



PACIFIC
ENVIRONMENTAL
GROUP, INC.

January 23, 1995
Project 305-094.2B

Mr. Lynn Walker
Shell Oil Company
P.O. Box 4023
Concord, California 94524

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11:34 AM

Re: Quarterly Report - Fourth Quarter 1994
Former Shell Service Station
2724 Castro Valley Boulevard at Lake Chabot Road
Castro Valley, California
WIC No 204-1381-0407

Dear Mr. Walker:

The following presents the results of the fourth quarter 1994 monitoring program for the site referenced above. This letter has been prepared for Shell Oil Company by Pacific Environmental Group, Inc. (PACIFIC).

FINDINGS

Groundwater monitoring wells were gauged and sampled by Blaine Tech Services, Inc. (Blaine) at the direction of PACIFIC on November 11, 1994. Groundwater elevation contours for the sampling date are shown on Figure 1. Table 1 presents groundwater elevation data.

Groundwater analytical data are presented in Tables 2 and 3. Total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, and TPH calculated as diesel (TPH-d) concentrations for the November 1994 sampling event are shown on Figure 2. None of the wells contained TPH-g, benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). Wells MW-2 and MW-7 contained positive results of TPH-d at concentrations of 210 and 180 parts per billion (ppb), respectively. The laboratory noted these results appear to be a heavier hydrocarbon than diesel. Blaine's groundwater sampling report, which includes field data and the certified analytical report, is presented as Attachment A.

January 23, 1995

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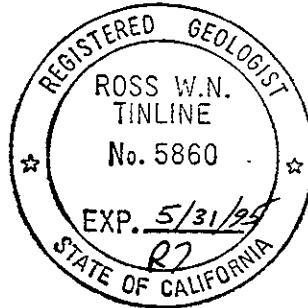
If you have any questions regarding the contents of this letter, please call.

Sincerely,

Pacific Environmental Group, Inc.



Ross W.N. Tinline
Project Geologist
RG 5860



Attachments: Table 1 - Groundwater Elevation Data
Table 2 - Groundwater Analytical Data -
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)
Table 3 - Groundwater Analytical Data -
Total Petroleum Hydrocarbons
(TPH as Diesel and Motor Oil)
Figure 1 - Groundwater Elevation Map
Figure 2 - TPH-g/Benzene/TPH-d Concentration Map
Attachment A - Groundwater Sampling Report

cc: ~~Mr. Scott Seery, Alameda County Department of Environmental Health~~
Mr. Richard Hiatt, Regional Water Quality Control Board
Dr. Mohsen Mehran, Owner Consultant
Mr. Michael Johnson, Larson and Burnham
Mr. Matthew Righetti, Righetti Law Firm
Mr. Richard A. Schoenberger, Esq., Walkup, Shelby, Bastian, Melodia, Kelly,
Echeverria and Link
Ms. Anne Singley, Shell Oil Company
Mr. Jim Matthews, Shell Oil Company

**Table 1
Groundwater Elevation Data**

Former Shell Service Station
2724 Castro Valley Boulevard at Lake Chabot Road
Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	
MW-1	02/08/90	99.78	8.39	91.39	
	04/20/90		9.21	90.57	
	07/30/90		9.21	90.57	
	10/25/90		9.44	90.34	
	01/15/91		9.11	90.67	
	04/19/91		5.58	94.20	
	07/16/91		7.58	92.20	
	10/08/91		8.25	91.53	
	02/04/92		8.52	91.26	
	04/06/92		6.75	93.03	
	08/26/92	9.89	89.89		
	11/06/92	9.01	90.77		
	02/18/93	160.54	4.33	156.21	
	06/04/93		8.26	152.28	
	09/10/93		9.04	151.50	
	11/17/93		9.15	151.39	
	02/28/94		4.28	156.26	
	05/26/94		7.56	152.98	
	08/04/94		8.74	151.80	
	11/11/94		4.56	155.98	
MW-2	02/08/90		100.83	7.33	93.50
	04/20/90			8.63	92.20
	07/30/90	8.78		92.05	
	10/25/90	9.50		91.33	
	01/15/91	8.52		92.31	
	04/19/91	6.90		93.93	
	07/16/91	9.01		91.82	
	10/08/91	8.82		92.01	
	02/04/92	7.46		93.37	
	04/06/92	6.91		93.92	
	08/26/92	9.28	91.55		
	11/06/92	8.59	92.24		
	02/18/93	-----	Well Inaccessible	-----	
	06/04/93	-----	Well Inaccessible	-----	
	09/10/93	-----	Well Inaccessible	-----	
	11/17/93	-----	Well Inaccessible	-----	
	02/28/94	-----	Well Inaccessible	-----	
	05/26/94		8.40	NA	
	08/04/94		9.38	NA	
	11/11/94		5.60	NA	
MW-3	02/08/90	101.48	8.91	92.57	
	04/20/90		10.20	91.28	
	07/30/90		10.61	90.87	
	10/25/90		10.00	91.48	
	01/15/91		9.74	91.74	

Table 1 (continued)
Groundwater Elevation Data

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-3 (cont.)	04/19/91	162.24	7.92	93.56
	07/16/91		9.40	92.08
	10/08/91		9.62	91.86
	02/04/92		8.74	92.74
	04/06/92		7.12	94.36
	08/26/92		9.58	91.90
	11/06/92		8.95	92.53
	02/18/93		6.79	155.45
	06/04/93		8.48	153.76
	09/10/93		9.84	152.40
	11/17/93		9.78	152.46
	02/28/94		8.44	153.80
	05/26/94		8.74	153.50
	08/04/94		9.62	152.62
	11/11/94		8.82	153.42
MW-5	02/08/90	99.90	8.80	91.10
	04/20/90	160.68	9.35	90.55
	07/30/90		9.49	90.41
	10/25/90		10.12	89.78
	01/15/91		9.26	90.64
	04/19/91		6.52	93.38
	07/16/91		9.12	90.78
	10/08/91		9.22	90.68
	02/04/92		8.13	91.77
	04/06/92		5.53	94.37
	08/26/92		9.25	90.65
	11/06/92		9.02	90.88
	02/18/93		3.60	157.08
	06/04/93		7.08	153.60
	09/10/93		9.92	150.76
11/17/93	9.86		150.82	
02/28/94	7.56	153.12		
05/26/94	8.38	152.30		
08/04/94	9.22	151.46		
11/11/94	7.86	152.82		
OMW-6	07/16/91	101.48	8.60	92.88
	10/08/91	162.22	8.82	92.66
	02/04/92		7.47	94.01
	04/06/92		5.80	95.68
	08/26/92		9.18	92.30
	11/06/92		8.29	93.19
	02/18/93		5.83	156.39
	06/04/93		7.14	155.08
	09/10/93		8.78	153.44

Table 1 (continued)
Groundwater Elevation Data

Former Shell Service Station
2724 Castro Valley Boulevard at Lake Chabot Road
Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
OMW-6 (cont.)	11/17/93		8.74	153.48
	02/28/94		5.16	157.06
	05/26/94		6.89	155.33
	08/04/94		8.56	153.66
	11/11/94		5.78	156.44
MW-7	07/16/91	99.54	8.70	90.84
	10/08/91		8.74	90.80
	02/04/92		7.78	91.76
	04/06/92		5.87	93.67
	08/26/92		8.93	90.61
	11/06/92		8.51	91.03
	02/18/93		----- Well Inaccessible -----	
	06/04/93		----- Well Inaccessible -----	
	09/10/93		----- Well Inaccessible -----	
	11/17/93		----- Well Inaccessible -----	
	02/28/94		2.99	NA
	05/26/94		6.05	NA
	08/04/94		8.68	NA
	11/11/94		3.70	NA
	OMW-8	07/16/91	100.18	8.40
10/08/91			8.74	91.44
02/04/92			8.22	91.96
04/06/92			6.82	93.36
08/26/92			9.15	91.03
11/06/92			8.69	91.49
02/18/93		160.92	7.59	153.33
06/04/93			7.88	153.04
09/10/93			8.58	152.34
11/17/93			8.72	152.20
02/28/94			7.64	153.28
05/26/94			7.77	153.15
08/04/94			8.72	152.20
11/11/94			7.10	153.82
OMW-9		03/03/93	158.81	9.16
	06/04/93		9.52	149.29
	09/10/93		9.23	149.58

Table 1 (continued)
Groundwater Elevation Data

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
OMW-9 (cont.)	11/17/93	----- Well Paved Over -----		
	02/28/94		9.24	149.57
	05/26/94		9.68	149.13
	08/04/94		9.92	148.89
	11/11/94		8.68	150.13
MSL = Mean sea level TOC = Top of casing NA Not available, survey required. Elevations prior to February 18, 1993 are to a temporary bench mark. Elevations after February 18, 1993 are to MSL.				

Table 2
Groundwater Analytical Data
 Total Petroleum Hydrocarbons
 (TPH as Gasoline and BTEX Compounds)

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	
MW-1	02/09/90	<1,000	0.58	0.63	<0.5	<0.5	
	04/20/90	<50	<0.5	<0.5	<0.5	<0.5	
	07/31/90	<50	<0.5	<0.5	<0.5	<0.5	
	10/25/90	100	<0.5	<0.5	<0.5	<0.6	
	01/15/91	60	<0.5	<0.5	<0.5	<0.5	
	01/15/91	<50	<0.5	<0.5	<0.5	<0.5	
	04/19/91	<50	7.7	<0.5	<0.5	<0.5	
	04/19/91	<50	7.4	<0.5	<0.5	<0.5	
	07/16/91	<50	<0.5	<0.5	<0.5	<0.5	
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5	
	02/04/92	<50	<0.5	<0.5	<0.5	<0.5	
	04/06/92	50	<0.5	<0.5	<0.5	<0.5	
	08/26/92	<50	<0.5	<0.5	<0.5	<0.5	
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5	
	02/18/93	<50	<0.5	<0.5	<0.5	<0.5	
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5	
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	
	02/28/94	<50	<0.5	<0.5	<0.5	<0.5	
	05/26/94	<50	<0.5	<0.5	<0.5	<0.5	
08/04/94	<50	<0.5	<0.5	<0.5	<0.5		
11/11/94	----- Sampled Semiannually -----						
MW-2	02/09/90	8,600	360	410	6.5	670	
	04/20/90	9,100	500	330	110	900	
	07/31/90	5,300	550	38	<0.5	280	
	10/25/90	4,800	490	22	21	156	
	01/15/91	5,700	320	29	120	530	
	04/19/91	3,900	100	77	100	93	
	07/16/91	1,800	100	5.8	41	31	
	07/16/91	2,700	130	7.6	62	45	
	10/08/91	1,000	17	<0.5	25	25	
	02/04/92	1,700	190	5.8	18	110	
	04/06/92	3,800	930	50	110	190	
	05/03/92	2,400	610	8.8	90	<0.5	
	08/26/92	520	36	2.0	12	7.9	
	08/26/92(D)	450	33	1.7	11	3.4	
	11/12/92	310	30	6.2	5.1	4.3	
	11/12/92(D)	360	31	6.5	5.1	4.4	
	02/18/93	----- Well Inaccessible -----					
	06/04/93	----- Well Inaccessible -----					
	09/10/93	----- Well Inaccessible -----					
	11/17/93	----- Well Inaccessible -----					
02/28/94	----- Well Inaccessible -----						

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

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-2 (cont.)	05/26/94	480	14	<0.5	2.1	3.4
	05/26/94(D)	460	14	<0.5	2.1	3.3
	08/04/94	<50	<0.5	<0.5	<0.5	<0.5
	08/04/94(D)	70	<0.5	<0.5	<0.5	<0.5
	11/11/94	<50	<0.5	<0.5	<0.5	<0.5
	11/11/94(D)	<50	<0.5	<0.5	<0.5	<0.5
MW-3	02/09/90	<1,000	<0.5	<0.5	<0.5	<0.5
	04/20/90	<50	<0.5	<0.5	<0.5	<0.5
	07/31/90	<50	<0.5	<0.5	<0.5	<0.5
	10/25/90	<50	<0.5	<0.5	<0.6	<0.6
	01/15/91	<50	<0.5	<0.5	<0.5	<0.5
	04/19/91	<50	<0.5	<0.5	<0.5	<0.5
	07/16/91	<50	<0.5	<0.5	<0.5	<0.5
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5
	02/04/92	<50	4	2	7	3.2
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5
	08/26/82	<50	<0.5	<0.5	<0.5	<0.5
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93(D)	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93(D)	<50	<0.5	<0.5	<0.5	<0.5
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5
	11/17/93(D)	<50	<0.5	<0.5	<0.5	<0.5
	02/28/94	<50	<0.5	<0.5	<0.5	<0.5
05/26/94	<50	<0.5	<0.5	<0.5	<0.5	
08/04/94	<50	<0.5	<0.5	<0.5	<0.5	
11/11/94	----- Sampled Semiannually -----					
MW-5	02/09/90	<1,000	<0.5	<0.5	<0.5	<0.5
	04/20/90	<50	<0.5	<0.5	<0.5	<0.5
	07/31/90	<50	<0.5	<0.5	<0.5	<0.5
	10/25/90	<50	<0.5	<0.7	<0.6	<0.6
	01/15/91	<50	<0.5	<0.5	<0.5	<0.5
	04/19/91	<50	<0.5	<0.5	<0.5	<0.5
	07/16/91	<50	<0.5	<0.5	<0.5	<0.5
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5
	02/04/92	<50	<0.5	<0.5	<0.5	<0.5
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5
	08/26/92	<50	<0.5	<0.5	<0.5	<0.5
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
11/17/93	<50	<0.5	<0.5	<0.5	<0.5	

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

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	
MW-5 (cont.)	02/28/94	<50	<0.5	<0.5	<0.5	<0.5	
	02/28/94(D)	<50	<0.5	<0.5	<0.5	<0.5	
	05/26/94	<50	<0.5	<0.5	<0.5	<0.5	
	08/04/94	<50	<0.5	<0.5	<0.5	<0.5	
	11/11/94	----- Sampled Semiannually -----					
OMW-6	07/16/91	<50	<0.5	<0.5	<0.5	<0.5	
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5	
	02/04/92	<50	<0.5	<0.5	<0.5	<0.5	
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5	
	08/26/92	<50	<0.5	<0.5	<0.5	<0.5	
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5	
	02/18/93	<50	<0.5	<0.5	<0.5	<0.5	
	02/18/93(D)	<50	<0.5	<0.5	<0.5	<0.5	
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5	
	09/10/93	50**	<0.5	<0.5	<0.5	<0.5	
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	
	02/28/94	<50	<0.5	<0.5	<0.5	<0.5	
	05/26/94	<50	<0.5	<0.5	<0.5	<0.5	
	08/04/94	<50	<0.5	<0.5	<0.5	<0.5	
11/11/94	----- Sampled Semiannually -----						
MW-7	07/16/91	1,300	440	140	6.9	160	
	10/08/91	520	230	36	26	54	
	02/04/92	640	130	51	26	79	
	04/06/92	80	32	1.7	2.3	4.4	
	05/13/92	<50	3.1	1.7	0.9	3.8	
	08/26/92	63	1.0	<0.5	2.6	<0.5	
	11/12/92	73	11	<0.5	3.7	<0.5	
	02/18/93	----- Well Inaccessible -----					
	06/04/93	----- Well Inaccessible -----					
	09/10/93	----- Well Inaccessible -----					
	11/17/93	----- Well Inaccessible -----					
	02/28/94	<50	<0.5	<0.5	<0.5	<0.5	
	05/26/94	<50	<0.5	<0.5	<0.5	<0.5	
	08/04/94	<50	<0.5	<0.5	<0.5	<0.5	
11/11/94	<50	<0.5	<0.5	<0.5	<0.5		
OMW-8	07/16/91	<50	<0.5	0.8	<0.5	<0.5	
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5	
	02/04/92	<50	0.9	1.9	0.6	3.6	
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5	
	08/26/92	<50	<0.5	<0.5	<0.5	<0.5	

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

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
OMW-8 (cont.)	11/12/92	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93	180*	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5
	02/28/94	<50	<0.5	<0.5	<0.5	<0.5
	05/26/94	<50	<0.5	<0.5	<0.5	<0.5
	08/04/94	<50	<0.5	<0.5	<0.5	<0.5
	11/11/94	----- Sampled Semiannually -----				
OMW-9	03/03/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
	11/17/93	----- Well Paved Over -----				
	02/28/94	<50	<0.5	<0.5	<0.5	<0.5
	05/26/94	<50	<0.5	<0.5	<0.5	<0.5
	08/04/94	<50	<0.5	<0.5	<0.5	<0.5
	11/11/94	----- Sampled Semiannually -----				

ppb = Parts per billion
 < = Denotes minimum laboratory detection limits.
 (D) = Duplicate sample
 * = Concentration due to the presence of a heavier petroleum hydrocarbon range.
 ** = Concentration due to the presence of a discrete peak not indicative of gasoline.

Table 3
Groundwater Analytical Data
 Total Petroleum Hydrocarbons
 (TPH as Diesel and Motor Oil)

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as	
		Diesel (ppb)	Motor Oil (ppb)
MW-1	02/09/90	NA	NA
	04/20/90	NA	NA
	07/31/90	NA	NA
	10/25/90	<50	NA
	01/15/91	<50	NA
	01/15/91	<50	NA
	04/19/91	<50	NA
	04/19/91	<50	NA
	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	51	NA
	11/12/92	<50	NA
	02/18/93	57 ^a	NA
	06/04/93	85	NA
	09/10/93	<50	NA
	11/17/93	<50	NA
	02/28/94	<50	NA
	05/26/94	<50	NA
08/04/94	80 ^c	NA	
11/11/94	---- Sampled Semiannually----		
MW-2	02/09/90	4,100	NA
	04/20/90	1,800	NA
	07/31/90	60	NA
	10/25/90	300	NA
	01/15/91	680	NA
	04/19/91	306	NA
	07/16/91	430	<50
	07/16/91	540	<50
	10/08/91	110	<50
	02/04/92	870	NA
	04/06/92	1,000	NA
	05/13/92	570	NA
	08/26/92	63	NA
	08/26/92(D)	63	NA
	11/12/92	160	NA
	11/12/92(D)	180	NA
	02/18/93	----- Well Inaccessible -----	
	06/04/93	----- Well Inaccessible -----	
09/10/93	----- Well Inaccessible -----		
11/17/93	----- Well Inaccessible -----		
11/17/93	----- Well Inaccessible -----		

Table 3 (continued)
Groundwater Analytical Data
 Total Petroleum Hydrocarbons
 (TPH as Diesel and Motor Oil)

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as	
		Diesel (ppb)	Motor Oil (ppb)
MW-2 (cont.)	05/26/94	<50	NA
	05/26/94(D)	60	NA
	08/04/94	110 ^c	NA
	08/04/94(D)	110 ^c	NA
	11/11/94	210 ^a	NA
	11/11/94(D)	170 ^a	NA
MW-3	02/09/90	NA	NA
	04/20/90	NA	NA
	07/31/90	NA	NA
	10/25/90	<50	NA
	01/15/91	<50	NA
	04/19/91	<50	NA
	07/16/91	<50	1,400
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/24/92	<50	NA
	11/12/92	<50	NA
	02/18/93	<50	NA
	06/04/93	200	NA
	06/04/93(D)	<50	NA
	09/10/93	<50	NA
	09/10/93(D)	<50	NA
	11/17/93	<50	NA
	11/17/93(D)	<50	NA
	02/28/94	<50	NA
05/26/94	<50	NA	
08/04/94	80 ^c	NA	
11/11/94	----- Sampled Semiannually-----		
MW-5	02/09/90	NA	NA
	04/20/90	NA	NA
	07/31/90	NA	NA
	10/25/90	<50	NA
	01/15/91	<50	NA
	04/19/91	<50	NA
	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	80 ^a	NA
	06/04/93	170	NA
	09/10/93	<50	NA
11/17/93	<50	NA	

Table 3 (continued)
Groundwater Analytical Data
 Total Petroleum Hydrocarbons
 (TPH as Diesel and Motor Oil)

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as Diesel (ppb)	Motor Oil (ppb)
MW-5 (cont.)	02/28/94	<50	NA
	02/28/94(D)	<50	NA
	05/26/94	<50	NA
	08/04/94	80 ^c	NA
	11/11/94	---- Sampled Semiannually----	
OMW-6	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	<50	NA
	02/18/93(D)	84 ^a	NA
	06/04/93	<50	NA
	09/10/93	<50	NA
	11/17/93	<50	NA
	02/28/94	<50	NA
	05/26/94	<50	NA
	08/04/94	<50	NA
11/11/94	---- Sampled Semiannually----		
MW-7	07/16/92	270	1,100
	10/08/92	<50	<50
	02/04/92	140 ^b	NA
	04/06/92	<50	NA
	05/13/92	<50	NA
	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	----- Well Inaccessible -----	
	06/04/93	----- Well Inaccessible -----	
	09/10/93	----- Well Inaccessible -----	
	11/17/93	----- Well Inaccessible -----	
	02/28/94	64	NA
	05/26/94	<50	NA
	08/04/94	90 ^c	NA
11/11/94	180 ^a	NA	
OMW-8	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	<50	NA

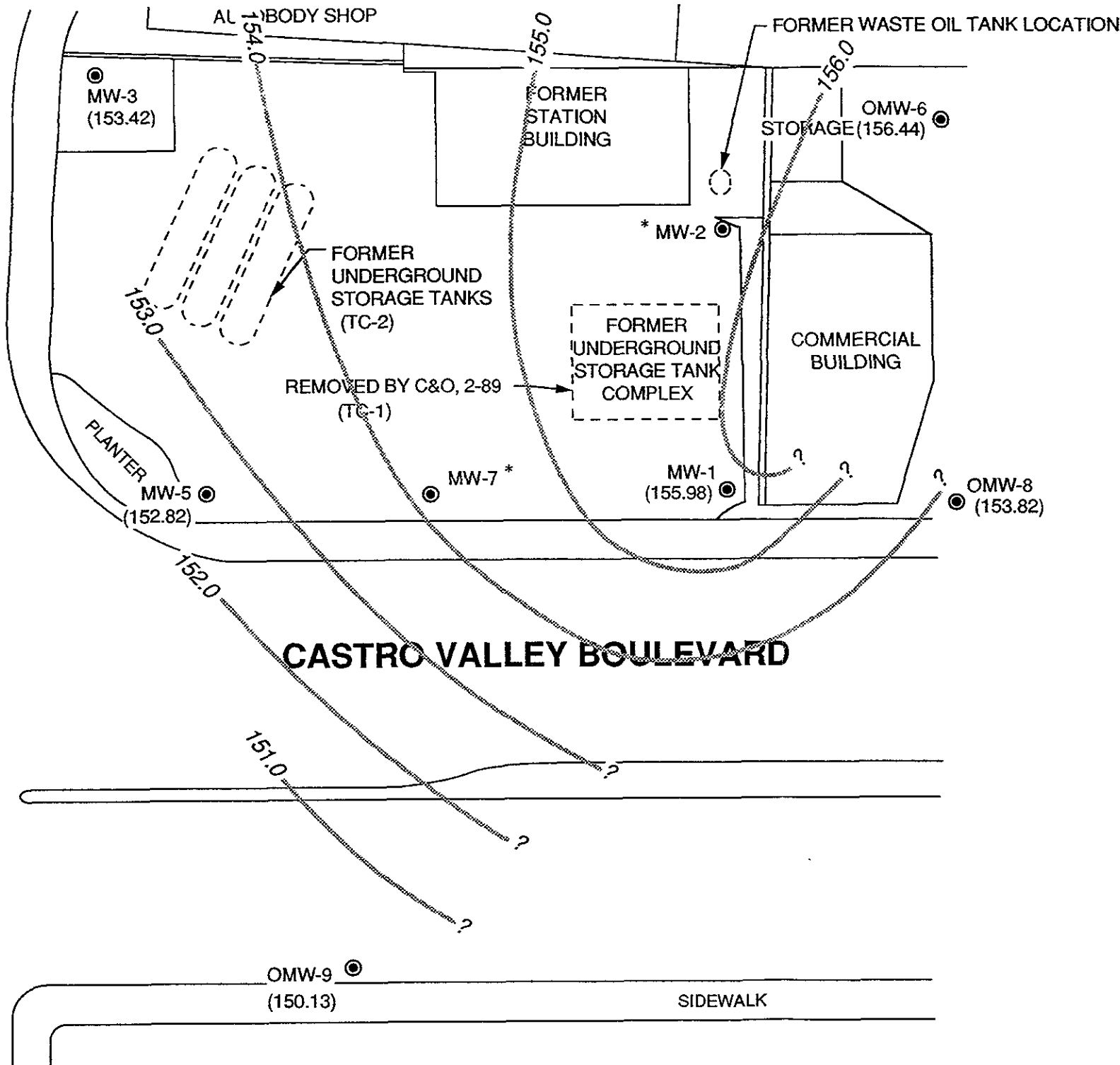
Table 3 (continued)
Groundwater Analytical Data
 Total Petroleum Hydrocarbons
 (TPH as Diesel and Motor Oil)

Former Shell Service Station
 2724 Castro Valley Boulevard at Lake Chabot Road
 Castro Valley, California

Well Number	Date Sampled	TPH as Diesel (ppb)	Motor Oil (ppb)
OMW-8 (cont.)	11/12/92	<50	NA
	02/18/93	<50	NA
	06/04/93	53	NA
	09/10/93	<50	NA
	11/17/93	<50	NA
	02/28/94	<50	NA
	05/26/94	<50	NA
	08/04/94	50 ^c	NA
	11/11/94	----- Sampled Semiannually-----	
	OMW-9	03/03/93	71 ^a
06/04/93		<50	NA
09/10/93		<50	NA
11/17/93		----- Well Paved Over -----	
02/28/94		<50	NA
05/26/94		<50	NA
08/26/94		<50	NA
11/11/94		----- Sampled Semiannually-----	
ppb = Parts per billion NA = Not analyzed < = Denotes minimum laboratory detection limits. (D) = Duplicate sample a. Concentration primarily due to the presence of a heavier petroleum hydrocarbon product. b. The positive result for TPH-d analysis on this sample appears to be lighter hydrocarbon than diesel. c. An unknown hydrocarbon consisting of several peaks.			



LAKE CHABOT ROAD



LEGEND

- MW-1 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- (153.82) GROUNDWATER ELEVATION IN FEET - MSL, 11-11-94
- 155.0 — GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 11-11-94
- * SURVEY REQUIRED - UNABLE TO USE FOR CONTOURING

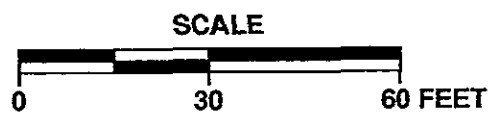


APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.04



PACIFIC ENVIRONMENTAL GROUP, INC.



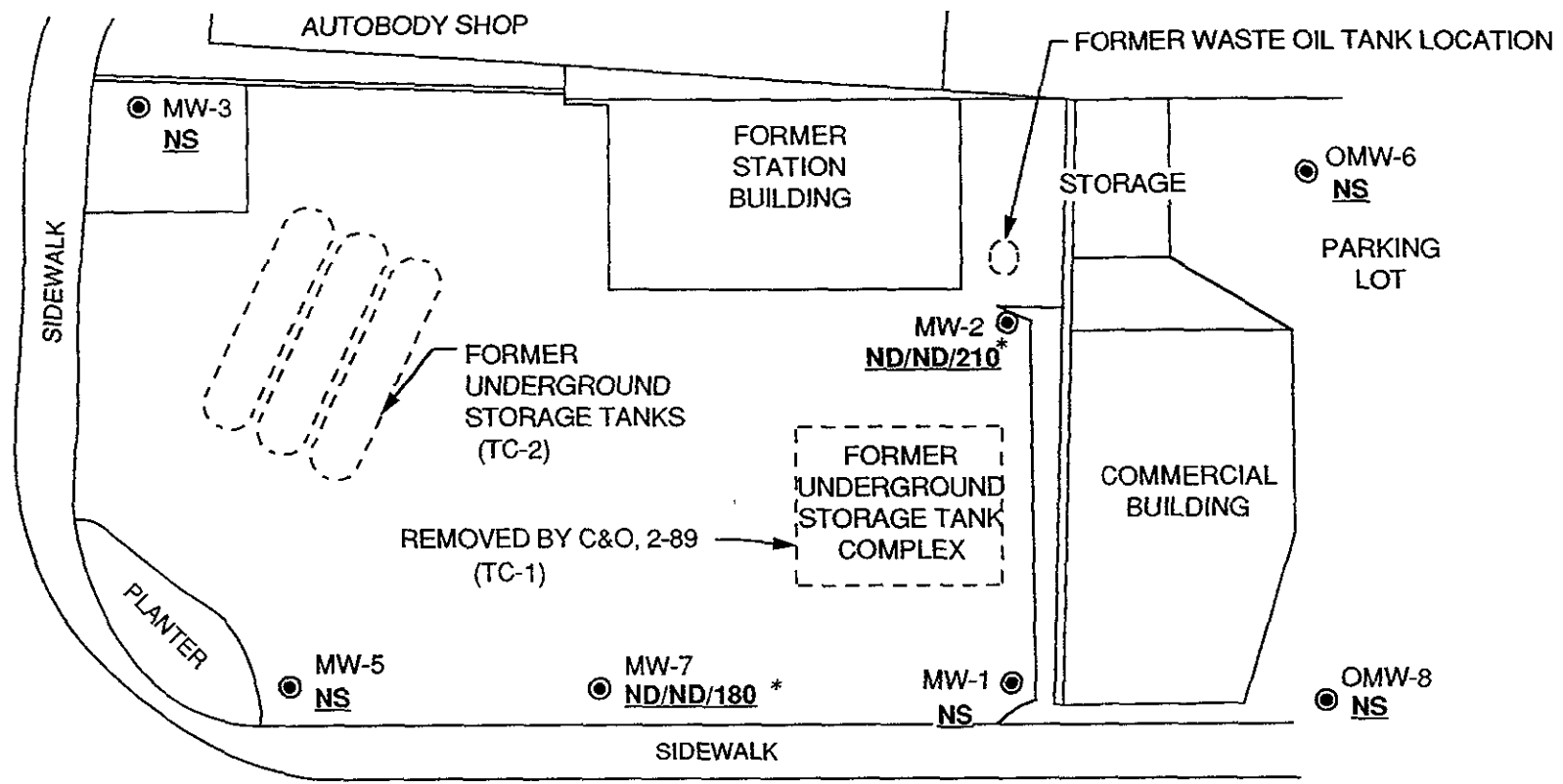
FORMER SHELL SERVICE STATION
2724 Castro Valley Boulevard at Lake Chabot Road,
Castro Valley, California

GROUNDWATER ELEVATION CONTOUR MAP

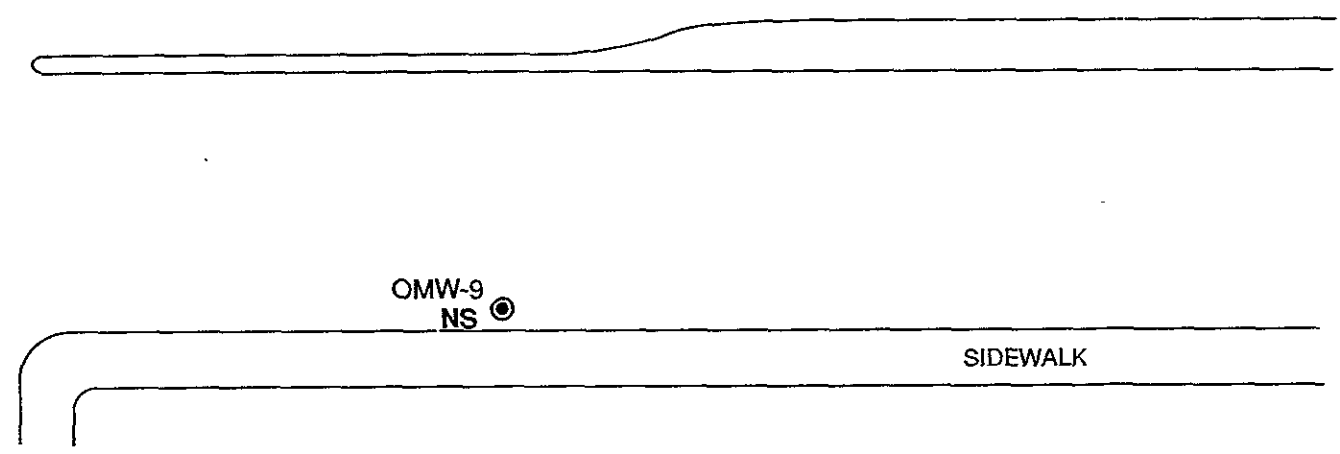
FIGURE:
1
PROJECT:
305-094.2B



LAKE CHABOT ROAD



CASTRO VALLEY BOULEVARD



LEGEND

MW-1 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

ND/ND/180 TPH-g/BENZENE/TPH-d CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 11-11-94

ND NOT DETECTED

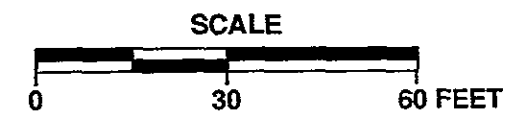
NS NOT SAMPLED

* LABORATORY NOTES RESULT APPEARS TO BE A HEAVIER HYDROCARBON

APPROXIMATE DIRECTION OF GROUNDWATER FLOW



PACIFIC ENVIRONMENTAL GROUP, INC.



FORMER SHELL SERVICE STATION
2724 Castro Valley Boulevard at Lake Chabot Road,
Castro Valley, California

TPH-g/BENZENE/TPH-d CONCENTRATION MAP

FIGURE:
2
PROJECT:
305-094.2B,

ATTACHMENT A
GROUNDWATER SAMPLING REPORT



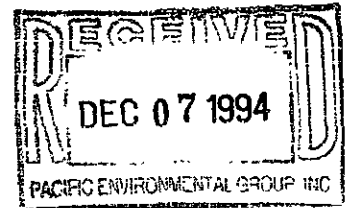
BLAINE TECH SERVICES INC.

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

December 5, 1994

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

Attn: Lynn Walker



SITE:
Shell WIC #204-1381-0407
2724 Castro Valley Blvd.
Castro Valley, California

QUARTER:
4th quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 941111-E-3

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 obtained in cases where the well dewateres and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site. 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 site is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

Sample Containers

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

Sampling

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

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

Sample Designations

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

Chain of Custody

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

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to National Environmental Testing, Inc. in Santa Rosa, California. NET is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #178.

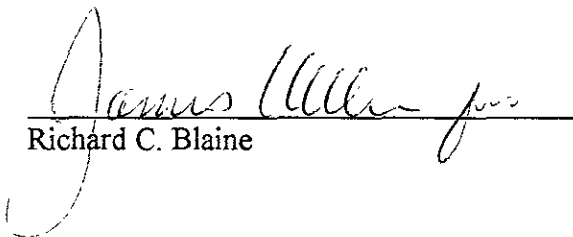
Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

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

Please call if we can be of any further assistance.


Richard C. Blaine

RCB/lp

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

cc: Pacific Environmental Group, Inc.
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	11/11/94	TOC	--	NONE	--	--	4.56	14.62
MW-2 *	11/11/94	TOC	--	NONE	--	--	5.60	11.97
MW-3	11/11/94	TOC	--	NONE	--	--	8.82	25.39
MW-5	11/11/94	TOC	--	NONE	--	--	7.86	22.08
MW-7	11/11/94	TOC	--	NONE	--	--	3.70	16.17
OMW-6	11/11/94	TOC	--	NONE	--	--	5.78	22.06
OMW-8	11/11/94	TOC	--	NONE	--	--	7.10	20.04
OMW-9	11/11/94	TOC	--	NONE	--	--	8.68	13.87

* Sample DUP was a duplicate sample taken from well MW-2.



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 941111-E3

Date: 11/11/94

Page 1 of 1

#3837

Silo Address: 2724 Castro Valley Blvd., Castro Valley

WIC#: 204-1381-0407

Shell Engineer: Lynn Walker
Phone No.: (510) 675-6169
Fax #: 675-6172

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: [Signature]

Printed Name: Kent Brown

Analysis Required

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

LAB: NET

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
Quantity Monitoring <input checked="" type="checkbox"/> 8441		24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 8441		48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/> 8442		16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/> 8443		Other <input type="checkbox"/>
Soil/Air Rem. of Sys. O & M <input type="checkbox"/> 8462		
Water Rem. of Sys. O & M <input type="checkbox"/> 8463		
Other <input type="checkbox"/>		

NOTE: Hasty Lab or soon as Possible of 24/48 hr. TAT.

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/802)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-2	11/11/94			W		5	X				X							
MW-4				W		5	X				X							
EB				W		5	X				X							
DUP				W		5	X				X							
T.B				W		2					X							

(CUSTOMER SEAL)
[Signature]
[Signature]

Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>Kent Brown</u>	Date: <u>11/11/94</u>	Time: <u>9:50</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>GO LUMBRE</u>	Date: <u>11/14</u>	Time: <u>9:52</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>OT LUMBRE</u>	Date: <u>11/14</u>	Time: <u>10:00</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>YAN CROSSER VIA</u>	Date: <u>11/14/94</u>	Time: <u>10:00</u>
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name: <u>TEMP. 1.30 C.</u>	Date:	Time:



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Santa Rosa Division
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

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

Date: 11/22/1994
NET Client Acct. No: 1821
NET Pacific Job No: 94.05482
Received: 11/15/1994


Client Reference Information

Shell 2724 Castro Valley Blvd., Castro Valley/941111-E2

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

Approved by:


Judy Ridley
Project Coordinator


Jim Hoch
Operations Manager

Enclosure(s)





Client Name: Blaine Tech Services
 Client Acct: 1821
 NET Job No: 94.05482

Date: 11/22/1994
 ELAP Cert: 1386
 Page: 2

Ref: Shell 2724 Castro Valley Blvd., Castro Valley/941111-E2

SAMPLE DESCRIPTION: MW-2

Date Taken: 11/11/1994

Time Taken:

NET Sample No: 222567

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTEXE,Liquid)								
METHOD 5030/M8015	--						11/18/1994	2318
DILUTION FACTOR*	1						11/18/1994	2318
as Gasoline	ND		50	ug/L	5030		11/18/1994	2318
Carbon Range:	--						11/18/1994	2318
METHOD 8020 (GC,Liquid)	--						11/18/1994	2318
Benzene	ND		0.5	ug/L	8020		11/18/1994	2318
Toluene	ND		0.5	ug/L	8020		11/18/1994	2318
Ethylbenzene	ND		0.5	ug/L	8020		11/18/1994	2318
Xylenes (Total)	ND		0.5	ug/L	8020		11/18/1994	2318
SURROGATE RESULTS	--						11/18/1994	2318
Bromofluorobenzene (SURRE)	97			% Rec.	5030		11/18/1994	2318
METHOD M8015 (EXT., Liquid)						11/16/1994		
DILUTION FACTOR*	1						11/17/1994	849
as Diesel	210	DH	50	ug/L	3510		11/17/1994	849
Carbon Range:	C18-C28						11/17/1994	849

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

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



Client Name: Blaine Tech Services
 Client Acct: 1821
 NET Job No: 94.05482

Date: 11/22/1994
 ELAP Cert: 1386
 Page: 3

Ref: Shell 2724 Castro Valley Blvd., Castro Valley/941111-E2

SAMPLE DESCRIPTION: MW-7
 Date Taken: 11/11/1994
 Time Taken:
 NET Sample No: 222568

Parameter	Results	Flags	Reporting			Date	Date	Run
			Limit	Units	Method	Extracted	Analyzed	Batch No.
TPH (Gas/BTKE,Liquid)	--							
METHOD 5030/M8015	--						11/19/1994	2323
DILUTION FACTOR*	1						11/19/1994	2323
as Gasoline	ND		50	ug/L	5030		11/19/1994	2323
Carbon Range:	--						11/19/1994	2323
METHOD 8020 (GC,Liquid)	--						11/19/1994	2323
Benzene	ND		0.5	ug/L	8020		11/19/1994	2323
Toluene	ND		0.5	ug/L	8020		11/19/1994	2323
Ethylbenzene	ND		0.5	ug/L	8020		11/19/1994	2323
Xylenes (Total)	ND		0.5	ug/L	8020		11/19/1994	2323
SURROGATE RESULTS	--						11/19/1994	2323
Bromofluorobenzene (SURRE)	91			% Rec.	5030		11/19/1994	2323
METHOD M8015 (EXT., Liquid)						11/16/1994		
DILUTION FACTOR*	1						11/17/1994	849
as Diesel	180	DH	50	ug/L	3510		11/17/1994	849
Carbon Range:	C14-C28						11/17/1994	849

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

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



Client Name: Blaine Tech Services
 Client Acct: 1821
 NET Job No: 94.05482

Date: 11/22/1994
 ELAP Cert: 1386
 Page: 4

Ref: Shell 2724 Castro Valley Blvd., Castro Valley/941111-E2

SAMPLE DESCRIPTION: EB
 Date Taken: 11/11/1994
 Time Taken:
 NET Sample No: 222569

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						11/18/1994	2318
DILUTION FACTOR*	1						11/18/1994	2318
as Gasoline	ND		50	ug/L	5030		11/18/1994	2318
Carbon Range:	--						11/18/1994	2318
METHOD 8020 (GC,Liquid)	--						11/18/1994	2318
Benzene	ND		0.5	ug/L	8020		11/18/1994	2318
Toluene	ND		0.5	ug/L	8020		11/18/1994	2318
Ethylbenzene	ND		0.5	ug/L	8020		11/18/1994	2318
Xylenes (Total)	ND		0.5	ug/L	8020		11/18/1994	2318
SURROGATE RESULTS	--						11/18/1994	2318
Bromofluorobenzene (SURR)	74			% Rec.	5030		11/18/1994	2318
METHOD M8015 (EXT., Liquid)						11/16/1994		
DILUTION FACTOR*	1						11/17/1994	849
as Diesel	ND		50	ug/L	3510		11/17/1994	849
Carbon Range:	--						11/17/1994	849

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



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SAMPLE DESCRIPTION: DUP
 Date Taken: 11/11/1994
 Time Taken:
 NET Sample No: 222570

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						11/18/1994	2319
DILUTION FACTOR*	1						11/18/1994	2319
as Gasoline	ND		50	ug/L	5030		11/18/1994	2319
Carbon Range:	--						11/18/1994	2319
METHOD 8020 (GC,Liquid)	--						11/18/1994	2319
Benzene	ND		0.5	ug/L	8020		11/18/1994	2319
Toluene	ND		0.5	ug/L	8020		11/18/1994	2319
Ethylbenzene	ND		0.5	ug/L	8020		11/18/1994	2319
Xylenes (Total)	ND		0.5	ug/L	8020		11/18/1994	2319
SURROGATE RESULTS	--						11/18/1994	2319
Bromofluorobenzene (SURR)	95			% Rec.	5030		11/18/1994	2319
METHOD M8015 (EXT., Liquid)						11/16/1994		
DILUTION FACTOR*	1						11/17/1994	849
as Diesel	170	DH	50	ug/L	3510		11/17/1994	849
Carbon Range:	C16-C28						11/17/1994	849

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

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SAMPLE DESCRIPTION: TB

Date Taken: 11/11/1994

Time Taken:

NET Sample No: 222571

Parameter	Results	Flags	Reporting			Date	Date	Run
			Limit	Units	Method	Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						11/18/1994	2319
DILUTION FACTOR*	1						11/18/1994	2319
as Gasoline	ND		50	ug/L	5030		11/18/1994	2319
Carbon Range:	--						11/18/1994	2319
METHOD 8020 (GC,Liquid)	--						11/18/1994	2319
Benzene	ND		0.5	ug/L	8020		11/18/1994	2319
Toluene	ND		0.5	ug/L	8020		11/18/1994	2319
Ethylbenzene	ND		0.5	ug/L	8020		11/18/1994	2319
Xylenes (Total)	ND		0.5	ug/L	8020		11/18/1994	2319
SURROGATE RESULTS	--						11/18/1994	2319
Bromofluorobenzene (SURR)	78			% Rec.	5030		11/18/1994	2319

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CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV	CCV	CCV	Units	Date Analyzed	Analyst Initials
	Standard % Recovery	Standard Amount Found	Standard Amount Expected			
TPH (Gas/BTXE,Liquid)						
as Gasoline	105.0	1.05	1.00	mg/L	11/18/1994	lss
Benzene	110.0	5.50	5.00	ug/L	11/18/1994	lss
Toluene	105.2	5.26	5.00	ug/L	11/18/1994	lss
Ethylbenzene	109.0	5.45	5.00	ug/L	11/18/1994	lss
Xylenes (Total)	110.7	16.6	15.0	ug/L	11/18/1994	lss
Bromofluorobenzene (SURR)	112.0	112	100	% Rec.	11/18/1994	lss
TPH (Gas/BTXE,Liquid)						
as Gasoline	105.0	1.05	1.00	mg/L	11/18/1994	lss
Benzene	110.0	5.50	5.00	ug/L	11/18/1994	lss
Toluene	105.2	5.26	5.00	ug/L	11/18/1994	lss
Ethylbenzene	109.0	5.45	5.00	ug/L	11/18/1994	lss
Xylenes (Total)	110.7	16.6	15.0	ug/L	11/18/1994	lss
Bromofluorobenzene (SURR)	112.0	112	100	% Rec.	11/18/1994	lss
TPH (Gas/BTXE,Liquid)						
as Gasoline	93.0	0.93	1.00	mg/L	11/19/1994	lss
Benzene	89.4	4.47	5.00	ug/L	11/19/1994	lss
Toluene	88.2	4.41	5.00	ug/L	11/19/1994	lss
Ethylbenzene	94.4	4.72	5.00	ug/L	11/19/1994	lss
Xylenes (Total)	100.0	15.0	15.0	ug/L	11/19/1994	lss
Bromofluorobenzene (SURR)	106.0	106	100	% Rec.	11/19/1994	lss
METHOD M8015 (EXT., Liquid)						
as Diesel	102.0	1020	1000	mg/L	11/17/1994	tdn

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METHOD BLANK REPORT

Parameter	Method	Reporting			Date	Analyst
	Blank	Amount	Limit	Units	Analyzed	Initials
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05		mg/L	11/18/1994	lss
Benzene	ND	0.5		ug/L	11/18/1994	lss
Toluene	ND	0.5		ug/L	11/18/1994	lss
Ethylbenzene	ND	0.5		ug/L	11/18/1994	lss
Xylenes (Total)	ND	0.5		ug/L	11/18/1994	lss
Bromofluorobenzene (SURR)	100			% Rec.	11/18/1994	lss
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05		mg/L	11/18/1994	lss
Benzene	ND	0.5		ug/L	11/18/1994	lss
Toluene	ND	0.5		ug/L	11/18/1994	lss
Ethylbenzene	ND	0.5		ug/L	11/18/1994	lss
Xylenes (Total)	ND	0.5		ug/L	11/18/1994	lss
Bromofluorobenzene (SURR)	100			% Rec.	11/18/1994	lss
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05		mg/L	11/19/1994	lss
Benzene	ND	0.5		ug/L	11/19/1994	lss
Toluene	ND	0.5		ug/L	11/19/1994	lss
Ethylbenzene	ND	0.5		ug/L	11/19/1994	lss
Xylenes (Total)	ND	0.5		ug/L	11/19/1994	lss
Bromofluorobenzene (SURR)	77			% Rec.	11/19/1994	lss
METHOD M8015 (EXT., Liquid)						
as Diesel	ND	0.05		mg/L	11/17/1994	tdn

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike			Spike Amount	Sample Conc.	Matrix Spike		Units	Date Analyzed	Analyst Initials
	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD			Matrix Spike Conc.	Matrix Spike Dup. Conc.			
TPH (Gas/BTXE,Liquid)										
as Gasoline	99.0	106.0	6.7	1.00	ND	0.99	1.06	mg/L	11/18/1994	lss
Benzene	94.4	100.9	6.6	21.4	ND	20.2	21.6	ug/L	11/18/1994	lss
Toluene	92.6	100.0	7.6	78.5	ND	72.7	78.5	ug/L	11/18/1994	lss
TPH (Gas/BTXE,Liquid)										
as Gasoline	103.0	94.0	9.0	1.00	ND	1.03	0.94	mg/L	11/18/1994	lss
Benzene	94.4	87.4	7.7	21.4	ND	20.2	18.7	ug/L	11/18/1994	lss
Toluene	97.2	89.2	8.6	78.5	ND	76.3	70.0	ug/L	11/18/1994	lss
TPH (Gas/BTXE,Liquid)										
as Gasoline	112.0	96.0	15.3	1.00	ND	1.12	0.96	mg/L	11/19/1994	lss
Benzene	112.8	102.3	9.8	17.2	ND	19.4	17.6	ug/L	11/19/1994	lss
Toluene	114.8	100.2	13.6	64.8	ND	74.4	64.9	ug/L	11/19/1994	lss
METHOD M8015 (EXT., Liquid)										
as Diesel	76.5	81.5	6.3	2.00	ND	1.53	1.63	mg/L	11/17/1994	tdn

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



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LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS		LCS	LCS	Units	Date Analyzed	Analyst Initials
	% Recovery	RPD	Amount Found	Amount Expected			
METHOD M8015 (EXT., Liquid) as Diesel	59.1		0.591	1.00	mg/L	11/17/1994	tdn

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



® KEY TO ABBREVIATIONS and METHOD REFERENCES

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

Method References

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

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

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

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

COOLER RECEIPT FORM

Project: QA1111-E3 Log No: 3837
Cooler received on: 11/5/94 and checked on 11/5/94 by (Signature)
(signature)

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

TEMP: 1.30C

Note which voas (if any) had bubbles:*

Sample descriptor:	Number of vials:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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

List here all other jobs received in the same cooler:

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

(coolerrec)

SHELL WELL MONITORING DATA SHEET

Project #: <u>94111-EB</u>	Wic # <u>204-1301-0407</u>
Sampler: <u>LEB</u>	Date Sampled: <u>11/11/94</u>
Well I.D.: <u>MW-2</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>11.97</u> After	Depth to Water: Before <u>5.60</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<u>PVC</u> Grade Other --

Volume Conversion Factor (VCF):

$$VCF = \frac{(2.31 \times \pi) \times r^2}{2.31 \times \pi \times h}$$
 where:
 r = radius (in.)
 h = diameter (in.)
 2.31 = ft/gal

Well Dia.	VCF
2"	0.24
3"	0.57
4"	0.85
6"	1.57
8"	2.68
10"	4.08
12"	5.87

<u>4.1</u>	x	<u>3</u>	=	<u>12.3</u>
1 Case Volume		Specified Volumes		gallons

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

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>1342</u>	<u>65.4</u>	<u>7.46</u>	<u>1720</u>	<u>16.44</u>	<u>5.</u>	
<u>1344</u>	<u>67.1</u>	<u>7.21</u>	<u>890</u>	<u>23.2</u>	<u>10</u>	
<u>1345</u>	<u>67.7</u>	<u>7.18</u>	<u>1000</u>	<u>29.4</u>	<u>15.</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 15

Sampling Time: 1350

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

Analyzed for: TPH-G, BEX, TPH-Diesel

Duplicate I.D.: DUP = MW-2 Cleaning Blank I.D.: EB After MW-2

Analyzed for: TPH-G, BEX, TPH-Diesel TPH-G, BEX, TPH-Diesel

Shipping Notations: EB At 1410

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: <u>941111-E3</u>	Wic # <u>204-1381-0407</u>
Sampler: <u>KB</u>	Date Sampled: <u>11/11/94</u>
Well I.D.: <u>MW-7</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>16.17</u> After	Depth to Water: Before <u>3.70</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to:	<u>(PVC)</u> Grade Other --

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

Well Dia.	VCF
2"	0.24
3"	0.37
4"	0.48
6"	1.07
8"	1.94
12"	4.37

<u>2.0</u>	x	<u>3</u>	=	<u>6.0</u>
1 Case Volume		Specified Volumes		gallons

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

Sampling: Bailer sketch
 Middleburg
 Electric Submersible
 Suction Pump
 Installed Pump

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>1318</u>	<u>18.3</u>	<u>7.21</u>	<u>978</u>	<u>>200</u>	<u>2.0</u>	
<u>1320</u>	<u>18.6</u>	<u>6.87</u>	<u>983</u>	<u>>200</u>	<u>4.0</u>	
<u>1324</u>	<u>17.1</u>	<u>7.07</u>	<u>1092</u>	<u>>200</u>	<u>6.0</u>	

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

Sampling Time: 1325

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

Analyzed for: TPH, BTEX, TPH-Diesel

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

Analyzed for:

Shipping Notations:

Additional Notations: