

PACIFIC
ENVIRONMENTAL
GROUP, INC.

*2/9/95 - 5/31/95
SVE system shut down.*

June 20, 1995
Project 305-079.2E

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

95 JUN 22 10 12 AM
ENVIRONMENTAL
PROTECTION
AGENCY

Re: Quarterly Report - Second 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 second quarter monitoring program and status of remediation from February 9, 1995 through May 31, 1995 for the site referenced above. This letter has been prepared for Shell Oil Products 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)	
	02/09/95 - 05/31/95	Cumulative
<u>Soil Vapor Extraction</u>		
TPH-g	0.00*	707.05
Benzene	0.00*	6.88
TPH-g = Total petroleum hydrocarbons calculated as gasoline		
* = System not operated during current reporting period.		

QUARTERLY MONITORING FINDINGS

Groundwater monitoring wells were gauged on April 11, 1995 and sampled on April 11 and 12, 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.

All groundwater samples 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 April 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 was shut down on February 9, 1995 due to high groundwater levels and low influent concentrations. The SVE system did not operate during the current reporting period.

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.

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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.

SVE Well Vapor Composition

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

SVE Influence

SVE system influence was not measured during the reporting period.

Dissolved Petroleum Hydrocarbon Concentration Trends

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

Discussion

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



June 20, 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

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
(without attachments)
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	
04/11/95	2.38	7.12		
MW-2	02/16/89	7.68	5.33	2.35
	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		

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.)	07/20/93	10.55	5.17	5.38
	10/18/93		6.20	4.35
	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
	04/11/95		3.72	6.83
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		
04/11/95	4.22 (TOB)	7.03		
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

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.)	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
	07/28/92		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	10.28	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
04/11/95		5.04	5.24	
MW-5	05/23/89	8.18	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	10.87	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	
04/11/95		3.74	7.13	

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	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	
	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			
04/11/95	4.04	7.00			
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		

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-7 (cont.)	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
	04/11/95		3.52	6.76
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
	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	
04/11/95		4.12	6.49	
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	

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-9 (cont.)	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
	04/11/95		4.08	6.40
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
	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
	04/11/95		5.82	4.79
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

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-11 (cont.)	10/25/94		8.67	1.89
	01/09/95		7.63	2.93
	04/11/95		8.06	2.50
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
	04/11/95		7.38	2.18
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
	04/11/95		5.50	4.60
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 ^a	NA
	05/05/92	71	16	6	3.1	14	10 ^a	NA
	07/28/92	68	21	5.5	3.4	15	18 ^a	ND
	07/28/92(D)	70	17	5	2.7	13	19 ^a	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 ^a	NA
	01/15/93	84	17	5.4	3	13	22 ^a	ND
	04/23/93	100	18	7.8	4.7	20	23 ^a	ND
	07/20/93	41 ^d	12	0.87	1.5	4.4	3.1 ^a	NA
	10/18/93	33	14	1.2	2	4.9	8.1 ^a	0.96
	10/18/93(D)	44	14	1.2	2	4.9	3.7 ^a	0.67
	01/06/94	71	9	0.87	1.6	5.1	9 ^a	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 ^a	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 ^a	ND
	04/11/95	26	4.7	0.27	1.8	3.4	5.5	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 ^a	NA
	05/05/92	21 ^b	ND	ND	0.3	0.96	1	NA
	07/28/92	2.1	0.0077	0.0033	0.13	0.31	0.83 ^a	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 ^b	NA
	04/23/93	2.4	ND	ND	0.21	0.61	1.2 ^a	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 ^a	0.51
	01/06/94	1.9 ^e	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 ^f	0.0053	ND	0.0062	0.0082	0.28 ^a	ND
10/26/94	0.17	ND	ND	ND	ND	0.40	ND	
01/11/95	ND	ND	ND	ND	ND	ND	ND	
04/11/95	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

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.)	12/15/89	5.2	0.38	0.047	0.017	0.41	1.7	NA	
	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 ^a	NA	
	05/04/92	0.31	0.047	ND	0.017	0.016	0.29 ^a	NA	
	07/28/92 **	0.78	0.13	ND	0.013	0.0042	0.1 ^a	0.12	
	10/27/92 **	0.74	0.092	0.0028	0.0078	0.0096	0.069 ^a	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 ^f	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		
04/11/95	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	

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.)	04/09/91	ND	ND	ND	ND	ND	ND	NA
	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 ^a	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 ^{b,p}	ND
04/11/95	ND	0.0015	0.0034	0.0006	0.0034	0.14	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	

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.)	05/05/92	10	1.5	0.35	0.71	2.3	4.1 ^a	NA
	07/28/92	12	2.2	0.063	1.4	3.5	3.8 ^a	1.2
	10/27/92	7.5	1.1	0.059	0.23	0.9	0.48 ^a	NA
	01/15/93	7.7	0.42	0.049	0.57	0.84	1.1 ^c	0.43
	04/23/93	110	2.9	2.5	3.4	12	16 ^a	ND
	07/21/93	18 ^d	1.4	0.084	1.5	3.2	1.2 ^a	NA
	10/18/93	14	2	0.1	2.3	5.1	5.8 ^a	0.86
	01/06/94	81	11	9.3	3.6	12	11 ^a	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 ^a	ND
	10/26/94	2.3	0.035	0.0028	ND	0.0081	1.9 ^a	720
	01/11/95	8.3	1.5	0.095	0.33	1.9	3.7 ^c	ND
	04/11/95	7.3	1.2	0.23	0.6	0.55	9.8	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 ^a	NA
	05/05/92	7.9	0.61	ND	1.5	0.24	2.9 ^a	NA
	07/28/92	17	1.2	ND	3	0.61	3.2 ^a	ND
	10/27/92	15	1.3	0.13	1.7	0.49	1.3 ^a	NA
01/14/93	4.9	0.08	0.031	0.33	0.037	1.6 ^a	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-6 (cont.)	04/23/93	4.8	0.12	ND	0.78	0.073	1.8 ^a	ND
	07/20/93	19 ^d	0.57	0.018	1.1	0.13	0.91 ^a	NA
	10/18/93	24	0.77	0.44	1.6	0.83	2.5 ^a	0.83
	01/06/94	20 ^d	0.45	0.03	0.53	0.052	2.3 ^a	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 ^a *	ND *
	07/25/94(D)	1.0	0.16	ND	ND	0.018	2.4 ^a	ND
	10/26/94	9.8	0.39	0.022	0.3	0.057	3.0 ^a	ND
	01/09/95	2.2 ↑	0.074	0.012	0.4	0.039	0.8 ^a	ND
	04/11/95	5.0	0.33	0.015	0.76	0.085	7.7	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 ^a	NA
	02/06/92	63	16	8.7	1.6	7.4	9.6 ^a	NA
	05/05/92	67	22	13	1.8	9.4	9.8 ^a	NA
	07/28/92	85	26	17	2.9	15	13 ^a	ND
	10/27/92	63	21	11	3	11	1.9 ^a	NA
	01/14/93	120	28	21	1.6	15	2.3 ^a	NA
	04/23/93	60	17	3.7	2.2	11	12 ^a	ND
04/23/93(D)	50	17	4.2	2.2	11	14 ^a	ND	
07/21/93	47	23	9.9	2.2	12	13	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-7	10/18/93	44	22	3.8	2.6	10	10 ^a	1
(cont.)	01/06/94	65	16	4.9	1.9	8.5	5.2 ^a	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 ^a	ND
	10/26/94	46	16	3.7	1.2	7.3	3.8 ^a	ND
	01/11/95	62	24	8.5	1.1	9.4	3.3 ^c	ND
	01/11/95(D)	57	9.5	7.9	0.62	8	3.2 ^c	ND
	04/12/95	53	13.0	4.2	1.5	7.7	7.0	ND
	04/12/95(D)	55	11	3.7	1.3	6.4	7.6	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 ^a	NA
	05/04/92	ND	ND	ND	ND	ND	0.21 ^b	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 ^b	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

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-8 (cont.)	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 ^{b,g}	ND
	04/11/95	ND	0.0006	0.0013	ND	0.0007	0.078	ND
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 ^a	NA
	02/06/92	36	11	0.49	1.1	6.7	6.6 ^a	NA
	05/05/92	31	11	1.7	1.2	8.7	5.8 ^a	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 ^a	NA
	01/15/93	52	9.6	1.1	1.1	7	0.73 ^a	NA
	04/23/93	45	11	1.4	1.5	10	8 ^a	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 ^a	NA
	01/06/94	41	15	0.81	1.4	9	7.7 ^a	NA
	01/06/94(D)	43	15	0.92	1.3	8	8.3 ^a	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 ^a	ND	
10/26/94	31	13	0.24	1	8.5	3.2 ^a	ND	
10/26/94(D)	31	13	0.22	1.1	8.3	3.5 ^a	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-9 (cont.)	01/11/95	4.8	1.2	0.51	0.042	1.4	2.3 ^c	ND	
	04/12/95	20	5.1	0.46	0.4	3.4	3.4	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	
	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 ^a	NA	
	02/06/92	22	12	ND	0.6	0.17	1.6 ^a	NA	
	05/05/92	39	14	5	1.8	5	8 ^a	NA	
	07/28/92	38	17	2.8	1.5	4	8.7 ^a	ND	
	10/27/92	-----Well Inaccessible-----							
	01/14/93	26	10	ND	ND	0.16	0.95 ^c	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 ^a	0.61	
	01/06/94	16	9.7	<0.125	<0.125	0.21	0.67 ^a	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 ^a	ND	
10/26/94	1.4	0.29	0.005	0.0017	0.038	1.0 ^a	ND		
01/11/95	16	7.5	1.4	0.23	1.5	2.3 ^c	ND		
04/11/95	54.0	13.0	4.5	1.5	4.5	5.0	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-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
	04/11/95	ND	ND	0.0007	ND	0.0005	0.14	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
	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 ^b	ND
	04/11/95	ND	ND	ND	ND	ND	0.2	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
04/11/95	ND	ND	ND	ND	ND	0.32	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

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	28.46	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	54.63	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	8.48	155.78	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	85	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	8.90	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	6.26
INFL	06/08/94	5,187.80	40 c	111	1.69	551.71	ND	0.00	6.26
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	09/20/94	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	0.73	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
TOTAL POUNDS TPH-GASOLINE REMOVED:						707.05			
TOTAL GALLONS TPH-GASOLINE REMOVED:						115.91			
TOTAL POUNDS BENZENE REMOVED:						6.88			
TOTAL GALLONS BENZENE REMOVED:						0.94			
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

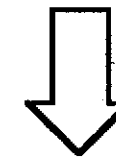
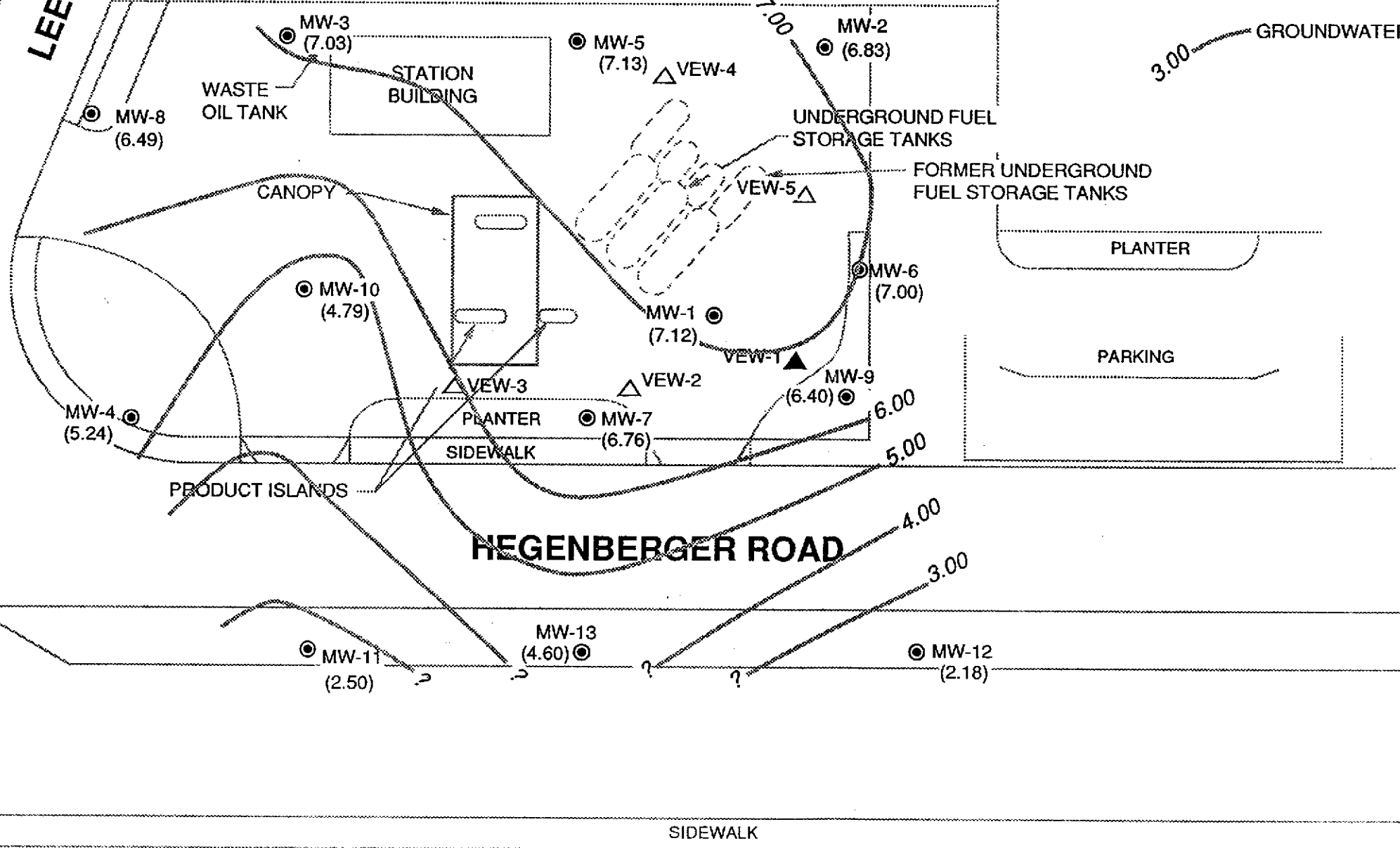
MW-7 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

VEW-1 EXISTING SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION

VEW-4 DUAL COMPLETION AIR SPARGING/SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION

(7.13) GROUNDWATER ELEVATION IN FEET - MSL, 4-11-95

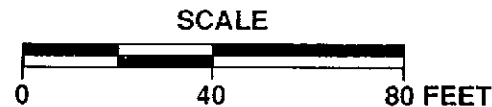
3.00 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 4-11-95



APPROXIMATE DIRECTION OF GROUNDWATER FLOW
APPROXIMATE GRADIENT = 0.05



PACIFIC ENVIRONMENTAL GROUP, INC.



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

GROUNDWATER ELEVATION CONTOUR MAP

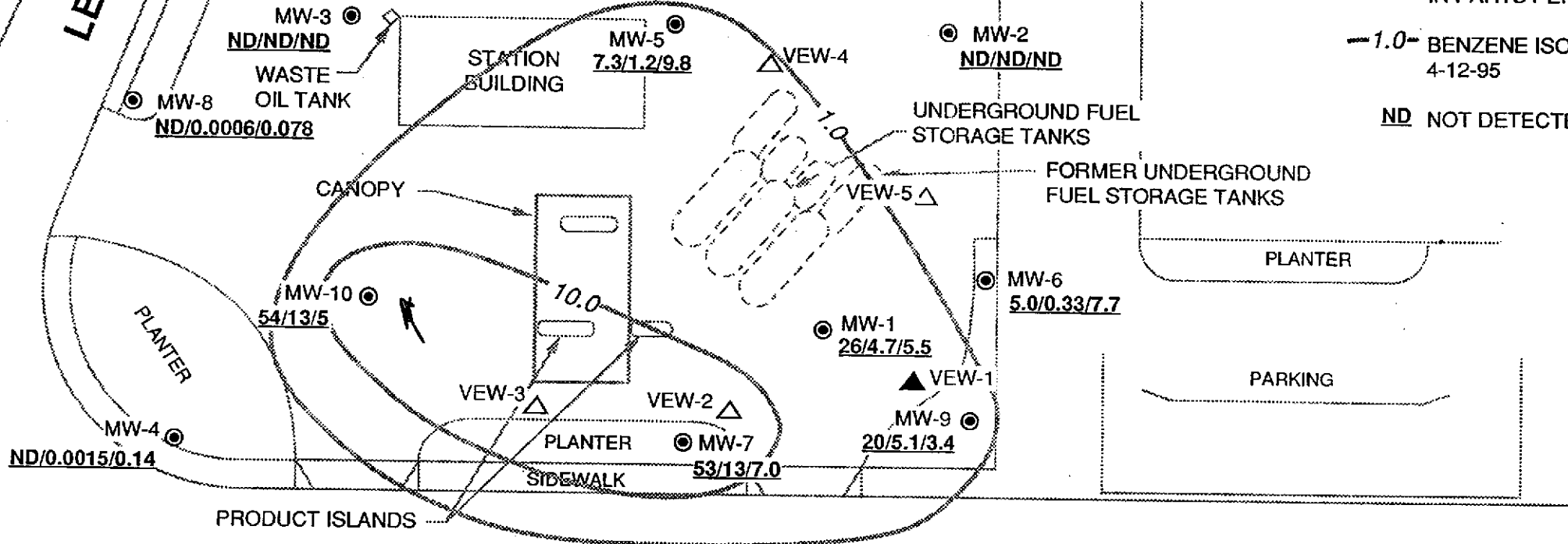
FIGURE: 1
PROJECT: 305-079.2E



CHANNEL

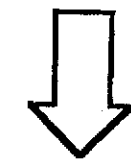
LEET DRIVE

TRUCK STORAGE AREA



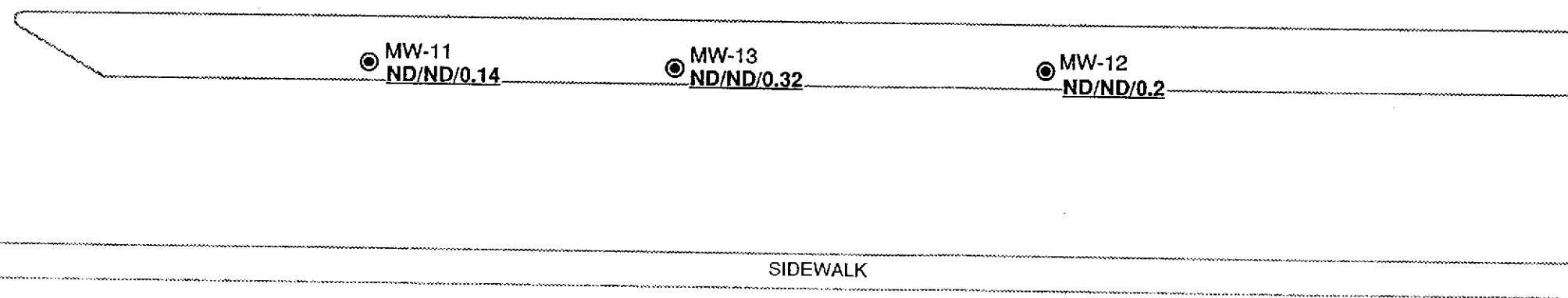
LEGEND

- 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
- 5/0.33/7.7 TPH-g/BENZENE/TPH-d CONCENTRATION IN GROUNDWATER, IN PARTS PER MILLION (ppm), 4-11-95 and 4-12-95
- 1.0- BENZENE ISOCONCENTRATION CONTOUR IN ppm, 4-11-95 and 4-12-95
- ND NOT DETECTED

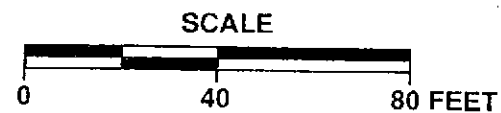


APPROXIMATE DIRECTION OF GROUNDWATER FLOW

HEGENBERGER ROAD



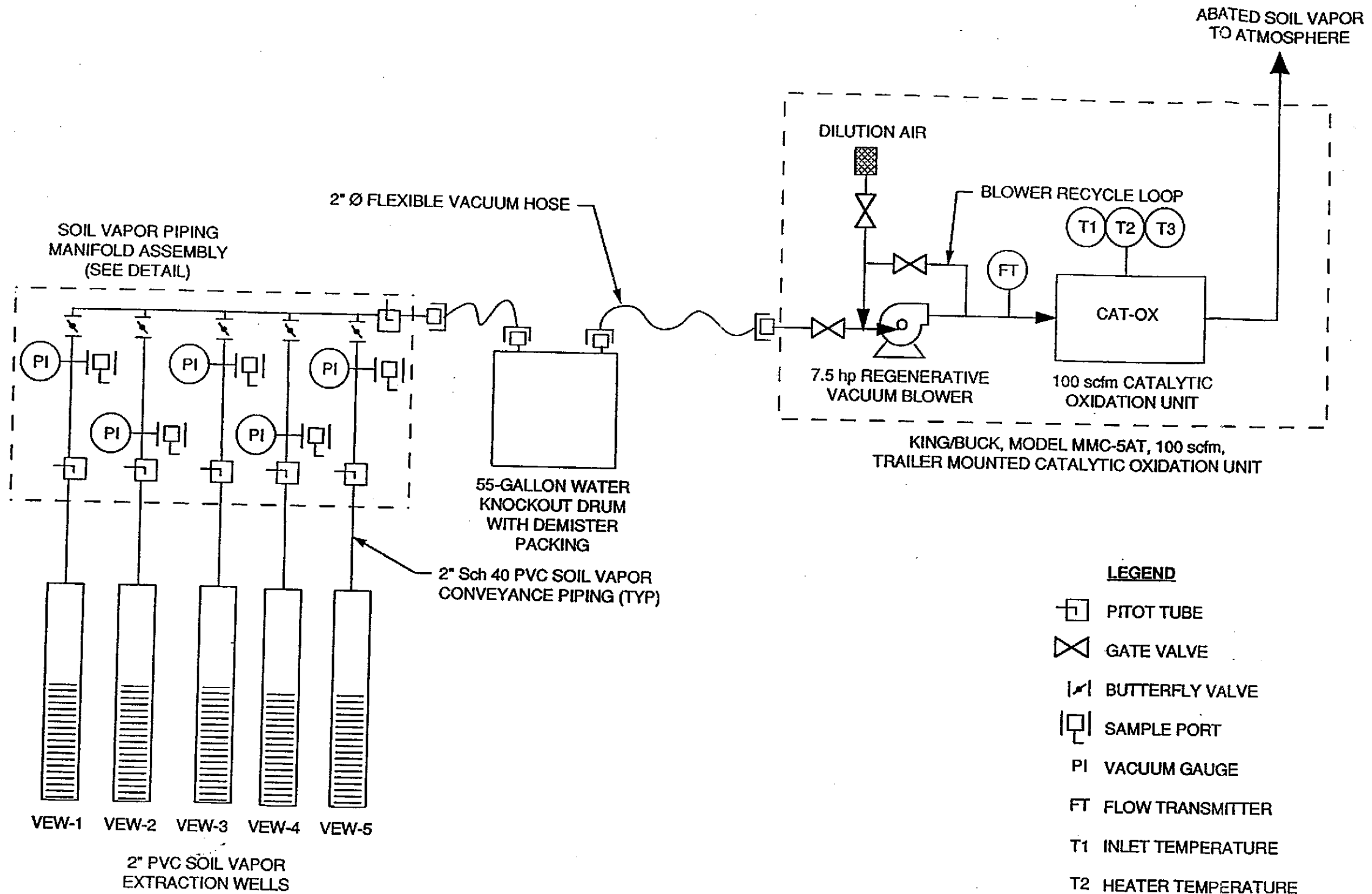
PACIFIC ENVIRONMENTAL GROUP, INC.







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

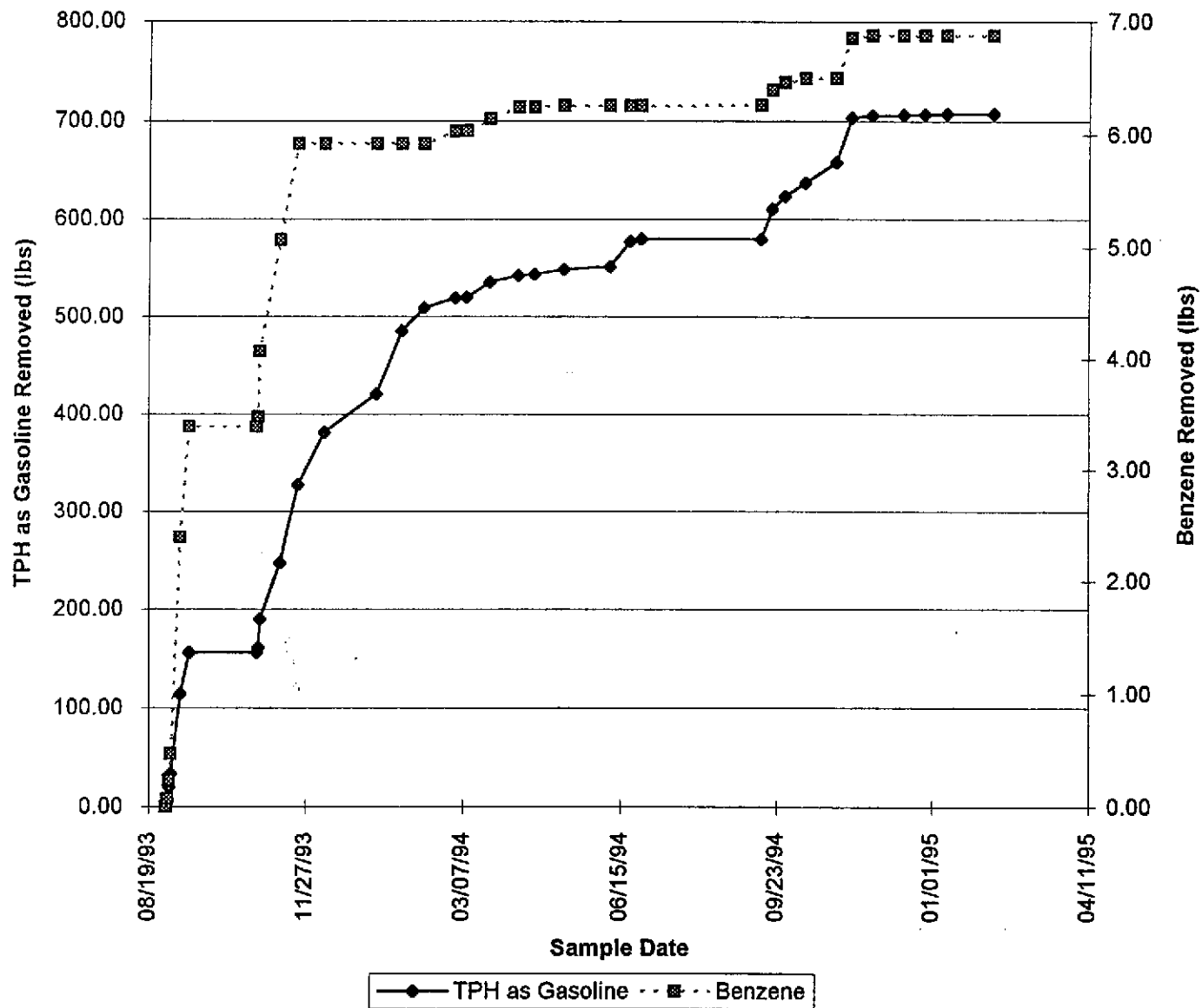
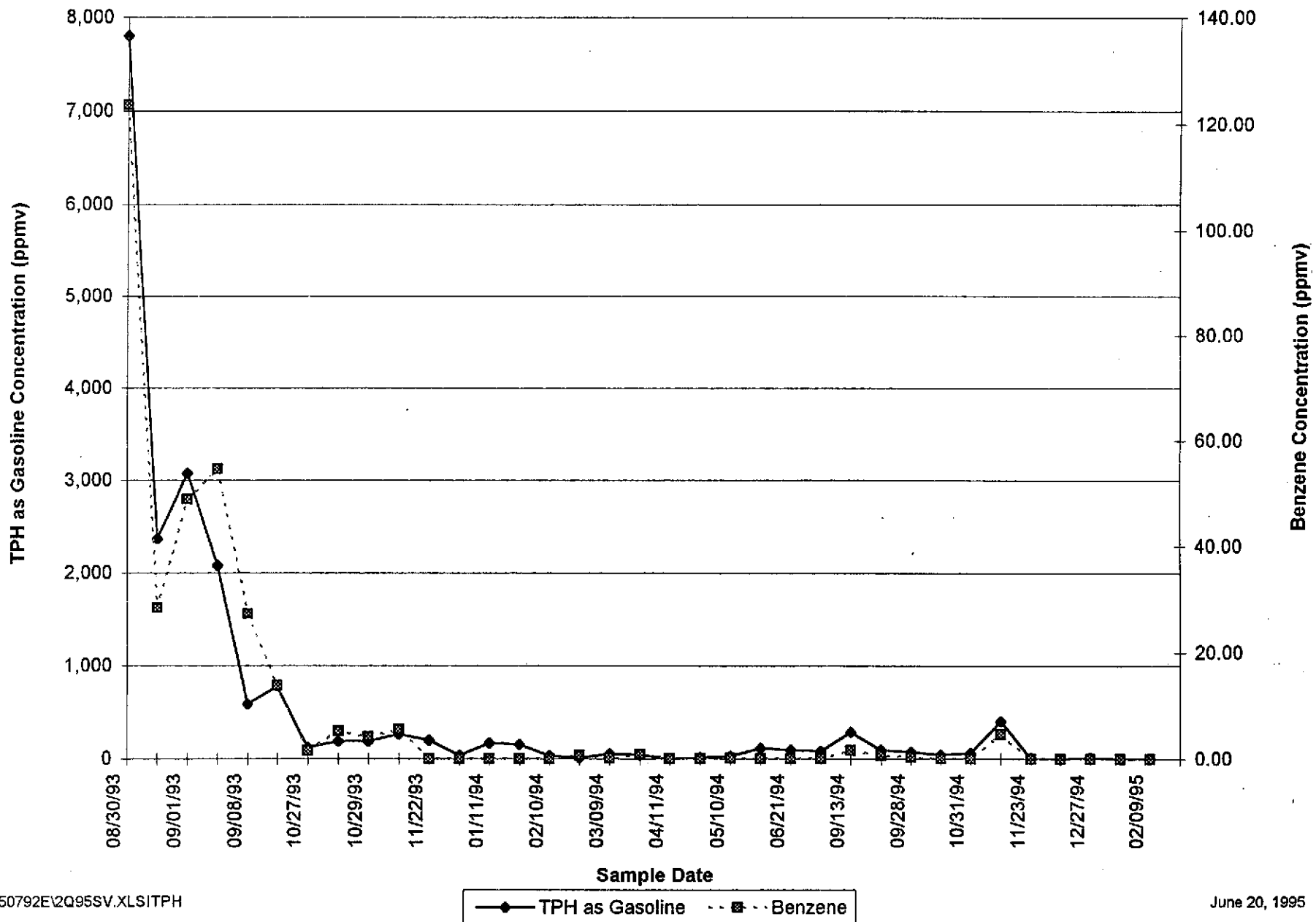
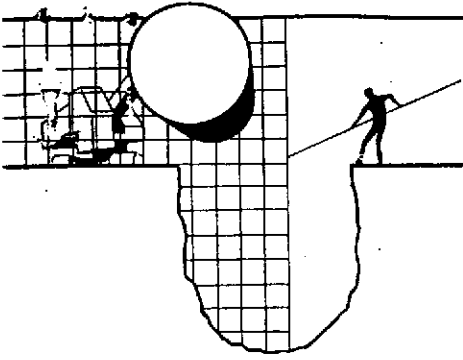


Figure 5
Soil Vapor Extraction System Hydrocarbon Concentrations

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



ATTACHMENT A
GROUNDWATER SAMPLING REPORT



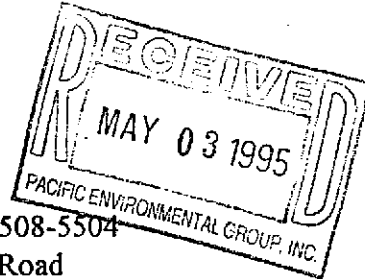
BLAINE TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

May 2, 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:
2nd quarter of 1995

QUARTERLY GROUNDWATER SAMPLING REPORT 950411-H-1

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

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 Snell'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 Sequoia Analytical Laboratory in Redwood City, California. Sequoia Analytical Laboratory is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1210.

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	4/11/95	TOC	--	NONE	--	--	2.38	9.36
MW-2	4/11/95	TOC	--	NONE	--	--	3.72	9.58
MW-3	4/11/95	TOC	--	NONE	--	--	3.58	9.46
MW-4	4/11/95	TOC	--	NONE	--	--	5.04	10.12
MW-5	4/11/95	TOC	--	NONE	--	--	3.74	9.72
MW-6	4/11/95	TOC	--	NONE	--	--	4.04	11.04
MW-7 *	4/11/95	TOC	--	NONE	--	--	3.52	9.96
MW-8	4/11/95	TOC	--	NONE	--	--	4.12	9.60
MW-9	4/11/95	TOC	--	NONE	--	--	4.08	10.74
MW-10	4/11/95	TOC	--	NONE	--	--	5.82	10.04
MW-11	4/11/95	TOC	--	NONE	--	--	8.06	13.88
MW-12	4/11/95	TOC	--	NONE	--	--	7.38	14.36
MW-13	4/11/95	TOC	--	NONE	--	--	5.50	14.52

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



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 950411-11

Date: 4/12/95

Page 1 of 2

Silo 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: TNT

Printed Name: TROY N. HORNER

Analysis Required 9504945

LAB: SEB

9504946

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/>	6441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	6442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	6462	NOTE: Notify lab as soon as possible at 24/48 hrs. IAT.
Water Rem. or Sys. O & M <input type="checkbox"/>	6463	
Other <input type="checkbox"/>		

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 6020	<u>OIL & GREASE</u>	Asbestos	Container Size	Preparation Used	Composite Y/N
MW-1	4/11	1		X		7	X	X			X	X	X				
MW-2	4/11	2		X		7	X	X			X	X	X				
MW-3	4/11	3		X		7	X	X			X	X	X				
MW-4	4/11	4		X		7	X	X			X	X	X				
MW-5	4/11	5		X		7	X	X			X	X	X				
MW-6	4/11	6		X		7	X	X			X	X	X				
MW-7	4/12	7		X		7	X	X			X	X	X				
MW-8	4/11	8		X		7	X	X			X	X	X				

MATERIAL DESCRIPTION	SAMPLE CONDITION/COMMENTS

Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>TROY N. HORNER</u>	Date: <u>4/12/95</u>	Time: <u>6:45</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>[Signature]</u>	Date: <u>4/12/95</u>	Time: <u>4:10</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>William Simons Jr.</u>	Date: <u>4/12/95</u>	Time: <u></u>	Received (signature): <u>[Signature]</u>	Printed Name: <u></u>	Date: <u></u>	Time: <u></u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u></u>	Date: <u></u>	Time: <u></u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>TROY N. HORNER</u>	Date: <u>4/12/95</u>	Time: <u>15:45</u>

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



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 9504945

Date: 4/12/95

Page 2 of 2

Silo Address: 285 Hegenberger Road, Oakland

WICH: 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

Commons:

Sampled by: TNH

Printed Name: TROY N. HORNBER

Analysis Required 9504945

LAB: SEQ

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
Quantity Monitoring <input checked="" type="checkbox"/> 6461		24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 6441		48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/> 6442		16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/> 6443		Other <input type="checkbox"/>
Soil/Air Rem. or Syst. O & M <input type="checkbox"/> 6462		NOTE: Notify Lab as soon as possible of 24/48 hrs. TAT.
Water Rem. or Syst. O & M <input type="checkbox"/> 6463		
Other <input type="checkbox"/>		

Sample ID	Date	Sludge	Soil	Water	Air	No. of cont.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8210)	Test for Disposal	Combination TPH 8015 & BTEX 8020	OIL & GREASE	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-10	4/11	10		X		7	X	X				X	X						
MW-11	4/11	11		X		7	X	X				X	X						
MW-12	4/11	12		X		7	X	X				X	X						
MW-13	4/11	13		X		7	X	X				X	X						
DUP	4/12	14		X		7	X	X				X	X						
EB	4/11	15		X		7	X	X				X	X						
TB	4/11	16		X		2	X	X				X	X						

Relinquished By (Signature): <u>[Signature]</u>	Printed Name: <u>TROY N. HORNBER</u>	Date: <u>4/12/95</u>	Time: <u>14:00</u>	Received (Signature): <u>[Signature]</u>	Printed Name: <u>William C. Thomas Jr</u>	Date: <u>4/13/95</u>	Time: <u>12:10</u>
Relinquished By (Signature): <u>[Signature]</u>	Printed Name: <u>William C. Thomas Jr</u>	Date: <u>4/12/95</u>	Time: <u></u>	Received (Signature): <u>[Signature]</u>	Printed Name: <u></u>	Date: <u></u>	Time: <u></u>
Relinquished By (Signature): <u>[Signature]</u>	Printed Name: <u></u>	Date: <u></u>	Time: <u></u>	Received (Signature): <u>Tony Mc Mahon</u>	Printed Name: <u>TONY Mc MAHON</u>	Date: <u>4/13/95</u>	Time: <u>17:44</u>

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



Sequoia Analytical

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

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

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Project: Shell, Oakland, 950411-H1

Enclosed are the results from samples received at Sequoia Analytical on April 13, 1995.
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9504945 -01	LIQUID, MW-1	04/11/95	TRPH (SM 5520 B&F)
9504945 -01	LIQUID, MW-1	04/11/95	TPHD_W Extractable TPH
9504945 -01	LIQUID, MW-1	04/11/95	TPHGBW Purgeable TPH/BTEX
9504945 -02	LIQUID, MW-2	04/11/95	TRPH (SM 5520 B&F)
9504945 -02	LIQUID, MW-2	04/11/95	TPHD_W Extractable TPH
9504945 -02	LIQUID, MW-2	04/11/95	TPHGBW Purgeable TPH/BTEX
9504945 -03	LIQUID, MW-3	04/11/95	TRPH (SM 5520 B&F)
9504945 -03	LIQUID, MW-3	04/11/95	TPHD_W Extractable TPH
9504945 -03	LIQUID, MW-3	04/11/95	TPHGBW Purgeable TPH/BTEX
9504945 -04	LIQUID, MW-4	04/11/95	TRPH (SM 5520 B&F)
9504945 -04	LIQUID, MW-4	04/11/95	TPHD_W Extractable TPH
9504945 -04	LIQUID, MW-4	04/11/95	TPHGBW Purgeable TPH/BTEX
9504945 -05	LIQUID, MW-5	04/11/95	TRPH (SM 5520 B&F)
9504945 -05	LIQUID, MW-5	04/11/95	TPHD_W Extractable TPH
9504945 -05	LIQUID, MW-5	04/11/95	TPHGBW Purgeable TPH/BTEX
9504945 -06	LIQUID, MW-6	04/11/95	TRPH (SM 5520 B&F)
9504945 -06	LIQUID, MW-6	04/11/95	TPHD_W Extractable TPH
9504945 -06	LIQUID, MW-6	04/11/95	TPHGBW Purgeable TPH/BTEX
9504945 -07	LIQUID, MW-7	04/12/95	TRPH (SM 5520 B&F)
9504945 -07	LIQUID, MW-7	04/12/95	TPHD_W Extractable TPH
9504945 -07	LIQUID, MW-7	04/12/95	TPHGBW Purgeable TPH/BTEX

SEQUOIA ANALYTICAL



Sequoia Analytical

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819 Striker Avenue, Suite 8

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Sacramento, CA 95834

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FAX (916) 921-0100

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9504945 -08	LIQUID, MW-8	04/11/95	TRPH (SM 5520 B&F)
9504945 -08	LIQUID, MW-8	04/11/95	TPHD_W Extractable TPH
9504945 -08	LIQUID, MW-8	04/11/95	TPHGBW 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

Suzanne Chin
Project Manager



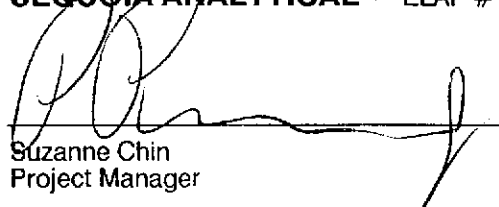
Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Lab Proj. ID: 9504945	Sampled: 04/11/95 Received: 04/13/95 Analyzed: see below Reported: 04/28/95
Attention: Jim Keller		

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9504945-01 Sample Desc: LIQUID,MW-1				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504945-02 Sample Desc: LIQUID,MW-2				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504945-03 Sample Desc: LIQUID,MW-3				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504945-04 Sample Desc: LIQUID,MW-4				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504945-05 Sample Desc: LIQUID,MW-5				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504945-06 Sample Desc: LIQUID,MW-6				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



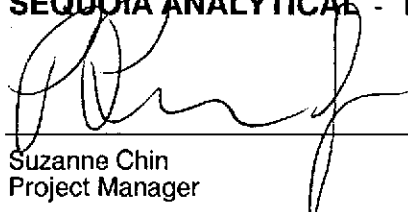
Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Lab Proj. ID: 9504945	Sampled: 04/12/95 Received: 04/13/95 Analyzed: see below Reported: 04/28/95
Attention: Jim Keller		

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9504945-07 Sample Desc : LIQUID,MW-7				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210



Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Lab Proj. ID: 9504945	Sampled: 04/11/95 Received: 04/13/95 Analyzed: see below Reported: 04/28/95
Attention: Jim Keller		

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9504945-08 Sample Desc : LIQUID, MW-8				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210



Suzanne Chin
Project Manager



**Sequoia
Analytical**

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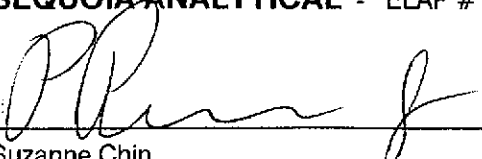
Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1	Sampled: 04/12/95 Received: 04/13/95 Analyzed: see below
Attention: Jim Keller	Lab Proj. ID: 9504946	Reported: 04/28/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9504946-09 Sample Desc: LIQUID, MW-9				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



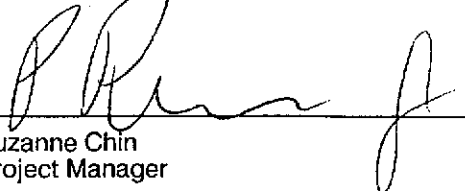
Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Lab Proj. ID: 9504946	Sampled: 04/11/95 Received: 04/13/95 Analyzed: see below Reported: 04/28/95
Attention: Jim Keller		

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9504946-10 Sample Desc : LIQUID,MW-10				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504946-11 Sample Desc : LIQUID,MW-11				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504946-12 Sample Desc : LIQUID,MW-12				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.
Lab No: 9504946-13 Sample Desc : LIQUID,MW-13				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



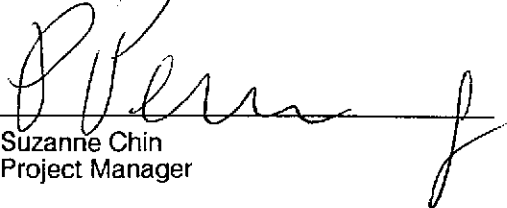
Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Lab Proj. ID: 9504946	Sampled: 04/12/95 Received: 04/13/95 Analyzed: see below Reported: 04/28/95
Attention: Jim Keller		

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9504946-14 Sample Desc : LIQUID,DUP				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210



 Suzanne Chin
 Project Manager



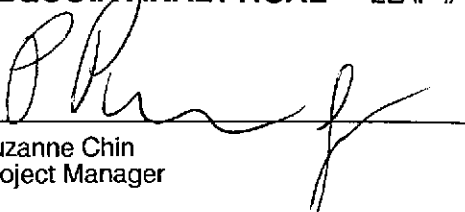
Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Lab Proj. ID: 9504946	Sampled: 04/11/95 Received: 04/13/95 Analyzed: see below Reported: 04/28/95
Attention: Jim Keller		

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9504946-15 Sample Desc : LIQUID,EB				
TRPH (SM 5520 B&F)	mg/L	04/20/95	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210



Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504945-01	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/24/95 Reported: 04/28/95
-----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------

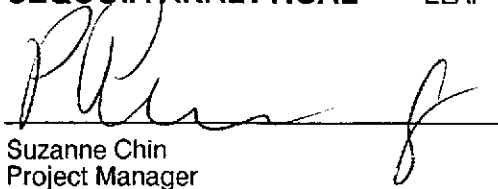
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	250	5500 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 92

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-01	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/24/95 Reported: 04/28/95
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QC Batch Number: GC042495BTEX07A
Instrument ID: GCHP07

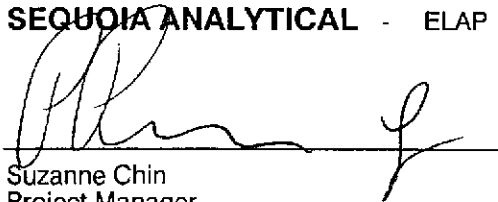
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	5000	26000
Benzene	50	4700
Toluene	50	270
Ethyl Benzene	50	1800
Xylenes (Total)	50	3400
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	91

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-2 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504945-02	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/21/95 Reported: 04/28/95
-----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------

QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.

Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	100

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

SEQUOIA ANALYTICAL - ELAP #1210

Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-02	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/22/95 Reported: 04/28/95
-----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

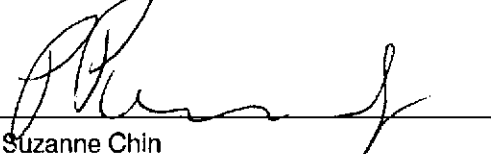
QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	103

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504945-03	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/24/95 Analyzed: 04/25/95 Reported: 04/28/95
Attention: Jim Keller		

QC Batch Number: GC0420950HBPEXA
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	107

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

SEQUOIA ANALYTICAL - ELAP #1210

Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-03	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/22/95 Reported: 04/28/95
-----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

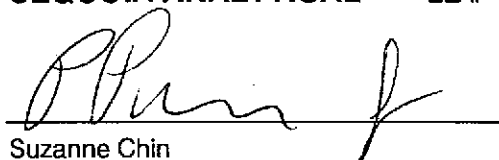
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

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


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-4 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504945-04	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/21/95 Reported: 04/28/95
-----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------

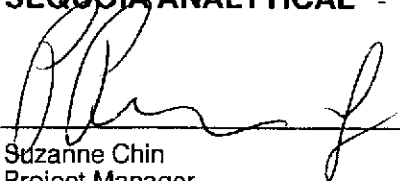
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	140 C16-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	98

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-04	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/24/95 Reported: 04/28/95
Attention: Jim Keller		

QC Batch Number: GC042495BTEX07A
Instrument ID: GCHP07

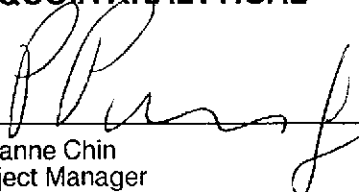
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	1.5
Toluene	0.50	3.4
Ethyl Benzene	0.50	0.64
Xylenes (Total)	0.50	3.4
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	80

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services	Client Proj. ID: Shell, Oakland, 950411-H1	Sampled: 04/11/95
985 Timothy Drive	Sample Descript: MW-5	Received: 04/13/95
San Jose, CA 95133	Matrix: LIQUID	Extracted: 04/18/95
Attention: Jim Keller	Analysis Method: EPA 8015 Mod	Analyzed: 04/24/95
	Lab Number: 9504945-05	Reported: 04/28/95

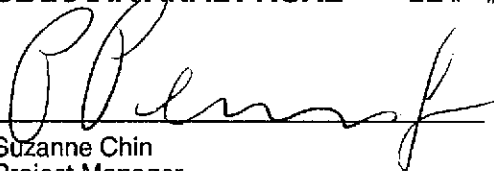
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	1000	9800
Chromatogram Pattern: Unidentified HC		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	0 Q

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-5 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-05	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/22/95 Reported: 04/28/95
Attention: Jim Keller		

QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

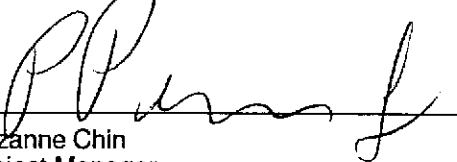
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	7300
Benzene	10	1200
Toluene	10	230
Ethyl Benzene	10	600
Xylenes (Total)	10	550
Chromatogram Pattern:		Gas

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


Suzanne Chin
Project Manager



Blaine Technical Services	Client Proj. ID: Shell, Oakland, 950411-H1	Sampled: 04/11/95
985 Timothy Drive	Sample Descript: MW-6	Received: 04/13/95
San Jose, CA 95133	Matrix: LIQUID	Extracted: 04/18/95
Attention: Jim Keller	Analysis Method: EPA 8015 Mod	Analyzed: 04/24/95
	Lab Number: 9504945-06	Reported: 04/28/95

QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP5B

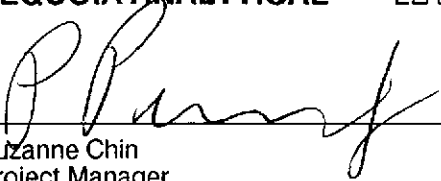
Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	500	7700
Chromatogram Pattern: Unidentified HC		C9-C24

Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	0 Q

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-6 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-06	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/22/95 Reported: 04/28/95
Attention: Jim Keller		

QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

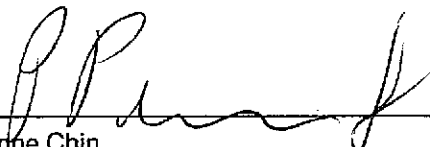
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	5000
Benzene	10	330
Toluene	10	15
Ethyl Benzene	10	760
Xylenes (Total)	10	85
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	106

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



**Sequoia
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Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133

Client Proj. ID: Shell, Oakland, 950411-H1
Sample Descript: MW-7
Matrix: LIQUID
Analysis Method: EPA 8015 Mod
Lab Number: 9504945-07

Sampled: 04/12/95
Received: 04/13/95
Extracted: 04/18/95
Analyzed: 04/21/95
Reported: 04/28/95

Attention: Jim Keller

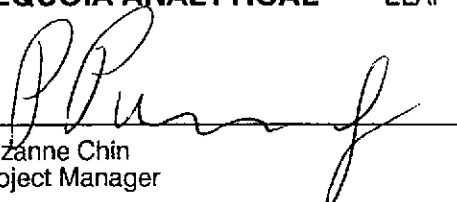
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	250	7000 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	128

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-07	Sampled: 04/12/95 Received: 04/13/95 Analyzed: 04/24/95 Reported: 04/28/95
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QC Batch Number: GC042495BTEX07A
Instrument ID: GCHP07

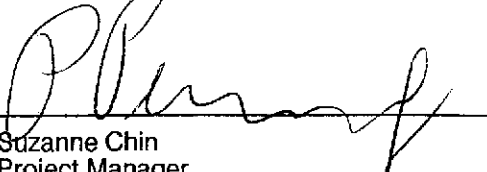
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	53000
Benzene	100	13000
Toluene	100	4200
Ethyl Benzene	100	1500
Xylenes (Total)	100	7700
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	85

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-8 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504945-08	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/21/95 Reported: 04/28/95
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QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4B

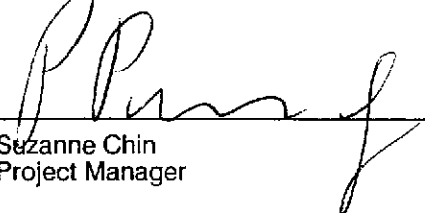
Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	78 C18-C24

Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	100

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

SEQUOIA ANALYTICAL - ELAP #1210



 Suzanne Chin
 Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-8 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504945-08	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/23/95 Reported: 04/28/95
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QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

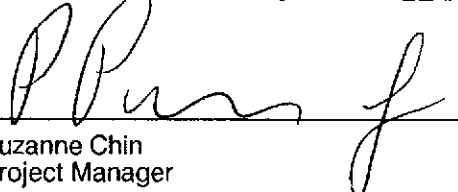
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	0.63
Toluene	0.50	1.3
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	0.75
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	92

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

SEQUOIA ANALYTICAL - ELAP #1210


 Suzanne Chin
 Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-9 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504946-09	Sampled: 04/12/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/24/95 Reported: 04/28/95
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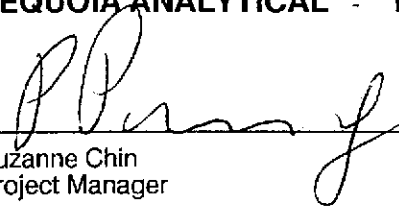
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	250	3400
Chromatogram Pattern: Unidentified HC		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	92

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-9 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504946-09	Sampled: 04/12/95 Received: 04/13/95 Analyzed: 04/25/95 Reported: 04/28/95
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QC Batch Number: GC042595BTEX07A
Instrument ID: GCHP07

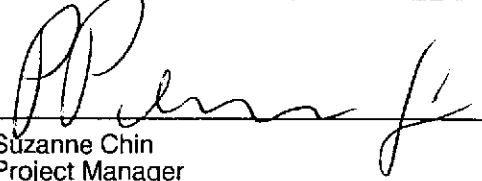
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	20000
Benzene	100	5100
Toluene	100	460
Ethyl Benzene	100	400
Xylenes (Total)	100	3400
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	109

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services S95 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-10 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504946-10	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/24/95 Reported: 04/28/95
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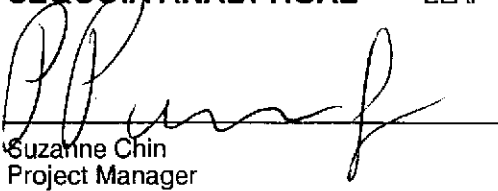
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	500	5000 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	0 Q

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-10 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504946-10	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/24/95 Reported: 04/28/95
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QC Batch Number: GC042495BTEX06A
Instrument ID: GCHP06

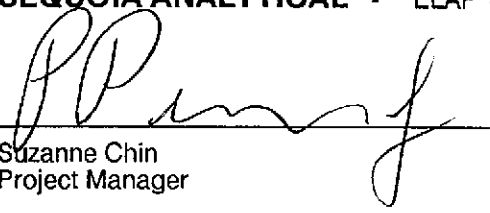
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	54000
Benzene	100	13000
Toluene	100	4500
Ethyl Benzene	100	1500
Xylenes (Total)	100	4500
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	71

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-11 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504946-11	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/22/95 Reported: 04/28/95
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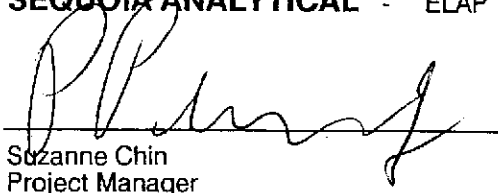
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	140 C12-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 97

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-11 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504946-11	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/22/95 Reported: 04/28/95
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QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

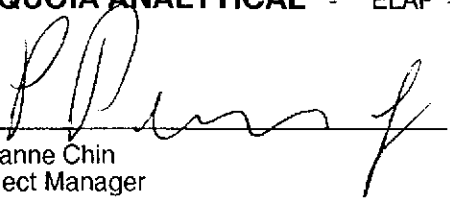
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	0.70
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	0.50
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	94

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-12 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504946-12	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/21/95 Reported: 04/28/95
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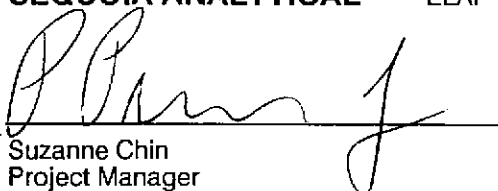
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	200 C16-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 129

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133

Attention: Jim Keller

Client Proj. ID: Shell, Oakland, 950411-H1
Sample Descript: MW-12
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9504946-12

Sampled: 04/11/95
Received: 04/13/95

Analyzed: 04/25/95
Reported: 04/28/95

QC Batch Number: GC042595BTEX07A
Instrument ID: GCHP07

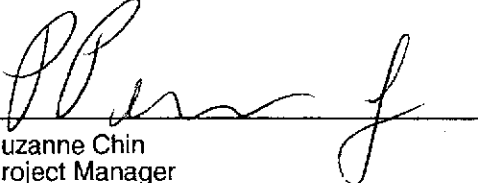
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	86

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-13 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504946-13	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/22/95 Reported: 04/28/95
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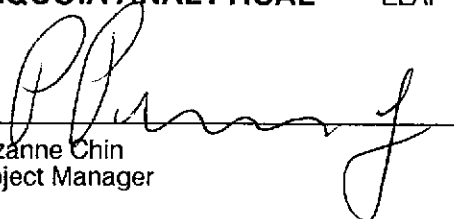
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	320 C12-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 145

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: MW-13 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504946-13	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/24/95 Reported: 04/28/95
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QC Batch Number: GC042495BTEX06A
Instrument ID: GCHP06

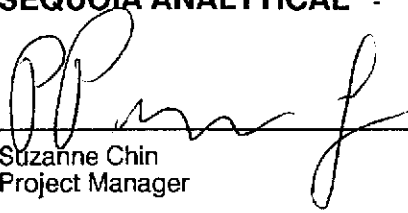
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	72

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: DUP Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504946-14	Sampled: 04/12/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/21/95 Reported: 04/28/95
Attention: Jim Keller		

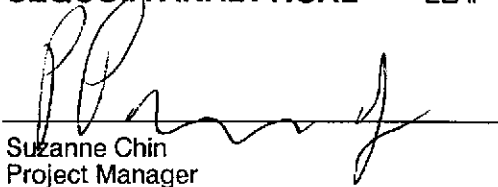
QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	250	7600 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 102

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: DUP Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504946-14	Sampled: 04/12/95 Received: 04/13/95 Analyzed: 04/24/95 Reported: 04/28/95
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QC Batch Number: GC042495BTEX06A
Instrument ID: GCHP06

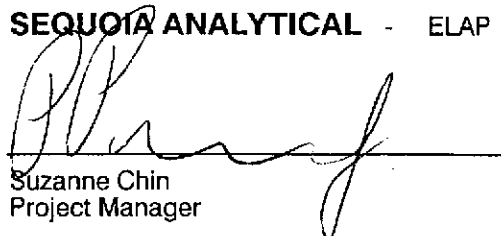
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	55000
Benzene	100	11000
Toluene	100	3700
Ethyl Benzene	100	1300
Xylenes (Total)	100	6400
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	70

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

SEQUOIA ANALYTICAL - ELAP #1210



Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: EB Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9504946-15	Sampled: 04/11/95 Received: 04/13/95 Extracted: 04/18/95 Analyzed: 04/21/95 Reported: 04/28/95
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QC Batch Number: GC0418950HBPEXZ
Instrument ID: GCHP4B

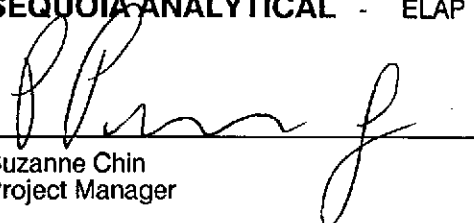
Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.

Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	90

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: EB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504946-15	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/22/95 Reported: 04/28/95
-----------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

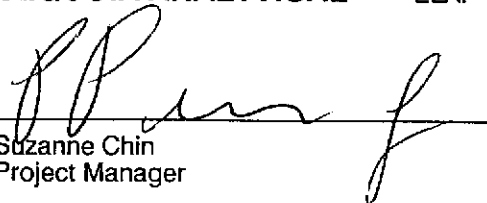
QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
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


Suzanne Chin
Project Manager



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Shell, Oakland, 950411-H1 Sample Descript: TB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9504946-16	Sampled: 04/11/95 Received: 04/13/95 Analyzed: 04/22/95 Reported: 04/28/95
Attention: Jim Keller		

QC Batch Number: GC042295BTEX07A
Instrument ID: GCHP07

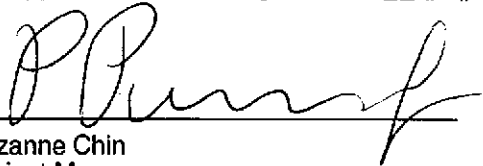
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	99

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

SEQUOIA ANALYTICAL - ELAP #1210


Suzanne Chin
Project Manager



Sequoia Analytical

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

Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Project ID: Shell, Oakland, 950411-H1 Matrix: Liquid	Work Order #: 9504945 -01, 04-07	Reported: Apr 28, 1995
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QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC042495BTEX07A	GC042495BTEX07A	GC042495BTEX07A	GC042495BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	T. Granicher	T. Granicher	T. Granicher	T. Granicher
MS/MSD #:	950493102	950493102	950493102	950493102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/24/95	4/24/95	4/24/95	4/24/95
Analyzed Date:	4/24/95	4/24/95	4/24/95	4/24/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	10	10	32
MS % Recovery:	110	100	100	107
Dup. Result:	12	12	12	37
MSD % Recov.:	120	120	120	123
RPD:	8.7	18	18	14
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK042495	BLK042495	BLK042495	BLK042495
Prepared Date:	4/24/95	4/24/95	4/24/95	4/24/95
Analyzed Date:	4/24/95	4/24/95	4/24/95	4/24/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	35
LCS % Recov.:	110	110	110	117

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

Suzanne Chin
Project Manager

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

9504945.BLA <1>



Sequoia Analytical

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FAX (916) 921-0100

Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland, 950411-H1
Matrix: Liquid

Work Order #: 9504945-01-06, 08;

Reported: Apr 28, 1995

9504946-11-13, 15

QUALITY CONTROL DATA REPORT

Analyte: Total Recoverable
Petroleum Hydrocarb.

QC Batch#: OP0417955520EXB
Analy. Method: EPA 5520 BF
Prep. Method: SPE

Analyst: C. Garde
MS/MSD #: BLK041795
Sample Conc.: N.D.
Prepared Date: 4/17/95
Analyzed Date: 4/18/95
Instrument I.D.#: Manual
Conc. Spiked: 20 mg/L

Result: 9.8
MS % Recovery: 98

Dup. Result: 7.8
MSD % Recov.: 78

RPD: 15
RPD Limit: 0-50

LCS #: -

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

LCS Result: -
LCS % Recov.: -

MS/MSD 70-130
LCS
Control Limits

Please Note:

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SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

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

9504945.BLA <2>



Sequoia Analytical

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Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland, 950411-H1
Matrix: Liquid

Work Order #: 9504945-07; 9504946-09-10, 14

Reported: Apr 28, 1995

QUALITY CONTROL DATA REPORT

Analyte: Total Recoverable
Petroleum Hydrocarb.

QC Batch#: OP0417955520EXA

Analy. Method: EPA 5520 BF

Prep. Method: EPA 3510

Analyst: C. Garde

MS/MSD #: BLK041595

Sample Conc.: N.D.

Prepared Date: 4/15/95

Analyzed Date: 4/17/95

Instrument I.D.#: Manual

Conc. Spiked: 30 mg/L

Result: 29

MS % Recovery: 97

Dup. Result: 28

MSD % Recov.: 93

RPD: 2.3

RPD Limit: 0-50

LCS #: -

Prepared Date: -

Analyzed Date: -

Instrument I.D.#: -

Conc. Spiked: -

LCS Result: -

LCS % Recov.: -

MS/MSD 70-110

LCS

Control Limits

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

Please Note:

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9504945.BLA <3>



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Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland, 950411-H1
Matrix: Liquid

Work Order #: 9504945-02-03, 05-06, 08;

Reported: Apr 28, 1995

9504946-11, 15-16

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC042295BTEX07A	GC042295BTEX07A	GC042295BTEX07A	GC042295BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Lee	R. Lee	R. Lee	R. Lee
MS/MSD #:	950493409	950493409	950493409	950493409
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/22/95	4/22/95	4/22/95	4/22/95
Analyzed Date:	4/22/95	4/22/95	4/22/95	4/22/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	30
MS % Recovery:	100	100	100	100
Dup. Result:	10	10	9.9	30
MSD % Recov.:	100	100	99	100
RPD:	0.0	0.0	1.0	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	71-133	72-128	72-130	71-120
Control Limits				

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

Please Note:

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

9504945.BLA <4>



Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Project ID: Shell, Oakland, 950411-H1 Matrix: Liquid Work Order #: 9504946-10, 13-14	Reported: Apr 28, 1995
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QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC042495BTEX06A	GC042495BTEX06A	GC042495BTEX06A	GC042495BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	T. Granicher	T. Granicher	T. Granicher	T. Granicher
MS/MSD #:	950493102	950493102	950493102	950493102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/24/95	4/24/95	4/24/95	4/24/95
Analyzed Date:	4/24/95	4/24/95	4/24/95	4/24/95
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.0	8.8	8.8	26
MS % Recovery:	90	88	88	87
Dup. Result:	10	9.9	9.9	30
MSD % Recov.:	100	99	99	100
RPD:	8.8	12	12	14
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	71-133	72-128	72-130	71-120
Control Limits				

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

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



Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland, 950411-H1
Matrix: Liquid

Work Order #: 9504946-09, 12

Reported: Apr 28, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC042595BTEX07A	GC042595BTEX07A	GC042595BTEX07A	GC042595BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	T. Granicher	T. Granicher	T. Granicher	T. Granicher
MS/MSD #:	950493102	950493102	950493102	950493102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/24/95	4/24/95	4/24/95	4/24/95
Analyzed Date:	4/24/95	4/24/95	4/24/95	4/24/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	10	10	32
MS % Recovery:	110	100	100	107
Dup. Result:	12	12	12	37
MSD % Recov.:	120	120	120	123
RPD:	8.7	18	18	14
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK042495	BLK042495	BLK042495	BLK042495
Prepared Date:	4/24/95	4/24/95	4/24/95	4/24/95
Analyzed Date:	4/24/95	4/24/95	4/24/95	4/24/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	35
LCS % Recov.:	110	110	110	117

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

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

Please Note:

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

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

9504945.BLA <6>



Sequoia Analytical

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FAX (916) 921-0100

Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell, Oakland, 950411-H1
Matrix: Liquid

Work Order #: 9504945-01-08; 9504946-09-15

Reported: Apr 28, 1995

QUALITY CONTROL DATA REPORT

Analyte: Diesel

QC Batch#: GC0418950HBPEXZ

Analy. Method: EPA 8015M

Prep. Method: EPA 3510

Analyst: T. Olive

MS/MSD #: 950494204

Sample Conc.: N.D.

Prepared Date: 4/18/95

Analyzed Date: 4/23/95

Instrument I.D.#: GCHP5

Conc. Spiked: 600 µg/L

Result: 340

MS % Recovery: 57

Dup. Result: 520

MSD % Recov.: 87

RPD: 42

RPD Limit: 0-50

LCS #: BLK041895

Prepared Date: 4/18/95

Analyzed Date: 4/21/95

Instrument I.D.#: GCHP5

Conc. Spiked: 600 µg/L

LCS Result: 410

LCS % Recov.: 68

MS/MSD

LCS 38-122

Control Limits

Please Note:

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SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

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

9504945.BLA <7>

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-H1</u>	Wic #: <u>204-5508-5504</u>
Sampler: <u>TXH</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-1</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>9.36</u> After	Depth to Water: Before <u>2.38</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other --

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

Well dia.	VCF
2"	0.24
3"	0.57
4"	1.18
6"	2.47
8"	4.08
10"	6.17

<u>4.6</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>13.8</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>16:56</u>	<u>68.9</u>	<u>6.9</u>	<u>2400</u>	<u>9.7</u>	<u>5</u>	
<u>16:58</u>	<u>69.2</u>	<u>6.7</u>	<u>2400</u>	<u>12.5</u>	<u>10</u>	
<u>17:00</u>	<u>68.0</u>	<u>6.6</u>	<u>2500</u>	<u>3.0</u>	<u>14</u>	

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

Sampling Time: 17:12

Sample I.D.: MW-1 Laboratory: JER

Analyzed for: TPH, BTEX, TPH-D, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO = 2.8 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>750411-41</u>	Wic #: <u>204-5508-5504</u>
Sampler: <u>TNH</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-2</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>9.58</u> After	Depth to Water: Before <u>3.72</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<u>PVC</u> Grade Other --

Volume Conversion Factor (VCF):

$$VCF = (C^2/n) \times \pi / 2.31$$
 Where:
 C = in./foot
 n = diameter (in.)
 π = 3.1416
 2.31 = ft./gal.

Well Dia.	VCF
2"	0.24
3"	0.33
4"	0.44
6"	0.99
8"	1.62
10"	2.31
12"	3.17

<u>3.8</u>	<u>x</u>	<u>3</u>	<u>=</u>	<u>11.4</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>14:43</u>	<u>73.4</u>	<u>7.3</u>	<u>1600</u>	<u>12.8</u>	<u>4</u>	
<u>14:45</u>	<u>72.7</u>	<u>7.1</u>	<u>1600</u>	<u>10.7</u>	<u>8</u>	
<u>14:47</u>	<u>71.8</u>	<u>7.0</u>	<u>1500</u>	<u>10.1</u>	<u>12</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 12

Sampling Time: 15:03

Sample I.D.: MW-2 Laboratory: SEB

Analyzed for: TPHG, BTX, TPHD, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO = 2.8 mg/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-H1</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>YNH</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-2</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>9.58</u> After	Depth to Water: Before <u>3.72</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u> Grade Other --	

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

Well dia.	VEF
2"	0.16
3"	0.35
4"	0.48
6"	1.47
8"	2.68
10"	4.87

<u>3.8</u>	x	<u>3</u>	=	<u>11.4</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>14:43</u>	<u>73.4</u>	<u>7.3</u>	<u>1600</u>	<u>12.8</u>	<u>4</u>	
<u>14:45</u>	<u>72.7</u>	<u>7.1</u>	<u>1600</u>	<u>10.7</u>	<u>8</u>	
<u>14:47</u>	<u>71.8</u>	<u>7.0</u>	<u>1500</u>	<u>10.1</u>	<u>12</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 12

Sampling Time: 15:03

Sample I.D.: MW-2 Laboratory: SEB

Analyzed for: TPHG, BTEX, TPHD, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO = 2.8 mg/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-H1</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>TNH</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-3</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>7.46</u> After	Depth to Water: Before <u>3.58</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u> Grade Other --	

Volume Conversion Factor (VCF):
 $(2.2 \times (\frac{d^2}{4}) \times \pi) / 2.31$
 where
 2.2 = in./foot
 d = diameter (in.)
 π = 3.1416
 2.31 = in./gal

Well Dia.	VCF
2"	0.24
3"	0.27
4"	0.45
6"	1.07
8"	1.84
12"	4.08
18"	11.87

<u>3.9</u>	\times	<u>3</u>	$=$	<u>11.7</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"/>
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TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>14:07</u>	<u>74.2</u>	<u>7.3</u>	<u>1800</u>	<u>4.5</u>	<u>4</u>	
<u>14:09</u>	<u>73.2</u>	<u>7.1</u>	<u>1800</u>	<u>10.1</u>	<u>8</u>	
<u>14:11</u>	<u>71.6</u>	<u>7.0</u>	<u>1600</u>	<u>10.7</u>	<u>12</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 2

Sampling Time: 14:25

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

Analyzed for: TPH, BTEX, TPH-D, O&G

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

Analyzed for: _____

Shipping Notations: _____

Additional Notations: DO = 2.7 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-H1</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>TMC</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-5</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>9.72</u> After	Depth to Water: Before <u>3.74</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 = diameter (in.)
 π = 3.1416
 2.31 = in/ft

Well dia.	VCF
2"	0.24
3"	0.57
4"	1.10
6"	2.47
8"	4.04
12"	11.7

<u>3.9</u>	x	<u>3</u>	=	<u>11.7</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>15:43</u>	<u>75.0</u>	<u>7.0</u>	<u>1000</u>	<u>3.5</u>	<u>4</u>	
<u>15:45</u>	<u>70.5</u>	<u>6.6</u>	<u>2800</u>	<u>9.2</u>	<u>8</u>	
<u>15:47</u>	<u>71.9</u>	<u>6.8</u>	<u>2800</u>	<u>7.2</u>	<u>12</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 12

Sampling Time: 16:00

Sample I.D.: MW-5 Laboratory: SEI

Analyzed for: TPH, BTEX, TPH-D, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO=2.5 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-H1</u>		Wic # <u>204-5508-5504</u>	
Sampler: <u>TNH</u>		Date Sampled: <u>4/11/95</u>	
Well I.D.: <u>MW-6</u>		Well Diameter: (circle one) 2 3 <u>4</u> 6	
Total Well Depth:		Depth to Water:	
Before <u>11.04</u>	After	Before <u>4.04</u>	After
Depth to Free Product:		Thickness of Free Product (feet):	
Measurements referenced to: <u>FVC</u> Grade Other --			

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

Well dia.	VCF
2"	0.24
3"	0.37
4"	0.48
6"	1.17
8"	2.04
10"	3.07

4.6 x 3 = 13.8
 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"/>
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TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>16:13</u>	<u>68.8</u>	<u>7.0</u>	<u>2800</u>	<u>12.2</u>	<u>5</u>	
<u>16:14</u>	<u>69.5</u>	<u>7.0</u>	<u>2600</u>	<u>11.5</u>	<u>10</u>	
<u>16:16</u>	<u>67.4</u>	<u>6.9</u>	<u>2400</u>	<u>16.2</u>	<u>14</u>	

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

Sampling Time: 16:32

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

Analyzed for: TPH, PTEX, TPH-D, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO = 2.3 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-H1</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>TNM</u>	Date Sampled: <u>4/12/95</u>
Well I.D.: <u>MW-7</u>	Well Diameter: (circle one) 2 3 4 6
Total Well Depth: Before <u>9.96</u> After	Depth to Water: Before <u>3.52</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):
 $(12 \times (\pi^2/4) \times \pi) / 231$
 where
 $12 = \text{in./foot}$
 $\pi = \text{diameter (in.)}$
 $\pi = 3.1416$
 $231 = \text{in}^3/\text{gal}$

Well dia.	VCF
2"	0.24
3"	0.37
4"	0.48
6"	1.07
8"	1.66
10"	2.44
12"	3.52

<u>4.3</u>	x	<u>3</u>	=	<u>12.9</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"/>
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TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
10:40	65.8	7.8	2500	17.7	4	
10:42	64.8	7.3	2800	21.9	9	
10:44	63.4	7.1	2700	6.1	13	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 13

Sampling Time: 11:00

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

Analyzed for: TPHG, BTX, TPH-D, O&G

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

Analyzed for: SAME

Shipping Notations:

Additional Notations: DO = 2.7 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>750411-H1</u>	Wic #: <u>204-5508-5504</u>
Sampler: <u>TNH</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-8</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>9.60</u> After	Depth to Water: Before <u>9.12</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other --

Volume Conversion Factor (VCF):
 $VCF = (d^2/4) \times \pi/224$
 where:
 $d = \text{in./foot}$
 $d = \text{diameter (in.)}$
 $\pi = 3.1416$
 $224 = \text{in}^3/\text{gal}$

Well dia.	VCF
2"	0.16
3"	0.35
4"	0.45
6"	1.07
8"	1.58
12"	1.87

<u>3.6</u>	x	<u>3</u>	=	<u>10.8</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>13:31</u>	<u>70.5</u>	<u>7.3</u>	<u>4200</u>	<u>7.7</u>	<u>4</u>	
<u>13:33</u>	<u>68.1</u>	<u>7.8</u>	<u>2000</u>	<u>7.6</u>	<u>8</u>	
<u>13:35</u>	<u>68.5</u>	<u>7.2</u>	<u>1800</u>	<u>6.9</u>	<u>11</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 11

Sampling Time: 13:48

Sample I.D.: MW-8 Laboratory: SEA

Analyzed for: TPH, BTEX, TPH-D, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO = 2.8 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-H1</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>TNA</u>	Date Sampled: <u>4/12/95</u>
Well I.D.: <u>MW-9</u>	Well Diameter: (circle one) 2 3 4 6
Total Well Depth: Before <u>10.74</u> After	Depth to Water: Before <u>4.08</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u> Grade Other --	

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

Well dia.	VCF
2"	0.16
3"	0.27
4"	0.44
6"	1.07
10"	4.04
12"	6.27

<u>4.4</u>	x	<u>3</u>	=	<u>13.2</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"/>
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TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>10:03</u>	<u>64.9</u>	<u>7.0</u>	<u>3000</u>	<u>11.8</u>	<u>4</u>	
<u>10:05</u>	<u>64.5</u>	<u>7.0</u>	<u>2200</u>	<u>13.3</u>	<u>9</u>	
<u>10:07</u>	<u>64.3</u>	<u>6.8</u>	<u>2100</u>	<u>10.5</u>	<u>14</u>	

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

Sampling Time: 10:19

Sample I.D.: MW-9 Laboratory: SEB

Analyzed for: TPH, BTEX, TPH-D, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO = 2.7 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-A1</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>TNH</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-10</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>10.04</u> After	Depth to Water: Before <u>5.82</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>FVC</u> Grade Other --	

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

Well dia.	VCF
2"	0.54
3"	0.77
4"	1.04
6"	1.47
8"	2.08
12"	3.17

<u>2.8</u>	x	<u>3</u>	=	<u>8.4</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
15:09	75.9	7.0	1100	5.0	3	
15:11	72.1	7.0	1000	5.3	6	
15:13	72.3	6.8	1100	5.1	9	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 9

Sampling Time: 15:29

Sample I.D.: MW-10 Laboratory: SEB

Analyzed for: TPH, BTX, TPH-D, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO = 3.1 MG/L

SHELL WELL MONITORING DATA SHEET

Project #: <u>950411-111</u>	Wic # <u>204-5508-5504</u>
Sampler: <u>TNH</u>	Date Sampled: <u>4/11/95</u>
Well I.D.: <u>MW-11</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>13.88</u> After	Depth to Water: Before <u>8.06</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 = diameter (in.)
 $\pi = 3.1416$
 2.31 = ft³/gal

Well dia.	VCF
2"	0.14
3"	0.27
4"	0.46
6"	1.07
8"	1.90
10"	2.98
12"	4.37

<u>3.8</u>	x	<u>3</u>	=	<u>11.4</u>	gallons
1 Case Volume		Specified Volumes			

Purging: Bailer Middleburg Electric Submersible Suction Pump Type of Installed Pump _____

Sampling: Bailer Middleburg Electric Submersible Suction Pump Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>12:10</u>	<u>70.9</u>	<u>7.0</u>	<u>710000</u>	<u>8.2</u>	<u>4</u>	
<u>12:12</u>	<u>69.4</u>	<u>7.0</u>	<u>710000</u>	<u>6.4</u>	<u>8</u>	
<u>12:14</u>	<u>67.3</u>	<u>6.8</u>	<u>710000</u>	<u>6.6</u>	<u>12</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 12

Sampling Time: 12:30

Sample I.D.: MW-11 Laboratory: SEB

Analyzed for: TPH, BTEX, TPH-D, O&G

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

Analyzed for:

Shipping Notations:

Additional Notations: DO=2.8 mg/L