm by EPA Method 8010
b = Chloroform detected at 1.1 ppb by EPA Method 8010
c = Trichloroethylene detected at 1.7ppb.
d = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline
e = Chloroform detected at 1.5 ppb by EPA Method 8010
f = Chloroform detected at 3.6 ppb by Method 8010
g = The result for Gasoline in and unknown hydrocarbon which consists of a single peak.
h = 0.12 ppm acetone detected by EPA Method 624; no other volatile organic compounds detected
i = Metals detected by EPA Method 6010; 0.020 ppm chromium, 0.060 ppm lead and 0.030 ppm zinc; no cadmium detected above detection limit of 0.010 ppm; no PCBs or semi-volatile compounds detected by EPA Method 625
j = 0.54 ppb Toluene detected in equipment blank
k = DTSC recommended action level for drinking water; MCL not established

Table 3. Ground Water Oxygenation at Shell Service Station WIC # 204-0072-0403, 1601 Webster Street, Alameda, California

Well ID	Date	Dissolved Oxygen[a] (mg/l)	Flow Rate (scfm)
MW-1	01/07/94	5.5	0
	07/26/94	2.8	0
	10/06/94	4	0
	01/26/95	---[b]	0
	04/10/95	6.2	0
	05/11/95	6.2	0
	06/14/95	4.4	0
	07/07/95	3.5	0
	07/12/95	---[b]	0
	08/16/95	3.4	0
	09/12/95	2	0
	10/12/95	---[b]	**0**
MW-2	01/07/94	3.6	0
	07/26/94	3.2	0
	10/06/94	2.4	0
	01/26/95	1.6	0
	04/10/95	10	0.75
	05/11/95	10	0.67
	06/14/95	10.1	0.33
	07/07/95	10.7	0.17
	07/12/95	10.4	---
	08/16/95	6.9	---
	09/12/95	9.2	0.17
	10/12/95	**6.4**	**NR**
MW-3	01/07/94	4.6	0
	07/26/94	1.7	0
	10/06/94	3	0
	01/26/95	1.3	0
	04/10/95	2	0
	05/11/95	4.6	0
	06/14/95	2.1	0
	07/07/95	1.3	0
	07/12/95	7.2	0
	08/16/95	---	0
	09/12/95	0.6	0
	10/12/95	**7.1**	**0**

Table 3. Ground Water Oxygenation at Shell Service Station WIC # 204-0072-0403, 1601 Webster Street, Alameda, California

Well ID	Date	Dissolved Oxygen[a] (mg/l)	Flow Rate (scfm)
S-1	01/07/94	6.8	0
	07/26/94	2.6	0
	10/06/94	6	0
	01/26/95	---[b]	0
	04/10/95	7.8	0
	05/11/95	6.4	0
	06/14/95	5.4	0
	07/07/95	5.2	0
	07/12/95	---[b]	0
	08/16/95	6.1	0
	09/12/95	2.7	0
	10/12/95	---[b]	**0**

Notes:

a = Ground water oxygenation started on 3/2/95
b = --- Not measured
NR = Not recorded because system was off.

j:\shell\0434\qm\95q4\93q4t3.doc

ATTACHMENT A

BTS GROUND WATER MONITORING REPORT

BLAINE
TECH SERVICES INC.

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

October 30, 1995

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

Attn: R. Jeff Granberry

Shell WIC #204-0072-0403
1601 Webster Street
Alameda, California

4th Quarter 1995

Quarterly Groundwater Monitoring Report 951012-Z-2

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. Copies of our Sampling Report along with the laboratory's Certified Analytical Report are forwarded to the consultant overseeing work at this site. Submission of the assembled documents to interested regulatory agencies will be made by the designated consultant.

Groundwater monitoring at this site was performed in accordance with Standard Operating Procedures provided to the interested regulatory agencies. If you have any questions about the work performed at this site please call me at (408) 995-5535 ext. 201.

Yours truly,

Francis Thie

attachments: Table of Well Gauging Data
Chain of Custody
Field Data Sheets
Certified Analytical Report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
Attn: Grady Glasser

(Any professional evaluations or recommendations will be made by the consultant under separate cover.)

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	10/12/95	TOC	--	NONE	--	--	7.44	20.70
MW-2	10/12/95	TOC	--	NONE	--	--	6.68	19.14
MW-3 *	10/12/95	TOC	--	NONE	--	--	6.98	19.40
S-1	10/12/95	TOC	--	NONE	--	--	7.76	19.74

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

0700

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 95102-22

Date: 10-12-95
Page 1 of 1

Site Address: 1601 Webster Street, Alameda

WIC#: 204-0072-0403

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: [signature]

Printed Name: BRETT BLEAU

LAB: NET

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	EPA 601		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-2	10-12			X		6						X	X							
MW-3	"			X		6						X	X							
EB	"			X		6						X	X							
DUP	"			X		6						X	X		1				LABELS WET	
TB	"			X		2						X	X						CUSTODY SEALED Date 10/13/95 Time 1718 Initials BS	
																			SEAL INTACT? Yes No Initials	
																			VIA NOS	

CHECK ONE (1) BOX ONLY

	CT/DI	TURN AROUND TIME
Quarterly Monitoring	X 6441	24 hours ☐
Site Investigation	☐ 6441	48 hours ☐
Soil Closure/Disposal	☐ 6442	15 days X (Normal)
Water Closure/Disposal	☐ 6443	Other ☐
Soil/Air Rem. or Sys. O & M	☐ 6452	NOTE: Notify lab as soon as Possible of 24/48 hr. TAT.
Water Rem. or Sys. O & M	☐ 6453	
Other	☐	

Relinquished By (signature)	Printed Name	Date / Time	Received (signature)	Printed Name	Date / Time
[signature]	BRETT BLEAU	Date: 10/13/95 Time: 1330	[signature]	Phyllis Smart	Date: 10/13/95 Time: 1930
[signature]	Phyllis Smart	Date: 10/13/95 Time: 1718			Date: Time:
		Date: Time:	[signature]	[signature]	Date: 10/14/95 Time: 0705

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

NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
3636 North Laughlin Road
Suite 110
Santa Rosa, CA 95403-8226
Tel: (707) 526-7200
Fax: (707) 541-2333

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

Date: 10/23/1995
NET Client Acct. No: 1821
NET Job No: 95.04044
Received: 10/14/1995

Client Reference Information

Shell 1601 Webster Street, Alameda, CA./951012-Z2

Sample analysis in support of the project referenced above has been completed and results are presented on the 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 free to call me at (707) 541-2305.

Submitted by:

Ginger Brinlee

Ginger Brinlee
Project Coordinator

Enclosure(s)

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: MW-2
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253546

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/19/1995	3278
Purgeable TPH	370		50	ug/L	5030/M8015		10/19/1995	3278
Carbon Range: C6 to C12	--						10/19/1995	3278
METHOD 8020 (GC, Liquid)	--						10/19/1995	3278
Benzene	20		0.5	ug/L	8020		10/19/1995	3278
Toluene	3.0		0.5	ug/L	8020		10/19/1995	3278
Ethylbenzene	8.2		0.5	ug/L	8020		10/19/1995	3278
Xylenes (Total)	92		0.5	ug/L	8020		10/19/1995	3278
SURROGATE RESULTS	--						10/19/1995	3278
Bromofluorobenzene (SURR)	86			% Rec.	8020		10/19/1995	3278

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: MW-2
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253546

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 601 (GC,Liquid)								
DILUTION FACTOR*	1						10/16/1995	904
Bromodichloromethane	ND		0.4	ug/L	601		10/16/1995	904
Bromoform	ND		0.4	ug/L	601		10/16/1995	904
Bromomethane	ND		0.4	ug/L	601		10/16/1995	904
Carbon tetrachloride	ND		0.4	ug/L	601		10/16/1995	904
Chlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Chloroethane	ND		0.4	ug/L	601		10/16/1995	904
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		10/16/1995	904
Chloroform	ND		0.4	ug/L	601		10/16/1995	904
Chloromethane	ND		0.4	ug/L	601		10/16/1995	904
Dibromochloromethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,3-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,4-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Dichlorodifluoromethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
cis-1,2-Dichloroethene	ND		0.5	ug/L	601		10/16/1995	904
trans-1,2-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloropropane	ND		0.4	ug/L	601		10/16/1995	904
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
Methylene chloride	ND		10	ug/L	601		10/16/1995	904
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		10/16/1995	904
Tetrachloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,1,1-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1,2-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
Trichloroethene	ND		0.4	ug/L	601		10/16/1995	904
Trichlorofluoromethane	ND		0.4	ug/L	601		10/16/1995	904
Vinyl chloride	ND		0.4	ug/L	601		10/16/1995	904
SURROGATE RESULTS	--						10/16/1995	904
1,4-Difluorobenzene (SURR)	94			% Rec.	601		10/16/1995	904
1,4-Dichlorobutane (SURR)	96			% Rec.	601		10/16/1995	904
Bromochloromethane (SURR)	N/A			% Rec.	601		10/16/1995	904

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: MW-3
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253547

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/19/1995	3278
Purgeable TPH	ND		50	ug/L	5030/M8015		10/19/1995	3278
Carbon Range: C6 to C12	--						10/19/1995	3278
METHOD 8020 (GC, Liquid)	--						10/19/1995	3278
Benzene	ND		0.5	ug/L	8020		10/19/1995	3278
Toluene	ND		0.5	ug/L	8020		10/19/1995	3278
Ethylbenzene	ND		0.5	ug/L	8020		10/19/1995	3278
Xylenes (Total)	ND		0.5	ug/L	8020		10/19/1995	3278
SURROGATE RESULTS	--						10/19/1995	3278
Bromofluorobenzene (SURR)	100			% Rec.	8020		10/19/1995	3278

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: MW-3
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253547

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 601 (GC,Liquid)								
DILUTION FACTOR*	1						10/16/1995	904
Bromodichloromethane	ND		0.4	ug/L	601		10/16/1995	904
Bromoform	ND		0.4	ug/L	601		10/16/1995	904
Bromomethane	ND		0.4	ug/L	601		10/16/1995	904
Carbon tetrachloride	ND		0.4	ug/L	601		10/16/1995	904
Chlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Chloroethane	ND		0.4	ug/L	601		10/16/1995	904
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		10/16/1995	904
Chloroform	ND		0.4	ug/L	601		10/16/1995	904
Chloromethane	ND		0.4	ug/L	601		10/16/1995	904
Dibromochloromethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,3-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,4-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Dichlorodifluoromethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethane	0.40		0.4	ug/L	601		10/16/1995	904
1,2-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
cis-1,2-Dichloroethene	ND		0.5	ug/L	601		10/16/1995	904
trans-1,2-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloropropane	ND		0.4	ug/L	601		10/16/1995	904
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
Methylene chloride	ND		10	ug/L	601		10/16/1995	904
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		10/16/1995	904
Tetrachloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,1,1-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1,2-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
Trichloroethene	ND		0.4	ug/L	601		10/16/1995	904
Trichlorofluoromethane	ND		0.4	ug/L	601		10/16/1995	904
Vinyl chloride	ND		0.4	ug/L	601		10/16/1995	904
SURROGATE RESULTS	--						10/16/1995	904
1,4-Difluorobenzene (SURR)	92			% Rec.	601		10/16/1995	904
1,4-Dichlorobutane (SURR)	94			% Rec.	601		10/16/1995	904
Bromochloromethane (SURR)	N/A			% Rec.	601		10/16/1995	904

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: EB
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253548

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/19/1995	3278
Purgeable TPH	ND		50	ug/L	5030/M8015		10/19/1995	3278
Carbon Range: C6 to C12	--						10/19/1995	3278
METHOD 8020 (GC, Liquid)	--						10/19/1995	3278
Benzene	ND		0.5	ug/L	8020		10/19/1995	3278
Toluene	ND		0.5	ug/L	8020		10/19/1995	3278
Ethylbenzene	ND		0.5	ug/L	8020		10/19/1995	3278
Xylenes (Total)	ND		0.5	ug/L	8020		10/19/1995	3278
SURROGATE RESULTS	--						10/19/1995	3278
Bromofluorobenzene (SURR)	93			% Rec.	8020		10/19/1995	3278

