PACIFIC
ENVIRONMENTAL
GROUP, INC.

93 OCT 25 PM 3:52

October 20, 1993
Project 305-94.01

Mr. Lynn Walker
Shell Oil Company
P.O. Box 4848
Anaheim, California 92803

Re: Quarterly Report - Third Quarter 1993
Former Shell Service Station
2724 Castro Valley Boulevard at Lake Chabot Road
Castro Valley, California
WIC No 204-1381-0407

Dear Mr. Walker:

This letter presents the results of the third 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).

FINDINGS

Groundwater monitoring wells were gauged and sampled by Blaine Tech Services, Inc. (Blaine) at the direction of PACIFIC on September 10, 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 (TPH) calculated as gasoline, benzene, and TPH calculated as diesel concentrations for the September 1993 sampling event are shown on Figure 3. The laboratory noted that the concentration reported as gasoline for Well OMW-6 is primarily due to the presence of a discrete peak not indicative of gasoline. Blaine's groundwater sampling report is presented as Attachment A.

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

cc: Mr. Scott Seery, Alameda County Department of Environmental Health
Mr. Rich Hiett, Regional Water Quality Control Board
Dr. Mohsen Mehran, Owner Consultant
Mr. Richard Finn, Larson and Burnham
Mr. Matthew Righetti, Righetti Law Firm
Mr. Richard A. Schoenberger, Esq., Walkup, Shelby, Bastian, Melodia, Kelly, Echeverria and Link
Mr. David Swope, Shell Oil Company
Mr. Jeff Holland, Shell Oil Company

Table 1
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-1	02/08/90	99.78	8.39	91.39
	04/20/90		9.21	90.57
	07/30/90		9.21	90.57
	10/25/90		9.44	90.34
	01/15/91		9.11	90.67
	04/19/91		5.58	94.20
	07/16/91		7.58	92.20
	10/08/91		8.25	91.53
	02/04/92		8.52	91.26
	04/06/92		6.75	93.03
	08/26/92		9.89	89.89
	11/06/92		9.01	90.77
	02/18/93	160.54	4.33	156.21
	06/04/93		8.26	152.28
	09/10/93		9.04	151.50
MW-2	02/08/90	100.83	7.33	93.50
	04/20/90		8.63	92.20
	07/30/90		8.78	92.05
	10/25/90		9.50	91.33
	01/15/91		8.52	92.31
	04/19/91		6.90	93.93
	07/16/91		9.01	91.82
	10/08/91		8.82	92.01
	02/04/92		7.46	93.37
	04/06/92		6.91	93.92
	08/26/92		9.28	91.55
	11/06/92		8.59	92.24
	02/18/93	---------- Well Inaccessible ----------		
	06/04/93	---------- Well Inaccessible ----------		
	09/10/93	---------- Well Inaccessible ----------		
MW-3	02/08/90	101.48	8.91	92.57
	04/20/90		10.20	91.28
	07/30/90		10.61	90.87
	10/25/90		10.00	91.48
	01/15/91		9.74	91.74
	04/19/91		7.92	93.56
	07/16/91		9.40	92.08
	10/08/91		9.62	91.86
	02/04/92		8.74	92.74
	04/06/92		7.12	94.36
	08/26/92		9.58	91.90
	11/06/92		8.95	92.53
	02/18/93	162.24	6.79	155.45
	06/04/93		8.48	153.76
	09/10/93		9.84	152.40

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-5	02/08/90	99.90	8.80	91.10
	04/20/90		9.35	90.55
	07/30/90		9.49	90.41
	10/25/90		10.12	89.78
	01/15/91		9.26	90.64
	04/19/91		6.52	93.38
	07/16/91		9.12	90.78
	10/08/91		9.22	90.68
	02/04/92		8.13	91.77
	04/06/92		5.53	94.37
	08/26/92		9.25	90.65
	11/06/92		9.02	90.88
	02/18/93	160.68	3.60	157.08
	06/04/93		7.08	153.60
	09/10/93		9.92	150.76
OMW-6	07/16/91	101.48	8.60	92.88
	10/08/91		8.82	92.66
	02/04/92		7.47	94.01
	04/06/92		5.80	95.68
	08/26/92		9.18	92.30
	11/06/92		8.29	93.19
	02/18/93	162.22	5.83	156.39
	06/04/93		7.14	155.08
	09/10/93		8.78	153.44
MW-7	07/16/91	99.54	8.70	90.84
	10/08/91		8.74	90.80
	02/04/92		7.78	91.76
	04/06/92		5.87	93.67
	08/26/92		8.93	90.61
	11/06/92		8.51	91.03
	02/18/93	---------- Well Inaccessible ----------		
	06/04/93	---------- Well Inaccessible ----------		
	09/10/93	---------- Well Inaccessible ----------		
OMW-8	07/16/91	100.18	8.40	91.78
	10/08/91		8.74	91.44
	02/04/92		8.22	91.96
	04/06/92		6.82	93.36
	08/26/92		9.15	91.03
	11/06/92		8.69	91.49
	02/18/93	160.92	7.59	153.33
	06/04/93		7.88	153.04
	09/10/93		8.58	152.34

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
OMW-9	03/03/93	158.81	9.16	149.65
	06/04/93		9.52	149.29
	09/10/93		9.23	149.58

MSL = Mean sea level
TOC = Top of casing
Elevations prior to February 18, 1993 are to a temporary bench mark.
Elevations after February 18, 1993 are to MSL.

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

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

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

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

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-3 (cont.)	07/16/91	<50	<0.5	<0.5	<0.5	<0.5
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5
	02/04/92	<50	4	2	7	3.2
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5
	08/26/82	<50	<0.5	<0.5	<0.5	<0.5
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93(D)	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93(D)	<50	<0.5	<0.5	<0.5	<0.5
MW-5	02/09/90	<1,000	<0.5	<0.5	<0.5	<0.5
	04/20/90	<50	<0.5	<0.5	<0.5	<0.5
	07/31/90	<50	<0.5	<0.5	<0.5	<0.5
	10/25/90	<50	<0.5	<0.7	<0.6	<0.6
	01/15/91	<50	<0.5	<0.5	<0.5	<0.5
	04/19/91	<50	<0.5	<0.5	<0.5	<0.5
	07/16/91	<50	<0.5	<0.5	<0.5	<0.5
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5
	02/04/92	<50	<0.5	<0.5	<0.5	<0.5
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5
	08/26/92	<50	<0.5	<0.5	<0.5	<0.5
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
OMW-6	07/16/91	<50	<0.5	<0.5	<0.5	<0.5
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5
	02/04/92	<50	<0.5	<0.5	<0.5	<0.5
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5
	08/26/92	<50	<0.5	<0.5	<0.5	<0.5
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93(D)	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	50**	<0.5	<0.5	<0.5	<0.5
MW-7	07/16/91	1,300	440	140	6.9	160
	10/08/91	520	230	36	26	54
	02/04/92	640	130	51	26	79
	04/06/92	80	32	1.7	2.3	4.4
	05/13/92	<50	3.1	1.7	0.9	3.8

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

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-7	08/26/92	63	1.0	<0.5	2.6	<0.5
(cont.)	11/12/92	73	11	<0.5	3.7	<0.5
	02/18/93	---------- Well Inaccessible ----------				
	06/04/93	---------- Well Inaccessible ----------				
	09/10/93	---------- Well Inaccessible ----------				
OMW-8	07/16/91	<50	<0.5	0.8	<0.5	<0.5
	10/08/91	<50	<0.5	<0.5	<0.5	<0.5
	02/04/92	<50	0.9	1.9	0.6	3.6
	04/06/92	<50	<0.5	<0.5	<0.5	<0.5
	08/26/92	<50	<0.5	<0.5	<0.5	<0.5
	11/12/92	<50	<0.5	<0.5	<0.5	<0.5
	02/18/93	180*	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
OMW-9	03/03/93	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5

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

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

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

Well Number	Date Sampled	TPH as Diesel (ppb)	Motor Oil (ppb)
MW-1	02/09/90	NA	NA
	04/20/90	NA	NA
	07/31/90	NA	NA
	10/25/90	<50	NA
	01/15/91	<50	NA
	01/15/91	<50	NA
	04/19/91	<50	NA
	04/19/91	<50	NA
	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	51	NA
	11/12/92	<50	NA
	02/18/93	57*	NA
	06/04/93	85	NA
	09/10/93	<50	NA
MW-2	02/09/90	4,100	NA
	04/20/90	1,800	NA
	07/31/90	60	NA
	10/25/90	300	NA
	01/15/91	680	NA
	04/19/91	306	NA
	07/16/91	430	<50
	07/16/91	540	<50
	10/08/91	110	<50
	02/04/92	870	NA
	04/06/92	1,000	NA
	05/13/92	570	NA
	08/26/92	63	NA
	08/26/92(D)	63	NA
	11/12/92	160	NA
	11/12/92(D)	180	NA
	02/18/93	--------- Well Inaccessible -------	
	06/04/93	--------- Well Inaccessible -------	
	09/10/93	--------- Well Inaccessible -------	
MW-3	02/09/90	NA	NA
	04/20/90	NA	NA
	07/31/90	NA	NA
	10/25/90	<50	NA
	01/15/91	<50	NA
	04/19/91	<50	NA

