



May 18, 1998

Ms. Susan Hugo  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, Second Floor  
Alameda, California 94502-6577

Re: **First Quarter 1998 Monitoring Report**  
Shell Service Station  
999 San Pablo Avenue  
Albany, California  
WIC #204-0079-0109  
Cambria Project #24-314-198

Dear Ms. Hugo:

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

#### **FIRST QUARTER 1998 ACTIVITIES**

*Ground Water Monitoring:* 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).

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ENVIRONMENTAL

TECHNOLOGY, INC.

1144 65TH STREET,

SUITE B

OAKLAND,

CA 94608

PH: (510) 420-0700

FAX: (510) 420-9170

#### **ANTICIPATED SECOND QUARTER 1998 ACTIVITIES**

*Ground Water Monitoring:* Blaine will measure water levels and collect ground water samples from selected site wells. Cambria will tabulate the data and present a quarterly monitoring report.



Ms. Susan Hugo  
May 18, 1998

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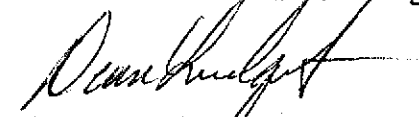
## DISCUSSION

Monitoring well S-5 is located immediately adjacent to the Arco Service Station across Marin Avenue south of the Shell station. This well has historically contained separate phase hydrocarbons (SPHs); however, wells S-3 and S-6, which are located along the southern property boundary of the Shell station, have never contained SPH. Therefore, it appears that the SPHs detected in well S-5 are originating from the Arco station and not the Shell station. We request that Shell be allowed to discontinue monitoring of well S-5 and either abandon the well or transfer ownership to the owner of the Arco station. The well will be sampled in the second quarter 1998; unless otherwise directed by your office, we will remove the well from the sampling program beginning in the third quarter 1998.

## CLOSING

We appreciate your continued assistance with this project. Please call if you have any questions.

Sincerely,  
Cambria Environmental Technology, Inc.

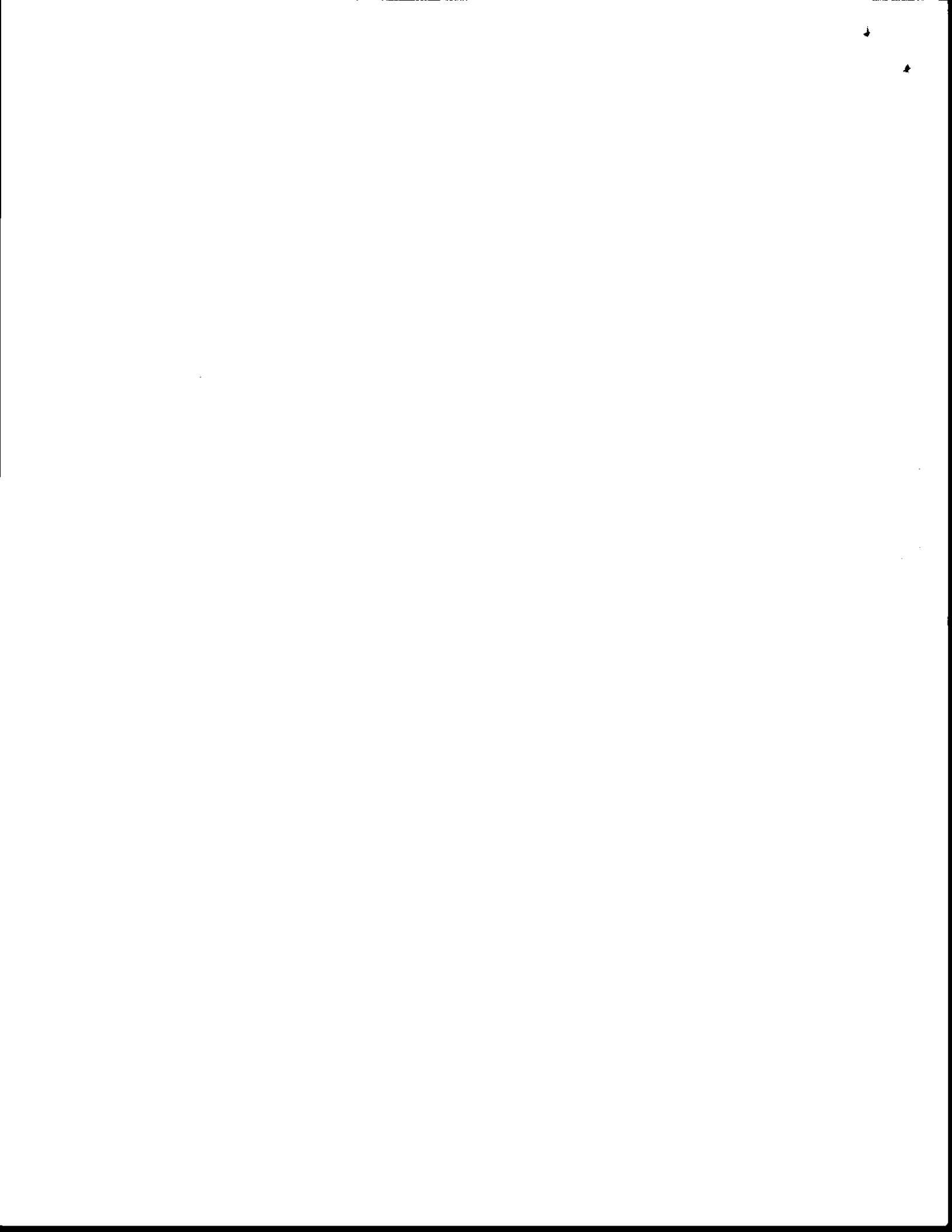
  
Diane Lundquist, P.E.  
Principal Engineer



Attachments: A - Blaine Quarterly Ground Water Monitoring Report

cc: A. E. (Alex) Perez, Shell Oil Products Company, P.O. Box 8080, Martinez, California 94553

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**Table 1. Ground Water Elevations - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California**

Well ID	Date	Top-of-Vault Elevation (ft above msl)	Depth to Water (ft below TOV)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
S-1	05/13/91	42.73	8.24	---	34.49
	08/23/91		8.37	---	34.36
	11/07/91		8.30	---	34.43
	01/28/92		7.84	---	34.89
	05/06/92		7.95	---	34.78
	08/26/92		8.24	---	34.49
	10/28/92		8.52	---	34.21
	01/19/93		6.54	---	36.19
	04/29/93		7.93	---	34.80
	07/22/93		8.09	---	34.64
	10/21/93		9.43	---	33.30
	01/04/94		8.25	---	34.48
	04/13/94		8.02	---	34.71
	07/25/94		8.22	---	34.51
	10/10/94		8.29	---	34.44
	01/26/95		6.88	---	35.85
	04/21/95		7.65	---	35.08
	07/28/95		7.90	---	34.83
	10/31/95		7.72	---	35.01
	01/10/96		8.24	---	34.49
	04/25/96		7.74	---	34.99
	07/23/96		7.92	---	34.81
	12/10/96		7.56	---	35.17
02/20/97	7.95	---	34.78		
05/22/97	8.11	---	34.62		
08/22/97	7.86	---	34.87		
11/03/97	8.35	---	34.38		
02/20/98	6.09	---	36.64		
S-2	05/13/91	40.73	8.50	---	32.23
	08/23/91		8.80	---	31.93
	11/07/91		8.61	---	32.12
	01/28/92		7.80	---	32.93
	05/06/92		8.10	---	32.63
	08/26/92		8.37	---	32.36
	10/28/92		8.64	---	32.09
	01/19/93		5.82	---	34.91
	04/29/93		7.70	---	33.03
	07/22/93		8.38	---	32.35
	10/21/93		8.58	---	32.15
	01/04/94		7.70	---	33.03
	04/13/94		7.62	---	33.11
	07/25/94		7.86	---	32.87
	10/10/94		8.12	---	32.61
01/26/95	6.38	---	34.35		





# CAMBRIA

**Table 1. Ground Water Elevations - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California**

Well ID	Date	Top-of-Vault Elevation (ft above msl)	Depth to Water (ft below TOV)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
	04/21/95		7.01	---	33.72
	07/28/95		7.82	---	32.91
	10/31/95		7.57	---	33.16
	01/10/96		8.13	---	32.60
	04/25/96		7.72	---	33.01
	07/23/96		8.10	---	32.63
	12/10/96		8.57	---	32.16
	02/20/97		8.15	---	32.58
	05/22/97		8.79	---	31.94
	08/22/97		8.05	---	32.68
	11/03/97		8.75	---	31.98
	02/20/98		6.34	---	34.39
S-3	05/13/91	41.46	7.90	---	33.56
	08/23/91		8.14	---	33.32
	11/07/91		7.91	---	33.55
	01/28/92		7.53	---	33.93
	05/06/92		7.55	---	33.91
	08/26/92		7.53	---	33.93
	10/28/92		7.95	---	33.51
	01/19/93		6.12	---	35.34
	04/29/93		7.27	---	34.19
	07/22/93		7.62	---	33.84
	10/21/93		7.81	---	33.65
	01/04/94		7.49	---	33.97
	04/13/94		7.32	---	34.14
	07/25/94		7.66	---	33.80
	10/10/94		7.49	---	33.97
	01/26/95		6.50	---	34.96
	04/21/95		6.79	---	34.67
	07/28/95		7.28	---	34.18
	10/31/95		6.74	---	34.72
	01/10/96		7.48	---	33.98
	04/25/96		6.90	---	34.56
	07/23/96		7.04	---	34.42
	12/10/96		7.96	---	33.50
	02/20/97		7.44	---	34.02
	05/22/97		7.13	---	34.33
	08/22/97		6.81	---	34.65
	11/03/97		7.40	---	34.06
	02/20/98		6.55	---	34.91
S-4	05/13/91	41.10	7.44	---	33.66
	08/23/91		8.32	---	32.78
	11/07/91		8.32	---	32.78

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**Table 1. Ground Water Elevations - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California**

Well ID	Date	Top-of-Vault Elevation (ft above msl)	Depth to Water (ft below TOV)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
	01/28/92		7.40	---	33.70
	05/06/92		7.21	---	33.89
	08/26/92		8.13	---	32.97
	10/28/92		8.73	---	32.37
	01/19/93		5.86	---	35.24
	04/29/93		7.02	---	34.08
	07/22/93		7.76	---	33.34
	10/21/93		8.53	---	32.57
	01/04/94		7.92	---	33.18
	04/13/94		7.71	---	33.39
	07/25/94		7.82	---	33.28
	10/10/94		8.15	---	32.95
	01/26/95		5.73	---	35.37
	04/21/95		6.26	---	34.84
	07/28/95		7.80	---	33.30
	10/31/95		8.45	---	32.65
	01/10/96		8.26	---	32.84
	04/25/96		7.14	---	33.96
	07/23/96		8.18	---	32.92
	12/10/96		7.04	---	34.06
	02/20/97		7.07	---	34.03
	05/22/97		6.63	---	34.47
	08/22/97		7.69	---	33.41
	11/03/97		8.26	---	32.84
	<b>02/20/98</b>		<b>5.57</b>	<b>---</b>	<b>35.53</b>
S-5	05/13/91	39.99	14.60	6.48	30.57
	08/23/91		15.14	5.50	29.25
	11/07/91		15.10	5.35	29.17
	01/28/92		14.05	4.90	29.86
	05/06/92		14.31	5.66	30.21
	08/26/92		14.26	3.80	28.77
	10/28/92		14.22	3.81	28.82
	01/19/93		12.36	3.96	30.80
	04/29/93		9.64	0.90	31.07
	07/22/93		9.55	0.90	31.16
	10/21/93		11.23	0.73	29.34
	01/04/94		11.69	1.90	29.82
	04/13/94		11.42	1.62	29.87
	07/25/94		12.01	1.79	29.41
	10/10/94		12.05	1.8	29.38
	01/26/95		8.42	1.72	32.95
	04/21/95		10.03	1.17	30.90
	07/28/95		11.42	1.87	30.07
	10/31/95		13.21	0.54	27.21

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**Table 1. Ground Water Elevations - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California**

Well ID	Date	Top-of-Vault Elevation (ft above msl)	Depth to Water (ft below TOV)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
	01/10/96		12.05	0.13	28.04
	04/25/96		9.68	0.03	30.33
	07/23/96		9.82	0.04	30.20
	12/10/96		9.10	0.03	30.91
	02/20/97		8.93	---	31.06
	05/22/97		10.07	0.02	29.94
	08/22/97		10.24	0.02	29.77
	11/03/97		10.91	0.02	29.10
	02/20/98		7.81	0.03	32.20
S-6	05/13/91	40.12	7.82	---	32.30
	08/23/91		9.58	---	30.54
	11/07/91		10.86	---	29.26
	01/28/92		8.97	---	31.15
	05/06/92		8.27	---	31.85
	08/26/92		9.57	---	31.55
	10/28/92		8.90	---	32.22
	01/19/93		4.84	---	35.28
	04/29/93		5.61	---	34.51
	07/22/93		6.56	---	33.56
	10/21/93		8.73	---	31.39
	01/04/94		7.14	---	32.98
	04/13/94		7.21	---	32.91
	07/25/94		6.85	---	33.27
	10/10/94		6.20	---	33.92
	01/26/95		4.89	---	35.23
	04/21/95		5.61	---	34.51
	07/28/95		5.30	---	34.82
	10/31/95		4.98	---	35.14
	01/10/96		5.67	---	34.45
	04/25/96		5.23	---	34.89
	07/23/96		5.40	---	34.72
	12/10/96		6.68	---	33.44
	02/20/97		5.70	---	34.42
	05/22/97		5.49	---	34.63
	08/22/97		5.71	---	34.41
	11/03/97		6.15	---	33.97
	02/20/98		5.25	---	34.87
S-7	05/13/91	40.10	10.56	---	29.54
	08/23/91		11.16	---	28.94
	11/07/91		11.48	---	28.62
	01/28/92		10.72	---	29.38
	05/06/92		10.34	---	29.76
	08/26/92		11.13	---	28.97

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**Table 1. Ground Water Elevations - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California**

Well ID	Date	Top-of-Vault Elevation (ft above msl)	Depth to Water (ft below TOV)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
	10/28/92		11.52	---	28.58
	01/19/93		8.68	---	31.42
	04/29/93		9.90	---	30.20
	07/22/93		---	---	---
	10/21/93		11.10	---	29.00
	01/04/94		10.40	---	29.70
	04/13/94		10.20	---	29.90
	07/25/94		10.48	---	29.62
	10/10/94		10.64	---	29.46
	01/26/95		7.75	---	32.35
	04/21/95		8.51	---	31.59
	07/28/95		10.20	---	29.90
	10/31/95		10.86	---	29.24
	01/10/96		10.33	---	29.77
	04/25/96		9.13	---	30.97
	07/23/96		10.18	---	29.92
	12/10/96		9.04	---	31.06
	02/20/97		9.60	---	30.50
	05/22/97		10.63	---	29.47
	08/22/97		10.95	---	29.15
	11/03/97		11.29	---	28.81
	02/20/98		7.73	---	32.37

**Notes and Abbreviations:**

- a = When separate-phase hydrocarbons are present, ground water elevation is corrected using the following relation: ground water elevation = top of casing elevation - depth to water + (0.8 x hydrocarbon thickness)
- ft = Feet
- msl = Mean sea level
- TOV = Top of vault
- = No hydrocarbons present in well

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**Table 2. Analytical Results for Ground Water, Former Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California**

Well ID (Qtrs Sampled)	Date	Depth to Water (ft)	TPH-G ←	B	T	E	X	MTBE →	HDM Units (units/L)	DO (mg/L)
				micrograms per liter (µg/L)						
S-1 (1st & 3rd)	05/13/91	8.24	1,500	20	2.6	86	74	--	--	--
	08/23/91	8.37	2,900	27	<2.5	75	18	--	--	--
	11/07/91	8.30	2,900	8	2.5	46	26	--	--	--
	01/28/92	7.84	2,000	11	<2.5	60	20	--	--	--
	05/06/92	7.95	1,200	5.5	<2.5	80	36	--	--	--
	07/29/92	8.24	2,000	9.4	<2.5	130	<2.5	--	--	--
	10/28/92	8.52	1,300	27	3.2	72	13	--	--	--
	01/19/93	6.54	1,500	13	3	29	31	--	--	--
	04/29/93	7.93	2,000	15	<2.5	82	<65	--	--	--
	07/22/93	8.09	620	1.1	4.2	3.5	13	--	--	--
	10/21/93	9.43	1,200	34	25	15	9.5	--	--	--
	01/04/94	8.25	860	<2.5	<2.5	5.7	5.3	--	--	--
	07/25/94	8.22	1,200	8.3	7.4	15	20	--	--	--
	01/26/95	6.88	1,000	12	0.6	12	420	--	--	--
	07/28/95	7.90	660	7.2	1.0	11	8.9	--	--	4.0
	01/10/96	8.24	1,100	3.5	7.0	5.1	9.4	--	--	7.4
	07/23/96	7.92	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	2.7
	12/10/96	7.56	--	--	--	--	--	--	--	0.6
	02/20/97	7.95	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	3.0
05/22/97	8.11	--	--	--	--	--	--	--	0.5	
08/22/97	7.86	810	18	<2.0	5.1	4.4	18	--	3.0	
11/03/97	8.35	--	--	--	--	--	--	--	1.1	
02/20/98	6.09	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<2.5	2.9	
S-2 (1st & 3rd)	05/13/91	8.50	23,000	3,900	230	1,100	3,200	--	--	--
	08/23/91	8.80	23,000	4,400	260	1,900	2,400	--	--	--
	11/07/91	8.61	40,000	4,000	160	1,020	3,400	--	--	--
	01/28/92	7.80	22,000	1,600	70	420	1,700	--	--	--
	05/06/92	8.10	20,000	2,600	110	860	1,900	--	--	--
	07/29/92	8.37	42,000	5,000	160	1,100	3,500	--	--	--

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**Table 2. Analytical Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)**

Well ID (Qtrs Sampled)	Date	Depth to Water (ft)	TPH-G	B	T	E	X	MTBE	HDM Units (units/L)	DO (mg/L)	
			←	←	←	←	←	←			
			micrograms per liter (µg/L)								
	10/28/92	8.64	34,000	4,800	330	1,600	2,900	--	--	--	
	01/19/93	5.82	20,000	2,300	370	660	1,300	--	--	--	
	04/29/93	7.70	40,000	2,000	67	900	1,900	--	--	--	
	07/22/93	8.38	22,000	3,000	120	1,000	1,600	--	--	--	
	07/22/93 <sup>dup</sup>	8.38	17,000	3,000	110	1,000	1,500	--	--	--	
	10/21/93	8.58	14,000	2,800	74	870	1,100	--	--	--	
	10/21/93 <sup>dup</sup>	8.58	13,000	3,200	53	960	820	--	--	--	
	01/04/94	7.70	21,000	2,100	67	990	770	--	--	--	
	01/04/94 <sup>dup</sup>	7.70	22,000	2,000	64	910	750	--	--	--	
	07/25/94	7.86	43,000	2,600	490	990	1,300	--	10 <sup>4</sup> to 10 <sup>5</sup> ab	--	
	01/26/95	6.38	21,000	790	12	290	570	--	--	5.5	
	07/28/95	7.82	14,000	2,400	360	960	370	--	--	4.0	
	01/10/96	8.13	17,000	1,400	<50	480	170	--	--	7.2	
	07/23/96	8.10	16,000	2,700	69	1,100	110	9,500	--	2.2	
	07/23/96 <sup>dup</sup>	8.10	11,000	2,600	68	1,000	96	10,000 (11,000)	10 <sup>5</sup> c	2.2	
	12/10/96	8.57	--	--	--	--	--	--	--	0.5	
	02/20/97	8.15	10,000	500	<10	90	130	6,400	--	4.0	
	05/22/97	8.79	--	--	--	--	--	--	--	1.1	
	08/22/97	8.05	23,000	1,300	65	740	290	4,500	--	3.2	
	08/22/97 <sup>dup</sup>	8.05	20,000	1,200	<100	630	250	3,900	--	3.2	
	11/03/97	8.75	--	--	--	--	--	--	--	1.2	
	<b>02/20/98</b>	<b>6.34</b>	<b>450</b>	<b>28</b>	<b>1.3</b>	<b>7.4</b>	<b>12</b>	<b>35</b>	<b>--</b>	<b>0.4</b>	
S-3 (1st & 3rd)	05/13/91	7.90	3,300	30	3.6	26	13	--	--	--	
	08/23/91	8.14	2,000	25	4	9.3	4.5	--	--	--	
	11/07/91	7.91	4,000	20	3.9	5	4.9	--	--	--	
	01/28/92	7.53	2,100	21	7.6	6.7	15	--	--	--	
	01/28/92 <sup>dup</sup>	7.53	2,100	18	6.1	7.1	14	--	--	--	
	05/06/92	7.55	6,600	38	51	45	65	--	--	--	
	07/29/92	7.53	5,800	18	12	29	60	--	--	--	

# CAMBRIA

**Table 2. Analytical Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)**

Well ID (Qtrs Sampled)	Date	Depth to Water (ft)	TPH-G ←	B	T	E	X	MTBE →	HDM Units (units/L)	DO (mg/L)
				micrograms per liter (µg/L)						
	10/28/92	7.95	3,000	55	11	16	32	--	--	--
	01/19/93	6.12	3,100	<5	5.1	11	16	--	--	--
	04/29/93	7.27	3,000	31	22	<5	14	--	--	--
	07/22/93	7.62	2,600	3.1	43	23	53	--	--	--
	10/21/93	7.81	2,500	73	14	16	32	--	--	--
	01/04/94	7.49	4,800	13	21	<12.5	33	--	--	--
	07/25/94	7.66	2,600	6.1	4.0	3.8	12	--	--	--
	01/26/95	6.50	3,600	30	6.8	5.6	19	--	--	--
	01/26/95 <sup>dup</sup>	6.50	2,200	9.9	15	14	22	--	--	--
	07/28/95	7.28	3,700	27	9.3	20	34	--	--	4.0
	01/10/96	7.48	4,000	10	<0.5	13	28	--	--	6.1
	07/23/96	7.04	2,100	20	<0.5	<0.5	<0.5	<25	--	2.1
	12/10/96	7.56	--	--	--	--	--	--	--	0.7
	02/20/97	7.44	3,500	83	<5.0	18	16	130	--	3.0
	02/20/97 <sup>dup</sup>	7.44	3,000	69	<5.0	14	12	70	--	3.0
	05/22/97	7.13	--	--	--	--	--	--	--	0.6
	08/22/97	6.81	4,700	60	12	19	21	40	--	2.9
	11/03/97	7.40	--	--	--	--	--	--	--	0.9
	01/20/98	6.55	3,400	<10	<10	14	18	85	--	0.8
	02/20/98 <sup>dup</sup>	6.55	3,100	8.6	7.8	12	16	57	--	0.8
S-4 (1st)	05/13/91	7.44	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	08/23/91	8.32	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	11/07/91	8.32	260	<0.5	<0.5	<0.5	<0.5	--	--	--
	01/28/92	7.40	110 <sup>c</sup>	<0.5	<0.5	<0.5	<0.5	--	--	--
	05/06/92	7.21	54	<0.5	<0.5	<0.5	<0.5	--	--	--
	07/29/92	8.13	67	<0.5	<0.5	<0.5	<0.5	--	--	--
	10/28/92	8.73	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	01/19/93	5.86	86	1.2	0.7	2.7	15	--	--	--
	04/29/93	7.02	<50	<0.5	<0.5	<0.5	<0.5	--	--	--

# CAMBRIA

**Table 2. Analytical Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)**

Well ID (Qtrs Sampled)	Date	Depth to Water (ft)	TPH-G ←	B	T	E	X	MTBE →	HDM Units (units/L)	DO (mg/L)
			micrograms per liter (µg/L)							
	04/29/93 <sup>dnp</sup>	7.02	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	07/22/93	7.76	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	10/21/93	8.53	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	01/04/94	7.92	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	01/26/95	5.73	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	07/28/95	7.80	--	--	--	--	--	--	--	--
	01/10/96	8.26	<50	1.0	2.8	<0.5	2.1	--	--	2.8
	07/23/96	8.18	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	3.8
	12/10/96	7.04	--	--	--	--	--	--	--	3.9
	02/20/97	7.07	<50	<0.50	<0.50	<0.50	<0.50	6.7	--	5.0
	05/22/97	6.63	--	--	--	--	--	--	--	0.8
	08/22/97	7.69	--	--	--	--	--	--	--	3.7
	11/03/97	8.26	--	--	--	--	--	--	--	1.3
	<b>02/20/98</b>	<b>5.57</b>	<b>130</b>	<b>6.9</b>	<b>4.6</b>	<b>5.2</b>	<b>17</b>	<b>2.5</b>	<b>--</b>	<b>1.8</b>
S-5 (All)	05/13/91 <sup>SPH</sup>	14.60	--	--	--	--	--	--	--	--
	08/23/91 <sup>SPH</sup>	15.14	--	--	--	--	--	--	--	--
	11/07/91 <sup>SPH</sup>	15.10	--	--	--	--	--	--	--	--
	01/28/92 <sup>SPH</sup>	14.05	--	--	--	--	--	--	--	--
	05/06/92 <sup>SPH</sup>	14.31	--	--	--	--	--	--	--	--
	07/29/92 <sup>SPH</sup>	14.26	--	--	--	--	--	--	--	--
	10/28/92 <sup>SPH</sup>	14.22	--	--	--	--	--	--	--	--
	01/19/93 <sup>SPH</sup>	12.36	--	--	--	--	--	--	--	--
	04/29/93 <sup>SPH</sup>	9.64	--	--	--	--	--	--	--	--
	07/22/93 <sup>SPH</sup>	9.55	--	--	--	--	--	--	--	--
	10/21/93 <sup>SPH</sup>	11.23	--	--	--	--	--	--	--	--
	01/04/94 <sup>SPH</sup>	11.69	--	--	--	--	--	--	--	--
	07/25/94 <sup>SPH</sup>	12.01	--	--	--	--	--	--	--	--
	10/10/94 <sup>SPH</sup>	12.05	--	--	--	--	--	--	--	--
	01/26/95 <sup>SPH</sup>	9.80	--	--	--	--	--	--	--	--



# CAMBRIA

**Table 2. Analytical Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)**

Well ID (Qtrs Sampled)	Date	Depth to Water (ft)	TPH-G ←	B ←	T ←	E ←	X ←	MTBE ←	HDM Units (units/L)	DO (mg/L)
	04/21/95 <sup>SPH</sup>	10.03	--	--	--	--	--	--	--	--
	07/28/95 <sup>SPH</sup>	11.42	--	--	--	--	--	--	--	--
	10/31/95 <sup>SPH</sup>	--	--	--	--	--	--	--	--	--
	01/10/96 <sup>SPH</sup>	12.05	--	--	--	--	--	--	--	--
	04/25/96 <sup>SPH</sup>	9.68	--	--	--	--	--	--	--	--
	07/23/96	9.82	--	--	--	--	--	--	--	--
	12/10/96 <sup>SPH</sup>	9.10	270,000	8,800	29,000	5,200	37,000	<2,500	--	--
	12/10/96 <sup>dup</sup>	9.10	400,000	9,200	32,000	7,200	50,000	<2,500	--	--
	05/22/97 <sup>SPH</sup>	--	--	--	--	--	--	--	--	--
	02/20/97	8.93	88,000	2,000	11,000	1,600	19,000	<500	--	5.0
	08/22/97 <sup>SPH</sup>	10.24	--	--	--	--	--	--	--	--
	11/03/97 <sup>SPH</sup>	10.91	--	--	--	--	--	--	--	--
	02/20/98 <sup>SPH</sup>	7.81	--	--	--	--	--	--	--	--
S-6 (1st & 3rd)	05/13/91	7.82	13,000	600	140	210	310	--	--	--
	08/23/91	9.58	9,800	480	80	120	150	--	--	--
	11/07/91	10.86	6,200	240	23	25	27	--	--	--
	01/28/92	8.97	5,600	250	15	41	36	--	--	--
	05/06/92	8.27	7,100	330	29	110	210	--	--	--
	07/29/92	9.57	13,000	240	<50	56	780	--	--	--
	10/28/92	8.90	10,000	470	210	67	170	--	--	--
	01/19/93	4.84	4,800	100	26	27	45	--	--	--
	04/29/93	5.61	7,000	430	20	<12.5	42	--	--	--
	07/22/93	6.56	5,800	260	120	65	150	--	--	--
	10/21/93	8.73	5,500	270	69	120	140	--	--	--
	01/04/94	7.14	7,100	180	58	63	62	--	--	--
	07/25/94	6.85	12,000	190	52	30	39	--	--	--
	07/25/94 <sup>dup</sup>	6.85	7,200	170	32	31	34	--	--	--
	01/26/95	4.89	5,800	120	23	24	44	--	--	--
	07/28/95	5.30	4,400	210	23	34	60	--	--	3.0

# CAMBRIA

**Table 2. Analytical Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)**

Well ID (Qtrs Sampled)	Date	Depth to Water (ft)	TPH-G ←	B	T ← micrograms per liter (µg/L)	E ←	X	MTBE →	HDM Units (units/L)	DO (mg/L)
	07/28/95 <sup>dup</sup>	5.30	6,100	230	20	38	59	--	--	3.0
	01/10/96	5.67	6,800	170	87	35	105	--	--	2.2
	01/10/96 <sup>dup</sup>	5.67	7,800	230	120	50	210	--	--	2.2
	07/23/96	5.40	2,600	170	<0.5	<0.5	8.5	<25	--	1.4
	12/10/96	6.68	--	--	--	--	--	--	--	0.7
	02/20/97	5.70	6,300	160	7.7	14	31	77	--	2.0
	05/22/97	5.49	--	--	--	--	--	--	--	0.9
	08/22/97	5.71	6,200	160	26	15	27	49	--	2.8
	11/03/97	6.15	--	--	--	--	--	--	--	1.4
	02/20/98	5.25	4,100	150	<10	<10	15	55	--	0.4
S-7 (All)	05/13/91	10.56	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	08/23/91	11.16	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	11/07/91	11.48	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	01/28/92	10.72	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	05/06/92	10.34	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	07/29/92	11.13	160	<0.5	<0.5	<0.5	<0.5	--	--	--
	10/28/92	11.52	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	01/19/93	8.68	50	1.1	0.6	1.9	9.2	--	--	--
	04/29/93	9.90	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	07/22/93 <sup>d</sup>	--	--	--	--	--	--	--	--	--
	10/21/93	11.10	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	01/04/94	10.40	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	04/13/94	10.20	<50	1.4	0.61	<0.5	0.64	--	--	--
	04/13/94 <sup>dup</sup>	10.20	<50	1.4	0.61	<0.5	0.66	--	--	--
	07/25/94	10.48	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	10/10/94 <sup>e</sup>	10.64	<50	<0.5	<0.5	<0.5	<0.5	--	10 <sup>3</sup> to 10 <sup>5</sup> <sup>ab</sup>	4.6
	01/26/95	7.75	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	04/21/95	8.51	<50	<0.5	<0.5	<0.5	<0.5	--	--	3.0
	07/28/95	10.20	<50	<0.5	<0.5	<0.5	<0.5	--	--	4.9
	10/31/95	10.86	<50	<0.5	<0.5	<0.5	<0.5	--	--	--

# CAMBRIA

**Table 2. Analytical Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)**

Well ID (Qtrs Sampled)	Date	Depth to Water (ft)	TPH-G ←	B	T	E	X	MTBE →	HDM Units (units/L)	DO (mg/L)
micrograms per liter (µg/L)										
	01/10/96	10.33	<50	<0.5	2.0	<0.5	2.6	---	---	7.6
	04/25/96	9.13	<50	<0.5	<0.5	<0.5	<0.5	<2.5	10 <sup>0</sup> to 10 <sup>5</sup> ab	6.2
	07/23/96	10.18	<50	<0.5	<0.5	<0.5	<0.5	14	10 <sup>0</sup> f	3.7
	12/10/96	9.04	<50	<0.5	<0.5	<0.5	<0.5	<2.5	---	4.6
	02/20/97	9.60	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	5.0
	05/22/97	10.63	<50	1.3	<0.50	<0.50	<0.50	5.5	---	0.8
	08/22/97	10.95	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	2.6
	11/03/97	11.29	<50	2.2	1.7	0.58	3.4	<2.5	---	2.6
	02/20/98	7.75	350	23	13	14	42	38	---	4.6
Trip Blank	01/28/92		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/29/93		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/22/93		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/21/93		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/04/94		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/13/94		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/25/94		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/10/94		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/26/95		<50	<0.5	0.7	<0.5	<0.5	---	---	---
	04/21/95		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/28/95		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/31/95		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
MCLs			NE	1	150	700	1,750	NE	---	---

**Table 2. Analytical Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)**

**Abbreviations:**

TPH-G = Total petroleum hydrocarbons as gasoline 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  
 MTBE = Methyl tertiary butyl ether by Method 8020. Results in parentheses indicates MTBE by EPA Method 8260  
 <n = Not detected at detection limits of n µg/L  
 HDM = Hydrocarbon degrading microbes  
 dup = Duplicate sample  
 SPH = Separate-phase hydrocarbons detected, no sample collected  
 DO = Dissolved oxygen  
 µg/L = Micrograms per liter  
 mg/L = Milligrams per liter  
 MCL = California primary maximum contaminant level for drinking water (22 CCR 64444)  
 NE = MCL not established  
 --- = Data not available/Not analyzed  
 ft = Feet

**Notes:**

a = Simple method  
 b = Estimated number  
 c = Compounds detected and calculated as gasoline are not characteristic of the standard gasoline chromatographic pattern  
 d = Well inaccessible  
 e = Sample analyzed for total dissolved solids (450 mg/L)  
 f = Estimated BTEX degrading units per liter

CAMBRIA

**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

March 23, 1998

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

Attn: Alex Perez

Shell WIC #204-0079-0109  
999 San Pablo Avenue  
Albany, California

1st Quarter 1998

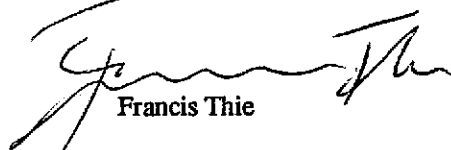
## Groundwater Monitoring Report 980220-C-1

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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,



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 Feinemen

(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 IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-1	02/20/98	TOB	--	NONE	--	--	6.09	11.78
S-2	02/20/98	TOB	--	NONE	--	--	6.34	12.06
S-3*	02/20/98	TOB	--	NONE	--	--	6.55	12.13
S-4	02/20/98	TOB	--	NONE	--	--	5.57	14.16
S-5	02/20/98	TOB	FREE PRODUCT	7.78	0.03	--	7.81	--
S-6	02/20/98	TOB	ODOR	NONE	--	--	5.25	15.08
S-7	02/20/98	TOB	--	NONE	--	--	7.73	14.99

\* Sample DUP was a duplicate taken at Well S-3



# SHELL OIL PRODUCTS COMPANY CHAIN OF CUSTODY RECORD

WIC OR FACILITY ID: 20400790109 Date: 2/20/98 Page 1 of 2

Site Address: 999 San Pablo  
 Consultant/Contact: BTS  
 Address: 1480 Roberts Ave  
 Phone: (408) 573-0555  
 Shell Engineer: A. Perez

Waste Protocol Number: 10:05

Sampled by: C. McIntire

UST Agency: C. McIntire

Field Sample ID

Turn Around Time:  24 hrs.  48 hrs.  15 days (Normal)  Other

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)	MBTEX (8021)	BTEX (8021)	TPH-P (8015m)	TPH-E (8015m)	TPH-X (8015m)	TRPH (418.1)	MBTEX (8260)	VOCs (8260) (specify)	SVOCs (8270) (specify)	Lead (specify)	Test for Disposal	Other (specify)	
1	5111:52			0	0	03														
2	5213:00			0	0	03														
3	5312:12			0	0	03														
4	5411:35			0	0	03														
5	5612:35			0	0	03														
6	5711:18			0	0	03														

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

LAB USE ONLY  
 Lab Tracking No.: 4802F76  
 Sample Condition/Comments

Cooler Temperature:  
 Material Description:

Relinquished By (signature): [Signature] Date: 2/23/98 Received By (signature): Nick Costar Date: 2/23

Relinquished By (signature): [Signature] Date: 10:35:15 Received By (signature): [Signature] Date: 10:35

Relinquished By (signature): [Signature] Date: 2/23/98 Received By (signature): [Signature] Date: 12/18

Relinquished By (signature): [Signature] Date: 2/23/98 Received By (signature): [Signature] Date: 12/18

Printed Name: Nick Costar Date: 2/23

Printed Name: Nick Costar Date: 10:35

Printed Name: Faraforansky Date: 2/23/98

Printed Name: Faraforansky Date: 12/18

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

SHS CHAIN OF CUSTODY  
 REVISED 12/97

Comments





# SHELL OIL PRODUCTS COMPANY CHAIN OF CUSTODY RECORD

WIC OR FACILITY ID: <b>20400790109</b>		Date: <b>2/20/98</b>		Results to: <input checked="" type="radio"/> Consult <input type="radio"/> Shell	Page <b>2</b> of <b>2</b>
Site Address: <b>999 San Pablo</b>		Lab: <b>SEQR-CA</b>		CLASS TYPE/DETAIL TYPE Select one only <input type="radio"/> Site Invest (4441) <input type="radio"/> Wtr Rem/Sys (4453) <input type="radio"/> Soil Clas/Disp (4442) <input checked="" type="radio"/> G.W. Monitor (4461) <input type="radio"/> Wtr Clas/Disp (4443) <input type="radio"/> Other <input type="radio"/> Soil/Air Rem/Sys (4452)	
Consultant/Contact: <b>BTS</b>		TURN AROUND TIME <input type="radio"/> 24 hrs. <input type="radio"/> 48 hrs. <input type="radio"/> 15 days (Normal) <input type="radio"/> Other		SAMPLE MATRIX Select one only <input checked="" type="radio"/> Water <input type="radio"/> NAPL <input type="radio"/> Sludge <input type="radio"/> Sediment <input type="radio"/> Soil <input type="radio"/> Vapor <input type="radio"/> Bedrock <input type="radio"/> Other	
Address: <b>1680 KOEBS AVE</b>		<b>Analysis Required</b>		LAB USE ONLY Lab Tracking No.: <b>1802F76</b>	
Phone: <b>(408) 573-0555</b>		Total No. Containers <b>03</b>		Sample Condition/Comments <b>7</b>	
Shell Engineer: <b>H. Perez</b>		Cmt. Sz. (40ml) <input checked="" type="radio"/> <b>03</b>		Cooler Temperature: <input type="checkbox"/>	
Waste Protocol Number <b>10:05</b>		Cmt. Sz. - Other <input checked="" type="radio"/> <b>03</b>		Material Description	
Start Time (military) <b>10:05</b>		Acid pres. <input checked="" type="radio"/>		Composites? <input checked="" type="radio"/>	
Sampled by		Composite?		Test for Disposal (specify)	
UST Agency:		Sample Time (military)		Lead (specify)	
Field Sample ID <b>CB</b>		<b>DUP</b>		SVOCS (8270) (specify)	
				VOCs (8260) (specify)	
				MBTEX (8260)	
				TRPH (418.1)	
				TPH-xx (8015m)	
				TPH-E (8015m)	
				TPH-P (8015m)	
				BTEX (8021)	
				MBTEX (8021)	
				TPH-P/BTEX (8015/8021)	
				TPH-P/MBTEX (8015/8021)	

Relinquished By (signature): <i>[Signature]</i>	Printed Name: <b>C. McIntire</b>	Date: <b>2/23</b>
Relinquished By (signature): <i>[Signature]</i>	Printed Name: <b>Nick Costop</b>	Date: <b>2/23</b>
Relinquished By (signature): <i>[Signature]</i>	Printed Name: <b>Tanafasly</b>	Date: <b>2/23/98</b>
Relinquished By (signature): <i>[Signature]</i>	Printed Name: <b>Nick Costop</b>	Date: <b>2/23</b>
Relinquished By (signature): <i>[Signature]</i>	Printed Name: <b>Nick Costop</b>	Date: <b>2/23</b>
Relinquished By (signature): <i>[Signature]</i>	Printed Name: <b>Nick Costop</b>	Date: <b>2/23</b>

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

BY IMTRAN SHELL CHAIN OF CUSTODY REVISED 12/97



Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell 999 San Pablo Sample Descript: S1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9802F76-01	Sampled: 02/20/98 Received: 02/23/98 Analyzed: 03/04/98 Reported: 03/10/98
--	--	---

GC Batch Number: GC030498BTEX06A  
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:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	80

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Peggy Penner  
Project Manager





Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112

Client Proj. ID: Shell 999 San Pablo  
Sample Descript: S2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9802F76-02

Sampled: 02/20/98  
Received: 02/23/98  
Analyzed: 03/04/98  
Reported: 03/10/98

QC Batch Number: GC030498BTEX06A  
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	450
Methyl t-Butyl Ether	2.5	35
Benzene	0.50	28
Toluene	0.50	1.3
Ethyl Benzene	0.50	7.4
Xylenes (Total)	0.50	12
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	88

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Peggy Penner  
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell 999 San Pablo Sample Descript: S3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9802F76-03	Sampled: 02/20/98 Received: 02/23/98 Analyzed: 03/04/98 Reported: 03/10/98
Attention: Fran Thie		

QC Batch Number: GC030498BTEX01A  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	3400
Methyl t-Butyl Ether	50	85
Benzene	10	N.D.
Toluene	10	N.D.
Ethyl Benzene	10	14
Xylenes (Total)	10	18
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
		96

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell 999 San Pablo Sample Descript: S4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9802F76-04	Sampled: 02/20/98 Received: 02/23/98 Analyzed: 03/04/98 Reported: 03/10/98
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QC Batch Number: GC030498BTEX01A  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	130
Methyl t-Butyl Ether	2.5	2.8
Benzene	0.50	6.9
Toluene	0.50	4.6
Ethyl Benzene	0.50	5.2
Xylenes (Total)	0.50	17
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	81

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Peggy Penner  
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell 999 San Pablo Sample Descript: S6 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9802F76-05	Sampled: 02/20/98 Received: 02/23/98 Analyzed: 03/04/98 Reported: 03/10/98
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GC Batch Number: GC030498BTEX01A  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	4100
Methyl t-Butyl Ether	50	55
Benzene	10	150
Toluene	10	N.D.
Ethyl Benzene	10	N.D.
Xylenes (Total)	10	15
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Eggy Penner  
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell 999 San Pablo Sample Descript: S7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9802F76-06	Sampled: 02/20/98 Received: 02/23/98 Analyzed: 03/04/98 Reported: 03/10/98
Attention: Fran Thie		

QC Batch Number: GC030498BTEX01A  
Instrument ID: GCHP01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	350
Methyl t-Butyl Ether	2.5	3.8
Benzene	0.50	23
Toluene	0.50	13
Ethyl Benzene	0.50	14
Xylenes (Total)	0.50	42
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
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





Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell 999 San Pablo  
Sample Descript: EB  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9802F76-07

Sampled: 02/20/98  
Received: 02/23/98

Analyzed: 03/05/98  
Reported: 03/10/98

QC Batch Number: GC030598BTEX01A  
Instrument ID: GCHP01

**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:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	79

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager







Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell 999 San Pablo Sample Descript: DUP Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9802F76-08	Sampled: 02/20/98 Received: 02/23/98 Analyzed: 03/06/98 Reported: 03/10/98
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QC Batch Number: GC030698BTEX01A  
Instrument ID: GCHP-01

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	3100
Methyl t-Butyl Ether	25	57
Benzene	5.0	8.6
Toluene	5.0	7.8
Ethyl Benzene	5.0	12
Xylenes (Total)	5.0	16
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	112

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Peggy Penner  
Project Manager





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

Client Project ID: Shell 999 San Pablo  
Matrix: Liquid

Work Order #: 9802F76 -01-02

Reported: Mar 18, 1998

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC030498BTEX06A	GC030498BTEX06A	GC030498BTEX06A	GC030498BTEX06A	GC030498BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9802F4102	9802F4102	9802F4102	9802F4102	9802F4102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Analyzed Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Instrument I.D.#:	GCHP06	GCHP06	GCHP06	GCHP06	GCHP06
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.8	10	10	30	52
MS % Recovery:	98	100	100	100	87
Dup. Result:	11	11	11	33	56
MSD % Recov.:	110	110	110	110	93
RPD:	12	9.5	9.5	9.5	7.4
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK030498	BLK030498	BLK030498	BLK030498	BLK030498
Prepared Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Analyzed Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Instrument I.D.#:	GCHP06	GCHP06	GCHP06	GCHP06	GCHP06
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	11	11	11	33	56
LCS % Recov.:	110	110	110	110	93

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

9802F76.BLA <1>





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

Client Project ID: Shell 999 San Pablo  
Matrix: Liquid

Work Order #: 9802F76-03-06

Reported: Mar 18, 1998

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC030498BTEX01A	GC030498BTEX01A	GC030498BTEX01A	GC030498BTEX01A	GC030498BTEX01A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9802F4102	9802F4102	9802F4102	9802F4102	9802F4102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Analyzed Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Instrument I.D.#:	GCHP01	GCHP01	GCHP01	GCHP01	GCHP01
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	10	10	10	31	80
MS % Recovery:	100	100	100	103	133
Dup. Result:	9.4	9.3	9.5	30	73
MSD % Recov.:	94	93	95	100	122
RPD:	6.2	7.3	5.1	3.3	9.2
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK030498	BLK030498	BLK030498	BLK030498	BLK030498
Prepared Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Analyzed Date:	3/4/98	3/4/98	3/4/98	3/4/98	3/4/98
Instrument I.D.#:	GCHP01	GCHP01	GCHP01	GCHP01	GCHP01
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.6	9.5	9.7	30	75
LCS % Recov.:	96	95	97	100	125

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

9802F76.BLA <2>





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

Client Project ID: Shell 999 San Pablo  
Matrix: Liquid

Work Order #: 9802F76-07

Reported: Mar 18, 1998

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC030598BTEX01A	GC030598BTEX01A	GC030598BTEX01A	GC030598BTEX01A	GC030598BTEX01A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9802G9201	9802G9201	9802G9201	9802G9201	9802G9201
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/5/98	3/5/98	3/5/98	3/5/98	3/5/98
Analyzed Date:	3/5/98	3/5/98	3/5/98	3/5/98	3/5/98
Instrument I.D.#:	GCHP01	GCHP01	GCHP01	GCHP01	GCHP01
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	8.9	9.1	9.1	28	71
MS % Recovery:	89	91	91	93	118
Dup. Result:	9.8	9.9	9.9	30	78
MSD % Recov.:	98	99	99	100	130
RPD:	9.6	8.4	8.4	6.9	9.4
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK030598	BLK030598	BLK030598	BLK030598	BLK030598
Prepared Date:	3/5/98	3/5/98	3/5/98	3/5/98	3/5/98
Analyzed Date:	3/5/98	3/5/98	3/5/98	3/5/98	3/5/98
Instrument I.D.#:	GCHP01	GCHP01	GCHP01	GCHP01	GCHP01
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.9	9.9	10	31	78
LCS % Recov.:	99	99	100	103	130

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

**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

9802F76.BLA <3>

**SEQUOIA ANALYTICAL**

Peggy Penner  
Project Manager





# Sequoia Analytical

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

Client Project ID: Shell 999 San Pablo  
Matrix: Liquid

Work Order #: 9802F76-08

Reported: Mar 18, 1998

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
<b>QC Batch#:</b>	GC030698BTEX01A	GC030698BTEX01A	GC030698BTEX01A	GC030698BTEX01A	GC030698BTEX01A
<b>Analy. Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
<b>Prep. Method:</b>	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
<b>Analyst:</b>	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
<b>MS/MSD #:</b>	9802J2903	9802J2903	9802J2903	9802J2903	9802J2903
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	3/6/98	3/6/98	3/6/98	3/6/98	3/6/98
<b>Analyzed Date:</b>	3/6/98	3/6/98	3/6/98	3/6/98	3/6/98
<b>Instrument I.D.#:</b>	GCHP01	GCHP01	GCHP01	GCHP01	GCHP01
<b>Conc. Spiked:</b>	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
<b>Result:</b>	9.9	9.8	9.9	30	77
<b>MS % Recovery:</b>	99	98	99	100	128
<b>Dup. Result:</b>	9.8	9.7	9.9	30	77
<b>MSD % Recov.:</b>	98	97	99	100	128
<b>RPD:</b>	1.0	1.0	0.0	0.0	0.0
<b>RPD Limit:</b>	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK030698	BLK030698	BLK030698	BLK030698	BLK030698
<b>Prepared Date:</b>	3/6/98	3/6/98	3/6/98	3/6/98	3/6/98
<b>Analyzed Date:</b>	3/6/98	3/6/98	3/6/98	3/6/98	3/6/98
<b>Instrument I.D.#:</b>	GCHP01	GCHP01	GCHP01	GCHP01	GCHP01
<b>Conc. Spiked:</b>	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
<b>LCS Result:</b>	9.7	9.6	9.8	30	76
<b>LCS % Recov.:</b>	97	96	98	100	127

<b>MS/MSD</b>	60-140	60-140	60-140	60-140	60-140
<b>LCS</b>	70-130	70-130	70-130	70-130	70-130
<b>Control Limits</b>					

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

9802F76.BLA <4>





Sequoia  
Analytical

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FAX (916) 921-0100

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

Client Proj. ID: Shell 999 San Pablo

Received: 02/23/98

Lab Proj. ID: 9802F76

Reported: 03/10/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 17 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

