PACIFIC
ENVIRONMENTAL
GROUP INC.

93 JUL 26 PM 12:47

July 22, 1993
Project 305-94.01

Mr. Randy Orlowski
Shell Oil Company
P.O. Box 4848
Anaheim, California 92803

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

Dear Mr. Orlowski:

This letter presents the results of the second 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 June 4, 1993. Groundwater elevation contours for the sampling date are shown on Figure 2. Table 1 presents groundwater elevation data.

Groundwater analytical data are presented in Tables 2 and 3. Total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, and TPH calculated as diesel (TPH-d) concentrations for the June 1993 sampling event are shown on Figure 3. 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

REGISTERED GEOLOGIST
MICHAEL HURD
No. 5319
EXP. 6/94
STATE OF CALIFORNIA

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
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----------		
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

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
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
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----------		
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

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

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
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				
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
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
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
MW-7	07/16/91	1,300	440	140	6.9	160
	10/08/91	520	230	36	26	54
	02/04/92	640	130	51	26	79
	04/06/92	80	32	1.7	2.3	4.4
	05/13/92	<50	3.1	1.7	0.9	3.8
	08/26/92	63	1.0	<0.5	2.6	<0.5
	11/12/92	73	11	<0.5	3.7	<0.5
	02/18/93	----------	Well Inaccessible	----------		
	06/04/93	----------	Well Inaccessible	----------		

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

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
OMW-8	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
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

ppb = Parts per billion
< = Denotes minimum laboratory detection limits.
(D) = Duplicate sample
* = Concentration due to the presence of a heavier petroleum hydrocarbon range.

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
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-----	
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

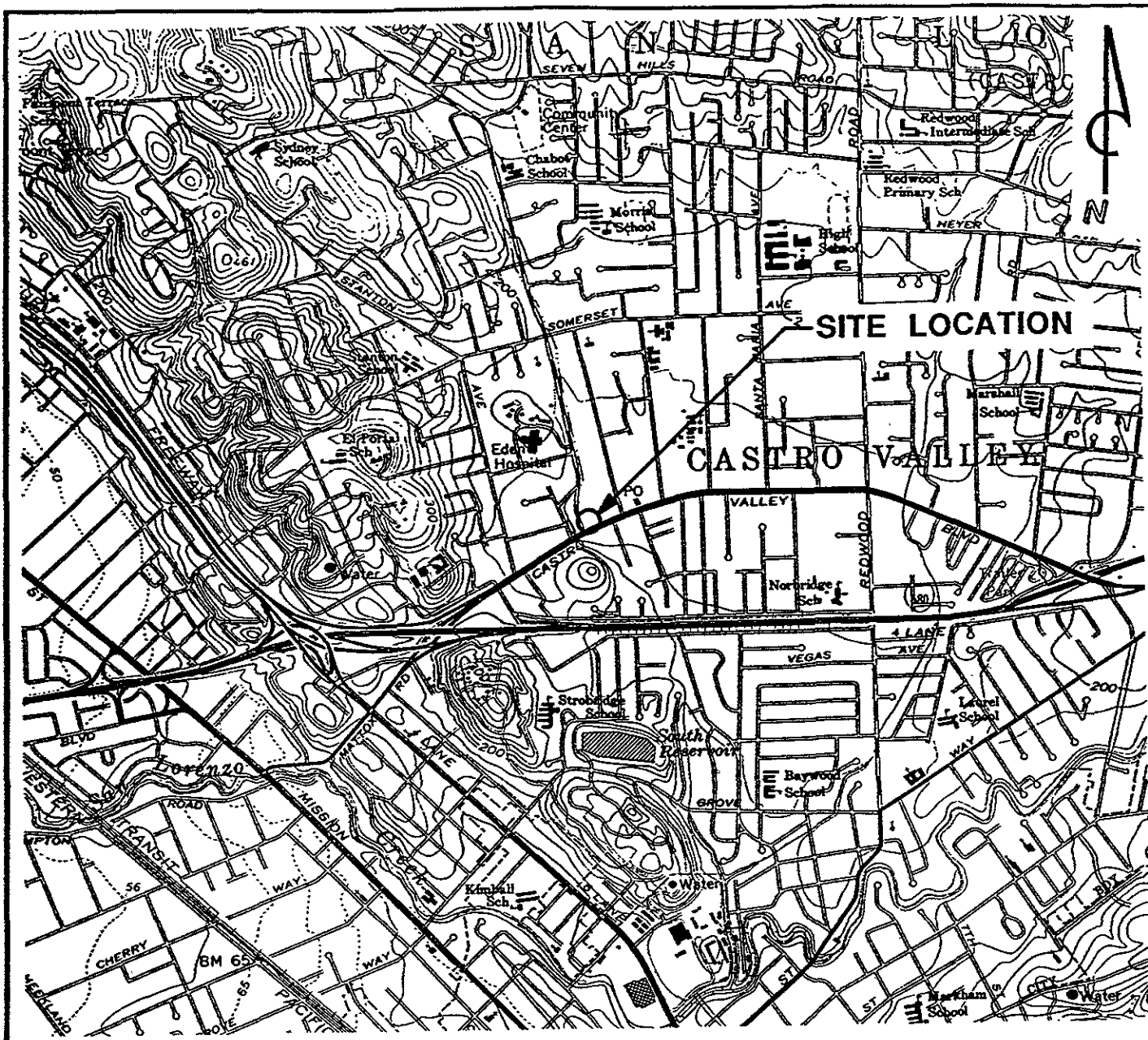
Well Number	Date Sampled	TPH as Diesel (ppb)	Motor Oil (ppb)
MW-3 (cont.)	07/16/91	<50	1,400
	10/08/91	<50	<50
	02/04/92	<50	NA
	04/06/92	<50	NA
	08/24/92	<50	NA
	11/12/92	<50	NA
	02/18/93	<50	NA
	06/04/93	200	NA
	06/04/93(D)	<50	NA
MW-5	02/09/90	NA	NA
	04/20/90	NA	NA
	07/31/90	NA	NA
	10/25/90	<50	NA
	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
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
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
	08/26/92	<50	NA
	11/12/92	<50	NA
	02/18/93	------Well Inaccessible------	
	06/04/93	------Well Inaccessible------	

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

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

Well Number	Date Sampled	TPH as Diesel (ppb)	Motor Oil (ppb)
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
OMW-9	03/03/93	71*	NA
	06/04/93	<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.
See individual analytical reports for detection limits.



QUADRANGLE LOCATION

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

SCALE

2000 0 2000 FEET

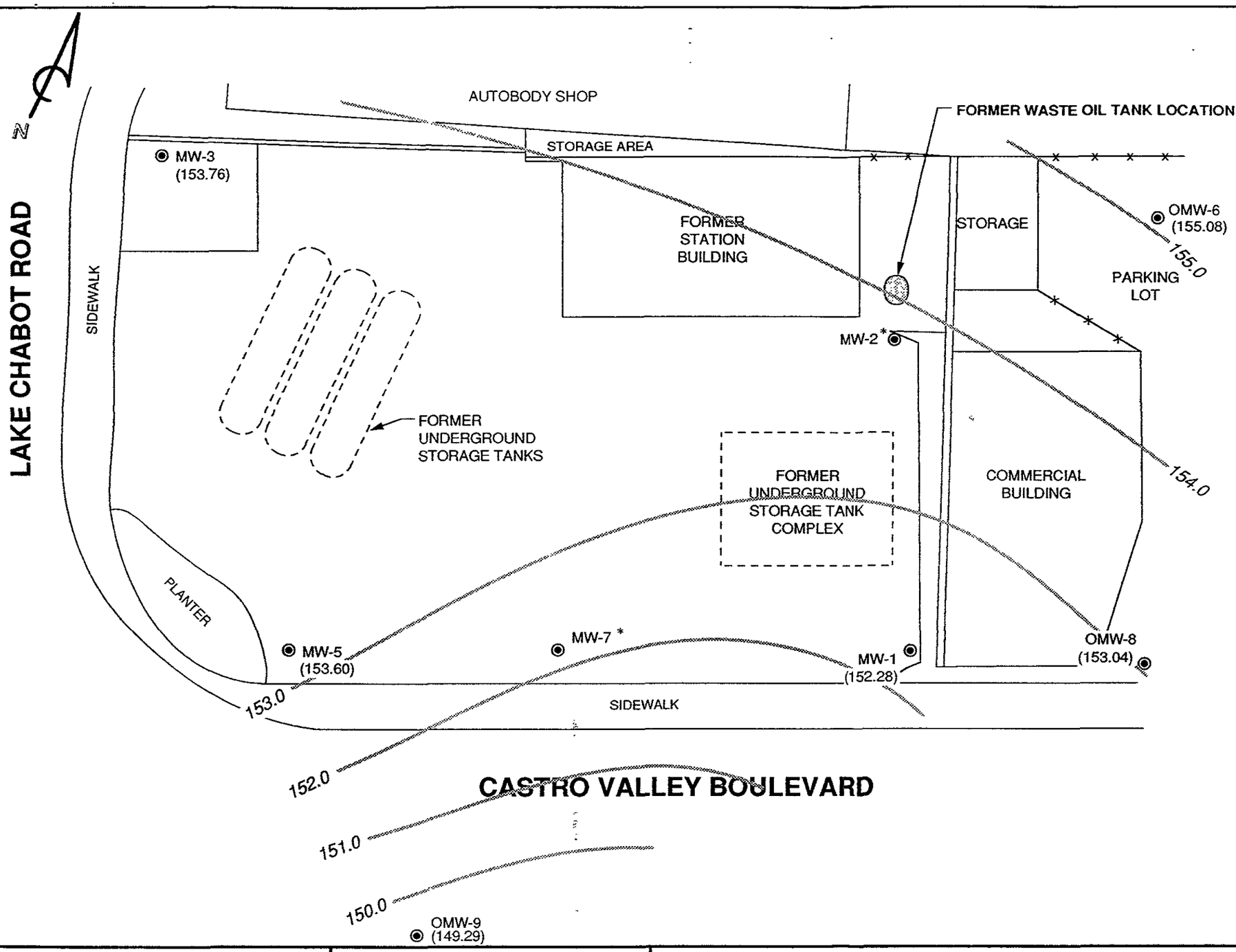
PACIFIC ENVIRONMENTAL GROUP, INC.

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

(152.28) GROUNDWATER ELEVATION IN FEET - MSL, 6-4-93

154.0 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 6-4-93

* WELL INACCESSIBLE

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.03

PACIFIC ENVIRONMENTAL GROUP, INC.

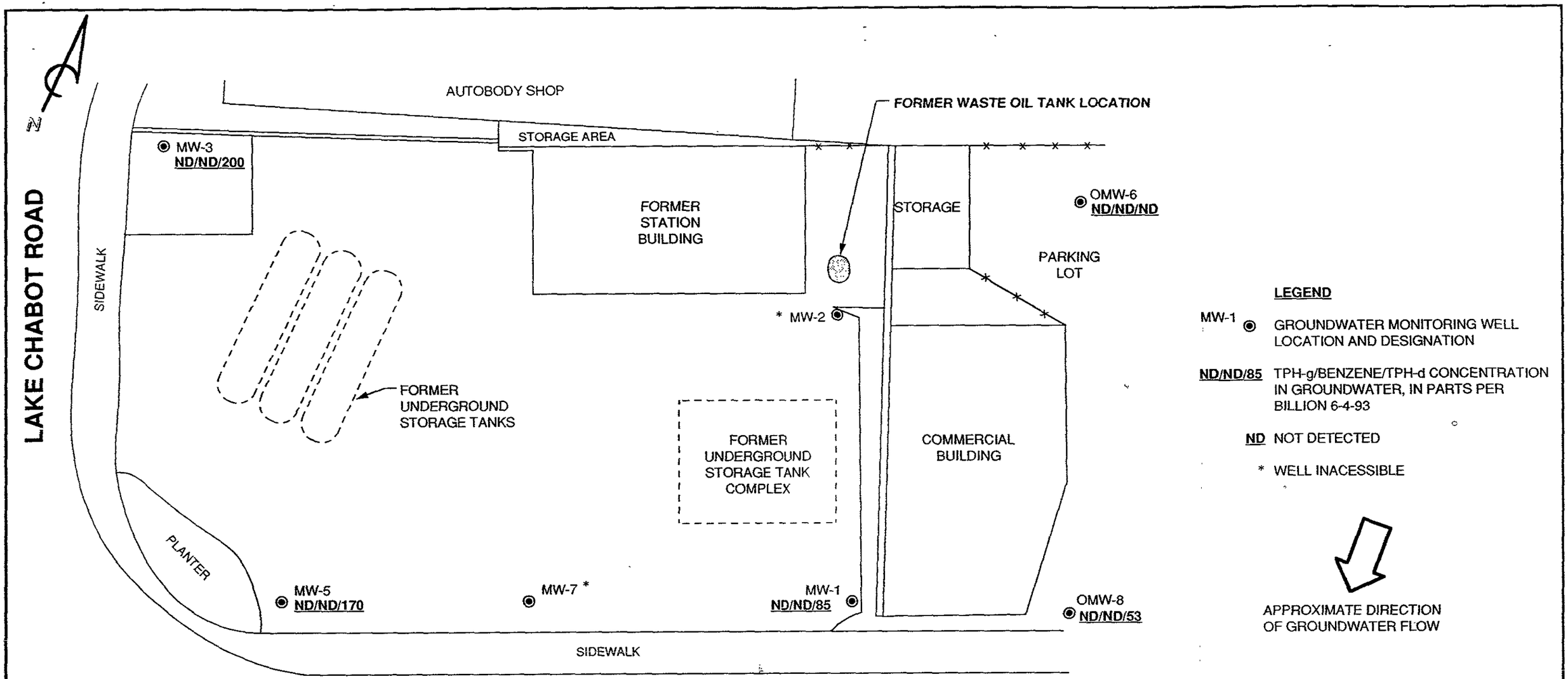
SCALE
0 20 40 FEET

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

GROUNDWATER ELEVATION MAP

FIGURE:
2
PROJECT:
305-94.01

7/21/93



PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 20 40 FEET

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

TPH-g /BENZENE/TPH-d CONCENTRATION MAP

FIGURE:
3
PROJECT:
305-94.01

7/21/93

ATTACHMENT A

GROUNDWATER SAMPLING REPORT

BLAINE
TECH SERVICES INC.

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

June 21, 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:
2nd quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930604-C-1

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

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

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	4	06-04-93	TOC	--	NONE	--	--	8.26	14.66
MW-2	4	06-04-93	WELL WAS BURIED.						
MW-3*	4	06-04-93	TOC	--	NONE	--	--	8.48	25.42
MW-5	4	06-04-93	TOC	--	NONE	--	--	7.08	22.10
OMW-6	4	06-04-93	TOC	--	NONE	--	--	7.14	21.76
MW-7	4	06-04-93	WELL WAS BURIED.						
OMW-8	4	06-04-93	TOC	--	NONE	--	--	7.88	19.72
OMW-9	3	06-04-93	TOC	--	NONE	--	--	9.52	14.40

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

STANDARD PROCEDURES

Evacuation

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

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

Decontamination

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

Free Product Skimmer

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

Sample Containers

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

Sampling

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

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

Sample Designations

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

Chain of Custody

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

Hazardous Materials Testing Laboratory

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

Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evalua-

tions and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