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

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

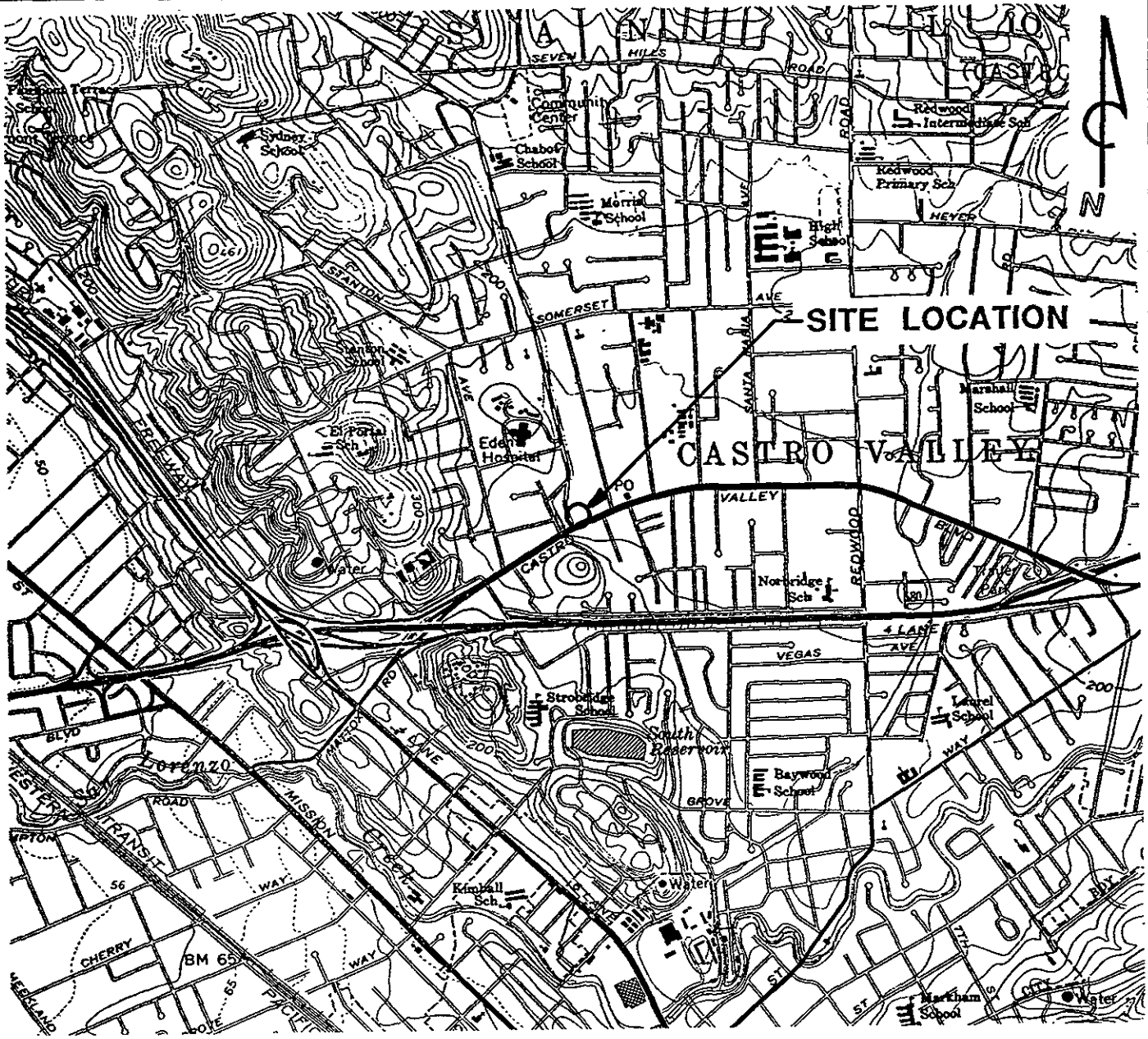
Well Number	Date Sampled	TPH as Diesel (ppb)	Motor Oil (ppb)
MW-3 (cont.)	07/16/91	<50	1,400
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/24/92	<50	NA
	11/12/92	<50	NA
	02/18/93	<50	NA
	06/04/93	200	NA
	06/04/93(D)	<50	NA
	09/10/93	<50	NA
	09/10/93(D)	<50	NA
MW-5	02/09/90	NA	NA
	04/20/90	NA	NA
	07/31/90	NA	NA
	10/25/90	<50	NA
	01/15/91	<50	NA
	04/19/91	<50	NA
	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	80*	NA
	06/04/93	170	NA
	09/10/93	<50	NA
OMW-6	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	<50	NA
	02/18/93(D)	84*	NA
	06/04/93	<50	NA
	09/10/93	<50	NA
MW-7	07/16/92	270	1,100
	10/08/92	<50	<50
	02/04/92	140**	NA
	04/06/92	<50	NA
	05/13/92	<50	NA

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

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

Well Number	Date Sampled	TPH as Diesel (ppb)	Motor Oil (ppb)
MW-7 (cont.)	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	--------- Well Inaccessible -------	
	06/04/93	--------- Well Inaccessible -------	
	09/10/93	--------- Well Inaccessible -------	
OMW-8	07/16/91	<50	<50
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	<50	NA
	06/04/93	53	NA
	09/10/93	<50	NA
OMW-9	03/03/93	71*	NA
	06/04/93	<50	NA
	09/10/93	<50	NA

ppb = Parts per billion
NA = Not analyzed
< = Denotes minimum laboratory detection limits.
(D) = Duplicate sample
* = Concentration primarily due to the presence of a heavier petroleum hydrocarbon product.
** = The positive result for TPH-d analysis on this sample appears to be lighter hydrocarbon than diesel.



REFERENCES:
USGS 7.5 MIN. TOPOGRAPHIC MAP
TITLED: HAYWARD, CALIFORNIA
DATED: 1959 REVISED: 1980

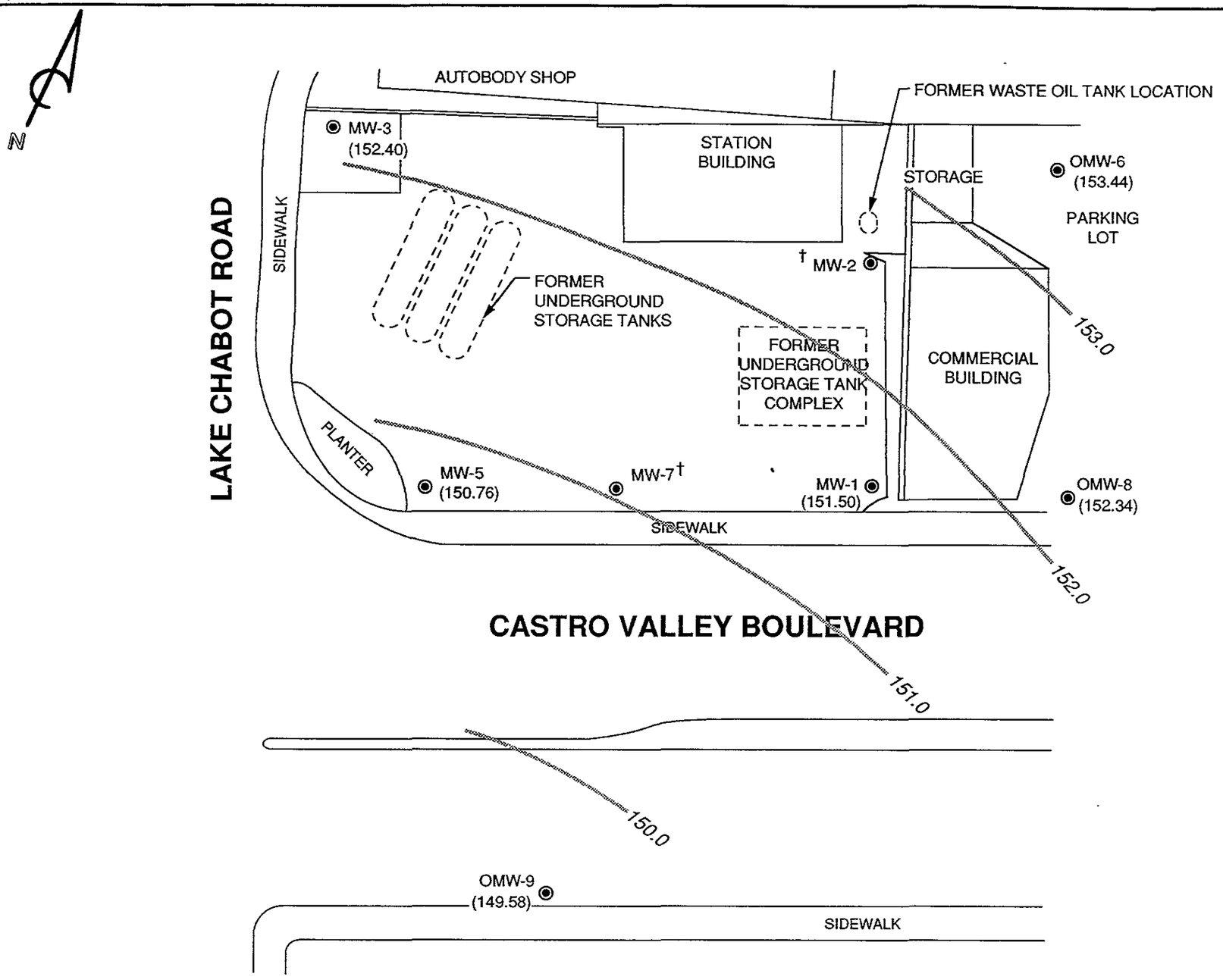
SCALE
2000 0 2000 FEET

PACIFIC ENVIRONMENTAL GROUP, INC.

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

SITE LOCATION MAP

FIGURE: 1
PROJECT: 305-94.01



LEGEND

MW-1 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

(153.44) GROUNDWATER ELEVATION IN FEET - MSL, 9-10-93

152.0 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 9-10-93

† WELL INACCESSIBLE

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.02

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

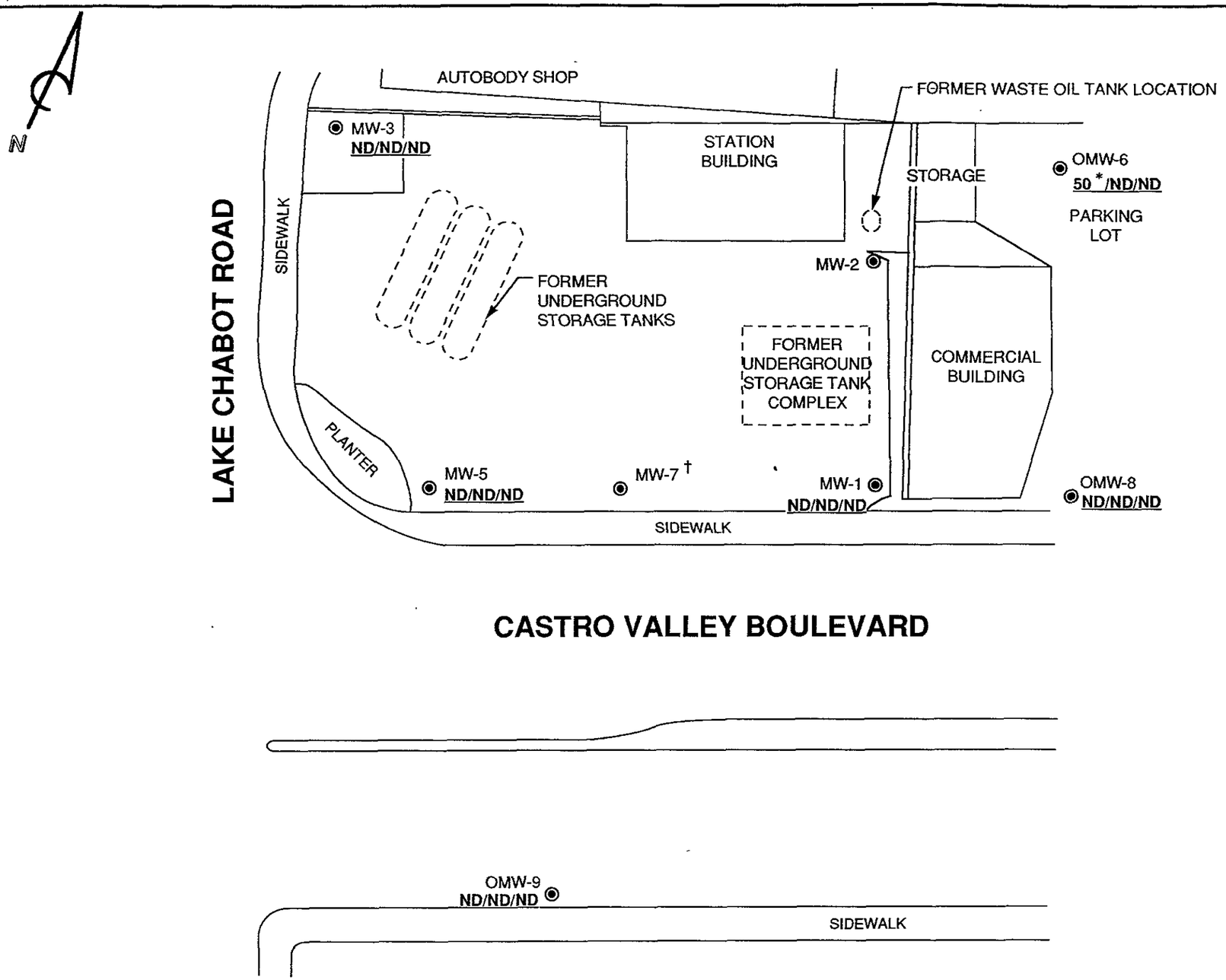
FORMER SHELL SERVICE STATION
2724 Castro Valley Boulevard at Lake Chabot Road,
Castro Valley, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE: **2**

PROJECT: 305-94.01

10/21/93



LEGEND

MW-1 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

50 */ND/ND TPH-g/BENZENE/TPH-d CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 9-10-93

ND NOT DETECTED

† WELL INACCESSIBLE

* PRIMARILY DUE TO A DISCRETE PEAK NOT INDICATIVE OF GASOLINE

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

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

TPH-g/BENZENE/TPH-g CONCENTRATION MAP

FIGURE: 3
PROJECT: 305-94.01

10/21/93

ATTACHMENT A

GROUNDWATER SAMPLING REPORT

BLAINE
TECH SERVICES INC.

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

October 1, 1993

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

Attn: Daniel T. Kirk

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

QUARTER:
3rd quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930910-L-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in reponse to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a TABLE OF WELL GAUGING DATA. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

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

STANDARD PROCEDURES

Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

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

Free Product Skimmer

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

recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such sites is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

Sample Containers

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

Sampling

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

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

Sample Designations

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

Chain of Custody

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

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to 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.

for Ingrid Blaine
Richard C. Blaine

RCB/lpn

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

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

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	9/10/93	TOC	--	NONE	--	--	9.04	14.69
MW-2	9/10/93	WELL WAS BURIED.						
MW-3 *	9/10/93	TOC	--	NONE	--	--	9.84	25.42
MW-5	9/10/93	TOC	--	NONE	--	--	9.92	22.03
OMW-6	9/10/93	TOC	--	NONE	--	--	8.78	22.12
MW-7	9/10/93	WELL WAS BURIED.						
OMW-8	9/10/93	TOC	--	NONE	--	--	8.58	20.05
OMW-9	9/10/93	TOC	--	NONE	--	--	9.23	13.90

* Sample DUP was a duplicate sample taken from well MW-3.

15:45 hrs

9309145 (18) (10/23)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No:

Date: 9/10/93
Page 1 of 2

Site Address: 2724 Castro Valley Blvd., Castro Valley

WIC#: 204-1381-0407

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

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

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

Comments:

Sampled by: Zad B Olver

Printed Name: LAD B OLVER

Analysis Required

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
Quarterly Monitoring [X]	5461	24 hours [ ]
Site Investigation [ ]	5441	48 hours [ ]
Soil Classify/Disposal [ ]	5442	16 days [X] (Normal)
Water Classify/Disposal [ ]	5443	Other [ ] 1
Soil/Air Rem. or Sys. O & M [ ]	5452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M [ ]	5453	
Other [ ]		

	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			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1)	MW-1	9/10			X		5		X				X				40 ML	HCL			
(2)	MW-3	↓			X		5		X				X				↓	↓			
(3)	MW-5	↓			X		5		X				X				↓	↓			
(4)	OMW-6	↓			X		5		X				X				↓	↓			
(5)	OMW-8	↓			X		5		X				X				↓	↓			
(6)	OMW-9	↓			X		5		X				X				↓	↓			
(7)	DUP	↓			X		5		X				X				↓	↓			
(8)	E.B.	↓			X		5		X				X				↓	↓			

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
Zad B Olver	LAD B OLVER	Date: 9-13-93 Time: 1315	Dennys S. Carrizosa	DENNYS S. CARRIZOSA	Date: 9-13-93 Time: 1415
Dennys S. Carrizosa	DENNYS S. CARRIZOSA	Date: 9-13-93 Time: 1440	[illegible signature]	Maria Barajas	Date: 9/13/93 Time: 14:40
		Date: Time:			Date: Time:

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

9309145 (B) (10/23)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 9/10/93
Page 2 of 2

Site Address: 2724 Castro Valley Blvd., Castro Valley

WIC#: 204-1381-0407

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

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

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

Comments:

Sampled by: Zad B Olver

Printed Name: LAD B OLVER

LAB: Anametrix

Analysis Required

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			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE - CONDITION/ COMMENTS
(9) T.B.	9/10			X		2						X				40 ML	HCL			

CHECK ONE (1) BOX ONLY — C1/D1 — TURN AROUND TIME

Quarterly Monitoring	[X]	8441	24 hours [ ]
Site Investigation	[ ]	8441	48 hours [ ]
Soil Closure/Disposal	[ ]	8442	72 hours [X] (Normal)
Water Closure/Disposal	[ ]	8443	Other [ ]
Soil/Air Rem. or Sys. O & M	[ ]	8442	
Water Rem. or Sys. O & M	[ ]	8443	
Other	[ ]		

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

	Printed Name	Date	Time		Printed Name	Date	Time
Relinquished By (Signature): Zad B Olver	LAD B OLVER	9-13-93	1415	Received (Signature): Benny S. Carrizosa	Benny S. Carrizosa	9-13-93	1415
Relinquished By (Signature): Benny S. Carrizosa	Benny S. Carrizosa	9-13-93	1940	Received (Signature): Maria Barajas	Maria Barajas	9/13/93	19:40
Relinquished By (Signature):		Date:	Time:	Received (Signature):		Date:	Time:

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

Inchcape Testing Services
Anametrix Laboratories

1961 Concourse Drive
Suite E
San Jose, CA 95131
Tel: 408-432-8192
Fax: 408-432-8198

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9309145
Date Received : 09/13/93
Project ID : 204-1381-0407
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9309145- 1	MW-1
9309145- 2	MW-3
9309145- 3	MW-5
9309145- 4	OMW-6
9309145- 5	OMW-8
9309145- 6	OMW-9
9309145- 7	DUP
9309145- 8	E.B.
9309145- 9	T.B.

This report consists of 8 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.

Connie Chan for
Sarah Schoen, Ph.D.
Laboratory Director

09/27/93
Date

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

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9309145
Date Received : 09/13/93
Project ID : 204-1381-0407
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9309145- 1	MW-1	WATER	09/10/93	TPHd
9309145- 2	MW-3	WATER	09/10/93	TPHd
9309145- 3	MW-5	WATER	09/10/93	TPHd
9309145- 4	OMW-6	WATER	09/10/93	TPHd
9309145- 5	OMW-8	WATER	09/10/93	TPHd
9309145- 6	OMW-9	WATER	09/10/93	TPHd
9309145- 7	DUP	WATER	09/10/93	TPHd
9309145- 8	E.B.	WATER	09/10/93	TPHd
9309145- 1	MW-1	WATER	09/10/93	TPHgBTEX
9309145- 2	MW-3	WATER	09/10/93	TPHgBTEX
9309145- 3	MW-5	WATER	09/10/93	TPHgBTEX
9309145- 4	OMW-6	WATER	09/10/93	TPHgBTEX
9309145- 5	OMW-8	WATER	09/10/93	TPHgBTEX
9309145- 6	OMW-9	WATER	09/10/93	TPHgBTEX
9309145- 7	DUP	WATER	09/10/93	TPHgBTEX
9309145- 8	E.B.	WATER	09/10/93	TPHgBTEX
9309145- 9	T.B.	WATER	09/10/93	TPHgBTEX

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

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9309145
Date Received : 09/13/93
Project ID : 204-1381-0407
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentration reported as gasoline for sample OMW-6 is primarily due to the presence of a discrete peak not indicative of gasoline.

Cheryl Balmer 9/24/93
Department Supervisor Date

Chemist 09/24/93
Date

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

Anametrix W.O.: 9309145
Matrix : WATER
Date Sampled : 09/10/93

Project Number : 204-1381-0407
Date Released : 09/24/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-1 -01	Sample I.D.# MW-3 -02	Sample I.D.# MW-5 -03	Sample I.D.# OMW-6 -04	Sample I.D.# OMW-8 -05
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	50	ND
% Surrogate Recovery		108%	111%	117%	111%	109%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		09/14/93	09/14/93	09/14/93	09/15/93	09/15/93
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 (Dilution)..

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

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

09/24/93
Analyst Date

Cheryl Balma 9/24/93
Supervisor Date

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

Anametrix W.O.: 9309145
Matrix : WATER
Date Sampled : 09/10/93

Project Number : 204-1381-0407
Date Released : 09/24/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# OMW-9 -06	Sample I.D.# DUP -07	Sample I.D.# E.B. -08	Sample I.D.# T.B. -09	Sample I.D.# BS1401E2 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		104%	108%	107%	109%	97%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		09/15/93	09/15/93	09/15/93	09/15/93	09/14/93
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 (Dilution).

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

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

09/24/93
Analyst Date

Cheryl Balma 9/24/93
Supervisor Date

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

Anametrix W.O.: 9309145
Matrix : WATER
Date Sampled : 09/10/93
Date Extracted: 09/17/93

Project Number : 204-1381-0407
Date Released : 09/24/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9309145-01	MW-1	09/23/93	50	ND	38%
9309145-02	MW-3	09/23/93	50	ND	57%
9309145-03	MW-5	09/24/93	50	ND	39%
9309145-04	OMW-6	09/24/93	50	ND	64%
9309145-05	OMW-8	09/24/93	50	ND	46%
9309145-06	OMW-9	09/24/93	50	ND	50%
9309145-07	DUP	09/24/93	50	ND	48%
9309145-08	E.B.	09/24/93	50	ND	55%
BS1711F1	METHOD BLANK	09/22/93	50	ND	80%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
The surrogate recovery limits for C25 are 30-130%.

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.

Reggie Dawson 9/27/93
Analyst Date

Cheryl Burman 9/27/93
Supervisor Date

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

Sample I.D.	: 204-1381-0407 OMW-9	Anametrix I.D.	: 09145-06
Matrix	: WATER	Analyst	:
Date Sampled	: 09/10/93	Supervisor	:
Date Analyzed	: 09/15/93	Date Released	: 09/24/93
		Instrument I.D.	: HP4

COMPOUND	SPIKE AMT (ug/L)	SAMPLE CONC (ug/L)	REC MS (ug/L)	%REC MS	REC MD (ug/L)	%REC MD	RPD	%REC LIMITS
BENZENE	20.0	0.0	13.7	69%	17.4	87%	24%	45-139
TOLUENE	20.0	0.0	16.4	82%	20.9	104%	24%	51-138
ETHYLBENZENE	20.0	0.0	16.2	81%	20.7	103%	24%	48-146
TOTAL XYLENES	20.0	0.0	15.7	78%	20.3	102%	26%	50-139
p-BFB				98%		96%		61-139

* Quality control established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MS1403E1
Matrix	: WATER	Analyst	:
Date Sampled	: N/A	Supervisor	:
Date Analyzed	: 09/15/93	Date Released	: 09/24/93
		Instrument I.D.	: HP4

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	15.6	78%	52-133
Toluene	20.0	18.6	93%	57-136
Ethylbenzene	20.0	18.4	92%	56-139
TOTAL Xylenes	20.0	17.9	89%	56-141
P-BFB			95%	61-139

* Limits established by Anametrix, Inc.

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

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MS1711F1
Matrix	: WATER	Analyst	: AP
Date Sampled	: N/A	Supervisor	: CS
Date Extracted	: 09/17/93	Date Released	: 09/24/93
Date Analyzed	: 09/23/93	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	910	73%	1050	84%	14%	47-130
SURROGATE			75%		75%		30-130

*Quality control established by Anametrix, Inc.