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: EB
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253548

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 601 (GC,Liquid)								
DILUTION FACTOR*	1						10/16/1995	904
Bromodichloromethane	ND		0.4	ug/L	601		10/16/1995	904
Bromoform	ND		0.4	ug/L	601		10/16/1995	904
Bromomethane	ND		0.4	ug/L	601		10/16/1995	904
Carbon tetrachloride	ND		0.4	ug/L	601		10/16/1995	904
Chlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Chloroethane	ND		0.4	ug/L	601		10/16/1995	904
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		10/16/1995	904
Chloroform	ND		0.4	ug/L	601		10/16/1995	904
Chloromethane	ND		0.4	ug/L	601		10/16/1995	904
Dibromochloromethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,3-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,4-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Dichlorodifluoromethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
cis-1,2-Dichloroethene	ND		0.5	ug/L	601		10/16/1995	904
trans-1,2-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloropropane	ND		0.4	ug/L	601		10/16/1995	904
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
Methylene chloride	ND		10	ug/L	601		10/16/1995	904
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		10/16/1995	904
Tetrachloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,1,1-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1,2-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
Trichloroethene	ND		0.4	ug/L	601		10/16/1995	904
Trichlorofluoromethane	ND		0.4	ug/L	601		10/16/1995	904
Vinyl chloride	ND		0.4	ug/L	601		10/16/1995	904
SURROGATE RESULTS	--						10/16/1995	904
1,4-Difluorobenzene (SURR)	95			% Rec.	601		10/16/1995	904
1,4-Dichlorobutane (SURR)	95			% Rec.	601		10/16/1995	904
Bromochloromethane (SURR)	N/A			% Rec.	601		10/16/1995	904

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: DUP
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253549

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/19/1995	3278
Purgeable TPH	ND		50	ug/L	5030/M8015		10/19/1995	3278
Carbon Range: C6 to C12	--						10/19/1995	3278
METHOD 8020 (GC, Liquid)	--						10/19/1995	3278
Benzene	ND		0.5	ug/L	8020		10/19/1995	3278
Toluene	ND		0.5	ug/L	8020		10/19/1995	3278
Ethylbenzene	ND		0.5	ug/L	8020		10/19/1995	3278
Xylenes (Total)	ND		0.5	ug/L	8020		10/19/1995	3278
SURROGATE RESULTS	--						10/19/1995	3278
Bromofluorobenzene (SURR)	95			% Rec.	8020		10/19/1995	3278

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: DUP
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253549

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 601 (GC,Liquid)								
DILUTION FACTOR*	1						10/16/1995	904
Bromodichloromethane	ND		0.4	ug/L	601		10/16/1995	904
Bromoform	ND		0.4	ug/L	601		10/16/1995	904
Bromomethane	ND		0.4	ug/L	601		10/16/1995	904
Carbon tetrachloride	ND		0.4	ug/L	601		10/16/1995	904
Chlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Chloroethane	ND		0.4	ug/L	601		10/16/1995	904
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		10/16/1995	904
Chloroform	ND		0.4	ug/L	601		10/16/1995	904
Chloromethane	ND		0.4	ug/L	601		10/16/1995	904
Dibromochloromethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,3-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,4-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Dichlorodifluoromethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
cis-1,2-Dichloroethene	ND		0.5	ug/L	601		10/16/1995	904
trans-1,2-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloropropane	ND		0.4	ug/L	601		10/16/1995	904
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
Methylene chloride	ND		10	ug/L	601		10/16/1995	904
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		10/16/1995	904
Tetrachloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,1,1-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1,2-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
Trichloroethene	ND		0.4	ug/L	601		10/16/1995	904
Trichlorofluoromethane	ND		0.4	ug/L	601		10/16/1995	904
Vinyl chloride	ND		0.4	ug/L	601		10/16/1995	904
SURROGATE RESULTS	--						10/16/1995	904
1,4-Difluorobenzene (SURR)	89			% Rec.	601		10/16/1995	904
1,4-Dichlorobutane (SURR)	90			% Rec.	601		10/16/1995	904
Bromochloromethane (SURR)	N/A			% Rec.	601		10/16/1995	904

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: TB
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253550

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						10/19/1995	3278
Purgeable TPH	ND		50	ug/L	5030/M8015		10/19/1995	3278
Carbon Range: C6 to C12	--						10/19/1995	3278
METHOD 8020 (GC, Liquid)	--						10/19/1995	3278
Benzene	ND		0.5	ug/L	8020		10/19/1995	3278
Toluene	ND		0.5	ug/L	8020		10/19/1995	3278
Ethylbenzene	ND		0.5	ug/L	8020		10/19/1995	3278
Xylenes (Total)	ND		0.5	ug/L	8020		10/19/1995	3278
SURROGATE RESULTS	--						10/19/1995	3278
Bromofluorobenzene (SURR)	93			% Rec.	8020		10/19/1995	3278

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

SAMPLE DESCRIPTION: TB
Date Taken: 10/12/1995
Time Taken:
NET Sample No: 253550

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 601 (GC,Liquid)								
DILUTION FACTOR*	1						10/16/1995	904
Bromodichloromethane	ND		0.4	ug/L	601		10/16/1995	904
Bromoform	ND		0.4	ug/L	601		10/16/1995	904
Bromomethane	ND		0.4	ug/L	601		10/16/1995	904
Carbon tetrachloride	ND		0.4	ug/L	601		10/16/1995	904
Chlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Chloroethane	ND		0.4	ug/L	601		10/16/1995	904
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		10/16/1995	904
Chloroform	ND		0.4	ug/L	601		10/16/1995	904
Chloromethane	ND		0.4	ug/L	601		10/16/1995	904
Dibromochloromethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,3-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
1,4-Dichlorobenzene	ND		0.4	ug/L	601		10/16/1995	904
Dichlorodifluoromethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
cis-1,2-Dichloroethene	ND		0.5	ug/L	601		10/16/1995	904
trans-1,2-Dichloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,2-Dichloropropane	ND		0.4	ug/L	601		10/16/1995	904
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		10/16/1995	904
Methylene chloride	ND		10	ug/L	601		10/16/1995	904
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		10/16/1995	904
Tetrachloroethene	ND		0.4	ug/L	601		10/16/1995	904
1,1,1-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
1,1,2-Trichloroethane	ND		0.4	ug/L	601		10/16/1995	904
Trichloroethene	ND		0.4	ug/L	601		10/16/1995	904
Trichlorofluoromethane	ND		0.4	ug/L	601		10/16/1995	904
Vinyl chloride	ND		0.4	ug/L	601		10/16/1995	904
SURROGATE RESULTS	--						10/16/1995	904
1,4-Difluorobenzene (SURR)	92			% Rec.	601		10/16/1995	904
1,4-Dichlorobutane (SURR)	96			% Rec.	601		10/16/1995	904
Bromochloromethane (SURR)	N/A			% Rec.	601		10/16/1995	904

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 5030/8015-M (Shell)							
Purgeable TPH	96.0	0.48	0.50	mg/L	10/19/1995	dat3	3278
Benzene	97.0	4.85	5.00	ug/L	10/19/1995	dat3	3278
Toluene	90.6	4.53	5.00	ug/L	10/19/1995	dat3	3278
Ethylbenzene	99.0	4.95	5.00	ug/L	10/19/1995	dat3	3278
Xylenes (Total)	100.0	15.0	15.0	ug/L	10/19/1995	dat3	3278
Bromofluorobenzene (SURR)	95.0	95	100	% Rec.	10/19/1995	dat3	3278

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 601 (GC,Liquid)							
Bromodichloromethane	104.3	20.85	20.0	ug/L	10/16/1995	tdn	904
Bromoform	105.0	20.99	20.0	ug/L	10/16/1995	tdn	904
Bromomethane	110.8	22.15	20.0	ug/L	10/16/1995	tdn	904
Carbon tetrachloride	114.5	22.90	20.0	ug/L	10/16/1995	tdn	904
Chlorobenzene	101.2	20.23	20.0	ug/L	10/16/1995	tdn	904
Chloroethane	77.2	15.43	20.0	ug/L	10/16/1995	tdn	904
2-Chloroethylvinyl ether	94.0	18.80	20.0	ug/L	10/16/1995	tdn	904
Chloroform	99.3	19.85	20.0	ug/L	10/16/1995	tdn	904
Chloromethane	62.6	12.52	20.0	ug/L	10/16/1995	tdn	904
Dibromochloromethane	103.8	20.75	20.0	ug/L	10/16/1995	tdn	904
1,2-Dichlorobenzene	101.3	20.26	20.0	ug/L	10/16/1995	tdn	904
1,3-Dichlorobenzene	102.3	20.45	20.0	ug/L	10/16/1995	tdn	904
1,4-Dichlorobenzene	98.5	19.70	20.0	ug/L	10/16/1995	tdn	904
Dichlorodifluoromethane	82.3	16.46	20.0	ug/L	10/16/1995	tdn	904
1,1-Dichloroethane	97.3	19.47	20.0	ug/L	10/16/1995	tdn	904
1,2-Dichloroethane	95.0	18.99	20.0	ug/L	10/16/1995	tdn	904
1,1-Dichloroethene	94.0	18.79	20.0	ug/L	10/16/1995	tdn	904
cis-1,2-Dichloroethene	97.7	19.53	20.0	ug/L	10/16/1995	tdn	904
trans-1,2-Dichloroethene	60.3	12.05	20.0	ug/L	10/16/1995	tdn	904
1,2-Dichloropropane	99.3	19.87	20.0	ug/L	10/16/1995	tdn	904
cis-1,3-Dichloropropene	99.9	19.98	20.0	ug/L	10/16/1995	tdn	904
trans-1,3-Dichloropropene	102.8	20.55	20.0	ug/L	10/16/1995	tdn	904
Methylene chloride	50.2	10.03	20.0	ug/L	10/16/1995	tdn	904
1,1,2,2-Tetrachloroethane	92.8	18.57	20.0	ug/L	10/16/1995	tdn	904
Tetrachloroethene	103.1	20.61	20.0	ug/L	10/16/1995	tdn	904
1,1,1-Trichloroethane	100.3	20.05	20.0	ug/L	10/16/1995	tdn	904
1,1,2-Trichloroethane	97.3	19.45	20.0	ug/L	10/16/1995	tdn	904
Trichloroethene	100.0	20.00	20.0	ug/L	10/16/1995	tdn	904
Trichlorofluoromethane	96.0	19.19	20.0	ug/L	10/16/1995	tdn	904
Vinyl chloride	81.3	16.25	20.0	ug/L	10/16/1995	tdn	904
1,4-Difluorobenzene (SURR)	970.0	970	100	% Rec.	10/16/1995	tdn	904
1,4-Dichlorobutane (SURR)	950.0	950	100	% Rec.	10/16/1995	tdn	904
Bromochloromethane (SURR)		N/A	100	% Rec.	10/16/1995	tdn	904

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 5030/8015-M (Shell)						
Purgeable TPH	ND	0.05	mg/L	10/19/1995	dat3	3278
Benzene	ND	0.5	ug/L	10/19/1995	dat3	3278
Toluene	ND	0.5	ug/L	10/19/1995	dat3	3278
Ethylbenzene	ND	0.5	ug/L	10/19/1995	dat3	3278
Xylenes (Total)	ND	0.5	ug/L	10/19/1995	dat3	3278
Bromofluorobenzene (SURR)	91		% Rec.	10/19/1995	dat3	3278

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 601 (GC,Liquid)						
Bromodichloromethane	ND	0.4	ug/L	10/16/1995	tdn	904
Bromoform	ND	0.4	ug/L	10/16/1995	tdn	904
Bromomethane	ND	0.4	ug/L	10/16/1995	tdn	904
Carbon tetrachloride	ND	0.4	ug/L	10/16/1995	tdn	904
Chlorobenzene	ND	0.4	ug/L	10/16/1995	tdn	904
Chloroethane	ND	0.4	ug/L	10/16/1995	tdn	904
2-Chloroethylvinyl ether	ND	1.0	ug/L	10/16/1995	tdn	904
Chloroform	ND	0.4	ug/L	10/16/1995	tdn	904
Chloromethane	ND	0.4	ug/L	10/16/1995	tdn	904
Dibromochloromethane	ND	0.4	ug/L	10/16/1995	tdn	904
1,2-Dichlorobenzene	ND	0.4	ug/L	10/16/1995	tdn	904
1,3-Dichlorobenzene	ND	0.4	ug/L	10/16/1995	tdn	904
1,4-Dichlorobenzene	ND	0.4	ug/L	10/16/1995	tdn	904
Dichlorodifluoromethane	ND	0.4	ug/L	10/16/1995	tdn	904
1,1-Dichloroethane	ND	0.4	ug/L	10/16/1995	tdn	904
1,2-Dichloroethane	ND	0.4	ug/L	10/16/1995	tdn	904
1,1-Dichloroethene	ND	0.4	ug/L	10/16/1995	tdn	904
cis-1,2-Dichloroethene	ND	0.4	ug/L	10/16/1995	tdn	904
trans-1,2-Dichloroethene	ND	0.4	ug/L	10/16/1995	tdn	904
1,2-Dichloropropane	ND	0.4	ug/L	10/16/1995	tdn	904
cis-1,3-Dichloropropene	ND	0.4	ug/L	10/16/1995	tdn	904
trans-1,3-Dichloropropene	ND	0.4	ug/L	10/16/1995	tdn	904
Methylene chloride	ND	10	ug/L	10/16/1995	tdn	904
1,1,2,2-Tetrachloroethane	ND	0.4	ug/L	10/16/1995	tdn	904
Tetrachloroethene	ND	0.4	ug/L	10/16/1995	tdn	904
1,1,1-Trichloroethane	ND	0.4	ug/L	10/16/1995	tdn	904
1,1,2-Trichloroethane	ND	0.4	ug/L	10/16/1995	tdn	904
Trichloroethene	ND	0.4	ug/L	10/16/1995	tdn	904
Trichlorofluoromethane	ND	0.4	ug/L	10/16/1995	tdn	904
Vinyl chloride	ND	0.4	ug/L	10/16/1995	tdn	904
1,4-Difluorobenzene (SURR)	94		% Rec.	10/16/1995	tdn	904
1,4-Dichlorobutane (SURR)	78		% Rec.	10/16/1995	tdn	904
Bromochloromethane (SURR)	N/A		% Rec.	10/16/1995	tdn	904

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

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	Run Batch	Sample Spiked
METHOD 5030/8015-M (Shell)											253047
Purgeable TPH	102.0	122.0	17.9	0.5	0.99	1.5	1.6	mg/L	10/19/1995	3278	253047
Benzene	91.0	89.9	1.2	8.90	6.5	14.6	14.5	ug/L	10/19/1995	3278	253047
Toluene	100.4	99.6	0.7	28.4	7.7	36.2	36.0	ug/L	10/19/1995	3278	253047

Ref: Shell 1601 Webster Street, Alameda, CA./951012-Z2

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	Run Batch	Sample Spiked
METHOD 601 (GC,Liquid)											253546
Chlorobenzene	100.2	177.0	55.4	20.0	ND	20.03	35.4	ug/L	10/16/1995	904	253546
1,1-Dichloroethene	95.2	121.5	24.2	20.0	ND	19.04	24.3	ug/L	10/16/1995	904	253546
Trichloroethene	99.7	104.1	4.2	20.0	ND	19.93	20.81	ug/L	10/16/1995	904	253546

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

COOLER RECEIPT FORM

Project: 9510127.22 Log No: 8880
Cooler received on: 10/14/95 and checked on 10/14/95 by
(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 TEMP.: 0°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:
EB	3
TB	1

*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)