



LETTER OF TRANSMITTAL

To: Alameda County
Department of Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Date: May 19, 1997
Project: Shell Service Station
29 Wildwood Avenue
Piedmont, California
ACDEH STID #1107
WIC #204-6001-0109

ATTN: Ms. Jennifer Eberle

- | | |
|---------------------------------|---------------------------|
| 1) For Review and Comment (X) | Via: Facsimile () |
| 2) For Approval (X) | U.S. Mail (X) |
| 3) As Requested () | Overnight Delivery () |
| 4) For Your Use (X) | Courier Delivery () |

We are enclosing (X) / Sending under separate cover ():

No. of Copies	Description
1	First Quarter 1997 Monitoring Report dated May 15, 1997

Comments:

Dear Ms. Eberle:

Cambria Environmental Technology, Inc. is pleased to submit the enclosed report for your review. Please note that the report includes a discussion of sampling frequency reductions, and oxygen releasing compound installation in selected site wells.

Please do not hesitate to call if you have any questions or comments.

By: Paul Waite

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

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
SUITE B
OAKLAND,
CA 94608
PH: (510) 420-0700
FAX: (510) 420-9170

May 15, 1997

Jennifer Eberle
Alameda County Department
of Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Re: **First Quarter 1997 Monitoring Report**
ACDEH STID #1107
Shell Service Station
29 Wildwood Avenue
Piedmont, California
WIC #204-6001-0109
Cambria Project #24-314-106

Dear Ms. Eberle:

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 1997 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.

Cambria calculated ground water elevations (Table 1), compiled the analytic data (Table 2) and prepared a ground water elevation contour map (Figure 1)

CAMBRIA

ENVIRONMENTAL

TECHNOLOGY, INC.

1144 65TH STREET,

SUITE B

OAKLAND,

CA 94608

PH: (510) 420-0700

FAX: (510) 420-9170

ANTICIPATED SECOND QUARTER 1997 ACTIVITIES

In the Third Quarter 1996 monitoring report, we recommended installing oxygen releasing compounds (ORCs) into wells MW-1, MW-2, and MW-3 to accelerate the natural attenuation process in the hydrocarbon source area. We will install the ORCs into the wells in the upcoming quarter, and we will suspend sampling at the site until the fourth quarter of this year. The combination of the ORCs and the reduced sampling frequency will result in considerable savings to the State and will help reduce hydrocarbon concentrations in ground water.

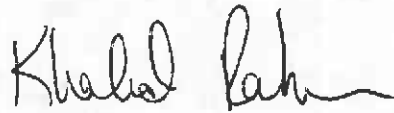
Jennifer Eberle
May 15, 1997

CAMBRIA

CLOSING

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

Sincerely,
Cambria Environmental Technology, Inc.



Khaled B. Rahman, R.G., C.H.G.
Senior Geologist



Attachments: A - Blaine Tech's Ground Water Monitoring Report

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

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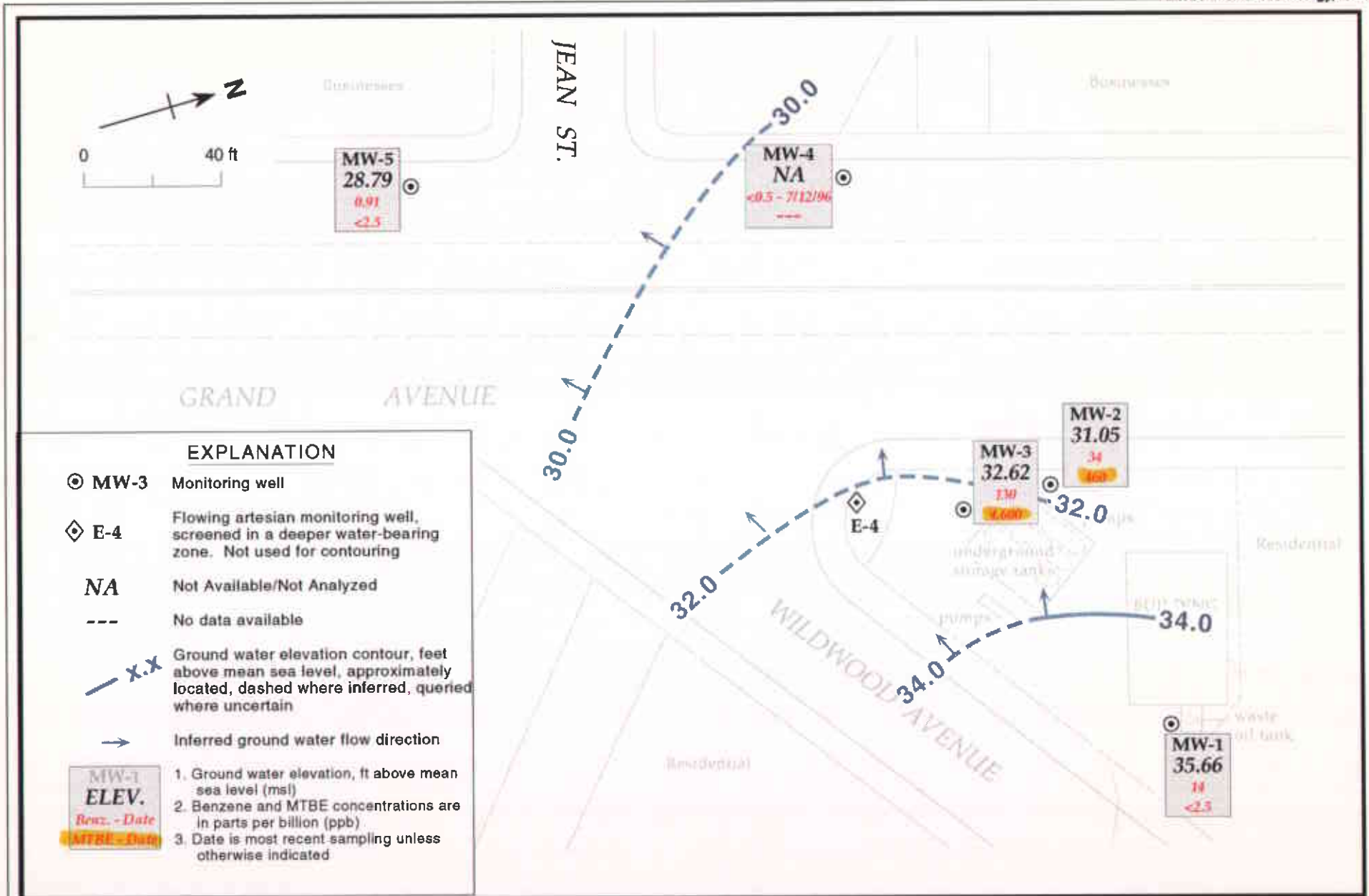


Figure 1. Ground Water Elevation Contours - January 16, 1997 - Shell Service Station, WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California.

**Table 1. Ground Water Elevations - Shell Service Station WIC #204-6001-0109,
29 Wildwood Avenue, Piedmont, California**

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	07/12/89	37.96	2.76	35.20
	01/30/90		3.10	34.86
	04/27/90		3.24	34.72
	07/31/90		4.26	33.70
	10/30/90		4.25	33.71
	01/31/91		3.66	34.30
	04/30/91		3.46	34.50
	07/30/91		4.14	33.82
	10/29/91		3.96	34.00
	01/20/92		3.59	34.37
	04/14/92		3.18	31.71
	07/21/92		4.17	33.79
	10/02/92		4.29	33.67
	01/20/93		2.32	35.64
	05/03/93		3.50	34.46
	06/28/93		3.76	34.20
	07/21/93		4.09	33.87
	10/19/93		3.58	34.38
	01/20/94		---	---
	04/12/94		3.60	34.36
	07/20/94		4.10	33.86
	10/06/94		4.30	33.66
	01/20/95		2.94	35.02
07/06/95	3.68	34.28		
01/24/96	2.12	35.84		
07/12/96	3.58	34.38		
	01/16/97		2.30	35.66
MW-2	07/12/89	34.89	3.66	31.23
	01/30/90		3.49	31.40
	04/27/90		3.79	31.10
	07/31/90		4.03	30.86
	10/30/90		4.21	30.68
	01/31/91		4.09	30.80
	04/30/91		3.95	30.94
	07/30/91		4.07	30.82
	10/29/91		4.11	30.78
	01/20/92		3.86	31.03
	04/14/92		3.66	34.30
	07/21/92		3.92	30.97
	10/02/92		4.45	30.44
	01/20/93		3.74	31.15
	05/03/93		3.77	31.12
06/28/93	3.96	30.93		

Table 1. Ground Water Elevations - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	07/21/93		4.39	30.50
	10/19/93		3.92	30.97
	01/20/94		4.45	30.44
	04/12/94		4.72	30.17
	07/20/94		5.32	29.57
	10/06/94		4.03	30.86
	01/20/95		3.89	31.00
	07/06/95		8.84	26.05
	01/24/96		3.80	31.09
	07/12/96		3.85	31.04
	01/16/97		3.84	31.05
MW-3	07/12/89	35.00	3.83	31.17
	01/30/90		3.24	31.76
	04/27/90		4.02	30.98
	07/31/90		4.31	30.69
	10/30/90		4.52	30.48
	01/31/91		4.33	30.67
	04/30/91		3.79	31.21
	07/30/91		4.37	30.63
	10/29/91		4.00	31.00
	01/20/92		3.87	31.13
	04/14/92		3.15	31.85
	07/21/92		4.17	30.83
	10/02/92		4.43	30.57
	01/20/93		2.20	32.80
	05/03/93		3.50	31.50
	06/28/93		4.08	30.92
	07/21/93		4.12	30.88
	10/19/93		4.20	30.80
	01/20/94		4.08	30.92
	04/12/94		3.70	31.30
	07/20/94		4.26	30.74
	10/06/94		4.31	30.69
	01/20/95		3.00	32.00
	07/06/95		3.75	31.25
	01/24/96		3.26	31.74
	07/12/96		3.77	31.23
	01/16/97		2.38	32.62
MW-4	01/30/90	33.73	4.50	29.23
	04/27/90		3.62	30.11
	07/31/90		4.19	29.54
	10/30/90		4.19	29.54

Table 1. Ground Water Elevations - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	01/31/91		4.49	29.24
	04/30/91		4.02	29.71
	07/30/91		4.39	29.34
	10/29/91		3.75	29.98
	01/20/92		3.94	29.79
	04/14/92		3.71	30.02
	07/21/92		4.02	29.71
	10/02/92		4.13	29.60
	01/20/93		3.10	30.63
	05/03/93		3.70	30.03
	06/28/93		3.81	29.92
	07/21/93		3.81	29.92
	10/19/93		3.94	29.79
	01/20/94		4.00	29.73
	04/12/94		4.01	29.72
	07/20/94		3.91	29.82
	10/06/94		3.99	29.74
	01/20/95		3.56	30.17
	07/06/95		3.85	29.88
	01/24/96		2.56	31.17
	07/12/96		3.36	30.37
	01/16/97			
MW-5	01/30/90	31.38	7.12	24.26
	04/27/90		4.19	27.19
	07/31/90		4.09	27.29
	10/30/90		4.39	26.99
	01/31/91		4.49	26.89
	04/30/91		4.27	27.11
	07/30/91		4.32	27.06
	10/29/91		3.79	27.59
	01/20/92		4.09	27.29
	04/14/92		4.12	27.26
	07/21/92		4.13	27.25
	10/02/92		4.30	27.08
	01/20/93		3.12	28.26
	05/03/93		4.07	27.31
	06/28/93		4.08	27.30
	07/21/93		4.05	27.33
	10/19/93		4.20	27.18
	01/20/94		4.40	26.98
	04/12/94		4.18	27.20
	07/20/94		4.06	27.32
	10/06/94		4.01	27.37

Table 1. Ground Water Elevations - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	01/20/95		3.49	27.89
	07/06/95		4.06	27.32
	01/24/96		2.90	28.48
	07/12/96		4.02	27.36
	01/16/97		2.59	28.79
E-4 (Well destroyed on 6/16/95)	07/12/89	34.63	a	>39.13
	01/30/90		b	>34.63
	04/27/90		b	>34.63
	07/31/90		b	>34.63
	10/30/90		b	>34.63
	01/31/91		b	>34.63
	04/30/91		b	>34.63
	07/30/91		b	>34.63
	10/29/91		b	>34.63
	01/20/92		b	>34.63
	04/14/92		b	>34.63
	07/21/92		b	>34.63
	10/02/92		b	>34.63
	01/20/93		b	>34.63
	05/03/93		b	>34.63
	06/28/93		b	>34.63
	07/21/93		b	>34.63
	10/19/93		b	>34.63
	01/20/94		b	>34.63
	04/12/94		b	>34.63
	07/20/94		b	>34.63
	10/06/94		b	>34.63
	01/20/95		b	>34.63

Notes:

- a = Well E-4 is a flowing artesian well. The potentiometric surface was greater than 4.5 ft above the top of the well casing.
- b = Well E-4 potentiometric surface was higher than the top of the well casing.
- c = Well inaccessible.

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	MTBE	Dissolved Oxygen ^a
MW-1 (1st and 3rd Quarters)	07/12/89	2.76	<50	<0.5	<1	<1	<3	---	---
	01/30/90	3.10	<50	<0.5	<0.5	<0.5	<0.5	---	---
	04/27/90	3.24	<50	<0.5	<0.5	<0.5	<0.5	---	---
	07/31/90	4.26	<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/30/90	4.25	<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/31/91	3.66	<50	<0.5	<0.5	<0.5	<0.5	---	---
	04/30/91	3.46	<50	0.8	0.6	<0.5	1.2	---	---
	07/30/91	4.14	<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/29/91	3.96	<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/92	3.59	<30	<0.3	<0.3	<0.3	<0.3	---	---
	04/14/92	3.18	<50	<0.5	<0.5	<0.5	<0.5	---	---
	07/21/92	4.17	<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/02/92	4.29	<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/93	2.32	<50	<0.5	<0.5	<0.5	<0.5	---	---
	05/04/93	3.50	<50	<0.5	<0.5	<0.5	<0.5	---	1,930
	07/21/93	4.09	<50	<0.5	<0.5	<0.5	<0.5	---	4,640
	10/19/93	3.58	50	<0.5	<0.5	<0.5	<0.5	---	4,310
	01/20/94 ^b	---	---	---	---	---	---	---	---
	04/12/94	3.60	<50	<0.5	<0.5	<0.5	<0.5	---	7,460
	07/20/94	4.10	<50	<0.5	<0.5	<0.5	<0.5	---	3,200
10/06/94	4.30	<50	<0.5	<0.5	<0.5	<0.5	---	3,200	
01/20/95	2.94	<50	<0.5	<0.5	<0.5	<0.5	---	10,600	
07/06/95	3.68	<50	<0.5	<0.5	<0.5	<0.5	---	---	
01/24/96	2.12	<50	<0.5	<0.5	<0.5	<0.5	---	---	
07/12/96	3.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	2,700	
01/16/97	2.30	120	14	3.6	10	14	<2.5	3,000	
MW-2 (1st and 3rd Quarters)	07/12/89	3.66	60	2.7	<1	<1	<3	---	---
	01/30/90	3.49	<50	6.6	0.54	<0.5	0.93	---	---
	04/27/90	3.79	60	2.1	<0.5	<0.5	<0.5	---	---

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	MTBE	Dissolved Oxygen ^a
	07/31/90	4.03	70	1.5	<0.5	<0.5	<0.5	---	---
	10/30/90	4.21	70	<0.5	<0.5	0.7	1.6	---	---
	01/31/91	4.09	80	<0.5	0.9	<0.5	1.9	---	---
	04/30/91	3.95	100	5.9	0.7	0.6	2.0	---	---
	07/30/91	4.07	<50	<0.5	<0.5	<0.7	<0.5	---	---
	10/29/91	4.11	<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/92	3.86	<30	0.84	<0.41	<0.3	<0.48	---	---
	04/14/92	3.66	70	16	3.1	<0.5	2.1	---	---
	07/21/92	3.92	<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/02/92	4.45	<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/93	3.74	<50	3.8	0.52	<0.5	<0.5	---	---
	05/04/93	3.77	680 ^d	2.8	<0.5	<0.5	<0.5	---	900
	07/21/93	4.39	<50	8.0	1.8	1.2	7.9	---	5,880
	10/19/93	3.92	<50	<0.5	<0.5	<0.5	<0.5	---	5,700
	01/20/94	4.45	<50	1.5	<0.5	<0.5	<0.5	---	3,200
	04/12/94	4.72	<50	2.9	<0.5	<0.5	<0.5	---	11,380
	07/20/94	5.32	<50	<0.5	<0.5	<0.5	<0.5	---	2,400
	10/06/94	4.03	<50	<0.5	<0.5	<0.5	<0.5	---	2,900
	01/20/95	3.89	290	28	<0.5	<0.5	<0.5	---	4,600
	07/06/95	3.84	120	3.0	<0.5	<0.5	<0.5	---	---
	01/24/96	3.80	70	3.1	0.8	<0.5	1.5	---	---
	01/24/96 ^{dup}	3.80	70	3.2	0.7	0.5	1.5	---	---
	07/12/96	3.85	<50	0.68	<0.5	<0.5	<0.5	270	3,800
	01/16/97	3.84	230	34	1.6	1.6	4.2	460	---
MW-3	07/12/89	3.83	3,900	380	99	41	30	---	---
(1st and 3rd	01/30/90	3.24	5,500	440	79	35	130	---	---
Quarters)	04/27/90	4.02	4,500	310	37	26	110	---	---
	07/31/90	4.31	3,500	210	8.4	17	62	---	---
	10/30/90	4.52	2,300	610	<0.5	<0.5	28	---	---

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	MTBE	Dissolved Oxygen ^a
	01/31/91	4.33	4,100	300	19	20	81	---	---
	04/30/91	3.79	3,800	370	8.6	19	60	---	---
	07/30/91	4.37	3,300	160	15	13	87	---	---
	10/29/91	4.00	1,000	35	2.9	2.8	8.1	---	---
	01/20/92	3.87	6,900	380	47	18	48	---	---
	04/14/92	3.15	6,000	480	41	38	55	---	---
	07/21/92	4.17	3,700	330	30	13	23	---	---
	10/02/92	4.43	4,200	260	13	10	12	---	---
	01/20/93	2.20	4,200	360	32	15	26	---	---
	01/20/93 ^{dup}	2.20	3,900	370	32	15	26	---	---
	05/04/93	3.50	12,000	290	120	520	620	---	630
	07/21/93	4.12	2,000	170	<10	12	11	---	4,340
	07/21/93 ^{dup}	4.12	2,000	170	<10	10	14	---	---
	10/19/93	4.20	2,000	240	<0.5	<0.5	<0.5	---	5,740
	01/20/94	4.08	4,200	280	<10	<10	<10	---	4,100
	01/20/94 ^{dup}	4.08	3,800	250	<10	<10	<10	---	4,100
	04/12/94	3.70	4,700	380	<10	<10	<10	---	10,620
	04/12/94 ^{dup}	3.70	3,400	370	<25	<25	<25	---	---
	07/20/94	4.26	5,100	320	15	77	34	---	2,300
	07/20/94 ^{dup}	4.26	4,400	250	13	14	32	---	---
	10/06/94	4.31	4,300	280	4.0	9.7	15	---	2,300
	01/20/95	3.00	4,600	180	16	18	10	---	11,100
	01/20/95 ^{dup}	3.00	4,300	170	15	12	7.2	---	---
	07/06/95	3.75	3,900	310	7.6	<0.5	13	---	---
	07/06/95 ^{dup}	3.75	4,100	330	7.9	<0.5	2.4	---	---
	01/24/96	3.26	5,000	210	14	14	12	---	---
	07/12/96	3.77	2,700	210	<0.5	<0.5	<0.5	3,600	2,400
	07/12/96 ^{dup}	3.77	2,800	210	<0.5	<0.5	<0.5	3,400	2,400
	01/16/97	2.38	4,200	130	10	19	34	4,300	2,300

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	MTBE	Dissolved Oxygen ^a	
										←————— parts per billion (µg/L) —————→
MW-4 (1st and 3rd Quarters)	01/31/90	4.50	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	04/27/90	3.62	130 ^e	<0.5	<0.5	<0.5	<0.5	---	---	
	07/31/90	4.19	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	10/30/90	4.19	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	01/31/91	4.49	50 ^e	<0.5	<0.5	<0.5	<0.5	---	---	
	04/30/91	4.02	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	07/30/91	4.39	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	10/29/91	3.75	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	01/20/92	3.94	<30	<0.3	<0.3	<0.3	<0.3	---	---	
	04/14/92	3.71	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	07/21/92	4.02	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	10/02/92	4.13	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	01/20/93	3.10	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	05/04/93	3.70	<50	<0.5	<0.5	<0.5	<0.5	---	1,740	
	07/21/93	3.81	<50	<0.5	0.56	<0.5	<0.5	<0.5	---	4,510
	10/10/93	3.94	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	5,750
	01/20/94	4.00	<50	<0.5	0.71	<0.5	<0.5	<0.5	---	4,400
	04/12/94	4.01	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	7,290
	07/20/94	3.91	160	<0.5	<0.5	<0.5	<0.5	<0.5	---	6,400
	10/11/94	3.99	410	<0.5	<0.5	<0.5	<0.5	<0.5	---	5,000
01/20/95	3.56	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	4,900	
07/06/95	3.85	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	
01/24/96	2.56	<50	<0.5	<0.5	0.6	<0.5	1.8	---	---	
07/12/96	3.36	<50	<0.5	<0.5	<0.5	<0.5	<0.5	f	2,700	
01/16/97^b										
MW-5 (1st and 3rd Quarters)	01/31/90	7.12	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	04/27/90	4.19	210 ^c	<0.5	<0.5	<0.5	<0.5	---	---	
	07/31/90	4.09	90	<0.5	<0.5	<0.5	<0.5	---	---	
	10/30/90	4.39	100	0.8	0.6	0.7	1.4	---	---	

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G ←	B	parts per billion (µg/L)				MTBE	Dissolved Oxygen ^a
					E	T	X	→		
	01/31/91	4.49	80c	<0.5	<0.5	<0.5	<0.5	---	---	
	04/30/91	4.27	90	<0.5	<0.5	<0.5	<0.5	---	---	
	07/30/91	4.37	90	<0.5	<0.5	<0.5	<0.5	---	---	
	10/29/91	3.79	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	01/20/92	4.09	<30	<0.3	<0.3	<0.3	<0.3	---	---	
	04/14/92	4.12	<50c	<0.5	<0.5	<0.5	<0.5	---	---	
	07/21/92	4.13	74c	<0.5	<0.5	<0.5	<0.5	---	---	
	10/02/92	4.30	76c	<0.5	<0.5	<0.5	<0.5	---	---	
	01/20/93	3.12	72c	<0.5	<0.5	<0.5	<0.5	---	---	
	05/04/93	4.07	70c	<0.5	<0.5	<0.5	<0.5	---	1,620	
	05/04/93 ^{dup}	4.07	80c	<0.5	<0.5	<0.5	<0.5	---	---	
	07/21/93	4.05	<50	<0.5	<0.5	<0.5	<0.5	---	3,460	
	10/19/93	4.20	51	<0.5	<0.5	<0.5	<0.5	---	3,820	
	01/20/94	4.40	90	<0.5	<0.5	<0.5	<0.5	---	4,200	
	04/12/94	4.18	67	<0.5	<0.5	<0.5	<0.5	---	---	
	07/20/94	4.06	<50	<0.5	<0.5	<0.5	<0.5	---	3,200	
	10/06/94	4.01	80	<0.5	<0.5	<0.5	<0.5	---	2,100	
	10/06/94 ^{dup}	4.01	60	<0.5	<0.5	<0.5	<0.5	---	---	
	01/20/95	3.49	<50	<0.5	<0.5	<0.5	<0.5	---	3,200	
	07/06/95	4.06	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	01/24/96	2.90	70	<0.5	0.8	<0.5	2.9	---	---	
	07/12/96	4.02	62	<0.5	<0.5	<0.5	<0.5	f	1,900	
	01/16/97	2.59	66	0.91	<0.50	0.89	1.7	<2.5	2,200	
	01/16/97 ^{dup}	2.59	<50	0.70	<0.50	0.78	1.3	<2.5	2,200	
E-4 (well destroyed on 6/16/95)	07/12/89	d	<50	<0.5	<1	<1	<3	---	---	
	01/31/90	d	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	04/27/90	d	120 ^c	<0.5	<0.5	<0.5	<0.5	---	---	
	07/31/90	d	<50	<0.5	<0.5	<0.5	<0.5	---	---	
	10/30/90	d	<50	<0.5	<0.5	<0.5	<0.5	---	---	

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	MTBE	Dissolved Oxygen ^a
	01/31/91	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	04/30/91	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	07/30/91	d	<50	<0.5	<0.5	0.6	<0.5	---	---
	10/29/91	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/92	d	<30	<0.3	<0.3	<0.3	<0.3	---	---
	04/14/92	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	07/21/92	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/02/92	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/93	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	05/04/93	d	<50	<0.5	<0.5	<0.5	<0.5	---	630
	07/21/93	d	<50	5.4	1.0	0.72	4.4	---	5,440
	10/19/93	d	<50	<0.5	<0.5	<0.5	<0.5	---	5,630
	01/20/94	d	<50	<0.5	<0.5	<0.5	<0.5	---	---
	04/12/94	d	<50	<0.5	<0.5	<0.5	<0.5	---	9,410
	07/20/94	d	<50	<0.5	<0.5	<0.5	<0.5	---	2,000
	10/06/94	d	<50	<0.5	<0.5	<0.5	<0.5	---	1,300
	01/20/95	d	<50	<0.5	<0.5	<0.5	<0.5	---	3,700
Trip	07/12/89		<50	<0.5	<1	<1	<3	---	---
Blank	01/31/90		<50	<0.5	<.5	<0.5	<0.5	---	---
	04/27/90		<50	<0.5	<0.5	<0.5	<0.5	---	---
	07/31/90		<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/30/90		<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/31/91		<50	<0.5	<0.5	<0.5	<0.5	---	---
	04/30/91		<50	<0.5	<0.5	<0.5	<0.5	---	---
	07/30/91		<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/29/91		<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/02/92		<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/93		<50	<0.5	<0.5	<0.5	<0.5	---	---
	05/03/93		<50	<0.5	<0.5	<0.5	<0.5	---	---

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID and Sampling Frequency	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	MTBE	Dissolved Oxygen ^a
	07/21/93		<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/19/93		<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/94		<50	<0.5	<0.5	<0.5	<0.5	---	---
	04/12/94		<50	<0.5	<0.5	0.71	<0.5	---	---
	07/20/94		<50	<0.5	<0.5	<0.5	<0.5	---	---
	10/06/94		<50	<0.5	<0.5	<0.5	<0.5	---	---
	01/20/95		<50	<0.5	<0.5	<0.5	<0.5	---	---
	07/06/95		<50	<0.5	<0.5	<0.5	<0.5	---	---
Bailer	04/27/90		110 ^c	<0.5	<0.5	<0.5	<0.5	---	---
Blank	01/31/91		<5	<0.5	<0.5	<0.5	<0.5	---	---
	10/02/92		ND	ND	ND	ND	ND	---	---
MCLs			NE	1	700	150	1,750	NE	NE

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Abbreviations:

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Modified EPA Method 8015
B = Benzene by EPA Method 602 or 8020
E = Ethylbenzene by EPA Method 602 or 8020
T = Toluene by EPA Method 602 or 8020
X = Xylenes by EPA Method 602 or 8020
MTBE = Methyl tert-Butyl Ether by EPA Method 8020. Result in parentheses indicates MTBE by EPA Method 8260.
ppb = Parts per billion
µg/L = Micrograms per liter (ppb)
--- = Not analyzed
NE = Not established
MCLs = California Primary Maximum Contaminant Levels for drinking water (22 CCR 64444)
<n = Not detected above detection limit of n ppb

Notes:

a = Field measurement of dissolved oxygen concentration (ppb)
b = Well inaccessible, not sampled
c = Chromatogram contained discrete peaks; not representative of gasoline
d = Artesian well; potentiometric surface above top-of-casing elevation
e = Researched on later date due to inaccessibility from parked car
f = According to the lab, due to coelution with early eluters no result could be determined for MTBE.

Attachment A

Blaine Tech Services Report

BLAINE
TECH SERVICES INC.



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

February 4, 1997

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

Attn: R. Jeff Granberry

Shell WIC #204-6001-0109
29 Wildwood Ave.
Piedmont, California

1st Quarter 1997

Quarterly Groundwater Monitoring Report 970116-J-2

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

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

(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	1/16/97	TOC	--	NONE	--	--	2.30	13.18
MW-2	1/16/97	TOC	--	NONE	--	--	3.84	11.50
MW-3	1/16/97	TOC	--	NONE	--	--	2.38	9.00
MW-4	1/16/97	INACCESSIBLE						
MW-5 *	1/16/97	TOC	--	NONE	--	--	2.59	16.06

* Sample DUP was a duplicate sample taken from well MW-5.



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 970116-52

Date: 1/17

Page 1 of 1

Site Address: 29 Wildwood Avenue, Piedmont

WIC#: 204-6001-0109

Shell Engineer: R. Jeff Granberry
Daniel F. Kirk
Phone No.: (510) 675-6168
Fax #: 675-6160

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

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

Comments:

Sampled by: [Signature]

Printed Name: Matt James

Analysis Required

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	Asbestos	Container Size	Preparation Used	Composite Y/N
-------------------------	----------------------------	---------------------	------------------------------	-------------------	---------------------------------------	----------	----------------	------------------	---------------

LAB: SEQ

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
G.W. Monitoring <input checked="" type="checkbox"/>	4441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/>	4442	16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. of Sys. O & M <input type="checkbox"/>	4452	
Water Rem. of Sys. O & M <input type="checkbox"/>	4463	
Other <input type="checkbox"/>		

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	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	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1	1/16			W		3						X					Confirm	highest
MW-2						3						X					MTBE	hit
MW-3						3						X					by 8260	
MW-5						3						X						
EB						3						X						
Dup	X			V		3						X						

Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>Matt James</u>	Date: <u>1/17</u>	Time: <u>1:00</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>John Hays</u>	Date: <u>1/17</u>	Time: <u>1:00</u>
Relinquished By (signature): _____	Printed Name: _____	Date: _____	Time: _____	Received (signature): _____	Printed Name: _____	Date: _____	Time: _____
Relinquished By (signature): _____	Printed Name: _____	Date: _____	Time: _____	Received (signature): _____	Printed Name: _____	Date: _____	Time: _____

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

Project: Shell Piedmont/970116-J2

Enclosed are the results from samples received at Sequoia Analytical on January 17, 1997.
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9701904 -01	LIQUID, MW-1	01/16/97	TPGBMW Purgeable TPH/BTEX
9701904 -02	LIQUID, MW-2	01/16/97	TPGBMW Purgeable TPH/BTEX
9701904 -03	LIQUID, MW-3	01/16/97	MTBEMW Methyl t-Butyl Ethel
9701904 -03	LIQUID, MW-3	01/16/97	TPGBMW Purgeable TPH/BTEX
9701904 -04	LIQUID, MW-5	01/16/97	TPGBMW Purgeable TPH/BTEX
9701904 -05	LIQUID, EB	01/16/97	TPGBMW Purgeable TPH/BTEX
9701904 -06	LIQUID, DUP	01/16/97	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 Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Piedmont/970116-J2 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701904-01	Sampled: 01/16/97 Received: 01/17/97 Analyzed: 01/20/97 Reported: 01/28/97
--	---	---

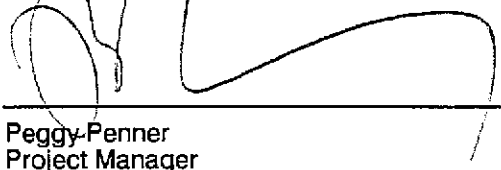
QC Batch Number: GC012097BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	120
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	14
Toluene	0.50	10
Ethyl Benzene	0.50	3.6
Xylenes (Total)	0.50	14
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	87

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 Piedmont/970116-J2 Sample Descript: MW-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701904-02	Sampled: 01/16/97 Received: 01/17/97 Analyzed: 01/21/97 Reported: 01/28/97
--	---	---


QC Batch Number: GC012197BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	230
Methyl t-Butyl Ether	5.0	460
Benzene	1.0	34
Toluene	1.0	1.6
Ethyl Benzene	1.0	1.6
Xylenes (Total)	1.0	4.2
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	89

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 Piedmont/970116-J2 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: EPA 8260 Lab Number: 9701904-03	Sampled: 01/16/97 Received: 01/17/97 Analyzed: 01/27/97 Reported: 01/28/97
--	---	---

QC Batch Number: MS0121978260F2A
Instrument ID: F2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	100	4600
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76 114	105

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 Piedmont/970116-J2 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701904-03	Sampled: 01/16/97 Received: 01/17/97 Analyzed: 01/20/97 Reported: 01/28/97
--	---	---

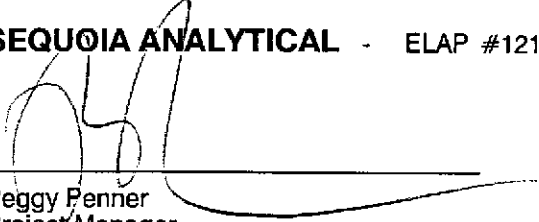
QC Batch Number: GC012097BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	4200
Methyl t-Butyl Ether	50	4400
Benzene	10	130
Toluene	10	19
Ethyl Benzene	10	10
Xylenes (Total)	10	34
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	97

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Fenner
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Piedmont/970116-J2 Sample Descript: MW-5 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701904-04	Sampled: 01/16/97 Received: 01/17/97 Analyzed: 01/20/97 Reported: 01/28/97
--	---	---

QC Batch Number: GC012097BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	66
Methyl t-Butyl Ether	2.5	-
Benzene	0.50	0.91
Toluene	0.50	0.89
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	1.7
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	100

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 Piedmont/970116-J2 Sample Descript: EB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701904-05	Sampled: 01/16/97 Received: 01/17/97 Analyzed: 01/20/97 Reported: 01/28/97
Attention: Jim Keller		

QC Batch Number: GC012097BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	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 Client Proj. ID: Shell Piedmont/970116-J2 Sampled: 01/16/97
1680 Rogers Avenue Sample Descript: DUP Received: 01/17/97
San Jose, CA 95112 Matrix: LIQUID
Attention: Jim Keller Analysis Method: 8015Mod/8020 Analyzed: 01/20/97
Lab Number: 9701904-06 Reported: 01/28/97

QC Batch Number: GC012097BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Table with columns: Analyte, Detection Limit ug/L, Sample Results ug/L. Rows include TPHH as Gas, Methyl t-Butyl Ether, Benzene, Toluene, Ethyl Benzene, Xylenes (Total), Chromatogram Pattern, Surrogates, and Trifluorotoluene.

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Renner
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 Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Jim Keller	Client Proj. ID: Shell Piedmont/970116-J2 Lab Proj. ID: 9701904	Received: 01/17/97 Reported: 01/28/97
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LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 13 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

Please note: For samples 9701904-04 and -06 no MTBE value could be determined due to early eluting co-eluting compounds.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager





Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112
Attention: Jim Keller

Client Project ID: Shell Piedmont / 970116-J2
Matrix: Liquid

Work Order #: 9701904 -01, 06

Reported: Jan 30, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC012097BTEX17A	GC012097BTEX17A	GC012097BTEX17A	GC012097BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	970188203	970188203	970188203	970188203
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/20/97	1/20/97	1/20/97	1/20/97
Analyzed Date:	1/20/97	1/20/97	1/20/97	1/20/97
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.5	9.6	9.7	29
MS % Recovery:	95	96	97	97
Dup. Result:	9.7	9.6	9.8	29
MSD % Recov.:	97	96	98	97
RPD:	2.1	0.0	1.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK012097	BLK012097	BLK012097	BLK012097
Prepared Date:	1/20/97	1/20/97	1/20/97	1/20/97
Analyzed Date:	1/20/97	1/20/97	1/20/97	1/20/97
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.9	8.9	9.0	27
LCS % Recov.:	89	89	90	90

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

SEQUOIA ANALYTICAL

Reggy 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

9701904.BLA <1>





Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112
Attention: Jim Keller

Client Project ID: Shell Piedmont / 970116-J2
Matrix: Liquid

Work Order #: 9701904-02

Reported: Jan 30, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC012197BTEX17A	GC012197BTEX17A	GC012197BTEX17A	GC012197BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. MirafTAB	A. MirafTAB	A. MirafTAB	A. MirafTAB
MS/MSD #:	970145103	970145103	970145103	970145103
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/21/97	1/21/97	1/21/97	1/21/97
Analyzed Date:	1/21/97	1/21/97	1/21/97	1/21/97
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.6	9.7	9.8	29
MS % Recovery:	96	97	98	97
Dup. Result:	9.7	10	9.8	30
MSD % Recov.:	97	100	98	100
RPD:	1.0	3.0	0.0	3.4
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK012197	BLK012197	BLK012197	BLK012197
Prepared Date:	1/21/97	1/21/97	1/21/97	1/21/97
Analyzed Date:	1/21/97	1/21/97	1/21/97	1/21/97
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.6	8.5	8.6	26
LCS % Recov.:	86	85	86	87

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

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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

9701904.BLA <2>





Blaine Tech Services, Inc. Client Project ID: Shell Piedmont / 970116-J2
 1680 Rogers Avenue Matrix: Liquid
 San Jose, CA 95112
 Attention: Jim Keller Work Order #: 9701904-03-05 Reported: Jan 30, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC012097BTEX02A	GC012097BTEX02A	GC012097BTEX02A	GC012097BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	970188203	970188203	970188203	970188203
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/20/97	1/20/97	1/20/97	1/20/97
Analyzed Date:	1/20/97	1/20/97	1/20/97	1/20/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.2	8.5	8.7	28
MS % Recovery:	82	85	87	93
Dup. Result:	8.8	8.9	9.1	30
MSD % Recov.:	88	89	91	100
RPD:	7.1	4.6	4.5	6.9
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK012097	BLK012097	BLK012097	BLK012097
Prepared Date:	1/20/97	1/20/97	1/20/97	1/20/97
Analyzed Date:	1/20/97	1/20/97	1/20/97	1/20/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.0	8.1	8.2	27
LCS % Recov.:	80	81	82	90

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

9701904.BLA <3>





Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112
Attention: Jim Keller

Client Project ID: Shell Piedmont / 970116-J2
Matrix: Liquid

Work Order #: 9701904-03

Reported: Jan 30, 1997

QUALITY CONTROL DATA REPORT

Analyte: MTBE
QC Batch#: MS0121978260F2A
Analy. Method: EPA 8260
Prep. Method: N.A.

Analyst: M. Williams
MS/MSD #: 970184201
Sample Conc.: N.D.
Prepared Date: -
Analyzed Date: 1/21/97
Instrument I.D.#: F2
Conc. Spiked: 50 µg/L

Result: 40
MS % Recovery: 80

Dup. Result: 39
MSD % Recov.: 78

RPD: 2.5
RPD Limit: 0-25

LCS #: VDB012797

Prepared Date: 1/27/97
Analyzed Date: 1/27/97
Instrument I.D.#: F2
Conc. Spiked: 50 µg/L

LCS Result: 46
LCS % Recov.: 92

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

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

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

9701904.BLA <4>

