

ENVIRONMENTAL  
PROTECTION  
97 OCT 16 PM 11:06

October 15, 1997

**Mr. Alex Perez**  
*Shell Oil Products Company*  
P.O. Box 8080  
Martinez, California 9453

**RE: Quarterly Monitoring Report - Third Quarter 1997**  
Former Shell Service Station  
500 40th Avenue  
Oakland, California  
WIC #204-5508-4903

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 Alameda County Health Care Services Agency and the Regional Water Quality Control Board, San Francisco Bay Region.

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

Ground water monitoring and sampling for the third quarter of 1997 are summarized below:

- Blaine Tech Services, Inc. (Blaine) of San Jose, California measured ground water levels in Wells EW-1, MW-2 through MW-5, OMW-6, MW-8, OMW-10, and OMW-12 and collected ground water samples from Well OMW-12 on July 22, 1997. The samples were transported to Sequoia Analytical of Redwood City, California for chemical analysis.
- Ground water level measurement data were evaluated and used to prepare a ground water contour map (Plate 2). Ground water flow is generally southwesterly at an approximate hydraulic gradient of 0.04.

### **Quarterly Sampling**

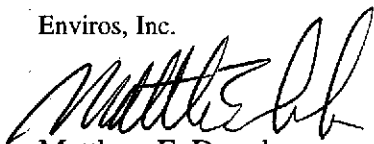
Well OMW-12 was sampled and analyzed for Total Purgeable Petroleum Hydrocarbons quantitated as gasoline (TPPH) according to EPA Method 8015 (Modified), and benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl-tertiary-butyl-ether (MTBE) according to EPA Method 8020. An equipment blank and duplicate sample were also collected and analyzed for quality control purposes.

Field monitoring data and chemical analytical data are summarized in Table 1. A benzene concentration map is presented as Plate 2. Blaine's quarterly ground water monitoring report is presented in Appendix A.

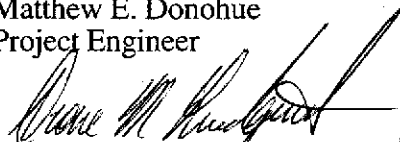
If you have any questions regarding the contents of this document, please call.

Sincerely,

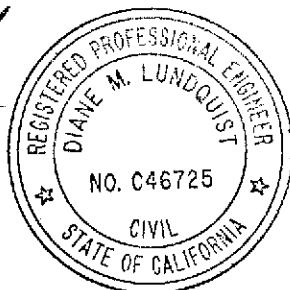
Enviros, Inc.



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

**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell Oil Products Company**  
**500 40th Avenue**  
**Oakland, California**  
**WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
<b>EW-1</b>	<b>Top casing elevation (ft):</b>			<b>78.26</b>							
06-Aug-91	NA	NA	NA	180	<50	5.4	<0.5	0.9	0.7	NA	
30-Oct-91	12.72	65.54	0.00	70	<50	2.6	<0.5	<0.5	<0.5	NA	
15-Feb-92	NA	NA	NA	<50	NA	2.1	<0.5	<0.5	<0.5	NA	
18-Mar-92	11.71	66.55	0.00	NA	NA	NA	NA	NA	NA	NA	
22-May-92	12.84	65.42	0.00	99	NA	4.1	<0.5	<0.5	<0.5	NA	
19-Aug-92	13.04	65.22	0.00	140	NA	6.6	<0.5	<0.5	<0.5	NA	
18-Nov-92	12.90	65.36	0.00	56	NA	<0.5	<0.5	<0.5	<0.5	NA	
11-Feb-93	11.28	66.98	0.00	63	NA	<0.5	<0.5	<0.5	0.9	NA	
19-May-93	12.52	65.74	0.00	60 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Aug-93	12.48	65.78	0.00	NA	NA	NA	NA	NA	NA	NA	
17-Nov-93	12.63	65.63	0.00	170	NA	17	<0.5	<0.5	<0.5	NA	
18-Feb-94	11.38	66.88	0.00	NA	NA	NA	NA	NA	NA	NA	
26-May-94	12.02	66.24	0.00	<50	NA	3.5	<0.5	<0.5	0.51	NA	
29-Aug-94	12.76	65.50	0.00	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	11.08	67.18	0.00	200	NA	13	0.88	<0.5	<0.5	NA	
03-Feb-95	10.88	67.38	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	11.32	66.94	0.00	90	NA	8.6	<0.5	<0.5	<0.5	NA	
02-Aug-95	11.76	66.50	0.00	NA	NA	NA	NA	NA	NA	NA	
02-Nov-95	12.80	65.46	0.00	240	NA	12	1.5	0.6	1.9	NA	
24-Feb-96	10.15	68.11	0.00	NA	NA	NA	NA	NA	NA	NA	
04-May-96	12.26	66.00	0.00	<50	NA	1.4	<0.50	<0.50	<0.50	4.1	
07-Sep-96	13.43	64.83	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	12.24	66.02	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
23-Feb-97	12.20	66.06	0.00	NA	NA	NA	NA	NA	NA	NA	

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**Shell Oil Products Company**  
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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01-May-97	12.97	65.29	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
22-Jul-97	13.43	64.83	0.00	NA	NA	NA	NA	NA	NA	NA	

<b>EW-1 (DUP)</b>											
11-Feb-93	NA	NA	NA	63	NA	<0.5	<0.5	<0.5	0.8	NA	
17-Nov-93	NA	NA	NA	190	NA	17	<0.5	<0.5	<0.5	NA	

<b>MW-2</b>	<b>Top casing elevation (ft):</b>			<b>80.80</b>							
06-Aug-91	12.12	68.68	0.00	1200	230	59	1.1	38	56	NA	
30-Oct-91	11.70	69.10	0.00	520	300	56	<0.5	56	100	NA	
15-Feb-92	NA	NA	NA	2300	2200 (a)	87	<2.5	88	150	NA	
18-Mar-92	11.10	69.70	0.00	NA	NA	NA	NA	NA	NA	NA	
22-May-92	12.12	68.68	0.00	700	NA	24	1.0	34	48	NA	
19-Aug-92	12.18	68.62	0.00	740	NA	21	<2.5	24	26	NA	
18-Nov-92	12.03	68.77	0.00	920	NA	19	<2.5	30	51	NA	
11-Feb-93	11.15	69.65	0.00	1000	NA	25	6.0	43	73	NA	
19-May-93	11.80	69.00	0.00	570	NA	19	<0.5	37	42	NA	
18-Aug-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
17-Nov-93	12.00	68.80	0.00	250	NA	10	<1.0	26	20	NA	
18-Feb-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
26-May-94	11.61	69.19	0.00	620	NA	17	1.4	25	31	NA	
29-Aug-94	11.96	68.84	0.00	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	10.74	70.06	0.00	1100	NA	28	3.1	39	65	NA	
03-Feb-95	11.58	69.22	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	10.98	69.82	0.00	700	NA	15	<0.5	35	39	NA	
02-Aug-95	11.90	68.90	0.00	NA	NA	NA	NA	NA	NA	NA	

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Shell Oil Products Company  
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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02-Nov-95	12.12	68.68	0.00	140	NA	2.3	<0.5	4.4	3.7	NA	
24-Feb-96	10.25	70.55	0.00	NA	NA	NA	NA	NA	NA	NA	
04-May-96	11.30	69.50	0.00	140	NA	2.1	<0.50	4.6	4.9	6.2	
07-Sep-96	15.10	65.70	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	12.13	68.67	0.00	620	NA	9.7	<0.50	2.0	46	<2.5	
23-Feb-97	12.01	68.79	0.00	NA	NA	NA	NA	NA	NA	NA	
01-May-97	12.94	67.86	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
22-Jul-97	13.22	67.58	0.00	NA	NA	NA	NA	NA	NA	NA	

<b>MW-2 (DUP)</b>											
19-Aug-92	NA	NA	NA	840	NA	31	<2.5	36	43	NA	
18-Nov-92	NA	NA	NA	870	NA	25	<2.5	34	52	NA	
26-May-94	NA	NA	NA	600	NA	16	1.2	24	29	NA	

<b>MW-3</b>	<b>Top casing elevation (ft):</b>			<b>79.60</b>							
06-Aug-91	11.12	68.48	0.00	1900	470	220	57	57	260	NA	
30-Oct-91	10.93	68.67	0.00	1900	480	160	28	63	180	NA	
15-Feb-92	NA	NA	NA	2300	780 (a)	170	31	59	180	NA	
18-Mar-92	10.54	69.06	0.00	NA	NA	NA	NA	NA	NA	NA	
22-May-92	10.79	68.81	0.00	1500	NA	160	20	44	140	NA	
19-Aug-92	11.23	68.37	0.00	4500	NA	210	64	89	310	NA	
18-Nov-92	11.20	68.40	0.00	2400	NA	81	14	39	140	NA	
11-Feb-93	11.00	68.60	0.00	3000	NA	200	47	90	260	NA	
19-May-93	11.16	68.44	0.00	2100	NA	240	44	100	330	NA	
18-Aug-93	11.35	68.25	0.00	NA	NA	NA	NA	NA	NA	NA	
17-Nov-93	11.10	68.50	0.00	1000	NA	110	13	60	150	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
18-Feb-94	10.76	68.84	0.00	NA	NA	NA	NA	NA	NA	NA	
26-May-94	11.85	67.75	0.00	1100	NA	200	17	29	58	NA	
29-Aug-94	10.40	69.20	0.00	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	10.04	69.56	0.00	870	NA	130	10	38	87	NA	
03-Feb-95	10.06	69.54	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	10.11	69.49	0.00	1300	NA	180	7.5	54	110	NA	
02-Aug-95	11.02	68.58	0.00	NA	NA	NA	NA	NA	NA	NA	
02-Nov-95	10.97	68.63	0.00	370	NA	36	1.8	16	21	NA	
24-Feb-96	9.61	69.99	0.00	NA	NA	NA	NA	NA	NA	NA	
04-May-96	10.40	69.20	0.00	460	NA	54	1.9	18	28	20	
07-Sep-96	13.55	66.05	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	11.83	67.77	0.00	2800	NA	290	<10	29	39	<50	
23-Feb-97	11.81	67.79	0.00	NA	NA	NA	NA	NA	NA	NA	
01-May-97	12.34	67.26	0.00	2000	NA	120	<5.0	53	14	60	
22-Jul-97	12.86	66.74	0.00	NA	NA	NA	NA	NA	NA	NA	

<b>MW-3 (DUP)</b>											
11-Nov-94	NA	NA	NA	1000	NA	120	10	42	92	NA	

<b>MW-4</b>	<b>Top casing elevation (ft):</b>			<b>81.00</b>							
06-Aug-91	12.36	68.64	0.00	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	
30-Oct-91	12.02	68.98	0.00	50	<50	<0.5	<0.5	<0.5	<0.5	NA	
15-Feb-92	NA	NA	NA	90	NA	0.9	<0.5	<0.5	<0.5	NA	
18-Mar-92	11.34	69.66	0.00	NA	NA	NA	NA	NA	NA	NA	
22-May-92	12.35	68.65	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
19-Aug-92	12.41	68.59	0.00	82 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	

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Shell Oil Products Company  
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
18-Nov-92	12.28	68.72	0.00	85 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
11-Feb-93	11.65	69.35	0.00	62 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
19-May-93	11.92	69.08	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Aug-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
17-Nov-93	12.24	68.76	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Feb-94	11.69	69.31	0.00	NA	NA	NA	NA	NA	NA	NA	
26-May-94	12.00	69.00	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
11-Nov-94	11.30	69.70	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
03-Feb-95	10.99	70.01	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	11.69	69.31	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
02-Aug-95	11.72	69.28	0.00	NA	NA	NA	NA	NA	NA	NA	
02-Nov-95	12.23	68.77	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
24-Feb-96	11.13	69.87	0.00	NA	NA	NA	NA	NA	NA	NA	
04-May-96	11.80	69.20	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
07-Sep-96	13.27	67.73	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	12.42	68.58	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
23-Feb-97	12.38	68.62	0.00	NA	NA	NA	NA	NA	NA	NA	
01-May-97	13.08	67.92	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
22-Jul-97	13.73	67.27	0.00	NA	NA	NA	NA	NA	NA	NA	

MW-5	Top casing elevation (ft):			81.50							
06-Aug-91	13.02	68.48	0.00	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	
30-Oct-91	12.73	68.77	0.00	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	
15-Feb-92	NA	NA	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Mar-92	12.52	68.98	0.00	NA	NA	NA	NA	NA	NA	NA	
22-May-92	13.05	68.45	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
19-Aug-92	13.04	68.46	0.00	55 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-92	12.91	68.59	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
11-Feb-93	12.44	69.06	0.00	59 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
19-May-93	12.84	68.66	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
17-Nov-93	12.89	68.61	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Feb-94	12.30	69.20	0.00	NA	NA	NA	NA	NA	NA	NA	
26-May-94	12.73	68.77	0.00	<50	NA	1.8	2.4	1.3	4.9	NA	
29-Aug-94	12.88	68.62	0.00	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	12.20	69.30	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
03-Feb-95	11.78	69.72	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	12.47	69.03	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
02-Aug-95	12.83	68.67	0.00	NA	NA	NA	NA	NA	NA	NA	
02-Nov-95	13.02	68.48	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
24-Feb-96	12.11	69.39	0.00	NA	NA	NA	NA	NA	NA	NA	
04-May-96	13.20	68.30	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
07-Sep-96	14.24	67.26	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	13.58	67.92	0.00	<50	NA	<0.50	<0.5	<0.50	<0.50	<2.5	
23-Feb-97	13.54	67.96	0.00	NA	NA	NA	NA	NA	NA	NA	
01-May-97	14.17	67.33	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
22-Jul-97	14.35	67.15	0.00	NA	NA	NA	NA	NA	NA	NA	
<b>MW-5 (DUP)</b>											
19-May-93	NA	NA	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
<b>OMW-6</b>				<b>Top casing elevation (ft):</b>		<b>77.90</b>					
06-Aug-91	10.71	67.19	0.00	26000	3600	910	420	560	1900	NA	



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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
30-Oct-91	10.50	67.40	0.00	20000	4600	710	240	410	1700	NA	
15-Feb-92	NA	NA	NA	35000	27000	690	420	650	3000	NA	
18-Mar-92	9.24	68.66	0.00	NA	NA	NA	NA	NA	NA	NA	
22-May-92	10.13	67.77	0.00	15000	NA	460	110	300	1600	NA	
19-Aug-92	10.16	67.74	0.00	24000	NA	600	300	460	2000	NA	
18-Nov-92	9.94	67.96	0.00	29000	NA	480	250	450	2300	NA	
11-Feb-93	9.20	68.70	0.00	24000	NA	1300	250	630	2400	NA	
19-May-93	10.64	67.86	0.00	18000	NA	750	180	520	2500	NA	
18-Aug-93	10.04	67.86	0.00	NA	NA	NA	NA	NA	NA	NA	
17-Nov-93	10.12	67.78	0.00	14000	NA	260	64	430	1900	NA	
18-Feb-94	9.65	68.25	0.00	NA	NA	NA	NA	NA	NA	NA	
26-May-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
29-Aug-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
03-Feb-95	8.96	68.94	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	8.64	69.26	0.00	11000	NA	460	82	280	540	NA	
02-Aug-95	12.09	65.81	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Feb-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
04-May-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
07-Sep-96	14.45	63.45	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
23-Feb-97	13.12	64.78	0.00	NA	NA	NA	NA	NA	NA	NA	
01-May-97	13.19	64.71	0.00	17000	NA	630	52	610	1300	380	
22-Jul-97	13.52	64.38	0.00	NA	NA	NA	NA	NA	NA	NA	

**TABLE 1**

**WELL CONCENTRATIONS  
Shell Oil Products Company  
500 40th Avenue  
Oakland, California  
WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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<b>OMW-6 (DUP)</b>											
07-May-95	NA	NA	NA	14000	NA	480	61	230	370	NA	
01-May-97	NA	NA	NA	20000	NA	630	54	630	1300	500	MTBE by 8260: <20 ppb

<b>MW-8</b>	<b>Top casing elevation (ft):</b>			<b>79.91</b>							
06-Aug-91	13.08	66.83	0.00	90	<50	<0.5	<0.5	<0.5	<0.5	NA	
30-Oct-91	12.87	67.04	0.00	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	
15-Feb-92	NA	NA	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Mar-92	11.54	68.37	0.00	NA	NA	NA	NA	NA	NA	NA	
22-May-92	12.32	67.59	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
19-Aug-92	12.58	67.33	0.00	60	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-92	12.47	67.44	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
11-Feb-93	11.02	68.89	0.00	76 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
19-May-93	11.78	68.13	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Aug-93	12.22	67.69	0.00	NA	NA	NA	NA	NA	NA	NA	
17-Nov-93	12.25	67.66	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Feb-94	10.56	69.35	0.00	NA	NA	NA	NA	NA	NA	NA	
26-May-94	11.30	68.61	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
29-Aug-94	11.90	68.01	0.00	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	10.12	69.79	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
03-Feb-95	11.64	68.27	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	10.77	69.14	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
02-Aug-95	10.92	68.99	0.00	NA	NA	NA	NA	NA	NA	NA	
02-Nov-95	11.93	67.98	0.00	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
24-Feb-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
04-May-96	11.66	68.25	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	

**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell Oil Products Company**  
**500 40th Avenue**  
**Oakland, California**  
**WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
07-Sep-96	9.84	70.07	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	11.53	68.38	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
23-Feb-97	11.54	68.37	0.00	NA	NA	NA	NA	NA	NA	NA	
01-May-97	12.37	67.54	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
22-Jul-97	12.73	67.18	0.00	NA	NA	NA	NA	NA	NA	NA	

OMW-9	Top casing elevation (ft):			77.71							
06-Aug-91	10.38	67.33	0.00	3900	190	58	8.8	80	220	NA	
30-Oct-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
18-Mar-92	8.76	68.95	0.00	1800 (c)	210	84	11	49	60	NA	
20-May-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
19-Aug-92	9.98	67.73	0.00	4600	22 (a)	63	<25	48	70	NA	
18-Nov-92	9.81	67.90	0.00	1800	130 (a)	30	9.2	46	61	NA	
11-Feb-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
19-May-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
18-Aug-93	9.75	67.96	0.00	NA	NA	NA	NA	NA	NA	NA	
17-Nov-93	9.92	67.79	0.00	5900	2400 (d)	86	14	150	46	NA	
18-Feb-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
26-May-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
29-Aug-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
03-Feb-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
07-May-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
02-Aug-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
24-Feb-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
04-May-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible

**TABLE 1**

**WELL CONCENTRATIONS  
Shell Oil Products Company  
500 40th Avenue  
Oakland, California  
WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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07-Sep-98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well inaccessible
24-Nov-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessilbe
23-Feb-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
01-May-97	12.10	65.61	0.00	4700	1100	150	14	97	52	330	
22-Jul-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible

<b>OMW-10</b>	<b>Top casing elevation (ft):</b>			<b>77.91</b>							
07-Aug-91	10.00	67.91	0.00	460	<50	73	1.0	18	8.4	NA	
31-Oct-91	10.10	67.81	0.00	630	150	100	<0.5	33	26	NA	
15-Feb-92	NA	NA	NA	810	570 (a)	85	2.5	44	38	NA	
18-Mar-92	9.55	68.36	0.00	NA	NA	NA	NA	NA	NA	NA	
21-May-92	10.41	67.50	0.00	280	NA	47	0.7	4.0	3.1	NA	
19-Aug-92	10.46	67.45	0.00	330	NA	35	<1	6.0	4.1	NA	
18-Nov-93	10.31	67.60	0.00	300	NA	30	0.8	7.1	6.3	NA	
11-Feb-93	9.68	68.23	0.00	510 (b)	NA	49	3.8	18	18	NA	
19-May-93	10.19	67.72	0.00	<50	NA	96	<0.5	3.4	1.5	NA	
18-Aug-93	10.29	67.62	0.00	NA	NA	NA	NA	NA	NA	NA	
17-Nov-93	10.32	67.59	0.00	400	NA	24	<1.0	2.8	1.9	NA	
18-Feb-94	9.30	68.61	0.00	NA	NA	NA	NA	NA	NA	NA	
26-May-94	10.14	67.77	0.00	330	NA	32	13	7.5	26	NA	
09-Aug-94	10.38	67.53	0.00	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	9.34	68.57	0.00	110	NA	7.8	<0.5	2.3	1.5	NA	
03-Feb-95	10.17	67.74	0.00	NA	NA	NA	NA	NA	NA	NA	
07-May-95	9.63	68.28	0.00	1600	NA	110	3.1	17	12	NA	
02-Aug-95	10.07	67.84	0.00	NA	NA	NA	NA	NA	NA	NA	
02-Nov-95	9.74	68.17	0.00	1200	NA	47	0.8	1.4	2.4	NA	

**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell Oil Products Company**  
**500 40th Avenue**  
**Oakland, California**  
**WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
24-Feb-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
04-May-96	9.97	67.94	0.00	1100	NA	76	16	7.4	32	57	
07-Sep-96	13.00	64.91	0.00	NA	NA	NA	NA	NA	NA	NA	
24-Nov-96	12.56	65.35	0.00	540	NA	13	2.7	1.3	1.7	16	
23-Feb-97	12.52	65.39	0.00	NA	NA	NA	NA	NA	NA	NA	
01-May-97	13.13	64.78	0.00	910	NA	1.3	10	4.1	5.9	4.1	
22-Jul-97	13.46	64.45	0.00	NA	NA	NA	NA	NA	NA	NA	
<b>OMW-10 (DUP)</b>											
02-Nov-95	NA	NA	NA	1300	NA	50	0.8	1.5	2.5	NA	
04-May-96	NA	NA	NA	700	NA	63	13	6.4	25	21	
24-Nov-96	NA	NA	NA	490	NA	25	<2.0	<2.0	<2.0	66	
<b>OMW-11</b>											
	<b>Top casing elevation (ft):</b>			<b>75.76</b>							
22-Nov-91	11.90	63.86	0.00	450	240	1.1	<0.5	<0.5	<0.5	NA	
15-Feb-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
18-Mar-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
20-May-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
19-Aug-92	12.06	63.70	0.00	270 (b)	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-92	12.01	63.75	0.00	400 (b)	100	<0.5	<0.5	<0.5	<0.5	NA	
11-Feb-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
20-May-93	11.90	63.86	0.00	200 (b)	<0.5	<0.5	<0.5	<0.5	<0.5	NA	
18-Aug-93	11.90	63.86	0.00	180 (b)	<50	<0.5	<0.5	<0.5	<0.5	NA	
17-Nov-93	11.94	63.82	0.00	150 (b)	<50 (d)	<0.5	3.6	<0.5	<0.5	NA	
18-Feb-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
26-May-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible

**TABLE 1**

**WELL CONCENTRATIONS  
Shell Oil Products Company  
500 40th Avenue  
Oakland, California  
WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
29-Aug-94	11.98	63.78	0.00	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	10.88	64.88	0.00	160	NA	<0.5	<0.5	<0.5	<0.5	NA	
03-Feb-95	10.62	65.14	0.00	NA	NA	NA	NA	NA	NA	NA	
05-Mar-95	NA	NA	NA	220	100	0.7	<0.5	<0.5	<0.5	NA	
07-May-95	11.49	64.27	0.00	160	<50	<0.5	<0.5	<0.5	<0.5	NA	
02-Aug-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
24-Feb-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
04-May-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
07-Sep-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
24-Nov-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
23-Feb-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
01-May-97	13.76	62.00	0.00	130	71	<0.50	<0.50	<0.50	0.61	<2.5	
22-Jul-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
<b>OMW-12</b>	<b>Top casing elevation (ft):</b>			<b>75.65</b>							
02-Dec-91	10.31	65.34	0.00	<1000	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Mar-92	8.93	66.72	0.00	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	
20-May-92	10.26	65.39	0.00	180 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
19-Aug-92	10.53	65.12	0.00	230 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Nov-92	10.45	65.20	0.00	220 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
11-Feb-93	8.90	66.75	0.00	240	NA	<0.5	<0.5	<0.5	<0.5	NA	
19-May-93	10.60	65.05	0.00	110 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Aug-93	10.28	65.37	0.00	140 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
17-Nov-93	10.24	65.41	0.00	120 (b)	NA	<0.5	<0.5	<0.5	<0.5	NA	
18-Feb-94	8.97	66.68	0.00	180 (b)	NA	1.7	2.1	0.9	4.8	NA	
26-May-94	9.62	66.03	0.00	150	NA	<0.5	<0.5	<0.5	<0.5	NA	

**TABLE 1**

**WELL CONCENTRATIONS**  
**Shell Oil Products Company**  
**500 40th Avenue**  
**Oakland, California**  
**WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
29-Aug-94	10.20	65.45	0.00	110	NA	<0.5	<0.5	<0.5	<0.5	NA	
11-Nov-94	8.54	67.11	0.00	90	NA	<0.5	<0.5	<0.5	<0.5	NA	
03-Feb-95	8.28	67.37	0.00	80	NA	<0.5	<0.5	<0.5	<0.5	NA	
07-May-95	9.17	66.48	0.00	110	NA	<0.5	<0.5	<0.5	<0.5	NA	
02-Aug-95	10.06	65.59	0.00	90	NA	<0.5	<0.5	<0.5	<0.5	NA	
02-Nov-95	10.09	65.56	0.00	130	NA	<0.5	<0.5	<0.5	<0.5	NA	
24-Feb-96	7.81	67.84	0.00	80	NA	<0.5	<0.5	<0.5	<0.5	NA	
04-May-96	11.72	63.93	0.00	61	NA	<0.50	<0.50	<0.50	<0.50	<2.5	C7-C8 Chromatogram Pattern
07-Sep-96	12.65	63.00	0.00	66	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
24-Nov-96	11.54	64.11	0.00	70	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
23-Feb-97	11.53	64.12	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
01-May-97	12.17	63.48	0.00	79	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
22-Jul-97	12.48	63.17	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
<b>OMW-12 (DUP)</b>											
03-Feb-95	NA	NA	NA	100	NA	0.6	<0.5	0.7	1.1	NA	
02-Aug-95	NA	NA	NA	120	NA	<0.5	<0.5	<0.5	<0.5	NA	
22-Jul-97	NA	NA	NA	51	NA	<0.50	<0.50	<0.50	<0.50	<2.5	
<b>OMW-13</b>											
	<b>Top casing elevation (ft):</b>			<b>76.36</b>							
22-Nov-91	11.96	64.40	0.00	900	1000	37	9.5	74	130	NA	
18-Mar-92	10.84	65.52	0.00	900 (c)	590 (a)	24	28	320	320	NA	
20-May-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
19-Aug-92	12.12	64.24	0.00	7000	470 (a)	180	36	150	150	NA	
18-Nov-92	12.00	64.36	0.00	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
11-Feb-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible

**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell Oil Products Company**  
**500 40th Avenue**  
**Oakland, California**  
**WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
20-May-93	12.26	64.10	0.00	9200	NA	320	83	490	950	NA	
18-Aug-93	11.75	64.61	0.00	NA	NA	NA	NA	NA	NA	NA	
17-Nov-93	11.78	64.58	0.00	38000	3800	210	<130	1000	2500	NA	
18-Feb-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
26-May-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
29-Aug-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
11-Nov-94	10.28	66.08	0.00	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
03-Feb-95	10.01	66.35	0.00	1.0	NA	NA	NA	NA	NA	NA	
05-Mar-95	NA	NA	NA	9100	3900	200	9.7	200	130	NA	
07-May-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
02-Aug-95	11.80	64.56	0.00	8000	2900	180	6.6	190	55	NA	
24-Feb-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
04-May-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
07-Sep-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
24-Nov-96	12.35	64.01	0.00	15000	7700	50	<20	74	60	<100	
23-Feb-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
01-May-97	13.83	62.53	0.00	2600	290	33	10	30	14	88	
22-Jul-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible

**Abbreviations:**

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

(previously reported as Total Petroleum Hydrocarbons as Gasoline)

TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015

BTEX = benzene, toluene, methylbenzene, xylenes by EPA Method 8020

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

<x = Not detected at detection limit of x



**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell Oil Products Company**  
**500 40th Avenue**  
**Oakland, California**  
**WIC #204-5508-4903**

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
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NA = Not analyzed or not available

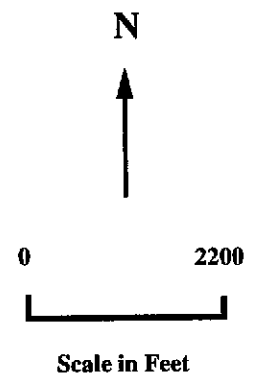
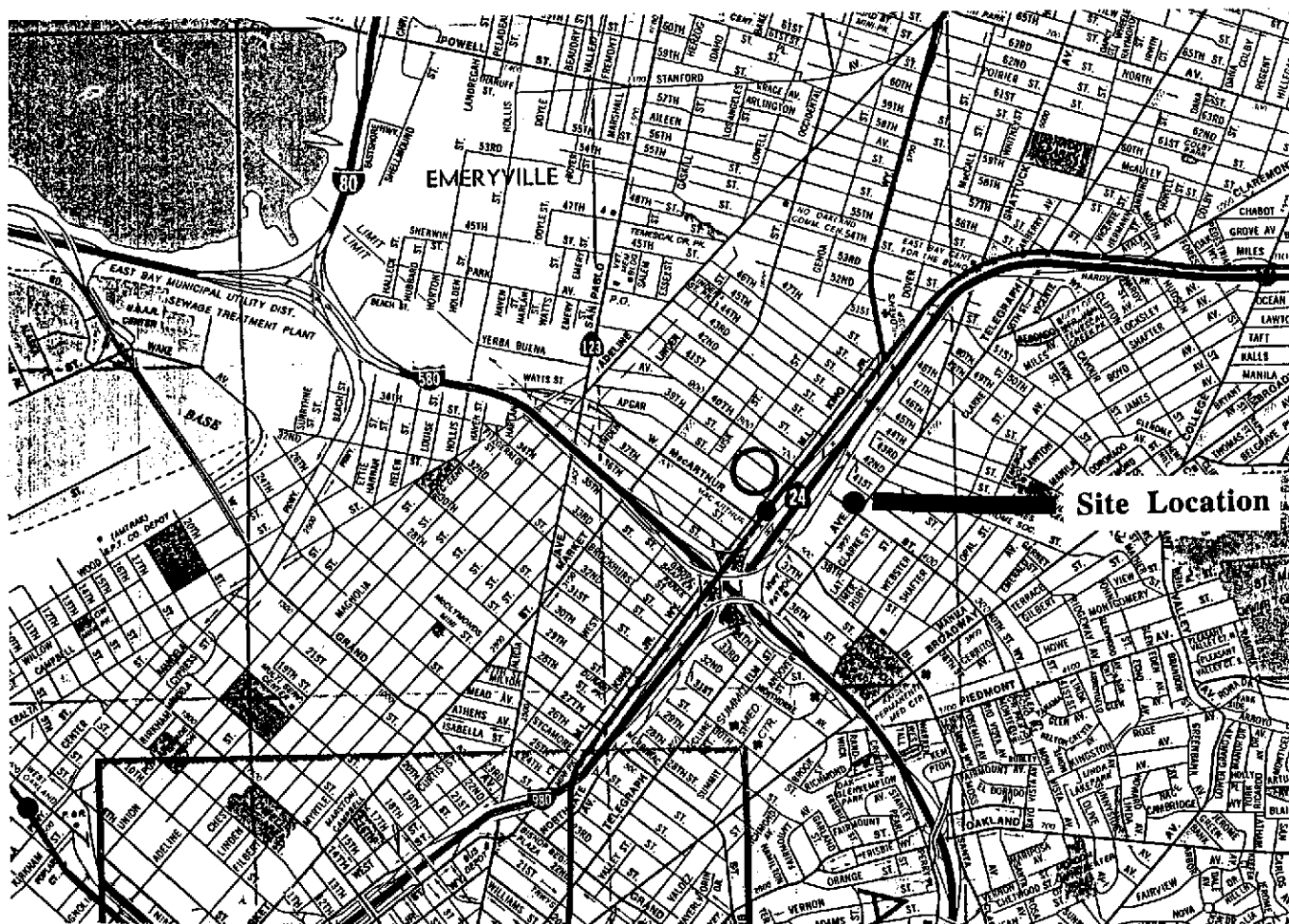
(DUP) = Duplicate sample

Notes:

- (a) = Concentration reported as diesel is primary due to the presence of a lighter petroleum product, possible gasoline or kerosene.
- (b) = Concentration reported as gasoline is primarily due to the presence of discrete hydrocarbon peaks not indicative of gasoline.
- (c) = Compounds detected and calculated as gasoline do not match the standard gasoline chromatographic pattern.
- (d) = The concentrations reported as diesel are primarily due to the presence of a lighter petroleum product of hydrocarbon, range C6-C12, possibly gasoline.

Elevations referenced to Mean Sea Level

Depth to water measured from top of casing



Note: Vicinity Map taken from California State AAA map.

**PLATE**  
**1**

**SITE VICINITY MAP**  
Former Shell Service Station  
500 40th Avenue  
Oakland, California

**enviros**<sup>®</sup>  
95289

Drawn By: JLP

Date: 5-15-95

Approved By: TUCO

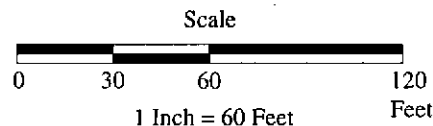
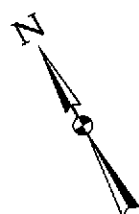
Date: 10.14.97

**EXPLANATION**

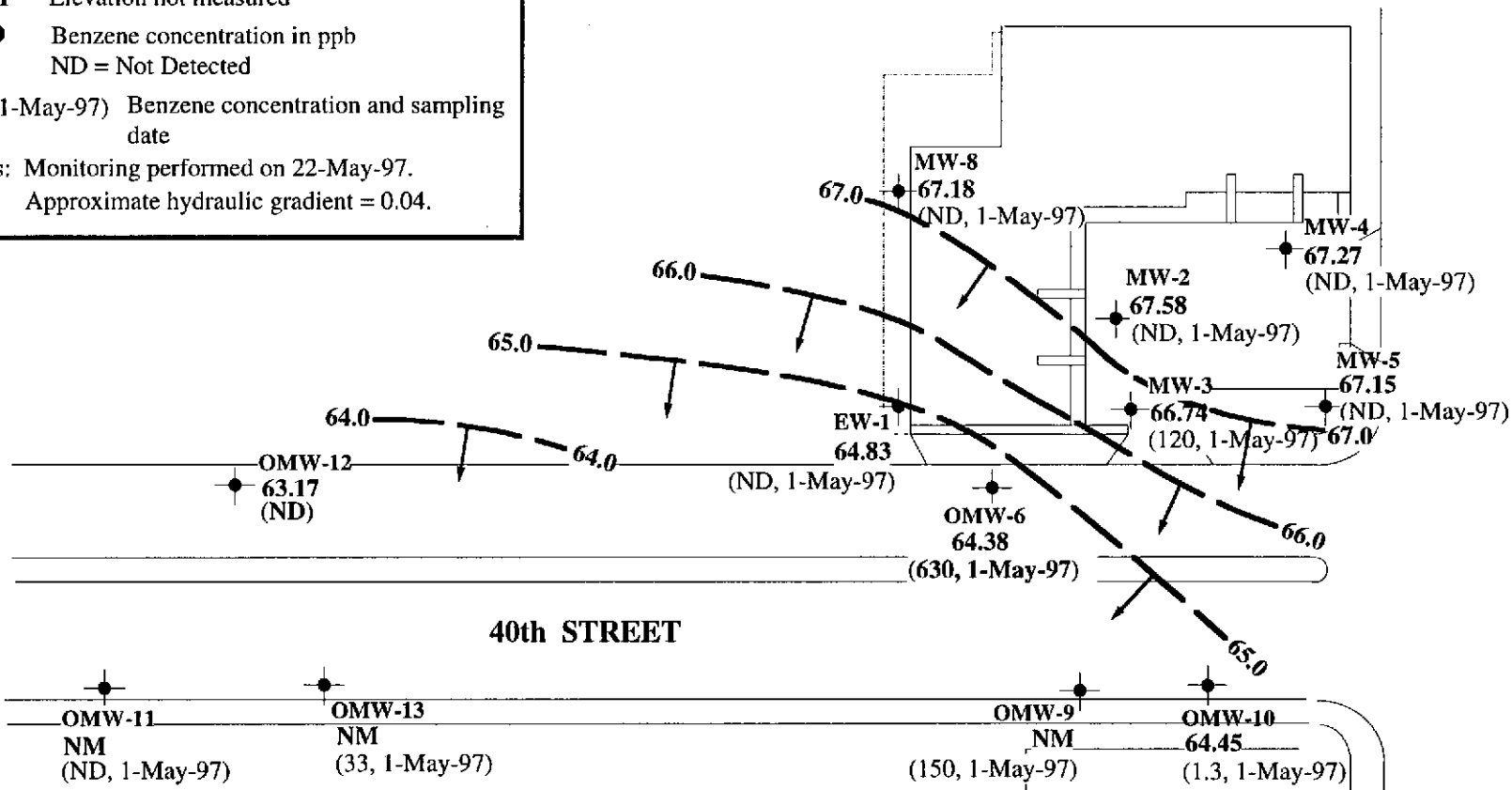
- ⊕ Ground Water Monitoring Well
- Ground water elevation contour in feet referenced to mean sea level (MSL). Arrows indicate approximate ground water flow direction
- 63.17 Ground water elevation in feet above MSL
- NM Elevation not measured
- ND Benzene concentration in ppb  
ND = Not Detected

(ND, 1-May-97) Benzene concentration and sampling date

Notes: Monitoring performed on 22-May-97.  
Approximate hydraulic gradient = 0.04.



TELEGRAPH AVENUE



Base map taken from Weiss Associates Site Map.

PLATE

**2**

**GROUND WATER CONTOUR/BENZENE CONCENTRATION MAP**

Former Shell Service Station  
500 40th Avenue  
Oakland, California

**enviros**<sup>®</sup>  
97289

Drawn By: MED

Date: 10-Oct-97

Approved By: *[Signature]*

Date: 10-14-97

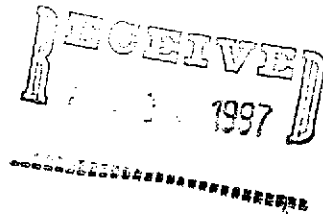
**Appendix A**

**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



August 14, 1997

Shell Oil Company  
P.O. Box 5278  
Concord, CA 94520-9998

Attn: Alex Perez

Shell WIC #204-5508-4903  
500 40th/Telegraph  
Oakland, California

3rd Quarter 1997

## Groundwater Monitoring Report 970722-T-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: Enviros, 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)
EW-1	07/22/97	TOC	--	NONE	--	--	13.43	38.24
MW-2	07/22/97	TOC	--	NONE	--	--	13.22	19.40
MW-3	07/22/97	TOC	ODOR	NONE	--	--	12.86	18.55
MW-4	07/22/97	TOC	--	NONE	--	--	13.73	14.81
MW-5	07/22/97	TOC	--	NONE	--	--	14.35	20.13
OMW-6	07/22/97	TOC	--	NONE	--	--	13.52	20.10
MW-8	07/22/97	TOC	--	NONE	--	--	12.73	38.65
OMW-9	07/22/97	TOC	INACCESSIBLE	--	--	--	--	--
OMW-10	07/22/97	TOC	--	NONE	--	--	13.46	15.91
OMW-11	07/22/97	TOC	INACCESSIBLE	--	--	--	--	--
OMW-12*	07/22/97	TOC	--	NONE	--	--	12.48	19.30
OMW-13	07/22/97	TOC	INACCESSIBLE	--	--	--	--	--

\* Sample DUP was duplicate sample taken from well OMW-12.



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

**CHAIN OF CUSTODY RECORD**

Serial No: 970722-T1

Date: 7/22/97  
 Page 1 of 1

Site-Address: 500 40th / Telegraph, Oakland, CA

WIC#: 204-5508-4903

Shell Engineer: Alex Perez Phone No.: (510) 675-6168  
 Fax #: 675-6172

Consultant Name & Address:  
Blaine Tech Services, Inc.  
1680 Rogers Ave., San Jose, CA 95112

Consultant Contact: Fran Thie Phone No.: (408) 573-0555  
 Fax #: 573-7771

Comments:

Sampled by: m/toll

Printed Name: Mike Toll

**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: SERUOTA

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
G.W. Monitoring <input checked="" type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify Lab as soon as possible of 24/48 hrs. LAT.

UST AGENCY:

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020, MTBE	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS	
OMW-12	7/22			X		3						X							5 23 4 16
DUP	7/22			X		3						X							

Relinquished By (signature): <u>m/toll</u>	Printed Name: <u>Mike Toll</u>	Date: <u>7/23/97</u>	Time: <u>2:55</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>Fletcher</u>	Date: <u>7/23/97</u>	Time: <u>2:33</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name:	Date: <u>7/23/97</u>	Time:	Received (signature):	Printed Name:	Date:	Time:
Relinquished By (signature): <u>[Signature]</u>	Printed Name:	Date:	Time:	Received (signature): <u>Mara Grigolis</u>	Printed Name: <u>Mara Grigolis</u>	Date: <u>7/23/97</u>	Time: <u>11:16</u>

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



# 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

Project: Shell Oakland/970722-T1

Enclosed are the results from samples received at Sequoia Analytical on July 23, 1997.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9707C20 -01	LIQUID, OMW-12	07/22/97	TPGBMW Purgeable TPH/BTEX
9707C20 -02	LIQUID, DUP	07/22/97	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 Fenner  
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Oakland/970722-T1 Sample Descript: OMW-12 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9707C20-01	Sampled: 07/22/97 Received: 07/23/97  Analyzed: 07/29/97 Reported: 08/01/97
Attention: Fran Thie		

QC Batch Number: GC072997BTEX21A  
Instrument ID: GCHP21

**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	75

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/970722-T1 Sample Descript: DUP Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9707C20-02	Sampled: 07/22/97 Received: 07/23/97  Analyzed: 07/29/97 Reported: 08/01/97
Attention: Fran Thie		

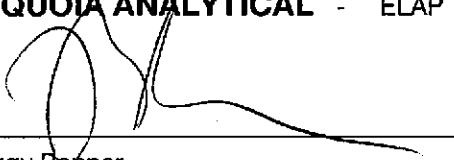
QC Batch Number: GC072997BTEX21A  
Instrument ID: GCHP21

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

Analyte	Detection Limit ug/L	Sample Results ug/L
<b>TPPH as Gas</b>	<b>50</b>	<b>51</b>
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.
<b>Chromatogram Pattern:</b>		<b>C7-C8</b>
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	79

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Peggy Penner  
Project Manager



# Sequoia Analytical

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

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

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

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

Client Project ID: Shell Oakland / 970722-T1  
Matrix: Liquid

Work Order #: 9707C20 -01-02

Reported: Aug 5, 1997

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC072997BTEX21A	GC072997BTEX21A	GC072997BTEX21A	GC072997BTEX21A	GC072997BTEX21A
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:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	9707B8505	9707B8505	9707B8505	9707B8505	9707B8505
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/29/97	7/29/97	7/29/97	7/29/97	7/29/97
Analyzed Date:	7/29/97	7/29/97	7/29/97	7/29/97	7/29/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.6	9.7	9.8	29	56
MS % Recovery:	96	97	98	97	93
Dup. Result:	9.8	9.9	9.9	29	57
MSD % Recov.:	98	99	99	97	95
RPD:	2.1	2.0	1.0	0.0	1.8
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK072997	BLK072997	BLK072997	BLK072997	BLK072997
Prepared Date:	7/29/97	7/29/97	7/29/97	7/29/97	7/29/97
Analyzed Date:	7/29/97	7/29/97	7/29/97	7/29/97	7/29/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.7	9.7	9.8	29	61
LCS % Recov.:	97	97	98	97	102

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

9707C20.BLA <1>



**Sequoia  
Analytical**

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

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

Client Proj. ID: Shell Oakland/970722-T1

Received: 07/23/97

Lab Proj. ID: 9707C20

Reported: 08/01/97

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 5 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