



ENVIRONMENTAL
PROTECTION
98 FEB 11 PM 3:50

January 30, 1998

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

Re: **Fourth Quarter 1997 Monitoring Report**
Shell Service Station
999 San Pablo Avenue
Albany, California
WIC #204-0079-0109
Cambria Project #24-314-497

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.

FOURTH QUARTER 1997 ACTIVITIES

Ground Water Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California measured ground water depths and collected water samples from selected 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).

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TECHNOLOGY, INC.

1144 65TH STREET,

SUITE B

OAKLAND,

CA 94608

PH: (510) 420-0700

FAX: (510) 420-9170

ANTICIPATED FIRST QUARTER 1998 ACTIVITIES

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.



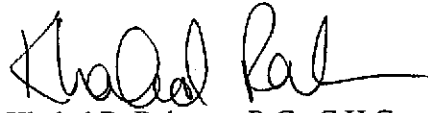
Ms. Susan Hugo
January 30, 1998

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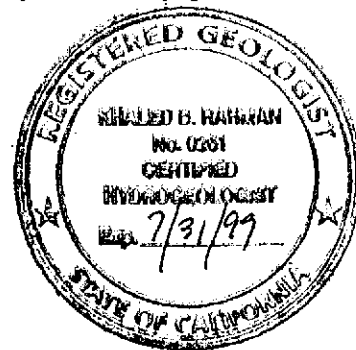
CLOSING

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

Sincerely,
Cambria Environmental Technology, Inc.



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

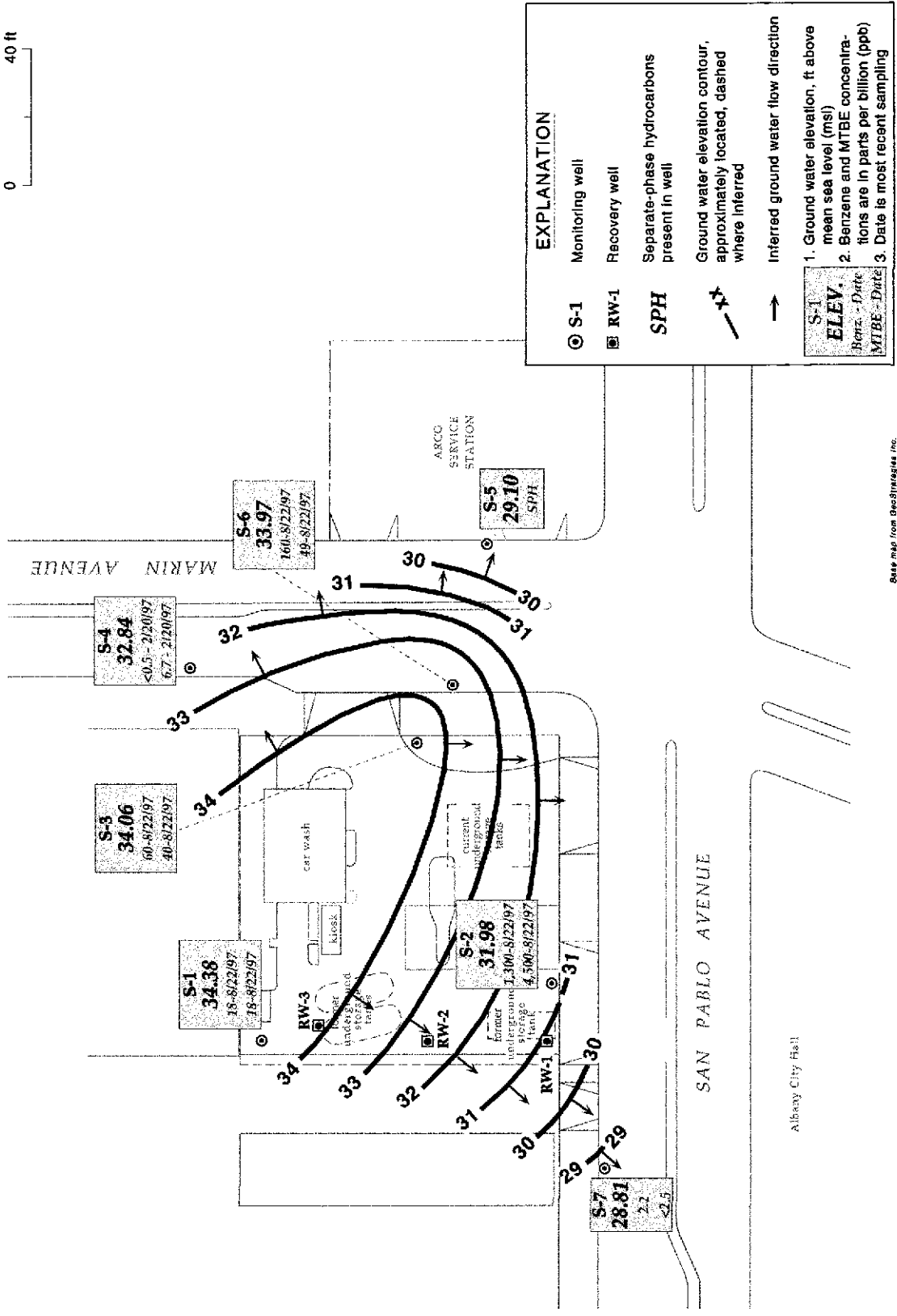


Attachments: A - Blaine Quarterly Ground Water Monitoring Report

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

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EXPLANATION

- ⊙ S-1 Monitoring well
- ⊠ RW-1 Recovery well
- SPH Separate-phase hydrocarbons present in well
- +—+—+— Ground water elevation contour, approximately located, dashed where inferred
- Inferred ground water flow direction

S-1	ELEV.	Benz. - Date	MTBE - Date
S-1	32.84	<0.5 - 2/20/97	6.7 - 2/20/97
S-3	34.06	60-8/22/97	40-8/22/97
S-4	33.97	160-8/22/97	49-8/22/97
S-5	29.10		
S-6	31.98	1300-8/22/97	4500-8/22/97
S-7	28.81	2.2	<2.5

Base Map from Geostategies Inc.

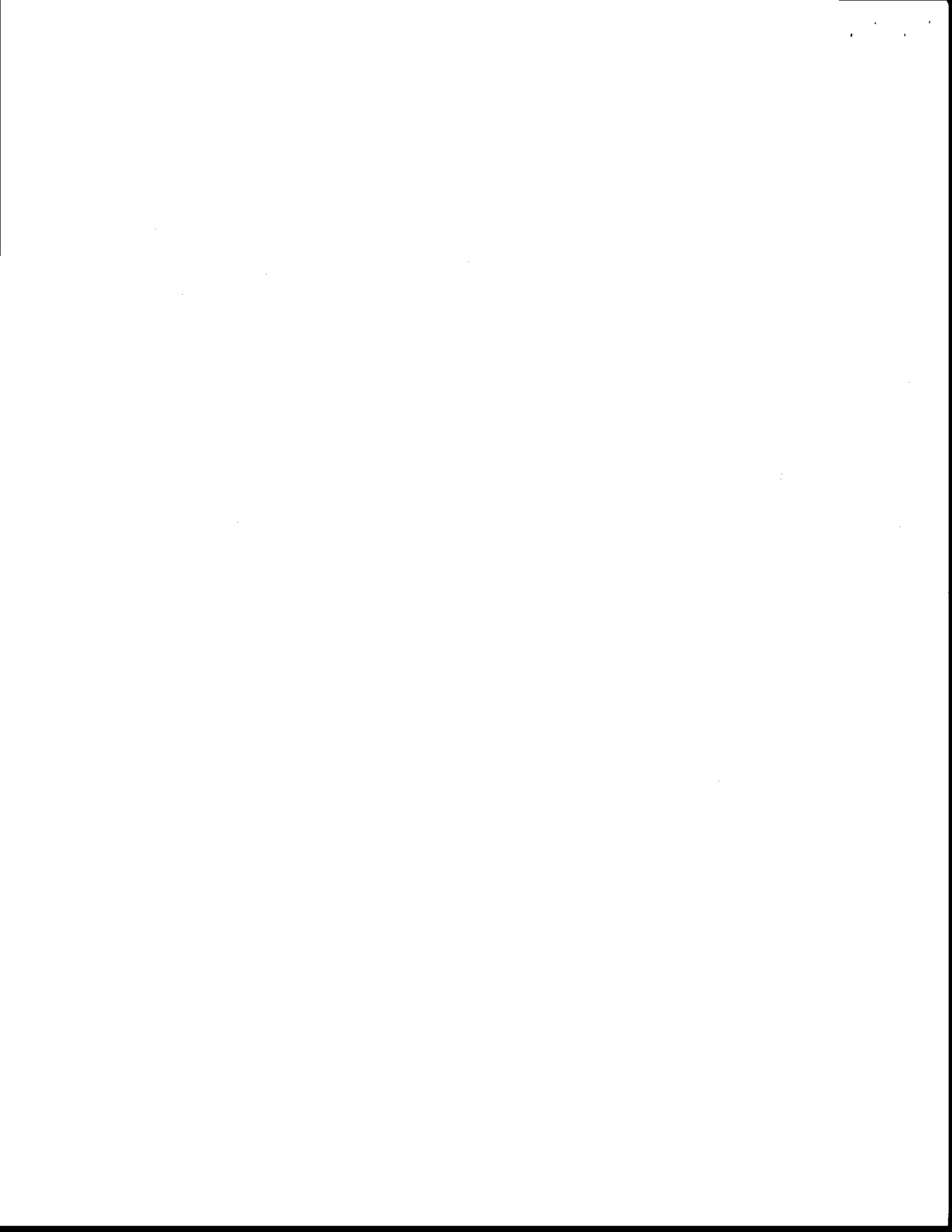
Figure 1. Ground Water Elevation Contours - November 3, 1997 - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California



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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 ^a (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
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
	04/21/95		7.01	---	33.72



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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 ^a (ft above msl)
	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
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
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
	01/28/92		7.40	---	33.70
	05/06/92		7.21	---	33.89
	08/26/92		8.13	---	32.97

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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 ^a (ft above msl)
	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
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
	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

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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 ^a (ft above msl)
	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
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
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
	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

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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 ^a (ft above msl)
	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

Notes and Abbreviations:

a = 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. Analytic Results for Ground Water - Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)

Well ID & Sampling Frequency	Date	Depth to Water (ft)	TPH-G	B	T	parts per billion (µg/L)		X	MTBE	HDM Units units/L	DO (mg/L)
						E	X				
S-1 (Bi-annually, 1st & 3rd Qtrs)	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	
S-2 (Bi-annually, 1st & 3rd Qtrs)	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	---	---	---	---
	10/28/92	8.64	34,000	4,800	330	1,600	2,900	---	---	---	---

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

Well ID & Sampling Frequency	Date	Depth to Water (ft)	TPH-G	B	T	E	X	MTBE	HDM Units units/L	DO (mg/L)
	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 ^{dup}	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 ^{dup}	8.58	13,000	3,200	53	960	820	--	--	--
	01/04/94	7.70	21,000	2,100	67	990	770	--	--	--
	01/04/94 ^{dup}	7.70	22,000	2,000	64	910	750	--	--	--
	07/25/94	7.86	43,000	2,600	490	990	1,300	--	--	--
	01/26/95	6.38	21,000	790	12	290	570	10 ⁴ to 10 ⁵ ab	5.5	5.5
	07/28/95	7.82	14,000	2,400	360	960	370	--	4.0	4.0
	01/10/96	8.13	17,000	1,400	<50	480	170	--	7.2	7.2
	07/23/96	8.10	16,000	2,700	69	1,100	110	9,500	2.2	2.2
	07/23/96 ^{dup}	8.10	11,000	2,600	68	1,000	96	10,000 (11,000)	2.2	2.2
	12/10/96	8.57	--	--	--	--	--	--	0.5	0.5
	02/20/97	8.15	10,000	500	<10	90	130	6,400	4.0	4.0
	05/22/97	8.79	--	--	--	--	--	--	1.1	1.1
	08/22/97	8.05	23,000	1,300	65	740	290	4,500	3.2	3.2
	08/22/97 ^{dup}	8.05	20,000	1,200	<100	630	250	3,900	3.2	3.2
	11/03/97	8.75	--	--	--	--	--	--	1.2	1.2
S-3	05/13/91	7.90	3,300	30	3.6	26	13	--	--	--
(Bi-annually,	08/23/91	8.14	2,000	25	4	9.3	4.5	--	--	--
1st & 3rd	11/07/91	7.91	4,000	20	3.9	5	4.9	--	--	--
Qtrs)	01/28/92	7.53	2,100	21	7.6	6.7	15	--	--	--
	01/28/92 ^{dup}	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	--	--	--
	10/28/92	7.95	3,000	55	11	16	32	--	--	--
	01/19/93	6.12	3,100	<5	5.1	11	16	--	--	--

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

Well ID & Sampling Frequency	Date	Depth to Water (ft)	TPH-G	B	T	parts per billion (µg/L)			MTBE	HDM Units units/L	DO (mg/L)
						E	X				
	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 ^{dup}	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 ^{dup}	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
S-4	05/13/91	7.44	<50	<0.5	<0.5	<0.5	<0.5				
(Annually 1st	08/23/91	8.32	<50	<0.5	<0.5	<0.5	<0.5				
Qtr)	11/07/91	8.32	260	<0.5	<0.5	<0.5	<0.5				
	01/28/92	7.40	110 ^c	<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				
	04/29/93 ^{dup}	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				

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

Well ID & Sampling Frequency	Date	Depth to Water (ft)	TPH-G	B	T	E	X	MTBE	HDM Units units/L	DO (mg/L)
	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
S-5 (Quarterly)	05/13/91 ^{SPH}	14.60	--	--	--	--	--	--	--	--
	08/23/91 ^{SPH}	15.14	--	--	--	--	--	--	--	--
	11/07/91 ^{SPH}	15.10	--	--	--	--	--	--	--	--
	01/28/92 ^{SPH}	14.05	--	--	--	--	--	--	--	--
	05/06/92 ^{SPH}	14.31	--	--	--	--	--	--	--	--
	07/29/92 ^{SPH}	14.26	--	--	--	--	--	--	--	--
	10/28/92 ^{SPH}	14.22	--	--	--	--	--	--	--	--
	01/19/93 ^{SPH}	12.36	--	--	--	--	--	--	--	--
	04/29/93 ^{SPH}	9.64	--	--	--	--	--	--	--	--
	07/22/93 ^{SPH}	9.55	--	--	--	--	--	--	--	--
	10/21/93 ^{SPH}	11.23	--	--	--	--	--	--	--	--
	01/04/94 ^{SPH}	11.69	--	--	--	--	--	--	--	--
	07/25/94 ^{SPH}	12.01	--	--	--	--	--	--	--	--
	10/10/94 ^{SPH}	12.05	--	--	--	--	--	--	--	--
	01/26/95 ^{SPH}	9.80	--	--	--	--	--	--	--	--
	04/21/95 ^{SPH}	10.03	--	--	--	--	--	--	--	--
	07/28/95 ^{SPH}	11.42	--	--	--	--	--	--	--	--
	10/31/95 ^{SPH}		--	--	--	--	--	--	--	--
	01/10/96 ^{SPH}	12.05	--	--	--	--	--	--	--	--
	04/25/96 ^{SPH}	9.68	--	--	--	--	--	--	--	--

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

Well ID & Sampling Frequency	Date	Depth to Water (ft)	TPH-G	B	T	E	X	MTBE	HDM Units units/L	DO (mg/L)
	07/23/96	9.82	---	---	---	---	---	---	---	---
	12/10/96 ^{SPH}	9.10	270,000	8,800	29,000	5,200	37,000	<2,500	---	---
	12/10/96 ^{dup}	9.10	400,000	9,200	32,000	7,200	50,000	<2,500	---	---
	05/22/97 ^{SPH}	---	---	---	---	---	---	---	---	---
	02/20/97	8.93	88,000	2,000	11,000	1,600	19,000	<500	---	5.0
	08/22/97 ^{SPH}	10.24	---	---	---	---	---	---	---	---
	11/03/97 ^{SPH}	10.91	---	---	---	---	---	---	---	---
S-6	05/13/91	7.82	13,000	600	140	210	310	---	---	---
(Bi-annually,	08/23/91	9.58	9,800	480	80	120	150	---	---	---
1st & 3rd	11/07/91	10.86	6,200	240	23	25	27	---	---	---
Qtrs)	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 ^{dup}	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
	07/28/95 ^{dup}	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 ^{dup}	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

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

Well ID & Sampling Frequency	Date	Depth to Water (ft)	← parts per billion (µg/L) →				X	MTBE	HDM Units units/L	DO (mg/L)
			TPH-G	B	T	E				
	05/22/97	5.49	--	--	--	--	--	--	0.9	
	08/22/97	5.71	6,200	160	26	15	49	--	2.8	
	11/03/97	6.15	--	--	--	--	--	--	1.4	
S-7 (Quarterly)	05/13/91	10.56	<50	<0.5	<0.5	<0.5	--	--	--	
	08/23/91	11.16	<50	<0.5	<0.5	<0.5	--	--	--	
	11/07/91	11.48	<50	<0.5	<0.5	<0.5	--	--	--	
	01/28/92	10.72	<50	<0.5	<0.5	<0.5	--	--	--	
	05/06/92	10.34	<50	<0.5	<0.5	<0.5	--	--	--	
	07/29/92	11.13	160	<0.5	<0.5	<0.5	--	--	--	
	10/28/92	11.52	<50	<0.5	<0.5	<0.5	--	--	--	
	01/19/93	8.68	50	1.1	0.6	1.9	--	--	--	
	04/29/93	9.90	<50	<0.5	<0.5	<0.5	--	--	--	
	07/22/93 ^d	--	--	--	--	--	--	--	--	
	10/21/93	11.10	<50	<0.5	<0.5	<0.5	--	--	--	
	01/04/94	10.40	<50	<0.5	<0.5	<0.5	--	--	--	
	04/13/94	10.20	<50	1.4	0.61	<0.5	--	--	--	
	04/13/94 ^{dnp}	10.20	<50	1.4	0.61	<0.5	--	--	--	
	07/25/94	10.48	<50	<0.5	<0.5	<0.5	--	--	--	
	10/10/94 ^f	10.64	<50	<0.5	<0.5	<0.5	--	10 ³ to 10 ⁵ ab	4.6	
	01/26/95	7.75	<50	<0.5	<0.5	<0.5	--	--	--	
	04/21/95	8.51	<50	<0.5	<0.5	<0.5	--	--	3.0	
	07/28/95	10.20	<50	<0.5	<0.5	<0.5	--	--	4.9	
	10/31/95	10.86	<50	<0.5	<0.5	<0.5	--	--	7.6	
	01/10/96	10.33	<50	<0.5	2.0	<0.5	--	10 ⁰ to 10 ⁵ ab	6.2	
	04/25/96	9.13	<50	<0.5	<0.5	<0.5	<2.5	10 ⁰ to 10 ⁵ ab	3.7	
	07/23/96	10.18	<50	<0.5	<0.5	<0.5	14	10 ⁰ t	4.6	
	12/10/96	9.04	<50	<0.5	<0.5	<0.5	<2.5	--	5.0	
	02/20/97	9.60	<50	<0.50	<0.50	<0.50	<2.5	--	0.8	
	05/22/97	10.63	<50	1.3	<0.50	<0.50	5.5	--	--	

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

Well ID & Sampling Frequency	Date	Depth to Water (ft)	TPH-G	B	T	E	X	MTBE	HDM Units units/L	DO (mg/L)
	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
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. Analytic 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, equal to parts per billion
 mg/L = Milligrams per liter, equal to parts per million
 MCL = California primary maximum contaminant level for drinking water (22 CCR 64444)
 NE = Not established
 -- = Data not available

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

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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

December 5, 1997

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

Attn: Alex Perez

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

4th Quarter 1997

Groundwater Monitoring Report 971103-J-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) 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: Josh Bergstrom

(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		VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
					LIQUID ZONE (feet)	LIQUID ZONE (feet)			
S-1	11/03/97	TOB	-	NONE	-	-	-	8.35	11.76
S-2	11/03/97	TOB	-	NONE	-	-	-	8.75	12.03
S-3	11/03/97	TOB	-	NONE	-	-	-	7.40	12.13
S-4	11/03/97	TOB	-	NONE	-	-	-	8.26	14.15
S-5	11/03/97	TOB	FREE PRODUCT	10.89	0.02	-	-	10.91	-
S-6	11/03/97	TOB	-	NONE	-	-	-	6.15	15.05
S-7	11/03/97	TOB	-	NONE	-	-	-	11.29	14.96



Sequoia Analytical

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FAX (650) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

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

Project: Shell Albany/971103-J3

Enclosed are the results from samples received at Sequoia Analytical on November 4, 1997.
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9711331 -01	LIQUID, S-7	11/03/97	TPGM2W 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



**Sequoia
Analytical**

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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Albany/971103-J3 Sample Descript: S-7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9711331-01	Sampled: 11/03/97 Received: 11/04/97 Analyzed: 11/16/97 Reported: 11/19/97
--	--	---

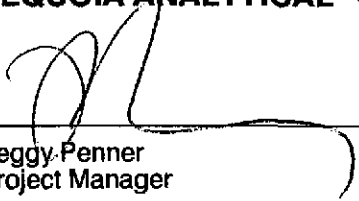
QC Batch Number: GC111697BTEX01A
Instrument ID: GCHP6

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	2.2
Toluene	0.50	1.7
Ethyl Benzene	0.50	0.58
Xylenes (Total)	0.50	3.4
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	101

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Penner
Project Manager



Sequoia Analytical

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Blaine Tech Services, Inc. Client Project ID: Shell Albany / 971103-J3
 1680 Rogers Ave. Matrix: Liquid
 San Jose, CA 95112
 Attention: Fran Thie Work Order #: 9711331 -01 Reported: Nov 19, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC111697BTEX01A	GC111697BTEX01A	GC111697BTEX01A	GC111697BTEX01A	GC111697BTEX01A
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:	T. Tran	T. Tran	T. Tran	T. Tran	T. Tran
MS/MSD #:	971132901	971132901	971132901	971132901	971132901
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	11/16/97	11/16/97	11/16/97	11/16/97	11/16/97
Analyzed Date:	11/16/97	11/16/97	11/16/97	11/16/97	11/16/97
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.0	10	9.8	30	62
MS % Recovery:	90	100	98	100	103
Dup. Result:	11	9.1	10	30	61
MSD % Recov.:	110	91	100	100	102
RPD:	20	9.4	2.0	0.0	1.6
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK111697	BLK111697	BLK111697	BLK111697	BLK111697
Prepared Date:	11/16/97	11/16/97	11/16/97	11/16/97	11/16/97
Analyzed Date:	11/16/97	11/16/97	11/16/97	11/16/97	11/16/97
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.5	9.6	100	30	62
LCS % Recov.:	95	96	1000	100	103

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

9711331.BLA <1>



Sequoia
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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie	Client Proj. ID: Shell Albany/971103-J3 Lab Proj. ID: 9711331	Received: 11/04/97 Reported: 11/19/97
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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 4 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Peggy Fenner
Project Manager

