CAMBRIA

June 9, 1998

Eva Chu
Alameda County Department of
Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502-6577

Re: **Second Quarter 1998 Monitoring Report**
Shell Service Station
1601 Webster Street
Alameda, California 94501
WIC #204-0072-0403
Cambria Project #24-314-298

Dear Ms. Chu:

On behalf of Shell Oil Products Company, Cambria Environmental Technology, Inc. (Cambria) is submitting this status report to satisfy the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

SECOND QUARTER 1998 ACTIVITIES

Blaine Tech Services, Inc. (Blaine) of San Jose, California measured ground water depths and collected water samples from the site wells (Figure 1). The Blaine report, describing these sampling activities and presenting the analytical results, is included as Attachment A. Cambria calculated ground water elevations (Table 1), compiled the analytical data (Table 2), and prepared a ground water elevation contour map (Figure 1).

ANTICIPATED FUTURE 1998 ACTIVITIES

In April 1998, Cambria proposed reducing sampling frequency at this site to all wells annually during the second quarter. Unless we hear otherwise from your office, the next sampling event will be scheduled for second quarter 1999. At that time, Blaine will measure ground water depths and collect ground water samples from the site wells, and Cambria will submit a report presenting a summary of activities at the site.

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
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REGULATORY STATUS REVIEW AND RECOMMENDATIONS

The California Regional Water Quality Control Board - San Francisco Bay Region (RWQCB) has established guidelines for cleanup of low-risk fuel sites. A low-risk ground water site has the following general characteristics:

- The leak has stopped and the hydrocarbon source has been removed;
- Ground water is less than about 50 ft deep;
- The site is adequately characterized;
- The hydrocarbon plume is stable or decreasing;
- No water wells or other sensitive receptors are likely to be impacted;
- No preferential pathways exist at the site;
- The site presents no significant risk to human health;
- The site presents no significant risk to the environment.

Site specific characteristics relevant to each of the RWQCB characteristics are discussed below.

The Leak Has Stopped and the Hydrocarbon Source Removed: The tanks and piping that were the potential source of hydrocarbon release were upgraded in August 1997. Therefore, there is no ongoing hydrocarbon source. No liquid-phase hydrocarbons are currently detected at the site.

Ground Water Depth: Ground water at the site has ranged from about 4 to 11 feet deep.

Site Characterization: The extent of hydrocarbons in soil is defined by the existing soil borings and wells. Historically, the highest hydrocarbons in soil were detected well MW-2, located in the area of the former product lines and pump island. The hydrocarbon concentrations in this well have been near or below detection limits for three years. The down and cross gradient extents of total petroleum hydrocarbons as gasoline (TPHg) and benzene in ground water are defined by monitoring wells MW-1, MW-3, and S-1.

Hydrocarbon Plume Is Stable or Decreasing: Hydrocarbon concentrations, where detected, have asymptotically decreased over the past eight years, indicating that the aqueous-phase hydrocarbon mass and hydrocarbon plume size are decreasing.

Drinking Water Wells or Other Sensitive Receptors: Due to high regional concentrations of total dissolved solids (TDS), ground water in this area is not used as a drinking water source. The site is located approximately ½ mile north of the San Francisco Bay.

Preferential Pathways: No preferential lithologic pathways that would affect down-gradient hydrocarbon migration have been identified at the site.

The Site Presents No Significant Risk to Human Health: The low benzene concentrations remaining in soil and ground water do not appear to pose a health risk to any potential receptors.

The Site Presents No Significant Risk to the Environment: There are no identified potential exposure pathways to adversely impact surface water, wetlands, or other sensitive receptors. Therefore, there is no risk to the environment.

Based on these criteria, this site appears to be a candidate for case closure as a low-risk ground water site. Therefore, no further action is warranted, and we request case closure.

CLOSING

We appreciate the opportunity to work with you on this project. Please call if you have any questions.

Sincerely,
Cambria Environmental Technology, Inc.

Aubrey K Cool for:

Maureen D. Feineman
Staff Geologist

Diane M. Lundquist, P.E.
Principal Engineer

Attachment: A - Blaine Quarterly Ground Water Monitoring Report

cc: A.E. (Alex) Perez, Shell Oil Products Company, P.O. Box 8080, Martinez, California 94553
Brad Boschetto, Shell Oil Products Company, 3611 S. Harbor Blvd, Suite 160, Santa Ana, California 92704

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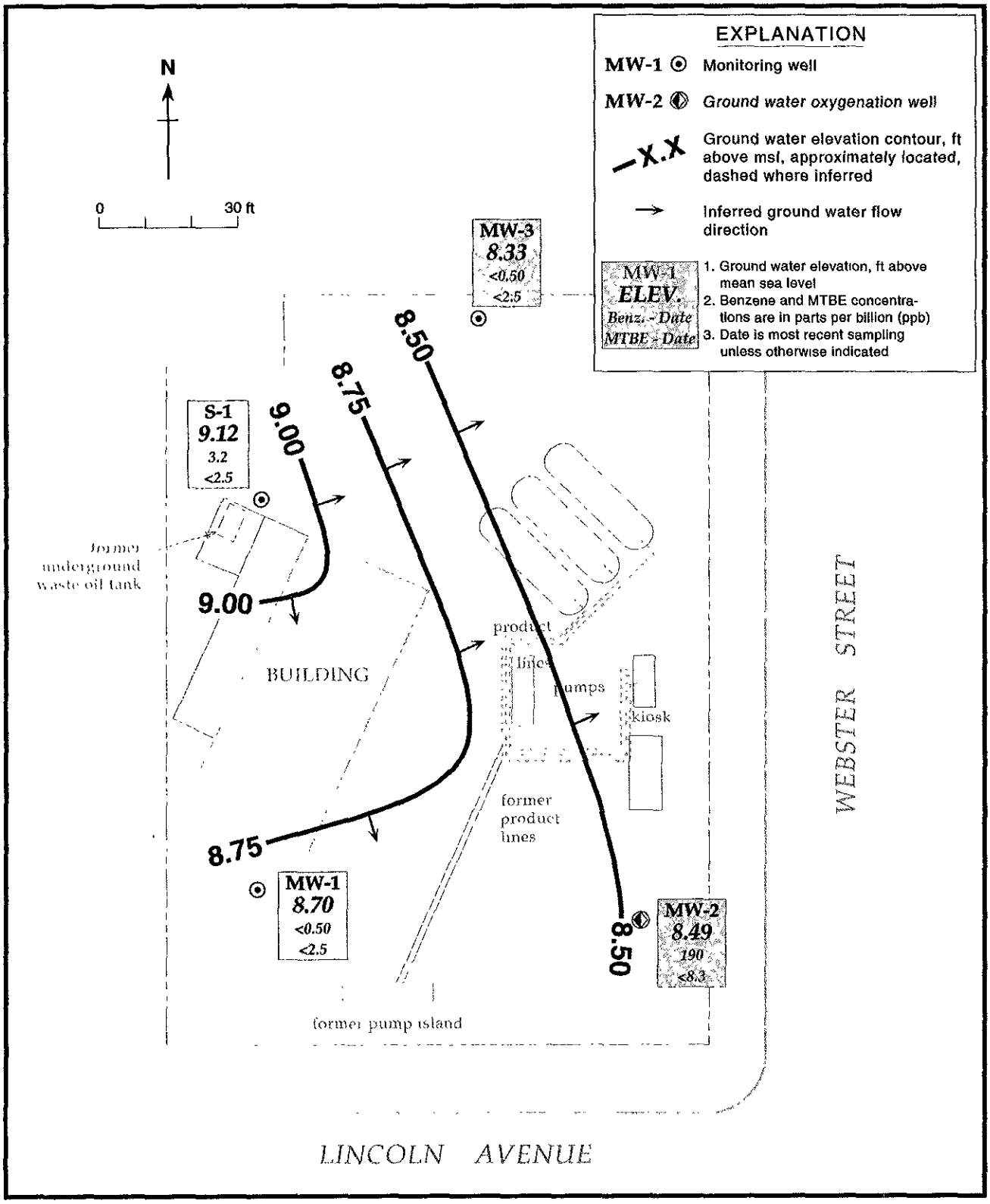

Figure 1. Ground Water Elevation Contours - April 17, 1998 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

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 below TOC)	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
	01/11/96		6.95	6.85
	04/10/96		5.78	8.02
	07/12/96		6.65	7.15
	10/17/96		7.48	6.32
	04/08/97		6.16	7.64
	10/16/97		8.56	5.24
	04/17/98		**5.10**	**8.70**
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

