



ENVIRONMENTAL  
PROTECTION

57 APR -2 PM 2: 20

March 24, 1997

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

Re: **Fourth Quarter 1996 Quarterly Monitoring Report**  
Shell Service Station  
1784 150th Avenue  
San Leandro, California  
WIC #204-6852-1404

Dear Mr. Seery:

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.

#### **Fourth Quarter 1996 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 analytic results is included as Attachment A. Weiss Associates submitted a soil vapor survey report on November 15, 1996. Cambria calculated ground water elevations (Table 1), compiled the analytic data (Table 2) and prepared a ground water elevation contour map (Figure 1).

The Shell Refining and Environmental Analytical Chemistry Department at Westhollow Technology Center determined that a liquid-phase hydrocarbon sample collected at this site on December 17, 1996 consisted of severely weathered gasoline-range hydrocarbons (Attachment B).

#### **Anticipated First Quarter 1997 Activities**

Cambria will submit a report presenting a summary of activities for the upcoming quarter.

CAMBRIA

ENVIRONMENTAL

TECHNOLOGY, INC.

1144 65TH STREET,

SUITE B

OAKLAND,

CA 94608

PH: (510) 420-0700

FAX: (510) 420-9170

Scott Seery  
March 24, 1997

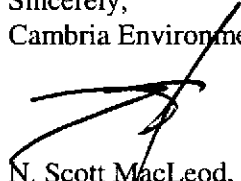
CAMBRIA

**Discussion**

Since 0.25 ft. of separate-phase hydrocarbons (SPH) were detected in well MW-2 this quarter, Cambria will install a passive SPH skimmer to recover any additional SPH that may accumulate during upcoming quarters.

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

Sincerely,  
Cambria Environmental Technology, Inc.



N. Scott MacLeod, R.G.  
Principal Geologist



Attachments: A - Blaine Quarterly Ground Water Monitoring Report  
B - Liquid-Phase Hydrocarbon Analysis

cc: A. E. (Alex) Perez, Shell Oil Products Company, P.O. Box 4023 Concord, California 94524

F:\PROJECT\SHELL\SNL1784\QM4Q96QM.WPD

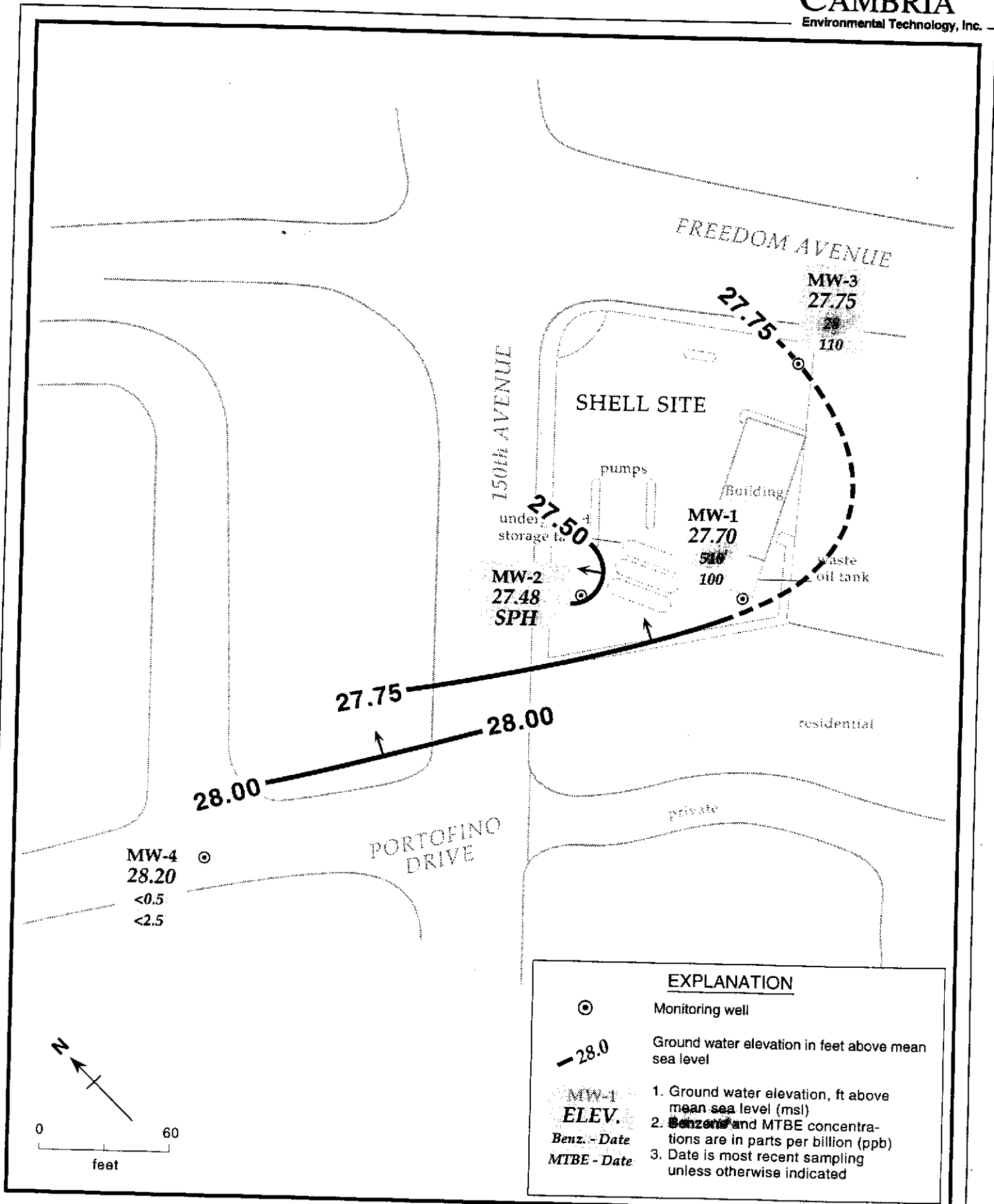


Figure 1 . Ground Water Elevation Contours - December 10, 1996 - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California

**Table 1. Ground Water Elevations - Shell Service Station WIC #204-6852-1404, 1784  
150th Avenue, San Leandro, California**

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
MW-1	03/08/90	49.13	25.29	---	23.84
	06/12/90		25.85	---	23.28
	09/13/90		27.49	---	21.64
	12/18/90		27.41	---	21.72
	03/07/91		25.79	---	23.34
	06/07/91		25.64	---	23.49
	09/17/91		27.54	---	21.59
	12/09/91		27.81	---	21.32
	02/13/92		25.57	---	23.56
	02/24/92		22.83	---	26.30
	02/27/92		23.09	---	26.04
	03/01/92		23.26	---	25.87
	06/03/92		24.64	---	24.49
	09/01/92		26.74	---	22.39
	10/06/92		27.18	---	21.95
	11/11/92		27.99	---	21.14
	12/04/92		27.14	---	21.99
	01/22/93		20.09	---	29.04
	02/10/93		24.26	---	24.87
	03/03/93		20.50	---	28.63
	05/11/93		21.70	---	27.43
	06/17/93		22.42	---	26.71
	09/10/93		24.11	---	25.02
	12/13/93		23.73	---	25.40
	03/03/94		22.08	---	27.05
	06/06/94		23.10	---	26.03
	09/12/94		25.19	---	23.94
	12/19/94		23.06	---	26.07
	02/28/95		20.90	---	28.23
	03/24/95		18.28	---	30.85
	06/26/95		20.40	---	28.73
	09/13/95		22.62	---	26.51
12/19/95	22.10	---	27.03		
03/07/96	18.83	---	0.05	30.34	
06/28/96	21.46	---	---	27.67	
09/26/96	23.57	---	0.01	25.57	
	<b>12/10/96</b>		<b>21.43</b>	<b>---</b>	<b>27.70</b>
MW-2	02/13/92	45.63	22.22	---	23.61
	02/24/92		19.61	---	26.22
	02/27/92		19.92	---	25.91
	03/01/92		21.11	---	24.72
	06/03/92		21.58	---	24.25
	09/01/92		23.46	---	22.37

**Table 1. Ground Water Elevations - Shell Service Station WIC #204-6852-1404, 1784  
150th Avenue, San Leandro, California (continued)**

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
	10/06/92		23.99	---	21.84
	11/11/92		24.25	---	21.58
	12/04/92		23.89	---	21.94
	01/22/93		17.03	---	28.80
	02/10/93		18.08	---	27.75
	03/03/93		17.28	---	28.55
	05/11/93		18.41	---	27.42
	06/17/93		19.06	---	26.77
	09/10/93		20.88	---	24.95
	12/13/93		20.42	---	25.41
	03/03/94		18.48	---	27.35
	06/06/94		20.26	---	25.57
	09/12/94		21.80	---	24.03
	12/19/94		19.66	---	26.17
	02/28/95		17.51	---	28.32
	03/24/95		14.88	---	30.95
	06/26/95		17.58	---	28.25
	09/13/95		19.28	---	26.55
	12/19/95		18.61	---	27.22
	03/06/96		15.41	---	30.42
	06/28/96		17.84	---	27.99
	09/26/96		19.60	---	26.23
	<b>12/10/96</b>		<b>18.15</b>	<b>0.25</b>	<b>27.48</b>
MW-3	02/13/92	51.97	27.97	---	24.00
	02/24/92		25.60	---	26.37
	02/27/92		25.88	---	26.09
	03/01/92		26.00	---	25.97
	06/03/92		27.70	---	24.27
	09/01/92		29.46	---	22.51
	10/06/92		30.01	---	21.96
	11/11/92		30.26	---	21.71
	12/04/92		29.93	---	22.04
	01/22/93		22.76	---	29.21
	02/10/93		21.40	---	30.57
	03/03/93		23.08	---	28.89
	05/11/93		24.51	---	27.46
	06/17/93		25.21	---	26.76
	09/10/93		26.95	---	25.02
	12/13/93		26.52	---	25.45
	03/03/94		24.50	---	27.47
	06/06/94		26.33	---	25.64
	09/12/94		27.98	---	23.99
	12/19/94		25.63	---	26.34

**Table 1. Ground Water Elevations - Shell Service Station WIC #204-6852-1404, 1784  
150th Avenue, San Leandro, California (continued)**

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation <sup>a</sup> (ft above msl)
	02/28/95		23.45	---	28.52
	03/24/95		21.07	---	30.90
	06/26/95		23.64	---	28.33
	09/13/95		25.40	---	26.57
	12/19/95		24.53	---	27.44
	03/07/96		21.59	0.04	30.41
	06/28/96		23.95	---	28.02
	09/26/96		25.89	---	26.08
	<b>12/10/96</b>		<b>24.22</b>	<b>---</b>	<b>27.75</b>
MW-4	03/24/95	40.51	9.16	---	31.35
	06/26/95		12.06	---	28.45
	09/13/95		13.90	---	26.61
	12/19/95		12.90	---	27.61
	03/06/96		9.63	---	30.88
	06/28/96		12.30	---	28.21
	09/26/96		14.12	---	26.39
	<b>12/10/96</b>		<b>12.31</b>	<b>---</b>	<b>28.20</b>

a = ground water elevation = top of casing - (.8 x separate phase hydrocarbons + depth to water)

**Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California**

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	POG	parts per billion (µg/l)						DO (mg/L)
						B	E	T	X	1,2-DCA	MTBE	
MW-1	03/08/90	25.29	510	120 <sup>a</sup>	<10,000	1.5	<0.5	0.8	5.4	12	---	---
	06/12/90	25.85	390	100 <sup>a</sup>	<10,000	86	0.7	1.3	6.2	<0.4 <sup>c</sup>	---	---
	09/13/90	27.49	100	130 <sup>a</sup>	<10,000	56	2.4	0.75	2.8	<0.4 <sup>b</sup>	---	---
	12/18/90	27.41	480	<50 <sup>a</sup>	<10,000	54	3.3	1.7	3.7	5.3	---	---
	03/07/91	25.79	80	<50 <sup>a</sup>	---	266	1.2	<0.5	<1.5	6.7	---	---
	06/07/91	25.64	510	<50 <sup>a</sup>	---	130	6.1	3.8	11	7.9	---	---
	09/17/91	27.54	330	120 <sup>ac</sup>	---	67	3	<0.5	2.2	6	---	---
	12/09/91	27.81	140 <sup>d</sup>	80	---	<0.5	1.7	<0.5	4.7	5.4	---	---
	03/01/92	23.36	<50	<50	---	<0.5	<0.5	<0.5	<0.5	3	---	---
	06/03/92	24.64	1,500	---	---	520	72	180	230	3	---	---
	09/01/92	26.74	130	---	---	16	1.8	1.4	3.4	1.3 <sup>e</sup>	---	---
	12/04/92	27.14	150	---	---	360	1.8	0.7	2.1	3.3	---	---
	03/03/93	20.50	<50	---	---	1.5	<0.5	<0.5	<0.5	0.76	---	---
	06/17/93	22.42	1,600	---	---	340	120	120	440	3	---	---
	09/10/93	24.11	2,600	---	---	670	310	340	730	2.3	---	---
	12/13/93	23.73	11,000	---	---	470	380	320	2,300	6.3	---	---
	03/03/94	22.08	16,000	---	---	700	480	690	3,200	---	---	---
	06/06/94	23.10	7,500	---	---	420	200	280	1,000	3.1	---	---
	09/12/94	25.19	1,200	---	---	110	3.3	21	420	2.6	---	---
	12/19/94	23.06	4,600	---	---	470	230	330	1,300	3.7	---	---
	02/28/95	20.90	500	---	---	59	6.8	32	68	5.0	---	---
	06/26/95	20.40	5,500	---	---	740	300	420	1,800	8.6	---	---
	09/13/95	22.62	84,000	---	---	1,900	3,000	2,600	14,000	12	---	---
	12/19/95	22.10	80,000	---	---	660	170	350	18,000	<0.4	---	---
	03/06/96 <sup>SPH</sup>	---	---	---	---	---	---	---	---	---	---	---
	06/28/96	21.46	270,000	---	---	2,800	1,000	820	16,000	---	<0.5	---
	06/28/96 <sup>DUP</sup>	21.46	790,000	---	---	2,200	1,000	780	13,000	---	15,000	---
	09/26/96	23.57	29,000	---	---	1,100	270	260	1,900	9.8	<1,000	---
	09/26/96 <sup>DUP</sup>	23.57	25,000	---	---	1,200	240	320	1,900	11	<1,000	---
	12/10/96	21.43	13,000	---	---	510	230	240	1,200	16	100	1.0
	12/10/96 <sup>DUP</sup>	21.43	8,400	---	---	420	140	130	680	17	81	1.0

**Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California (continued)**

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	POG	parts per billion (µg/l)					1,2-DCA	MTBE	DO (mg/L)
						B	E	T	X				
MW-2	02/24/92	19.61	17,000	2,700 <sup>c</sup>	---	6,200	550	1,600	1,900	200	---	---	
	03/01/92	21.11	86,000	1,000 <sup>c</sup>	---	30,000	2,300	34,000	16,000	82	---	---	
	06/03/92	21.58	87,000	---	---	28,000	2,000	18,000	10,000	<50	---	---	
	09/01/92	23.46	110,000	---	---	21,000	1,900	13,000	7,800	83 <sup>b</sup>	---	---	
	12/04/92	23.89	42,000	---	---	15,000	960	2,400	2,900	100	---	---	
	03/03/93	17.28	160,000	---	---	36,000	32,000	3,800	21,000	7.7	---	---	
	03/03/93 <sup>h</sup>	17.28	150,000	---	---	31,000	20,000	3,100	14,000	16	---	---	
	06/17/93	19.06	65,000	---	---	34,000	3,200	15,000	11,000	37	---	---	
	06/17/93 <sup>h</sup>	19.06	62,000	---	---	28,000	2,700	14,000	10,000	36	---	---	
	09/10/93 <sup>f</sup>	20.88	72,000	---	---	24,000	2,300	16,000	11,000	28.0	---	---	
	09/10/93 <sup>dup,f</sup>	20.88	71,000	---	---	23,000	2,300	15,000	10,000	27.0	---	---	
	12/13/93	20.42	19,000	---	---	5,400	680	4,900	3,100	<0.5	---	---	
	12/13/93 <sup>dup</sup>		17,000	---	---	6,200	720	5,500	3,500	3.4	---	---	
	03/03/94	18.48	110,000	---	---	21,000	2000	24,000	13,000	---	---	---	
	03/03/94 <sup>dup</sup>	18.48	93,000	---	---	19,000	1,800	22,000	12,000	---	---	---	
	06/06/94	20.26	10,000	---	---	1,900	2,500	3,300	13,000	5.8	---	---	
	06/06/94 <sup>dup</sup>	20.26	99,000	---	---	9,900	2,400	12,000	12,000	5.7	---	---	
	09/12/94	21.80	160,000	---	---	22,000	3,400	33,000	23,000	<0.4	---	---	
	09/12/94 <sup>dup</sup>	21.80	150,000	---	---	23,000	3,500	34,000	23,000	<0.4	---	---	
	12/19/94	19.66	80,000	---	---	17,000	2,300	16,000	14,000	<0.4	---	---	
	12/19/94 <sup>dup</sup>	19.66	100,000	---	---	28,000	3,400	26,000	20,000	<0.4	---	---	
	02/28/95	17.51	100,000	---	---	24,000	2,300	18,000	17,000	<0.4	---	---	
	02/28/95 <sup>dup</sup>	17.51	100,000	---	---	31,000	3,200	21,000	18,000	<0.4	---	---	
	06/26/95	17.58	45,000	---	---	14,000	1,500	12,000	7,500	3.4	---	---	
	06/26/95 <sup>dup</sup>	17.58	68,000	---	---	13,000	1,800	11,000	7,700	---	---	---	
	09/13/95	19.28	110,000	---	---	19,000	2,800	19,000	15,000	7.2	---	---	
	09/13/95 <sup>dup</sup>	19.28	120,000	---	---	20,000	2,900	20,000	15,000	<0.4	---	---	
	12/19/95	18.61	180,000	---	---	18,000	4,100	29,000	24,000	<0.4	---	---	
	12/19/95 <sup>dup</sup>	18.61	160,000	---	---	18,000	3,800	28,000	24,000	<0.4	---	---	
	03/06/96	15.41	120,000	---	---	28,000	3,900	15,000	17,000	<20	---	---	
	06/28/96	17.84	96,000	---	---	20,000	4,100	20,000	22,000	---	2,400	---	
	09/26/96	19.60	87,000	---	---	7,600	2,500	11,000	15,000	56**	990*	---	
	12/10/96 <sup>SPH</sup>	18.15	---	---	---	---	---	---	---	---	---	---	



**Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California (continued)**

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	POG	parts per billion (µg/l)					1,2-DCA	MTBE	DO (mg/L)
						B	E	T	X				
MW-3	02/24/92	25.60	4,500	1,300 <sup>e</sup>	---	97	78	<5	18	9.1	---	---	
	03/01/92	26.00	2,200	440	---	69	<0.5	<0.5	<0.5	13	---	---	
	06/03/92	27.70	4,100	---	---	13	44	72	65	16	---	---	
	09/01/92	29.46	1,900	---	---	20	5.5	6.8	<5	19	---	---	
	09/01/92 <sup>dup</sup>	29.46	1,900	---	---	21	3.4	6.6	<5	21	---	---	
	12/04/92	29.93	2,400	---	---	8.2	<5	<5	<5	16	---	---	
	12/04/92 <sup>dup</sup>	29.93	2,100	---	---	11	5.7	<0.5	<0.5	18	---	---	
	03/03/93	23.08	5,100	---	---	63	75	61	150	3.3	---	---	
	06/17/93	25.21	4,000	---	---	94	82	140	150	23	---	---	
	09/10/93	26.95	3,200	---	---	140	12.5	12.5	12.5	20.0	---	---	
	12/13/93	26.52	6,200	---	---	<12.5	<12.5	<12.5	<12.5	13	---	---	
	03/03/94	24.50	4,500	---	---	73	<5	<5	<5	---	---	---	
	06/06/94	26.33	3,200	---	---	<0.5	3.1	<0.5	<0.5	16	---	---	
	09/12/94	27.98	3,900	---	---	<0.5	9.6	<0.5	4.1	7.8	---	---	
	12/19/94	25.63	2,400	---	---	21	4.2	22	2.6	25	---	---	
	02/28/95	23.45	4,000	---	---	58	7.1	<0.5	3.5	18	---	---	
	06/26/95	23.64	3,900	---	---	8.1	12	<0.5	2.4	15	---	---	
	09/13/95	25.40	4,100	---	---	58	5.5	5.5	<0.5	6.7	---	---	
	12/19/95	24.53	3,600	---	---	<0.5	2.1	4.3	1.1	6.6	---	---	
	03/06/96 <sup>SPH</sup>	---	---	---	---	---	---	---	---	---	---	---	
	06/28/96	23.95	2,400	---	---	55	<0.5	<0.5	11	---	120	---	
09/26/96	25.89	2,500	---	---	<5.0	<5.0	<5.0	<5.0	25	160	---		
<b>12/10/96</b>	<b>24.22</b>	<b>1,600</b>	<b>---</b>	<b>---</b>	<b>28</b>	<b>&lt;2.0</b>	<b>4.2</b>	<b>3.9</b>	<b>34</b>	<b>110</b>	<b>0.8</b>		
MW-4	03/24/95	9.16	<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	
	06/26/95	12.06	<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	
	09/13/95	13.90	<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	
	12/19/95	12.90	<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	
	03/06/96	9.63	<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	
	06/28/96	12.30	40	---	---	<0.5	.97	.59	3.8	---	26	---	
	09/26/96	14.12	<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	---	
	<b>12/10/96<sup>nt</sup></b>	<b>12.31</b>	<b>&lt;50</b>	<b>---</b>	<b>---</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>---</b>	<b>&lt;2.5</b>	<b>1.2</b>	

**Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California (continued)**

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	POG	parts per billion (µg/l)				1,2-DCA	MTBE	DO (mg/L)
						B	E	T	X			
Trip	03/08/90		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
Blank	06/12/90		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/18/90		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/07/91		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	06/07/91		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	09/17/91		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/09/91		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	02/24/92		<50	---	---	<0.5	0.6	2.5	2.2	---	---	---
	03/01/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	06/03/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	09/01/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/04/92		<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.5 <sup>j</sup>	---	---
	03/03/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	---	---
	06/17/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	---	---
	09/10/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	---	---
	12/13/93		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/03/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	<0.5 <sup>k</sup>	---	---
	06/06/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	09/12/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/19/94		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	02/28/95		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
03/24/95		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
06/26/95		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
09/13/95		<50	---	---	4.1	<0.5	3.0	1.5	---	---	---	
12/19/95		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---	
Bailer Blank	03/08/90		<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	09/01/92		<50	---	---	<0.5	<0.5	0.7	<0.5	<0.5	---	---
	12/04/92		60	---	---	<0.5	<0.5	<0.5	<0.5	<0.5 <sup>l</sup>	---	---
DHS MCLs			NE	NE	NE	1	680	100 <sup>l</sup>	1,750	0.5	---	---

**Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California (continued)**

**Abbreviations**

- TPH-G = Total Petroleum Hydrocarbons as Gasoline by Modified EPA Method 8015
- TPH-D = Total Petroleum Hydrocarbons as Diesel by Modified EPA Method 8015
- POG = Petroleum oil and grease by American Public Health Association Standard Method 503E or 5520F
- MTBE = Methyl t-Butyl Ether by EPA Method 8020
- B = Benzene by EPA Method 8020
- E = Ethylbenzene by EPA Method 8020
- T = Toluene by EPA Method 8020
- X = Xylenes by EPA Method 8020
- 1,2-DCA = 1,2-Dichloroethane by EPA Method 8010
- = Not analyzed
- <n = Not detected above method detection limit of n ppb
- DHS MCLs = California Department of Health Services maximum contaminant levels for drinking water
- NE = Not established
- SPH = Seperate-phase hydrocarbons present in well

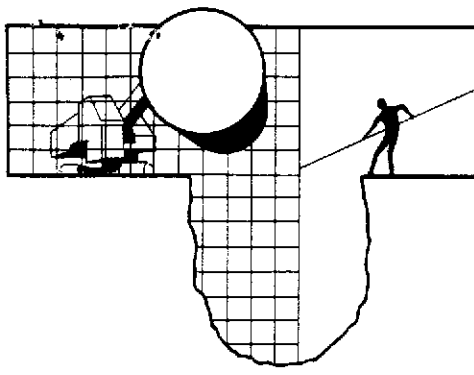
**Notes**

- a = No total petroleum hydrocarbons as motor oil detected above modified EPA Method 8015 detection limit of 500 ppb
- b = Tetrachloroethene (PCE) detected at 24 ppb by EPA Method 601; DHS MCL for PCE = 5 ppb
- c = Result is due to hydrocarbon compounds lighter than diesel
- d = Result due to a non-gasoline hydrocarbon
- e = In the matrix spike/matrix spike duplicate of sample MW-1, the RPD for Freon 113 and 1,3-dichlorobenzene was greater than 25%
- f = The MW-2 and duplicate samples each contained 1.6 ppb of methylene chloride which is within normal laboratory background levels.
- h = Sample MW-2 was diluted 1:100 for EPA Method 8010 due to the interfering hydrocarbon peaks
- j = The trip and bailer blank samples contained 14 and 10 mg/L 1,3-dichlorobenzene, respectively
- k = 1.4 mg/L Chloroethene detected in equipment blank, trip blank not analyzed
- l = DHS recommended action level for drinking water; MCL not established
- m = Tetrachloroethene (PCE) detected at 0.50 ppb by EPA Method 601; DHS MCL for PCE = 5 ppb  
Tetrachloroethene detected at 0.57 ppb by EPA Method 8010
- \* = MTBE confirmed by EPA Method 8260
- \*\* = Result should be considered estimated due to being reported under the detection limit of 125 ppb.

CAMBRIA

**ATTACHMENT A**

Blaine Quarterly Ground Water Monitoring Report



# BLAINE TECH SERVICES INC.

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

January 3, 1996

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

Attn: R. Jeff Granberry

Shell WIC #204-6852-1404  
1784 150th Avenue  
San Leandro, California

4th Quarter 1996

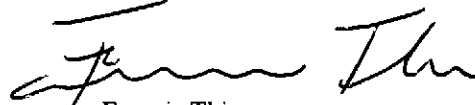
## Quarterly Groundwater Monitoring Report 961210-S-3

---

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

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

Yours truly,



Francis Thie

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

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

(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 *	12/10/96	TOC	SHEEN/ODOR	--	--	--	21.43	44.69
MW-2	12/10/96	TOC	FREE PRODUCT	17.90	0.25	--	18.15	--
MW-3	12/10/96	TOC	--	NONE	--	--	24.22	41.73
MW-4	12/10/96	TOC	--	NONE	--	--	12.31	24.82

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



**SHELL OIL COMPANY**  
**RETAIL ENVIRONMENTAL ENGINEERING - WEST**

**CHAIN OF CUSTODY RECORD**

Serial No: 961210-53

Date: 12/11/96  
 Page 1 of 1

Site Address: 1784 150th Avenue, San Leandro

**Analysis Required**

LAB: SEQUOIA

WIC#: 204-6852-1404

Shell Engineer: R. Jeff Granberry Phone No.: (510) 675-6168  
 Fax #: 675-6172

Consultant Name & Address:  
 Blaine Tech Services, Inc.  
 985 Timothy Dr., San Jose, CA 95133

Consultant Contact: Fran Thie Phone No.: (408) 995-5535  
 Fax #: 293-8773

Comments:

21 = 33

Sampled by: DJ

Printed Name: DOUG SANDERS

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/> 6441		24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 6441		48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/> 6442		16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/> 6443		Other <input type="checkbox"/>
Soil/Air Rem. of Sys. O & M <input type="checkbox"/> 6462		
Water Rem. of Sys. O & M <input type="checkbox"/> 6463		
Other <input type="checkbox"/>		

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

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE	8010	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS	
MW-1	12/10/96			X		6	1	A-F				X	X	X						9612799	
MW-3	12/10/96			X		6	2					X	X	X							
MW-4	12/10/96			X		6	3					X	X	X							
DUP	12/10/96			X		6	4					X	X	X							
EB	12/10/96			X		6	5					X	X	X							

Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>DOUG SANDERS</u>	Date: <u>12/11/96</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>FULTCHER</u>	Date: <u>12/11/96</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name:	Date: <u>12/11/96</u>	Received (signature): <u>[Signature]</u>	Printed Name:	Date:
Relinquished By (signature): <u>[Signature]</u>	Printed Name:	Date:	Received (signature): <u>[Signature]</u>	Printed Name: <u>P. CE</u>	Date: <u>12-11-96</u>

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



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(415) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Blaine Technical Services  
1680 Rogers Avenue  
San Jose, CA 95112  
Attention: Jim Keller

Project: Shell San Leandro/961210-S3

Enclosed are the results from samples received at Sequoia Analytical on December 11, 1996.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9612799 -01	LIQUID, MW-1	12/10/96	8010 Halogenated Volatil
9612799 -01	LIQUID, MW-1	12/10/96	TPGBMW Purgeable TPH/BTEX
9612799 -02	LIQUID, MW-3	12/10/96	8010 Halogenated Volatil
9612799 -02	LIQUID, MW-3	12/10/96	TPGBMW Purgeable TPH/BTEX
9612799 -03	LIQUID, MW-4	12/10/96	8010 Halogenated Volatil
9612799 -03	LIQUID, MW-4	12/10/96	TPGBMW Purgeable TPH/BTEX
9612799 -04	LIQUID, DUP	12/10/96	8010 Halogenated Volatil
9612799 -04	LIQUID, DUP	12/10/96	TPGBMW Purgeable TPH/BTEX
9612799 -05	LIQUID, EB	12/10/96	8010 Halogenated Volatil
9612799 -05	LIQUID, EB	12/10/96	TPGBMW Purgeable TPH/BTEX

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







Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: EPA 8010 Lab Number: 9612799-01	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/19/96 Reported: 12/26/96
---	--	---

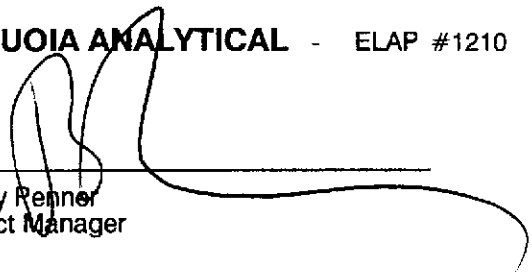
QC Batch Number: GC121796801008A  
 Instrument ID: GCHP08

**Halogenated Volatile Organics (EPA 8010)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	10	N.D.
Bromoform	10	N.D.
Bromomethane	20	N.D.
Carbon Tetrachloride	10	N.D.
Chlorobenzene	10	N.D.
Chloroethane	20	N.D.
2-Chloroethylvinyl ether	20	N.D.
Chloroform	10	N.D.
Chloromethane	20	N.D.
Dibromochloromethane	10	N.D.
1,2-Dichlorobenzene	10	N.D.
1,3-Dichlorobenzene	10	N.D.
1,4-Dichlorobenzene	10	N.D.
1,1-Dichloroethane	10	N.D.
<b>1,2-Dichloroethane</b>	<b>10</b>	<b>16</b>
1,1-Dichloroethene	10	N.D.
cis-1,2-Dichloroethene	10	N.D.
trans-1,2-Dichloroethene	10	N.D.
1,2-Dichloropropane	10	N.D.
cis-1,3-Dichloropropene	10	N.D.
trans-1,3-Dichloropropene	10	N.D.
Methylene chloride	100	N.D.
1,1,2,2-Tetrachloroethane	10	N.D.
Tetrachloroethene	10	N.D.
1,1,1-Trichloroethane	10	N.D.
1,1,2-Trichloroethane	10	N.D.
Trichloroethene	10	N.D.
Trichlorofluoromethane	10	N.D.
Vinyl chloride	20	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	70 130	106

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
 Peggy Renner  
 Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612799-01	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/16/96 Reported: 12/26/96
Attention: Jim Keller		

QC Batch Number: GC121696BTEX06A  
Instrument ID: GCH06

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	13000
Methyl t-Butyl Ether	100	100
Benzene	20	510
Toluene	20	240
Ethyl Benzene	20	230
Xylenes (Total)	20	1200
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	112

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Perner  
Project Manager





Blaine Technical Services	Client Proj. ID: Shell San Leandro/961210-S3	Sampled: 12/10/96
985 Timothy Drive	Sample Descript: MW-3	Received: 12/11/96
San Jose, CA 95133	Matrix: LIQUID	
Attention: Jim Keller	Analysis Method: EPA 8010	Analyzed: 12/19/96
	Lab Number: 9612799-02	Reported: 12/26/96