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

Please call if we can be of any further assistance.

Richard C. Blaine

RCB/lpn

attachments: chain of custody
certified analytical report

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

9306080 10/17 (18) 18:30

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 6-4-93
Page 1 of 1

Site Address: 2724 Castro Valley Blvd

WIC#: 204-1381-0407

Shell Engineer: R. Melmon — Phone No.: / Fax #: 675-6165

Consultant Name & Address: Blaine Tech Ser. 985 Timothy Dr. S.J.

Consultant Contact: Jim Keller — Phone No.: 408 995-5535 Fax #:

Comments:

Sampled by: Ben Castaneda

Printed Name: Ben Castaneda

LAB: _____

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) OMW-8	6-4-93			X		5	X	X	X					VOA Liter	HCl		Groundwater	
(2) OMW-6	↓			↓		↓	↓	↓	↓					↓	VOA only			
(3) OMW-9																		
(4) MW-1																	one liter broken.	received in MA
(5) MW-5																		
(6) MW-3						↓												
(7) TB						2												
(8) Dup	↓			↓		3	↓	↓	↓					↓				

Relinquished By (signature): Ben Castaneda	Printed Name:	Date: 6/4/93 Time: 1500	Received (signature):	Printed Name:	Date: 6/4/93 Time: 1800
Relinquished By (signature):	Printed Name: J. Thompson	Date: 6/4/93 Time: 18:30	Received (signature): Michele D. Aguilar	Printed Name: Michele D Aguilar	Date: 6-4-93 Time: 18:30
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name:	Date: Time:

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

CHECK ONE (1) BOX ONLY		CT/DT	TURN AROUND TIME
Quarterly Monitoring	X	6441	24 hours ☐
Site Investigation	☐	6441	48 hours ☐
Soil Closure/Disposal	☐	6442	15 days X (Normal)
Water Closure/Disposal	☐	6443	Other ☐
Soil/Air Rem. or Sys. O & M	☐	6442	NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.
Water Rem. or Sys. O & M	☐	6443	
Other	☐		

Inchcape Testing Services
Anametrix Laboratories

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

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

Workorder # : 9306080
Date Received : 06/04/93
Project ID : 204-1381-0407
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9306080- 1	OMW-8
9306080- 2	OMW-6
9306080- 3	OMW-9
9306080- 4	MW-1
9306080- 5	MW-5
9306080- 6	MW-3
9306080- 7	TB
9306080- 8	DUP

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.

Sarah Schoen, Ph.D.
Laboratory Director

06-13-93
Date

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

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

Workorder # : 9306080
Date Received : 06/04/93
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
9306080- 1	OMW-8	WATER	06/04/93	TPHd
9306080- 2	OMW-6	WATER	06/04/93	TPHd
9306080- 3	OMW-9	WATER	06/04/93	TPHd
9306080- 4	MW-1	WATER	06/04/93	TPHd
9306080- 5	MW-5	WATER	06/04/93	TPHd
9306080- 6	MW-3	WATER	06/04/93	TPHd
9306080- 8	DUP	WATER	06/04/93	TPHd
9306080- 1	OMW-8	WATER	06/04/93	TPHgBTEX
9306080- 2	OMW-6	WATER	06/04/93	TPHgBTEX
9306080- 3	OMW-9	WATER	06/04/93	TPHgBTEX
9306080- 4	MW-1	WATER	06/04/93	TPHgBTEX
9306080- 5	MW-5	WATER	06/04/93	TPHgBTEX
9306080- 6	MW-3	WATER	06/04/93	TPHgBTEX
9306080- 7	TB	WATER	06/04/93	TPHgBTEX
9306080- 8	DUP	WATER	06/04/93	TPHgBTEX

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

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

Workorder # : 9306080
Date Received : 06/04/93
Project ID : 204-1381-0407
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 6/18/93
Department Supervisor Date

Peggie Dawson 6/18/93
Chemist Date

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

Anametrix W.O.: 9306080
Matrix : WATER
Date Sampled : 06/04/93

Project Number : 204-1381-0407
Date Released : 06/18/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# OMW-8 -01	Sample I.D.# OMW-6 -02	Sample I.D.# OMW-9 -03	Sample I.D.# MW-1 -04	Sample I.D.# MW-5 -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	ND	ND
% Surrogate Recovery		111%	106%	111%	112%	111%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		06/10/93	06/10/93	06/10/93	06/10/93	06/10/93
RLMF		1	1	1	1	1

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

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

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

Reggie Davison 6/18/93
Analyst Date

Cheryl Brenner 6/18/93
Supervisor Date

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

Anametrix W.O.: 9306080
Matrix : WATER
Date Sampled : 06/04/93

Project Number : 204-1381-0407
Date Released : 06/18/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-3 -06	Sample I.D.# TB -07	Sample I.D.# DUP -08	Sample I.D.# BU1001E2 BLANK	Sample I.D.# BU1101E2 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		112%	114%	110%	108%	111%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		06/10/93	06/11/93	06/10/93	06/10/93	06/11/93
RLMF		1	1	1	1	1

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

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

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

Peggie Davison 6/18/93
Analyst Date

Cheryl Bulman 6/18/93
Supervisor Date

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

Anametrix W.O.: 9306080
Matrix : WATER
Date Sampled : 06/04/93
Date Extracted: 06/11/93

Project Number : 204-1381-0407
Date Released : 06/18/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9306080-01	OMW-8	06/14/93	53	53
9306080-02	OMW-6	06/14/93	50	ND
9306080-03	OMW-9	06/14/93	50	ND
9306080-04	MW-1	06/14/93	50	85
9306080-05	MW-5	06/15/93	50	170
9306080-06	MW-3	06/15/93	50	200
9306080-08	DUP	06/14/93	51	ND
BU111F1	METNOD BLANK	06/14/93	50	ND

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

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

Peggie Dawson 6/18/93
Analyst Date

Cheryl Balmer 6/18/93
Supervisor Date

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

Sample I.D.	: 204-1381-0407 OMW-6	Anametrix I.D.	: 06080-02
Matrix	: WATER	Analyst	:
Date Sampled	: 06/04/93	Supervisor	:
Date Analyzed	: 06/10/93	Date Released	: 06/18/93
		Instrument ID	: HP21

COMPOUND	SPIKE AMT (ug/L)	SAMPLE AMT (ug/L)	REC MS (ug/L)	% REC MS	REC MD (ug/L)	% REC MD	RPD	% REC LIMITS
GASOLINE	500	0	540	108%	570	114%	5%	48-149
P-BFB				97%		100%		61-139

* Limits established by Anametrix, Inc.

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

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 06/10/93

Anametrix I.D. : LCSW0610
Analyst : QD
Supervisor : CP
Date Released : 06/18/93
Instrument I.D.: HP21

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	560	112%	67-127
SURROGATE			103%	61-139

* Quality control 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
Matrix : WATER
Date Sampled : N/A
Date Extracted: 06/11/93
Date Analyzed : 06/14/93

Anametrix I.D. : MU1111F1
Analyst : RD
Supervisor : [signature]
Date Released : 06/18/93
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%	970	78%	6%	47-130

*Quality control established by Anametrix, Inc.