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

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	Ground Water Elevation (ft above msl)
	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
	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
	01/11/96		6.29	6.91
	04/10/96		5.48	7.72
	07/12/96		6.02	7.18
	10/17/96		6.95	6.25
	04/08/97		5.83	7.37
	10/16/97		7.98	5.22
	04/17/98		**4.71**	**8.49**
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
	01/11/96		6.48	6.32
	04/10/96		5.57	7.23
	07/12/96		6.23	6.57
	10/17/96		7.18	5.62
	04/08/97		5.75	7.05
	10/16/97		7.76	5.04
	04/17/98		**4.47**	**8.33**
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

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

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	Ground Water Elevation (ft above msl)
	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
	01/11/96		7.24	6.50
	04/10/96		5.80	7.94
	07/12/96		6.60	7.14
	10/17/96		7.63	6.11
	04/08/97		6.00	7.74
	10/16/97		8.28	5.46
	04/17/98		**4.62**	**9.12**

Abbreviations and Notes:

a = Top of casing resurveyed on March 30, 1993
ft = Feet
msl = Mean sea level
TOC= Top-of-casing

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

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in 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	---	---
(2nd Qtr)	07/18/90	9.14	<50	---	<0.5	<0.5	<0.5	<0.5	3	<0.5	<5,000	---	---
	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	---	---	---
	04/10/96	5.78	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	<2.5	---
	07/12/96	6.65	---	---	---	---	---	---	---	---	---	---	---
	10/17/96	7.48	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.16	<1,000	---	<10	<10	<10	<10	<1.2	<1.2	---	3,000	2.6
	04/17/98	**5.10**	**<50**	**---**	**<0.50**	**<0.50**	**<0.50**	**1.3**	**<0.50**	**<0.50**	**---**	**<2.5(<2.0)**	**7.8**
MW-2	04/11/90	7.69	580	430	20	4.9	1.2	73	<0.5	1.1	<10,000	---	---
(2nd & 4th Qtr)	07/18/90	8.56	1,400	---	110	310	71	310	<0.5	0.7	<5,000	---	---
	10/18/90	9.76	1,900	1,300[d]	110	470	89	400	<0.5	0.9	<5,000	---	---
	01/25/91	9.78	8,100	---	430	1,200	480	2,600	<0.5	0.8	---	---	---
	04/11/91	6.87	2,600	---	130	150	250	330	<0.5	<0.5	---	---	---
	07/15/91	8.27	1,300	---	100	59	84	120	<0.5	0.8	---	---	---
	10/17/91	9.89	2,100	---	180	260	150	520	<0.5	0.6	---	---	---
	01/24/92	8.60	7,100	---	450	450	960	1,600	110	<0.5	---	---	---
	04/23/92	6.48	16,000	---	320	740	650	2,600	<2.5	<2.5	---	---	---
	07/02/92	7.37	33,000	---	2,500	3,700	2,000	9,600	<50	<50	---	---	---

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

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	10/02/92	9.20	7,000	---	960	650	570	1,200	<50	<50	---	---	---
	01/05/93	6.80	8,900	---	550	500	600	1,900	<2	<2	---	---	---
	04/08/93	5.40	13,000	---	670	580	900	2,900	0.68	<0.5	---	---	---
	04/08/93[dup]	5.40	13,000	---	830	740	1,100	3,700	0.64	<0.5	---	---	---
	07/20/93	6.05	10,000	---	1,200	630	1,100	4,000	0.87	<0.5	---	---	---
	07/20/93[dup]	6.05	12,000	---	1,200	600	1,100	3,800	0.80	<0.5	---	---	---
	10/15/93	7.04	24,000	---	1,400	3,400	1,200	5,200	<0.5	<0.5	---	---	---
	10/15/93[dup]	7.04	19,000	---	1,200	2,800	1,000	4,400	<0.5	<0.5	---	---	---
	01/07/94	6.99	27,000	---	1,300	2,700	1,900	7,900	<10	<10	---	---	3.6
	01/07/94[dup]	6.99	33,000	---	1,100	2,300	1,700	6,900	<10	<10	---	---	3.6
	04/13/94	6.20	16,000	---	460	93	820	2,700	<25	<25	---	---	---
	04/13/94[dup]	6.20	18,000	---	500	100	880	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	---	---	3.2
	10/06/94	7.75	15,000	---	850	650	1,000	4,000	<0.4	<0.4	---	---	2.4
	10/06/94[dup]	7.75	17,000	---	1000	630	1,200	4,500	<0.4	<0.4	---	---	2.4
	01/26/95	4.49	3,200	---	63	14	300	1,000	<0.4	<0.4	---	---	1.6
	01/26/95[dup]	4.49	3,100	---	31	13	140	820	<0.4	<0.4	---	---	1.6
	04/20/95	5.28	<50	---	4.4	<0.5	1.3	3.3	<0.4	<0.4	---	---	---
	04/20/95[dup]	5.28	<50	---	0.5	<0.5	0.6	3.3	<0.4	<0.4	---	---	---
	07/12/95	5.84	<50	---	1.1	1.1	<0.5	<0.5	---	---	---	---	10.4
	07/12/95[dup]	5.84	<50	---	0.9	0.8	<0.5	<0.5	---	---	---	---	10.4
	10/12/95	6.68	370	---	20	3.0	8.2	92	<0.5	<0.4	---	---	6.4
	01/11/96	6.29	90	---	3.8	<0.5	3.5	3.0	0.6	<0.4	---	---	5.8
	04/10/96	5.48	61	---	9.9	<0.5	3.6	1.8	---	---	---	<2.5	---
	04/10/96[dup]	5.48	54	---	10	<0.5	4.0	1.7	---	---	---	<2.5	---
	07/12/96	6.02	510	---	25	1.9	39	61	<1.0	<1.0	---	3.3	2.3
	07/12/96[dup]	6.02	510	---	24	2.0	38	59	<1.0	<1.0	---	5.5	2.3
	10/17/96	6.95	4,100	---	130	13	280	590	0.52	<0.5	---	26	2.2
	10/17/96[dup]	6.95	3,500	---	120	12	230	510	0.58	<0.5	---	(<20)	2.2
	04/08/97	5.83	1,500	---	77	19	120	32	0.59	<0.50	---	5.7	2.6
	10/16/97	7.98	4,000	---	160	<5.0	250	140	<2.5	<2.5	---	44	2.4
	10/16/97[dup]	7.98	4,000	---	170	<5.0	270	98	<1.0	<1.0	---	<2.5	2.4

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

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	04/17/98	**4.71**	**3,800**	**—**	**190**	**5.0[j]**	**260**	**340**	**<0.50**	**<0.50**	**—**	**<25(8.3)**	**1.8**
	04/17/98[dup]	**4.71**	**310**	**—**	**16**	**<0.50**	**<0.50**	**7.4**	**—**	**—**	**—**	**<2.5**	**1.8**
MW-3 (2nd & 4th Qtr)	02/25/93	5.37	58	140	<0.5	<0.5	2.5	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
	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	2.9	<0.5	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[dup]	6.98	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	—	—	7.1
	01/11/96	6.48	50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	—	—	6.4
	01/11/96[dup]	6.48	50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	—	—	—
	04/10/96	5.57	200	—	<2.0	<2.0	<2.0	<2.0	—	—	—	670	—
	07/12/96	6.23	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—	230	3.5
	10/17/96	7.18	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—	<2.5	3.0
	04/08/97	5.75	<50	—	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	—	240	3.0
	10/16/97	7.76	<50	—	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	—	100	2.2
	04/17/98	**4.47**	**<50**	**—**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**—**	**<2.5**	**6.4**
S-1 (2nd Qtr)	09/04/87[h]		—	—	<5	<5	<5	<5	<0.5	<0.5	—	—	—
	09/11/89[i]	9.82	<50	<100	<0.5	<1	<1	<3	<0.5	<0.5	<1,000	—	—
	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	—	—	—	—	—

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

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	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	<0.5	<0.5	---	---	---
	01/07/94	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	6.8
	04/13/94	7.22	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/26/94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	2.6
	10/06/94	9.01	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	6.0
	04/20/95	6.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/10/96	5.80	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	<2.5	---
	07/12/96	6.60	---	---	---	---	---	---	---	---	---	---	---
	10/17/96	7.63	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.00	<50	---	0.73	<0.50	<0.50	1.7	---	---	---	3.8	2.8
	04/08/97[dup]	6.00	<50	---	1.0	0.64	0.65	2.4	---	---	---	<2.5	2.8
	04/17/98	4.62	86	---	3.2	3.8	2.0	13	---	---	---	<2.5	7.1
Trip Blank	07/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/25/91		<50	---	<0.5	<0.5	<0.5	0.8	---	---	---	---	---
	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	---	---	---	---	---