QC Batch Number: GC121796801008A  
Instrument ID: GCHP08

**Halogenated Volatile Organics (EPA 8010)**

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.
<b>1,2-Dichloroethane</b>	<b>0.50</b>	<b>34</b>
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.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	70                      130	111

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612799-02	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/16/96 Reported: 12/26/96
--	--	---

QC Batch Number: GC121696BTEX18A  
Instrument ID: GCHP18

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	200	1600
Methyl t-Butyl Ether	10	110
Benzene	2.0	28
Toluene	2.0	4.2
Ethyl Benzene	2.0	N.D.
Xylenes (Total)	2.0	3.9
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70                      130	142 Q

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Renner  
Project Manager





Blaine Technical Services	Client Proj. ID: Shell San Leandro/961210-S3	Sampled: 12/10/96
985 Timothy Drive	Sample Descript: MW-4	Received: 12/11/96
San Jose, CA 95133	Matrix: LIQUID	
Attention: Jim Keller	Analysis Method: EPA 8010	Analyzed: 12/19/96
	Lab Number: 9612799-03	Reported: 12/26/96

QC Batch Number: GC121896801008A  
Instrument ID: GCHP08

**Halogenated Volatile Organics (EPA 8010)**

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.
<b>Tetrachloroethene</b>	<b>0.50</b>	<b>0.50</b>
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
<b>Trichloroethene</b>	<b>0.50</b>	<b>0.57</b>
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	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





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: MW-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612799-03	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/16/96 Reported: 12/26/96
Attention: Jim Keller		

QC Batch Number: GC121696BTEX06A  
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	82

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Renner  
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: DUP Matrix: LIQUID Analysis Method: EPA 8010 Lab Number: 9612799-04	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/19/96 Reported: 12/26/96
--	---	---

QC Batch Number: GC121896801008A  
Instrument ID: GCHP08

**Halogenated Volatile Organics (EPA 8010)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	10	N.D.
Carbon Tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	10	N.D.
2-Chloroethylvinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	10	N.D.
Dibromochloromethane	5.0	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
1,1-Dichloroethane	5.0	N.D.
<b>1,2-Dichloroethane</b>	<b>5.0</b>	<b>17</b>
1,1-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis-1,3-Dichloropropene	5.0	N.D.
trans-1,3-Dichloropropene	5.0	N.D.
Methylene chloride	50	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl chloride	10	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	70 130	106

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: DUP Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612799-04	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/16/96 Reported: 12/26/96
Attention: Jim Keller		

QC Batch Number: GC121696BTEX06A  
Instrument ID: GCHP06

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	8400
Methyl t-Butyl Ether	50	81
Benzene	10	420
Toluene	10	130
Ethyl Benzene	10	140
Xylenes (Total)	10	680
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	115

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: EB Matrix: LIQUID Analysis Method: EPA 8010 Lab Number: 9612799-05	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/19/96 Reported: 12/26/96
--	--	---

QC Batch Number: GC121896801008A  
 Instrument ID: GCHP08

**Halogenated Volatile Organics (EPA 8010)**

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.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	70 130	102

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
 Peggy Penner  
 Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell San Leandro/961210-S3 Sample Descript: EB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612799-05	Sampled: 12/10/96 Received: 12/11/96 Analyzed: 12/16/96 Reported: 12/26/96
Attention: Jim Keller		

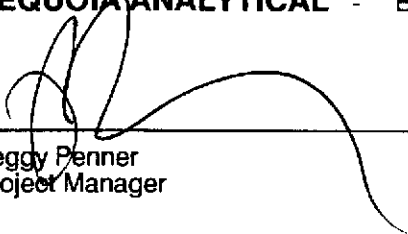
QC Batch Number: GC121696BTEX06A  
Instrument ID: GCHP06

**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	88

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

**SEQUOIA ANALYTICAL** - ELAP #1210




---

Peggy Penner  
Project Manager





**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(415) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Blaine Technical Services  
985 Timothy Drive  
San Jose, CA 95133  
Attention: Jim Keller

Client Proj. ID: Shell San Leandro/961210-S3

Received: 12/11/96

Lab Proj. ID: 9612799

Reported: 12/26/96

### 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





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

Client Project ID: Shell San Leandro / 961210-S3  
Matrix: Liquid

Work Order #: 9612799 -01, 03-05

Reported: Dec 27, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC121696BTEX06A	GC121696BTEX06A	GC121696BTEX06A	GC121696BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	961275103	961275103	961275103	961275103
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/16/96	12/16/96	12/16/96	12/16/96
Analyzed Date:	12/16/96	12/16/96	12/16/96	12/16/96
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	10	31
MS % Recovery:	110	110	100	103
Dup. Result:	11	10	10	31
MSD % Recov.:	110	100	100	103
RPD:	0.0	9.5	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK121696	BLK121696	BLK121696	BLK121696
Prepared Date:	12/16/96	12/16/96	12/16/96	12/16/96
Analyzed Date:	12/16/96	12/16/96	12/16/96	12/16/96
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.8	9.8	9.5	28
LCS % Recov.:	98	98	95	93

MS/MSD	60-140	60-140	60-140	60-140
LCS	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

9612799.BLA < 1 >



<b>Blaine Tech Services, Inc.</b> 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	<b>Client Project ID:</b> Shell San Leandro / 961210-S3 <b>Matrix:</b> Liquid <b>Work Order #:</b> 9612799-02	<b>Reported:</b> Dec 27, 1996
---	---	-------------------------------

**QUALITY CONTROL DATA REPORT**

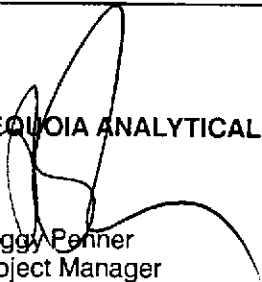
Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
<b>QC Batch#:</b>	GC121696BTEX18A	GC121696BTEX18A	GC121696BTEX18A	GC121696BTEX18A
<b>Analy. Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020
<b>Prep. Method:</b>	EPA 5030	EPA 5030	EPA 5030	EPA 5030

<b>Analyst:</b>	A. Porter	A. Porter	A. Porter	A. Porter
<b>MS/MSD #:</b>	961275103	961275103	961275103	961275103
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	12/16/96	12/16/96	12/16/96	12/16/96
<b>Analyzed Date:</b>	12/16/96	12/16/96	12/16/96	12/16/96
<b>Instrument I.D.#:</b>	GCHP18	GCHP18	GCHP18	GCHP18
<b>Conc. Spiked:</b>	10 µg/L	10 µg/L	10 µg/L	30 µg/L
<b>Result:</b>	12	12	11	34
<b>MS % Recovery:</b>	120	120	110	113
<b>Dup. Result:</b>	11	11	11	32
<b>MSD % Recov.:</b>	110	110	110	107
<b>RPD:</b>	8.7	8.7	0.0	6.1
<b>RPD Limit:</b>	0-25	0-25	0-25	0-25

<b>LCS #:</b>	BLK121696	BLK121696	BLK121696	BLK121696
<b>Prepared Date:</b>	12/16/96	12/16/96	12/16/96	12/16/96
<b>Analyzed Date:</b>	12/16/96	12/16/96	12/16/96	12/16/96
<b>Instrument I.D.#:</b>	GCHP18	GCHP18	GCHP18	GCHP18
<b>Conc. Spiked:</b>	10 µg/L	10 µg/L	10 µg/L	30 µg/L
<b>LCS Result:</b>	11	11	11	34
<b>LCS % Recov.:</b>	110	110	110	113

<b>MS/MSD</b>	60-140	60-140	60-140	60-140
<b>LCS</b>	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

9612799.BLA <2>





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

Client Project ID: Shell San Leandro / 961210-S3  
Matrix: Liquid

Work Order #: 9612799-01, 02

Reported: Dec 27, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-Benzene
QC Batch#:	GC121796801008A	GC121796801008A	GC121796801008A
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030

Analyst:	E. Cunanan	E. Cunanan	E. Cunanan
MS/MSD #:	96177801	96177801	96177801
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	12/17/96	12/17/96	12/17/96
Analyzed Date:	12/18/96	12/18/96	12/18/96
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L

Result:	28	24	25
MS % Recovery:	112	96	100

Dup. Result:	28	24	26
MSD % Recov.:	112	96	104

RPD:	0.0	0.0	3.9
RPD Limit:	0-25	0-25	0-25

LCS #:	BLK121896	BLK121896	BLK121896
Prepared Date:	12/18/96	12/18/96	12/18/96
Analyzed Date:	12/18/96	12/18/96	12/18/96
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
LCS Result:	27	23	25
LCS % Recov.:	108	92	100

MS/MSD	60-140	60-140	60-140
LCS	65-135	70-130	70-130
Control Limits			

SEQUOIA ANALYTICAL

Peggy Renner  
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



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

Client Project ID: Shell San Leandro / 961210-S3  
Matrix: Liquid

Work Order #: 9612799-03-05

Reported: Dec 27, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-Benzene
QC Batch#:	GC121996801008A	GC121996801008A	GC121996801008A
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030

Analyst:	E. Cunanan	E. Cunanan	E. Cunanan
MS/MSD #:	96179903	96179903	96179903
Sample Conc.:	N.D.	0.60	N.D.
Prepared Date:	12/18/96	12/18/96	12/18/96
Analyzed Date:	12/19/96	12/19/96	12/19/96
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
Result:	30	25	25
MS % Recovery:	120	98	100
Dup. Result:	29	24	24
MSD % Recov.:	116	94	96
RPD:	3.4	4.1	4.1
RPD Limit:	0-25	0-25	0-25

LCS #:	BLK121896	BLK121896	BLK121896
Prepared Date:	12/18/96	12/18/96	12/18/96
Analyzed Date:	12/18/96	12/18/96	12/18/96
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
LCS Result:	27	23	25
LCS % Recov.:	108	92	100

MS/MSD	60-140	60-140	60-140
LCS	65-135	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



CAMBRIA

**ATTACHMENT B**

Liquid-Phase Hydrocarbon Analysis





## Shell Development Company

A Division of Shell Oil Company  
Interoffice Memorandum

December 19, 1996

TO: Jeff Granberry, Environmental Engineer  
FROM: Gerard E. Spinnler  
SUBJECT: Analysis of Product Sample from San Leandro, CA

Four samples from 1784 150th Avenue, San Leandro, CA were received in the Refining and Environmental Analytical Chemistry Department at Westhollow Technology Center for product analysis. Only one sample (MW-1) contained separate phase hydrocarbons for product analysis. MW-1 was analyzed by gas chromatography and a flame-ionization detector (GC/FID).

The samples consists of gasoline-range material that has been severely weathered.

If you have any additional questions or we can be of further service, please call Gerard Spinnler (281-544-7319) or Emiliano Hinojosa (281-544-7815). No further work is planned unless notified