

ENVIRONMENTAL  
PROTECTION

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March 15, 1997

**Mr. Alex Perez**  
Shell Oil Products Company  
P.O. Box 4023  
Concord, California 94524

**RE: Quarterly Monitoring Report - First Quarter 1997**  
Shell Service Station  
2800 Telegraph Avenue  
Oakland, California  
WIC #204-5508-2303

Dear Mr. Perez:

This Quarterly Monitoring Report describes the recently completed activities associated with ground water monitoring and sampling at the referenced site (Plates 1 and 2). This report was prepared to meet quarterly reporting guidelines issued by the Regional Water Quality Control Board and the Alameda County Health Care Services Agency.

This document presents the results of activities performed in the first quarter of 1997.

#### **Quarterly Monitoring & Sampling Summary**

- Blaine Tech Services, Inc. (Blaine) of San Jose, California measured ground water levels in Wells S-1, S-4 through S-11, and SR-1 on January 8, 1997.
- Ground water samples collected from Wells S-5, S-7, S-8 and S-11 were transported to Sequoia Analytical (Sequoia) of Redwood City, California. A duplicate sample and an equipment blank were prepared and analyzed for quality control purposes.
- Enviro, Inc. (Enviros) evaluated water-level measurement data and chemical analytical results and prepared this report, which includes Blaine's Quarterly Ground Water Monitoring Report and a ground water contour/benzene concentration map.
- Ground water flow is primarily to the southwest at an approximate hydraulic gradient of 0.02. A ground water contour/benzene concentration map is presented on Plate 2.
- TPPH concentrations in ground water samples ranged from not detected (ND) to 6,400 ppb. Benzene concentrations ranged from ND to 88 ppb.

## Quarterly Sampling

Monitoring Wells S-5, S-7, S-8 and S-11 were sampled and analyzed for Total Purgeable Petroleum Hydrocarbons quantified as gasoline (TPPH) according to EPA Method 8015 (Modified) and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl-tertiary-butyl-ether (MTBE) according to EPA Method 8020. Additionally, a duplicate sample and an equipment blank were prepared and analyzed for quality control purposes.

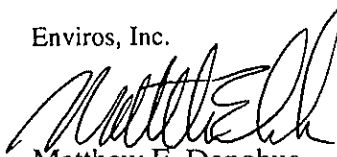
Field monitoring data and chemical analytical data are summarized in Table 1. Blaine's quarterly ground water monitoring report is presented in Appendix A.

Monitoring, sampling, and reporting will continue on the established schedule for the next quarter.

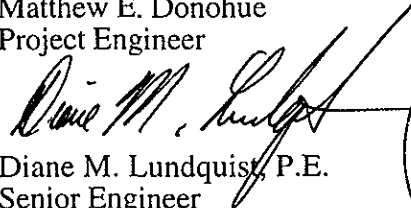
If you have any questions regarding the contents of this document, please call.

Sincerely,

Enviros, Inc.



Matthew E. Donohue  
Project Engineer



Diane M. Lundquist, P.E.  
Senior Engineer  
C46725



### Attachments:

Table 1. Well Concentrations

Plate 1. Vicinity Map

Plate 2. Ground Water Contour/Benzene Concentration Map

### Appendix A

Blaine Tech Services Inc. - Quarterly Ground Water Monitoring Report

cc: Ms. Susan L. Hugo, Alameda County Health Care Services Agency  
Mr. Murray Kalender, American Real Estate Partners

**TABLE 1**

**WELL CONCENTRATIONS  
Shell Oil Products Company  
2800 Telegraph Avenue  
Oakland, California  
WIC #204-5508-2303**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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<b>S-1</b>	<b>Top of box elevation (ft): 35.31</b>									
04-May-92	9.50	25.81	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Aug-92	10.85	24.46	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
09-Nov-92	10.34	24.97	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
23-Feb-93	7.60	27.71	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
07-Jun-93	8.63	26.68	0.00	<50	2.8	1.3	0.7	3.0	NA	
13-Aug-93	9.20	26.11	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-93	10.58	24.73	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Feb-94	8.41	26.90	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
03-May-94	9.09	26.22	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
01-Aug-94	8.81	26.50	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Nov-94	9.32	25.99	0.00	NA	NA	NA	NA	NA	NA	
03-Feb-95	6.98	28.33	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-95	9.35	25.96	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Feb-96	7.45	27.86	0.00	NA	NA	NA	NA	NA	NA	
04-May-96	8.91	26.40	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	9.33	25.98	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
02-Oct-96	10.11	25.20	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	7.93	27.38	0.00	NA	NA	NA	NA	NA	NA	

<b>S-2</b>	<b>Top of box elevation (ft): 33.91</b>									
04-May-92	9.44	24.47	0.00	1600	190	6.0	240	54	NA	
10-Aug-92	10.73	23.18	0.00	<50	4.1	<0.5	<0.5	<0.5	NA	
11-Sep-92	NA	NA	NA	84	19	0.7	2.2	4.3	NA	
09-Nov-92	10.29	23.62	0.00	NA	NA	NA	NA	NA	NA	
23-Feb-93	9.04	24.87	0.00	16000	1600	480	850	1800	NA	

TABLE 1

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**Shell Oil Products Company**  
**2800 Telegraph Avenue**  
**Oakland, California**  
**WIC #204-5508-2303**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
07-Jun-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Destroyed 4/8/93
<b>S-3</b>		<b>Top of box elevation (ft): 33.56</b>								
04-May-92	9.22	24.34	0.00	NA	NA	NA	NA	NA	NA	
10-Aug-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Paved Over - Inaccessible
<b>S-4</b>		<b>Top of box elevation (ft): 34.08</b>								
04-May-92	9.96	24.12	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Aug-92	11.32	22.76	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
09-Nov-92	11.29	22.79	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
23-Feb-93	9.82	24.26	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
07-Jun-93	10.51	23.57	0.00	50	9.2	5.5	3.3	14	NA	
13-Aug-93	11.05	23.03	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-93	11.34	22.74	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Feb-94	9.93	24.15	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
03-May-94	10.40	23.68	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
01-Aug-94	10.68	23.40	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Nov-94	9.44	24.64	NA	NA	NA	NA	NA	NA	NA	
03-Feb-95	9.18	24.90	NA	NA	NA	NA	NA	NA	NA	
02-Aug-95	10.62	23.46	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Feb-96	9.23	24.85	0.00	NA	NA	NA	NA	NA	NA	
04-May-96	10.37	23.71	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	10.69	23.39	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
02-Oct-96	10.96	23.12	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	9.37	24.71	0.00	NA	NA	NA	NA	NA	NA	

TABLE 1

WELL CONCENTRATIONS  
 Shell Oil Products Company  
 2800 Telegraph Avenue  
 Oakland, California  
 WIC #204-5508-2303

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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<b>S-5</b>		<b>Top of box elevation (ft): 33.42</b>								
04-May-92	10.27	23.15	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Aug-92	10.68	22.74	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
09-Nov-92	10.69	22.73	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
23-Feb-93	9.45	23.97	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
07-Jun-93	10.23	23.19	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Aug-93	10.58	22.84	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-93	10.70	22.72	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Feb-94	9.75	23.67	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
03-May-94	10.19	23.23	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
01-Aug-94	10.30	23.12	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Nov-94	9.64	23.78	NA	NA	NA	NA	NA	NA	NA	
03-Feb-95	9.59	23.83	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Aug-95	10.23	23.90	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Feb-96	9.51	23.91	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
04-May-96	10.15	23.27	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	10.30	23.12	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
02-Oct-96	10.54	22.88	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	9.56	23.86	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	

<b>S-6</b>		<b>Top of box elevation (ft): 32.59</b>								
04-May-92	9.42	23.17	0.00	3100	640	22	23	97	NA	
10-Aug-92	10.40	22.19	0.00	3400	430	27	26	120	NA	
09-Nov-92	10.16	22.43	0.00	2000	320	15	15	100	NA	
23-Feb-93	7.60	24.99	0.00	14000	780	180	380	1300	NA	
07-Jun-93	8.90	23.69	0.00	3900	1400	56	83	210	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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13-Aug-93	9.39	23.20	0.00	4000 (a)	890	16	<0.5	41	NA	
18-Nov-93	10.32	22.27	0.00	80	5.0	<0.5	<0.5	<0.5	NA	
10-Feb-94	8.68	23.91	0.00	4100	370	23	21	90	NA	
03-May-94	9.20	23.39	0.00	4700	550	28	85	340	NA	
01-Aug-94	8.90	23.69	0.00	2900	370	11	11	43	NA	
08-Nov-94	8.32	23.69	0.00	NA	NA	NA	NA	NA	NA	
03-Feb-95	8.04	23.69	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-95	9.26	23.19	0.00	1400	160	<5	<5	<5	NA	
02-Feb-96	7.90	24.69	0.00	NA	NA	NA	NA	NA	NA	
04-May-96	8.98	23.61	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	9.34	23.25	0.00	1600	150	9.2	13	23	17	
02-Oct-96	9.96	22.63	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	7.38	25.21	0.00	NA	NA	NA	NA	NA	NA	

S-6 (DUP)										
01-Aug-94	NA	NA	NA	2600	340	8.8	7.7	33	NA	
02-Aug-95	NA	NA	NA	1400	170	<5	<5	<5	NA	

S-7										
Top of box elevation (ft): 33.33										
04-May-92	11.21	22.12	0.00	180	1.6	<0.5	1.5	3.0	NA	
10-Aug-92	12.28	21.05	0.00	190	8.0	1.4	4.7	8.5	NA	
09-Nov-92	11.77	21.56	0.00	280	16	4.0	7.8	21	NA	
23-Feb-93	8.86	24.47	0.00	210	13	2.2	5.4	12	NA	
07-Jun-93	10.58	22.75	0.00	90	1.2	2.5	1.0	<0.5	NA	
13-Aug-93	11.34	21.99	0.00	140	4.0	0.8	<0.5	0.5	NA	
18-Nov-93	12.00	21.33	0.00	440	43	4.9	0.9	4.2	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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10-Feb-94	9.88	23.45	0.00	250 (a)	<0.5	<0.5	1.8	<0.5	NA	
03-May-94	10.75	22.58	0.00	130	<0.5	<0.5	<0.5	<0.5	NA	
01-Aug-94	11.05	22.28	0.00	250	4.8	<0.5	<0.5	<0.5	NA	
08-Nov-94	9.64	23.69	NA	NA	NA	NA	NA	NA	NA	
03-Feb-95	8.53	24.80	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Aug-95	11.10	22.23	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Feb-96	8.58	24.75	0.00	480	2.2	2.4	7.9	25	NA	
04-May-96	10.41	22.92	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	11.18	22.15	0.00	300	20	2.2	3.8	7.9	21	MTBE by EPA Method 8260: 11 ppb
02-Oct-96	12.12	21.21	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	8.23	25.10	0.00	850	16	6.3	20	59	<25	

S-7 (DUP)										
02-Aug-96	NA	NA	NA	340	22	2.2	4.4	8.9	20	
08-Jan-97	NA	NA	NA	840	15	<5.0	21	63	25	

S-8										
Top of box elevation (ft): 31.97										
04-May-92	10.29	21.68	0.00	1600	20	420	96	330	NA	
10-Aug-92	11.12	20.85	0.00	1500	19	37	60	250	NA	
09-Nov-92	10.71	21.26	0.00	710	5.7	24	28	120	NA	
23-Feb-93	6.04	25.93	0.00	3800	40	54	68	260	NA	
07-Jun-93	10.06	21.91	0.00	1200	13	19	65	150	NA	
13-Aug-93	10.56	21.41	0.00	1300	21	23	49	250	NA	
18-Nov-93	10.90	21.07	0.00	870	16	5.3	59	230	NA	
10-Feb-94	9.53	22.44	0.00	2400	11	55	120	530	NA	
03-May-94	10.06	21.91	0.00	3100	12	27	130	370	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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01-Aug-94	10.32	21.65	0.00	1500	20	18	39	190	NA	
08-Nov-94	9.25	22.72	0.00	2100	22	38	73	390	NA	
03-Feb-95	8.99	22.98	0.00	4800	67	39	130	300	NA	
04-May-95	9.22	22.75	0.00	2600	31	23	71	310	NA	
02-Aug-95	10.36	21.61	0.00	1700	10	9.1	48	210	NA	
02-Nov-95	10.72	21.25	0.00	1200	16	13	72	130	NA	
02-Feb-96	8.92	23.05	0.00	7100	29	140	360	1300	NA	
04-May-96	9.86	22.11	0.00	3500	13	27	110	400	<25	
02-Aug-96	10.30	21.67	0.00	850	9.6	7.4	30	160	11	
02-Oct-96	10.71	21.26	0.00	980	<5.0	11	13	92	<25	
08-Jan-97	8.88	23.09	0.00	6400	88	48	190	500	<100	

<b>S-8 (DUP)</b>										
10-Feb-94	NA	NA	NA	2400	11	46	100	440	NA	
03-May-94	NA	NA	NA	3000	21	25	120	340	NA	
08-Nov-94	NA	NA	NA	2100	20	31	75	390	NA	
03-Feb-95	NA	NA	NA	3700	53	30	100	240	NA	
04-May-95	NA	NA	NA	3300	38	26	89	390	NA	
02-Aug-95	NA	NA	NA	1200	15	13	70	120	NA	
02-Feb-96	NA	NA	NA	7800	33	160	400	1500	NA	
04-May-96	NA	NA	NA	5100	19	37	190	690	<25	
02-Oct-96	NA	NA	NA	1300	<5.0	10	28	180	<25	

<b>S-9</b>										
<b>Top of box elevation (ft): 31.86</b>										
04-May-92	10.45	21.41	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Aug-92	11.52	20.34	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	



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09-Nov-92	11.02	20.84	0.00	<50	<0.5	<0.5	<0.5	0.7	NA	
23-Feb-93	8.00	23.86	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
07-Jun-93	10.07	21.79	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Aug-93	10.92	20.94	0.00	140 (b)	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-93	11.19	20.67	0.00	170	<0.5	<0.5	<0.5	<0.5	NA	
10-Feb-94	9.16	22.70	0.00	140 (b)	<0.5	<0.5	<0.5	<0.5	NA	
03-May-94	10.03	21.83	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
01-Aug-94	10.52	21.34	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Nov-94	9.08	22.78	0.00	NA	NA	NA	NA	NA	NA	
03-Feb-95	8.37	23.49	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-95	9.35	22.51	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Feb-96	7.53	24.33	0.00	NA	NA	NA	NA	NA	NA	
04-May-96	9.60	22.26	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	10.46	21.40	0.00	<50	<0.50	<0.50	<0.50	<0.50	12	
02-Oct-96	10.66	21.20	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	7.20	24.66	0.00	NA	NA	NA	NA	NA	NA	

S-10	Top of box elevation (ft): 32.95									
04-May-92	8.54	24.41	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Aug-92	10.43	22.52	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
09-Nov-92	9.14	23.81	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
23-Feb-93	6.72	26.23	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
07-Jun-93	8.08	24.87	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Aug-93	8.83	24.12	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-93	9.46	23.49	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Feb-94	7.41	25.54	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	

TABLE 1

WELL CONCENTRATIONS  
 Shell Oil Products Company  
 2800 Telegraph Avenue  
 Oakland, California  
 WIC #204-5508-2303

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
-------------	------------------------	------------------------	---------	-------------	----------	----------	----------	----------	-------------	----------

03-May-94	8.16	24.79	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
01-Aug-94	8.29	24.66	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Nov-94	7.02	25.93	0.00	NA	NA	NA	NA	NA	NA	
03-Feb-95	6.79	26.16	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-95	8.30	24.65	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Feb-96	6.49	26.46	0.00	NA	NA	NA	NA	NA	NA	
04-May-96	7.55	25.40	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	9.25	23.70	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
02-Oct-96	10.54	22.41	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	6.47	26.48	0.00	NA	NA	NA	NA	NA	NA	

S-11	Top of box elevation (ft): 30.78									
04-May-92	9.99	20.79	0.00	1500	55	32	57	190	NA	
10-Aug-92	10.92	19.86	0.00	750	29	13	43	120	NA	
09-Nov-92	10.44	20.34	0.00	4100	32	62	120	1100	NA	
23-Feb-93	7.30	23.48	0.00	760	15	13	37	140	NA	
07-Jun-93	9.51	21.27	0.00	1700	40	16	100	360	NA	
13-Aug-93	10.39	20.39	0.00	60	0.9	<0.5	0.8	1.2	NA	
18-Nov-93	10.64	20.14	0.00	150	7.8	1.0	9.0	12	NA	
10-Feb-94	8.50	22.28	0.00	4400	53	19	160	390	NA	
03-May-94	9.42	21.36	0.00	65	1.5	<0.5	0.53	0.59	NA	
01-Aug-94	10.12	20.66	0.00	240	18	6.7	6.9	18	NA	
08-Nov-94	8.84	21.94	0.00	490	14	5.2	15	47	NA	
03-Feb-95	7.12	23.66	0.00	380	4.1	0.9	1.4	5.1	NA	
04-May-95	7.96	22.82	0.00	110	1.3	<0.5	1.1	1.8	NA	
02-Aug-95	9.88	20.90	0.00	230	22	11	13	35	NA	

TABLE 1

WELL CONCENTRATIONS  
 Shell Oil Products Company  
 2800 Telegraph Avenue  
 Oakland, California  
 WIC #204-5508-2303

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
-------------	------------------------	------------------------	---------	-------------	----------	----------	----------	----------	-------------	----------

02-Nov-95	10.10	20.68	0.00	200	26	10	10	30	NA	
02-Feb-96	7.33	23.45	0.00	110	2.9	1.0	2.6	6.5	NA	
04-May-96	8.62	22.16	0.00	<50	0.70	0.54	0.82	2.6	7.5	
02-Aug-96	9.85	20.93	0.00	200	11	4.6	12	38	10	
02-Oct-96	11.00	19.78	0.00	290	20	6.2	16	48	8.4	
08-Jan-97	6.20	24.58	0.00	56	2.0	<0.50	1.0	5.8	5.2	

S-11 (DUP)										
07-Jun-93	NA	NA	NA	1600	51	16	83	300	NA	
13-Aug-93	NA	NA	NA	70	2.1	<0.5	0.9	2.1	NA	

SR-1										
Top of box elevation (ft): not surveyed										
04-May-92	9.02	NA	0.00	NA	NA	NA	NA	NA	NA	
10-Aug-92	10.29	NA	0.00	NA	NA	NA	NA	NA	NA	
09-Nov-92	10.92	NA	0.00	NA	NA	NA	NA	NA	NA	
22-Feb-93	6.64	NA	0.00	NA	NA	NA	NA	NA	NA	
07-Jun-93	7.36	NA	0.00	NA	NA	NA	NA	NA	NA	
13-Aug-93	7.96	NA	0.00	NA	NA	NA	NA	NA	NA	
18-Nov-93	10.02	NA	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
10-Feb-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	
03-May-94	8.28	NA	0.00	NA	NA	NA	NA	NA	NA	
01-Aug-94	7.98	NA	0.00	NA	NA	NA	NA	NA	NA	
08-Nov-94	7.75	NA	0.00	NA	NA	NA	NA	NA	NA	
03-Feb-95	7.20	NA	0.00	NA	NA	NA	NA	NA	NA	
04-May-95	4.10	NA	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-95	5.31	NA	0.00	NA	NA	NA	NA	NA	NA	

**TABLE 1**

**WELL CONCENTRATIONS  
Shell Oil Products Company  
2800 Telegraph Avenue  
Oakland, California  
WIC #204-5508-2303**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
02-Nov-95	10.62	NA	0.00	NA	NA	NA	NA	NA	NA	
02-Feb-96	7.30	NA	0.00	90 (d)	6.1	6.7	2.8	8.5	NA	
04-May-96	8.10	NA	0.00	NA	NA	NA	NA	NA	NA	
02-Aug-96	8.10	NA	0.00	NA	NA	NA	NA	NA	NA	
02-Oct-96	9.25	NA	0.00	NA	NA	NA	NA	NA	NA	
08-Jan-97	7.18	NA	0.00	NA	NA	NA	NA	NA	NA	
<b>SR-1 (DUP)</b>										
18-Nov-93	NA	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	

**Abbreviations:**

TPPH = Total Purgeable Petroleum Hydrocarbons carbon range C6 to C12 by Modified EPA Method 8015

(previously reported as Total Petroleum Hydrocarbons as Gasoline)

BTEX = benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

MTBE = methyl-tertiary-butyl-ether by EPA Method 8020

<x = Not detected at detection limit of x

NA = Not analyzed or not available

(DUP) = Duplicate sample

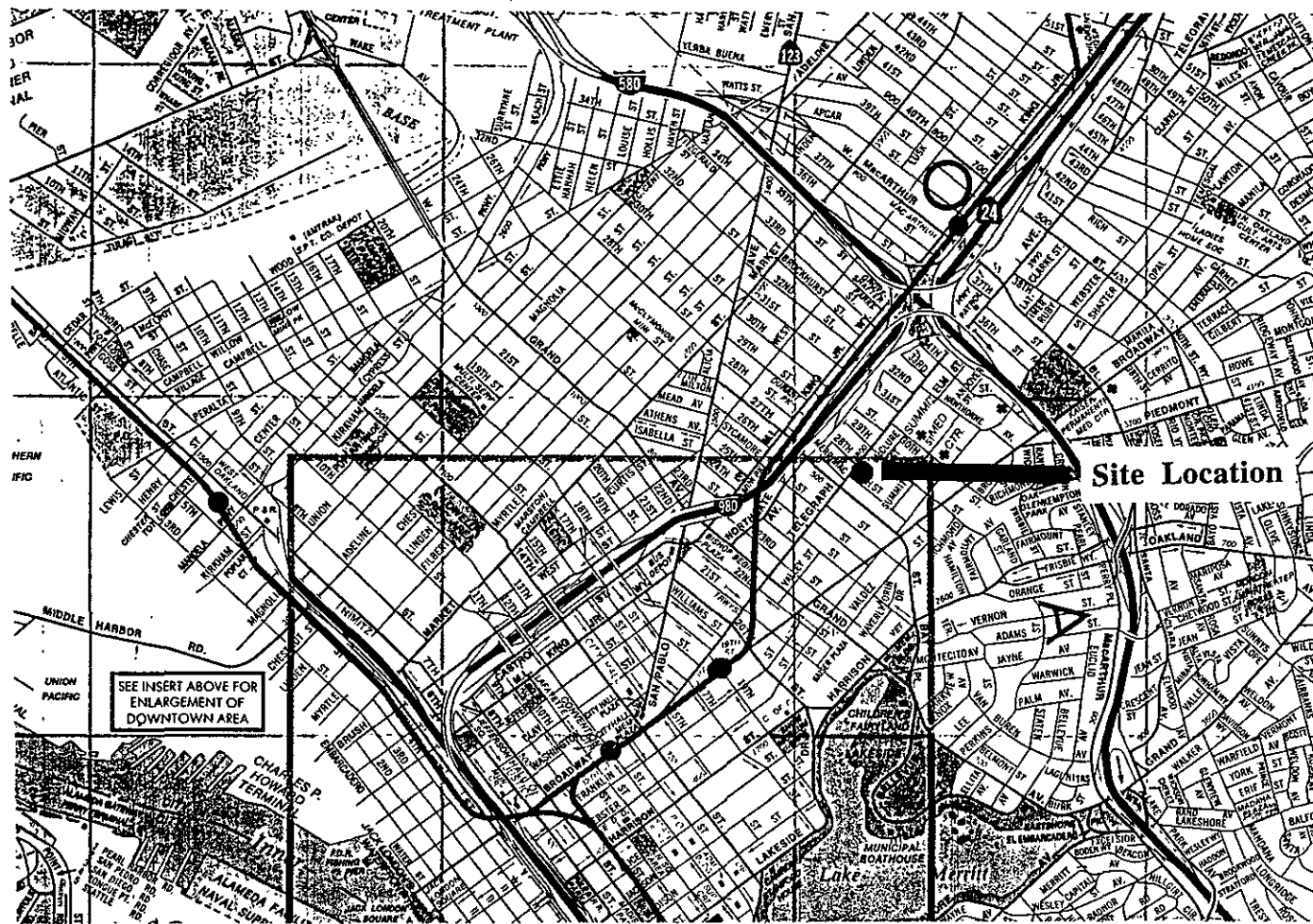
**Notes:**

a = The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.

b = Well inaccessible since August 1992

c = The concentration reported as gasoline is primarily due to the presence of a discrete peak not indicative of gasoline.

Elevations referenced to Mean Sea Level



Note: Vicinity Map taken from California State-AAA map.

PLATE

1

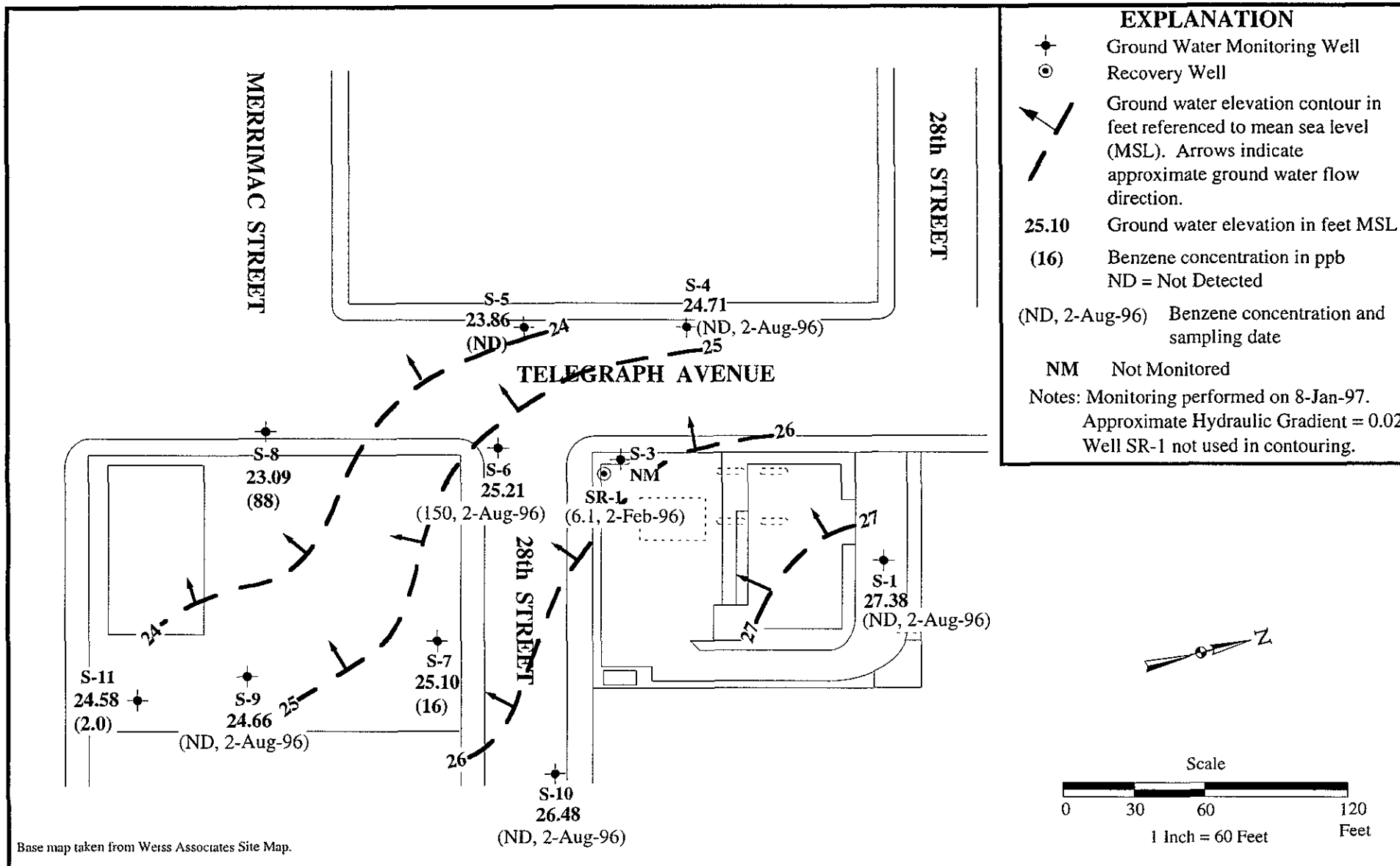
**SITE VICINITY MAP**  
 Former Shell Service Station  
 2800 Telegraph Avenue  
 Oakland, California

**enviros**<sup>®</sup>  
 95290

Drawn By: JLP

Date: 5-15-95

Approved By: *[Signature]* Date: 3-7-97



PLATE

2

**GROUND WATER CONTOUR/BENZENE CONCENTRATION MAP**

Former Shell Service Station  
 2800 Telegraph Avenue  
 Oakland, California

**enviros**®

97290

Drawn By: MED

Date: 26-Feb-97

Approved By: *MED*

Date: 3-7-97

**Appendix A**

**Blaine Tech Services Inc.  
Quarterly Ground Water Monitoring Report**

**BLAINE**  
TECH SERVICES, INC.



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

January 23, 1997

RECEIVED  
JAN 29 1997

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

Attn: R. Jeff Granberry

Shell WIC #204-5508-2303  
2800 Telegraph Avenue  
Oakland, California

1st Quarter 1997

## Quarterly Groundwater Monitoring Report 970108-A-1

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

Groundwater monitoring at this site was performed in accordance with Standard Operating Procedures provided to the interested regulatory agencies. If you have any questions about the work performed at this site please call me at (408) 573-0555 ext. 201.

Yours truly,

Francis Thie

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

cc: Enviro, Inc.  
P.O. Box 259  
Sonoma, CA 95476-0259  
Attn: Joe Neely

(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)
S-1	1/8/97	TOB	--	NONE	--	--	7.93	27.55
S-4	1/8/97	TOB	--	NONE	--	--	9.37	30.30
S-5	1/8/97	TOB	--	NONE	--	--	9.56	30.52
S-6	1/8/97	TOB	--	NONE	--	--	7.38	22.11
S-7 *	1/8/97	TOB	ODOR	NONE	--	--	8.23	30.65
S-8	1/8/97	TOB	--	NONE	--	--	8.88	19.15
S-9	1/8/97	TOB	--	NONE	--	--	7.20	30.00
S-10	1/8/97	TOB	--	NONE	--	--	6.47	24.20
S-11	1/8/97	TOB	--	NONE	--	--	6.20	19.10
SR-1	1/8/97	TOB	--	NONE	--	--	7.18	34.10

\* Sample DUP was a duplicate sample taken from well S-7.





# 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

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(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: Fran Thie

Project: Shell Oakland/970108-A1

Enclosed are the results from samples received at Sequoia Analytical on January 9, 1997.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9701475 -01	LIQUID, S-5	01/08/97	TPGBMW Purgeable TPH/BTEX
9701475 -02	LIQUID, S-7	01/08/97	TPGBMW Purgeable TPH/BTEX
9701475 -03	LIQUID, S-8	01/08/97	TPGBMW Purgeable TPH/BTEX
9701475 -04	LIQUID, S-11	01/08/97	TPGBMW Purgeable TPH/BTEX
9701475 -05	LIQUID, EB	01/08/97	TPGBMW Purgeable TPH/BTEX
9701475 -06	LIQUID, Dup	01/08/97	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



# Sequoia Analytical

680 Chesapeake Drive	Redwood City, CA 94063	(415) 364-9600	FAX (415) 364-9233
404 N. Wiget Lane	Walnut Creek, CA 94598	(510) 988-9600	FAX (510) 988-9673
819 Striker Avenue, Suite 8	Sacramento, CA 95834	(916) 921-9600	FAX (916) 921-0100

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Oakland/970108-A1 Sample Descript: S-5 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701475-01	Sampled: 01/08/97 Received: 01/09/97  Analyzed: 01/13/97 Reported: 01/16/97
Attention: Fran Thie		


QC Batch Number: GC011397BTEX22A  
Instrument ID: GCHP22

## 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	102

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 Oakland/970108-A1 Sample Descript: S-7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701475-02	Sampled: 01/08/97 Received: 01/09/97 Analyzed: 01/13/97 Reported: 01/16/97
Attention: Fran Thie		

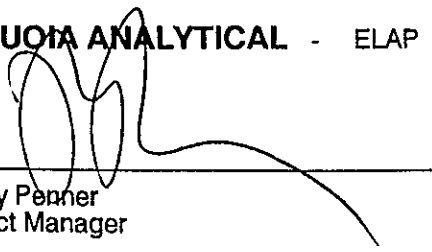
QC Batch Number: GC011397BTEX22A  
Instrument ID: GCHP22

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	850
Methyl t-Butyl Ether	25	N.D.
Benzene	5.0	16
Toluene	5.0	6.3
Ethyl Benzene	5.0	20
Xylenes (Total)	5.0	59
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	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 Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Oakland/970108-A1 Sample Descript: S-8 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9701475-03	Sampled: 01/08/97 Received: 01/09/97  Analyzed: 01/13/97 Reported: 01/16/97
--	---	---

QC Batch Number: GC011397BTEX22A  
Instrument ID: GCHP22

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

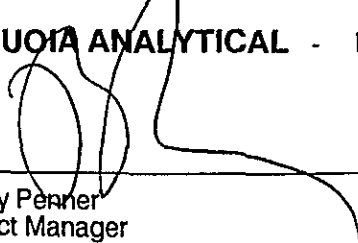
Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	6400
Methyl t-Butyl Ether	100	N.D.
Benzene	20	88
Toluene	20	48
Ethyl Benzene	20	190
Xylenes (Total)	20	500
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
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 Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Client Proj. ID: Shell Oakland/970108-A1
Sample Descript: S-11
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9701475-04

Sampled: 01/08/97
Received: 01/09/97
Analyzed: 01/13/97
Reported: 01/16/97

Attention: Fran Thie

QC Batch Number: GC011397BTEX22A
Instrument ID: GCHP22

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 (56), Methyl t-Butyl Ether (5.2), Benzene (2.0), Toluene (N.D.), Ethyl Benzene (1.0), Xylenes (Total) (5.8), Chromatogram Pattern: C6-C12. Control Limits % (70, 130) and % Recovery (106) are also listed.

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

SEQUOIA ANALYTICAL - ELAP #1210

Handwritten signature of Peggy Penner, Project Manager.

Peggy Penner
Project Manager



Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/970108-A1  
Sample Descript: EB  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9701475-05

Sampled: 01/08/97  
Received: 01/09/97  
Analyzed: 01/13/97  
Reported: 01/16/97

QC Batch Number: GC011397BTEX22A  
Instrument ID: GCHP22

**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	93

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager





Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/970108-A1  
Sample Descript: Dup  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9701475-06

Sampled: 01/08/97  
Received: 01/09/97  
Analyzed: 01/13/97  
Reported: 01/16/97

QC Batch Number: GC011397BTEX22A  
Instrument ID: GCHP22

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	840
Methyl t-Butyl Ether	25	25
Benzene	5.0	15
Toluene	5.0	N.D.
Ethyl Benzene	5.0	21
Xylenes (Total)	5.0	63
Chromatogram Pattern:		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	109

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	Redwood City, CA 94063	(415) 364-9600	FAX (415) 364-9233
404 N. Wiget Lane	Walnut Creek, CA 94598	(510) 988-9600	FAX (510) 988-9673
819 Striker Avenue, Suite 8	Sacramento, CA 95834	(916) 921-9600	FAX (916) 921-0100

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

Client Proj. ID: Shell Oakland/970108-A1

Received: 01/09/97

Lab Proj. ID: 9701475

Reported: 01/16/97

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 9 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



# Sequoia Analytical

680 Chesapeake Drive Redwood City, CA 94063 (415) 364-9600 FAX (415) 364-9233  
 404 N. Wiget Lane Walnut Creek, CA 94598 (510) 988-9600 FAX (510) 988-9673  
 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

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

Client Project ID: Shell Oakland/970108-A1  
 Matrix: LIQUID

Work Order #: 9701475 01-06

Reported: Jan 22, 1997

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC011397BTEX22B	GC011397BTEX22B	GC011397BTEX22B	GC011397BTEX22B
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 #:	970138001	970138001	970138001	970138001
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/13/97	1/13/97	1/13/97	1/13/97
Analyzed Date:	1/13/97	1/13/97	1/13/97	1/13/97
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	10	10	10	31
MS % Recovery:	100	100	100	103
Dup. Result:	8.2	7.8	8.0	23
MSD % Recov.:	82	78	80	77
RPD:	20	25	22	30
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK011397	BLK011397	BLK011397	BLK011397
Prepared Date:	1/13/97	1/13/97	1/13/97	1/13/97
Analyzed Date:	1/13/97	1/13/97	1/13/97	1/13/97
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	10	10	10	30
LCS % Recov.:	100	100	100	100

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

9701475.BLA <1>