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

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	04/13/94		<50	---	<0.5	<0.5	<0.5	<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	---	---	---	---	---	---
	07/12/96		<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	---
	10/17/96		<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	---
MCLs			NE	NE	1	150	700	1,750	6.0	0.5	NE	NE	

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 8020
T = Toluene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
X = Xylenes by EPA Method 8020
c-1,2-DCE = cis-1,2-dichloroethene by EPA Method 601
1,2-DCA = 1,2-dichloroethane by EPA Method 601
TOG = Total non-polar oil and grease by American Public Health Association Standard Method 503E
MTBE = Methyl tert-butyl ether by EPA Method 8020. Result in parentheses indicates MTBE by EPA Method 8260
DO = Dissolved oxygen
dup = Duplicate sample
ft = Feet
µg/L = Micrograms per liter
mg/L = Milligrams per liter
MCLs = California primary maximum contaminant level for drinking water (22 CCR 64444)
NE = MCLs not established

Notes:

a = Chloroform detected at 0.71 µg/L by EPA Method 8010
b = Chloroform detected at 1.1 µg/L by EPA Method 8010
c = Trichloroethylene detected at 1.7 µg/L
d = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline
e = Chloroform detected at 1.5 µg/L by EPA Method 8010
f = Chloroform detected at 3.6 µg/L by EPA Method 8010
g = The result for gasoline is an unknown hydrocarbon which consists of a single peak
h = 0.12 mg/L acetone detected by EPA Method 624; no other volatile organic compounds detected
i = Metals detected by EPA Method 6010; 0.020 mg/L chromium, 0.060 mg/L lead and 0.030 mg/L zinc; no cadmium detected above detection limit of 0.010 mg/L; no PCBs or semi-volatile compounds detected by EPA Method 625
j = 0.51 µg/L toluene detected in equipment blank
<n = Not detected at detection limit of n µg/L
--- = Not analyzed/measured

ATTACHMENT A

Blaine Quarterly Ground Water Monitoring Report

BLAINE
TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
(408) 573-7771 FAX
(408) 573-0555 PHONE

May 27, 1998

Shell Oil Company
P.O. Box 8080
Martinez, CA 94553

Attn: Alex Perez

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

2nd Quarter 1998

Groundwater Monitoring Report 980417-Z-1

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) 573-0555 ext. 201.*

Yours truly,

Deirdre Kerr for.

Francis Thie

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

cc: Cambria Environmental Technology, Inc.
1144 65th Street, Suite C
Oakland, CA 94608
Attn: Maureen Feineman

(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	04/17/98	TOC	–	NONE	–	–	5.10	20.70
MW-2 *	04/17/98	TOC	ODOR	NONE	–	–	4.71	19.15
MW-3	04/17/98	TOC	–	NONE	–	–	4.47	19.36
S-1	04/17/98	TOC	–	NONE	–	–	4.62	19.13

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

SHELL OIL PRODUCTS COMPANY *CHAIN OF CUSTODY RECORD*

WIC OR FACILITY ID: 204-0072-0403

Date: 04/17/98

Results to: ⊕ Consult. ○ Shell

Page 01 of 01

Site Address:	1601 Webster St, Alameda
Consultant/Contact:	BTS
Address:	1680 Rogers, S.J. CA
Phone:	408-543-0555
Shell Engineer:	A. Pece

Lab: SEQR-CA

TURN AROUND TIME *Select one only*: ○ 24 hrs. ○ 48 hrs. ⊕ 15 days (Normal) ○ Other

CLASS TYPE/DETAIL TYPE *Select one only*

- ○ Site Invest (4441)
- ○ Soil Clas/Disp (4442)
- ○ Wtr Clas/Disp (4443)
- ○ Soil/Air Rem/Sys (4452)
- ○ Wtr Rem/Sys (4453)
- ⊕ G.W. Monitor (4461)
- ○ Other

SAMPLE MATRIX *Select one only*: ⊕ Water ○ NAPL ○ Sludge ○ Sediment ○ Soil ○ Vapor ○ Bedrock ○ Other

Waste Profile Number:	
Start Time (military):	09:00
Sampled by:	S. CHESNEY
UST Agency:	

Analysis Required

Field Sample ID	Sample Time (military)	Composite?	Acid pres.	Cnt.Sz.(40ml)	Cnt.Sz.-Other	Total No. Containers	TPH-P/MBTEX(8015/8021)	TPH-P/BTEX (8015/8021)	MBTEX (8021)	BTEX (8021)	TPH-P (8015m)	TPH-E (8015m)	TPH-xx (8015m)	TRPH (418.1)	MBTEX (8260)	VOCs (8260) (specify)	SVOCs (8270) (specify)	Lead (specify)	Test for Disposal	Other (specify)
MW-1	10:35		•	•		06	•													
MW-2	10:52		•	•		06	•													
MW-3	10:05		•	•		06	•													
S-1	09:37		•	•		03	•													
DUP	:		•	•		06	•													
EB	09:43		•	•		03	•													

LAB USE ONLY

Lab Tracking No.: 9804C81

Sample Condition/Comments

AP 20 03

Cooler Temperature:

Material Description

Comments: CONFIRM MTBE IN MW-1 BY 8260

Relinquished By (signature): Steve L. Chesney	Printed Name: Steve Chesney	Date: 4-20-98 Time: 12:08	Received By (signature): Jeff Bonneville	Printed Name: Jeff Bonneville	Date: 4-20-98 Time: 12:08
Relinquished By (signature): Jeff Bonneville	Printed Name: Jeff Bonneville	Date: 4/20 Time:	Received By (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received By (signature): Lisa Downs	Printed Name: DOWNS	Date: 4/20 Time: 1303

62143

FORM BY IMTRAN

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

SHELL CHAIN OF CUSTODY REVISED 12/97

SHELL OIL PRODUCTS COMPANY *CHAIN OF CUSTODY RECORD*

WIC OR FACILITY ID: 204-0072-0403

Date: 04/17/98

Results to: ● Consult. ○ Shell

Page 01 of 01

Site Address: 1601 Webster St, Alameda
Consultant/Contact: BTS
Address: 1680 Rogers St, CA
Phone: 909-543-0555
Shell Engineer: A. Pece

Lab: SEQR-CA

TURN AROUND TIME *Select one only*: ○ 24 hrs. ○ 48 hrs. ● 15 days (Normal) ○ Other

CLASS TYPE/DETAIL TYPE *Select one only*
○ Site Invest (4441) ○ Wtr Rem/Sys (4453)
○ Soil Clas/Disp (4442) ● G.W. Monitor (4461)
○ Wtr Clas/Disp (4443) ○ Other
○ Soil/Air Rem/Sys (4452)

SAMPLE MATRIX *Select one only*
● Water ○ NAPL ○ Sludge ○ Sediment
○ Soil ○ Vapor ○ Bedrock ○ Other

Waste Profile Number:

Start Time (military): 09:00

Sampled by: S. CHESNEY

UST Agency:

Analysis Required

Field Sample ID	Sample Time (military)	Composite?	Acid pres.	Cnt. Sz. (40ml)	Cnt. Sz.-Other	Total No. Containers	TPH-P/MBTEX (8015/8021)	TPH-P/BTEX (8015/8021)	MBTEX (8021)	BTEX (8021)	TPH-P (8015m)	TPH-E (8015m)	TPH-ex (8015m)	TRPH (418.1)	MBTEX (8260)	VOCs (8260) (specify)	SVOCs (8270) (specify)	Lead (specify)	Test for Disposal	Other (specify)
MW-1	10:35		●	●		06	●													●
MW-2	10:52		●	●		06	●													●
MW-3	10:05		●	●		06	●													●
S-1	09:37		●	●		03	●													
DUP	:		●	●		06	●													
EB	09:43		●	●		03	●													

LAB USE ONLY
Lab Tracking No.: 9804081
Sample Condition/Comments
1
2
3
4
5
6
Cooler Temperature:

Material Description

Comments:
EPA GOT IN MW-1, MW-2 & MW-3
CONFIRM MTBE IN MW-1 BY 8260
CONFIRM MTBE IN MW-2 BY 8260

Relinquished By (signature)	Printed Name	Date / Time	Received By (signature)	Printed Name	Date / Time
Stephen L. Chesney	Steve Chesney	4-20-98 12:08	J.D. Bonneville	Jeff Bonneville	4-20-98 12:08

62143

FORM BY IMTRAN

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

SHELL CHAIN OF CUSTODY REVISED 12/97

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Project: Shell Alameda

Enclosed are the results from samples received at Sequoia Analytical on April 20, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9804C81 -01	LIQUID, MW-1	04/17/98	Purgeable TPH/BTEX/MTBE
9804C81 -01	LIQUID, MW-1	04/17/98	601 Purgeable Halocarbons
9804C81 -01	LIQUID, MW-1	04/17/98	MTBE by 8260
9804C81 -02	LIQUID, MW-2	04/17/98	Purgeable TPH/BTEX/MTBE
9804C81 -02	LIQUID, MW-2	04/17/98	601 Purgeable Halocarbons
9804C81 -02	LIQUID, MW-2	04/17/98	MTBE by 8260
9804C81 -03	LIQUID, MW-3	04/17/98	Purgeable TPH/BTEX/MTBE
9804C81 -03	LIQUID, MW-3	04/17/98	601 Purgeable Halocarbons
9804C81 -04	LIQUID, S-1	04/17/98	Purgeable TPH/BTEX/MTBE
9804C81 -05	LIQUID, DUP	04/17/98	Purgeable TPH/BTEX/MTBE
9804C81 -06	LIQUID, EB	04/17/98	Purgeable TPH/BTEX/MTBE

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

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-1	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/28/98
Attention: Fran Thie	Lab Number: 9804C81-01	Reported: 05/05/98

QC Batch Number: GC042898BTEX06A
nstrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**1.3**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

nalytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

'eggy Penner
'roject Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-1	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: EPA 601	Analyzed: 04/29/98
Attention: Fran Thie	Lab Number: 9804C81-01	Reported: 05/05/98

QC Batch Number: GC0429980VOA09B
Instrument ID: GCHP9

Purgeable Halocarbons (EPA 601)

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	70	130	108

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-1	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: EPA 8260	Analyzed: 04/23/98
Attention: Fran Thie	Lab Number: 9804C81-01	Reported: 05/05/98

QC Batch Number: MS042298MTBEF3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	108

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-2	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/28/98
Attention: Fran Thle	Lab Number: 9804C81-02	Reported: 05/05/98

QC Batch Number: GC042898BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**500**	**3800**
Methyl t-Butyl Ether	25	N.D.
Benzene	**5.0**	**190**
Toluene	**5.0**	**5.0**
Ethyl Benzene	**5.0**	**260**
Xylenes (Total)	**5.0**	**340**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-2	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: EPA 601	Analyzed: 04/30/98
Attention: Fran Thle	Lab Number: 9804C81-02	Reported: 05/05/98

)C Batch Number: GC042998OVOA09B
ıstrument ID: GCHP9

Purgeable Halocarbons (EPA 601)

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	70	130	110

ıalytes reported as N.D. were not present above the stated limit of detection.

EQUOIA ANALYTICAL - ELAP #1210

eggy Renner
roject Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-2	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: EPA 8260	Analyzed: 04/23/98
Attention: Fran Thie	Lab Number: 9804C81-02	Reported: 05/05/98

QC Batch Number: MS042298MTBEF3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	8.3	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	108

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-3	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/28/98
Attention: Fran Thle	Lab Number: 9804C81-03	Reported: 05/05/98

QC Batch Number: GC042898BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	85

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: MW-3	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: EPA 601	Analyzed: 04/30/98
Attention: Fran Thie	Lab Number: 9804C81-03	Reported: 05/05/98

QC Batch Number: GC042998OVOA09B
Instrument ID: GCHP9

Purgeable Halocarbons (EPA 601)

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	70	130	101

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Alameda
Sample Descript: S-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9804C81-04

Sampled: 04/17/98
Received: 04/20/98

Analyzed: 04/28/98
Reported: 05/05/98

QC Batch Number: GC042898BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**86**
Methyl t-Butyl Ether	2.5	N.D.
Benzene	**0.50**	**3.2**
Toluene	**0.50**	**3.8**
Ethyl Benzene	**0.50**	**2.0**
Xylenes (Total)	**0.50**	**13**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	84

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Renner
Project Manager

Sequoia Analytical

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Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: DUP	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/28/98
Attention: Fran Thie	Lab Number: 9804C81-05	Reported: 05/05/98

QC Batch Number: GC042898BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**310**
Methyl t-Butyl Ether	2.5	N.D.
Benzene	**0.50**	**16**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**7.4**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Blaine Tech Services	Client Proj. ID: Shell Alameda	Sampled: 04/17/98
1680 Rogers Avenue	Sample Descript: EB	Received: 04/20/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/28/98
Attention: Fran Thie	Lab Number: 9804C81-06	Reported: 05/05/98

QC Batch Number: GC042898BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	**0.50**	**0.51**
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell Alameda

QC Sample Group: 9804C81-01-06

Reported: May 5, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8015/8020
Analyst: J. MINKEL

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX as TPH
QC Batch #:	GC042898BTEX06A				
Sample No.:	GW9804D68-4				
Date Prepared:	4/28/98	4/28/98	4/28/98	4/28/98	4/28/98
Date Analyzed:	4/28/98	4/28/98	4/28/98	4/28/98	4/28/98
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30	60
Matrix Spike, ug/L:	10	9.7	9.7	29	70
% Recovery:	100	97	97	97	117
Matrix Spike Duplicate, ug/L:	10	9.7	9.8	30	69
% Recovery:	100	97	98	100	115
Relative % Difference:	0.0	0.0	1.0	3.0	1.7
RPD Control Limits:	0-25	0-25	0-25	0-25	0-25

LCS Batch#:	GAWBLK042898A				
Date Prepared:	4/28/98	4/28/98	4/28/98	4/28/98	4/28/98
Date Analyzed:	4/28/98	4/28/98	4/28/98	4/28/98	4/28/98
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked, ug/L:	10	10	10	30	60
LCS Recovery, ug/L:	11	11	11	33	63
LCS % Recovery:	110	110	110	110	105

Percent Recovery Control Limits:

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Mike Gregory
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.

Sequoia Analytical

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell Alameda

QC Sample Group: 9804C81-01-03

Reported: May 5, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8010/601
Analyst: M. McLachlan

ANALYTE	1,1-DCE	TCE	Chlorobenzene
QC Batch #:	GC0429980VOA09B		
Sample No.:	9804C8101		
Date Prepared:	4/29/98	4/29/98	4/29/98
Date Analyzed:	4/29/98	4/29/98	4/29/98
Instrument I.D.#:	gchp09	gchp09	gchp09
Sample Conc., ug/L:	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	25	25	25
Matrix Spike, ug/L:	23	21	23
% Recovery:	92	84	92
Matrix Spike Duplicate, ug/L:	23	22	24
% Recovery:	92	88	96
Relative % Difference:	0.0	4.7	4.3
RPD Control Limits:	0-50	0-50	0-50

LCS Batch#:	VBLK042998BS		
Date Prepared:	4/29/98	4/29/98	4/29/98
Date Analyzed:	4/29/98	4/29/98	4/29/98
Instrument I.D.#:	gchp09	gchp09	gchp09
Conc. Spiked, ug/L:	25	25	25
Recovery, ug/L:	22	21	23
LCS % Recovery:	88	84	92

Percent Recovery Control Limits:

MS/MSD	65-135	70-130	70-130
LCS	65-135	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Mike Gregory
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.

Sequoia Analytical

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Blaine Tech Services, Inc.
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell Alameda
Matrix: Liquid
Work Order #: 9804C81 -01, 02
Reported: May 11, 1998

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS042298MTBEF3A
Analy. Method:	EPA 8260
Prep. Method:	N.A.
Analyst:	E. Manuel
MS/MSD #:	980473101
Sample Conc.:	76
Prepared Date:	4/22/98
Analyzed Date:	4/22/98
Instrument I.D.#:	F3
Conc. Spiked:	50 µg/L
Result:	140
MS % Recovery:	128
Dup. Result:	140
MSD % Recov.:	128
RPD:	0.0
RPD Limit:	0-25

LCS #:	LCS042398
Prepared Date:	4/23/98
Analyzed Date:	4/23/98
Instrument I.D.#:	F3
Conc. Spiked:	50 µg/L
LCS Result:	59
LCS % Recov.:	118

MS/MSD	60-140
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

Peggy Penner
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.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

Sequoia Analytical

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Lab Proj. ID: 9804C81

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LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of_____ pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager