PACIFIC
ENVIRONMENTAL
GROUP, INC.

July 17, 1992
Project 305-79.01

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

Re: 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 second quarter 1992 monitoring program for Shell Oil Company (Shell) prepared by Pacific Environmental Group, Inc. (PACIFIC) for the above referenced site (Figures 1 and 2).

FINDINGS

Groundwater monitoring wells were gauged and sampled by Emcon Associates (Emcon) at the direction of PACIFIC on May 4 and 5, 1992. Groundwater elevation contours for the sampling date are shown on Figure 2. Table 1 presents groundwater elevation data.

Groundwater analytical data are presented in Table 2. Gasoline and benzene concentrations for the May 1992 sampling event are shown on Figure 3. Emcon's groundwater sampling report is presented in Attachment A.

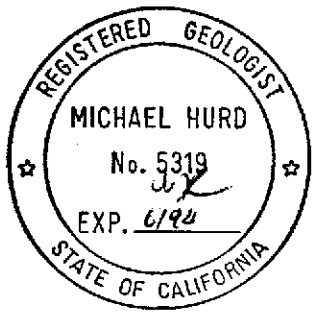
The laboratory noted that the concentration reported as gasoline for Sample MW-2 is primarily due to the presence of a heavier petroleum product, possibly diesel or kerosene. Further, the concentration reported as diesel for Samples MW-1 through MW-3, MW-5 through MW-7, and MW-9 and MW-10 are primarily due to the presence of a lighter petroleum product, possibly gasoline. Finally, the concentration reported as diesel for Sample MW-8 is primarily due to the presence of a heavier petroleum product, possibly motor oil.

The groundwater sample from Wells MW-1, MW-2, and MW-4 were analyzed for general mineral analysis, nitrates, phosphate, and potassium. Results are presented in Attachment A.

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

Sincerely,

Pacific Environmental Group, Inc.



Michael Hurd
Project Geologist
RG 5319

Attachments: Table 1 - Groundwater Elevation Data
Table 2 - Groundwater Analytical Data - Low and High-Boiling Hydrocarbons
Figure 1 - Site Location Map
Figure 2 - Groundwater Contour Map
Figure 3 - Gasoline/Benzene/Diesel Concentration Map
Attachment A- Groundwater Sampling Report

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

Table 1
Groundwater Elevation Data

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

Well Number	Sample Date	Well Elevation (feet, MSL)	Depth to Water (feet)	Groundwater Elevation (feet)
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
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
MW-3	02/16/89	7.81	5.17	2.64
	05/23/89		5.09	2.72
	08/03/89		5.34	2.47
	12/15/89		6.02	1.79
	02/07/90		4.95	2.86
	04/18/90		5.55	2.26
	07/23/90		5.81	2.00
	09/27/90		6.86	0.95
	01/03/91		6.84	0.97
	04/10/91		4.93	2.88
	07/12/91		5.56	2.25
	10/08/91		6.62	1.19
	02/06/92		6.28	1.53
	05/04/92		4.65	3.16

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Sample Date	Well Elevation (feet, MSL)	Depth to Water (feet)	Groundwater Elevation (feet)
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
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
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

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Sample Date	Well Elevation (feet, MSL)	Depth to Water (feet)	Groundwater Elevation (feet)
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
MW-8	05/23/89	7.79	6.62	1.17
	08/03/89		6.62	1.17
	12/15/89		6.71	1.08
	03/08/90		4.95	2.84
	04/18/90		6.40	1.89
	07/23/90		6.62	1.17
	09/27/90		6.98	0.81
	01/03/91		7.03	0.76
	04/10/91		4.40	3.39
	07/12/91		6.80	0.99
	10/08/91		7.56	0.23
	02/06/92		6.94	0.85
	05/04/92		5.86	1.93
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

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Sample Date	Well Elevation (feet, MSL)	Depth to Water (feet)	Groundwater Elevation (feet)
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

MSL = Mean sea level
Measurements taken from top of casing

Table 2
Groundwater Analytical Data
Low- and High-Boiling Hydrocarbons

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

Well Number	Sample Date	Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Diesel (ppm)
MW-1	02/16/~~89~~ 89	99.0	20	23	5.7	23	NA
	05/23/~~89~~ 89	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*
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
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
	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*

Table 2 (continued)
Groundwater Analytical Data
Low- and High-Boiling Hydrocarbons

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

Well Number	Sample Date	Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Diesel (ppm)
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
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
	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*
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*

Table 2 (continued)
Groundwater Analytical Data
Low- and High-Boiling Hydrocarbons

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

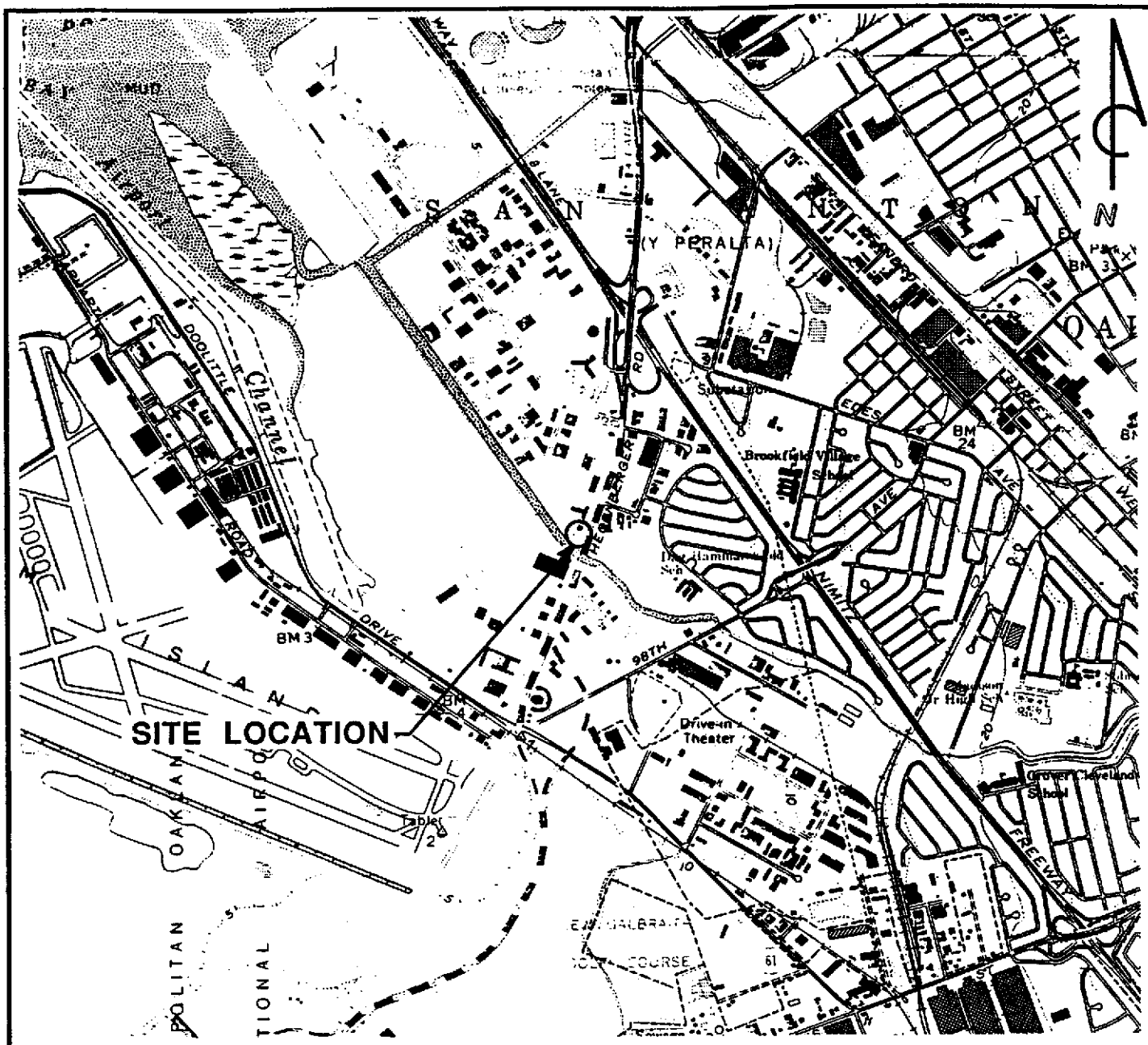
Well Number	Sample Date	Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Diesel (ppm)
MW-7	05/23/89	47.0	3.5	5.0	1.5	7.8	11
	08/04/89	68.0	6.2	6.6	3.6	8.8	22
	12/15/89	100.0	4.5	5.3	1.3	5.3	12
	02/08/90	96.0	15.0	15.0	2.5	14.0	8.1
	04/19/90	94.0	25.0	13.0	3.3	13.0	10.0
	07/24/90	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*
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***
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*

