PACIFIC
ENVIRONMENTAL
GROUP INC.

April 30, 1993
Project 305-79.01

#530

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

Re: First Quarter 1993 Quarterly Report
Shell Service Station
285 Hegenberger Road at Leet Drive
Oakland, California
WIC No 204-5508-5504

Dear Mr. Kirk:

This letter presents the results of the first quarter 1993 monitoring program for Shell Oil Company (Shell) prepared by Pacific Environmental Group, Inc. (PACIFIC) for the site referenced above (Figures 1 and 2). This letter also presents an update to the remedial system installation schedule.

FINDINGS

Groundwater monitoring wells were gauged and sampled by Blaine Tech Services, Inc. (Blaine) at the direction of PACIFIC on January 14 and 15, 1993. Groundwater elevation contours for the sampling date are shown on Figure 2. 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 total petroleum hydrocarbons calculated as diesel (TPH-d) concentrations for the January 1993 sampling event are shown on Figure 3. Wells MW-2, MW-7, MW-8, and MW-9 were resampled on April 8, 1993, as these wells were not analyzed for TPH-d during the January sampling event. Wells MW-1, MW-3 through MW-6, and MW-10 were also analyzed for total petroleum hydrocarbons calculated as motor oil (TPH-mo).

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Wells MW-2 and MW-7 through MW-9 were inadvertently not sampled for TPH-mo. Blaine's groundwater sampling report is presented as Attachment A.

The laboratory noted that the concentrations reported as TPH-d for Wells MW-1, MW-6, MW-7, and MW-9 are primarily due to the presence of a lighter petroleum product in the carbon range of C6 to C12. The laboratory noted that the concentrations reported as TPH-d for Wells MW-2 and MW-8 are primarily due to the presence of a heavier petroleum product in the carbon range of C18 to C36. The laboratory also noted that the concentrations reported as TPH-d for Wells MW-5 and MW-10 are primarily due to the combination of a lighter and a heavier petroleum product, possible TPH-g and motor oil.

A schedule for remedial system implementation was provided in the PACIFIC letter dated January 14, 1993. Delays have been encountered during remedial system design review and permitting that have affected the schedule provided in the letter referenced above. However, several significant steps have been achieved toward system installation. The BAAQMD authority to construct for the soil vapor extraction system was received on February 22, 1993. A copy of the permit is included in Attachment B.

Additionally, remedial system installation plans have been approved by both the Port and City of Oakland. These plans were received by PACIFIC on April 29, 1993. Approved installation plans are included in Attachment C. Future work required toward remedial system installation consists of:

- o System installation bids and contractor selection.
- o Remedial system component acquisition and delivery (acquisition of major components is in progress).
- o Remedial system installation and start-up.

The schedule presented in the January 14, 1993 letter will not be met based on the delays encountered. PACIFIC will continue provide progress reports towards system installation.

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

Sincerely,

Pacific Environmental Group, Inc.

Michael Hurd
Senior Geologist
RG 5319

Attachments:
Table 1 - Groundwater Elevation Data
Table 2 - Groundwater Analytical Data - Total Petroleum Hydrocarbons (TPH as Gasoline, BTEX Compounds, and TPH as Diesel)
Table 3 - Groundwater Analytical Data - Total Petroleum Hydrocarbons (Oil and Grease and Motor Oil)
Figure 1 - Site Location Map
Figure 2 - Groundwater Elevation Contour Map
Figure 3 - TPH-g/Benzene/TPH-d Concentration Map
Attachment A - Groundwater Sampling Report
Attachment B - BAAQMD Permits
Attachment C - Approved Building Plans

cc: Mr. Barney Chan, Alameda County Health Care Services
Mr. Richard Hiett, Regional Water Quality Control Board

May 10-14, May 17 returned.

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
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
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

Table 1 (continued)
Groundwater Elevation Data

[illegible] 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-3 (cont.)	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
MW-4	05/23/89	7.38	5.60	1.78
	08/03/89		6.37	1.01
	12/15/89		6.91	0.47
	03/08/90		6.06	1.32
	04/18/90		5.84	1.54
	07/23/90		6.92	0.46
	07/23/90		6.92	0.46
	09/27/91		8.03	0.65
	01/03/91		7.54	-0.16
	04/10/91		5.06	2.32
	07/12/91		6.86	0.52
	10/08/91		7.44	-0.06
	02/06/92		7.29	0.09
	05/04/92		5.33	2.05
	07/28/92		6.95	0.43
	10/27/92		7.65	-0.27
	01/14/93		4.84	2.54
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

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
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
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

Table 1 (continued)
Groundwater Elevation Data

[illegible] Station
285 Hegenberger Road at Leet Drive
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-8 (cont.)	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
MW-9	08/03/89	7.63	5.78	1.85
	12/15/89		5.24	2.39
	02/07/90		5.23	2.40
	04/18/90		5.34	2.29
	07/23/90		5.65	1.98
	09/27/90		5.96	1.67
	01/03/91		6.23	1.40
	04/10/91		4.65	2.98
	07/12/91		5.65	1.98
	10/08/91		6.08	1.55
	02/06/92		5.92	1.71
	05/04/92		4.80	2.83
	07/28/92		5.61	2.02
	10/27/92		6.24	1.39
	01/14/93		4.95	2.68
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

MSL = Mean sea level
TOC = Top of casing

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

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)
MW-1	02/16/92	99.0	20	23	5.7	23	NA
	05/23/92	48.0	4.2	5.2	1.2	7.7	11.0
	08/04/89	63.0	5.5	5.5	3.2	9.5	11.0
	12/15/89	30.0	ND	ND	ND	ND	11.0
	02/07/90	93.0	13.0	9.6	2.4	14.0	10.0
	04/18/90	55.0	14.0	8.4	3.2	13.0	8.7
	07/24/90	73.0	16.0	7.40	2.80	15.0	3.6
	10/01/90	45.0	8.0	4.3	2.0	11.0	1.7
	01/02/91	43.0	10.0	3.40	1.90	11.0	3.10
	04/09/91	67.0	20.0	9.60	3.50	16.0	1.8
	07/11/91	NR	NR	NR	NR	NR	NR
	10/08/91	55	18	3.5	2.3	8.6	7.4
	02/06/92	48.0	12.0	2.8	1.9	7.4	15.0*
	05/05/92	71	16	6.0	3.1	14	10*
	07/28/92	68	21	5.5	3.4	15	18*
	07/28/92(D)	70	17	5.0	2.7	13	19*
	10/27/92	53	18	3.7	3.4	11	1.3
	10/27/92(D)	48	17	3.6	3.1	9.9	2.5*
	01/15/93	84	17	5.4	3.0	13	22*
MW-2	02/16/89	20.0	0.2	0.9	2.7	9.6	NA
	05/23/89	1.5	0.0043	0.0029	0.011	0.15	1.6
	08/04/89	15.0	0.075	0.12	0.85	2.2	7.4
	12/15/89	5.0	0.052	0.013	0.0041	0.29	2.6
	02/07/90	13.0	0.032	0.034	0.23	0.640	4.8
	04/18/90	9.8	0.033	0.019	0.46	1.7	3.2
	07/24/90	9.6	0.041	0.027	0.540	0.940	2.7
	10/01/90	0.39	0.0034	0.015	0.0085	0.025	1.6
	01/02/91	1.8	0.056	0.0044	0.0048	0.092	0.83
	04/09/91	1.9	ND	0.028	0.140	0.490	0.28
	07/11/91	8.1	0.089	0.066	0.350	0.930	1.1
	10/08/91	1.4	0.0051	0.0015	0.036	0.270	2.6
	02/06/92	2.0	0.0078	0.0025	0.13	0.210	5.4*
	05/05/92	21**	ND	ND	0.30	0.96	1.0
	07/28/92	2.1	0.0077	0.0033	0.13	0.31	0.83*
	10/27/92	1.1	0.016	0.0031	0.0045	0.025	0.53
	01/15/93+	0.29	0.0052	0.0031	0.0084	0.021	0.17**
MW-3	02/16/89	60.0	5.5	0.2	3.2	5.2	NA
	05/23/89	ND	ND	ND	ND	ND	1.5
	08/04/89	2.0	0.12	0.012	ND	0.086	1.2

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

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)
MW-3 (cont.)	12/15/89	5.2	0.38	0.047	0.017	0.410	1.7
	03/08/90	0.26	0.017	ND	0.0054	0.0025	0.23
	04/19/90	0.26	ND	ND	ND	0.0094	ND
	07/24/90	0.51	0.046	0.0012	ND	0.0093	0.21
	09/28/90	0.46	0.0063	0.0017	ND	0.015	0.35
	01/02/91	4.8	0.920	0.0088	ND	0.190	0.63
	04/09/91	0.12	0.0012	0.0008	0.0035	0.021	0.06
	07/11/91	0.43	0.012	ND	ND	0.0077	ND
	10/08/91	0.77	0.140	0.0007	ND	0.053	0.56
	02/06/91	0.50	0.074	0.0009	0.0052	0.0053	0.34*
	05/04/92	0.31	0.047	ND	0.017	0.016	0.29*
	07/28/92	0.78	0.13	ND	0.013	0.0042	0.10*
	10/27/92	0.74	0.092	0.0028	0.0078	0.0096	0.069*
	01/15/93	ND	0.0024	ND	ND	ND	ND
MW-4	05/23/89	ND	ND	ND	ND	ND	ND
	08/04/89	ND	ND	ND	ND	ND	ND
	12/15/89	ND	ND	ND	ND	ND	ND
	03/08/90	ND	ND	ND	ND	ND	ND
	07/25/90	ND	ND	ND	ND	ND	ND
	09/28/90	ND	ND	ND	ND	ND	ND
	01/02/91	ND	ND	ND	ND	ND	ND
	04/09/91	ND	ND	ND	ND	ND	ND
	07/11/91	ND	ND	ND	ND	ND	ND
	10/08/91	ND	ND	ND	ND	ND	ND
	02/06/92	0.12	ND	ND	ND	ND	2.5*
	05/04/92	ND	ND	ND	ND	ND	0.053
	07/28/92	ND	ND	ND	ND	ND	0.060
	10/27/92	ND	ND	ND	ND	ND	ND
	01/14/93	ND	ND	ND	ND	ND	ND
MW-5	05/23/89	26.0	1.5	0.28	ND	8.1	7.0
	08/05/89	12.0	0.86	0.094	ND	2.6	8.7
	12/15/89	1.00	0.022	0.035	0.018	0.044	0.71
	02/08/90	ND	0.0008	ND	ND	ND	0.62
	04/19/90	19.0	4.5	0.85	0.097	8.0	5.0
	07/24/90	23.0	3.6	0.400	0.160	6.50	2.7
	09/28/90	5.4	1.40	0.026	0.013	1.30	0.55
	01/02/91	0.86	0.280	0.0028	0.0008	0.045	0.56
	04/09/91	12.0	0.710	0.130	0.500	2.4	1.8

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

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)
MW-5 (cont.)	07/11/91	24.0	2.2	0.280	0.430	5.7	1.7
	10/08/91	2.8	0.860	0.013	ND	0.580	1.4
	02/06/92	1.0	0.30	ND	0.014	0.062	1.2
	05/05/92	10	1.5	0.35	0.71	2.3	4.1*
	07/28/92	12	2.2	0.063	1.4	3.5	3.8*
	10/27/92	7.5	1.1	0.059	0.23	0.90	0.48*
	01/15/93	7.7	0.42	0.049	0.57	0.84	1.1***
MW-6	05/23/89	22.0	0.016	0.0065	0.0066	3.4	7.0
	08/04/89	28.0	1.2	0.13	2.1	2.8	8.8
	12/15/89	16.0	0.37	0.092	0.20	0.18	5.5
	02/07/90	22.0	0.52	0.085	0.63	0.77	2.6
	04/18/90	21.0	0.9	0.077	2.7	2.7	5.7
	07/24/90	24.0	1.00	0.094	3.40	2.70	3.0
	10/01/90	22.0	0.70	0.093	2.50	2.40	ND
	01/02/91	25.0	1.00	0.088	2.60	3.70	0.96
	04/09/91	18.0	0.560	0.190	0.480	0.830	0.92
	07/11/91	9.5	0.670	0.051	1.1	0.920	1.9
	10/08/91	11.0	1.00	0.043	ND	ND	5.1
	02/06/92	7.2	0.56	0.008	0.72	0.16	15.0*
	05/05/92	7.9	0.61	ND	1.5	0.24	2.9*
	07/28/92	17	1.2	ND	3.0	0.61	3.2*
	10/27/92	15	1.3	0.13	1.7	0.49	1.3*
	01/14/93	4.9	0.08	0.031	0.33	0.037	1.6*
MW-7	05/23/89	47.0	3.5	5.0	1.5	7.8	11
	08/04/89	68.0	6.2	6.6	3.6	8.8	22
	12/15/89	100.0	4.5	5.3	1.3	5.3	12
	02/08/90	96.0	15.0	15.0	2.5	14.0	8.1
	04/19/90	94.0	25.0	13.0	3.3	13.0	10.0
	07/24/90	84.0	3.8	26.0	13.0	3.0	12.0
	09/28/90	43.0	25.0	6.10	2.40	9.0	ND
	01/02/91	78.0	26.0	16.0	3.0	14.0	3.10
	04/09/91	140.0	26.0	16.0	2.20	14.0	1.8
	07/11/91	79.0	7.7	7.2	2.3	10.0	1.1
	10/08/91	55.0	29.0	7.5	1.8	9.3	0.39*
	02/06/92	63.0	16.0	8.7	1.6	7.4	9.6*
	05/05/92	67	22	13	1.8	9.4	9.8*
	07/28/92	85	26	17	2.9	15	13.0*
	10/27/92	63	21	11	3.0	11	1.9*
	01/14/93	120	28	21	1.6	15	2.3*

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

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)
MW-8	05/23/89	ND	ND	ND	ND	ND	0.10
	08/04/89	ND	ND	ND	ND	ND	0.075
	12/15/89	ND	ND	ND	ND	ND	ND
	03/08/90	ND	ND	ND	ND	ND	ND
	07/25/90	ND	ND	ND	ND	ND	ND
	09/28/90	ND	ND	ND	ND	ND	1.1
	01/02/91	ND	0.0013	ND	ND	ND	ND
	04/09/91	0.05	0.0007	0.0011	0.0008	0.0010	ND
	07/11/91	ND	ND	ND	ND	ND	ND
	10/08/91	ND	0.0014	ND	ND	ND	ND
	02/06/92	ND	ND	0.0007	ND	ND	0.06*
	05/04/92	ND	ND	ND	ND	ND	0.21**
	07/28/92	0.051	ND	ND	0.001	0.0006	ND
	10/27/92	ND	ND	0.0066	ND	ND	ND
	01/14/93	ND	ND	ND	ND	ND	0.064**
	01/14/93(D)	ND	ND	ND	ND	ND	NA
MW-9	08/04/89	47.0	5.6	6.6	1.5	8.5	12.0
	12/15/89	88.0	4.3	5.4	0.14	5.6	9.2
	02/08/90	50.0	1.8	1.4	3.2	1.8	7.4
	04/19/90	50.0	14.0	11.0	0.73	10.0	7.5
	07/24/90	62.0	19.0	16.0	0.950	15.0	3.20
	09/28/90	30.0	16.0	6.50	0.980	11.0	2.70
	01/02/91	34.0	9.20	3.20	0.770	7.00	2.50
	04/09/91	66.0	17.0	13.0	1.40	14.0	2.2
	07/11/91	40.0	7.7	3.2	1.1	9.4	2.0
	10/08/91	20.0	11.0	0.640	0.240	6.0	4.7*
	02/06/92	36.0	11.0	0.49	1.1	6.7	6.6*
	05/05/92	31	11	1.7	1.2	8.7	5.8*
	07/28/92	50	17	1.2	1.5	12	14.0
	10/27/92	43	15	0.68	1.7	8.1	0.88*
	01/15/93	52	9.6	1.1	1.1	7.0	0.73*
MW-10	12/15/89	ND	1.5	ND	ND	ND	3.1
	03/08/90	25.0	17	0.330	2.1	1.4	1.8
	04/19/90	23.0	15.0	1.2	0.19	3.3	3.6
	07/25/90	18.0	12.0	0.38	ND	1.40	1.9
	09/28/90	9.5	13.0	0.100	1.80	0.23	0.43
	01/02/91	4.3	3.70	0.0097	ND	0.110	0.63
	04/09/91	45.	16.0	4.60	3.0	6.90	1.4

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline, TPH Benzene, Toluene, Ethylbenzene, Xylenes, and TPH as Diesel)

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)
MW-10	07/11/91	ND	ND	ND	ND	ND	
(cont.)	10/08/91	3.8	13.0	0.082	0.0091	0.500	1.5*
	02/06/92	22.0	12.0	ND	0.60	0.17	1.6*
	05/05/92	39	14	5.0	1.8	5.0	8.0*
	07/28/92	38	17	2.8	1.5	4.0	8.7*
	10/27/92	---------- Well Inaccessible ----------					
	01/14/93	26	10	ND	ND	0.16	0.95***

ppm = Parts per million
NA = Not analyzed
ND = Not detected
NR = Not reported
(D) = Duplicate sample
* = Laboratory noted that compound detected and calculated as TPH-d primarily appears to be due to a lighter petroleum product.
** = Laboratory noted that compound detected and calculated as TPH-d appears to be a heavier hydrocarbon compound.
*** = Laboratory noted that compound detected as TPH-d are due to the presence of a combination of a heavier petroleum product and a lighter petroleum product.
\+ = TPH-d analysis from April 8, 1993.
See individual analytical reports for detection limits.

Table 3
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(Oil and Grease and Motor Oil)

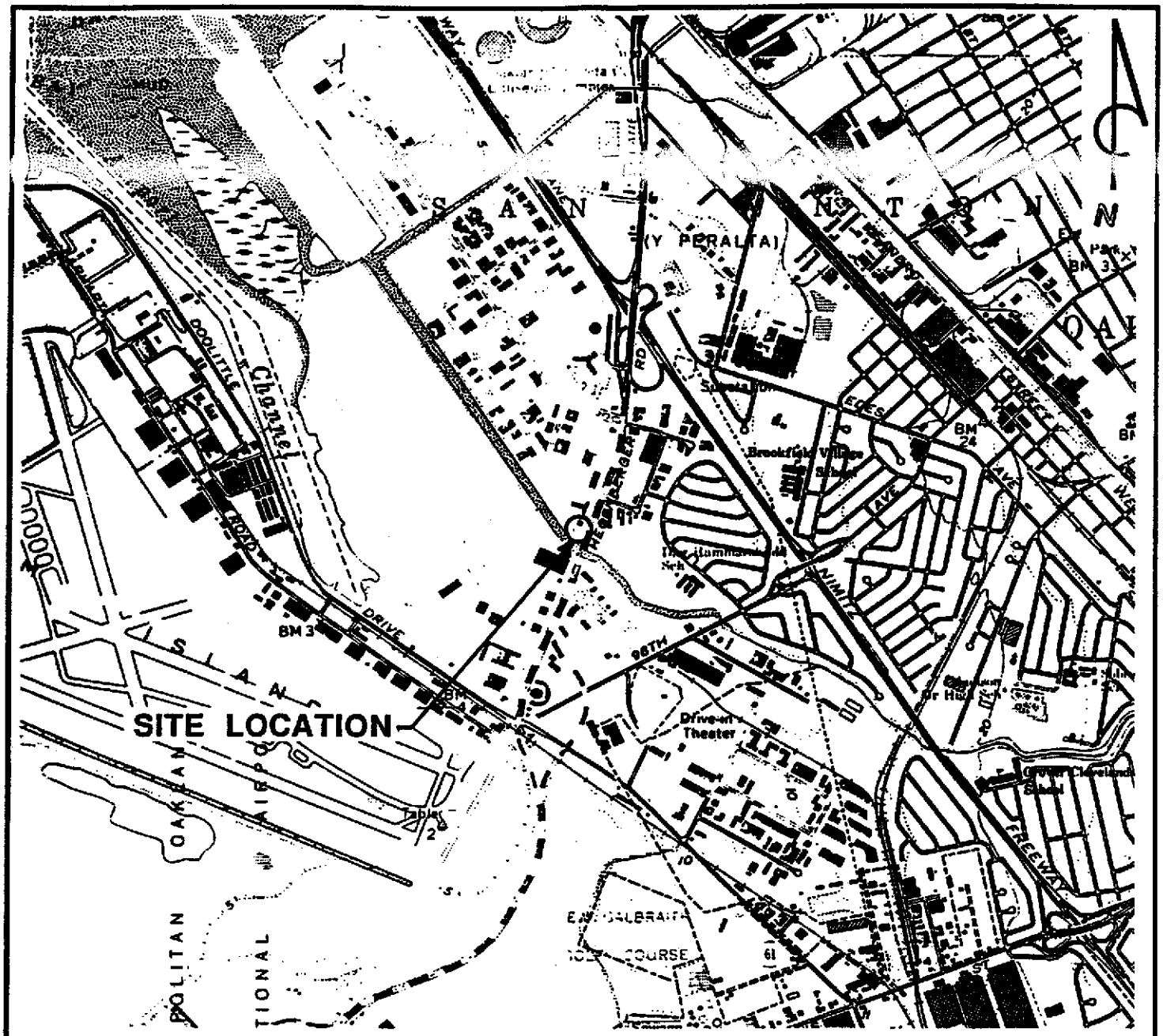
Shell Service Station
285 Hegenberger Road at Leet Drive
Oakland, California

5520 BR ?

what's d.l. ?

Well Number	Date Sampled	Oil and Grease (ppm)	Motor Oil (ppm)
MW-1	07/28/92	NA	ND
	07/28/92(D)	NA	ND
	01/15/93	NA	ND
MW-2	07/28/92	NA	0.32
	01/14/93	NA	NA
MW-3	07/28/92	ND	0.12
	10/27/92	ND	0.1
	01/15/93	ND	0.12
MW-4	07/28/92	NA	ND
	01/14/93	NA	0.12
MW-5	07/28/92	NA	1.2
	01/15/93	NA	0.43
MW-6	07/28/92	NA	ND
	01/14/93	NA	ND
MW-7	07/28/92	NA	ND
	01/14/93	NA	NA
MW-8	07/28/92	NA	0.15
	01/14/93	NA	NA
MW-9	07/28/92	NA	ND
	01/13/93	NA	NA
MW-10	07/28/92	NA	ND
	01/14/93	NA	0.20

ppm = Parts per million
NA = Not analyzed
ND = Not detected
(D) = Duplicate sample



QUADRANGLE LOCATION

REFERENCES:
USGS 7.5 MIN. TOPOGRAPHIC MAP
TITLED: SAN LEANDRO, CALIFORNIA
DATED: 1959 REVISED: 1980
TITLED: OAKLAND EAST, CALIFORNIA
DATED: 1959 REVISED: 1980

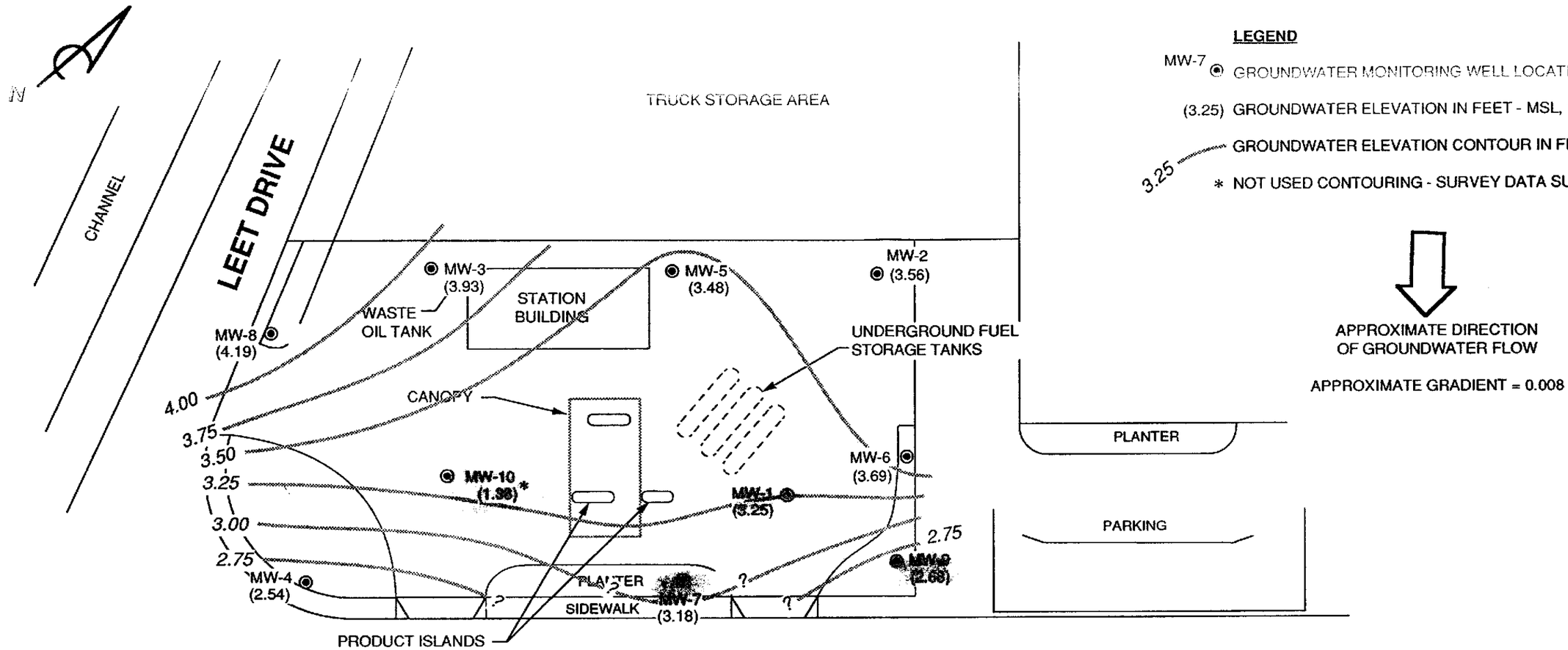
SCALE
2000 0 2000 FEET

PACIFIC ENVIRONMENTAL GROUP, INC.

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

SITE LOCATION MAP

FIGURE: 1
PROJECT: 305-79.01



PACIFIC ENVIRONMENTAL GROUP, INC.

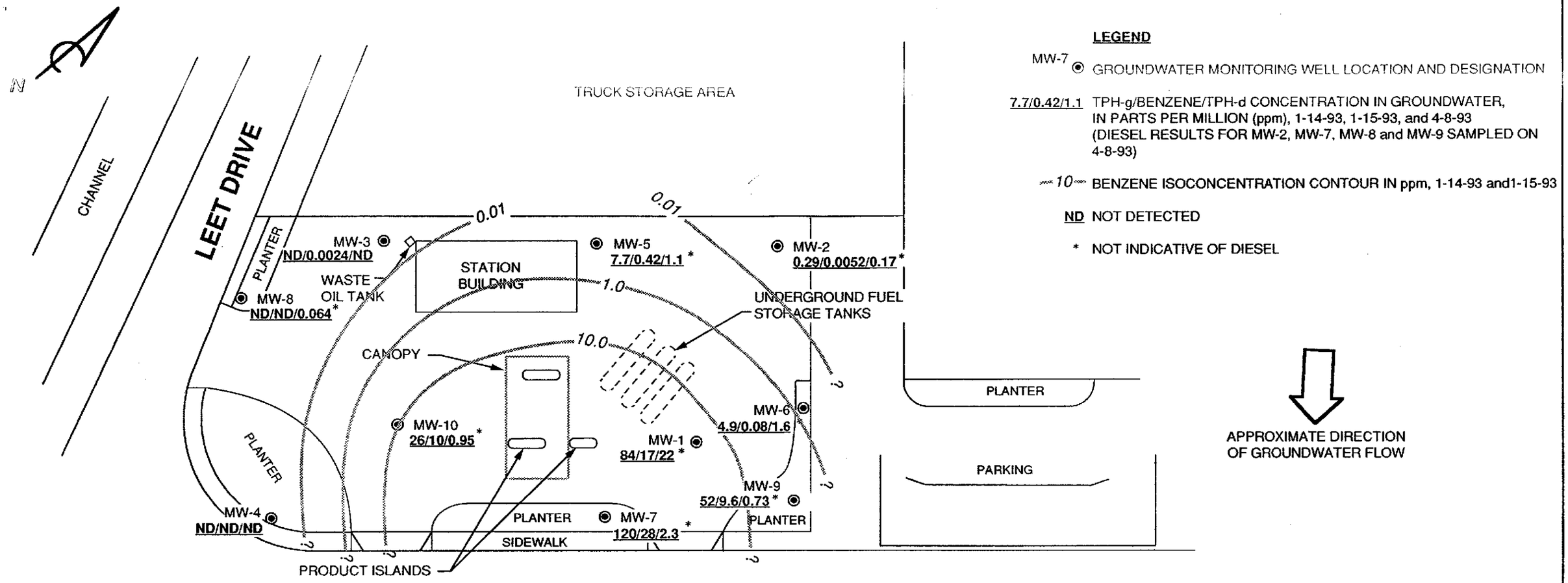
SCALE
0 40 80 FEET

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

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE:
2
PROJECT:
305-79.01

4/29/93



PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 40 80 FEET

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

TPH-g/BENZENE/TPH-d CONCENTRATION MAP

FIGURE: 3
PROJECT: 305-79.01

4/29/93

ATTACHMENT A

GROUNDWATER SAMPLING REPORT

BLAINE
TECH SERVICES INC.

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

February 3, 1993

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

Attn: Daniel T. Kirk

SITE:
Shell WIC # 204-5508-5504
285 Hegenberger Rd.
Oakland, California

QUARTER:
1st quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930114-M-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 the water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	4	01-14-93	TOP OF PIPE	ODOR	NONE	--	--	3.39	9.55
MW-2	4	01-14-93	TOP OF PIPE	--	NONE	--	--	4.12	9.69
MW-3	4	01-14-93	TOP OF PIPE	--	NONE	--	--	3.88	9.52
MW-4	4	01-14-93	TOP OF PIPE	--	NONE	--	--	4.84	10.14
MW-5	4	01-14-93	TOP OF PIPE	--	NONE	--	--	4.70	9.80
MW-6	4	01-14-93	TOP OF PIPE	ODOR	NONE	--	--	4.52	11.03
MW-7	4	01-14-93	TOP OF PIPE	ODOR	NONE	--	--	4.26	10.00
MW-8 *	4	01-14-93	TOP OF PIPE	--	NONE	--	--	3.60	9.97
MW-9	4	01-14-93	TOP OF PIPE	--	NONE	--	--	4.95	10.78
MW-10	4	01-14-93	TOP OF PIPE	--	NONE	--	--	6.07	9.94

* Sample MW-11 was a duplicate sample taken from well MW-8.

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

Decontamination

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

Free Product Skimmer

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

Sample Containers

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

Sampling

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

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

Sample Designations

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

Chain of Custody

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

Hazardous Materials Testing Laboratory

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

Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc.

performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

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

Please call if we can be of any further assistance.

Richard C. Blaine

RCB/kkl

attachments: chain of custody
certified analytical report

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

(12) (10/33)

CHAIN OF CUSTODY RECORD

9301194 Serial No.: _____

Date: _____ Page 2 of 2

Site Address: 285 Hegenberger Rd, Oakland

WIC#: 204-5508-5504

Shell Engineer: DAN KIRK — Phone No. (510) 675-6171 Fax #:

Consultant Name & Address: BLAINE TECH SERVICES, 985 TIMOTHY, S.J.

Consultant Contact: Glen Bennett — Phone No. (408) 995-5535 Fax #:

Comments:

Sampled By: _____

Printed Name: JIM MCCANN

LAB: ANAMETRIX

CHECK ONE (1) BOX ONLY		CT/DT	TURN AROUND TIME	
Quarterly Monitoring	☒	5461	24 hours	☐
Site Investigation	☐	5441	48 hours	☐
Soil for disposal	☐	5442	15 days	☒ (Normal)
Water for disposal	☐	5443	Other	☐ _____
Air Sample- Sys O&M	☐	5452	NOTE: Notify Lab as soon as possible of 24/48 hrs. TAT.	
Water Sample - Sys O&M	☐	5453		
Other	☐			

	Sample ID	Date	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal:	COMBINATION TPH 8015 + BTEX 8020				Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(9)	MW-9	1/15		X								X								
(10)	MW-10	1/14		X				X				X								
(11)	MW-11	1/19/93		X								X								
(12)	TRIP BLANK	1/4		X								X								

Relinquished By (signature):	Printed name: JIM MCCANN	Date: 1-19-93 Time: 1545	Received (signature):	Printed name:	Date: 1/15/93 Time: 1545
Relinquished By (signature):	Printed name:	Date: 1/19/93 Time: 16:30	Received (signature):	Printed name:	Date: 1/19/93 Time: 16:30
Relinquished By (signature):	Printed name:	Date: Time:	Received (signature):	Printed name:	Date: Time:

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

Last Revision Date: 10/15/91

9301 194 (18) (19/33)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No:

Date:
Page 1 of 2

Site Address: 285 Hegenberger Rd, Oakland
WIC#: 204-5508-5504
Shell Engineer: DAN T. KIRK — Phone No.: (510) 675-6171
Consultant Name & Address: Blaine Tech Services, 985 Timothy, San Jose
Consultant Contact: Glen Bennett — Phone No.: (408) 995-5535
Comments:
Sampled by: JM McCann
Printed Name: JM McCANN

LAB: ANAMETRIX

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Motor Oil (5520 B&F)	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1) MW-1	1/15			X		4		X				X							
(2) MW-2	1/15					3						X							
(3) MW-3	1/15					5		X				X	X	X					
(4) MW-4	1/14					4		X				X							
(5) MW-5	1/15					4		X				X							
(6) MW-6	1/15					4		X				X							
(7) MW-7	1/14					3						X							
(8) MW-8	1/14					3						X							

CHECK ONE (1) BOX ONLY — GT/DT

Quarterly Monitoring	X	6461
Site Investigation		6441
Soil Closure/Disposal		6442
Water Closure/Disposal		6443
Soil/Air Rem. or Sys. O & M		6482
Water Rem. or Sys. O & M		6483
Other		

TURN AROUND TIME
- 24 hours
- 48 hours
- 16 days X (Normal)
- Other

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

Relinquished by (signature)	Printed Name	Date	Time	Received (signature)	Printed Name	Date	Time
	JM McCANN	1-14-93	15:45		J. THOMPSON	1/19/93	1845
	J. THOMPSON	1/19/93	6:30			1/19/93	16:30

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

ANAMETRIX INC
Environmental & Analytical Chemistry

REPORT

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

Workorder # : 9301194
Date Received : 01/19/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9301194- 1	MW-1
9301194- 2	MW-2
9301194- 3	MW-3
9301194- 4	MW-4
9301194- 5	MW-5
9301194- 6	MW-6
9301194- 7	MW-7
9301194- 8	MW-8
9301194- 9	MW-9
9301194-10	MW-10
9301194-11	MW-11
9301194-12	T. BLANK

This report consists of 14 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D.
Laboratory Director

02-03-93
Date

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

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

Workorder # : 9301194
Date Received : 01/19/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9301194- 1	MW-1	WATER	01/15/93	TPHd
9301194- 3	MW-3	WATER	01/15/93	TPHd
9301194- 4	MW-4	WATER	01/14/93	TPHd
9301194- 5	MW-5	WATER	01/15/93	TPHd
9301194- 6	MW-6	WATER	01/14/93	TPHd
9301194-10	MW-10	WATER	01/14/93	TPHd
9301194- 1	MW-1	WATER	01/15/93	TPHg/BTEX
9301194- 2	MW-2	WATER	01/15/93	TPHg/BTEX
9301194- 3	MW-3	WATER	01/15/93	TPHg/BTEX
9301194- 4	MW-4	WATER	01/14/93	TPHg/BTEX
9301194- 5	MW-5	WATER	01/15/93	TPHg/BTEX
9301194- 6	MW-6	WATER	01/14/93	TPHg/BTEX
9301194- 7	MW-7	WATER	01/14/93	TPHg/BTEX
9301194- 8	MW-8	WATER	01/14/93	TPHg/BTEX
9301194- 9	MW-9	WATER	01/15/93	TPHg/BTEX
9301194-10	MW-10	WATER	01/14/93	TPHg/BTEX
9301194-11	MW-11	WATER	01/14/93	TPHg/BTEX
9301194-12	T. BLANK	WATER	01/14/93	TPHg/BTEX

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

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

Workorder # : 9301194
Date Received : 01/19/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as diesel for samples MW-1 and MW-6 are primarily due to the presence of a lighter petroleum product, possibly gasoline.
- The concentrations reported as diesel for samples MW-5 and MW-10 are primarily due to the presence of a combination of a heavier petroleum product (possibly motor oil) and a lighter petroleum product (possibly gasoline).

Cheryl Balmer 2/3/93
Department Supervisor Date

Irma Sher 2/3/93
Chemist Date

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

Anametrix W.O.: 9301194
Matrix : WATER
Date Sampled : 01/14-15/93

Project Number : 204-5508-5504
Date Released : 02/02/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-1 -01	Sample I.D.# MW-2 -02	Sample I.D.# MW-3 -03	Sample I.D.# MW-4 -04	Sample I.D.# MW-5 -05
Benzene	0.5	17000	5.2	2.4	ND	420
Toluene	0.5	5400	3.1	ND	ND	49
Ethylbenzene	0.5	3000	8.4	ND	ND	570
Total Xylenes	0.5	13000	21	ND	ND	840
TPH as Gasoline	50	84000	290	ND	ND	7700
% Surrogate Recovery		112%	106%	92%	102%	104%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		01/27/93	01/26/93	01/26/93	01/26/93	01/26/93
RLMF		200	1	1	1	50

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

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

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

Analyst 2/3/93 Date

Supervisor 2/3/93 Date

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

Anametrix W.O.: 9301194
Matrix : WATER
Date Sampled : 01/14-15/93

Project Number : 204-5508-5504
Date Released : 02/02/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-6 -06	Sample I.D.# MW-7 -07	Sample I.D.# MW-8 -08	Sample I.D.# MW-9 -09	Sample I.D.# MW-10 -10
Benzene	0.5	80	28000	ND	9600	10000
Toluene	0.5	31	21000	ND	1100	ND
Ethylbenzene	0.5	330	1600	ND	1100	ND
Total Xylenes	0.5	37	15000	ND	7000	160
TPH as Gasoline	50	4900	120000	ND	52000	26000
% Surrogate Recovery		100%	97%	107%	103%	95%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		01/26/93	01/27/93	01/26/93	01/28/93	01/28/93
RLMF		10	500	1	500	250

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

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

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

2/3/93
Analyst Date

2/3/93
Supervisor Date

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

Anametrix W.O.: 9301194
Matrix : WATER
Date Sampled : 01/14/93

Project Number : 204-5508-5504
Date Released : 02/02/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-11 -11	Sample I.D.# T. BLANK -12	Sample I.D.# BJ2501E3 BLANK	Sample I.D.# BJ2601E3 BLANK	Sample I.D.# BJ2701E3 BLANK
Benzene	0.5	ND	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND	ND	ND
% Surrogate Recovery		93%	101%	114%	118%	117%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		01/25/93	01/25/93	01/25/93	01/26/93	01/27/93
RLMF		1	1	1	1	1

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

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

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

Analyst 2/3/93 Date

Supervisor 2/3/93 Date

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

Anametrix W.O.: 9301194
Matrix : WATER
Date Sampled : N/A

Project Number : 204-5508-5504
Date Released : 02/02/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# BJ2801E3 BLANK
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Total Xylenes	0.5	ND
TPH as Gasoline	50	ND
% Surrogate Recovery		114%
Instrument I.D.		HP4
Date Analyzed		01/28/93
RLMF		1

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

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

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

Analyst 2/3/93 Date

Supervisor 2/3/93 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL

ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9301194
Matrix : WATER
Date Sampled : 01/14-15/93
Date Extracted: 01/21/93

Project Number : 204-5508-5504
Date Released : 02/02/93
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9301194-01	MW-1	01/30/93	2500	22000
9301194-03	MW-3	01/28/93	50	ND
9301194-04	MW-4	01/28/93	50	ND
9301194-05	MW-5	01/29/93	100	1100
9301194-06	MW-6	02/01/93	250	1600
9301194-10	MW-10	01/29/93	50	950
DWBL012193	METHOD BLANK	01/28/93	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 2/3/93 Date

Supervisor 2/3/93 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL

ANALYTICAL, INC. (408) 432-8192

Anametrix W.O.: 9301194
Matrix : WATER
Date Sampled : 01/14-15/93
Date Extracted: 01/21/93

Project Number : 204-5508-5504
Date Released : 02/02/93
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9301194-01	MW-1	01/30/93	2500	ND
9301194-03	MW-3	01/28/93	50	120
9301194-04	MW-4	01/28/93	50	120
9301194-05	MW-5	01/29/93	100	430
9301194-06	MW-6	02/01/93	250	ND
9301194-10	MW-10	01/29/93	50	200
DWBL012193	METHOD BLANK	01/28/93	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as motor oil is determined by GCFID following sample extraction by EPA Method 3510.

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

Lucia Sha 2/3/93
Analyst Date

Cheryl Baemer 2/3/93
Supervisor Date

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT

EPA METHOD 5030 PURGE GC/PID

ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW0126
Matrix	: WATER	Analyst	: IS
Date Sampled	: N/A	Supervisor	: [illegible]
Date Analyzed	: 01/26/93	Date Released	: 02/02/93
		Instrument ID	: HP4

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	18.4	92%	49-159
Toluene	20.0	18.5	93%	53-156
Ethylbenzene	20.0	20.0	100%	54-151
TOTAL Xylenes	20.0	21.3	107%	56-157
P-BFB			95%	53-147

* Limits established by Anametrix, Inc.

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT

EPA METHOD 8015 MOD: GC/FID

ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 01/21/93
Date Analyzed : 01/22/93

Anametrix I.D. : LCSW0121
Analyst : IS
Supervisor : Ø
Date Released : 02/02/93
Instrument I.D.: HP23

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	850	68%	940	75%	10%	63-130

*Quality control established by Anametrix, Inc.

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

ATT: CLIFF KITTREL
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301194
Date Received : 01/19/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9301194- 3	MW-3	WATER	01/15/93	5520BF

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

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

Workorder # : 9301194
Date Received : 01/19/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for sample.

Department Supervisor 1/28/93 Date

Chemist 02/03/93 Date

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

Project I.D.	: 204-5508-5504	Anametrix I.D.	: 9301194
Matrix	: WATER	Analyst	:
Date sampled	: 01/15/93	Supervisor	: CM 75
Date extracted	: 01/22/93	Date released	: 01/25/93
Date analyzed	: 01/25/93		

Workorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9301194-03	MW-3	5	ND
GWBL012293	METHOD BLANK	5	ND

ND - Not detected at or above the practical quantitation limit for the method.
TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520BF.

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

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS LAB CONTROL SAMPLE REPORT
STANDARD METHOD 5520BF
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW0122
Matrix	: WATER	Analyst	: TS
Date sampled	: N/A	Supervisor	: CM
Date extracted	: 01/22/93	Date Released	: 01/25/93
Date analyzed	: 01/25/93		

COMPOUND	SPIKE AMT. (mg/L)	LCS (mg/L)	%REC LCS	LCSD (mg/L)	%REC LCSD	%RPD	%REC LIMITS
Motor Oil	50	35	70%	34	68%	3%	54-106%

* Quality control limits established by Anametrix, Inc.

ANAMETRIX INC
Environmental & Analytical Chemistry

REPORT

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

Workorder # : 9304085
Date Received : 04/08/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9304085- 1	MW-2
9304085- 2	MW-7
9304085- 3	MW-8
9304085- 4	MW-9

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D.
Laboratory Director

4-19-93
Date

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

MR. GILT TECHNIK
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9304085
Date Received : 04/08/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9304085- 1	MW-2	WATER	04/08/93	TPHd
9304085- 2	MW-7	WATER	04/08/93	TPHd
9304085- 3	MW-8	WATER	04/08/93	TPHd
9304085- 4	MW-9	WATER	04/08/93	TPHd

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

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

Workorder # : 9304085
Date Received : 04/08/93
Project ID : 204-5508-5504
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as diesel for samples MW-7 and MW-9 are primarily due to the presence of a lighter petroleum product of hydrocarbon range C6-C12.
- The concentrations reported as diesel for samples MW-2 and MW-8 are primarily due to the presence of a heavier petroleum product of hydrocarbon range C18-C36.

Cheryl Balmer 4/16/93
Department Supervisor Date

Steve Arne 4/16/93
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL

ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9304085
Matrix : WATER
Date Sampled : 04/08/93
Date Extracted: 04/12/93

Project Number : 204-5508-5504
Date Released : 04/16/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9304085-01	MW-2	04/15/93	50	170
9304085-02	MW-7	04/15/93	250	2300
9304085-03	MW-8	04/15/93	50	64
9304085-04	MW-9	04/15/93	250	730
DWBL041293	METHOD BLANK	04/14/93	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

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

Steve Arch 4/16/93
Analyst Date

Cheryl Bulmer 4/16/93
Supervisor Date

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 04/12/93
Date Analyzed : 04/14/93

Anametrix I.D. : LCSW0412
Analyst : [illegible]
Supervisor : [illegible]
Date Released : 04/16/93
Instrument I.D.: HP23

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	920	74%	940	75%	2%	47-130

*Quality control established by Anametrix, Inc.