

June 23, 1993

12-007

Mr. Dan Kirk  
Shell Oil Company  
P. O. Box 5278  
Concord, CA 94520

Re: Former Shell Service Station - WIC# 204-6852-1008  
15275 Washington Avenue, San Leandro, California

Dear Mr. Kirk,

Hydro-Environmental Technologies, Inc. (HETI) is pleased to present this report describing the results of the second quarter 1993 ground water sampling at the above-referenced site (Figure 1). Information presented in this report is based on the results of lab analysis of ground water samples collected by the Shell Oil Company (Shell) sampling contractor on April 16, 1993. A copy of this report has been forwarded to the Alameda County Department of Environmental Health and to the Regional Water Quality Control Board.

### Executive Summary

- Field data indicates that the local ground water flow direction calculated this quarter is similar to that calculated during previous quarters, with ground water moving predominantly towards the south at a variable gradient.
- Ground water elevations in most monitoring wells have decreased from last quarter by one-half to one foot.
- Laboratory analytical results from ground water samples collected during this monitoring event indicate that petroleum hydrocarbons were not detected in concentrations exceeding the method detection limit in the samples collected from wells S-6, S-11 and S-18.

### Site Description

Project history and background information have been presented in investigative reports prepared by other consultants during the site characterization phase of this project. There are currently six ground water monitoring wells and one extraction well present on-site, and ten monitoring wells located off-site (Figure 2).

## Results of the Second Quarter 1993 Ground Water Sampling

### Ground Water Gradient:

The depth to ground water in all monitoring wells was measured by the Shell sampling contractor, Blaine Tech Services, Inc. (Blaine), on April 16, 1993. These measurements were combined with previously established well head elevations to produce a Ground Water Gradient Map (Figure 3). Water table elevations are presented in Table 1.

As shown on Figure 3, ground water flow direction is generally towards the south. This flow direction is consistent with that measured during previous phases of the site investigation. As shown on Table 1, ground water elevations have decreased by approximately one-half to one foot since the previous visit in January, 1993.

### Ground Water Analytical Data:

Laboratory analytical results indicate that petroleum hydrocarbons were not detected in concentrations exceeding the method detection limit in the samples collected from monitoring wells S-6, S-11 or S-18 on April 16, 1993. Dissolved benzene distribution is shown on Figure 4, the Benzene Isoconcentration Map. Blaine sampling and analytical data is attached as Appendix A. Current and historical analytical results are presented in Table 1.

All information and interpretation in this report is presented in accordance with currently accepted professional practices. This report has been prepared for the sole use of Shell Oil Company. Any reliance on the information presented herein by third parties will be at such parties' sole risk. HETI is pleased to be of continued service to Shell. If you have any questions or comments regarding this report, please do not hesitate to call me at (510) 521-2684.

Very truly yours,  
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

Markus B. Niebanck, R. G.  
Western Regional Manager

cc. Mr. Barney Chan, ACDEH  
Mr. Rich Hiatt, RWQCB

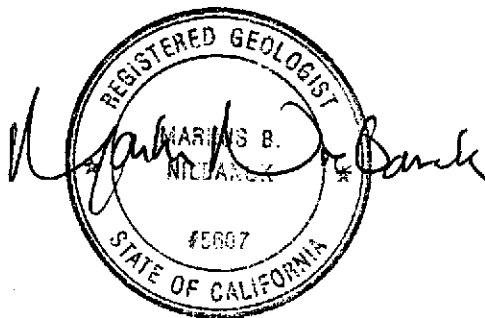


Table 1

## SUMMARY OF GROUND WATER ELEVATIONS AND WATER SAMPLE ANALYTICAL RESULTS

Former Shell Service Station  
 15275 Washington Street  
 San Leandro, California  
 WIC#204-6852-1008

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-1	7/8/85	--	--	--	520	NA	NA	NA	NA
	9/6/88	--	--	--	<50	<0.5	<1	<1	<3
	11/16/88#	21.55	8.01	13.54	<50	<0.5	<1	<1	<3
	2/27/89	--	--	--	<50	0.5	<1	<1	<3
	5/4/89	--	--	--	<50	1	<1	<1	<3
	8/10/89	21.55	7.93	13.62	<50	0.7	<1	<1	<3
	10/10/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	21.55	7.91	13.64	<50	<0.5	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/18/90	--	--	--	80	5	<0.5	<0.5	3
	1/28/91	--	--	--	<50	4.5	<0.5	<0.5	2
	4/25/91	--	--	--	80*	3.7	<0.5	0.7	2
	7/9/91	--	--	--	200	16	<0.5	1.3	5.8
	10/8/91	--	--	--	<50	2.3	<0.5	<0.5	<0.5
	2/5/92	--	--	--	160	8.9	<0.5	2.1	6
	4/28/92	--	--	--	<50	2.4	<0.5	<0.5	0.9
	7/27/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	57	3	1.6	1.4	1.7
	1/14/93	21.55	5.91	15.64	490	53	1.2	20	33
4/16/93	21.55	6.66	14.89	240	20	<0.5	15	240	
S-3	9/6/88	--	--	--	96000	3400	9500	2700	17000
	11/16/88#	21.14	7.76	13.38	70000	4600	8400	2500	13000
	2/27/89	--	--	--	32000	2400	3100	1500	6400
	5/4/89	--	--	--	47000	4400	300	2400	15000
	8/10/89	21.14	7.92	13.22	110000	5700	5700	3200	19000
	10/10/89	--	--	--	52000	4600	3300	2600	15000
	1/25/90	--	--	--	420000	5200	4100	6700	34000
	4/18/90	21.14	7.74	13.40	58000	3800	1400	2400	12000
	7/23/90	--	--	--	49000	3400	1800	2300	12000
	10/18/90	--	--	--	44000	3500	650	2400	11000
	1/28/91	--	--	--	64000	4090	570	1940	8090

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Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-3	4/25/91	--	--	--	120000	3900	3600	2400	8900
	7/9/91	--	--	--	50000	3600	2300	1800	10000
	10/8/91	--	--	--	130000	3600	1000	2800	8400
	2/5/92	--	--	--	150000	2500	670	2700	10000
	4/28/92	--	--	--	120000	2200	1200	2000	5800
	7/27/92	--	--	--	190000	1400	<1250	<1250	3400
	10/26/92	--	--	--	950000	2000	8400	16000	36000
	1/14/93	21.14	5.16	15.98	41000	2700	2500	1800	6900
	4/16/93	21.14	7.18	13.96	40000	930	2800	1900	14000
	S-5	1/8/87	--	--	--	7800	380	510	NR
9/6/88		--	--	--	7000	2600	60	400	700
11/16/88#		--	--	--	3000	660	60	120	220
2/27/89		--	--	--	5700	2000	220	260	320
5/4/89		--	--	--	9000	3000	600	630	1700
8/10/89		21.41	8.28	13.13	5100	1100	<50	270	400
10/10/89		--	--	--	15000	3300	160	830	2200
1/25/90		--	--	--	12000	2400	360	570	1400
4/18/90		21.41	8.32	13.09	5200	1100	40	300	460
7/23/90		--	--	--	5500	1300	140	320	730
10/18/90		--	--	--	12000	3200	40	720	900
1/28/91		--	--	--	2550	410	15	110	60
4/25/91		--	--	--	67000	5100	3100	2800	11000
7/9/91		--	--	--	4900	480	36	360	1000
10/8/91		--	--	--	6600	370	7	190	380
2/5/92		--	--	--	44000	4800	850	2700	8400
4/28/92		--	--	--	33000	1400	320	1600	5200
7/27/92		--	--	--	20000	2400	<125	1800	5300
10/26/92		--	--	--	21000	1600	140	1500	2800
1/14/93		21.41	5.22	16.19	54000	1900	1000	2700	16000
4/16/93	21.41	7.04	14.37	42000	2000	1300	4300	18000	

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Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-6	11/16/88#	22.02	8.58	13.44	50	0.7	<1	<1	<3
	2/27/89	--	--	--	<50	<0.5	<1	<1	<3
	5/4/89	--	--	--	<50	<0.5	<1	<1	<3
	8/10/89	22.02	8.54	13.48	<50	<0.5	<1	<1	<3
	10/10/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	22.02	8.43	13.59	<50	<0.5	0.6	<0.5	1
	7/23/90	--	--	--	<50	<0.5	0.9	<0.5	1.8
	10/18/90	--	--	--	<50	<0.5	0.7	<0.5	0.8
	1/28/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/25/91	--	--	--	<50	<0.5	<0.5	<0.5	0.7
	7/9/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/8/91	--	--	--	<50	0.7	<0.5	<0.5	<0.5
	4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/13/93	22.02	6.43	15.59	NA	NA	NA	NA	NA
	4/16/93	22.02	7.12	14.90	<50	<0.5	<0.5	<0.5	<0.5
S-7	11/16/88#	21.47	8.24	13.23	100	5.1	15	2	13
	2/27/89	--	--	--	50	0.5	3	1	11
	5/4/89	--	--	--	<50	<0.5	<1	<1	<3
	8/10/89	21.47	8.18	13.29	<50	<0.5	<1	<1	<3
	10/10/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	21.47	8.06	13.41	<50	<0.5	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/18/90	--	--	--	<50	<0.5	0.5	0.5	4.1
	1/28/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/25/91	--	--	--	60*	<0.5	<0.5	<0.5	<0.5
	7/9/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/8/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	2/5/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5

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S-7	7/27/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	57^	<0.5	<0.5	<0.5	<0.5
	1/14/93	21.47	5.84	15.63	56^	<0.5	<0.5	<0.5	<0.5
	4/16/93	21.47	6.38	15.09	110	28	<0.5	<0.5	1.8
S-8	11/16/88#	20.72	7.76	12.96	210	5	<1	1	5
	2/27/89	--	--	--	<50	2.4	<1	<1	<3
	5/3/89	--	--	--	<50	7.5	<1	2	<3
	8/10/89	20.72	7.79	12.93	<50	0.6	<1	<1	<3
	10/9/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	20.72	7.59	13.13	<50	<0.5	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/18/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/28/91	--	--	--	<50	55	0.5	<0.5	1.4
	4/25/91	--	--	--	130*	19	<0.5	1.3	1.1
	7/9/91	--	--	--	200	33	<0.5	1.8	2.8
	10/8/91	--	--	--	580	95	2.2	4.9	6.5
	2/5/92	--	--	--	90*	18	<0.5	6.2	1.8
	4/28/92	--	--	--	<50	5.9	<0.5	2.5	<0.5
	7/27/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
1/14/93	20.72	5.32	15.40	270	74	0.9	25	5.5	
4/16/93	20.72	5.76	14.96	1100	420	<0.5	200	20	
S-9	11/16/88#	20.96	7.78	13.18	1400	69	3	52	180
	2/27/89	--	--	--	1600	240	4	130	180
	5/3/89	--	--	--	2600	470	10	240	480
	8/10/89	20.96	7.82	13.14	520	73	<10	40	<30
	10/9/89	--	--	--	380	82	<1	46	13
	1/25/90	--	--	--	750	140	1.2	69	75
	4/18/90	20.96	7.65	13.31	680	150	1.7	50	37
7/23/90	--	--	--	490	94	1.2	32	24	

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Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-9	10/18/90	--	--	--	390	140	0.7	3.3	24
	1/28/91	--	--	--	1040	450	4.6	85	97
	4/25/91	--	--	--	5800	880	9	360	500
	7/9/91	--	--	--	1400	220	2.8	82	100
	10/8/91	20.96	7.82	13.14	890	960	<2.5	16	29
	2/5/92	--	--	--	950	240	<2.5	28	55
	4/28/92	--	--	--	1400*	290	3	100	81
	7/27/92	--	--	--	890	190	<2.5	66	68
	10/26/92	--	--	--	650	160	<2.5	63	89
	1/13/93	20.96	6.80	14.16	19000	2400	38	1700	2200
	4/16/93	20.96	6.28	14.68	10000	1500	<0.5	1100	990
S-10	11/16/88#	20.86	7.91	12.95	330	0.5	<1	1	11
	2/27/89	--	--	--	140	<0.5	<3	2	6
	5/3/89	--	--	--	220	<0.5	1	2	7
	8/10/89	20.86	7.94	12.92	<50	<0.5	<1	<1	<3
	10/9/89	--	--	--	170	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	1.1	4
	4/18/90	20.86	7.71	13.15	<50	<0.5	0.9	<0.5	2
	7/23/90	--	--	--	590	<0.5	<0.5	1.9	19
	10/18/90	--	--	--	140	<0.5	0.7	<0.5	7
	1/28/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/25/91	--	--	--	<50	<0.5	<0.5	1.1	0.8
	7/9/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/8/91	--	--	--	140	<0.5	<0.5	<0.5	<0.5
	2/5/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	7/27/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
1/13/93	20.69	3.78	16.91	88	<0.5	0.6	<0.5	<0.5	

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Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-10	4/16/93	20.69	6.46	14.23	80	<0.5	<0.5	<0.5	<0.5
S-11	11/16/88#	21.26	8.62	12.64	<50	<0.5	<1	<1	<3
	2/27/89	--	--	--	<50	<0.5	<1	<1	<3
	5/3/89	--	--	--	<50	<0.5	<1	<1	<3
	8/10/89	21.26	8.65	12.61	<50	<0.5	<1	<1	<3
	10/9/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	21.26	8.42	12.84	<50	<0.5	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	<0.5	0.6	<0.5	1.1
	10/18/90	--	--	--	<50	<0.5	<0.5	<0.5	0.5
	1/28/91	--	--	--	63	<0.5	3.3	0.9	7
	4/25/91	--	--	--	<50	<0.5	<0.5	0.8	<0.5
	7/9/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/8/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
1/13/93	21.05	6.38	12.71	NA	NA	NA	NA	NA	
4/16/93	21.05	6.86	12.71	<50	<0.5	<0.5	<0.5	<0.5	
S-12	11/16/88#	21.05	8.34	12.71	50	3.5	<1	<1	<3
	2/27/89	--	--	--	<50	0.8	<1	<1	<3
	5/3/89	--	--	--	<50	<0.5	<1	<1	<3
	8/10/89	21.05	8.32	12.73	<50	<0.5	<1	<1	<3
	10/9/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	21.05	8.05	13.00	<50	<0.5	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/18/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/28/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5



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Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-12	4/25/91	--	--	--	90	5.4	<0.5	1.1	0.7
	7/9/91	--	--	--	<50	2.9	<0.5	<0.5	<0.5
	10/8/91	--	--	--	50	<0.5	<0.5	<0.5	<0.5
	2/5/92	--	--	--	50*	<0.5	<0.5	<0.5	<0.5
	4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	7/27/92	--	--	--	94^	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	86^	<0.5	<0.5	<0.5	<0.5
	1/14/93	21.05	6.38	14.67	120	2	<0.5	<0.5	<0.5
	4/16/93	21.05	6.56	14.49	60	<0.5	<0.5	<0.5	<0.5
S-13	5/3/89	--	--	--	150	4.9	4	2	14
	8/10/89	20.57	8.00	12.57	110	2.9	<1	<1	<3
	10/9/89	--	--	--	77	1.4	<1	<1	<3
	1/25/90	--	--	--	51	0.5	<0.5	<0.5	<1
	4/18/90	20.57	7.73	12.84	85	8.7	<0.5	<0.5	<1
	7/23/90	--	--	--	80	0.8	<0.5	<0.5	<0.5
	10/18/90	--	--	--	130	<0.5	<0.5	<0.5	<0.5
	1/28/91	--	--	--	<50	<0.5	0.9	<0.5	1
	4/25/91	--	--	--	440*	3.8	<0.5	1.2	0.6
	7/9/91	--	--	--	320*	0.6	<0.5	<0.5	<0.5
	10/8/91	--	--	--	310	<0.5	<0.5	<0.5	<0.5
	4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	180^	<0.5	<0.5	<0.5	<0.5
	1/13/93	20.57	5.06	15.51	NA	NA	NA	NA	NA
	4/16/93	20.57	6.38	14.19	240	4.8	<0.5	1.3	<0.5
S-14	5/3/89	--	--	--	5300	750	400	200	800
	8/10/89	20.44	7.58	12.86	1800	540	140	42	50
	10/9/89	--	--	--	1000	360	60	20	30
	1/25/90	--	--	--	640	160	77	17	39

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND WATER SAMPLE ANALYTICAL RESULTS

Former Shell Service Station  
 15275 Washington Street  
 San Leandro, California  
 WIC#204-6852-1008

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-14	4/18/90	20.44	7.37	13.07	1200	200	110	30	96
	7/23/90	--	--	--	5000	430	340	140	660
	10/18/90	--	--	--	1800	770	13	17	120
	1/28/91	--	--	--	720	200	36	21	78
	4/25/91	--	--	--	14000	930	430	250	970
	7/9/91	--	--	--	160	30	5.3	5	16
	10/8/91	--	--	--	5400	81	57	95	380
	4/28/92	--	--	--	2000	270	140	48	170
	10/26/92	--	--	--	920	33	12	25	88
	1/13/93	20.44	5.07	15.37	NA	NA	NA	NA	NA
	4/16/93	20.44	5.86	14.58	4500	1100	29	91	170
S-15	5/3/89	--	--	--	<50	<0.5	<1	<1	<3
	8/10/89	22.22	8.48	13.74	<50	<0.5	<1	<1	<3
	10/9/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	22.22	8.45	13.77	<50	<0.5	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/18/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/28/91	--	--	--	<50	<0.5	0.6	<0.5	0.8
	4/25/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	7/9/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/8/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	2/5/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/28/92	--	--	--	50	0.8	0.9	<0.5	1.4
	7/27/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/14/93	22.22	6.64	15.58	<50	<0.5	<0.5	<0.5	<0.5
	4/16/93	22.22	7.14	15.08	<50	0.6	1	<0.5	0.7

Table 1

## SUMMARY OF GROUND WATER ELEVATIONS AND WATER SAMPLE ANALYTICAL RESULTS

Former Shell Service Station  
 15275 Washington Street  
 San Leandro, California  
 WIC#204-6852-1008

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-16	5/4/89	--	--	--	380	44	3	2	<3
	8/10/89	21.82	8.36	13.46	<50	0.6	<1	<1	<3
	10/10/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	240	160	3.3	0.8	11
	4/18/90	21.82	8.19	13.63	<50	1	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	1.1	<0.5	<0.5	<0.5
	10/18/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/28/91	--	--	--	<50	<0.5	0.6	<0.5	0.9
	4/25/91	--	--	--	60^	21	0.5	3.2	4.8
	7/9/91	--	--	--	<50	1	<0.5	<0.5	<0.5
	10/8/91	--	--	--	50	17	1.4	1.2	5.5
	2/5/92	--	--	--	150	65	0.7	<0.5	8.4
	4/28/92	--	--	--	<50	13	<0.5	<0.5	<0.5
	7/27/92	--	--	--	510	130	<2.5	<0.5	21
	10/26/92	--	--	--	<50	<0.5	<0.5	<2.5	<0.5
	1/13/93	21.82	5.78	16.04	100	25	1.9	<0.5	8.4
4/16/93	21.82	6.80	15.02	150	56	1.8	4.6	12	
S-17	5/3/89	--	--	--	<50	<0.5	<1	<1	<3
	8/10/89	20.95	8.13	12.82	<50	<0.5	<1	<1	<3
	10/9/89	--	--	--	<50	<0.5	<1	<1	<3
	1/25/90	--	--	--	<50	<0.5	<0.5	<0.5	<1
	4/18/90	20.95	7.95	13.00	<50	<0.5	<0.5	<0.5	<1
	7/23/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/18/90	--	--	--	390	10	62	22	110
	1/28/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/25/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	7/9/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/8/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND WATER SAMPLE ANALYTICAL RESULTS

Former Shell Service Station  
 15275 Washington Street  
 San Leandro, California  
 WIC#204-6852-1008

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-17	10/26/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/13/93	20.95	3.43	17.52	NA	NA	NA	NA	NA
	4/16/93	20.95	6.70	14.25	130	<0.5	<0.5	<0.5	<0.5
S-18	5/31/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	7/9/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/8/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	2/5/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	4/28/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	7/27/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/26/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	1/13/93	21.03	5.86	15.17	<50	<0.5	<0.5	<0.5	<0.5
	4/16/93	21.03	4.88	16.15	<50	<0.5	<0.5	<0.5	<0.5
SR-1	3/22/93	--	--	--	5400	1100	230	350	1300
	1/25/90	--	--	--	2200	470	120	110	510
	4/18/90	21.45	8.17	13.28	1000	130	47	47	220
	7/23/90	--	--	--	3200	470	320	170	870
	10/18/90	--	--	--	1300	280	6.6	110	130
	1/28/91	--	--	--	110	120	12	51	110
	7/9/91	--	--	--	1400	200	27	130	340
	10/8/91	--	--	--	980	79	1.5	44	52
	2/5/92	--	--	--	3800	580	36	320	400
	4/28/92	--	--	--	38000	1800	460	1900	750
	7/27/92	--	--	--	Floating product 0.01 feet				
	10/26/92	--	--	--	1800	370	10	130	130
	1/13/93	21.45	5.46	15.99	47000	1000	1100	1700	13000
	4/16/93	21.45	6.28	15.17	25000	1700	430	2400	8300

## Table 1

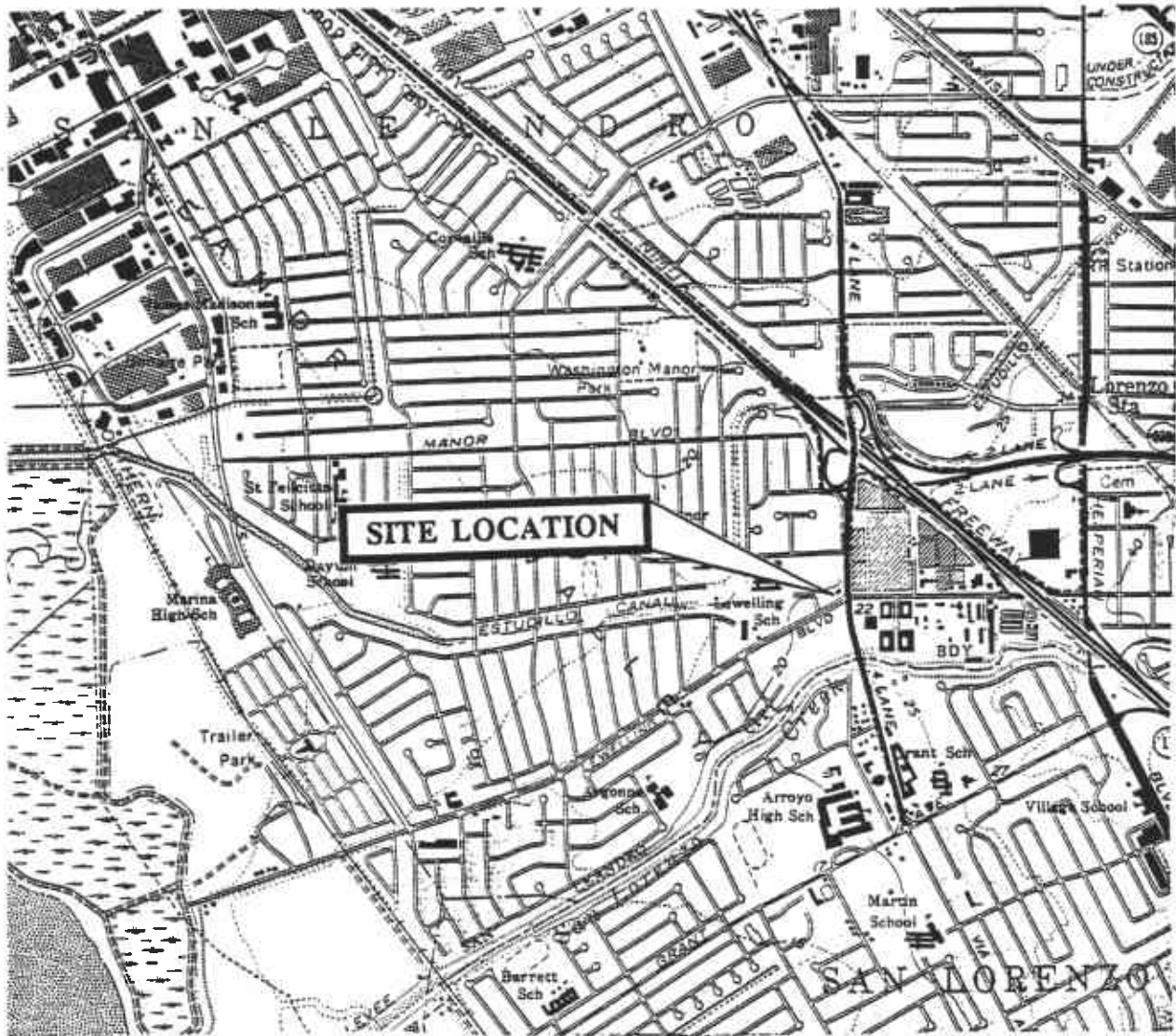
### SUMMARY OF GROUND WATER ELEVATIONS AND WATER SAMPLE ANALYTICAL RESULTS

Former Shell Service Station  
15275 Washington Street  
San Leandro, California  
WIC#204-6852-1008

#### Notes :

TOB : Top of well box referenced to mean sea level  
DTW : Depth to water  
GWE : Ground water elevation. Ground water elevation data available for certain dates only.  
TPHg : Total petroleum hydrocarbons as gasoline by EPA Method 8015 (modified)  
BTEX : Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8020  
NA : Not analyzed  
NR : Not Reported  
\* Compounds detected within the chromatographic range of gasoline but not characteristic of the standard gasoline pattern.  
^ Compounds detected are volatile aromatics (BTEX) present in sample.  
# Groundwater elevation data obtained 11/22/88.

# FIGURES



SCALE 1:24 000



North

SOURCE:  
USGS 7.5 MINUTE SERIES  
SAN LEANDRO QUADRANGLE  
PHOTOREVISED 1980

HYDR-  
ENVIRONMENTAL  
TECHNOLOGIES, INC.

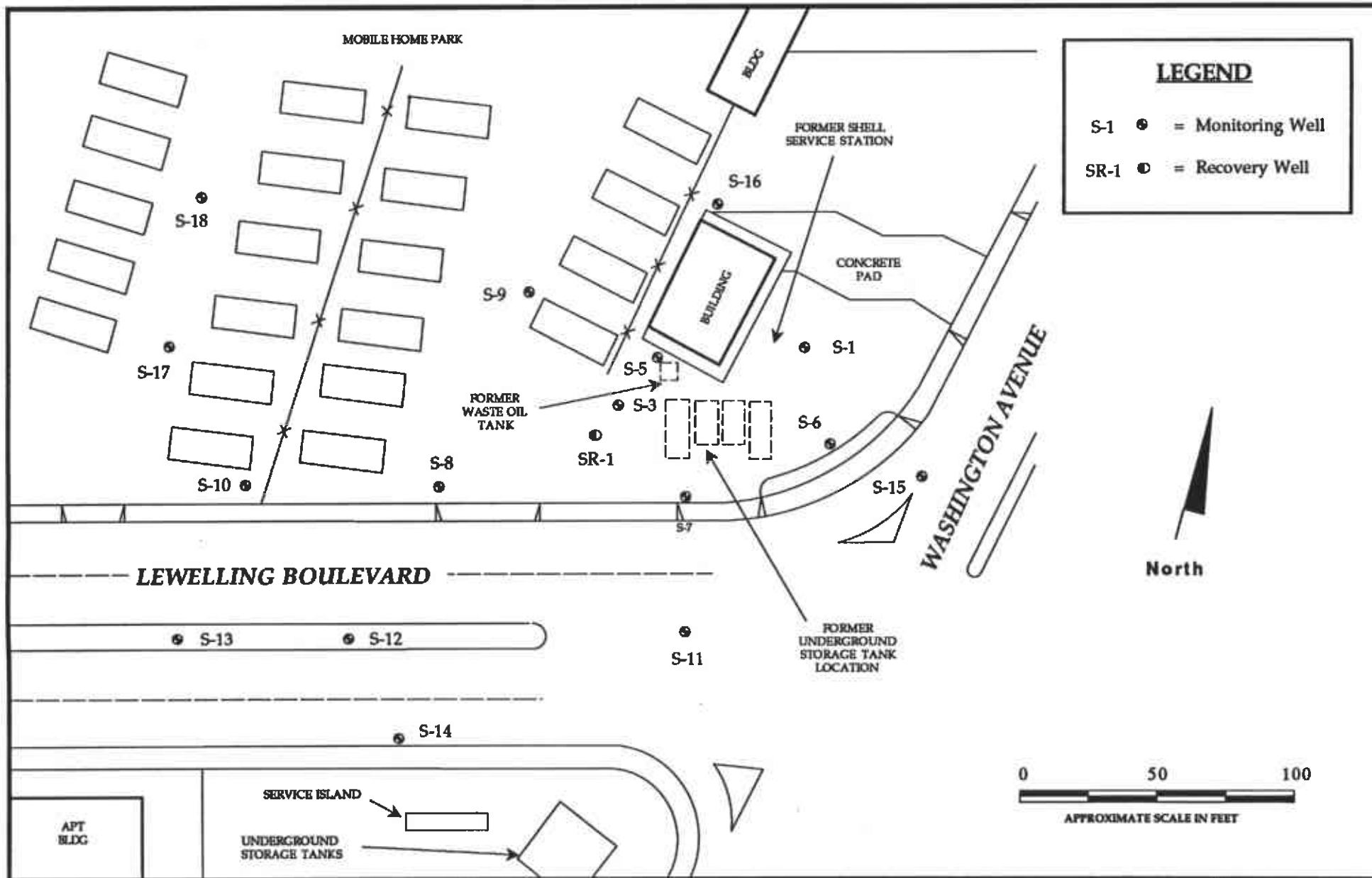
## SITE LOCATION MAP

Former Shell Service Station  
15275 Washington Avenue  
San Leandro, California  
WIC # 204-6852-1008

Figure

1

12-007 6/93



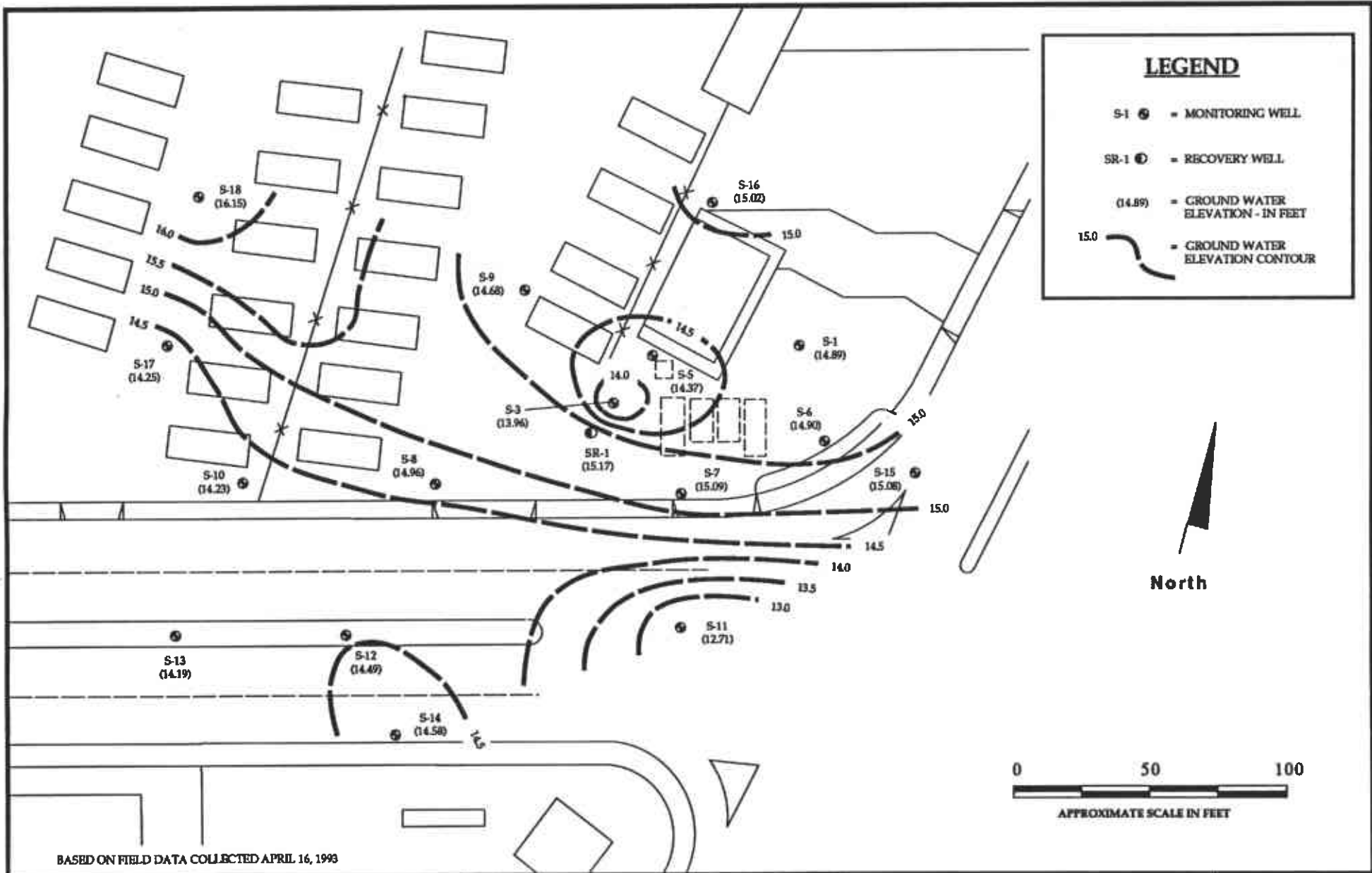
HYDR -  
ENVIRONMENTAL  
TECHNOLOGIES, INC.

**SITE PLAN**  
Former Shell Service Station  
15275 Washington Avenue  
San Leandro, California  
WIC # 204-6852-1008

Figure  
2

12-007 6/93



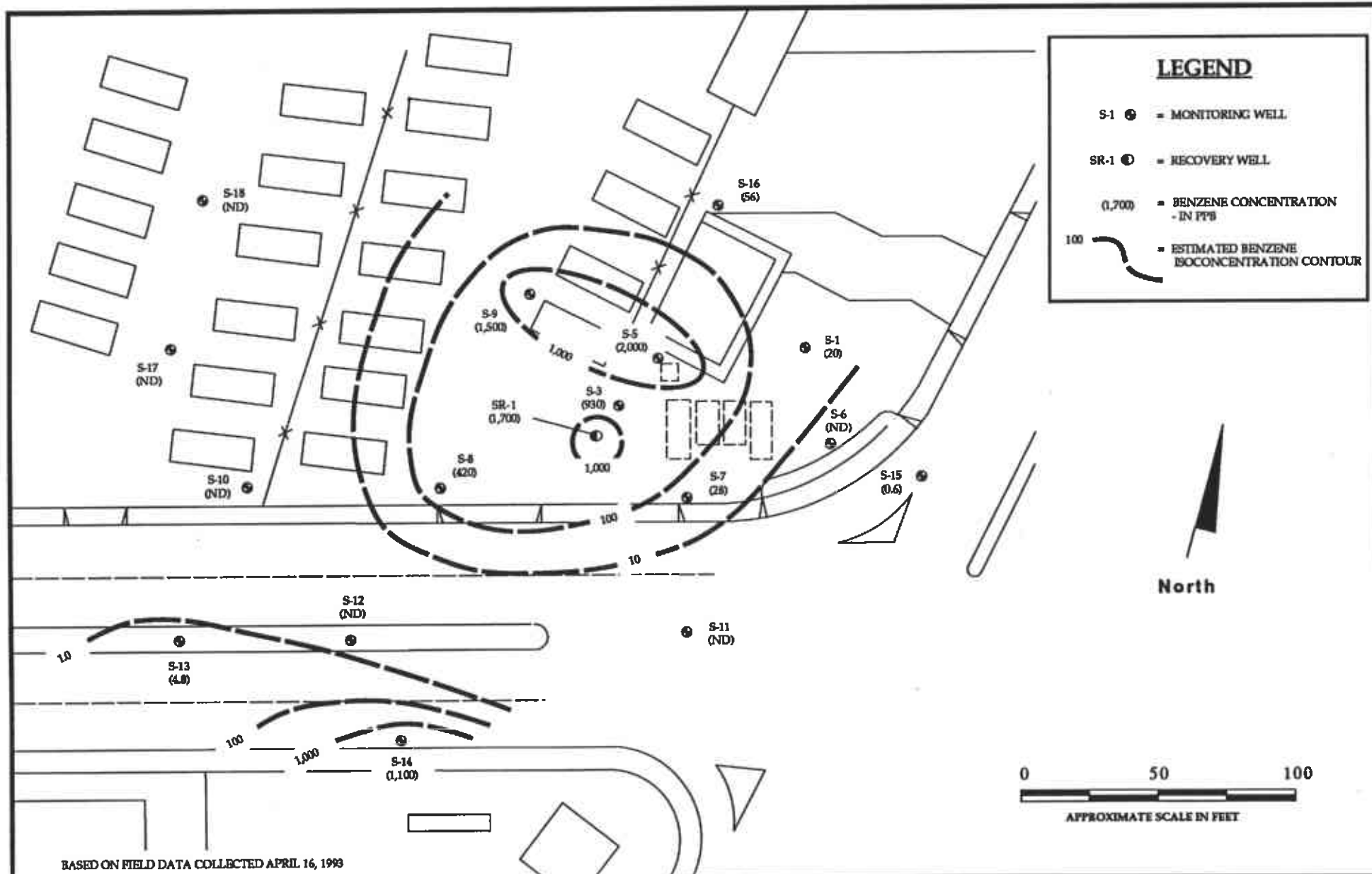


HYDR -  
 ENVIR -  
 TECHN -  
 LOGIES, INC.

**GROUND WATER GRADIENT MAP**  
 Former Shell Service Station  
 15275 Washington Avenue  
 San Leandro, California  
 WIC # 204-6852-1008

Figure  
 3

12-007 6/93



HYDR -  
ENVIR -  
TECHN -  
LOGIES, INC.

### BENZENE ISOCONCENTRATION MAP

Former Shell Service Station  
15275 Washington Avenue  
San Leandro, California  
WIC # 204-6852-1008

Figure

4

12-007 6/93

# APPENDIX A

May 4, 1993

RECEIVED

MAY - 7 1993

GeoStrategies Inc.

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

Attn: Daniel T. Kirk

SITE:  
Shell WIC # 204-6852-1008  
15275 Washington Ave.  
San Leandro, California

QUARTER:  
2nd quarter of 1993

## QUARTERLY GROUNDWATER SAMPLING REPORT 930416-Y-1

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This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in response to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a **TABLE OF WELL GAUGING DATA**. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of the water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

## TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (seen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-1	3	04-16-93	GRADE	--	NONE	--	--	6.66	20.06
S-3	3	04-16-93	GRADE	ODOR	NONE	--	--	7.18	15.50
S-5	4	04-16-93	GRADE	ODOR	NONE	--	--	7.04	18.52
S-6	3	04-16-93	GRADE	--	NONE	--	--	7.12	24.76
S-7 *	3	04-16-93	GRADE	--	NONE	--	--	6.38	24.30
S-8	3	04-16-93	GRADE	--	NONE	--	--	5.76	23.92
S-9	3	04-16-93	GRADE	--	NONE	--	--	6.28	18.04
S-10	3	04-16-93	GRADE	--	NONE	--	--	6.46	18.36

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

## TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (seen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-11	3	04-16-93	GRADE	--	NONE	--	--	6.86	23.80
S-12	3	04-16-93	GRADE	--	NONE	--	--	6.56	23.94
S-13	3	04-16-93	GRADE	--	NONE	--	--	6.38	23.80
S-14	3	04-16-93	GRADE	ODOR	NONE	--	--	5.86	23.20
S-15	3	04-16-93	GRADE	--	NONE	--	--	7.14	23.12
S-16	3	04-16-93	GRADE	--	NONE	--	--	6.80	23.42
S-17	3	04-16-93	GRADE	--	NONE	--	--	6.70	24.54
S-18	4	04-16-93	GRADE	--	NONE	--	--	4.88	18.20
SR-1	6	04-16-93	GRADE	ODOR	NONE	--	--	6.28	21.26

## STANDARD PROCEDURES

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### Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water may be removed in cases where more evacuation is needed to achieve stabilization of water parameters. Less than three case volumes of water may be obtained in cases where the well dewateres and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

### Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site.

### Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such site is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

## **Sample Containers**

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

## **Sampling**

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

## **Sample Designations**

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label. Either the requested analyses or the specific analytes are written on the sample label (e.g. TPH-G, BTEX).

## **Chain of Custody**

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

## **Hazardous Materials Testing Laboratory**

The samples obtained at this site were delivered to Anametrix, Inc. in San Jose, California. Anametrix, Inc. is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1234.

## **Objective Information Collection**

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the

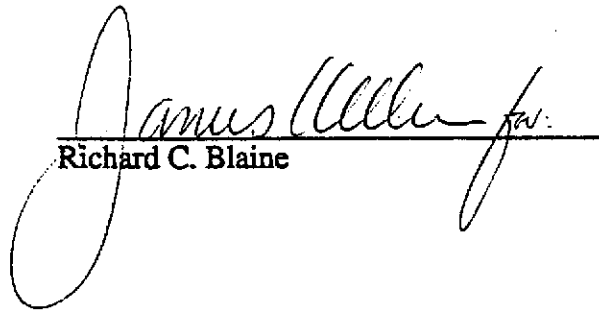


generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

### Reportage

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.

Please call if we can be of any further assistance.

  
Richard C. Blaine

RCB/lpn


attachments: chain of custody  
certified analytical report

cc: GeoStrategies, Inc.  
2140 W. Winton Ave.  
Hayward, CA 94545  
ATTN: Ellen Fostersmith

9304213


18

2000  
4/16

 <b>SHELL OIL COMPANY</b> RETAIL ENVIRONMENTAL ENGINEERING - WEST		<b>CHAIN OF CUSTODY RECORD</b> Serial No: _____				Date: _____ Page 1 of 3																			
Site Address: 15275 WASHINGTON SAN LEANDRO, CA		<b>Analysis Required</b>				LAB: <u>ANAMETRIX</u>																			
WIC#: 402 6852 1008		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	Asbestos	Container Size	Preparation Used	Composite Y/N	CHECK ONE (1) BOX ONLY C1/D1		TURN AROUND TIME											
Shell Engineer: DANIEL T. KIRK Phone No.: 510 Fax #: 675-6171												Quantity Monitoring <input checked="" type="checkbox"/> 6441	24 hours <input type="checkbox"/>	Site Investigation <input type="checkbox"/> 6441	48 hours <input type="checkbox"/>	Soil Classfy/Disposal <input type="checkbox"/> 6442	16 days <input checked="" type="checkbox"/> (Home)	Water Classfy/Disposal <input type="checkbox"/> 6443	Other <input type="checkbox"/>	Soil/Air Rem. of Sys. O & M <input type="checkbox"/> 6442	Water Rem. of Sys. O & M <input type="checkbox"/> 6443	NOTE: Helly Lab as soon as possible of 24/48 hrs. IAT.			
Consultant Name & Address: BLAINE TECH SERVICES		Consultant Contact: GLEN BENNETT Phone No. (408) 445-5535 Fax #: 293-8773		Comments:		Sampled by: Joe Carerra MIB Cady		Printed Name: JOE CARERRA MICHAEL CADY		MATERIAL DESCRIPTION		SAMPLE CONDITION/ COMMENTS													
Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	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	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS							
1 S-1	4/16/95			✓		3	✓	✓																	
2 S-3	"			✓		3	✓	✓																	
3 S-5	"			✓		3	✓	✓																	
4 S-6	"			✓		3	✓	✓																	
5 S-7	"			✓		3	✓	✓																	
6 S-8	"			✓		3	✓	✓																	
7 S-9	"			✓		3	✓	✓																	
8 S-10	"			✓		3	✓	✓																	
Relinquished By (Signature): MIB Cady		Printed Name: MICHAEL CADY		Date: 4/19/95 Time: 1:55		Received (Signature): J. Thompson		Printed Name: J. THOMPSON		Date: 4/19/95 Time: 1:48		Relinquished By (Signature): J. Thompson		Printed Name: J. THOMPSON		Date: 4/19/95 Time: 1:55		Relinquished By (Signature):		Printed Name:		Date:		Time:	

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9304 213 (18)

 <b>SHELL OIL COMPANY</b> RETAIL ENVIRONMENTAL ENGINEERING - WEST							<b>CHAIN OF CUSTODY RECORD</b> Serial No: _____							Date: _____ Page 2 of 3	
Site Address: 15275 WASHINGTON SAN LEANDRO							<b>Analysis Required</b>							LAB: <u>ANAMETRIX</u>	
WIC#: 204 6852 1008							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 Asbestos Container Size Preparation Used Composite Y/N	CHECK ONE (1) BOX ONLY C1/D1		TURN AROUND TIME					
Shell Engineer: DANIEL KIRK				Phone No.: 510 Fax #: 625-6171				Quality Monitoring <input checked="" type="checkbox"/> 6441	24 hours <input type="checkbox"/>						
Consultant Name & Address: BLAINE TECH SERVICES								Site Investigation <input type="checkbox"/> 6441	48 hours <input type="checkbox"/>						
Consultant Contact: GLEN BENNETT				Phone No. (HQB) 415-5535 Fax #: 213-8773				Soil Classfy/Disposal <input type="checkbox"/> 6442	16 days <input checked="" type="checkbox"/> (Normal)						
Comments:							Water Classfy/Disposal <input type="checkbox"/> 6443	Other <input type="checkbox"/>							
Sampled by: Joe Carrea MIB (CMT)							Water Rem. or Sys. O & M <input type="checkbox"/> 6442		Water Rem. or Sys. O & M <input type="checkbox"/> 6443		NOTE: Holdy lab as soon as possible at 24/48 hrs. 1A1.				
Printed Name: JOE CARREA MICHAEL CADY							Other <input type="checkbox"/>		MATERIAL DESCRIPTION		SAMPLE CONDITION/ COMMENTS				
Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.									
9 S-11	4/14/93			✓		3	✓	✓							
10 S-12	"			✓		"	✓	✓							
11 S-13	"			✓		"	✓	✓							
12 S-14	"			✓		"	✓	✓							
13 S-15	"			✓		"	✓	✓							
14 S-16	"			✓		"	✓	✓							
15 S-17	"			✓		"	✓	✓							
16 S-18	"			✓		"	✓	✓							
Relinquished by (Signature): MIB CADY			Printed Name: MICHAEL CADY			Date: 4/14/93 Time: 12:45			Received (Signature): [Signature]			Printed Name: S L THOMPSON			
Relinquished by (Signature): [Signature]			Printed Name: S L THOMPSON			Date: 2/12/93 Time: 2:30			Received (Signature): [Signature]			Printed Name: Maria Farjass			
Relinquished by (Signature): [Signature]			Printed Name: [Name]			Date: _____ Time: _____			Received (Signature): [Signature]			Printed Name: _____ Date: _____ Time: _____			

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

**CHAIN OF CUSTODY RECORD**

Serial No: ANAMETEX

Date: \_\_\_\_\_  
Page 3 of 3

9304213 (19)

Silo Address: 15275 WASHINGTON SAN LEANDRO CA

WIC#: 204 6852 1008

Shell Engineer: DANIEL KIRK Phone No.: 510 675-6171

Consultant Name & Address: BLAINE TECH SERVICES

Consultant Contact: GLEN BENNETT Phone No.: (408) 945-6530

Comments: \_\_\_\_\_

Sampled by: Joe Carrera MB CADY

Printed Name: JOE CARRERA MICHAEL CADY

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N

LAB: \_\_\_\_\_

CHECK ONE (1) BOX ONLY	CF/DI	TURN AROUND TIME
Quality Monitoring	<input checked="" type="checkbox"/> 6461	24 hours <input type="checkbox"/>
Site Investigation	<input type="checkbox"/> 6441	48 hours <input type="checkbox"/>
Soil Clarity/Disposal	<input type="checkbox"/> 6443	16 days <input checked="" type="checkbox"/> (Normal)
Water Clarity/Disposal	<input type="checkbox"/> 6443	Other <input type="checkbox"/> _____
Soil/Air Rem. of Sp. O & M	<input type="checkbox"/> 6462	
Water Rem. of Sp. O & M	<input type="checkbox"/> 6463	
Other	<input type="checkbox"/>	

NOTE: Notify lab as soon as possible of 24/48 hr. LAT.

Sample ID	Date	Sludge	Soil	Water	Air	No. of Conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(17) SR-1	4/14/93			✓		3	✓		✓									
(18) Dup.	I			✓		3	✓		✓									
(19) Trip	I			✓		2	✓		✓									


Relinquished By (Signature): <u>MB Cady</u>	Printed Name: <u>MICHAEL CADY</u>	Date: <u>4-19-93</u>	Time: <u>10:15</u>	Received (Signature): <u>JK Thompson</u>	Printed Name: <u>JK THOMPSON</u>	Date: <u>4/19/93</u>	Time: <u>16:55</u>
Relinquished By (Signature): <u>JK Thompson</u>	Printed Name: <u>JK THOMPSON</u>	Date: <u>4/19/93</u>	Time: <u>16:55</u>	Received (Signature): <u>Maria Banjos</u>	Printed Name: <u>Maria Banjos</u>	Date: <u>4/19/93</u>	Time: <u>16:55</u>
Relinquished By (Signature): _____	Printed Name: _____	Date: _____	Time: _____	Received (Signature): _____	Printed Name: _____	Date: _____	Time: _____

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

9304213


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4/16

 <b>SHELL OIL COMPANY</b> RETAIL ENVIRONMENTAL ENGINEERING - WEST		<b>CHAIN OF CUSTODY RECORD</b> Serial No: _____				Date: _____ Page 1 of 3																	
Site Address: 15275 WASHINGTON SAN LEANDRO, CA		<b>Analysis Required</b>				LAB: <u>ANAMETRIX</u>																	
WIC#: 402 6852 1008		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	Asbestos	Container Size	Preparation Used	Composite Y/N	CHECK ONE (1) BOX ONLY C1/D1		TURN AROUND TIME									
Shell Engineer: DANIEL T. KIRK												Phone No.: 510 Fax #: 675-6171		Quantity Monitoring <input checked="" type="checkbox"/> 6441	24 hours <input type="checkbox"/>	Site Investigation <input type="checkbox"/> 6441	48 hours <input type="checkbox"/>						
Consultant Name & Address: BLAINE TECH SERVICES												Soil Classfy/Disposal <input type="checkbox"/> 6442	16 days <input checked="" type="checkbox"/> (Home)	Water Classfy/Disposal <input type="checkbox"/> 6443	Other <input type="checkbox"/>	NOTE: Helly Lab as soon as possible of 24/48 hrs. IAT.							
Consultant Contact: GLEN BENNETT												Phone No. (408) 445-5535 Fax #: 293-8773		Soil/Air Rem. of Sys. O & M <input type="checkbox"/> 6442	Water Rem. of Sys. O & M <input type="checkbox"/> 6443								
Comments:																							
Sampled by: <u>Joe Carbera</u> <u>MIB Cady</u>																							
Printed Name: <u>JOE CARBERA</u> <u>MICHAEL CADY</u>																							
Sample ID	Date	Sludge	Soil	Water	Air	No. of conb.	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	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS					
1 S-1	4/16/95			✓		3	✓	✓															
2 S-3	"			✓		3	✓	✓															
3 S-5	"			✓		3	✓	✓															
4 S-6	"			✓		3	✓	✓															
5 S-7	"			✓		3	✓	✓															
6 S-8	"			✓		3	✓	✓															
7 S-9	"			✓		3	✓	✓															
8 S-10	"			✓		3	✓	✓															
Relinquished By (Signature): <u>MIB Cady</u>		Printed Name: <u>MICHAEL CADY</u>		Date: <u>4/19/95</u>		Received (Signature): <u>[Signature]</u>		Printed Name: <u>JL THOMPSON</u>		Date: <u>4/19/95</u>		Relinquished By (Signature): <u>[Signature]</u>		Printed Name: <u>Marta Pavales</u>		Date: <u>4/19/95</u>		Relinquished By (Signature): <u>[Signature]</u>		Printed Name: _____		Date: _____	
Relinquished By (Signature): <u>[Signature]</u>		Printed Name: <u>JL THOMPSON</u>		Date: <u>4/19/95</u>		Received (Signature): <u>[Signature]</u>		Printed Name: _____		Date: _____		Relinquished By (Signature): _____		Printed Name: _____		Date: _____		Relinquished By (Signature): _____		Printed Name: _____		Date: _____	

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9304 213 (18)

 <b>SHELL OIL COMPANY</b> RETAIL ENVIRONMENTAL ENGINEERING - WEST		<b>CHAIN OF CUSTODY RECORD</b> Serial No: _____				Date: _____ Page 2 of 3						
Site Address: 15275 WASHINGTON SAN LEANDRO		<b>Analysis Required</b>				LAB: <u>ANAMETRIX</u>						
WIC#: 204 6852 1008		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 Asbestos Container Size Preparation Used Composite Y/N	<input type="checkbox"/> CHECK ONE (1) BOX ONLY <input type="checkbox"/> QUANTITY MONITORING 6441 <input type="checkbox"/> SOIL INVESTIGATION 6441 <input type="checkbox"/> SOIL CLASSIFY/DISPOSAL 6442 <input type="checkbox"/> WATER CLASSIFY/DISPOSAL 6443 <input type="checkbox"/> SOIL/AIR REM. or Sys. O & M 6442 <input type="checkbox"/> WATER REM. or Sys. O & M 6443 <input type="checkbox"/> Other	C1/D1 TURN AROUND TIME 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 16 days <input checked="" type="checkbox"/> (Normal) Other <input type="checkbox"/>	NOTE: Holdy lab as soon as possible at 24/48 hrs. 1A1.							
Shell Engineer: DANIEL KIRK	Phone No.: 510 Fax #: 625-6171				Consultant Name & Address: BLAINE TECH SERVICES	Consultant Contact: GLEN BENNETT	Phone No. (HQB) 416-5535 Fax #: 243-8773	Comments:				
Sampled by: Joe Carrea M.B. CADY					Printed Name: JOE CARREA MICHAEL CADY	Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.
			S-11	4/14/03			✓		3			
			S-12	"			✓		"			
			S-13	"			✓		"			
			S-14	"			✓		"			
			S-15	"			✓		"			
			S-16	"			✓		"			
			S-17	"			✓		"			
			S-18	"			✓		"			
Relinquished by (signature): M.B. CADY Printed Name: MICHAEL CADY		Date: 4/17/03 Time: 12:45		Received (signature): [Signature] Printed Name: S.L. THOMPSON		Date: 4/17/03 Time: 12:45						
Relinquished by (signature): [Signature] Printed Name: S.L. THOMPSON		Date: 4/17/03 Time: 12:45		Received (signature): [Signature] Printed Name: Maria Farjass		Date: 4/17/03 Time: 12:45						
Relinquished by (signature): [Signature] Printed Name: _____		Date: _____ Time: _____		Received (signature): [Signature] Printed Name: _____		Date: _____ Time: _____						

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

**CHAIN OF CUSTODY RECORD**

Serial No: ANAMETEX

Date: \_\_\_\_\_

Page 3 of 3

9304213 (19)

Silo Address: 15275 WASHINGTON SAN LEANDRO CA

WIC#: 204 6852 1008

Shell Engineer: DANIEL KIRK Phone No.: 510 675-6171

Consultant Name & Address: BLAINE TECH SERVICES

Consultant Contact: GLEN BENNETT Phone No.: (408) 945-6530

Comments: \_\_\_\_\_

Sampled by: Joe Carrera MB CADY

Printed Name: JOE CARRERA MICHAEL CADY

**Analysis Required**

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N

LAB: \_\_\_\_\_

CHECK ONE (1) BOX ONLY	CF/DI	TURN AROUND TIME
Quality Monitoring <input checked="" type="checkbox"/>	6461	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Clarity/Diposal <input type="checkbox"/>	6443	16 days <input checked="" type="checkbox"/> (Normal)
Water Clarity/Diposal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. of Sp. O & M <input type="checkbox"/>	6462	
Water Rem. of Sp. O & M <input type="checkbox"/>	6463	
Other <input type="checkbox"/>		

NOTE: Notify lab as soon as possible of 24/48 hr. LAT.

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(17) SR-1	4/14/93			✓		3	✓		✓									
(18) Dup.	I			✓		3	✓		✓									
(19) Trip	I			✓		2	✓		✓									

Relinquished By (signature): <u>MB Cady</u>	Printed Name: <u>MICHAEL CADY</u>	Date: <u>4-19-93</u>	Time: <u>10:15</u>	Received (signature): <u>JK Thompson</u>	Printed Name: <u>JK THOMPSON</u>	Date: <u>4/19/93</u>	Time: <u>16:53</u>
Relinquished By (signature): <u>JK Thompson</u>	Printed Name: <u>JK THOMPSON</u>	Date: <u>4/19/93</u>	Time: <u>16:53</u>	Received (signature): <u>Maria Banjos</u>	Printed Name: <u>Maria Banjos</u>	Date: <u>4/19/93</u>	Time: <u>16:55</u>
Relinquished By (signature): _____	Printed Name: _____	Date: _____	Time: _____	Received (signature): _____	Printed Name: _____	Date: _____	Time: _____

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



MR. GLEN BENNETT  
BLAINE TECH  
985 TIMOTHY STREET  
SAN JOSE, CA 95133

Workorder # : 9304213  
Date Received : 04/19/93  
Project ID : 402-6852-1008  
Purchase Order: MOH-B813

The following samples were received at Anamatrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9304213- 1	S-1
9304213- 2	S-3
9304213- 3	S-5
9304213- 4	S-6
9304213- 5	S-7
9304213- 6	S-8
9304213- 7	S-9
9304213- 8	S-10
9304213- 9	S-11
9304213-10	S-12
9304213-11	S-13
9304213-12	S-14
9304213-13	S-15
9304213-14	S-16
9304213-15	S-17
9304213-16	S-18
9304213-17	SR-1
9304213-18	DUP
9304213-19	TRIP

This report consists of 11 pages not including the cover letter, and is organized in sections according to the specific Anamatrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anamatrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anamatrix.

Sarah Schoen, Ph.D.  
Laboratory Director

05-03-93

Date



REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. GLEN BENNETT  
BLAINE TECH  
985 TIMOTHY STREET  
SAN JOSE, CA 95133

Workorder # : 9304213  
Date Received : 04/19/93  
Project ID : 402-6852-1008  
Purchase Order: MOH-B813  
Department : GC  
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9304213- 1	S-1	WATER	04/16/93	TPHg/BTEX
9304213- 2	S-3	WATER	04/16/93	TPHg/BTEX
9304213- 3	S-5	WATER	04/16/93	TPHg/BTEX
9304213- 4	S-6	WATER	04/16/93	TPHg/BTEX
9304213- 5	S-7	WATER	04/16/93	TPHg/BTEX
9304213- 6	S-8	WATER	04/16/93	TPHg/BTEX
9304213- 7	S-9	WATER	04/16/93	TPHg/BTEX
9304213- 8	S-10	WATER	04/16/93	TPHg/BTEX
9304213- 9	S-11	WATER	04/16/93	TPHg/BTEX
9304213-10	S-12	WATER	04/16/93	TPHg/BTEX
9304213-11	S-13	WATER	04/16/93	TPHg/BTEX
9304213-12	S-14	WATER	04/16/93	TPHg/BTEX
9304213-13	S-15	WATER	04/16/93	TPHg/BTEX
9304213-14	S-16	WATER	04/16/93	TPHg/BTEX
9304213-15	S-17	WATER	04/16/93	TPHg/BTEX
9304213-16	S-18	WATER	04/16/93	TPHg/BTEX
9304213-17	SR-1	WATER	04/16/93	TPHg/BTEX
9304213-18	DUP	WATER	04/16/93	TPHg/BTEX
9304213-19	TRIP	WATER	04/16/93	TPHg/BTEX

REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. GLEN BENNETT  
BLAINE TECH  
985 TIMOTHY STREET  
SAN JOSE, CA 95133

Workorder # : 9304213  
Date Received : 04/19/93  
Project ID : 402-6852-1008  
Purchase Order: MOH-B813  
Department : GC  
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as gasoline for samples S-12 and S-13 are primarily due to the presence of a discrete hydrocarbon peak not indicative of gasoline.

Cheryl Balmer                      5/3/93  
Department Supervisor                      Date

Peggie Dawson 5/3/93  
Chemist                      Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9304213  
Matrix : WATER  
Date Sampled : 04/16/93

Project Number : 402-6852-1008  
Date Released : 05/03/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-1	Sample I.D.# S-3	Sample I.D.# S-5	Sample I.D.# S-6	Sample I.D.# S-7
Benzene	0.5	20	930	2000	ND	28
Toluene	0.5	ND	2800	1300	ND	ND
Ethylbenzene	0.5	15	1900	4300	ND	ND
Total Xylenes	0.5	11	14000	18000	ND	1.8
TPH as Gasoline	50	240	40000	42000	ND	110
% Surrogate Recovery		96%	81%	90%	102%	109%
Instrument I.D.		HP4	HP21	HP21	HP4	HP4
Date Analyzed		04/22/93	04/27/93	04/29/93	04/22/93	04/22/93
RLMF		1	500	250	1	1

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Reggie Dawson 5/3/93  
Analyst Date

Cheryl Balmer 5/3/93  
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9304213  
Matrix : WATER  
Date Sampled : 04/16/93

Project Number : 402-6852-1008  
Date Released : 05/03/93

Reporting Limit	Sample I.D.# S-8	Sample I.D.# S-9	Sample I.D.# S-10	Sample I.D.# S-11	Sample I.D.# S-12	
COMPOUNDS (ug/L)	-06	-07	-08	-09	-10	
Benzene	0.5	420	1500	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND	ND
Ethylbenzene	0.5	200	1100	ND	ND	ND
Total Xylenes	0.5	20	990	ND	ND	ND
TPH as Gasoline	50	1100	10000	80	ND	60
% Surrogate Recovery	130%	88%	107%	106%	109%	
Instrument I.D.	HP4	HP21	HP4	HP4	HP4	
Date Analyzed	04/23/93	04/22/93	04/22/93	04/22/93	04/22/93	
RLMF	10	50	1	1	1	

ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.  
 RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Peggie Davison 5/3/93  
Analyst Date

Cheryl Balmer 5/3/93  
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9304213  
Matrix : WATER  
Date Sampled : 04/16/93

Project Number : 402-6852-1008  
Date Released : 05/03/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-13	Sample I.D.# S-14	Sample I.D.# S-15	Sample I.D.# S-16	Sample I.D.# S-17
Benzene	0.5	4.8	1100	0.6	56	ND
Toluene	0.5	ND	29	1.0	1.8	ND
Ethylbenzene	0.5	1.3	91	ND	4.6	ND
Total Xylenes	0.5	ND	170	0.7	12	ND
TPH as Gasoline	50	240	4500	ND	150	130
% Surrogate Recovery		112%	97%	105%	98%	82%
Instrument I.D.		HP4	HP21	HP4	HP21	HP21
Date Analyzed		04/22/93	04/23/93	04/23/93	04/22/93	04/22/93
RLMF		1	50	1	1	1

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Reggie Dawson 5/3/93  
Analyst Date

Cheryl Balmer 5/3/93  
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9304213  
Matrix : WATER  
Date Sampled : 04/16/93

Project Number : 402-6852-1008  
Date Released : 05/03/93

Reporting Limit	Sample I.D.# S-18	Sample I.D.# SR-1	Sample I.D.# DUP	Sample I.D.# TRIP	Sample I.D.# BA2202E2	
COMPOUNDS (ug/L)	-16	-17	-18	-19	BLANK	
Benzene	0.5	ND	1700	24	ND	ND
Toluene	0.5	ND	430	ND	ND	ND
Ethylbenzene	0.5	ND	2400	ND	ND	ND
Total Xylenes	0.5	ND	8300	1.5	ND	ND
TPH as Gasoline	50	ND	25000	130	ND	ND
% Surrogate Recovery	82%	84%	88%	108%	107%	
Instrument I.D.	HP21	HP21	HP21	HP4	HP4	
Date Analyzed	04/22/93	04/22/93	04/22/93	04/22/93	04/22/93	
RLMF	1	250	1	1	1	

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Reggie Davison 5/3/93  
Analyst Date

Cheyl Balma 5/3/93  
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9304213  
Matrix : WATER  
Date Sampled : N/A

Project Number : 402-6852-1008  
Date Released : 05/03/93

Reporting Limit	Sample I.D.#	Sample I.D.#	Sample I.D.#	Sample I.D.#	Sample I.D.#
	BA2301E2	BA2201E2	BA2301E2	BA2602E2	BA2901E2
COMPOUNDS	BLANK	BLANK	BLANK	BLANK	BLANK
Benzene	0.5	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND	ND
% Surrogate Recovery	110%	81%	83%	120%	103%
Instrument I.D.	HP4	HP21	HP21	HP21	HP21
Date Analyzed	04/23/93	04/22/93	04/23/93	04/26/93	04/29/93
RLMF	1	1	1	1	1

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Peggie Davison 5/3/93  
Analyst Date

Cheyl Balman 5/3/93  
Supervisor Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT  
 EPA METHOD 5030 WITH GC/FID  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 402-6852-1008 S-11  
 Matrix : WATER  
 Date Sampled : 04/16/93  
 Date Analyzed : 04/22/93

Anamatrix I.D. : 04213-09  
 Analyst : RD  
 Supervisor : CB  
 Date Released : 05/03/93  
 Instrument ID : HP4

COMPOUND	SPIKE AMT (ug/L)	SAMPLE AMT (ug/L)	REC MS (ug/L)	% REC MS	REC MD (ug/L)	% REC MD	RPD	% REC LIMITS
GASOLINE	500	0	500	100%	430	86%	-15%	48-149
P-BFB				78%		88%		61-139

\* Limits established by Anamatrix, Inc.



TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT  
 EPA METHOD 5030 WITH GC/FID  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 204-6852-1008 DUP  
 Matrix : WATER  
 Date Sampled : 04/16/93  
 Date Analyzed : 04/22/93

Anamatrix I.D. : 04213-18  
 Analyst : RD  
 Supervisor : CS  
 Date Released : 05/03/93  
 Instrument ID : HP21

COMPOUND	SPIKE AMT (ug/L)	SAMPLE AMT (ug/L)	REC MS (ug/L)	% REC MS	REC MD (ug/L)	% REC MD	RPD	% REC LIMITS
GASOLINE	500	130	650	104%	640	102%	-2%	48-149
P-BFB				84%		85%		61-139

\* Limits established by Anamatrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT  
 EPA METHOD 5030 WITH GC/FID  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE  
 Matrix : WATER  
 Date Sampled : N/A  
 Date Analyzed : 04/23/93

Anamatrix I.D. : LCSW0423  
 Analyst : RD  
 Supervisor : *CR*  
 Date Released : 05/03/93  
 Instrument I.D.: HP4

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	490	98%	67-127
p-BFB			77%	61-139

\* Quality control established by Anamatrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT  
 EPA METHOD 5030 WITH GC/FID  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE  
 Matrix : WATER  
 Date Sampled : N/A  
 Date Analyzed : 04/22/93

Anamatrix I.D. : LCSW0422  
 Analyst : RD  
 Supervisor :  
 Date Released : 05/03/93  
 Instrument I.D.: HP21

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	470	94%	67-127
p-BFB			81%	61-139

\* Quality control established by Anamatrix, Inc.

# WELL GAUGING DATA

Shell WIC # 204-6852-1008

Project # 930416T1  
~~234016T1~~ Date 4.16.93 Client SHELL

Site 15275 WASHINGTON SAN LEANDRO Sampler JC & MC

Well I.D.	Well Size (in.)	Sheen/Odor	Depth to Immissible Liquid (feet)	Thickness of Immissible Liquid (ft.)	Volume of Immissibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Measured to: Top of Pipe or Grade
S-1	3					6.66	20.00	GRADE
S-3	3					7.18	15.50	"
S-5	4					7.04	18.32	"
S-6	3					7.12	24.76	"
S-7	3					6.38	24.30	"
S-8	3					5.76	23.92	"
S-9	3					6.28	18.04	"
S-10	3					6.46	18.36	"
S-11	3					6.86	23.80	"
S-12	3					6.56	23.94	"
S-13	3					6.38	23.80	"
S-14	3					5.86	23.20	"
S-15	3					7.14	23.12	"
S-16	3					6.80	24.32	"
S-17	3					6.70	24.54	"
S-18	4					4.88	18.20	"



# SHELL WELL MONITORING DATA SHEET

Project #: <u>930416 Y1</u>	Wic # <u>40Z 685Z 1008</u>
Sampler: <u>MPC</u>	Date Sampled: _____
Well I.D.: <u>S-1</u>	Well Diameter: (circle one) 2 <u>3</u> 4 6 _____
Total Well Depth: Before <u>20.00</u> After _____	Depth to Water: Before <u>6.60</u> After _____
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Measurements referenced to: PVC <u>Grade</u> Other --	

Volume Conversion Factor (VCF):  
 $(12 \div (4^2/4) \div \pi) / 2.31$   
 where  
 12 = in/foot  
 4 = diameter (in.)  
 π = 3.1416  
 2.31 = in<sup>2</sup>/gal

Well dia.	VCF
2"	0.14
3"	0.37
4"	0.68
5"	1.07
6"	1.60
8"	2.91
10"	4.50
12"	7.75

<u>4.96</u>	x	<u>3</u>	=	<u>14.88</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Type of Installed Pump \_\_\_\_\_

Sampling: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
14:07	68.4	7.4	12,000	12.2	5	
14:12	68.0	7.4	12,000	3.7	10	
14:18	68.0	7.4	12,000	1.0	15	

Did Well Dewater? NO If yes, gals. \_\_\_\_\_

Gallons Actually Evacuated: 15

Sampling Time: 1421

Sample I.D.: S-1

Laboratory: ANAMETRIX

Analyzed for: TPH, S&S, BTEX

Duplicate I.D.: \_\_\_\_\_

Cleaning Blank I.D.: \_\_\_\_\_

Analyzed for: \_\_\_\_\_

Shipping Notations: \_\_\_\_\_

Additional Notations: \_\_\_\_\_

# SHELL WELL MONITORING DATA SHEET

Project #: 930416-41	Wic # 204-6855-1008
Sampler: <i>g</i>	Date Sampled: 4.16.93
Well I.D.: S-3	Well Diameter: (circle one) 2 <u>3</u> 4 6
Total Well Depth: Before 15.50 After	Depth to Water: Before 7.18 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	PVC <input type="checkbox"/> <u>Grade</u> <input checked="" type="checkbox"/> Other -- <input type="checkbox"/>

Volume Conversion Factor (VCF):  
 $VCF = (d^2/4) \times \pi / 231$   
 where  
 $d = \text{in./ft.}$   
 $d = \text{diameter (in.)}$   
 $\pi = 3.1416$   
 $231 = \text{in}^3/\text{gal}$

Well dia.	VCF
2"	0.38
3"	0.57
4"	0.76
6"	1.47
8"	2.68
10"	4.08
12"	5.67

<u>3.0</u>	x	<u>3</u>	=	<u>9.0</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Type of Installed Pump \_\_\_\_\_

Sampling: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
15:30	68.3	7.0	1000	28.6	3.0	GAS odor.
15:38	68.4	6.8	1000	19.4	6.0	GAS odor
15:45	68.2	6.8	1100	12.6	9.0	u u

Did Well Dewater? NO If yes, gals.

Gallons Actually Evacuated:

Sampling Time: 15:50

Sample I.D.: S-3

Laboratory: ANALYTICAL

Analyzed for: TPH GAS BTEX

Duplicate I.D.:

Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 930416-41	Wic # 204-6855-1003
Sampler: JC	Date Sampled: 4.16.93
Well I.D.: S-5	Well Diameter: (circle one) 2 <del>3</del> 4 6
Total Well Depth: Before 18.52 After	Depth to Water: Before 7.04 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	PVC <u>Grade</u> Other --

Volume Conversion Factor (VCF):  
 $VCF = (d^2/4) \times \pi / 2.31$   
 Where:  
 d = in/ft  
 d = diameter (in.)  
 π = 3.1416  
 2.31 = in<sup>2</sup>/gal

Well dia.	VCF
2"	0.21
3"	0.37
4"	0.68
6"	1.47
8"	2.90
10"	4.91
12"	7.35

<u>7.4</u>	x	<u>3</u>	=	<u>22.3</u>	
1 Case Volume		Specified Volumes		gallons	

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
15:58	68.7	6.9	1000	28.6	7.5	GAS odor.
16:06	68.5	7.0	1000	17.4	15.0	" "
16:14	68.4	6.9	1100	12.9	22.5	" "

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 22.5

Sampling Time: 16:20

Sample I.D.: S-5 Laboratory: ANAMETRIX

Analyzed for: TPH GAS BTEX

Duplicate I.D.: \_\_\_\_\_ Cleaning Blank I.D.: \_\_\_\_\_

Analyzed for: \_\_\_\_\_

Shipping Notations: \_\_\_\_\_

Additional Notations: \_\_\_\_\_



# SHELL WELL MONITORING DATA SHEET

Project #: 930416-41	Vic # 204-6852-1008
Sampler: <i>re</i>	Date Sampled: 4.16.93
Well I.D.: S-6	Well Diameter: (circle one) 2 <u>3</u> 4 6
Total Well Depth: Before 24.76 After	Depth to Water: Before 7.12 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	PVC <u>Grade</u> Other --

Volume Conversion Factor (VCF):  
 $VCF = (d^2/n) \times \pi / 2.31$   
 where:  
 V = Volume (gals)  
 d = diameter (in.)  
 n = 2.31 ft  
 2.31 = 2.31 ft

Well Dia.	VCF
2"	0.16
3"	0.37
4"	0.56
6"	1.17
8"	2.06
10"	3.17

<u>6.5</u>	$\times$	<u>3</u>	$=$	<u>19.5</u>	gallons
1 Case Volume		Specified Volumes			

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
13:39	75.1	8.4	1000	11.4	6.5	—
13:46	74.6	7.6	1000	15.7	13.0	—
13:52	74.5	7.6	1000	18.9	19.5	—

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 19.5

Sampling Time: 13:55

Sample I.D.: S-6 Laboratory: Anametrox

Analyzed for: TPH, GAS, BTEX

Duplicate I.D.: \_\_\_\_\_ Cleaning Blank I.D.: \_\_\_\_\_

Analyzed for: \_\_\_\_\_

Shipping Notations: \_\_\_\_\_

Additional Notations: \_\_\_\_\_

# WELL MONITORING DATA SHEET

Project #: 930416-41	Client: Shell
Sampler: <i>R</i>	Date Sampled: 4.16.93
Well I.D.: S-7	Well Diameter: (circle one) 2 <u>3</u> 4 6
Total Well Depth: Before 24.30 After	Depth to Water: Before 6.38 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <del>True</del> <u>Grade</u> Other --	

Volume Conversion Factor (VCF):  
 $(12 \div (4^2/4) \div \pi) / 2.31$   
 where  
 12 = in/foot  
 4 = diameter (in.)  
 $\pi = 3.1416$   
 2.31 = in<sup>2</sup>/gal

Well dia.	VCF
2"	0.34
3"	0.37
4"	0.46
6"	1.47
8"	4.08
12"	5.87

$\frac{4.6}{1 \text{ Case Volume}} \times \frac{3}{\text{Specified Volumes}} = \frac{19.8}{\text{gallons}}$

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_  
 Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
12:56	75.6	7.8	1200	23.4	6.5	—
13:07	75.3	7.5	1500	12.5	13.5	—
13:15	75.4	7.4	1400	15.4	20.0	—

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 20.0

Sampling Time: 13:20

Sample I.D.: S-7 Laboratory: ANAMETRIX.

Analyzed for: TPH. GAS. BTEX.

Duplicate I.D.: Dup Cleaning Blank I.D.: \_\_\_\_\_

Analyzed for: TPH. GAS. BTEX.

Shipping Notations: \_\_\_\_\_

Additional Notations: \_\_\_\_\_

# SHELL WELL MONITORING DATA SHEET

Project #: 930416	Wic # 204 6852 1008
Sampler: MBC	Date Sampled: 4.16.93
Well I.D.: 5-8	Well Diameter: (circle one) 2 <u>3</u> 4 6
Total Well Depth: Before 23.92 After	Depth to Water: Before 5.76 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<u>PVC</u> Grade Other --

**Volume Conversion Factor (VCF):**  
 $(12 = (d^2/n) \times \pi) / 2.31$   
 where  
 12 = in/foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 2.31 = in/foot

Well dia.	VCF
2"	0.24
3"	0.37
4"	0.48
6"	1.07
8"	1.49
10"	2.28
12"	3.37

<u>0.72</u>	x	<u>3</u>	=	<u>2.16</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
10:36	66.8	7.0	1000	111.8	7.0	
10:43	67.2	7.1	900	>200	14.0	
10:51	67.4	7.1	900	>200	21.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 21.0

Sampling Time: 10:54

Sample I.D.: 5-8 Laboratory:

Analyzed for: TPA gas; BTEX

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 930416	Wic # 40Z 685Z 1008
Sampler: MBC	Date Sampled: 4.16.93
Well I.D.: 5.9	Well Diameter: (circle one) 2 <u>3</u> 4 6
Total Well Depth: Before 18.04 After	Depth to Water: (odor) Before 6.28 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	PVC <u>Grade</u> Other --

Volume Conversion Factor (VCF):  
 $(12 \times (d^2/4) \times \pi) / 231$   
 where  
 12 = in/foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 231 = in<sup>3</sup>/gal

Well dia.	VCF
2"	0.26
3"	0.37
4"	0.56
6"	1.37
8"	2.04
12"	3.37

4.35	x	3	=	13.05
1 Case Volume		Specified Volumes		gallons

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
13:35	67.6	7.2	14,000	7200	5	
13:42	67.6	7.3	15,000	7200	10	
13:51	67.6	7.3	15,000	7200	14	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated:

Sampling Time: 13:54

Sample I.D.: 5.9 Laboratory:

Analyzed for: TPH gals, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 930466	Wic # 40Z 685Z 1008
Sampler: mBC	Date Sampled: 4.16.93
Well I.D.: S-10	Well Diameter: (circle one) 2 <u>3</u> 4 6
Total Well Depth: Before 18.36 After	Depth to Water: Before 6.46 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	PVC <u>Grade</u> Other --

Volume Conversion Factor (VCF):  
 $(12 \div (d^2/4) \times \pi) / 2.31$   
 where  
 $12 = \text{in/ft}$   
 $d = \text{diameter (in.)}$   
 $\pi = 3.1416$   
 $2.31 = \text{in/ft}$

Well dia.	VCF
2"	0.16
3"	0.33
4"	0.44
6"	1.07
8"	1.99
12"	4.57

<u>4.4</u>	$\times$	<u>3</u>	$=$	<u>13.2</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer  Middleburg   
 Electric Submersible  Suction Pump   
 Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg   
 Electric Submersible  Suction Pump   
 Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
12:53	63.0	7.3	900	>200	5	
12:59	63.2	7.3	900	>200	10	
13:06	63.2	7.3	900	>200	14	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 14

Sampling Time: 13:07

Sample I.D.: S-10 Laboratory:

Analyzed for: TPH gas, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

# WELL MONITORING DATA SHEET

Project #: <u>930416-41</u>	Client: <u>Shell</u>
Sampler: <u>2</u>	Date Sampled: <u>4-16-93</u>
Well I.D.: <u>S-11</u>	Well Diameter: (circle one) <u>2</u> 3 4 6
Total Well Depth: Before <u>23.80</u> After	Depth to Water: Before <u>6.86</u> After
Reason not sampled:	If Free Product, thickness: -

Volume Conversion Factor (VCF):

$$VCF = (d^2/4) \times \pi / 2.31$$

where

- 12 = in/foot
- d = diameter (in.)
- $\pi = 3.1416$
- 2.31 = in<sup>3</sup>/gal

Well dia. VCF

2"	=	0.16
3"	=	0.37
4"	=	0.68
6"	=	1.47
10"	=	4.08
12"	=	5.67

<u>6.2</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>18.6</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Type of Installed Pump \_\_\_\_\_

Sampling: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Installed Pump

TIME	TEMP. (F)	PH	COND.	TURBIDITY:	VOLUME REMOVED:	NOTATIONS:
<u>11:01</u>	<u>74.9</u>	<u>7.8</u>	<u>1000</u>	<u>15.7</u>	<u>6.5</u>	—
<u>11:05</u>	<u>70.2</u>	<u>7.5</u>	<u>1000</u>	<u>17.9</u>	<u>13.0</u>	—
<u>11:09</u>	<u>70.4</u>	<u>7.5</u>	<u>1000</u>	<u>28.6</u>	<u>19.0</u>	—

Did Well Dewater? NO If yes, gals.      Gallons Actually Evacuated:

Sampling Time: 11:15

Sample I.D.: <u>S-11</u>	Laboratory: <u>ANALABRIX</u>
Analyzed for: <u>TPH · GAS · BTEX</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for:	
Shipping Notations:	
Additional Notations:	

# WELL MONITORING DATA SHEET

Project #: <u>930416-41</u>	Client: <u>Shell</u>
Sampler: <u>RC</u>	Date Sampled:
Well I.D.: <u>5-<del>12</del> 12</u>	Well Diameter: (circle one) 2 <u>(3)</u> 4 6
Total Well Depth: Before <u>23.94</u> After	Depth to Water: Before <u>6.56</u> After
Reason not sampled:	If Free Product, thickness:

Volume Conversion Factor (VCF):  
 $(12 \times (d^2/4) \times \pi) / 231$   
 where  
 12 = in/foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 231 = in<sup>3</sup>/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.68
6"	= 1.47
10"	= 4.08
12"	= 5.87

<u>6.4</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>19.2</u>	
1 Case Volume		Specified Volumes		gallons	

Purging: Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input checked="" type="checkbox"/> Suction Pump <input type="checkbox"/> Type of Installed Pump _____	Sampling: Bailer <input checked="" type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Suction Pump <input type="checkbox"/> Installed Pump <input type="checkbox"/>
--	--

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	NOTATIONS:
<u>10:38</u>	<u>75.3</u>	<u>7.4</u>	<u>1200</u>	<u>13.5</u>	<u>6.5</u>	<u>—</u>
<u>10:43</u>	<u>74.5</u>	<u>7.3</u>	<u>1200</u>	<u>11.6</u>	<u>13.0</u>	<u>—</u>
<u>10:48</u>	<u>73.9</u>	<u>7.4</u>	<u>1200</u>	<u>9.4</u>	<u>19.5</u>	<u>—</u>

Did Well Dewater? NO If yes, gals.      Gallons Actually Evacuated: 19.5

Sampling Time: 10:50

Sample I.D.: <u>S-<del>12</del> 12</u>	Laboratory: <u>Anametric</u>
Analyzed for: <u>TPH. GAS. BTEX.</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for:	
Shipping Notations:	
Additional Notations:	

13  
12  
11  
10

# WELL MONITORING DATA SHEET

Project #: 930416-41	Client: Shell
Sampler: 20	Date Sampled: 4-16-93
Well I.D.: S-13	Well Diameter: (circle one) 2 <u>3</u> 4 6
Total Well Depth: Before 23.80 After	Depth to Water: Before 6.38 After
Reason not sampled:	If Free Product, thickness:

Volume Conversion Factor (VCF): $(12 \times (d^2/4) \times \pi) / 231$ where 12 = in/foot d = diameter (in.) $\pi = 3.1416$ 231 = in <sup>3</sup> /gal	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well dia.</th> <th>VCF</th> </tr> </thead> <tbody> <tr><td>2"</td><td>0.16</td></tr> <tr><td>3"</td><td>0.37</td></tr> <tr><td>4"</td><td>0.66</td></tr> <tr><td>6"</td><td>1.47</td></tr> <tr><td>10"</td><td>4.08</td></tr> <tr><td>12"</td><td>5.67</td></tr> </tbody> </table>	Well dia.	VCF	2"	0.16	3"	0.37	4"	0.66	6"	1.47	10"	4.08	12"	5.67
Well dia.	VCF														
2"	0.16														
3"	0.37														
4"	0.66														
6"	1.47														
10"	4.08														
12"	5.67														

<u>6.4</u>	x	<u>3</u>	=	<u>19.3</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input checked="" type="checkbox"/> Suction Pump <input type="checkbox"/> Type of Installed Pump _____	Sampling: Bailer <input checked="" type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Suction Pump <input type="checkbox"/> Installed Pump <input type="checkbox"/>
--	--

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	NOTATIONS:
11:25	74.3	7.6	1500	>200	6.5	—
11:29	72.4	7.6	1500	>200	13.0	—
11:35	72.0	7.5	1400	<del>1200</del>	19.5	—

Did Well Dewater? no If yes, gals.      Gallons Actually Evacuated:

Sampling Time: 11:40

Sample I.D.: S-13	Laboratory: Anamatrix
Analyzed for: TPH · GAS · BTEX	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for:	
Shipping Notations:	
Additional Notations:	



# WELL MONITORING DATA SHEET

Project #: <u>930416-41</u>	Client: <u>Shell.</u>
Sampler: <u>R</u>	Date Sampled: <u>4-16-93</u>
Well I.D.: <u>5-14</u>	Well Diameter: (circle one) <u>2</u> <u>3</u> 4 6
Total Well Depth: Before <u>23.20</u> After	Depth to Water: Before <u>5.86</u> After
Reason not sampled:	If Free Product, thickness:

Volume Conversion Factor (VCF):  
 $(12 \times (d^2/A) \times \pi) / 231$   
 where  
 12 = in/foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 231 = in<sup>3</sup>/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.68
6"	= 1.47
10"	= 4.08
12"	= 5.87

<u>6.4</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>19.2</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	NOTATIONS:
<u>11:52</u>	<u>76.4</u>	<u>8.1</u>	<u>1400</u>	<u>156.3</u>	<u>6.5</u>	<u>GAS odor.</u>
<u>11:59</u>	<u>73.3</u>	<u>7.3</u>	<u>1400</u>	<u>74.8</u>	<u>13.0</u>	<u>" "</u>
<u>12:05</u>	<u>72.8</u>	<u>7.2</u>	<u>1400</u>	<u>37.6</u>	<u>19.5</u>	<u>" "</u>

Did Well Dewater? NO If yes, gals.      Gallons Actually Evacuated:

Sampling Time: 12:10

Sample I.D.: <u>5-14</u>	Laboratory: <u>Anametrox.</u>
Analyzed for: <u>TPH · GAS · BTEX.</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for:	
Shipping Notations:	
Additional Notations:	

# WELL MONITORING DATA SHEET

Project #: <u>930416-41</u>	Client: <u>Shell</u>
Sampler: <u>2</u>	Date Sampled: <u>4.16.93</u>
Well I.D.: <u>S-15</u>	Well Diameter: (circle one) 2 <u>(3)</u> 4 6
Total Well Depth: Before <u>23.12</u> After	Depth to Water: Before <u>7.14</u> After
Reason not sampled:	If Free Product, thickness:

Volume Conversion Factor (VCF):  $(12 \times (d^2/4) \times \pi) / 231$

where  
 12 = in/foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 231 = in<sup>3</sup>/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.68
6"	= 1.47
10"	= 4.08
12"	= 5.87

<u>5.9</u>	x	<u>3</u>	=	<u>17.7</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	NOTATIONS:
<u>12:23</u>	<u>76.5</u>	<u>7.8</u>	<u>1000</u>	<u>176.3</u>	<u>6.0</u>	—
<u>12:31</u>	<u>74.1</u>	<u>7.4</u>	<u>1000</u>	<u>33.4</u>	<u>12.0</u>	—
<u>12:40</u>	<u>73.8</u>	<u>7.4</u>	<u>1000</u>	<u>22.5</u>	<u>18.0</u>	—

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 18.0

Sampling Time: 12:45

Sample I.D.: <u>S-15</u>	Laboratory: <u>ANAMETRIX</u>
Analyzed for: <u>TPH, GAS, BTEX</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for:	
Shipping Notations:	
Additional Notations:	

# SHELL WELL MONITORING DATA SHEET

Project #: <u>930416-X1</u>		Wic # <u>204-6852-1008</u>	
Sampler: <u>je</u>		Date Sampled: <u>4-16-93</u>	
Well I.D.: <u>S-16</u>		Well Diameter: (circle one) 2 <u>(3)</u> 4 6	
Total Well Depth: Before <u>24.32</u> After		Depth to Water: Before <u>6.80</u> After	
Depth to Free Product:		Thickness of Free Product (feet):	
Measurements referenced to: <u>Top</u> <u>Grade</u> Other --			

Volume Conversion Factor (VCF):  
 $(12 = (d^2/1) \times \pi) / 231$   
 where  
 12 = in<sup>3</sup>/gal  
 d = diameter (in.)  
 π = 3.1416  
 231 = in<sup>3</sup>/gal

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.68
6"	1.57
8"	2.09
10"	3.04
12"	3.91

<u>6.4</u>	x	<u>3</u>	=	<u>19.4</u>	gallons
1 Case Volume		Specified Volumes			

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
14:05	68-0	7.6	1600	7200	6.5	—
14:13	67-6	7.1	1500	7200	13.0	—
14:22	67-8	7.3	1500	7200	19.5	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 19.5

Sampling Time: 14:28

Sample I.D.: S-16 Laboratory: Ana metrix.

Analyzed for: TPH. GAS. BTEX.

Duplicate I.D.: \_\_\_\_\_ Cleaning Blank I.D.: \_\_\_\_\_

Analyzed for: \_\_\_\_\_

Shipping Notations: \_\_\_\_\_

Additional Notations: \_\_\_\_\_

# SHELL WELL MONITORING DATA SHEET

Project #: <u>930416 Y1</u>	Wic # <u>402 6852 1008</u>
Sampler: <u>MBC</u>	Date Sampled:
Well I.D.: <u>S-17</u>	Well Diameter: (circle one) 2 <u>(3)</u> 4 6
Total Well Depth: Before <u>24.54</u> After	Depth to Water: Before <u>6.70</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	PVC <u>Grade</u> Other --

Volume Conversion Factor (VCF):  

$$VCF = \frac{(d^2/4) \cdot \pi}{231}$$
 where  
 $d = \text{in./ft}$   
 $d = \text{diameter (in.)}$   
 $\pi = 3.1416$   
 $231 = \text{in}^3/\text{gal}$

Well dia.	VCF
2"	0.21
3"	0.37
4"	0.55
5"	0.77
6"	1.07
8"	1.69
10"	2.55

<u>6.60</u>	x	<u>3</u>	=	<u>19.8</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Type of Installed Pump \_\_\_\_\_

Sampling: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
12:10	65.6	7.4	600	81.6	6.5	
12:18	65.8	7.3	600	23.8	13.0	
12:26	65.4	7.3	600	17.4	20	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 20

Sampling Time: 12:28

Sample I.D.: S-17 Laboratory:

Analyzed for: TPH, 902, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 930414Y1	Wic # 204 6852 1008
Sampler: mbc	Date Sampled: 4.16.93
Well I.D.: S-18	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 18.20 After	Depth to Water: Before 4:38 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	FVC <input type="checkbox"/> <b>Grade</b> <input checked="" type="checkbox"/> Other -- <input type="checkbox"/>

Volume Conversion Factor (VCF):  
 $(12 \times (d^2/4) \times \pi) / 231$   
 where  
 12 = in./foot  
 d = diameter (in.)  
 π = 3.1416  
 231 = gal./cu ft

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.65
6"	1.57
8"	3.00
12"	6.97

<u>8.66</u>	x	<u>3</u>	=	<u>25.98</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer  Middleburg  Electric Submersible  Suction Pump  Type of Installed Pump \_\_\_\_\_

Sampling: Bailer  Middleburg  Electric Submersible  Suction Pump  Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
11:23	66.0	7.3	600	81.1	9	
11:32	65.6	7.3	500	21.2	18	
11:43	65.6	7.2	500	22.6	26	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 26.0

Sampling Time: 11:46

Sample I.D.: S-18 Laboratory: \_\_\_\_\_

Analyzed for: TPH gas; BTEX

Duplicate I.D.: \_\_\_\_\_ Cleaning Blank I.D.: \_\_\_\_\_

Analyzed for: \_\_\_\_\_

Shipping Notations: \_\_\_\_\_

Additional Notations: \_\_\_\_\_

# SHELL WELL MONITORING DATA SHEET

Project #: 930416-41		Wic # 204-6855-1008	
Sampler: <i>SR</i>		Date Sampled:	
Well I.D.: SR-1		Well Diameter: (circle one) 2 3 4 <b>6</b>	
Total Well Depth: Before 21.26 After		Depth to Water: Before 6.28 After	
Depth to Free Product:		Thickness of Free Product (feet):	
Measurements referenced to: PVC <b>Grade</b> Other --			

Volume Conversion Factor (VCF):  
 $(12 \div (\pi^2/4) \div \pi) / 2.31$   
 where:  
 12 = in/foot  
 4 = diameter (in.)  
 π = 3.1416  
 2.31 = ft/psi

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.68
5"	1.17
6"	1.80
8"	3.60
12"	8.10

<u>22.0</u>	x	<u>3</u>	=	<u>66.0</u>	gallons
1 Case Volume		Specified Volumes			

Purging: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Type of Installed Pump \_\_\_\_\_

Sampling: Bailer   
 Middleburg   
 Electric Submersible   
 Suction Pump   
 Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
14:45	68.0	7.4	1100	10.3	22.0	GAS odor.
14:59	68.3	6.8	1100	9.4	44.0	" "
15:18	68.4	6.8	1200	6.2	66.0	" "

Did Well Dewater? **NO** If yes, gals. Gallons Actually Evacuated: **66.0**

Sampling Time: **15:30**

Sample I.D.: **SR-1** Laboratory: **ANALMETRIX**

Analyzed for: **TPH - GAS: BTEX.**

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: