

PACIFIC  
ENVIRONMENTAL  
GROUP, INC.

ENVIRONMENTAL  
PROTECTION

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April 25, 1995  
Project 305-079.2E

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, California 94524

Re: Quarterly Report - First Quarter 1995  
Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California  
WIC No. 204-5508-5504

Dear Mr. Kirk:

The following presents the results of the first quarter monitoring program and status of remediation from November 23, 1994 through April 17, 1995 for the site referenced above. This letter has been prepared for Shell Oil Company (Shell) by Pacific Environmental Group, Inc. (PACIFIC).

**REMEDIAL PROGRESS SUMMARY**

Progress toward site remediation is presented in the table below.

Analyte	Total Mass Removed (pounds)	
	11/23/94 - 02/09/95	Cumulative
<u>Soil Vapor Extraction</u>		
TPH-g	1.73	707.05
Benzene	0.00	6.88
TPH-g = Total petroleum hydrocarbons calculated as gasoline		

**QUARTERLY MONITORING FINDINGS**

Groundwater monitoring wells were gauged on January 9, 1995 and sampled on January 9 and 11, 1995 by Blaine Tech Services, Inc. (Blaine), at the direction of PACIFIC. Groundwater elevation contours for the sampling date are shown on Figure 1; groundwater elevation data are presented in Table 1.

The laboratory report and chain-of-custody documentation report Wells MW-1 through MW-3 sampled on January 9, 1995. The field sheets indicate the wells dewatered during purging and were sampled on January 11, 1995. Blaine verbally confirmed that Wells MW-1 through MW-3 were sampled on January 11, 1995.

All wells were analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, toluene, ethylbenzene, xylenes (BTEX compounds), TPH calculated as diesel (TPH-d), and TPH calculated as motor oil (TPH-mo). TPH-g, benzene, and TPH-d concentrations for the January 1995 sampling event are shown on Figure 2. Corresponding groundwater analytical data are presented in Table 2. Blaine's groundwater sampling report, which includes field data and the certified analytical report, is presented as Attachment A. Hydrocarbon ranges and laboratory notes for positive results of TPH-g, TPH-d, and TPH-mo can be found in the groundwater sampling report.

## **REMEDIAL SYSTEM PERFORMANCE EVALUATION**

### **Remedial System Description**

The soil vapor extraction (SVE) system consists of a 7.5-horsepower vacuum blower connected to five SVE wells (Wells VEW-1 through VEW-5). Extracted soil vapor is treated by catalytic oxidation before discharge to the atmosphere. A process flow diagram of the system is shown on Figure 3.

### **Remedial System Operation**

SVE system operation began on August 30, 1993. The SVE system ran continuously during the reporting period, but was shut down on February 9, 1995 due to high groundwater levels and low influent concentrations.

### **Remedial Objectives**

The remedial objective for the site is to reduce petroleum hydrocarbon concentrations in impacted soil and groundwater beneath the site. To evaluate progress toward meeting the remedial objective, the following system parameters were monitored:

- SVE system petroleum hydrocarbon mass removal rates,
- SVE well vapor composition,
- SVE system influence, and
- dissolved petroleum hydrocarbon concentration trends.

Progress toward meeting the remedial objectives for the site is discussed below.

### **Petroleum Hydrocarbon Mass Removal**

Mass removal data for the remedial system are presented in the table at the beginning of this letter, in Table 3, and shown on Figure 4. SVE system hydrocarbon concentrations are shown on Figure 5. Remedial system certified analytical reports and chain-of-custody documentation are presented as Attachment B.

### **SVE Well Vapor Composition**

Soil vapor samples were not obtained during the reporting period due to high water levels. Individual SVE well analytical data are presented in Table 4.

### **SVE Influence**

SVE system influence was not measured during the reporting period due to high water levels.

### **Dissolved Petroleum Hydrocarbon Concentration Trends**

The groundwater concentrations of TPH-g and benzene in all associated site wells appear to have been reduced or stabilized due to remedial system operation (Table 2).

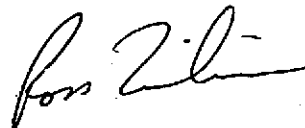
### **Discussion**

Based on remedial system operation during the current reporting period, the SVE system will remain shut down until groundwater elevations decrease to approximately 5 to 6 feet below ground surface.

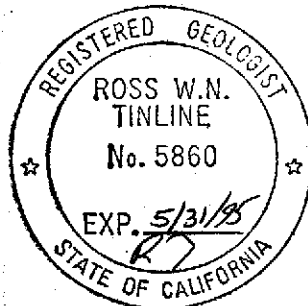
If you have any questions or comments regarding the contents of this letter, please call.

Sincerely,

**Pacific Environmental Group, Inc.**



Ross W. N. Tinline  
Project Geologist  
RG 5860



April 25, 1995

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Attachments:

- Table 1 - Groundwater Elevation Data
- Table 2 - Groundwater Analytical Data -  
Total Petroleum Hydrocarbons  
(TPH as Gasoline, BTEX Compounds,  
TPH as Diesel, and TPH as Motor Oil)
- Table 3 - Soil Vapor Extraction System Performance Data
- Table 4 - Vapor-Phase Analytical Data -  
Total Petroleum Hydrocarbons  
(TPH as Gasoline and BTEX Compounds)
- Figure 1 - Groundwater Elevation Contour Map
- Figure 2 - TPH-g/Benzene/TPH-d Concentration Map
- Figure 3 - Soil Vapor Extraction Process Flow Diagram
- Figure 4 - Soil Vapor Extraction System Mass Removal Data
- Figure 5 - Soil Vapor Extraction System Hydrocarbon Concentrations
- Attachment A - Groundwater Sampling Report
- Attachment B - Remedial System Certified Analytical Reports and  
Chain-of-Custody Documentation

cc: Mr. Brad Boschetto, Shell Oil Company (without attachments)  
Mr. Barney Chan, Alameda County Health Care Services  
Mr. Richard Hiatt, Regional Water Quality Control Board - S.F. Bay Region  
Ms. Anne Singley, Shell Oil Company (without attachments)  
Mr. Joseph J. Armayo, Heller, Ehrman, White and McAuliffe

Table 1  
Groundwater Elevation Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	
MW-1	02/16/89	6.64	3.83	2.81	
	05/23/89		3.59	3.05	
	08/03/89		4.04	2.60	
	12/15/89		4.22	2.42	
	02/07/90		4.60	2.04	
	04/18/90		4.02	2.62	
	07/23/90		4.17	2.47	
	09/27/90		4.60	2.04	
	01/03/91		4.88	1.76	
	04/10/91		3.55	3.09	
	07/12/91		3.97	2.67	
	10/08/91		4.26	2.38	
	02/06/92		4.94	1.70	
	05/04/92		3.58	3.06	
	07/28/92		3.91	2.73	
	10/27/92		4.79	1.85	
	01/14/93		3.39	3.25	
	04/23/93	2.67	3.97		
	07/20/93	9.50	3.48	6.02	
	10/18/93		4.20	5.30	
	01/06/94		4.13	5.37	
	04/12/94		2.42	7.08	
	07/25/94		3.37	6.13	
	10/25/94		4.07	5.43	
	01/09/95		2.65	6.85	
	MW-2		02/16/89	7.68	5.33
		05/23/89	5.23		2.45
08/03/89		6.03	1.65		
12/15/89		6.43	1.25		
02/07/90		5.82	1.86		
04/18/90		5.88	1.80		
07/23/90		6.05	1.63		
01/03/91		6.82	0.86		
04/10/91		4.80	2.88		
07/12/91		5.70	1.98		
10/08/91		6.40	1.28		
02/06/92		6.40	1.28		
05/04/92		4.68	3.00		
07/28/92		5.86	1.82		
10/27/92		6.96	0.72		
01/14/93	4.12	3.56			
04/23/93	3.84	3.84			
07/20/93	10.55	5.17	5.38		
10/18/93		6.20	4.35		

Table 1 (continued)  
Groundwater Elevation Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	
MW-2 (cont.)	01/06/94		5.39	5.16	
	04/12/94		4.72	5.83	
	07/25/94		5.44	5.11	
	10/25/94		6.73	3.82	
	01/09/95		4.34	6.21	
MW-3	02/16/89	7.81	5.17	2.64	
	05/23/89		5.09	2.72	
	08/03/89		5.34	2.47	
	12/15/89		6.02	1.79	
	02/07/90		4.95	2.86	
	04/18/90		5.55	2.26	
	07/23/90		5.81	2.00	
	09/27/90		6.86	0.95	
	01/03/91		6.84	0.97	
	04/10/91		4.93	2.88	
	07/12/91		5.56	2.25	
	10/08/91		6.62	1.19	
	02/06/92		6.28	1.53	
	05/04/92		4.65	3.16	
	07/28/92		5.56	2.25	
	10/27/92		6.65	1.16	
	01/14/93		3.88	3.93	
	04/23/93			----- Well Inaccessible -----	
	07/20/93	11.25 (TOB)		----- Well Inaccessible -----	
	10/18/93			----- Well Inaccessible -----	
	01/06/94			5.54	N/A
	04/12/94			4.82	N/A
	07/25/94			6.03 (TOB)	5.22
10/25/94			6.48	N/A	
01/09/95			4.86 (TOB)	6.39	
MW-4	05/23/89	7.38	5.60	1.78	
	08/03/89		6.37	1.01	
	12/15/89		6.91	0.47	
	03/08/90		6.06	1.32	
	04/18/90		5.84	1.54	
	07/23/90		6.92	0.46	
	07/23/90		6.92	0.46	
	09/27/91		8.03	0.65	
	01/03/91		7.54	-0.16	
	04/10/91		5.06	2.32	
	07/12/91		6.86	0.52	
	10/08/91		7.44	-0.06	
	02/06/92		7.29	0.09	
	05/04/92		5.33	2.05	

Table 1 (continued)  
Groundwater Elevation Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-4 (cont.)	07/28/92	10.28	6.95	0.43
	10/27/92		7.65	-0.27
	01/14/93		4.84	2.54
	04/23/93		4.84	2.54
	07/20/93		6.47	3.81
	10/18/93		7.35	2.93
	01/06/94		7.64	2.64
	04/12/94		6.39	3.89
	07/25/94		7.00	3.28
	10/25/94		7.53	2.75
	01/09/95		4.90	5.38
MW-5	05/23/89	10.87	5.47	2.71
	08/03/89		5.94	2.24
	12/15/89		6.75	1.43
	02/07/90		6.03	2.15
	04/18/90		5.80	2.38
	07/23/90		6.00	2.18
	09/23/90		7.18	1.00
	01/03/91		7.17	1.01
	04/10/91		5.25	2.93
	07/12/91		5.70	2.48
	10/08/91		6.50	1.68
	02/06/92		6.35	1.83
	05/04/92		4.87	3.31
	07/28/92		5.73	2.45
	10/27/92		6.98	1.20
	01/14/93		4.70	3.48
	04/23/93		4.19	3.99
	07/20/93		5.10	5.77
	10/18/93		5.79	5.08
01/06/94	5.56	5.31		
04/12/94	4.90	5.97		
07/25/94	5.38	5.49		
10/25/94	6.16	4.71		
01/09/95	4.60	6.27		
MW-6	05/23/89	8.21	5.47	2.74
	08/03/89		5.91	2.30
	12/15/89		5.98	2.23
	02/07/90		5.47	2.74
	04/18/90		5.80	2.41
	07/23/90		5.85	2.36
	09/27/90		6.42	1.79
	01/03/91		6.73	1.48
	04/10/91		5.24	2.97

Table 1 (continued)  
Groundwater Elevation Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-6 (cont.)	07/12/91		5.78	2.43
	10/08/91		6.36	1.85
	02/06/92		6.15	2.06
	05/04/92		5.07	3.14
	07/28/92		5.85	2.36
	10/27/92		6.69	1.52
	01/14/93		4.52	3.69
	04/23/93		4.32	3.89
	07/20/93	11.04	5.39	5.65
	10/18/93		6.67	4.37
	01/06/94		5.66	5.38
	04/12/94		4.91	6.13
	07/25/94		5.55	5.49
	10/25/94		6.24	4.80
	01/09/95		4.58	6.46
MW-7	05/23/89	7.44	5.48	1.96
	08/03/89		4.22	3.22
	12/15/89		4.58	2.86
	02/07/90		5.34	2.10
	04/18/90		4.92	2.52
	07/23/90		4.99	2.45
	09/27/90		6.16	1.28
	01/03/91		4.96	2.48
	04/10/91		4.13	3.31
	07/12/91		4.98	2.46
	10/08/91		5.48	1.96
	02/06/92		5.05	2.39
	05/04/92		4.43	3.01
	07/28/92		4.88	2.56
	10/27/92		5.39	2.05
	01/14/93		4.26	3.18
	04/23/93		4.04	3.40
	07/20/93	10.28	4.36	5.92
	10/18/93		5.14	5.14
	01/06/94		4.83	5.45
04/12/94		4.24	6.04	
07/25/94		4.58	5.70	
10/25/94		5.07	5.21	
01/09/95		3.38	6.90	
MW-8	05/23/89	7.79	6.62	1.17
	08/03/89		6.62	1.17
	12/15/89		6.71	1.08
	03/08/90		4.95	2.84
	04/18/90		6.40	1.89
	07/23/90		6.62	1.17



Table 1 (continued)  
Groundwater Elevation Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-8 (cont.)	09/27/90		6.98	0.81
	01/03/91		7.03	0.76
	04/10/91		4.40	3.39
	07/12/91		6.80	0.99
	10/08/91		7.56	0.23
	02/06/92		6.94	0.85
	05/04/92		5.86	1.93
	07/28/92		6.94	0.85
	10/27/92		7.83	-0.04
	01/14/93		3.60	4.19
	04/23/93		4.12	3.67
	07/20/93	10.61	6.38	4.23
	10/18/93		7.47	3.14
	01/06/94		7.20	3.41
	04/12/94		6.16	4.45
	07/25/94		6.94	3.67
	10/25/94		7.43	3.18
	01/09/95		3.98	6.63
MW-9	08/03/89	7.63	5.78	1.85
	12/15/89		5.24	2.39
	02/07/90		5.23	2.40
	04/18/90		5.34	2.29
	07/23/90		5.65	1.98
	09/27/90		5.96	1.67
	01/03/91		6.23	1.40
	04/10/91		4.65	2.98
	07/12/91		5.65	1.98
	10/08/91		6.08	1.55
	02/06/92		5.92	1.71
	05/04/92		4.80	2.83
	07/28/92		5.61	2.02
	10/27/92		6.24	1.39
	01/14/93		4.95	2.68
	04/23/93		4.54	3.09
	07/20/93	10.48	5.25	5.23
	10/18/93		6.00	4.48
01/06/94		5.62	4.86	
04/12/94		4.31	6.17	
07/25/94		5.43	5.05	
10/25/94		6.00	4.48	
01/09/95		4.26	6.22	
MW-10	12/15/89	7.45	6.33	0.82
	03/08/90		5.41	2.00
	04/18/90		5.60	1.85
	07/23/90		5.81	1.64

Table 1 (continued)  
Groundwater Elevation Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-10 (cont.)	09/27/90		6.64	0.81
	01/03/91		6.96	0.49
	04/10/91		4.70	2.75
	07/12/91		5.90	1.55
	10/08/91		6.68	0.77
	02/06/92		7.04	0.41
	05/04/92		4.69	2.76
	07/28/92		6.00	1.45
	10/27/92		----- Well Inaccessible -----	
	01/14/93		6.07	1.38
	04/23/93		4.14	3.31
	07/20/93	10.61	5.62	4.99
	10/18/93		6.43	4.18
	01/06/94		6.74	3.87
	04/12/94		5.98	4.63
	07/25/94		6.31	4.30
	10/25/94		6.64	3.97
01/09/95		5.70	4.91	
MW-11	07/20/93	10.56	8.08	2.48
	10/18/93		8.24	2.32
	01/06/94		8.47	2.09
	04/12/94		8.44	2.12
	07/25/94		8.20	2.36
	10/25/94		8.67	1.89
	01/09/95		7.63	2.93
MW-12	07/20/93	9.56	6.76	2.80
	10/18/93		7.12	2.44
	01/06/94		7.15	2.41
	04/12/94		6.68	2.88
	07/25/94		6.83	2.73
	10/25/94		7.34	2.22
	01/09/95		5.02	4.54
MW-13	07/20/93	10.10	8.32	1.78
	10/18/93		8.66	1.44
	01/06/94		8.70	1.40
	04/12/94		8.20	1.90
	07/25/94		8.39	1.71
	10/25/94		8.70	1.40
	01/09/95		7.35	2.75
MSL = Mean sea level				
TOC = Top of casing				
TOB = Top of box elevation				
N/A = Not available				

Table 2  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)
MW-1	02/16/92	99	20	23	5.7	23	NA	NA
	05/23/92	48	4.2	5.2	1.2	7.7	11	NA
	08/04/89	63	5.5	5.5	3.2	9.5	11	NA
	12/15/89	30	ND	ND	ND	ND	11	NA
	02/07/90	93	13	9.6	2.4	14	10	NA
	04/18/90	55	14	8.4	3.2	13	8.7	NA
	07/24/90	73	16	7.4	2.8	15	3.6	NA
	10/01/90	45	8	4.3	2	11	1.7	NA
	01/02/91	43	10	3.4	1.9	11	3.1	NA
	04/09/91	67	20	9.6	3.5	16	1.8	NA
	07/11/91	NR	NR	NR	NR	NR	NR	NA
	10/08/91	55	18	3.5	2.3	8.6	7.4	NA
	02/06/92	48	12	2.8	1.9	7.4	15 <sup>a</sup>	NA
	05/05/92	71	16	6	3.1	14	10 <sup>a</sup>	NA
	07/28/92	68	21	5.5	3.4	15	18 <sup>a</sup>	ND
	07/28/92(D)	70	17	5	2.7	13	19 <sup>a</sup>	ND
	10/27/92	53	18	3.7	3.4	11	1.3	NA
	10/27/92(D)	48	17	3.6	3.1	9.9	2.5 <sup>a</sup>	NA
	01/15/93	84	17	5.4	3	13	22 <sup>a</sup>	ND
	04/23/93	100	18	7.8	4.7	20	23 <sup>a</sup>	ND
	07/20/93	41 <sup>d</sup>	12	0.87	1.5	4.4	3.1 <sup>a</sup>	NA
	10/18/93	33	14	1.2	2	4.9	8.1 <sup>a</sup>	0.96
	10/18/93(D)	44	14	1.2	2	4.9	3.7 <sup>a</sup>	0.67
	01/06/94	71	9	0.87	1.6	5.1	9 <sup>a</sup>	ND
	04/12/94	42	6.6	0.17	2.3	4.7	5.9	2.5
	04/12/94(D)	40	6.3	0.18	2.0	4.4	4.7	2.2
	07/25/94	13	4.4	0.11	0.46	1.4	7.0 <sup>a</sup>	ND
	10/26/94	19	5.5	0.21	0.88	2	3.9	ND
	01/11/95	37	6.7	0.8	2.8	8.9	8.6 <sup>a</sup>	ND

Table 2 (continued)  
**Groundwater Analytical Data**  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)
MW-2	02/16/89	20	0.2	0.9	2.7	9.6	NA	NA
	05/23/89	1.5	0.0043	0.0029	0.011	0.15	1.6	NA
	08/04/89	15	0.075	0.12	0.85	2.2	7.4	NA
	12/15/89	5	0.052	0.013	0.0041	0.29	2.6	NA
	02/07/90	13	0.032	0.034	0.23	0.64	4.8	NA
	04/18/90	9.8	0.033	0.019	0.46	1.7	3.2	NA
	07/24/90	9.6	0.041	0.027	0.54	0.94	2.7	NA
	10/01/90	0.39	0.0034	0.015	0.0085	0.025	1.6	NA
	01/02/91	1.8	0.056	0.0044	0.0048	0.092	0.83	NA
	04/09/91	1.9	ND	0.028	0.14	0.49	0.28	NA
	07/11/91	8.1	0.089	0.066	0.35	0.93	1.1	NA
	10/08/91	1.4	0.0051	0.0015	0.036	0.27	2.6	NA
	02/06/92	2	0.0078	0.0025	0.13	0.21	5.4 <sup>a</sup>	NA
	05/05/92	21 <sup>b</sup>	ND	ND	0.3	0.96	1	NA
	07/28/92	2.1	0.0077	0.0033	0.13	0.31	0.83 <sup>a</sup>	0.32
	10/27/92	1.1	0.016	0.0031	0.0045	0.025	0.53	NA
	01/15/93+	0.29	0.0052	0.0031	0.0084	0.021	0.17 <sup>b</sup>	NA
	04/23/93	2.4	ND	ND	0.21	0.61	1.2 <sup>a</sup>	ND
	07/21/93	0.44	0.0017	0.0017	0.015	0.038	0.13	NA
	10/18/93	2.1	ND	ND	0.09	0.11	1.6 <sup>a</sup>	0.51
	01/06/94	1.9 <sup>e</sup>	ND	0.0067	0.0071	0.012	0.13	ND
	04/12/94	0.12	ND	ND	0.0034	0.0043	0.13	0.17
	07/25/94	0.18 <sup>f</sup>	0.0053	ND	0.0062	0.0082	0.28 <sup>a</sup>	ND
10/26/94	0.17	ND	ND	ND	ND	0.40	ND	
01/11/95	ND	ND	ND	ND	ND	ND	ND	
MW-3	02/16/89	60	5.5	0.2	3.2	5.2	NA	NA
	05/23/89	ND	ND	ND	ND	ND	1.5	NA
	08/04/89	2	0.12	0.012	ND	0.086	1.2	NA
	12/15/89	5.2	0.38	0.047	0.017	0.41	1.7	NA

Table 2 (continued)  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)	
MW-3 (cont.)	03/08/90	0.26	0.017	ND	0.0054	0.0025	0.23	NA	
	04/19/90	0.26	ND	ND	ND	0.0094	ND	NA	
	07/24/90	0.51	0.046	0.0012	ND	0.0093	0.21	NA	
	09/28/90	0.46	0.0063	0.0017	ND	0.015	0.35	NA	
	01/02/91	4.8	0.92	0.0088	ND	0.19	0.63	NA	
	04/09/91	0.12	0.0012	0.0008	0.0035	0.021	0.06	NA	
	07/11/91	0.43	0.012	ND	ND	0.0077	ND	NA	
	10/08/91	0.77	0.14	0.0007	ND	0.053	0.56	NA	
	02/06/91	0.5	0.074	0.0009	0.0052	0.0053	0.34 <sup>a</sup>	NA	
	05/04/92	0.31	0.047	ND	0.017	0.016	0.29 <sup>a</sup>	NA	
	07/28/92 **	0.78	0.13	ND	0.013	0.0042	0.1 <sup>a</sup>	0.12	
	10/27/92 **	0.74	0.092	0.0028	0.0078	0.0096	0.069 <sup>a</sup>	0.1	
	01/15/93	ND	0.0024	ND	ND	ND	ND	0.12	
	04/23/93	----- Well Inaccessible -----							
	07/20/93	----- Well Inaccessible -----							
	10/18/93	----- Well Inaccessible -----							
	01/06/94	0.13	0.0017	ND	ND	0.0009	0.064	ND	
	04/12/94	ND	0.0008	ND	ND	0.0007	0.075	0.086	
	07/25/94	0.06 <sup>f</sup>	0.0028	ND	ND	0.0007	ND	ND	
10/26/94	0.07	ND	ND	ND	ND	0.10	ND		
01/11/95	ND	ND	ND	ND	ND	ND	ND		
MW-4	05/23/89	ND	ND	ND	ND	ND	ND	NA	
	08/04/89	ND	ND	ND	ND	ND	ND	NA	
	12/15/89	ND	ND	ND	ND	ND	ND	NA	
	03/08/90	ND	ND	ND	ND	ND	ND	NA	
	07/25/90	ND	ND	ND	ND	ND	ND	NA	
	09/28/90	ND	ND	ND	ND	ND	ND	NA	
	01/02/91	ND	ND	ND	ND	ND	ND	NA	
	04/09/91	ND	ND	ND	ND	ND	ND	NA	

Table 2 (continued)  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)
MW-4 (cont.)	07/11/91	ND	ND	ND	ND	ND	ND	NA
	10/08/91	ND	ND	ND	ND	ND	ND	NA
	02/06/92	0.12	ND	ND	ND	ND	2.5 <sup>a</sup>	NA
	05/04/92	ND	ND	ND	ND	ND	0.053	NA
	07/28/92	ND	ND	ND	ND	ND	0.06	ND
	10/27/92	ND	ND	ND	ND	ND	ND	NA
	01/14/93	ND	ND	ND	ND	ND	ND	0.12
	04/23/93	ND	ND	ND	ND	ND	ND	0.17
	07/21/93	ND	0.0022	0.0012	0.0011	0.0077	ND	NA
	10/18/93	ND	ND	ND	ND	ND	ND	0.2
	01/06/94	ND	ND	ND	ND	ND	ND	ND
	04/13/94	ND	ND	ND	ND	ND	0.076	0.39
	07/26/94	ND	ND	ND	ND	ND	ND	ND
	10/26/94	ND	ND	ND	ND	ND	ND	ND
	01/11/95	ND	ND	ND	ND	ND	0.07 <sup>b,g</sup>	ND
MW-5	05/23/89	26	1.5	0.28	ND	8.1	7	NA
	08/05/89	12	0.86	0.094	ND	2.6	8.7	NA
	12/15/89	1	0.022	0.035	0.018	0.044	0.71	NA
	02/08/90	ND	0.0008	ND	ND	ND	0.62	NA
	04/19/90	19	4.5	0.85	0.097	8	5	NA
	07/24/90	23	3.6	0.4	0.16	6.5	2.7	NA
	09/28/90	5.4	1.4	0.026	0.013	1.3	0.55	NA
	01/02/91	0.86	0.28	0.0028	0.0008	0.045	0.56	NA
	04/09/91	12	0.71	0.13	0.5	2.4	1.8	NA
	07/11/91	24	2.2	0.28	0.43	5.7	1.7	NA
	10/08/91	2.8	0.86	0.013	ND	0.58	1.4	NA
	02/06/92	1	0.3	ND	0.014	0.062	1.2	NA
	05/05/92	10	1.5	0.35	0.71	2.3	4.1 <sup>a</sup>	NA
	07/28/92	12	2.2	0.063	1.4	3.5	3.8 <sup>a</sup>	1.2

Table 2 (continued)  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)
MW-5 (cont.)	10/27/92	7.5	1.1	0.059	0.23	0.9	0.48 <sup>a</sup>	NA
	01/15/93	7.7	0.42	0.049	0.57	0.84	1.1 <sup>c</sup>	0.43
	04/23/93	110	2.9	2.5	3.4	12	16 <sup>a</sup>	ND
	07/21/93	18 <sup>d</sup>	1.4	0.084	1.5	3.2	1.2 <sup>a</sup>	NA
	10/18/93	14	2	0.1	2.3	5.1	5.8 <sup>a</sup>	0.86
	01/06/94	81	11	9.3	3.6	12	11 <sup>a</sup>	ND
	04/12/94	17	2.9	0.38	0.43	1.3	4.1	2.2
	07/25/94	5.9	1.5	0.042	0.034	0.17	5.4 <sup>a</sup>	ND
	10/26/94	2.3	0.035	0.0028	ND	0.0081	1.9 <sup>a</sup>	720
	01/11/95	8.3	1.5	0.095	0.33	1.9	3.7 <sup>c</sup>	ND
MW-6	05/23/89	22	0.016	0.0065	0.0066	3.4	7	NA
	08/04/89	28	1.2	0.13	2.1	2.8	8.8	NA
	12/15/89	16	0.37	0.092	0.2	0.18	5.5	NA
	02/07/90	22	0.52	0.085	0.63	0.77	2.6	NA
	04/18/90	21	0.9	0.077	2.7	2.7	5.7	NA
	07/24/90	24	1	0.094	3.4	2.7	3	NA
	10/01/90	22	0.7	0.093	2.5	2.4	ND	NA
	01/02/91	25	1	0.088	2.6	3.7	0.96	NA
	04/09/91	18	0.56	0.19	0.48	0.83	0.92	NA
	07/11/91	9.5	0.67	0.051	1.1	0.92	1.9	NA
	10/08/91	11	1	0.043	ND	ND	5.1	NA
	02/06/92	7.2	0.56	0.008	0.72	0.16	15 <sup>a</sup>	NA
	05/05/92	7.9	0.61	ND	1.5	0.24	2.9 <sup>a</sup>	NA
	07/28/92	17	1.2	ND	3	0.61	3.2 <sup>a</sup>	ND
	10/27/92	15	1.3	0.13	1.7	0.49	1.3 <sup>a</sup>	NA
	01/14/93	4.9	0.08	0.031	0.33	0.037	1.6 <sup>a</sup>	ND
	04/23/93	4.8	0.12	ND	0.78	0.073	1.8 <sup>a</sup>	ND
	07/20/93	19 <sup>d</sup>	0.57	0.018	1.1	0.13	0.91 <sup>a</sup>	NA
	10/18/93	24	0.77	0.44	1.6	0.83	2.5 <sup>a</sup>	0.83

Table 2 (continued)  
 Groundwater Analytical Data  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)
MW-6 (cont.)	01/06/94	20 <sup>d</sup>	0.45	0.03	0.53	0.052	2.3 <sup>a</sup>	ND
	04/12/94	3.6	0.15	ND	0.34	0.021	1.6	0.58
	07/25/94	1.6	0.16	ND	ND	0.010	2.2 <sup>a</sup> *	ND *
	07/25/94(D)	1.0	0.16	ND	ND	0.018	2.4 <sup>a</sup>	ND
	10/26/94	9.8	0.39	0.022	0.3	0.057	3.0 <sup>a</sup>	ND
	01/09/95	2.2	0.074	0.012	0.4	0.039	0.8 <sup>a</sup>	ND
MW-7	05/23/89	47	3.5	5	1.5	7.8	11	NA
	08/04/89	68	6.2	6.6	3.6	8.8	22	NA
	12/15/89	100	4.5	5.3	1.3	5.3	12	NA
	02/08/90	96	15	15	2.5	14	8.1	NA
	04/19/90	94	25	13	3.3	13	10	NA
	07/24/90	84	3.8	26	13	3	12	NA
	09/28/90	43	25	6.1	2.4	9	ND	NA
	01/02/91	78	26	16	3	14	3.1	NA
	04/09/91	140	26	16	2.2	14	1.8	NA
	07/11/91	79	7.7	7.2	2.3	10	1.1	NA
	10/08/91	55	29	7.5	1.8	9.3	0.39 <sup>a</sup>	NA
	02/06/92	63	16	8.7	1.6	7.4	9.6 <sup>a</sup>	NA
	05/05/92	67	22	13	1.8	9.4	9.8 <sup>a</sup>	NA
	07/28/92	85	26	17	2.9	15	13a	ND
	10/27/92	63	21	11	3	11	1.9 <sup>a</sup>	NA
	01/14/93	120	28	21	1.6	15	2.3 <sup>a</sup>	NA
	04/23/93	60	17	3.7	2.2	11	12 <sup>a</sup>	ND
	04/23/93(D)	50	17	4.2	2.2	11	14 <sup>a</sup>	ND
	07/21/93	47	23	9.9	2.2	12	13	NA
	10/18/93	44	22	3.8	2.6	10	10 <sup>a</sup>	1
01/06/94	65	16	4.9	1.9	8.5	5.2 <sup>a</sup>	ND	
04/12/94	68	12	2	0.58	6.4	3.4	0.75	
07/25/94	63	16	5.8	0.30	8.3	4.2 <sup>a</sup>	ND	



Table 2 (continued)  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)
MW-7 (cont.)	10/26/94	46	16	3.7	1.2	7.3	3.8 <sup>a</sup>	ND
	01/11/95	62	24	8.5	1.1	9.4	3.3 <sup>c</sup>	ND
	01/11/95(D)	57	9.5	7.9	0.62	8	3.2 <sup>c</sup>	ND
MW-8	05/23/89	ND	ND	ND	ND	ND	0.1	NA
	08/04/89	ND	ND	ND	ND	ND	0.075	NA
	12/15/89	ND	ND	ND	ND	ND	ND	NA
	03/08/90	ND	ND	ND	ND	ND	ND	NA
	07/25/90	ND	ND	ND	ND	ND	ND	NA
	09/28/90	ND	ND	ND	ND	ND	1.1	NA
	01/02/91	ND	0.0013	ND	ND	ND	ND	NA
	04/09/91	0.05	0.0007	0.0011	0.0008	0.001	ND	NA
	07/11/91	ND	ND	ND	ND	ND	ND	NA
	10/08/91	ND	0.0014	ND	ND	ND	ND	NA
	02/06/92	ND	ND	0.0007	ND	ND	0.06 <sup>a</sup>	NA
	05/04/92	ND	ND	ND	ND	ND	0.21 <sup>b</sup>	NA
	07/28/92	0.051	ND	ND	0.001	0.0006	ND	0.15
	10/27/92	ND	ND	0.0066	ND	ND	ND	NA
	01/14/93	ND	ND	ND	ND	ND	0.064 <sup>b</sup>	NA
	01/14/93(D)	ND	ND	ND	ND	ND	NA	NA
	04/23/93	ND	ND	ND	ND	ND	ND	0.15
	07/21/93	ND	0.0007	0.0007	0.0008	0.0041	ND	NA
	10/18/93	ND	ND	0.8	ND	ND	ND	0.17
	01/06/94	ND	ND	ND	ND	ND	ND	ND
04/13/94	ND	ND	ND	ND	ND	ND	0.22	
07/26/94	ND	ND	ND	ND	ND	ND	ND	
10/26/94	ND	ND	0.001	ND	ND	ND	ND	
01/11/95	ND	ND	ND	ND	ND	0.07 <sup>b,g</sup>	ND	

Table 2 (continued)  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)
MW-9	08/04/89	47	5.6	6.6	1.5	8.5	12	NA
	12/15/89	88	4.3	5.4	0.14	5.6	9.2	NA
	02/08/90	50	1.8	1.4	3.2	1.8	7.4	NA
	04/19/90	50	14	11	0.73	10	7.5	NA
	07/24/90	62	19	16	0.95	15	3.2	NA
	09/28/90	30	16	6.5	0.98	11	2.7	NA
	01/02/91	34	9.2	3.2	0.77	7	2.5	NA
	04/09/91	66	17	13	1.4	14	2.2	NA
	07/11/91	40	7.7	3.2	1.1	9.4	2	NA
	10/08/91	20	11	0.64	0.24	6	4.7 <sup>a</sup>	NA
	02/06/92	36	11	0.49	1.1	6.7	6.6 <sup>a</sup>	NA
	05/05/92	31	11	1.7	1.2	8.7	5.8 <sup>a</sup>	NA
	07/28/92	50	17	1.2	1.5	12	14	ND
	10/27/92	43	15	0.68	1.7	8.1	0.88 <sup>a</sup>	NA
	01/15/93	52	9.6	1.1	1.1	7	0.73 <sup>a</sup>	NA
	04/23/93	45	11	1.4	1.5	10	8 <sup>a</sup>	0.15
	07/21/93	25	10	0.32	1.1	7.1	5.1	NA
	10/18/93	32	14	0.53	2	10	4.9 <sup>a</sup>	NA
	01/06/94	41	15	0.81	1.4	9	7.7 <sup>a</sup>	NA
	01/06/94(D)	43	15	0.92	1.3	8	8.3 <sup>a</sup>	NA
04/13/94	39	8.3	ND	ND	4.0	2.0	0.22	
07/26/94	22	7.5	0.15	ND	4.1	3.6 <sup>a</sup>	ND	
10/26/94	31	13	0.24	1	8.5	3.2 <sup>a</sup>	ND	
10/26/94(D)	31	13	0.22	1.1	8.3	3.5 <sup>a</sup>	NA	
01/11/95	4.8	1.2	0.51	0.042	1.4	2.3 <sup>c</sup>	ND	
MW-10	12/15/89	ND	1.5	ND	ND	ND	3.1	NA
	03/08/90	25	17	0.33	2.1	1.4	1.8	NA
	04/19/90	23	15	1.2	0.19	3.3	3.6	NA
	07/25/90	18	12	0.38	ND	1.4	1.9	NA

Table 2 (continued)  
 Groundwater Analytical Data  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)	
MW-10 (cont.)	09/28/90	9.5	13	0.1	1.8	0.23	0.43	NA	
	01/02/91	4.3	3.7	0.0097	ND	0.11	0.63	NA	
	04/09/91	45	16	4.6	3	6.9	1.4	NA	
	07/11/91	ND	ND	ND	ND	ND		NA	
	10/08/91	3.8	13	0.082	0.0091	0.5	1.5 <sup>a</sup>	NA	
	02/06/92	22	12	ND	0.6	0.17	1.6 <sup>a</sup>	NA	
	05/05/92	39	14	5	1.8	5	8 <sup>a</sup>	NA	
	07/28/92	38	17	2.8	1.5	4	8.7 <sup>a</sup>	ND	
	10/27/92	-----Well Inaccessible-----							
	01/14/93	26	10	ND	ND	0.16	0.95 <sup>c</sup>	0.2	
	04/23/93	80	21	13	3.4	12	19a	ND	
	07/21/93	31	14	4.2	1.7	5.5	4.8	NA	
	10/18/93	13	8.6	0.22	ND	0.45	1.2 <sup>a</sup>	0.61	
	01/06/94	16	9.7	<0.125	<0.125	0.21	0.67 <sup>a</sup>	0.62	
	04/13/94	16	5.6	ND	ND	ND	0.86	0.27	
	07/25/94	2.3	1.4	0.026	0.025	0.051	2.1 <sup>a</sup>	ND	
	10/26/94	1.4	0.29	0.005	0.0017	0.038	1.0 <sup>a</sup>	ND	
01/11/95	16	7.5	1.4	0.23	1.5	2.3 <sup>c</sup>	ND		
MW-11	07/20/93	0.05	0.0025	0.0019	0.0039	0.018	ND	NA	
	10/18/93	ND	ND	ND	ND	ND	0.065	0.26	
	01/06/94	ND	ND	ND	ND	ND	ND	ND	
	04/13/94	ND	0.0011	0.00087	ND	0.0015	ND	ND	
	07/25/94	ND	ND	ND	ND	ND	ND	ND	
	10/26/94	ND	ND	ND	ND	ND	0.1	ND	
	01/11/95	ND	ND	ND	ND	ND	ND	ND	
MW-12	07/20/93	ND	0.0028	0.0019	0.0032	ND	0.015	NA	
	10/18/93	ND	ND	ND	ND	ND	ND	0.12	
	01/06/94	ND	ND	ND	ND	ND	ND	ND	

Table 2 (continued)  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and TPH as Motor Oil)

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	TPH as Motor Oil (ppm)	
MW-12 (cont.)	04/13/94	ND	0.0006	ND	ND	0.0011	ND	ND	
	07/25/94	ND	ND	ND	ND	ND	ND	ND	
	10/26/94	ND	ND	ND	ND	ND	ND	ND	
	01/09/95	ND	ND	ND	ND	ND	0.080 <sup>b</sup>	ND	
MW-13	07/21/93	ND	ND	ND	ND	ND	0.0015	NA	
	07/21/93(D)	ND	ND	ND	ND	ND	0.001	NA	
	10/18/93	ND	ND	ND	ND	ND	ND	0.1	
	01/06/94	ND	ND	ND	ND	ND	ND	ND	
	04/13/94	ND	0.0017	0.0012	0.00059	0.0024	0.1	0.072	
	07/25/94	ND	ND	ND	ND	ND	ND	ND	
	10/26/94	ND	ND	ND	ND	ND	ND	ND	
01/09/95	ND	ND	ND	ND	ND	ND	ND		
ppm = Parts per million		ND = Not detected							
NA = Not analyzed		NR = Not reported							
(D) = Duplicate sample									
+ = TPH as diesel analysis from April 8, 1993.									
* = Sampled August 4, 1994.									
** = Also analyzed for oil and grease; results ND									
Laboratory noted the following:									
a. Compound detected and calculated as TPH as diesel primarily appears to be due to a lighter petroleum product.									
b. Compound detected and calculated as diesel appears to be a heavier hydrocarbon compound.									
c. Compound detected as TPH as diesel is due to the presence of a combination of a heavier petroleum product and a lighter petroleum product.									
d. Compound detected as gasoline is due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.									
e. Compound detected as gasoline is due to the presence of a discrete peak not indicative of gasoline.									
f. Result has an atypical gasoline pattern.									
g. Result is an unknown hydrocarbon that consists of a single peak.									
See individual certified analytical reports for detection limits.									

Table 3  
Soil Vapor Extraction System Performance Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

Sample ID	Date Sampled	Hourmeter Reading (hrs)	Flow Rate (scfm)	TPH as Gasoline			Benzene		
				Influent Concentration (ppmv)	Removal Rate (lbs/day)	Removed to Date (lbs)	Influent Concentration (ppmv)	Removal Rate (lbs/day)	Removed to Date (lbs)
INFL	08/30/93	6,248	34	7,801	99.35	0.00	123.63	1.29	0.00
INFL	08/31/93	6,250	37	2,364	33.52	5.54	25.46	0.33	0.07
INFL	09/01/93	6,260	30	3,073	35.17	19.85	48.88	0.46	0.23
INFL	09/02/93	6,269	46	2,080	36.62	33.31	54.53	0.79	0.47
INFL	09/08/93	6,361	25	591	5.64	114.30	27.31	0.21	2.39
INFL	09/14/93	6,502 a	29	780	6.48	155.76	13.80	0.12	3.38
INFL	10/27/93	1,190.00 b	85	121	3.90	155.78	1.52	0.04	3.38
INFL	10/28/93	1,213.57	65	187	6.03	160.66	5.18	0.14	3.47
INFL	10/29/93	1,328.37	87	187	6.18	189.86	4.03	0.11	4.06
INFL	11/11/93	1,511.20	90	260	6.90	247.28	5.46	0.15	5.06
INFL	11/22/93	1,779.22	74	194	5.45	327.41	ND	0.00	5.92
INFL	12/09/93	2,183.44	68	35	0.92	381.06	ND	0.00	5.92
INFL	01/11/94	2,591.27	60	165	3.77	420.92	ND	0.00	5.92
INFL	01/27/94	2,976.94	74	151	4.26	485.44	ND	0.00	5.92
INFL	02/10/94	3,199.56	67	31	0.78	508.81	ND	0.00	5.92
INFL	03/02/94	3,678.57	60	12	0.28	519.42	0.58	0.01	6.03
INFL	03/09/94	3,688.03	70	50	1.32	519.74	0.12	0.00	6.03
INFL	03/24/94	4,051.56	48	43	0.78	535.63	0.78	0.01	6.14
INFL	04/11/94	4,482.67	42	ND	0.00	542.60	ND	0.00	6.25
INFL	04/21/94	4,662.97	45	12	0.20	543.35	ND	0.00	6.25
INFL	05/10/94	5,114.89	40	24	0.36	548.60	0.08	0.00	6.25
INFL	06/05/94	5,187.60	40 c	111	1.69	551.71	ND	0.00	6.25
INFL	06/21/94	5,500.70	64	92	2.24	577.35	ND	0.00	6.26
INFL	06/28/94	5,531.03 d	50	78	1.48	579.70	ND	0.00	6.26
INFL	09/13/94	6,481.00 e	65	284	7.01	579.70	1.5	0.03	6.26
INFL	09/26/94	6,644.00	56	92	1.96	610.17	0.60	0.01	6.40
INFL	09/28/94	6,841.00	50	69	1.30	623.57	0.35	0.01	6.46
INFL	10/11/94	7,155.00	48	40	0.74	636.90	ND	0.00	6.50
INFL	10/31/94	7,631.00	60	61	1.40	658.07	ND	0.00	6.50
INFL	11/10/94	7,871.33	50	402	7.64	703.34	4.6	0.07	6.86
INFL	11/23/94	7,883.71	44	3.1 f	0.05	705.32	ND f	0.00	6.88
INFL	12/13/94	8,367.43	35	ND	0.00	705.84	ND	0.00	6.88

Table 3 (continued)  
**Soil Vapor Extraction System Performance Data**

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Sample ID	Date Sampled	Hourmeter Reading (hrs)	Flow Rate (scfm)	TPH as Gasoline			Benzene		
				Influent Concentration (ppmv)	Removal Rate (lbs/day)	Removed to Date (lbs)	Influent Concentration (ppmv)	Removal Rate (lbs/day)	Removed to Date (lbs)
INFL	12/27/94	8,699.00	30	7.8	0.09	706.46	ND	0.00	6.88
INFL	01/10/95	9,019.51	43	ND	0.00	707.05	ND	0.00	6.88
INFL	02/09/95	9,743.77	57	ND	0.00	707.05	ND	0.00	6.88
<b>REPORTING PERIOD:</b>				11/23/94 - 02/09/95					
<b>TOTAL POUNDS TPH-GASOLINE REMOVED:</b>				707.05					
<b>TOTAL GALLONS TPH-GASOLINE REMOVED:</b>				116.91					
<b>TOTAL POUNDS BENZENE REMOVED:</b>				6.88					
<b>TOTAL GALLONS BENZENE REMOVED:</b>				0.94					
<b>PERIOD POUNDS TPH-GASOLINE REMOVED:</b>				1.73					
<b>PERIOD GALLONS TPH-GASOLINE REMOVED:</b>				0.28					
<b>PERIOD POUNDS BENZENE REMOVED:</b>				0.00					
<b>PERIOD GALLONS BENZENE REMOVED:</b>				0.00					
<b>AVERAGE FLOW RATE (c.f.m.):</b>				42					
<b>PERIOD PERCENT OPERATIONAL:</b>				89%					
TPH = Total petroleum hydrocarbons hrs = Hours scfm = Standard cubic feet per minute ppmv = Parts per million by volume lbs = Pounds ND = Not detected See certified analytical reports for detection limits.				a. Internal combustion engine shut down 09/14/94. b. King-Buck Cat-Ox start-up on 10/27/93. c. Estimated flow rate. d. System temporarily shut down June 28, 1994; King-Buck Cat-ox removed to different site. e. Cat-ox installation and startup on 09/13/94. f. Samples taken on December 1, 1994.					

Table 4  
**Vapor-Phase Analytical Data**  
**Total Petroleum Hydrocarbons**  
**(TPH as Gasoline and BTEX Compounds)**

Shell Service Station  
 285 Hegenberger Road at Leet Drive  
 Oakland, California

Well Number	Date Sampled	TPH as			Ethyl-benzene (µg/L)	Xylenes (µg/L)
		Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)		
VEW-1	08/30/93	140,000	3,300	860	1,400	3,400
	09/14/93	53,000	1,000	850	57	1,900
	10/27/93	26,000	660	450	300	1,300
	12/22/93	5.3	ND	0.097	0.11	0.75
	09/13/94	23,000	190	ND	59	120
	10/31/94	680	ND	0.88	ND	3.5
VEW-2	08/30/93	21,000	ND	ND	180	190
	09/14/93	4,200	23	26	8.0	250
	10/27/93	1,400	ND	ND	8.0	13
	12/22/93	ND	ND	ND	ND	0.25
	09/13/94	2,600	ND	ND	5.2	ND
	10/31/94	670	1.8	ND	1.9	1.7
VEW-3	08/30/93	41,000	ND	62	510	390
	09/14/93	3,100	ND	6.4	14	79
	10/27/93	3,000	ND	ND	49	45
	12/22/93	ND	ND	ND	ND	0.27
	09/13/94	1,200	3.0	ND	5.4	1.8
	10/31/94	750	ND	ND	ND	ND
VEW-4	08/30/93	12,000	ND	ND	74	98
	09/14/93	5,200	ND	27	ND	160
	10/27/93	1,100	ND	4.0	10	22
	12/22/93	NS	NS	NS	NS	NS
	09/13/94	1,400	ND	ND	2.9	ND
	10/31/94	320	1.2	ND	1.1	0.95
VEW-5	08/30/93	120,000	ND	200	1,900	1,500
	09/14/93	3,500	ND	ND	21	64
	10/27/93	9,400	ND	ND	100	71
	12/22/93	150	ND	ND	ND	0.25
	09/13/94	3,600	5.7	ND	8.0	ND
	10/31/94	960	3.2	ND	ND	2.4
µg/L	= Micrograms per liter					
ND	= Not detected					
NS	= Not sampled					



CHANNEL

LEET DRIVE

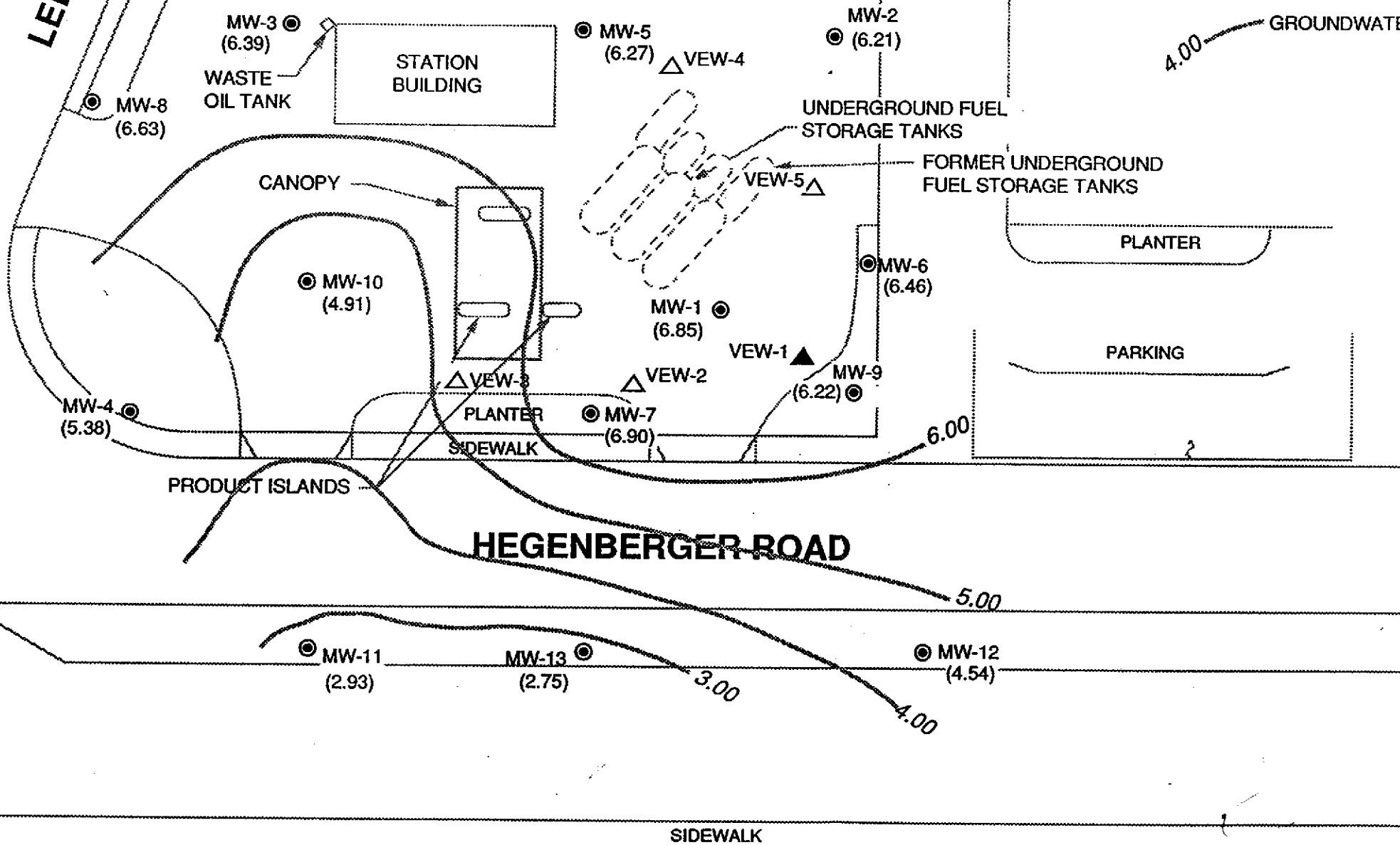
TRUCK STORAGE AREA

**LEGEND**

- MW-7 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- VEW-1 ▲ EXISTING SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
- VEW-4 △ DUAL COMPLETION AIR SPARGING/SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION

(6.85) GROUNDWATER ELEVATION IN FEET - MSL, 1-9-95

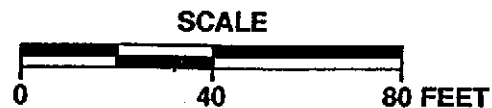
4.00 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 1-9-95



APPROXIMATE DIRECTION OF GROUNDWATER FLOW  
APPROXIMATE GRADIENT = 0.04



PACIFIC ENVIRONMENTAL GROUP, INC.



SHELL SERVICE STATION  
285 Hegenberger Road at Leet Drive  
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE:  
**1**  
PROJECT:  
305-079.2E

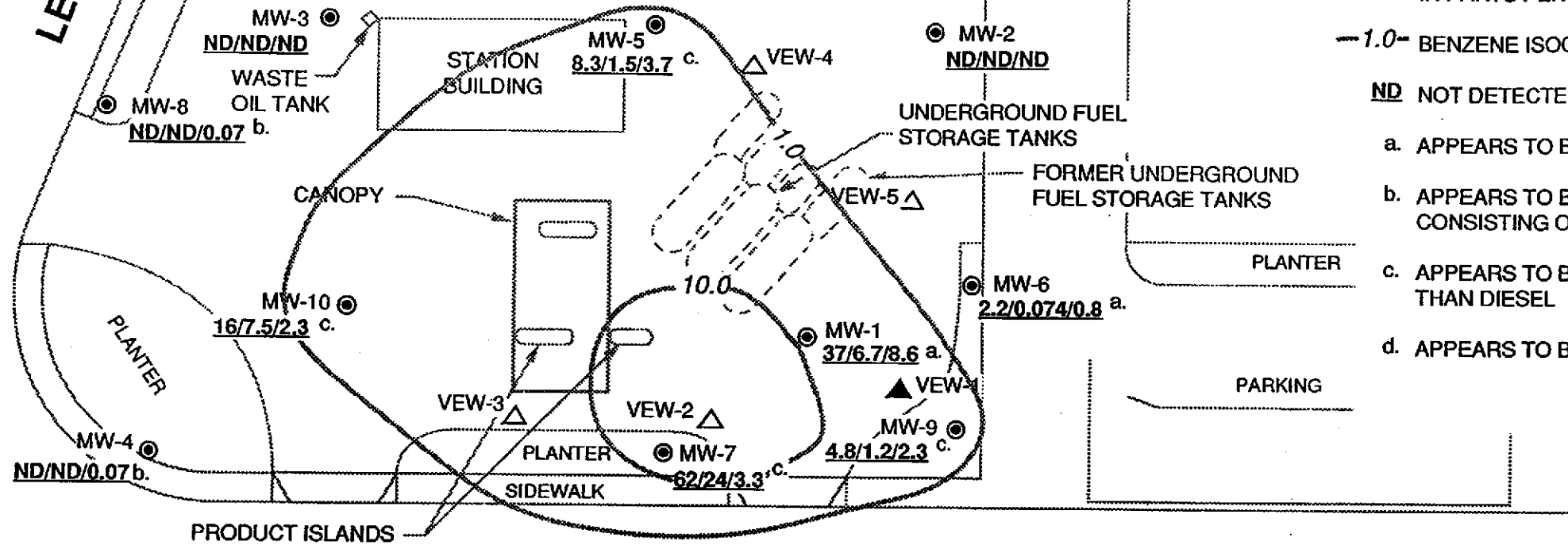




LEET DRIVE

CHANNEL

TRUCK STORAGE AREA



HEGENBERGER ROAD

MW-11 ND/ND/ND

MW-13 ND/ND/ND

MW-12 ND/ND/0.08 d.

SIDEWALK

**LEGEND**

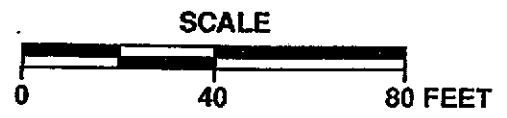
- MW-7 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- VEW-1 ▲ EXISTING SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
- VEW-4 △ DUAL COMPLETION AIR SPARGING/SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
- 2.2/0.074/0.8 a. TPH-g/BENZENE/TPH-d CONCENTRATION IN GROUNDWATER, IN PARTS PER MILLION (ppm), 1-9-95 and 1-11-95
- 1.0- BENZENE ISOCONCENTRATION CONTOUR IN ppm, 1-9-95 and 1-11-95
- ND NOT DETECTED
- a. APPEARS TO BE A LIGHTER PETROLEUM PRODUCT THAN DIESEL
- b. APPEARS TO BE A HEAVIER AND AN UNKNOWN HYDROCARBON CONSISTING OF A SINGLE PEAK
- c. APPEARS TO BE A HEAVIER AND LIGHTER PETROLEUM PRODUCT THAN DIESEL
- d. APPEARS TO BE A HEAVIER PETROLEUM PRODUCT THAN DIESEL



APPROXIMATE DIRECTION OF GROUNDWATER FLOW



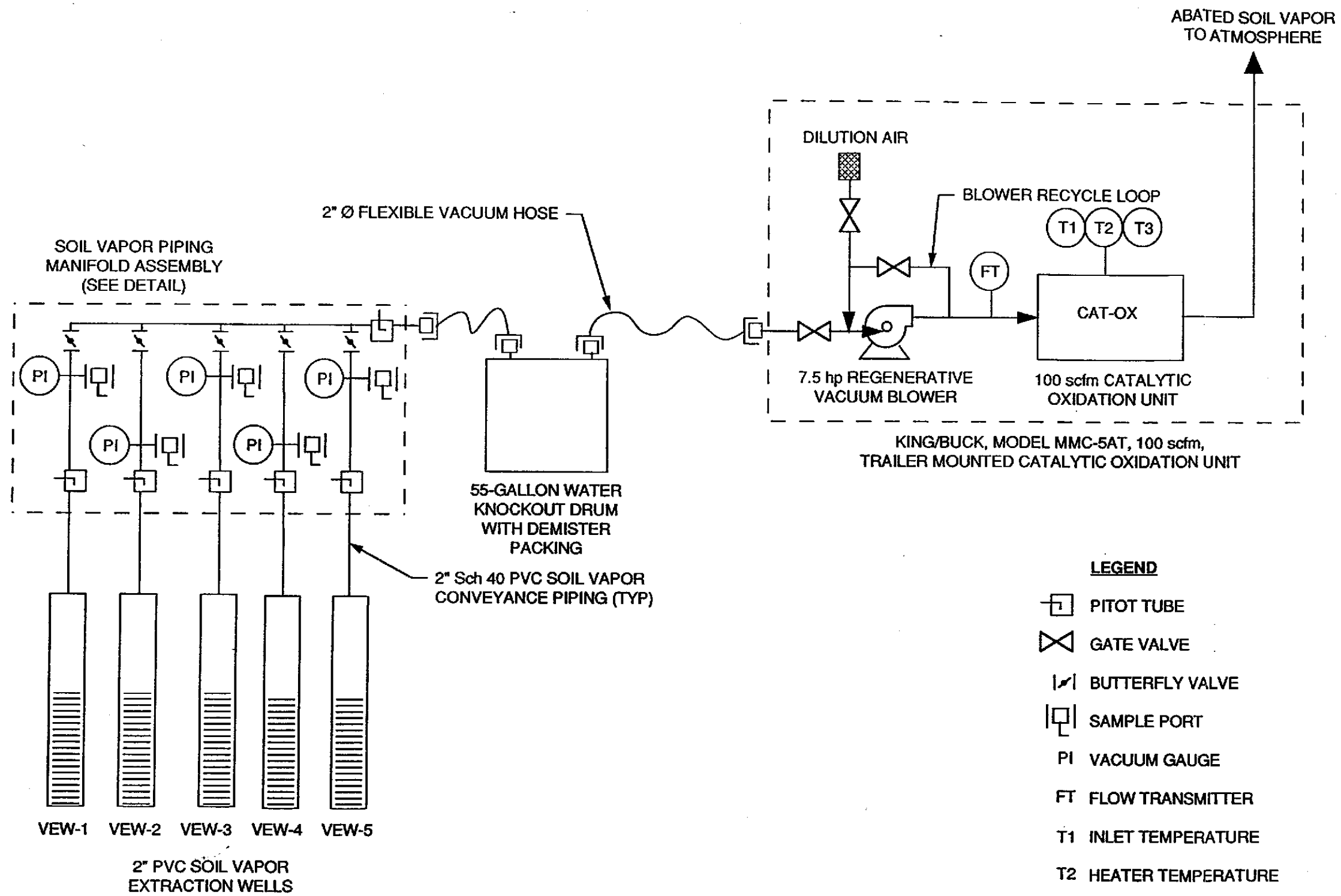
PACIFIC ENVIRONMENTAL GROUP, INC.







SHELL SERVICE STATION  
285 Hegenberger Road at Leet Drive  
Oakland, California

TPH-g/BENZENE/TPH-d CONCENTRATION MAP

FIGURE:  
**2**  
PROJECT:  
305-079.2E



**LEGEND**

-  PITOT TUBE
-  GATE VALVE
-  BUTTERFLY VALVE
-  SAMPLE PORT
- PI VACUUM GAUGE
- FT FLOW TRANSMITTER
- T1 INLET TEMPERATURE
- T2 HEATER TEMPERATURE
- T3 EXIT TEMPERATURE



PACIFIC ENVIRONMENTAL GROUP, INC.

NO SCALE

SHELL SERVICE STATION  
285 Hegenberger Road at Leet Drive  
Oakland, California

SOIL VAPOR EXTRACTION PROCESS FLOW DIAGRAM

FIGURE: 3  
PROJECT: 305-079.2E

Figure 4  
Soil Vapor Extraction System Mass Removal Data

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

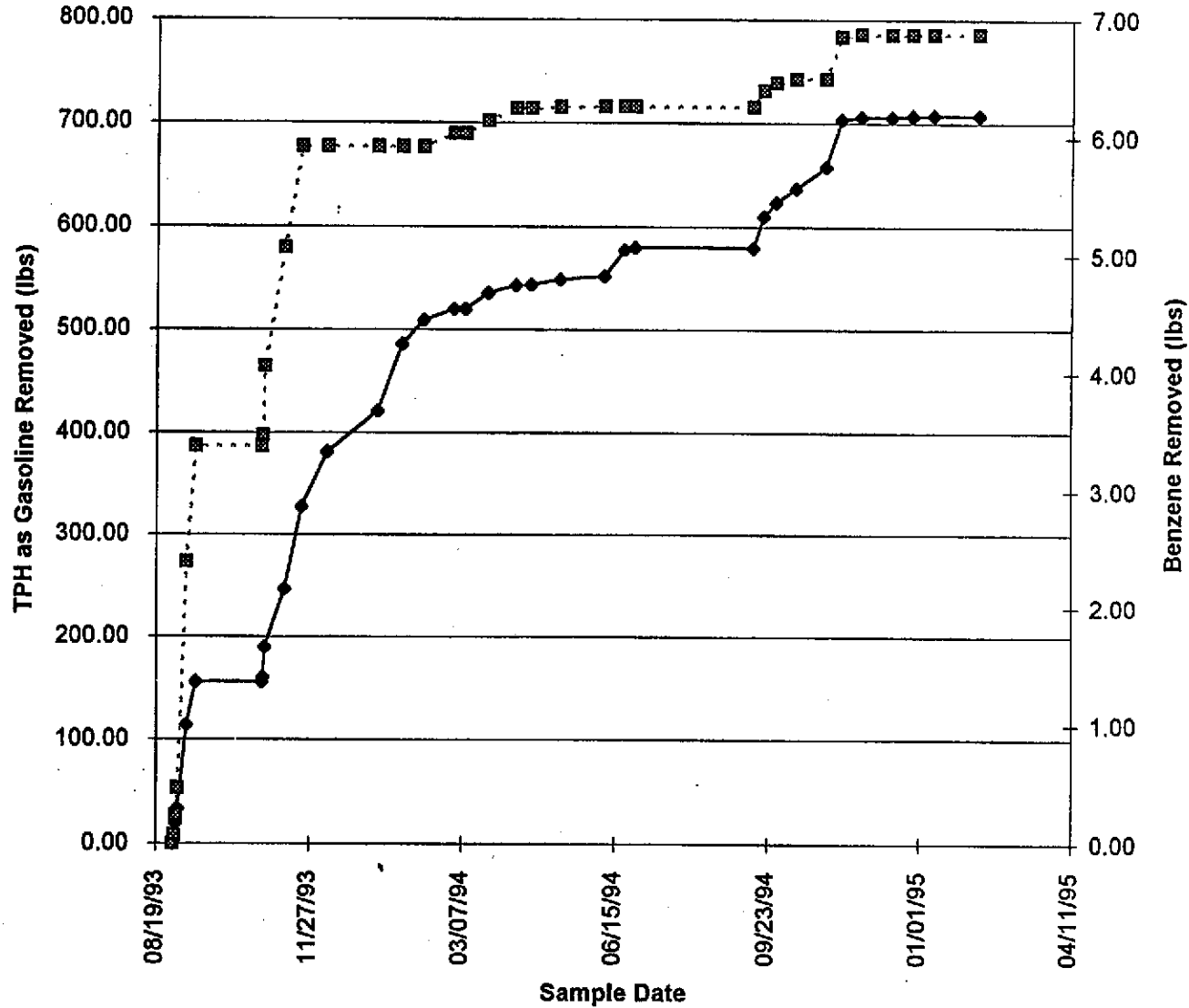
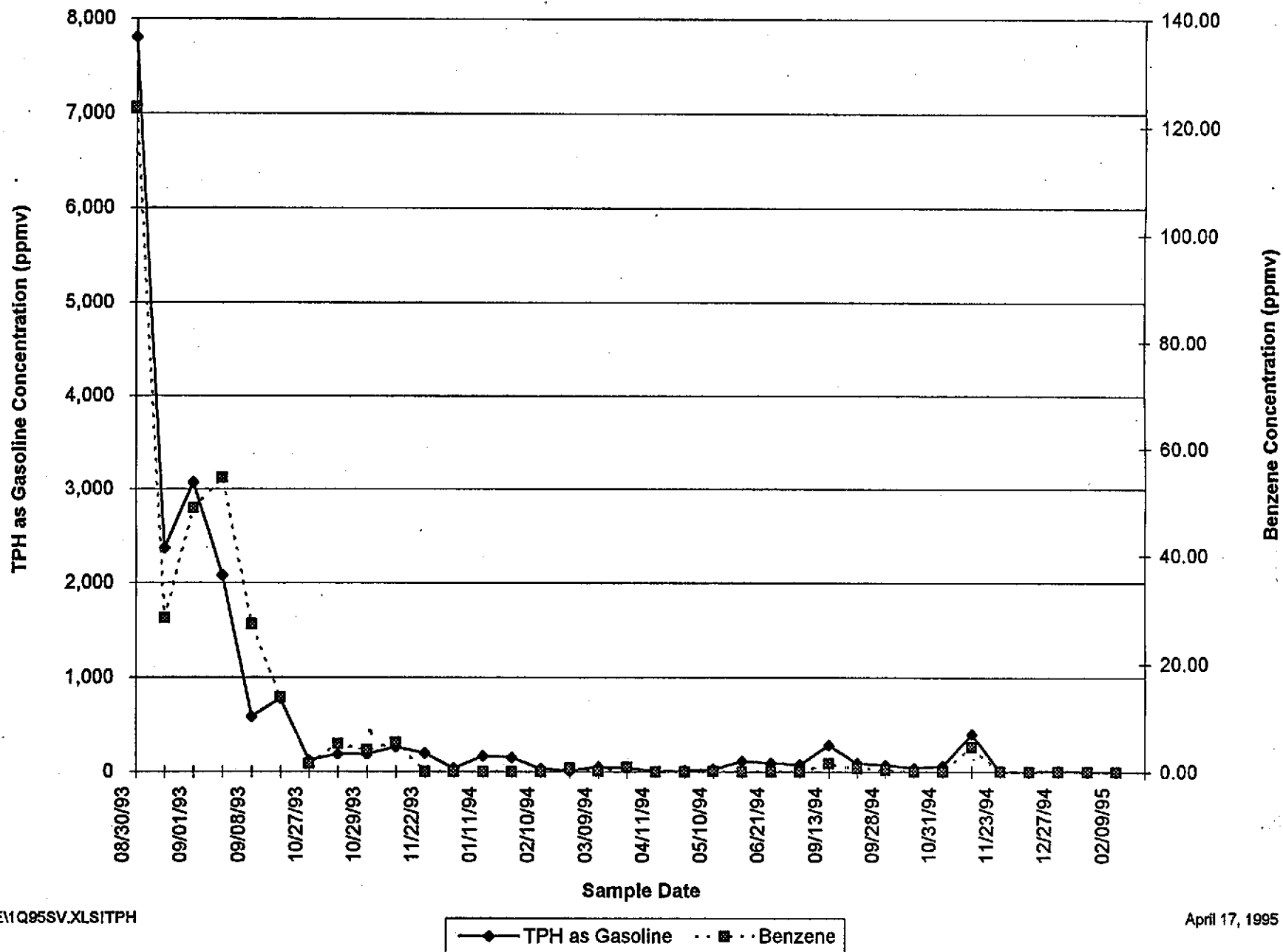


Figure 5  
Soil Vapor Extraction System Hydrocarbon Concentrations

Shell Service Station  
285 Hegenberger Road at Leet Drive  
Oakland, California

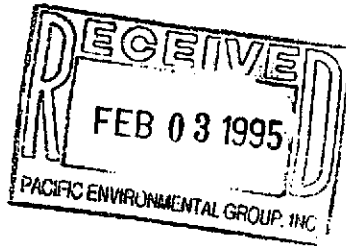


**ATTACHMENT A**  
**GROUNDWATER SAMPLING REPORT**

January 27, 1995

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

Attn: Daniel Kirk



SITE:  
Shell WIC #204-5508-5504  
285 Hegenburger Road  
Oakland, California

QUARTER:  
1st quarter of 1995

## QUARTERLY GROUNDWATER SAMPLING REPORT 950109-J-2

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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 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.

## **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 are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less water may be removed 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. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

### **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 sites 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.

### **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 National Environmental Testing, Inc. in Santa Rosa, California. NET is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #178.

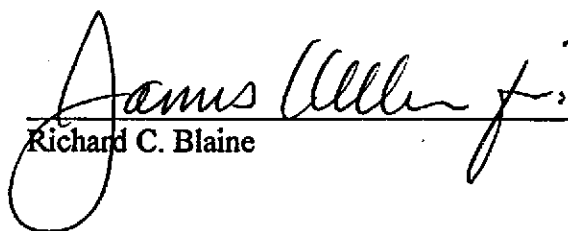
### Objective Information Collection

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/lp

attachments: table of well gauging data  
chain of custody  
certified analytical report

cc: Pacific Environmental Group  
2025 Gateway Place, Suite #440  
San Jose, CA 95110  
ATTN: Rhonda Barrick

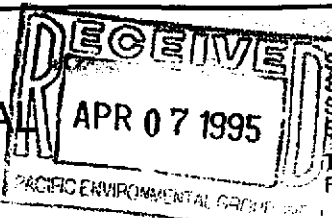
## TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	1/9/95	TOC	ODOR	NONE	--	--	2.65	9.35
MW-2	1/9/95	TOC	--	NONE	--	--	4.34	9.59
MW-3	1/9/95	TOC	--	NONE	--	--	4.26	9.48
MW-4	1/9/95	TOC	--	NONE	--	--	4.90	10.11
MW-5	1/9/95	TOC	ODOR	NONE	--	--	4.60	9.73
MW-6	1/9/95	TOC	ODOR	NONE	--	--	4.58	11.03
MW-7 *	1/9/95	TOC	ODOR	NONE	--	--	3.38	9.98
MW-8	1/9/95	TOC	--	NONE	--	--	3.98	9.97
MW-9	1/9/95	TOC	ODOR	NONE	--	--	4.26	10.74
MW-10	1/9/95	TOC	ODOR	NONE	--	--	5.70	9.97
MW-11	1/9/95	TOC	--	NONE	--	--	7.63	13.90
MW-12	1/9/95	TOC	--	NONE	--	--	5.02	14.62
MW-13	1/9/95	TOC	--	NONE	--	--	7.35	14.38

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



NATIONAL ENVIRONMENTAL TESTING, INC.



Santa Rosa Division  
3636 North Laughlin Road  
Suite 110  
Santa Rosa, CA 95403-8226  
Tel: (707) 526-7200  
Fax: (707) 541-2333

Jim Keller  
Blaine Tech Services  
985 Timothy Dr.  
San Jose, CA 95133

Date: 01/19/1995  
NET Client Acct. No: 1821  
NET Pacific Job No: 95.00130  
Received: 01/13/1995  
REVISED: 04/05/1995

Client Reference Information

SHELL, 285 Hegenberger Road, Oakland, Job No. 950109-J2

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

  
Judy Ridley  
Project Coordinator

  
Jim Hoch  
Operations Manager

Enclosure(s)





Client Name: Blaine Tech Services  
 Client Acct: 1821  
 NET Job No: 95.00130

Date: 01/19/1995  
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Ref: SHELL, 285 Hegenberger Road, Oakland, Job No. 950109-J2

SAMPLE DESCRIPTION: MW-12

Date Taken: 01/09/1995

Time Taken:

NET Sample No: 233520

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC, Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	113			† Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	80	DH	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	C14-C28+						01/17/1995	896

DH : The positive result appears to be a heavier hydrocarbon than Diesel.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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 Client Acct: 1821  
 NET Job No: 95.00130

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Ref: SHELL, 285 Hegenberger Road, Oakland, Job No. 950109-J2

SAMPLE DESCRIPTION: MW-13  
 Date Taken: 01/09/1995  
 Time Taken:  
 NET Sample No: 233521

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC,Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	108			µ Rec.	5030		01/15/1995	2501
						01/17/1995		
METHOD M8015 (EXT., Liquid)								
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	ND		50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	--						01/17/1995	896

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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Ref: SHELL, 285 Hegenberger Road, Oakland, Job No. 950109-J2

SAMPLE DESCRIPTION: MW-6  
 Date Taken: 01/09/1995  
 Time Taken:  
 NET Sample No: 233522

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	10						01/15/1995	2501
as Gasoline	2,200		500	ug/L	5030		01/15/1995	2501
Carbon Range:	C5-C14						01/15/1995	2501
METHOD 8020 (GC, Liquid)								
Benzene	74		5	ug/L	8020		01/15/1995	2501
Toluene	12		5	ug/L	8020		01/15/1995	2501
Ethylbenzene	400		5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	39		5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS								
Bromofluorobenzene (SURR)	119			% Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)								
DILUTION FACTOR*	1					01/17/1995		
as Diesel	800	DL	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	<C10-C20						01/17/1995	896

DL : The positive result appears to be a lighter hydrocarbon than Diesel.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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SAMPLE DESCRIPTION: E.B.

Date Taken: 01/09/1995

Time Taken:

NET Sample No: 233523

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTEXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC,Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	117			% Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	ND		50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	--						01/17/1995	896

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SAMPLE DESCRIPTION: T.B.

Date Taken: 01/09/1995

Time Taken:

NET Sample No: 233524

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC, Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	112			% Rec.	5030		01/15/1995	2501

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.





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SAMPLE DESCRIPTION: MW-1  
 Date Taken: 01/09/1995  
 Time Taken:  
 NET Sample No: 233525

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	20						01/15/1995	2501
as Gasoline	37,000		1,000	ug/L	5030		01/15/1995	2501
Carbon Range:	C5-C12						01/15/1995	2501
METHOD 8020 (GC,Liquid)	--						01/15/1995	2501
Benzene	6,700	FG	10	ug/L	8020		01/16/1995	2503
Toluene	800	FG	10	ug/L	8020		01/16/1995	2503
Ethylbenzene	2,800	FG	10	ug/L	8020		01/16/1995	2503
Xylenes (Total)	8,900	FG	10	ug/L	8020		01/16/1995	2503
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	118			* Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	5						01/17/1995	896
as Diesel	8,600	DL	200	ug/L	3510		01/17/1995	896
as Motor Oil	ND		2,000	ug/L	3510		01/17/1995	896
Carbon Range:	<C10-C16						01/17/1995	896

DL : The positive result appears to be a lighter hydrocarbon than Diesel.  
 FG : Compound quantitated at a 200X dilution factor.

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SAMPLE DESCRIPTION: MW-2

Date Taken: 01/09/1995

Time Taken:

NET Sample No: 233526

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC,Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	110			% Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	ND		50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	--						01/17/1995	896

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SAMPLE DESCRIPTION: MW-3  
Date Taken: 01/09/1995  
Time Taken:  
NET Sample No: 233527

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC,Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	107			% Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	ND		50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	--						01/17/1995	896

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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SAMPLE DESCRIPTION: MW-4

Date Taken: 01/11/1995

Time Taken:

NET Sample No: 233528

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEXE, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC, Liquid)								
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS								
Bromofluorobenzene (SURRE)	109			† Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)								
						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	70	D1, DH	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	C18-C28+						01/17/1995	896

D1 : The result for Diesel is an unk. HC which consists of a single peak.

DH : The positive result appears to be a heavier hydrocarbon than Diesel.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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SAMPLE DESCRIPTION: MW-5

Date Taken: 01/11/1995

Time Taken:

NET Sample No: 233529

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Ken Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	10						01/15/1995	2501
as Gasoline	8,300		500	ug/L	5030		01/15/1995	2501
Carbon Range:	C5-C12						01/15/1995	2501
METHOD 8020 (GC,Liquid)								
Benzene	1,500	FF	5	ug/L	8020		01/17/1995	2507
Toluene	95		5	ug/L	8020		01/15/1995	2501
Ethylbenzene	330		5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	1,900	FF	5	ug/L	8020		01/17/1995	2507
SURROGATE RESULTS								
Bromofluorobenzene (SURR)	109			† Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)								
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	3,700	DH,DL	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	<C10-C28+						01/17/1995	896

DL : The positive result appears to be a lighter hydrocarbon than Diesel.  
 DH : The positive result appears to be a heavier hydrocarbon than Diesel.  
 FF : Compound quantitated at a 100X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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SAMPLE DESCRIPTION: MW-7

Date Taken: 01/11/1995

Time Taken:

NET Sample No: 233530

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	20						01/15/1995	2501
as Gasoline	62,000		1,000	ug/L	5030		01/15/1995	2501
Carbon Range:	C5-C12						01/15/1995	2501
METHOD 8020 (GC,Liquid)	--						01/15/1995	2501
Benzene	24,000	FH	10	ug/L	8020		01/17/1995	2507
Toluene	8,500	FH	10	ug/L	8020		01/17/1995	2507
Ethylbenzene	1,100	FH	10	ug/L	8020		01/17/1995	2507
Xylenes (Total)	9,400	FH	10	ug/L	8020		01/17/1995	2507
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	120			‡ Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	3,300	DH,DL	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	<C10-C28+						01/17/1995	896

DL : The positive result appears to be a lighter hydrocarbon than Diesel.  
 DH : The positive result appears to be a heavier hydrocarbon than Diesel.  
 FH : Compound quantitated at a 500X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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SAMPLE DESCRIPTION: MW-8

Date Taken: 01/11/1995

Time Taken:

NET Sample No: 233531

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC, Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	106			µ Rec.	5030		01/15/1995	2501
METHOD M8015* (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	70	DI, DH	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	C18-C28+						01/17/1995	896

DI : The result for Diesel is an unk. HC which consists of a single peak.  
 DH : The positive result appears to be a heavier hydrocarbon than Diesel.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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SAMPLE DESCRIPTION: MW-9  
 Date Taken: 01/11/1995  
 Time Taken:  
 NET Sample No: 233532

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTKB, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	20						01/15/1995	2501
as Gasoline	4,800		1,000	ug/L	5030		01/15/1995	2501
Carbon Range:	C5-C12						01/15/1995	2501
METHOD 8020 (GC, Liquid)	--						01/15/1995	2501
Benzene	1,200	FG	10	ug/L	8020		01/16/1995	2503
Toluene	510		10	ug/L	8020		01/15/1995	2501
Ethylbenzene	42		10	ug/L	8020		01/15/1995	2501
Xylenes (Total)	1,400		10	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	118			† Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	2,300	DH, DL	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	<C10-C28+						01/17/1995	896

DL : The positive result appears to be a lighter hydrocarbon than Diesel.  
 DH : The positive result appears to be a heavier hydrocarbon than Diesel.  
 FG : Compound quantitated at a 200X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.





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 NET Job No: 95.00130

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SAMPLE DESCRIPTION: MW-10  
 Date Taken: 01/11/1995  
 Time Taken:  
 NET Sample No: 233533

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	10						01/15/1995	2501
as Gasoline	16,000		500	ug/L	5030		01/15/1995	2501
Carbon Range:	CS-C12						01/15/1995	2501
METHOD 8020 (GC, Liquid)	--						01/15/1995	2501
Benzene	7,500	FG	5	ug/L	8020		01/16/1995	2503
Toluene	1,400	FG	5	ug/L	8020		01/16/1995	2503
Ethylbenzene	230		5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	1,500	FG	5	ug/L	8020		01/16/1995	2503
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	113			† Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	2,300	DH, DL	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	<C10-C28+						01/17/1995	896

DL : The positive result appears to be a lighter hydrocarbon than Diesel.  
 DH : The positive result appears to be a heavier hydrocarbon than Diesel.  
 FG : Compound quantitated at a 200X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
Client Acct: 1821  
NET Job No: 95.00130

Date: 01/19/1995  
ELAP Cert: 1386  
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Ref: SHELL, 285 Hegenberger Road, Oakland, Job No. 950109-J2

SAMPLE DESCRIPTION: MW-11

Date Taken: 01/11/1995

Time Taken:

NET Sample No: 233534

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	1						01/15/1995	2501
as Gasoline	ND		50	ug/L	5030		01/15/1995	2501
Carbon Range:	--						01/15/1995	2501
METHOD 8020 (GC,Liquid)	--						01/15/1995	2501
Benzene	ND		0.5	ug/L	8020		01/15/1995	2501
Toluene	ND		0.5	ug/L	8020		01/15/1995	2501
Ethylbenzene	ND		0.5	ug/L	8020		01/15/1995	2501
Xylenes (Total)	ND		0.5	ug/L	8020		01/15/1995	2501
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURR)	108			† Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	ND		50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	--						01/17/1995	896

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services

Date: 01/19/1995

Client Acct: 1821

ELAP Cert: 1386

NET Job No: 95.00130

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Ref: SHELL, 285 Hegenberger Road, Oakland, Job No. 950109-J2

## SAMPLE DESCRIPTION: DUP

Date Taken: 01/11/1995

Time Taken:

NET Sample No: 233535

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTEX, Liquid)								
METHOD 5030/M8015	--						01/15/1995	2501
DILUTION FACTOR*	20						01/15/1995	2501
as Gasoline	57,000		1,000	ug/L	5030		01/15/1995	2501
Carbon Range:	C5-C12						01/15/1995	2501
METHOD 8020 (GC, Liquid)	--						01/15/1995	2501
Benzene	9,500	FH	10	ug/L	8020		01/16/1995	2503
Toluene	7,900	FH	10	ug/L	8020		01/16/1995	2503
Ethylbenzene	620	FH	10	ug/L	8020		01/16/1995	2503
Xylenes (Total)	8,000	FH	10	ug/L	8020		01/16/1995	2503
SURROGATE RESULTS	--						01/15/1995	2501
Bromofluorobenzene (SURRE)	117			† Rec.	5030		01/15/1995	2501
METHOD M8015 (EXT., Liquid)						01/17/1995		
DILUTION FACTOR*	1						01/17/1995	896
as Diesel	3,200	DH, DL	50	ug/L	3510		01/17/1995	896
as Motor Oil	ND		500	ug/L	3510		01/17/1995	896
Carbon Range:	<C10-C28+						01/17/1995	896

DH : The positive result appears to be a heavier hydrocarbon than Diesel.

DL : The positive result appears to be a lighter hydrocarbon than Diesel.

FH : Compound quantitated at a 500X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
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## CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV	CCV	CCV	Units	Date Analyzed	Analyst Initials	Run Batch Number
	Standard % Recovery	Standard Amount Found	Standard Amount Expected				
TPH (Gas/BTXE, Liquid)							
as Gasoline	100.0	1.00	1.00	mg/L	01/15/1995	aal	2501
Benzene	105.0	5.25	5.00	ug/L	01/15/1995	aal	2501
Toluene	97.8	4.89	5.00	ug/L	01/15/1995	aal	2501
Ethylbenzene	99.6	4.98	5.00	ug/L	01/15/1995	aal	2501
Xylenes (Total)	97.3	14.6	15.0	ug/L	01/15/1995	aal	2501
Bromofluorobenzene (SURR)	112.0	112	100	% Rec.	01/15/1995	aal	2501
TPH (Gas/BTXE, Liquid)							
as Gasoline	108.0	1.08	1.00	mg/L	01/16/1995	dfw	2503
Benzene	111.8	5.59	5.00	ug/L	01/16/1995	dfw	2503
Toluene	106.2	5.31	5.00	ug/L	01/16/1995	dfw	2503
Ethylbenzene	106.4	5.32	5.00	ug/L	01/16/1995	dfw	2503
Xylenes (Total)	104.7	15.7	15.0	ug/L	01/16/1995	dfw	2503
Bromofluorobenzene (SURR)	103.0	103	100	% Rec.	01/16/1995	dfw	2503
TPH (Gas/BTXE, Liquid)							
as Gasoline	107.0	1.07	1.00	mg/L	01/17/1995	dfw	2507
Benzene	105.4	5.27	5.00	ug/L	01/17/1995	dfw	2507
Toluene	114.2	5.71	5.00	ug/L	01/17/1995	dfw	2507
Ethylbenzene	101.2	5.06	5.00	ug/L	01/17/1995	dfw	2507
Xylenes (Total)	100.7	15.1	15.0	ug/L	01/17/1995	dfw	2507
Bromofluorobenzene (SURR)	101.0	101	100	% Rec.	01/17/1995	dfw	2507
METHOD M8015 (EXT., Liquid)							
as Diesel	92.5	925	1000	mg/L	01/17/1995	tdn	896
as Motor Oil	88.5	885	1000	mg/L	01/17/1995	tdn	896

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
Client Acct: 1821  
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## METHOD BLANK REPORT

Parameter	Method			Date Analyzed	Analyst Initials	Run Batch Number
	Blank Amount Found	Reporting Limit	Units			
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	01/15/1995	aal	2501
Benzene	ND	0.5	ug/L	01/15/1995	aal	2501
Toluene	ND	0.5	ug/L	01/15/1995	aal	2501
Ethylbenzene	ND	0.5	ug/L	01/15/1995	aal	2501
Xylenes (Total)	ND	0.5	ug/L	01/15/1995	aal	2501
Bromofluorobenzene (SURR)	107		‡ Rec.	01/15/1995	aal	2501
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	01/16/1995	dfw	2503
Benzene	ND	0.5	ug/L	01/16/1995	dfw	2503
Toluene	ND	0.5	ug/L	01/16/1995	dfw	2503
Ethylbenzene	ND	0.5	ug/L	01/16/1995	dfw	2503
Xylenes (Total)	ND	0.5	ug/L	01/16/1995	dfw	2503
Bromofluorobenzene (SURR)	103		‡ Rec.	01/16/1995	dfw	2503
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	01/17/1995	dfw	2507
Benzene	ND	0.5	ug/L	01/17/1995	dfw	2507
Toluene	ND	0.5	ug/L	01/17/1995	dfw	2507
Ethylbenzene	ND	0.5	ug/L	01/17/1995	dfw	2507
Xylenes (Total)	ND	0.5	ug/L	01/17/1995	dfw	2507
Bromofluorobenzene (SURR)	95		‡ Rec.	01/17/1995	dfw	2507
METHOD M8015 (EXT., Liquid)						
as Diesel	ND	0.05	mg/L	01/17/1995	tdn	896
as Motor Oil	ND	0.5	mg/L	01/17/1995	tdn	896

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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## MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike				Sample Conc.	Matrix Spike			Units	Date Analyzed	Run Batch	Sample Spiked
	Matrix Spike % Rec.	Spike Dup % Rec.	RPD	Spike Amount		Matrix Spike Conc.	Spike Dup. Conc.	Conc.				
TPH (Gas/BTXE,Liquid)												233270
as Gasoline	105.0	96.0	8.9	1.00	ND	1.05	0.96	mg/L	01/15/1995	2501		233270
Benzene	103.9	100.8	3.0	36.0	ND	37.4	36.3	ug/L	01/15/1995	2501		233270
Toluene	105.8	101.0	4.6	104	ND	110	105	ug/L	01/15/1995	2501		233270
TPH (Gas/BTXE,Liquid)												233707
as Gasoline	101.0	102.0	1.0	1.00	ND	1.01	1.02	mg/L	01/16/1995	2503		233707
Benzene	99.2	101.9	2.6	37.2	ND	36.9	37.9	ug/L	01/16/1995	2503		233707
Toluene	94.4	10.0	161.	108	ND	102	108	ug/L	01/16/1995	2503		233707
TPH (Gas/BTXE,Liquid)												233720
as Gasoline	97.0	105.0	7.8	1.00	ND	0.97	1.05	mg/L	01/17/1995	2507		233720
Benzene	92.7	94.3	1.7	38.3	ND	35.5	36.1	ug/L	01/17/1995	2507		233720
Toluene	89.8	97.3	8.0	110	ND	98.8	107	ug/L	01/17/1995	2507		233720
METHOD M8015 (EXT., Liquid)												233475
as Diesel	82.5	76.8	7.2	1.89	ND	1.56	1.46	mg/L	01/17/1995	896		233475

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



Client Name: Blaine Tech Services  
Client Acct: 1821  
NET Job No: 95.00130

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Ref: SHELL, 285 Hegenberger Road, Oakland, Job No. 950109-J2

## LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	Duplicate LCS % Recovery	RPD	Duplicate			Units	Date Analyzed	Analyst	
				LCS Amount Found	LCS Amount Found	LCS Amount Expected			Run	Initials
METHOD M8015 (EXT., Liquid) as Diesel	72.0			0.72		1.00	mg/L	01/17/1995	tdn	896

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



## KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- \* : Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. Do not multiply the reporting limits or reported values by the dilution factor.
- dw : Result expressed as dry weight.
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than the applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference,  $100 \text{ [Value 1 - Value 2] / mean value}$ .
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- umhos/cm : Micromhos per centimeter.

### Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, Rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986., Rev. 1, December 1987.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.



COOLER RECEIPT FORM

Project: Shell 285 Hegeburger Oakland 950109-J2 Log No: 4963  
Cooler received on: 1/13/95 and checked on 1/13/95 by J. Sorensen  
J. Sorensen  
(signature)

- Were custody papers present?.....  YES NO
- Were custody papers properly filled out?.....  YES NO
- Were the custody papers signed?.....  YES NO
- Was sufficient ice used?.....  YES NO
- Did all bottles arrive in good condition (unbroken)?.....  YES NO
- Did bottle labels match COC?.....  YES NO
- Were proper bottles used for analysis indicated?.....  YES NO
- Correct preservatives used?.....  YES NO
- VOA vials checked for headspace bubbles?.....  YES NO

-0.3°C,  
-0.8°C  
# -0.1°C

Note which voas (if any) had bubbles:\*

Sample descriptor:

MW-12

MW-13

TB

MW-1

MW-10

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Number of vials:

1 of 3

1 of 3

1 of 2

1 of 3

1 of 3

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\*All VOAs with headspace bubbles have been set aside so they will not be used for analysis.....YES NO

List here all other jobs received in the same cooler:

Client Job #	NET log #
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(coolerrec)

# SHELL WELL MONITORING DATA SHEET

Project #: <u>950109J2</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>JG</u>	Date Sampled: <u>1/9/95</u>
Well I.D.: <u>MW-1</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>9.35</u> After	Depth to Water: Before <u>2.65</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="radio"/> PVC <input type="radio"/> Grade <input type="radio"/> Other --

Volume Conversion Factor (VCF):  
 $(12 \times (d^2)/4) \times \pi / 2.31$   
 Where:  
 12 = in./foot  
 d = diameter (in.)  
 π = 3.1416  
 2.31 = ft./gal

Well dia.	VCF
2"	0.14
3"	0.33
4"	0.46
6"	1.07
8"	1.88
10"	2.98
12"	4.37

<u>4.3</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>12.9</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:
<u>14:22</u>	<u>64.0</u>	<u>8.0</u>	<u>2400</u>	<u>10.</u>	<u>5</u>	<u>ODOR</u>
<u>14:24</u>	<u>63.8</u>	<u>8.0</u>	<u>2400</u>	<u>08.</u>	<u>10</u>	
	<u>- WELL DEWATERED @ 10 GAL.</u>					
<u>1/11/95 16:34</u>	<u>- RETURNED TO SAMPLE -</u>					<u>DT.W. - 2.63</u>
	<u>65.2</u>	<u>8.0</u>	<u>2500</u>	<u>&gt; 200</u>	<u>1</u>	

Did Well Dewater?  If yes, gals. 10    Gallons Actually Evacuated: 11

Sampling Time: 1/11/95 16:38

Sample I.D.: MW-1    Laboratory: NET

Analyzed for: PHOS, STET, TPAD, M.O.

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

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 950109J2	Wic # 204-5508-5504
Sampler: J.G.	Date Sampled: 1/9/95
Well I.D.: MW-2	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 9.59 After	Depth to Water: Before 4.34 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> Grade <input type="checkbox"/> Other --

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

Well dia.	VCF
2"	0.56
3"	0.77
4"	0.85
6"	1.47
10"	4.08
12"	5.87

<u>3.4</u>	x	<u>3</u>	=	<u>10.2</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:	OBSERVATIONS:
12:41	63.0	8.0	1600	117	3.5	
12:43	63.2	8.0	1600	29	7	
	- WELL DEWATERED @ 7 GAL. -					
1/11/95 15:42	- RETURNED TO SAMPLE -					DITW, - 3.83
	63.2	8.0	1800	7200	1	

Did Well Dewater?  If yes, gals. 7      Gallons Actually Evacuated: 8

1/11/95 Sampling Time: 15:46

Sample I.D.: MW-2

Laboratory: NET

Analyzed for: TPAG, BTEX, PHO, M.O.

Duplicate I.D.:

Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 95010901	Wic # 204-3508-3504
Sampler: JIG,	Date Sampled: 1/9/95
Well I.D.: MW-3	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 9.48 After 10.12	Depth to Water: Before 4.26 After 4.86
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC + <input checked="" type="checkbox"/> Grade Other --

Volume Conversion Factor (VCF):  
 $VCF = (d^2/4) \times \pi / 7.48$   
 where  
 $d = \text{in./ft}$   
 $d = \text{diameter (in.)}$   
 $\pi = 3.1416$   
 $7.48 = \text{in}^3/\text{gal}$

Well dia.	VCF
2"	0.24
3"	0.37
4"	0.48
6"	1.07
8"	1.64
10"	2.22
12"	2.87

3.3	x	3	=	9.9
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:
10:21	63.0	8.0	1600	18.	3.5	
12:23	63.4	8.0	1600	10.	7.	
	-WELL DEWATERED @			7 GAL. -		
1/11/95 15:24	-RETURNED TO SAMPLE-					DIT.W. - 4.20
	63.2	8.0	1400	7200	1	

Did Well Dewater?  If yes, gals. 7 Gallons Actually Evacuated: 8

Sampling Time: 15:25

Sample I.D.: MW-3 Laboratory: NET

Analyzed for: TPH6, BTEX, TPHD, A.O.

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

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: <u>950109J2</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>JG</u>	Date Sampled: <u>11/9/95</u>
Well I.D.: <u>MW-4</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>10.11</u> After	Depth to Water: Before <u>4.90</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other --

Volume Conversion Factor (VCF):  
 $VCF = (C^2/A) \times \pi / 7.48$   
 where  
 C = ft./foot  
 A = diameter (in.)  
 π = 3.1416  
 7.48 = gal./cu ft.

Well dia.	VCF
2"	0.26
3"	0.57
4"	1.11
6"	2.47
8"	4.40
12"	10.17

<u>3.3</u>	x	<u>3</u>	=	<u>9.9</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:
<u>11:30</u>	<u>61.8</u>	<u>8.0</u>	<u>&gt;10,000</u>	<u>19.</u>	<u>3.5</u>	
<u>11:32</u>	<u>62.0</u>	<u>8.0</u>	<u>6,000</u>	<u>07.</u>	<u>7.</u>	
	<u>- WELL DEWATERED @ 7 GAL. -</u>					
<u>11:51</u>	<u>- RETURNED TO SAMPLE</u>					
	<u>63.2</u>	<u>7.8</u>	<u>4000</u>	<u>&gt;200</u>	<u>1</u>	<u>DT.W. - 6.58</u>

Did Well Dewater?  If yes, gals. 7 Gallons Actually Evacuated: 8

Sampling Time: 11:57

Sample I.D.: MW-4 Laboratory: NET

Analyzed for: TPHG, BTEX, TPHD, M.O.

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

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

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

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

11/95

11/95

# SHELL WELL MONITORING DATA SHEET

Project #: 950109J2	Wic # 204-5508-5504
Sampler: JG	Date Sampled: 1/9/95
Well I.D.: MW-5	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 9,73 After	Depth to Water: Before 4,60 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> Grade <input type="checkbox"/> Other --

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

Well dia.	VCF
2"	0.26
3"	0.35
4"	0.48
6"	1.07
10"	4.04
12"	5.07

3.3	x	3	=	9.9
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:
13:16	63.0	8.0	3000	20,	4	ODOR
	- WEL Dewatered @			4 GAL.	-	
1/11/95 16:18	- RETURNED TO SAMPLE					Deto Wh - 4.19
	62.2	8.0	3000	7200	1	

Did Well Dewater?  If yes, gals. 4    Gallons Actually Evacuated: 5

1/11/95 Sampling Time: 16:21

Sample I.D.: MW5    Laboratory: NET

Analyzed for: TPH, BTEX, TPHD, MoD

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

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 950109J2	Wic # 204-5508-5504
Sampler: JG	Date Sampled: 1/9/95
Well I.D.: MW-6	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>11.03</u> After	Depth to Water: Before <u>4.58</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> Grade <input type="checkbox"/> Other --

Volume Conversion Factor (VCF):  
 $(2.31 \times (d^2/4) \times \pi) / 2.31$   
 where  
 2.31 = in./foot  
 d = diameter (in.)  
 π = 3.1416  
 2.31 = in./foot

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.68
6"	1.47
8"	2.98
10"	4.98
12"	7.37

<u>4.2</u>	$\times$	<u>3</u>	$=$	<u>12.6</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:	OBSERVATIONS:
13:35	62.4	8.0	2800	30,	5,	ODOR
13:37	63.6	8.0	2500	13,	10,	
13:39	63.6	8.0	2400	06,	15.	

Did Well Dewater?      If yes, gals.      Gallons Actually Evacuated: 15

Sampling Time: 13:45

Sample I.D.: MW-6      Laboratory: NET

Analyzed for: SPAG, RTEX, TPWD, M.O.

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

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: 950109 J2	Wic # 204-5508-5504
Sampler: JG	Date Sampled: 1/9/95
Well I.D.: MW-7	Well Diameter: (circle one) 2 3 4 6
Total Well Depth: Before 9.98 After	Depth to Water: Before 3.38 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	PVC      Grade      Other --

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

Well dia.	VCF
2"	0.16
3"	0.35
4"	0.46
6"	1.47
8"	4.08
12"	11.7

<u>4.2</u>	x	<u>3</u>	=	<u>12.6</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

1/11/95

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:	
15:00	62.0	8.0	6000	10,	5		
15:02	62.4	8.0	5000	09,	10		
- WELL DEWATERED @ 10 GAL. -							
16:59	- RETURNED TO SAMPLE -					1	DFW-
	62.0	8.0	5000	> 200			

1/11/95

Did Well Dewater?  If yes, gals. 10 Gallons Actually Evacuated: 11

Sampling Time: 17:00

Sample I.D.: MW-7 Laboratory: NET

Analyzed for: TPHG, BTX, TPHD, M.O.

Duplicate I.D.: DUP @ 1700 Cleaning Blank I.D.:

Analyzed for: TPHG, BTX, TPHD, M.O.

Shipping Notations:

Additional Notations:



# SHELL WELL MONITORING DATA SHEET

Project #: 950109 J2	Wic # 204-5508-5504
Sampler: J.G.	Date Sampled: 1/9/95
Well I.D.: MW-8	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 9.97 After	Depth to Water: Before 3.98 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> Grade <input type="checkbox"/> Other --

Volume Conversion Factor (VCF):  
 $(2.31 \times (d^2/4) \times h) / 2.31$   
 where  
 2.31 = in./foot  
 d = diameter (in.)  
 h = 1.1024  
 2.31 = in./foot

Well Dia.	VCF
2"	0.24
3"	0.37
4"	0.56
6"	1.07
8"	1.64
10"	2.31
12"	3.17

318	x	3	=	11.4
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:
11:48	63.0	8.0	2200	29	4	
11:50	63.2	8.0	1800	55	8	
	- WELL DEWATERED @			8 GAL.		
15:09	- RETURNED TO SAMPLE					D.T.W. - 3.54
	64.2	8.00	1800	7200	1	

Did Well Dewater?  If yes, gals. 8 Gallons Actually Evacuated: 9

Sampling Time: 15:15

Sample I.D.: MW-8

Laboratory: NET

Analyzed for: TPH, BTEX, TPAD, M.O.

Duplicate I.D.:

Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

1/11/95

1/11/95

# SHELL WELL MONITORING DATA SHEET

Project #: 950109J2	Wic # 204-5508-5504
Sampler: J.G.	Date Sampled: 1/9/95
Well I.D.: MW-9	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 10.74 After	Depth to Water: Before 4.26 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> Grade <input type="checkbox"/> Other --

Volume Conversion Factor (VCF):  
 $(2.31 \times (d^2/4) \times h) / 2.31$   
 where:  
 2.31 = in/foot  
 d = diameter (in.)  
 h = height (ft.)  
 2.31 = in/foot

Well dia.	VCF
2"	0.21
3"	0.37
4"	0.48
6"	1.07
8"	1.88
10"	2.98

4.2	x	3	=	12.6
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:	OBSERVATIONS:
14:39	62.0	8.0	4600	13.	5.	ODOR
14:42	61.8	8.0	4200	12.	10.	
	- WELL DEWATERED @ 10 GAL					
1/11/95 16:45	- RETURNED TO SAMPLE					D.T.W. - 7.50
	62.4	8.0	4500	7200	1	

Did Well Dewater?    If yes, gals.    Gallons Actually Evacuated: 11

1/11/95 Sampling Time: 16:48

Sample I.D.: MW-9    Laboratory: NET

Analyzed for: TPH, BTEX, PAH, M.O.

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

Analyzed for:

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: <u>950109J2</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>J.G.</u>	Date Sampled: <u>1/9/95</u>
Well I.D.: <u>MW-10</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>9.7</u> After	Depth to Water: Before <u>5.70</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> Grade <input type="checkbox"/> Other --

Volume Conversion Factor (VCF):  
 $VCF = (d^2/4) \times \pi / 2.31$   
 where  
 $d = \text{inches}$   
 $\pi = 3.1416$   
 $2.31 = \text{feet/gal}$

Well dia.	VCF
2"	0.34
3"	0.77
4"	1.08
6"	1.47
8"	2.90
10"	4.08
12"	5.07

$\frac{2.7}{1 \text{ Case Volume}} \times \frac{3}{\text{Specified Volumes}} = \frac{8.1}{\text{gallons}}$

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:
13:00	63.0	8.0	1600	19.	3.	ODOR
13:01	64.6	8.0	2000	07.	6.	
-WELL DEWATERED @				6 GAL.-		
16:00	-RETURNED TO SAMPLE-					D.T.O.W. - 5.91
	64.0	8.0	3000	7200	1	

Did Well Dewater? Y If yes, gals. 6 Gallons Actually Evacuated: 7

Sampling Time: 16:08

Sample I.D.: MW-10

Laboratory: NET

Analyzed for: TPHC, BTEX, TPHD, M.O.

Duplicate I.D.:

Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

W

# SHELL WELL MONITORING DATA SHEET

Project #: <u>950109J2</u>	Wic # <u>204-3508-3504</u>
Sampler: <u>J.G.</u>	Date Sampled: <u>1/9/95</u>
Well I.D.: <u>MW-11</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>13.90</u> After	Depth to Water: Before <u>7.63</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u> Grade Other --	

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

Well dia.	VCF
2"	0.26
3"	0.57
4"	0.88
6"	1.47
8"	2.04
12"	3.17

<u>4.0</u>	x	<u>3</u>	=	<u>12</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:
<u>11:10</u>	<u>63.2</u>	<u>7.8</u>	<u>710000</u>	<u>60</u>	<u>4</u>	
<u>11:12</u>	<u>62.8</u>	<u>7.7</u>	<u>710000</u>	<u>28</u>	<u>8</u>	
	<u>- WELL DEWATERED @ 8 GAL -</u>					
<u>11:34</u>	<u>- RETURNED TO SAMPLE -</u>					<u>D.T.W. - 7.09</u>
	<u>62.8</u>	<u>7.2</u>	<u>71000</u>	<u>7200</u>	<u>1</u>	

Did Well Dewater? Y If yes, gals. 8 Gallons Actually Evacuated: 9

Sampling Time: 11:35

Sample I.D.: MW-11

Laboratory: NET

Analyzed for: TPH, BTEX, TPAD, M.O.

Duplicate I.D.:

Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

1/11/95

# SHELL WELL MONITORING DATA SHEET

Project #: 950109 J2	Wic # 204-5508-5504
Sampler: JG	Date Sampled: 1/9/95
Well I.D.: MW-12	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: 14.62 Before                      After	Depth to Water: Before 5.02      After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> Grade <input type="checkbox"/> Other --

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

Well Dia.	VCF
2"	0.24
3"	0.57
4"	0.95
5"	1.47
6"	2.09
8"	3.17

$$\frac{6.2}{1 \text{ Case Volume}} \times \frac{3}{\text{Specified Volumes}} = \frac{18.6}{\text{gallons}}$$

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:
10:17	63.2	7.5	4000	49.	1.	
10:20	63.4	7.4	5000	36.	2.	
10:23	62.4	7.5	5300	43.	3.	

Did Well Dewater? NO If yes, gals.      Gallons Actually Evacuated: 3

Sampling Time: 10:30

Sample I.D.: MW-12      Laboratory: NET

Analyzed for: TPHG, BTEX, TPHD, M.O.

Duplicate I.D.:      Cleaning Blank I.D.: E.B. @ 10:40

Analyzed for: TPAG, BTEX

Shipping Notations:

Additional Notations:

# SHELL WELL MONITORING DATA SHEET

Project #: <u>950109JA</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>DG</u>	Date Sampled: <u>1/9/95</u>
Well I.D.: <u>MW-13</u>	Well Diameter: (circle one) 2 3 <u>(4)</u> 6
Total Well Depth: Before <u>14.38</u> After	Depth to Water: Before <u>7.35</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>(PVC)</u> Grade Other --	

Volume Conversion Factor (VCF):  
 $VCF = (d^2/4) \times \pi / 2.31$   
 where  
 $d = \text{in./foot}$   
 $d = \text{diameter (in.)}$   
 $\pi = 3.1416$   
 $VCF = \text{in}^3/\text{gal}$

Well dia.	VCF
2"	0.24
3"	0.37
4"	0.65
6"	1.47
8"	4.08
12"	9.87

<u>4.5</u>	x	<u>3</u>	=	<u>13.5</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:	OBSERVATIONS:
<u>10:52</u>	<u>64.2</u>	<u>7.1</u>	<u>710000</u>	<u>28,</u>	<u>5</u>	
<u>10:54</u>	<u>64.6</u>	<u>7.3</u>	<u>710000</u>	<u>20,</u>	<u>10</u>	
	<u>- WELL DEWATERED</u>			<u>@ 10 GPM</u>	<u>-</u>	
<u>15:42</u>	<u>- RETURNED TO SAMPLE -</u>					<u>D.I.W. - 10:32</u>
	<u>64.8</u>	<u>8.0</u>	<u>710000</u>	<u>13,</u>	<u>1</u>	

Did Well Dewater?  If yes, gals. 10 Gallons Actually Evacuated: 11

Sampling Time: 15:43

Sample I.D.: MW-13 Laboratory: NET

Analyzed for:

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

Analyzed for:

Shipping Notations:

Additional Notations:

**ATTACHMENT B**

**REMEDIAL SYSTEM CERTIFIED ANALYTICAL REPORTS  
AND CHAIN-OF-CUSTODY DOCUMENTATION**



# Sequoia Analytical

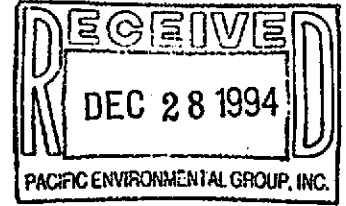
680 Chesapeake Drive  
1900 Bates Avenue, Suite L  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
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(510) 686-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 686-9689  
FAX (916) 921-0100

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden



Project: 305-079.5B/Oakland

Enclosed are the results from samples received at Sequoia Analytical on December 14, 1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
941285201	AIR, Effl	12/13/94	TPHGB Purgeable TPH/BTEX
941285202	AIR, Infl	12/13/94	TPHGB 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

Eileen A. Manning  
Project Manager





Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5B/Oakland  
Sample Descript: Effl  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9412852-01

Sampled: 12/13/94  
Received: 12/14/94  
Analyzed: 12/14/94  
Reported: 12/27/94

Attention: Maree Doden

QC Batch Number: GC121494BTEX17A  
Instrument ID: GCHP17

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	0.14
Xylenes (Total)	0.10	0.59
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	87

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

**SEQUOIA ANALYTICAL - ELAP #1210**

Eileen Manning  
Project Manager



Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5B/Oakland  
Sample Descript: Infl  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9412852-02

Sampled: 12/13/94  
Received: 12/14/94  
Analyzed: 12/15/94  
Reported: 12/27/94

Attention: Maree Doden

QC Batch Number: GC121594BTEX02A  
Instrument ID: GCHP2

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	91

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

**SEQUOIA ANALYTICAL - ELAP #1210**

Eileen Manning  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
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FAX (916) 921-0100

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Client Project ID: 305-079.5B/Oakland

Work Order #: 9412852 01

Reported: Dec 27, 1994

COC #:

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC121494BTEX17A	GC121494BTEX17A	GC121494BTEX17A	GC121494BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	941216302	941216302	941216302	941216302
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	12/14/94	12/14/94	12/14/94	12/14/94
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.7	9.6	9.3	28
MS % Recovery:	97	96	93	93
Dup. Result:	9.4	9.1	9.0	27
MSD % Recov.:	94	91	90	90
RPD:	3.1	5.3	3.3	3.6
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

**Please Note:**

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

SEQUOIA ANALYTICAL

Eileen A. Manning  
Project Manager

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

9412852.PPP <1>



# Sequoia Analytical

680 Chesapeake Drive  
1900 Bates Avenue, Suite L  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Concord, CA 94520  
Sacramento, CA 95834

(415) 364-9600  
(510) 686-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 686-9689  
FAX (916) 921-0100

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Client Project ID: 305-079.5B/Oakland

Work Order #: 9412852 02

Reported: Dec 27, 1994

COC #:

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC121594BTEX02A	GC121594BTEX02A	GC121594BTEX02A	GC121594BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	941266102	941266102	941266102	941266102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	12/15/94	12/15/94	12/15/94	12/15/94
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	31
MS % Recovery:	100	100	100	103
Dup. Result:	9.5	9.6	9.7	29
MSD % Recov.:	95	96	97	97
RPD:	5.1	4.1	3.0	6.7
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

**Please Note:**

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

SEQUOIA ANALYTICAL

Eileen A. Manning  
Project Manager

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

9412852.PPP <2>

**SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG**

CLIENT NAME: PEA Shell 305.079.9B  
 REC. BY (PRINT): JB

WORKORDER: 9412852  
 DATE OF LOG-IN: 12/14/99

- CIRCLE THE APPROPRIATE RESPONSE
- 1. Custody Seal(s) Present / Absent  Intact / Broken\*
  - 2. Custody Seal Nos.: Put in Remarks Section
  - 3. Chain-of-Custody Records: Present / Absent\*
  - 4. Traffic Reports or Packing List: Present / Absent
  - 5. Airbill: Airbill / Sticker Present / Absent
  - 6. Airbill No.:
  - 7. Sample Tags: Present / Absent\*  Sample Tag Nos.: Listed / Not Listed on Chain-of-Custody
  - 8. Sample Condition: Intact / Broken\* / Leaking\*
  - 9. Does information on on custody reports, traffic reports and sample tags agree? Yes / No\*
  - 10. Proper preservatives used: Yes / No\*
  - 11. Date Rec. at Lab: 12-14-99
  - 12. Temp. Rec. at Lab: cool
  - 13. Time Rec. at Lab: 10:25

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1	A	EFF1	redlar	AIR	12-13	ALMOST FLAT
2	A	INE1	+	+	+	
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\* If Circled, contact Project manager and attach record of resolution



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

**CHAIN OF CUSTODY RECORD**  
 Serial No: 720411-H1

Date: 4/12/95  
 Page 1 of 2

Site Address: 285 Hegenberger Road, Oakland

WICI: 204-5508-5504

Shell Engineer: Dan Kirk Phone No.: (510) 675-6168  
 Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc.  
985 Timothy Drive San Jose, CA 95133

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

Comments:

Sampled by: TNH

Printed Name: TROY N. HORNER

**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	<u>Oil &amp; Grease</u>	Asbestos	Container Size	Preparation Used	Composite Y/N
-------------------------	----------------------------	---------------------	------------------------------	-------------------	----------------------------------	-------------------------	----------	----------------	------------------	---------------

LAB: SEQ

CHECK ONE (X) FOR ONLY	CI/DT	TURN AROUND TIME
Quality Monitoring <input checked="" type="checkbox"/> 8441		24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 8443		48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/> 8442		15 days <input checked="" type="checkbox"/> (Memo)
Water Classify/Disposal <input type="checkbox"/> 8443		Other <input type="checkbox"/>
Soil/Air Rem. at Site, O & M <input type="checkbox"/> 8443		
Water Rem. at Site, O & M <input type="checkbox"/> 8443		
Other <input type="checkbox"/>		

NOTE: Notify Lab as soon as possible at 24/7 hrs. T-1

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	<u>Oil &amp; Grease</u>	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS	
MW-1	4/11			X		7	X	X	X	X	X	X	X							
MW-2	4/11			X		7	X	X	X	X	X	X	X							
MW-3	4/11			X		7	X	X	X	X	X	X	X							
MW-4	4/11			X		7	X	X	X	X	X	X	X							
MW-5	4/11			X		7	X	X	X	X	X	X	X							
MW-6	4/11			X		7	X	X	X	X	X	X	X							
MW-7	4/12			X		7	X	X	X	X	X	X	X							
MW-8	4/11			X		7	X	X	X	X	X	X	X							

Relinquished by (signature): [Signature]

Printed Name: TROY N. HORNER

Date: 4/12/95

Received (signature): [Signature]

Printed Name: William [unclear] Jr

Date: 4/12/95

Relinquished by (signature):

Printed Name:

Date:

Received (signature):

Printed Name:

Date:

Relinquished by (signature):

Printed Name:

Date:

Received (signature):

Printed Name:

Date:

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

PAGE 1/2  
 408 293 8773  
 BLAINE TECH SERVICES  
 APR 24 '95 (MON) 08:39



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

**CHAIN OF CUSTODY RECORD**

Serial No: 750411-HI

Date: 4/12/95

Page 2 of 2

Site Address: 285 Hegenberger Road, Oakland

WIC#: 204-5508-5504

Shell Engineer: Dan Kirk Phone No.: (510) 675-6168  
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc.  
985 Timothy Drive San Jose, CA 95133

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

Comments:

Sampled by: TNH

Printed Name: TROY N. HORNER

**Analysis Required**

LAB: SFR

CHECK ONE (1) BOX ONLY	CT/HR	TURN AROUND TIME
Quadrupole Mass Spec	<input checked="" type="checkbox"/> 441	24 hours <input type="checkbox"/>
Site Investigation	<input type="checkbox"/> 441	48 hours <input type="checkbox"/>
Soil Cleanly/Disposal	<input type="checkbox"/> 442	16 days <input checked="" type="checkbox"/> <u>Blaine</u>
Water Cleanly/Disposal	<input type="checkbox"/> 443	Other <input type="checkbox"/>
Soil/Air Elem. or Sys. O & M	<input type="checkbox"/> 442	
Water Elem. or Sys. O & M	<input type="checkbox"/> 443	
Other	<input type="checkbox"/>	

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

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Direct)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	<u>OIL &amp; GREASE</u>	Asbestos	Container Size	Preparation Used	Composite Y/N
-------------------------	----------------------------	---------------------	------------------------------	-------------------	----------------------------------	-------------------------	----------	----------------	------------------	---------------

Sample ID	Date	Sludge	Soil	Water	Air	No. of Conts.	Analysis Required										MATERIAL DESCRIPTION	SAMPLE CONDITION/COMMENTS
							TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Direct)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	<u>OIL &amp; GREASE</u>	Asbestos	Container Size	Preparation Used		
MW-9	4/12			X		7	X	X			X	X						
MW-10	4/11			X		7	X	X			X	X						
MW-11	4/11			X		7	X	X			X	X						
MW-12	4/11			X		7	X	X			X	X						
MW-13	4/11			X		7	X	X			X	X						
DUP	4/12			X		7	X	X			X	X						
ED	4/11			X		7	X	X			X	X						
TB	4/11			X		2	X	X			X	X						

Relinquished By (signature): <u>Troy N. Horner</u>	Printed Name: <u>TROY N. HORNER</u>	Date: <u>4/12/95</u>	Time: <u>1400</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>[Name]</u>	Date: <u>4/12/95</u>	Time: <u>1410</u>
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:

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

PAGE 2/2

408 293 8773

BLAINE TECH SERVICES

APR 24 '95 (MON) 08:40



**SHELL OIL COMPANY 305-079,58**  
**RETAIL ENVIRONMENTAL ENGINEERING - WEST**

**CHAIN OF CUSTODY RECORD**

Serial No: \_\_\_\_\_

Date: 12-13-94

Page 1 of 1

Address: 285 Hagenberger RD  
 Oakland CA

Phone: 204-7620-1502

Responsible Engineer: Dan Kirk  
 Phone No.: 510 675 6168  
 Fax #: 675 6172

Consultant Name & Address: 2025 Gateway Place  
 Pacific Environmental Group Suite 440 S.J.

Consultant Contact: Justin Hawkins  
 Phone No.: 441-7300  
 Fax #: 441-9102

Comments:

Completed by: *PJP*

Printed Name: Paul Priebe

**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	Asbestos	Container Size	Preparation Used	Composite Y/N

LAB: Sequoia

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

UST AGENCY:

Sample ID	Date	Sludge	Soil	Water	Air	No. of confs.	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
EFFL	12-13-94				X	1						X		1L	N	N	UST/soil	-01
INFL	12-13-94				X	↓						X		↓	↓	↓	Vapor/Gas	-02

Relinquished By (Signature): <i>[Signature]</i>	Printed Name: Paul Priebe	Date: 12-14-94 Time: 7:00	Received (Signature): <i>[Signature]</i>	Printed Name: M Dodden	Date: 12/14/94 Time: 9:00
Relinquished By (Signature): <i>[Signature]</i>	Printed Name: M Dodden	Date: 12/14/94 Time: 2:45	Received (Signature): <i>[Signature]</i>	Printed Name: W. Jones	Date: 12-14-94 Time: 2:45
Relinquished By (Signature): <i>[Signature]</i>	Printed Name: W. Jones	Date: 12-14-94 Time: 4:25	Received (Signature): <i>[Signature]</i>	Printed Name: O'Connell	Date: 12-14-94 Time: 6:25





# Sequoia Analytical

680 Chesapeake Drive  
1900 Bates Avenue, Suite L  
819 Striker Avenue, Suite 8

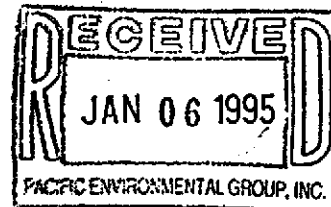
Redwood City, CA 94063  
Concord, CA 94520  
Sacramento, CA 95834

(415) 364-9600  
(510) 686-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 686-9689  
FAX (916) 921-0100

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Project: 305-079.5B/Oakland



Enclosed are the results from samples received at Sequoia Analytical on December 28, 1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9412G1101	AIR, Infl	12/27/94	TPHGB Purgeable TPH/BTEX
9412G1102	AIR, Effl	12/27/94	TPHGB 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

  
Eileen A. Manning  
Project Manager



Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5B/Oakland  
Sample Descript: Infl  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9412G11-01

Sampled: 12/27/94  
Received: 12/28/94  
Analyzed: 12/28/94  
Reported: 01/04/95

Attention: Maree Doden

QC Batch Number: GC122894BTEX03A

Instrument ID: GCHP3

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	33
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	0.10
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	115

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

**SEQUOIA ANALYTICAL - ELAP #1210**

Eileen Manning  
Project Manager



Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5B/Oakland  
Sample Descript: Effl  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9412G11-02

Sampled: 12/27/94  
Received: 12/28/94  
Analyzed: 12/28/94  
Reported: 01/04/95

Attention: Maree Doden

QC Batch Number: GC122894BTEX20A  
Instrument ID: GCHP20

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	0.20
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	113

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

**SEQUOIA ANALYTICAL - ELAP #1210**

Eileen Manning  
Project Manager



Pacific Environmental Group Client Project ID: 305-079.5B/Oakland  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden Work Order #: 9412G11 01 Reported: Jan 4, 1995

COC #:

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC122894BTEX03A	GC122894BTEX03A	GC122894BTEX03A	GC122894BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	941297403	941297403	941297403	941297403
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	12/28/95	12/28/95	12/28/95	12/28/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	11	11	32
MS % Recovery:	100	110	110	107
Dup. Result:	10	10	10	31
MSD % Recov.:	100	100	100	103
RPD:	0.0	9.5	9.5	3.2
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD	71-133	72-128	72-130	71-120
LCS				
Control Limits				

**Please Note:**

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

SEQUOIA ANALYTICAL

Eileen A. Manning  
Project Manager

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

9412G11.PPP <1>



Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Client Project ID: 305-079.5B/Oakland

Work Order #: 9412G11 02

Reported: Jan 4, 1995

COC #:

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC122894BTEX20A	GC122894BTEX20A	GC122894BTEX20A	GC122894BTEX20A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	941297403	941297403	941297403	941297403
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	12/28/95	12/28/95	12/28/95	12/28/95
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L

Result:	9.9	9.9	10	30
MS % Recovery:	99	99	100	100

Dup. Result:	10	10	10	31
MSD % Recov.:	100	100	100	103

RPD:	1.0	1.0	0.0	3.3
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

**Please Note:**

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

SEQUOIA ANALYTICAL

Eileen A. Manning  
Project Manager

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

9412G11.PPP <2>





Site Address: 285 Hegenberger Rd,  
Oakland

Analysis Required

LAB: SEQUOIA

WIC#: 204-7620-1502

Shell Engineer: DAN Kirk  
Phone No.: 475-6144  
Fax #: 475-6172

Consultant Name & Address: 2025 Gateway Place  
Pacific Environmental Group Suite 440 S.J.

Consultant Contact: JUSTIN HAWKINS  
Phone No.: 441-7500  
Fax #: 441-9102

Comments:

Sampled by: *[Signature]*

Printed Name: JOE VOJVODA 9412411

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
JWFL	12/27/94				X	1						X		1L	N	N	UST/soil	01 A
EFPL	12/27/94				X	1						X		2L	2L	+	VAPOR/gas	02A 12/27

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4481	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 checked="" type="checkbox"/>	4452	NOTE: Notify Lab as soon as possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

UST AGENCY: \_\_\_\_\_

Relinquished By (signature): <i>[Signature]</i>	Printed Name: JOE VOJVODA	Date: 12-27-94	Time: 2:00	Received (signature): <i>[Signature]</i>	Printed Name: M DODER	Date: 12/27/94	Time: 07:50
Relinquished By (signature): <i>[Signature]</i>	Printed Name: M DODER	Date: 12/27/94	Time: 07:50	Received (signature): <i>[Signature]</i>	Printed Name: W JONES	Date: 12/27/94	Time: 10:53
Relinquished By (signature): <i>[Signature]</i>	Printed Name: W JONES	Date: 12-27	Time: 12:00	Received (signature): <i>[Signature]</i>	Printed Name: David Williams	Date: 12/28/94	Time: 12:12

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



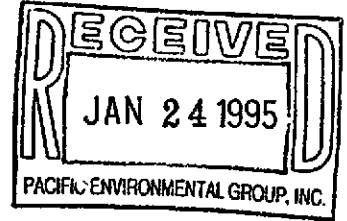
# Sequoia Analytical

680 Chesapeake Drive  
1900 Bates Avenue, Suite L  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Concord, CA 94520  
Sacramento, CA 95834

(415) 364-9600  
(510) 686-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 686-9689  
FAX (916) 921-0100



Pacific Environmental Group  
1025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Project: 305-079.5B/Oakland

Enclosed are the results from samples received at Sequoia Analytical on January 11, 1995.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
501486 -01	AIR, Effl	01/10/95	TPHGBA Purgeable TPH/BTEX
501486 -02	AIR, Infl	01/10/95	TPHGBA 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

Eileen Manning  
Project Manager





Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5B/Oakland  
Sample Descript: Effi  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9501486-01

Sampled: 01/10/95  
Received: 01/11/95  
Analyzed: 01/11/95  
Reported: 01/19/95

Attention: Maree Doden

QC Batch Number: GC011195BTEX03A  
Instrument ID: GCHP03

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	108

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

**SEQUOIA ANALYTICAL - ELAP #1210**

Eileen Manning  
Project Manager



Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5B/Oakland  
Sample Descript: Infl  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9501486-02

Sampled: 01/10/95  
Received: 01/11/95  
Analyzed: 01/11/95  
Reported: 01/19/95

Attention: Maree Doden

QC Batch Number: GC011195BTEX03A  
Instrument ID: GCHP03

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	110

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Eileen Manning  
Project Manager



Pacific Environmental Group Client Project ID: 305-079.5B/Oakland  
 2025 Gateway Place, Suite 440  
 San Jose, CA 95110  
 Attention: Maree Doden Work Order #: 9501486 01, 02 Reported: Jan 20, 1995

COC #:

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC011195BTEX03A	GC011195BTEX03A	GC011195BTEX03A	GC011195BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	941213601	941213601	941213601	941213601
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	1/11/95	1/11/95	1/11/95	1/11/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	31
MS % Recovery:	100	100	100	103
Dup. Result:	9.7	9.6	9.7	29
MSD % Recov.:	97	96	97	97
RPD:	3.0	4.1	3.0	6.7
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
 Analyzed Date:  
 Instrument I.D.#:  
 Conc. Spiked:

LCS Result:  
 LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
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**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**  
  
 Eileen A. Manning  
 Project Manager

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

9501486.PPP <1>

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: Reg Shell 305.079.5B  
 REC. BY (PRINT): ST

WORKORDER: 9501486  
 DATE OF LOG-IN: 1.11.95

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1. Custody Seal(s)	Present / Absent Intact / Broken*	1	A	EFFI	regular	air	1.10	
2. Custody Seal Nos.:	Put in Remarks Section	2	A	INFI	↓	↓	↓	
3. Chain-of-Custody Records:	Present / Absent*							
4. Traffic Reports or Packing List:	Present / Absent							
5. Airbill:	Airbill / Sticker Present / Absent							
6. Airbill No.:								
7. Sample Tags:	Present / Absent*							
Sample Tag Nos.:	Listed / Not Listed on Chain-of-Custody							
8. Sample Condition:	Intact / Broken* / Leaking*							
9. Does information on on-custody reports, traffic reports and sample tags agree?	Yes / No*							
10. Proper preservatives used:	Yes / No*							
11. Date Rec. at Lab:	<u>1.11.95</u>							
12. Temp. Rec. at Lab:	<u>COOL</u>							
13. Time Rec. at Lab:	<u>1225</u>							

\* If Circled, contact Project manager and attach record of resolution



# Sequoia Analytical

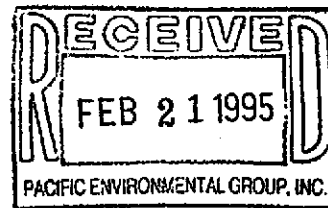
680 Chesapeake Drive  
1900 Bates Avenue, Suite L  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Concord, CA 94520  
Sacramento, CA 95834

(415) 364-9600  
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(916) 921-9600

FAX (415) 364-9233  
FAX (510) 686-9689  
FAX (916) 921-0100

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden



Project: 305-079.5D/Oakland

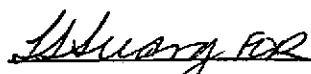
Enclosed are the results from samples received at Sequoia Analytical on February 10, 1995.  
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9502620 -01	AIR, Effl	02/09/95	TPHGBA Purgeable TPH/BTEX
9502620 -02	AIR, Infi	02/09/95	TPHGBA 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**

  
Eileen Manning  
Project Manager





Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5D/Oakland  
Sample Descript: Effl  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9502620-01

Sampled: 02/09/95  
Received: 02/10/95  
Analyzed: 02/10/95  
Reported: 02/17/95

Attention: Maree Doden

QC Batch Number: GC021095BTEX03A  
Instrument ID: GCHP3

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	97

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*Eileen Manning*  
Eileen Manning  
Project Manager





Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 305-079.5D/Oakland  
Sample Descript: Infil  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9502620-02

Sampled: 02/09/95  
Received: 02/10/95  
Analyzed: 02/10/95  
Reported: 02/17/95

GC Batch Number: GC021095BTEX20A  
Instrument ID: GCHP20

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	89

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Eileen Manning  
Project Manager





**Sequoia  
Analytical**

680 Chesapeake Drive  
1900 Bates Avenue, Suite L  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Concord, CA 94520  
Sacramento, CA 95834

(415) 364-9600  
(510) 686-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 686-9689  
FAX (916) 921-0100

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Client Proj. ID: 305-079.5D/Oakland

Received: 02/10/95

Lab Proj. ID: 9502620

Reported: 02/17/95

## LABORATORY NARRATIVE

SEQUOIA ANALYTICAL

*Aileen Manning*

Aileen Manning  
Project Manager







Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Client Project ID: 305-079.5D/Oakland

Work Order #: 9502620 01

Reported: Feb 17, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC021095BTEX03A	GC021095BTEX03A	GC021095BTEX03A	GC021095BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J.Minkel	J.Minkel	J.Minkel	J.Minkel
MS/MSD #:	9501H8901	9501H8901	9501H8901	9501H8901
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/10/95	2/10/95	2/10/95	2/10/95
Analyzed Date:	2/10/95	2/10/95	2/10/95	2/10/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	8.5	8.4	8.6	26
MS % Recovery:	85	84	86	87
Dup. Result:	8.9	8.7	8.8	26
MSD % Recov.:	89	87	88	87
RPD:	4.6	3.5	2.3	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
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**Please Note:**

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

SEQUOIA ANALYTICAL

*Eileen A. Manning*  
Eileen A. Manning  
Project Manager

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

9502620.PPP <1>





Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Maree Doden

Client Project ID: 305-079.5D/Oakland

Work Order #: 9502620 02

Reported: Feb 17, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC021095BTEX20A	GC021095BTEX20A	GC021095BTEX20A	GC021095BTEX20A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J.Minkel	J.Minkel	J.Minkel	J.Minkel
MS/MSD #:	9501H8901	9501H8901	9501H8901	9501H8901
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/10/95	2/10/95	2/10/95	2/10/95
Analyzed Date:	2/10/95	2/10/95	2/10/95	2/10/95
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	8.9	8.9	8.8	27
MS % Recovery:	89	89	88	90
Dup. Result:	10	10	10	30
MSD % Recov.:	100	100	100	100
RPD:	12	12	13	11
RPD Limit:	0-50	0-50	0-50	0-50

**LCS #:**

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
---------------------------------	--------	--------	--------	--------

**Please Note:**

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

**SEQUOIA ANALYTICAL**

*Eileen A. Manning*  
Eileen A. Manning  
Project Manager

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

9502620.PPP <2>



SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG  
 REC. BY (PRINT): DL

WORKORDER: 9502620  
 DATE OF LOG-IN: 2/10/95

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1. Custody Seal(s)	Present / <u>Absent</u> Intact / Broken*	01	A	EFFI	Tedlar	Air	2/9	
2. Custody Seal Nos.:	Put In Remarks Section	02	b	Incl	b	b	b	
3. Chain-of-Custody Records:	<u>Present</u> / Absent*							
4. Traffic Reports or Packing List:	Present / <u>Absent</u>							
5. Airbill:	Airbill / Sticker Present / <u>Absent</u>							
6. Airbill No.:								
7. Sample Tags:	<u>Present</u> / Absent*							
Sample Tag Nos.:	<u>Listed</u> / Not Listed on Chain-of-Custody							
8. Sample Condition:	<u>Intact</u> / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample tags agree?	<u>Yes</u> / No*							
10. Proper preservatives used:	<u>Yes</u> / No*							
11. Date Rec. at Lab:	<u>2/10/95</u>							
12. Temp. Rec. at Lab:								
13. Time Rec. at Lab:	<u>1230</u>							

\* If Circled, contact Project manager and attach record of resolution



Site Address:

285 Hegenberger Rd Oakland CA

WIC#:

204-5508-5504

Shell Engineer:

Dan Kirk

Phone No.: ↓

510 675 6168

Fax #: 675 6172

Consultant Name & Address: 2025 Gateway Place  
 Pacific Environmental Group Suite 440 S.J.

Consultant Contact:

Justin Hawkins

Phone No.: 441-

(408) 7500

Fax #: 441-9102

Comments:

Sampled by:

*[Signature]*

Printed Name:

Paul Priebe

**Analysis Required**

LAB: Sequoia

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

9502620

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
G.W. Monitoring <input 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	16 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 checked="" type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

UST AGENCY: \_\_\_\_\_

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS	
EFFL.	1-9-95				X	1						X			IL	N	N	UST Soil	-01
INFL	↓				↓	↓						↓		↓	↓	↓		Vapor Gas	-02

Relinquished By (signature):  
*[Signature]*  
 Relinquished By (signature):  
*[Signature]*  
 Relinquished By (signature):  
*[Signature]*

Printed Name: Paul Priebe  
 Printed Name: M Duden  
 Printed Name:

Date: 1/9/95  
 Time: 10:30  
 Date: 2/10/95  
 Time: 11:10  
 Date: 2/10/95  
 Time: 12:30

Received (signature):  
*[Signature]*  
 Received (signature):  
*[Signature]*  
 Received (signature):  
*[Signature]*

Printed Name: M Duden  
 Printed Name: Fletcher  
 Printed Name: D J Lawrence  
 Date: 2/10/95  
 Time: 10:30  
 Date: 2/10/95  
 Time: 11:10  
 Date: 2/10/95  
 Time: 12:30