Table 2 (continued)
Groundwater Analytical Data
Low- and High-Boiling Hydrocarbons

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

Well Number	Sample Date	Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Diesel (ppm)
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
	07/11/91	ND	ND	ND	ND	ND	
	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*

ppm = Parts per million
NR = Not reported
ND = Not detected
NA = Not analyzed
* = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.
** = Compounds detected and calculated as gasoline appear to be hydrocarbon compounds.
*** = Compound detected and calculated as diesel appears to be a heavier hydrocarbon compound, possibly motor oil.
For detection limits see certified analytical results



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

N

CHANNEL

LEET DRIVE

TRUCK STORAGE AREA

2.25 2.50 2.75 3.00 3.25

MW-3 (3.16)

WASTE OIL TANK

STATION BUILDING

MW-5 (3.31)

MW-2 (3.00)

MW-8 (1.93)

UNDERGROUND FUEL STORAGE TANKS

CANOPY

MW-10 (2.76)

MW-1 (3.06)

MW-6 (3.06)

PLANTER

PLANTER

PARKING

MW-9 (2.83)

MW-4 (2.05)

PLANTER

MW-7 (3.01)

SIDEWALK

PRODUCT ISLANDS

LEGEND

MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

(3.06) GROUNDWATER ELEVATION IN FEET - MSL, 5-4-92

2.50 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 5-4-92

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.012

HEGENBERGER ROAD

SIDEWALK

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE

0 40 80 FEET

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

GROUNDWATER CONTOUR MAP

FIGURE: **2**

PROJECT: 305-79.01

N

CHANNEL

LEET DRIVE

PLANTER

TRUCK STORAGE AREA

MW-3
0.31/0.0470.29

MW-8
ND/ND/0.21

WASTE OIL TANK

STATION BUILDING

MW-5
10/1.5/4.1

MW-2
21/ND/11.0

UNDERGROUND FUEL STORAGE TANKS

CANOPY

MW-10
39/14/8.0

MW-1
76/16/10.0

MW-6
7.9/0.61/2.9

MW-9
31/11/5.8

MW-4
ND/ND/0.053

MW-7
67/22/9.8

PLANTER

SIDEWALK

PRODUCT ISLANDS

PLANTER

PARKING

PLANTER

LEGEND

MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

33/11/5.8 GASOLINE/BENZENE/DIESEL CONCENTRATION IN GROUNDWATER, IN PARTS PER MILLION (ppm), 5-4-92 and 5-5-92

—10.0— BENZENE ISOCONCENTRATION CONTOUR IN ppm, 5-4-92 and 5-5-92

ND NOT DETECTED

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

HEGENBERGER ROAD

SIDEWALK

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 40 80 FEET

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

GASOLINE/BENZENE/DIESEL CONCENTRATION MAP

FIGURE:
3
PROJECT:
305-79.01

ATTACHMENT A

GROUNDWATER SAMPLING REPORT

EMCON
ASSOCIATES
Consultants in Wastes
Management and
Environmental Control

June 12, 1992
Project: G67-50.01
WIC#: 204-5508-5504

Mr. Gerald O'Regan
Pacific Environmental Group, Inc.
1601 Civic Center Drive, Suite 202
Santa Clara, California 95050

Re: Second quarter 1992 ground-water monitoring report, Shell Oil Company, 285 Hegenberger Road, Oakland, California

Dear Mr. O'Regan:

This letter presents the results of the second quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 285 Hegenberger Road, Oakland, California. Second quarter monitoring was conducted on May 4 and 5, 1992. The site is monitored quarterly.

GROUND-WATER LEVEL SURVEY

A water-level survey preceded the purging and sampling of the monitoring wells. The wells included in the survey are identified in figure 1 (supplied by Converse Environmental West). During the survey, wells MW-1 through MW-10 were measured for depth to water, floating product thickness, and total depth. Depth to water and floating product thickness were measured to the nearest 0.01 foot with an oil/water interface probe. No floating product was observed in any wells. Total depth was measured to the nearest 0.1 foot. Results of the second quarter water-level survey, and available data from four previous surveys, are summarized in table 1.

SAMPLING AND ANALYSIS

Ground-water samples were collected from wells MW-1 through MW-10 on May 4 and 5, 1992. Prior to sample collection, the wells were purged with polyvinyl chloride bailers. During the purging operation, ground water was monitored for pH, electrical conductivity, and temperature as a function of volume of water removed. Purging continued until these parameters were stable and a minimum of three casing volumes of ground water were removed. Wells MW-4, MW-5, and MW-7 through MW-10 were evacuated to dryness before the removal of three casing volumes. These wells were allowed to recharge for up to 24 hours. The Samples were collected after the wells had recharged to a level sufficient for sample collection. Field measurements from second quarter monitoring, and available measurements from four previous monitoring events, are sum-

1938 Junction Avenue, San Jose, California 95131-2102, (408) 453-0719, Fax (408) 453-0452

marized in table 1. Purge water from the monitoring wells was contained in 55-gallon drums. The drums were identified with Shell-approved labels and secured for on-site storage.

Ground-water samples were collected with a Teflon® bailer, labeled, placed on ice, and transported to a Shell-approved and state-certified analytical laboratory for analysis. Shell chain-of-custody documents accompanied all samples to the laboratory.

All equipment that was placed down a well or that came in contact with ground water was steam cleaned with deionized water prior to use at each well.

Quality control samples for second quarter monitoring included a trip blank. All water samples collected during second quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbons as diesel (TPH-d). Additional ground-water samples collected from well MW-3 were analyzed for total oil and grease by standard method 5520 B/F. Additional ground-water samples collected from wells MW-1, MW-2, and MW-4 were analyzed for Title 22 General Minerals.

ANALYTICAL RESULTS

Analytical results for the second quarter 1992 monitoring event, and available results from four previous monitoring events, are summarized in table 2. Results of Title 22 General Minerals analyses for wells MW-1, MW-2, and MW-4 are not included in table 2. The original certified analytical reports and chain-of-custody document are attached.

If you have any questions, please call.

Very truly yours,

EMCON Associates

David Larsen
Environmental Sampling Coordinator

Orrin Childs
Environmental Sampling Supervisor

DL/OC:dl

G675001B.DOC

Attachments: Table 1 - Monitoring well field measurement data
Table 2 - Summary of analytical results
Figure 1 - Monitoring well locations
Certified analytical report
Chain-of-custody document

Table 1
Monitoring Well Field Measurement Data
Second Quarter 1992

Shell Station: 285 Hegenberger Road
Oakland, California
WIC #: 204-5508-5504

Date: 06/15/92
Project Number: G87-50.01

Well Designation	Water Level Field Date	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	Total Well Depth (feet)	Floating Product Thickness (feet)	Water Sample Field Date	pH (std. units)	Electrical Conductivity (micromhos/cm)	Temperature (degrees F)	Turbidity (NTU)
MW-1	04/09/91	6.64	3.55	3.09	NR	ND	04/10/91	NR	NR	NR	NR
MW-1	07/11/91	6.64	3.97	2.67	NR	ND	07/12/91	NR	NR	NR	NR
MW-1	10/08/91	6.64	4.26	2.38	NR	ND	10/08/91	NR	NR	NR	NR
MW-1	02/06/92	6.64	4.94	1.70	9.9	ND	02/06/92	6.91	3700	60.1	>200
MW-1	05/04/92	6.64	3.58	3.06	9.3	ND	05/05/92	6.42	3770	66.9	48.6
MW-2	04/09/91	7.68	4.80	2.88	NR	ND	04/10/91	NR	NR	NR	NR
MW-2	07/11/91	7.68	5.70	1.98	NR	ND	07/12/91	NR	NR	NR	NR
MW-2	10/08/91	7.68	6.40	1.28	NR	ND	10/08/91	NR	NR	NR	NR
MW-2	02/06/92	7.68	6.40	1.28	10.1	ND	02/06/92	7.13	2340	58.8	>200
MW-2	05/04/92	7.68	4.68	3.00	9.6	ND	05/05/92	6.64	2620	65.8	130.2
MW-3	04/09/91	7.81	4.93	2.88	NR	ND	04/10/91	NR	NR	NR	NR
MW-3	07/11/91	7.81	5.56	2.25	NR	ND	07/12/91	NR	NR	NR	NR
MW-3	10/08/91	7.81	6.62	1.19	NR	ND	10/08/91	NR	NR	NR	NR
MW-3	02/06/92	7.81	6.28	1.53	9.9	ND	02/06/92	6.99	3520	59.4	>200
MW-3	05/04/92	7.81	4.65	3.16	9.5	ND	05/04/92	6.15	3940	66.8	>200
MW-4	04/09/91	7.38	5.06	2.32	NR	ND	04/10/91	NR	NR	NR	NR
MW-4	07/11/91	7.38	6.86	0.52	NR	ND	07/12/91	NR	NR	NR	NR
MW-4	10/08/91	7.38	7.44	-0.06	NR	ND	10/08/91	NR	NR	NR	NR
MW-4	02/06/92	7.38	7.29	0.09	10.4	ND	02/06/92	7.59	4050	58.2	>200
MW-4	05/04/92	7.38	5.33	2.05	10.1	ND	05/05/92	7.01	2810	68.5	50.7

TOC = top of casing
ft-MSL = elevation in feet, relative to mean sea level
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
NR = Not reported; data not available
ND = None detected

Table 1
Monitoring Well Field Measurement Data
Second Quarter 1992

Shell Station: 285 Hegenberger Road
Oakland, California
WIC #: 204-5508-5504

Date: 06/15/92
Project Number: 067-50.01

Well Designation	Water Level Field Date	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	Total Well Depth (feet)	Floating Product Thickness (feet)	Water Sample Field Date	pH (std. units)	Electrical Conductivity (micromhos/cm)	Temperature (degrees F)	Turbidity (NTU)
MW-5	04/09/91	8.18	5.25	2.93	NR	ND	04/10/91	NR	NR	NR	NR
MW-5	07/11/91	8.18	5.70	2.48	NR	ND	07/12/91	NR	NR	NR	NR
MW-5	10/08/91	8.18	6.50	1.68	NR	ND	10/08/91	NR	NR	NR	NR
MW-5	02/06/92	8.18	6.35	1.83	10.1	ND	02/06/92	7.30	4340	57.2	>200
MW-5	05/04/92	8.18	4.87	3.31	9.8	ND	05/05/92	7.01	4870	61.4	55.5
MW-6	04/09/91	8.21	5.24	2.97	NR	Sheen	04/10/91	NR	NR	NR	NR
MW-6	07/11/91	8.21	5.78	2.43	NR	ND	07/12/91	NR	NR	NR	NR
MW-6	10/08/91	8.21	6.36	1.85	NR	ND	10/08/91	NR	NR	NR	NR
MW-6	02/06/92	8.21	6.15	2.06	11.1	ND	02/06/92	6.91	2030	59.8	>200
MW-6	05/04/92	8.21	5.07	3.14	11.0	ND	05/05/92	6.51	2100	64.1	41.0
MW-7	04/09/91	7.44	4.13	3.31	NR	ND	04/10/91	NR	NR	NR	NR
MW-7	07/11/91	7.44	4.98	2.46	NR	ND	07/12/91	NR	NR	NR	NR
MW-7	10/08/91	7.44	5.48	1.96	NR	ND	10/08/91	NR	NR	NR	NR
MW-7	02/06/92	7.44	5.05	2.39	10.3	ND	02/06/92	7.30	6430	58.4	>200
MW-7	05/04/92	7.44	4.43	3.01	10.0	ND	05/05/92	7.08	5850	67.5	88.4
MW-8	04/09/91	7.79	4.40	3.39	NR	ND	04/10/91	NR	NR	NR	NR
MW-8	07/11/91	7.79	6.80	0.99	NR	ND	07/12/91	NR	NR	NR	NR
MW-8	10/08/91	7.79	7.56	0.23	NR	ND	10/08/91	NR	NR	NR	NR
MW-8	02/06/92	7.79	6.94	0.85	10.4	ND	02/06/92	8.01	5510	61.5	>200
MW-8	05/04/92	7.79	5.86	1.93	10.0	ND	05/04/92	6.26	3860	66.9	44.4

TOC = top of casing
ft-MSL = elevation in feet, relative to mean sea level
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
NR = Not reported; data not available
ND = None detected

Table 1
Monitoring Well Field Measurement Data
Second Quarter 1992

Shell Station: 285 Hegenberger Road
Oakland, California
WIC #: 204-5508-5504

Date: 06/15/92
Project Number: G67-50.01

Well Designation	Water Level Field Date	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	Total Well Depth (feet)	Floating Product Thickness (feet)	Water Sample Field Date	pH (std. units)	Electrical Conductivity (micromhos/cm)	Temperature (degrees F)	Turbidity (NTU)
MW-9	04/09/91	7.63	4.65	2.98	NR	ND	04/10/91	NR	NR	NR	NR
MW-9	07/11/91	7.63	5.65	1.98	NR	ND	07/12/91	NR	NR	NR	NR
MW-9	10/08/91	7.63	6.08	1.55	NR	ND	10/08/91	NR	NR	NR	NR
MW-9	02/06/92	7.63	5.92	1.71	11.1	ND	02/06/92	7.15	5480	58.8	>200
MW-9	05/04/92	7.63	4.80	2.83	10.8	ND	05/05/92	7.03	6200	60.1	49.8
MW-10	04/09/91	7.45	4.70	2.75	NR	ND	04/10/91	NR	NR	NR	NR
MW-10	07/11/91	7.45	5.90	1.55	NR	ND	07/12/91	NR	NR	NR	NR
MW-10	10/08/91	7.45	6.68	0.77	NR	ND	10/08/91	NR	NR	NR	NR
MW-10	02/06/92	7.45	7.04	0.41	10.6	ND	02/06/92	7.15	3740	61.5	>200
MW-10	05/04/92	7.45	4.69	2.76	10.0	ND	05/05/92	6.68	3220	68.5	85.1

TOC = top of casing
ft-MSL = elevation in feet, relative to mean sea level
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
NR = Not reported; data not available
ND = None detected

Table 2
Summary of Analytical Results
Second Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 285 Hegenberger Road
Oakland, California
WIC #: 204-5508-5504

Date: 06/15/92
Project Number: G67-50.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)	TPH-d (mg/l)	TOG (mg/l)
MW-1	04/10/91	67.0	20.0	9.60	3.50	16.0	1.8	NA
MW-1	07/12/91	NR	NR	NR	NR	NR	NR	NA
MW-1	10/08/91	55	18	3.5	2.3	8.6	7.4&	NA
MW-1	02/06/92	48.	12.	2.8	1.9	7.4	15.#	NA
MW-1	05/05/92	71.	16.	6.0	3.1	14.	10.^	NA
MW-2	04/10/91	1.9	<0.0005	0.028	0.140	0.490	0.28	NA
MW-2	07/12/91	8.1	0.089	0.066	0.350	0.930	1.1	NA
MW-2	10/08/91	1.4	0.0051	0.0015	0.036	0.270	2.6	NA
MW-2	02/06/92	2.0	0.0078	0.0025	0.13	0.21	5.4+	NA
MW-2	05/05/92	21.*	<0.0125	<0.0125	0.30	0.96	1.0^	NA
MW-3	04/10/91	0.12	0.0012	0.0008	0.0035	0.021	0.06	NA
MW-3	07/12/91	0.43	0.012	<0.0005	<0.0005	0.0077	<0.05	NA
MW-3	10/08/91	0.77	0.140	0.0007	<0.0005	0.053	0.56	NA
MW-3	02/06/92	0.50	0.074	0.0009	0.0052	0.0053	0.34@	<5.0
MW-3	05/04/92	0.31	0.047	<0.0005	0.017	0.016	0.29^	<5.0

TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
TOG = total oil and grease by SM 5520 B&F
NA = Not applicable
NR = Not reported; data not available
& = The positive result for diesel analysis on this sample appears to be a lighter hydrocarbon than diesel.
# = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.
^ = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possibly gasoline
+ = Results include compounds apparently due to gasoline as well as those due to diesel.
* = Concentration reported as gasoline is primarily due to the presence of a heavier petroleum product, possibly diesel or kerosene
@ = Compounds detected within the diesel range are not characteristic of the standard diesel chromatographic pattern.

Table 2
Summary of Analytical Results
Second Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 285 Hegenberger Road
Oakland, California
WIC #: 204-5508-5504

Date: 06/15/92
Project Number: G67-50.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)	TPH-d (mg/l)	TOG (mg/l)
MW-4	04/10/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	NA
MW-4	07/12/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	NA
MW-4	10/08/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	NA
MW-4	02/06/92	0.12	<0.0005	<0.0005	<0.0005	<0.0005	2.5@	NA
MW-4	05/05/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	0.053	NA
MW-5	04/10/91	12.	0.710	0.130	0.500	2.4	1.8	NA
MW-5	07/12/91	24.	2.2	0.280	0.430	5.7	1.7	NA
MW-5	10/08/91	2.8	0.860	0.013	<0.005	0.580	1.4	NA
MW-5	02/06/92	1.0	0.30	<0.0025	0.014	0.062	1.2+	NA
MW-5	05/05/92	10.	1.5	0.35	0.71	2.3	4.1^	NA
MW-6	04/10/91	18.	0.560	0.190	0.480	0.830	0.92	NA
MW-6	07/12/91	9.5	0.670	0.051	1.1	0.920	1.9	NA
MW-6	10/08/91	11.	1.00	0.043	<0.005	<0.005	5.1&	NA
MW-6	02/06/92	7.2	0.56	0.008	0.72	0.16	15.#	NA
MW-6	05/05/92	7.9	0.61	<0.05	1.5	0.24	2.9^	NA

TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
TOG = total oil and grease by SM 5520 B&F
NA = Not applicable
@ = Compounds detected within the diesel range are not characteristic of the standard diesel chromatographic pattern.
+ = Results include compounds apparently due to gasoline as well as those due to diesel.
^ = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possibly gasoline
& = The positive result for diesel analysis on this sample appears to be a lighter hydrocarbon than diesel.
# = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.

Table 2
Summary of Analytical Results
Second Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 285 Hegenberger Road
Oakland, California
WIC #: 204-5508-5504

Date: 06/15/92
Project Number: G67-50.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)	TPH-d (mg/l)	TOG (mg/l)
MW-7	04/10/91	140.	26.0	16.0	2.20	14.0	1.8	NA
MW-7	07/12/91	79.	7.7	7.2	2.3	10.0	1.1	NA
MW-7	10/08/91	55.	29.0	7.5	1.8	9.3	0.39&	NA
MW-7	02/06/92	63.	16.	8.7	1.8	7.4	9.6#	NA
MW-7	05/05/92	67.	22.	13.	1.8	9.4	9.8^	NA
MW-8	04/10/91	0.05	0.0007	0.0011	0.0008	0.0010	<0.05	NA
MW-8	07/12/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	NA
MW-8	10/08/91	<0.05	0.0014	<0.0005	<0.0005	<0.0005	<0.05	NA
MW-8	02/06/92	<0.05	<0.0005	0.0007	<0.0005	<0.0005	0.06a	NA
MW-8	05/04/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	0.21&	NA
MW-9	04/10/91	66.	17.0	13.0	1.40	14.0	2.2	NA
MW-9	07/12/91	40.	7.7	3.2	1.1	9.4	2.0	NA
MW-9	10/08/91	20.	11.0	0.640	0.240	6.0	4.7&	NA
MW-9	02/06/92	36.	11.	0.49	1.1	6.7	6.6#	NA
MW-9	05/05/92	31.	11.	1.7	1.2	8.7	5.8^	NA

TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
TOG = total oil and grease by SM 5520 B&F
NA = Not applicable
& = The positive result for diesel analysis on this sample appears to be a lighter hydrocarbon than diesel.
# = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.
^ = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possibly gasoline
a = Compounds detected within the diesel range are not characteristic of the standard diesel chromatographic pattern.

Table 2
Summary of Analytical Results
Second Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 285 Hegenberger Road
Oakland, California
WIC #: 204-5508-5504

Date: 06/15/92
Project Number: G67-50.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)	TPH-d (mg/l)	TOG (mg/l)
MW-10	04/10/91	45.	16.0	4.60	3.0	6.90	1.4	NA
MW-10	07/12/91	NR	NR	NR	NR	NR		NA
MW-10	10/08/91	3.8	13.0	0.082	0.0091	0.500	1.5&	NA
MW-10	02/06/92	22.	12.	<0.005	0.60	0.17	1.6#	NA
MW-10	05/05/92	39.	14.	5.0	1.8	5.0	8.0^	NA
TB	02/06/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	NA
TB	05/05/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	NA

TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
TOG = total oil and grease by SM 5520 B&F
NA = Not applicable
NR = Not reported; data not available
& = The positive result for diesel analysis on this sample appears to be a lighter hydrocarbon than diesel.
# = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.
^ = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possibly gasoline

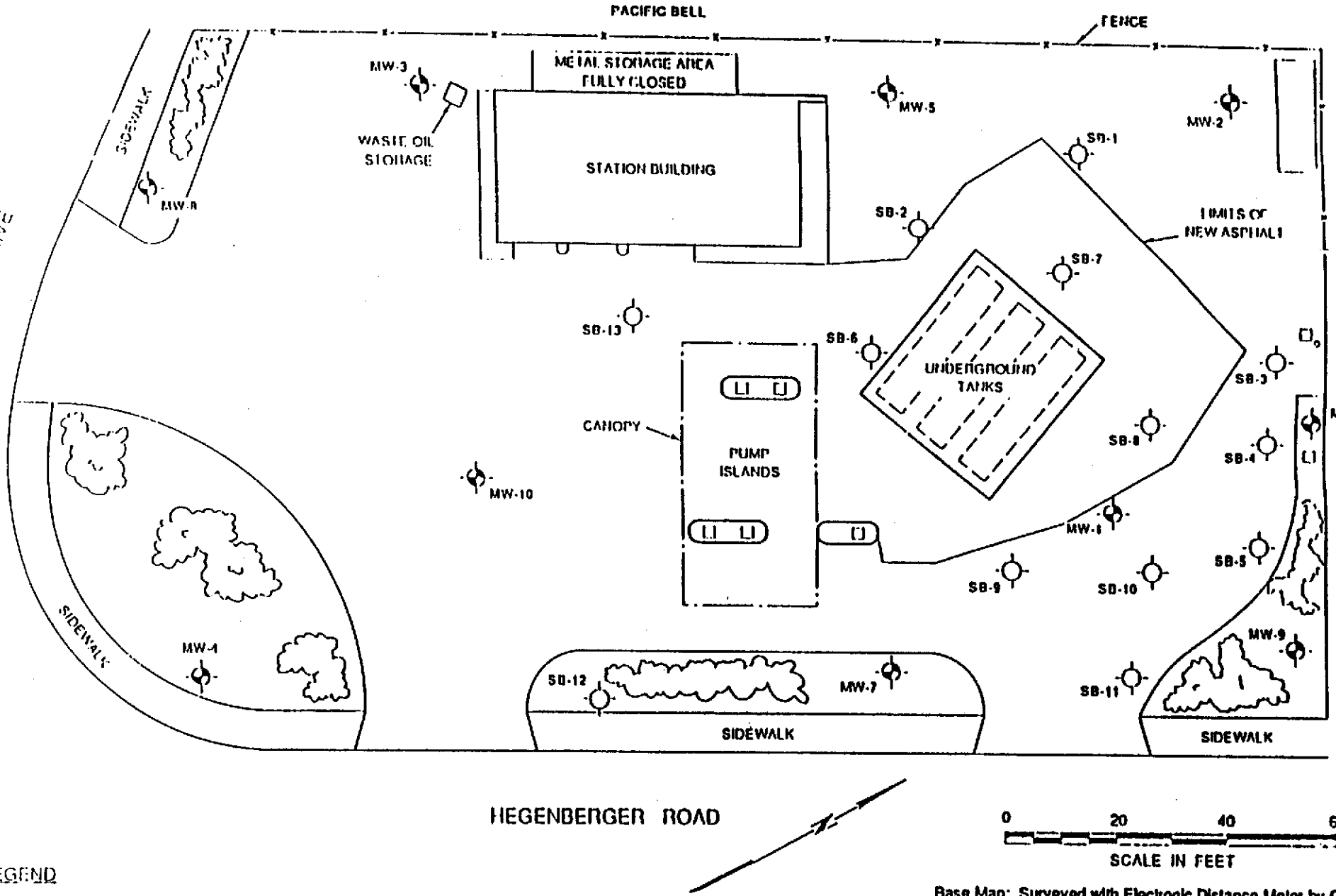


Figure 1
(Supplied by Converse Environmental West)

LEGEND

SB-1 SOIL BORING (locations approximate)

MW-1 GROUNDWATER MONITORING WELL

Base Map: Surveyed with Electronic Distance Meter by CEW, 1989

PLOT PLAN

SHELL OIL COMPANY
285 Hegenberger Road
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-359 20
Prepared by	CRB
Date	3/18/91
Approved by	CRC
Drawing No.	
WIC No.	204-5508 5504

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9205078- 1	MW-4
9205078- 2	MW-8
9205078- 3	MW-3
9205078- 4	MW-2
9205078- 5	MW-5
9205078- 6	MW-6
9205078- 7	MW-10
9205078- 8	MW-9
9205078- 9	MW-1
9205078-10	MW-7
9205078-11	TB

This report consists of 16 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

5-26-92
Date

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9205078- 1	MW-4	WATER	05/04/92	TPHd
9205078- 2	MW-8	WATER	05/04/92	TPHd
9205078- 3	MW-3	WATER	05/04/92	TPHd
9205078- 4	MW-2	WATER	05/05/92	TPHd
9205078- 5	MW-5	WATER	05/05/92	TPHd
9205078- 6	MW-6	WATER	05/05/92	TPHd
9205078- 7	MW-10	WATER	05/05/92	TPHd
9205078- 8	MW-9	WATER	05/05/92	TPHd
9205078- 9	MW-1	WATER	05/05/92	TPHd
9205078-10	MW-7	WATER	05/05/92	TPHd
9205078-11	TB	WATER	05/05/92	TPHd
9205078- 1	MW-4	WATER	05/04/92	TPHg/BTEX
9205078- 2	MW-8	WATER	05/04/92	TPHg/BTEX
9205078- 3	MW-3	WATER	05/04/92	TPHg/BTEX
9205078- 4	MW-2	WATER	05/05/92	TPHg/BTEX
9205078- 5	MW-5	WATER	05/05/92	TPHg/BTEX
9205078- 6	MW-6	WATER	05/05/92	TPHg/BTEX
9205078- 7	MW-10	WATER	05/05/92	TPHg/BTEX
9205078- 8	MW-9	WATER	05/05/92	TPHg/BTEX

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9205078- 9	MW-1	WATER	05/05/92	TPHg/BTEX
9205078-10	MW-7	WATER	05/05/92	TPHg/BTEX
9205078-11	TB	WATER	05/05/92	TPHg/BTEX

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentration reported as gasoline for sample MW-2 is primarily due to the presence of a heavier petroleum product, possibly diesel or kerosene.
- The concentrations reported as diesel for samples MW-3, MW-2, MW-5, MW-6, MW-10, MW-9, MW-1 and MW-7 are primarily due to the presence of a lighter petroleum product, possibly gasoline.
- The concentration reported as diesel for sample MW-8 is primarily due to the presence of a heavier petroleum product, possibly motor oil.

Cheryl Balmer 5/26/92
Department Supervisor Date

Luna Shor 5/26/92
Chemist Date

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

Anametrix W.O.: 9205078
Matrix : WATER
Date Sampled : 05/04 & 05/92

Project Number : G67-50.01
Date Released : 05/20/92

	Reporting Limit	Sample I.D.# MW-4	Sample I.D.# MW-8	Sample I.D.# MW-3	Sample I.D.# MW-2	Sample I.D.# MW-5
COMPOUNDS	(mg/L)	-01	-02	-03	-04	-05
Benzene	0.0005	ND	ND	0.047	ND	1.5
Toluene	0.0005	ND	ND	ND	ND	0.35
Ethylbenzene	0.0005	ND	ND	0.017	0.30	0.71
Total Xylenes	0.0005	ND	ND	0.016	0.96	2.3
TPH as Gasoline	0.050	ND	ND	0.31	21	10
% Surrogate Recovery		100%	102%	103%	93%	113%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		05/15/92	05/15/92	05/15/92	05/16/92	05/16/92
RLMF		1	1	1	25	100

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.

M. Hasselman 5/21/92
Analyst Date

Cheryl Balmer 5/20/92
Supervisor Date

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

Anametrix W.O.: 9205078
Matrix : WATER
Date Sampled : 05/04 & 05/92

Project Number : G67-50.01
Date Released : 05/20/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# MW-6 -06	Sample I.D.# MW-10 -07	Sample I.D.# MW-9 -08	Sample I.D.# MW-1 -09	Sample I.D.# MW-7 -10
Benzene	0.0005	0.61	14	11	16	22
Toluene	0.0005	ND	5.0	1.7	6.0	13
Ethylbenzene	0.0005	1.5	1.8	1.2	3.1	1.8
Total Xylenes	0.0005	0.24	5.0	8.7	14	9.4
TPH as Gasoline	0.050	7.9	39	31	71	67
% Surrogate Recovery		115%	103%	97%	126%	107%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		05/16/92	05/15/92	05/15/92	05/16/92	05/15/92
RLMF		100	500	500	500	1000

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.

M. Hovsepian 5/21/92
Analyst Date

Cheryl Beelman 5/20/92
Supervisor Date

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

Anametrix W.O.: 9205078
Matrix : WATER
Date Sampled : 05/04 & 05/92

Project Number : G67-50.01
Date Released : 05/20/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# TB -11	Sample I.D.# 04B0515A BLANK	Sample I.D.# 04B0516A BLANK
Benzene	0.0005	ND	ND	ND
Toluene	0.0005	ND	ND	ND
Ethylbenzene	0.0005	ND	ND	ND
Total Xylenes	0.0005	ND	ND	ND
TPH as Gasoline	0.050	ND	ND	ND
% Surrogate Recovery		99%	105%	100%
Instrument I.D.		HP4	HP4	HP4
Date Analyzed		05/15/92	05/15/92	05/16/92
RLMF		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 Date

Supervisor Date

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

Anametrix W.O.: 9205078
Matrix : WATER
Date Sampled : 05/04 & 05/92
Date Extracted: 05/13/92

Project Number : G67-50.01
Date Released : 05/20/92
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (mg/L)	Amount Found (mg/L)
9205078-01	MW-4	05/15/92	0.050	0.053
9205078-02	MW-8	05/15/92	0.050	0.21
9205078-03	MW-3	05/15/92	0.050	0.29
9205078-04	MW-2	05/15/92	0.10	1.0
9205078-05	MW-5	05/15/92	0.25	4.1
9205078-06	MW-6	05/15/92	0.25	2.9
9205078-07	MW-10	05/15/92	0.50	8.0
9205078-08	MW-9	05/15/92	0.50	5.8
9205078-09	MW-1	05/16/92	0.50	10
9205078-10	MW-7	05/16/92	0.50	9.8
9205078-11	TB	05/15/92	0.050	ND
DWBL051392	METHOD BLANK	05/15/92	0.050	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 10 mg/Kg.
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 3550.

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

Luisa Shor 5/21/92
Analyst Date

Cheryl Balmer 5/26/92
Supervisor Date

BTEX MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

SAMPLE I.D. : G67-50.01 MW-8
Matrix : WATER
Date Sampled : 05/04/92
Date Analyzed : 05/15/92

Anametrix I.D.: 9205078-02
Analyst : DL
Supervisor : CW
Date Released : 05/20/92
Instrument ID : HP4

COMPOUND	SPIKE AMT. (mg/L)	MS (mg/L)	REC MS	MSD (mg/L)	REC MSD	RPD	%REC LIMITS
Benzene	0.010	0.0095	95%	0.011	110%	15%	49-159
Toluene	0.010	0.0092	92%	0.010	100%	8%	53-156
Etylbenzene	0.010	0.0089	89%	0.0098	98%	10%	54-151
M+P-Xylenes	0.0067	0.0060	90%	0.0070	104%	15%	56-157
O-Xylene	0.0033	0.0029	88%	0.0033	100%	13%	58-154
P-BFB			104%		94%		53-147

* Limits established by Anametrix, Inc.

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

Sample I.D. : METHOD SPIKE
Matrix : REAGENT WATER
Date Sampled : N/A
Date Extracted: 05/13/92
Date Analyzed : 05/16/92

Anametrix I.D. : SPK0513A
Analyst : [illegible]
Supervisor : [illegible]
Date Released : 05/20/92
Instrument I.D.: HP9

COMPOUND	SPIKE AMT. (mg/L)	MS (mg/L)	%REC MS	MSD (mg/L)	%REC MSD	RPD	%REC LIMITS
Diesel	1.25	0.99	79%	1.05	84%	6%	36-150

* Limits established by Anametrix, Inc.

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9205078- 3	MW-3	WATER	05/04/92	5520BF

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for this sample.

Department Supervisor 5.26.92 Date

Chemist 05-26-92 Date

ANALYSIS DATA SHEET - TOTAL OIL AND GREASE
ANAMETRIX, INC. (408) 432-8192

Project #	: 9205078	Anametrix I.D.	: 9205078
Matrix	: WATER	Analyst	: XRY
Date sampled	: 05/04/92	Supervisor	: CeB
Date ext. TOG	: 05/14/92	Date released	: 05/22/92
Date anl. TOG	: 05/14/92		

Workorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9205078-03	MW-3	5	ND
GWBL052292	METHOD BLANK	5	ND

ND - Not detected at or above the practical quantitation limit for the method.
TOG - Total Oil & Grease is determined by Standard Method 5520BF.

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

TOTAL OIL AND GREASE BLANK SPIKE REPORT
STANDARD METHOD 5520BF
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : BLANK SPIKE
Matrix : WATER
Date sampled : N/A
Date extracted : 05/14/92
Date analyzed : 05/14/92

Anametrix I.D. : SPK051492
Analyst : AH-
Supervisor : CW
Date Released : 05/22/92

COMPOUND	SPIKE AMT. (mg/L)	BS (mg/L)	%REC BS	BSD (mg/L)	%REC BSD	%RPD	%REC LIMITS
Motor Oil	50	42	84%	39	78%	7%	47-99%

* Quality control limits established by Anametrix, Inc.

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9205078- 1	MW-4	WATER	05/04/92	340.2
9205078- 4	MW-2	WATER	05/05/92	340.2
9205078- 9	MW-1	WATER	05/05/92	340.2

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205078
Date Received : 05/06/92
Project ID : G67-50.01
Purchase Order: MOH-B813
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Department Supervisor 5/26/92 Date

Chemist 5/26/92 Date

ANALYSIS DATA SHEET - FLUORIDE EPA METHOD 340.2
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9205078
Matrix : WATER
Date Sampled : 05/04, 05/05/92
Project Number: G67-50.01

Date Prepared : 05/18/92
Date Analyzed : 05/18/92
Date Released : 05/18/92
Instrument I.D.: OR1

	ELEMENTS	Fluoride		
	EPA METHOD	340.2		
	REPORTING LIMIT	0.10		
ANAMETRIX ID	CLIENT ID	(mg/L)		
9205078-01	MW-4	1.5		
9205078-04	MW-2	1.1		
9205078-09	MW-1	1.2		
MB0518WF	METHOD BLANK	ND		

ND : Not detected at or above the practical quantitation limit for the method.

Fluoride by EPA Method 340.2, Methods for Chemical Analysis of Water and Wastes, 3rd Edition 1982.

Supervisor 5/26/92 Date

Chemist 5/26/92 Date

RETAIL ENVIRONMENTAL ENGINEERING - WEST | 9205078

CHAIN OF CUSTODY RECORD

Serial No.: 161

Date: 5-5-92
Page 1 of 2

Site Address: 285 Hegenberger Road, Oakland CA

WIC#: 204-5508-5504

Shell Engineer: Kurt Miller
Phone No. (510)
Fax #: 685-3853

Consultant Name & Address: EMCON Assoc. 1938 Junction Ave. San Jose, CA 95131

Consultant Contact: David Larsen
Phone No. (408)
Fax #: 453-2269

Comments: 3-40ml HCl VOAs for g, BTEX
2-Liter ~~HCl~~ SR Amber Glass for diesel
2-Liters SR ~~HCl~~ Amber Glass for Oil & Gr.

Sampled By: B. Stafford
Printed Name: Bart Stafford

Analysis Required | **LAB:** ~~TT Cerritos~~ Anametrix

CHECK ONE (1) BOX ONLY		CT/DT
Quarterly Monitoring	X	5461
Site Investigation	☐	5441
Soil for disposal	☐	5442
Water for disposal	☐	5443
Air Sample- Sys O&M	☐	5452
Water Sample - Sys O&M	☐	5453
Other	☐	

TURN AROUND TI[ME]	
24 hours	☐
48 hours	☐
15 days	X (Norm[al])
Other	☐

NOTE: Notify Lab soon as possible of 24/48 hrs. TAT.

	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	Oil & Grease (SM 5520 B&F)	Title 22 General Minerals	(see attached request form)	+ nitrate / phosphate	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION COMMENT
1	MW-4	5-4-92		X		10 ~~5~~	X	X	X				X			40 ml	HCl	No	No bubbles VOAs preserved	
2	MW-8	5-4-92		↓		5	X	X	X							↓	↓	↓	↓	
3	MW-3	5-4-92		↓		7	X	X	X			X				↓	↓	↓	↓	
4	MW-2	5-5-92		↓		10 ~~5~~	X	X	X				X			↓	↓	↓	↓	
5	MW-5	5-5-92		↓		5	X	X	X							↓	↓	↓	↓	
6	MW-6	5-5-92		↓		5	X	X	X							↓	↓	↓	↓	
7	MW-10	5-5-92		↓		5	X	X	X							↓	↓	↓	↓	
8	MW-9	5-5-92		↓		5	X	X	X							↓	↓	↓	↓	

Relinquished By (signature):	Printed name:	Date/Time	Received (signature):	Printed name:	Date/Time
Bart Stafford	Bart Stafford	Date: 5-5-92 Time: 16:00	[signature]	D Larsen	Date: 5-5-9[2] Time: 16:00
[signature]	D Larsen	Date: 5-6-92 Time: 11:30	Carl C Bralt[?]	Carl G Brault	Date: 5/6/92 Time: 11:30
		Date: Time:			Date: Time:

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

Last Revision Date: 10/15/91

RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

9205078 Serial No.: 161

Date: 5-5-92

Page 2 of 2

Site Address: 285 Hegenberger Road Oakland CA

WIC#: 204-5508-5504

Shell Engineer: Kurt Miller — **Phone No.** (510) **Fax #:** 685-3853

Consultant Name & Address: EMCON Assoc. 1938 Junction Ave. San Jose, CA 95131

Consultant Contact: David Larsen — **Phone No.** (408) **Fax #:** 453-2269

Comments: 3-40ml HCl VOAs for g/BTEX
2-Liter Amber Glass for Diesel
2-VOAs & 1-Liter for TB

Sampled By: Bart Stafford

Printed Name: Bart Stafford

LAB: Anametrix

CHECK ONE (1) BOX ONLY

		CT/DT
Quarterly Monitoring	X	5461
Site Investigation	[ ]	5441
Soil for disposal	[ ]	5442
Water for disposal	[ ]	5443
Air Sample- Sys O&M	[ ]	5452
Water Sample - Sys O&M	[ ]	5453
Other	[ ]	

TURN AROUND TI

24 hours [ ]
48 hours [ ]
15 days X (Norm
Other [ ] ____

NOTE: Notify Lab soon as possible of 24/48 hrs. TAT.

Analysis Required

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	Title 22 General Minerals (see attached request form) + nitrate / phosphate	Container Size	Preservation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION COMMENT
MW-1	5-5-92		X		10 5 of	X	X	X			X	40 ml	HCl	No	Preserved VOAs No bubbles	
MW-7	5-5-92		↓		5	X	X	X				↓	↓	↓	↓	
TB	5-5-92		↓		3	X	X	X				↓	↓	↓	↓	

(9) (10) (11)

Relinquished By (signature)	Printed name	Date	Time	Received (signature)	Printed name	Date	Time
Bart Stafford	Bart Stafford	5-5-92	1600		D Larsen	5-5-92	1600
	D Larsen	5-6-92	11:30	Carol Brault	Carol Brault	5/6/92	11:30
		Date:		Received (signature):	Printed name:	Date:	
Relinquished By (signature):	Printed name:	Time:				Time:	

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

Last Revision Date: 10/15/91

ANAMETRIX INC
Environmental & Analytical Chemistry

1961 Concourse Drive, Suite E
San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

June 3, 1992

Mr. David Larsen
EMCON ASSOCIATES
1938 Junction Ave.
San Jose, CA 95131

Dear Mr. Larsen:

Enclosed are the analytical results from your project number G67-50.01, received by Anametrix, Inc. on May 6, 1992. The enclosed work, **General Minerals, Nitrate, Phosphate and Potassium**, were performed by a laboratory subcontracted by Anametrix, Inc.

Anametrix I.D.#	Client I.D. #
9205078-01	MW-4
9205078-04	MW-2
9205078-09	MW-1

If you have any questions concerning this workorder, please call our Client Services Department at (408)432-8192.

Sincerely,

ANAMETRIX, INC.

Kilma Desai
Client Services Representative

KD/mnh/7317

Enclosures

GENERAL MINERAL, PHYSICAL, INORGANIC, & RADIOLOGICAL CHEMICAL ANALYSES

9205078-1

Date of Report: 5/26/92 Sample ID No. 58118

Laboratory Name: McIntosh Laboratories, Inc. Signature Lab Director:

Name of Sampler: Bart Stafford Employed By: Emcon Associates

Date/Time Sample Collected: 5/4/92 Date/Time Sample Received @ Lab: 5/6/92 1635 Date Analyses Completed: 5/19/92

System Name: System Number:

Name or Number Of Sample Source:

User ID: | | | | Station Number: | | | | | | | | | | | | | |

Date/Time of Sample: | | | | | | | | | | | | (Y Y M M D D T T T T) Laboratory Code: | | | | |

Date Analyses Completed: | | | | | | (Y Y M M D D)

Submitted by: Phone #:

MCL	REPORTING UNITS	CONSTITUENT	ENTRY #	ANALYSES RESULTS
	mg/L	Total Hardness (as CaCO3)	00900	214
	mg/L	Calcium (Ca)	00916	28
	mg/L	Magnesium (Mg)	00927	35
	mg/L	Sodium (Na)	00929	575
	mg/L	Potassium (K)	00937	29
Total Cations	meq/L	Value: 30.03		
	mg/L	Total Alkalinity (as CaCO3)	00410	1328
	mg/L	Hydroxide (OH)	71830	1
	mg/L	Carbonate (CO3)	00445	1
	mg/L	Bicarbonate (HCO3)	00440	1620
*	mg/L +	Sulfate (SO4)	00945	32
*	mg/L +	Chloride (Cl)	00940	195
45	mg/L	Nitrate (NO3)	71850	<0.5
1.4-2.4	mg/L	Fluoride (F) Temp. Depend.	00951	
Total Anions	meq/L	Value: 32.72		
	Std Units	pH (Laboratory)	00403	7.6
**	umho/cm +	Specific Conductance (E.C.)	00095	2775
***	mg/L +	Total Filterable Residue at 180 C (TDS)	70300	1794
	UNITS	Apparent Color (Unfiltered)	00081	
	TON	Odor Threshold at 60 C	00086	
	NTU	Lab Turbidity	82079	
0.5	mg/L +	MBAS	38260	0.03

* 250-500-600 ** 900-1600-2200 *** 500-1000-15000

GENERAL MINERAL, PHYSICAL, INORGANIC, & RADIOLOGICAL CHEMICAL ANALYSES

9205078-4

Date of Report: 5/26/92 Sample ID No. 58119

Laboratory Name: McIntosh Laboratories, Inc. Signature Lab Director:

Name of Sampler: Bart Stafford Employed By: Emcon Associates

Date/Time Sample Collected: 5/5/92 Date/Time Sample Received @ Lab: 5/6/92 1635 Date Analyses Completed: 5/21/92

System Name: System Number:

Name or Number Of Sample Source:

User ID: | | | Station Number: | | | | | | | | | | | | |

Date/Time of Sample: | | | | | | | | | | | (Y Y M M D D T T T T) Laboratory Code: | | | | |

Date Analyses Completed: | | | | | | (Y Y M M D D)

Submitted by: Phone #:

MCL	REPORTING UNITS	CONSTITUENT	ENTRY #	ANALYSES RESULTS
	mg/L	Total Hardness (as CaCO3)	00900	621
	mg/L	Calcium (Ca)	00916	165
	mg/L	Magnesium (Mg)	00927	50
	mg/L	Sodium (Na)	00929	208
	mg/L	Potassium (K)	00937	29
Total Cations	meq/L	Value: 22.13		
	mg/L	Total Alkalinity (as CaCO3)	00410	992
	mg/L	Hydroxide (OH)	71830	1
	mg/L	Carbonate (CO3)	00445	1
	mg/L	Bicarbonate (HCO3)	00440	1210
*	mg/L +	Sulfate (SO4)	00945	160
*	mg/L +	Chloride (Cl)	00940	62
45	mg/L	Nitrate (NO3)	71850	2.2
1.4-2.4	mg/L	Fluoride (F) Temp. Depend.	00951	
Total Anions	meq/L	Value: 24.95		
	Std Units	pH (Laboratory)	00403	7.4
**	umho/cm +	Specific Conductance (E.C.)	00095	1950
***	mg/L +	Total Filterable Residue at 180 C (TDS)	70300	1320
	UNITS	Apparent Color (Unfiltered)	00081	
	TON	Odor Threshold at 60 C	00086	
	NTU	Lab Turbidity	82079	
0.5	mg/L +	MBAS	38260	0.04

* 250-500-600 ** 900-1600-2200 *** 500-1000-15000

GENERAL MINERAL, PHYSICAL, INORGANIC, & RADIOLOGICAL CHEMICAL ANALYSES

9205078-9

Date of Report: 5/26/92 Sample ID No. 58120

Laboratory Name: McIntosh Laboratories, Inc. Signature Lab Director:

Name of Sampler: Bart Stafford Employed By: Emcon Associates

Date/Time Sample Collected: 5/5/92 Date/Time Sample Received @ Lab: 5/6/92 1635 Date Analyses Completed: 5/21/92

System Name: System Number:

Name or Number Of Sample Source:

User ID: | | | | Station Number: | | | | | | | | | | | | | |

Date/Time of Sample: | | | | | | | | | | | | Laboratory Code: | | | | |

Y Y M M D D T T T T

Date Analyses Completed: | | | | | | |

Y Y M M D D

Submitted by: Phone #:

MCL	REPORTING UNITS	CONSTITUENT	ENTRY #	ANALYSES RESULTS
	mg/L	Total Hardness (as CaCO3)	00900	431
	mg/L	Calcium (Ca)	00916	90
	mg/L	Magnesium (Mg)	00927	50
	mg/L	Sodium (Na)	00929	540
	mg/L	Potassium (K)	00937	34
Total Cations	meq/L	Value: 32.96		
	mg/L	Total Alkalinity (as CaCO3)	00410	1396
	mg/L	Hydroxide (OH)	71830	1
	mg/L	Carbonate (CO3)	00445	1
	mg/L	Bicarbonate (HCO3)	00440	1703
*	mg/L +	Sulfate (SO4)	00945	22
*	mg/L +	Chloride (Cl)	00940	195
45	mg/L	Nitrate (NO3)	71850	<0.5
1.4-2.4	mg/L	Fluoride (F) Temp. Depend.	00951	
Total Anions	meq/L	Value: 33.87		
	Std Units	pH (Laboratory)	00403	7.2
**	umho/cm +	Specific Conductance (E.C.)	00095	2560
***	mg/L +	Total Filterable Residue at 180 C (TDS)	70300	1936
	UNITS	Apparent Color (Unfiltered)	00081	
	TON	Odor Threshold at 60 C	00086	
	NTU	Lab Turbidity	82079	
0.5	mg/L +	MBAS	38260	0.12

* 250-500-600 ** 900-1600-2200 *** 500-1000-15000

ANAMETRIX CHAIN-OF-CUSTODY RECORD

ANAMETRIX Workorder Number: 9205078

Send Report Attention of: MS. Kilma Desai | Report Due: 5/20/92 | Verbal Due:

Sample Number	Date	Time	Comp	Grab	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: Title 22	General Minerals	Nitrate as (N)	Phosphate	Potassium	Fluoride					Condition of Samples	Initial
1	5/04/92					5	3 x L liter, 1 x 500mL, 1 x 100mL	X	X	X	X	X							
4	5/05/92					5	↓	X	X	X	X	X							
9	5/05/92					5	↓	X	X	X	X	X							
								Acc.											

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	16:35 5.6.92	Kilma Desai	16:35 5.6.92
Kilma Desai	16:35 5.6.92	Kimberly J. Markie	5/6/92 4:35
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Remarks:

ANAMETRIX INC
LABORATORY SERVICES
1961 Concourse Drive, Suite E, San Jose, CA 95131
Phone: (408)432-8192 Fax: (408)432-8198