

PACIFIC ENVIRONMENTAL GROUP INC.  
 94 FEB -2 PM 2: 26

ALCO HAZMAT

94 FEB -2 PM 2: 26

*STP 3673*

Date January 27, 1994  
 Project 305-085.01

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

We have enclosed:

Copies	Description
<u>1</u>	<u>Revised Figure for Fourth Quarter Report for</u>
	<u>230 West MacArthur Boulevard <i>94611</i></u>

For your:  Use  
 Approval  
 Review  
 Information

Comments: Please replace the original Figure 3 with the revised figure showing the correct concentrations for Well MW-4. Sorry for any inconvenience.

Michael Hurd

cc: Ms. Lisa McCann, Regional Water Quality Control Board - S.F. Bay Region  
 Mr. Craig Mayfield, Alameda County Flood Control and Water Conservation District  
 Mr. Gil Wistar, Alameda County Health Department



PACIFIC  
ENVIRONMENTAL  
GROUP, INC.

ALCO  
HAZMAT

94 APR 15 PM 2:18

April 12, 1994  
Project 305-085.2B

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

Re: Quarterly Report - First Quarter 1994  
Shell Service Station  
230 West MacArthur Boulevard at Piedmont Avenue  
Oakland, California  
WIC No 204-5508-0703

Dear Mr. Kirk:

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

#### **FINDINGS**

Groundwater monitoring wells were gauged and sampled by Blaine Tech Services, Inc. (Blaine) at the direction of PACIFIC on March 3, 1994. Groundwater elevation contours for the sampling date are shown on Figure 1. Table 1 presents groundwater elevation data.

Groundwater analytical data are presented in Table 2. Total petroleum hydrocarbons calculated as gasoline (TPH-g) and benzene concentrations for the March 1994 sampling event are shown on Figure 2. Blaine's groundwater sampling report is presented as Attachment A. The laboratory noted that concentrations reported as TPH-g in Wells MW-2 and MW-3 are primarily due to the presence of discrete hydrocarbon peaks not indicative of gasoline.

April 12, 1994

Page 2

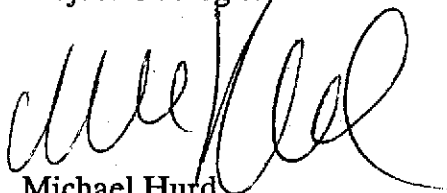
If you have any questions regarding the contents of this letter, please call.

Sincerely,

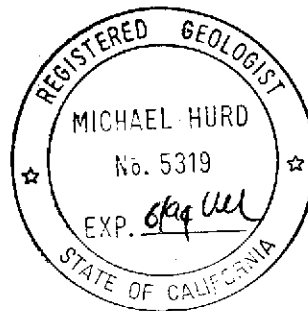
**Pacific Environmental Group, Inc.**



Ross W.N. Tinline  
Project Geologist



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)  
Figure 1 - Groundwater Elevation Contour Map  
Figure 2 - TPH-g/Benzene Concentration Map  
Attachment A - Groundwater Sampling Report

cc: Ms. Lisa McCann, Regional Water Quality Control Board - S.F. Bay Region  
Mr. Craig Mayfield, Alameda County Flood Control and Water  
Conservation District  
Mr. Gil Wistar, Alameda County Health Department

Table 1  
Groundwater Elevation Data

Shell Service Station  
230 West MacArthur Boulevard at Piedmont Avenue  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-1	07/14/88	73.89	13.30	60.59
	10/04/88		13.65	60.24
	11/10/88		13.55	60.34
	12/09/88		13.22	60.67
	01/10/89		12.86	61.03
	01/20/89		12.91	60.98
	02/06/89		12.94	60.95
	03/10/89		12.59	61.30
	06/06/89		14.05	59.84
	09/07/89		14.92	58.97
	12/18/89		14.88	59.01
	03/08/90		14.08	59.81
	06/07/90		13.89	60.00
	09/05/90		14.83	59.06
	12/03/90		15.05	58.84
	03/01/91		14.34	59.55
	06/03/91		14.16	59.73
	09/04/91		14.60	59.29
	03/13/92		13.40	60.49
	06/03/92		13.76	60.13
	08/19/92		14.57	59.32
	11/16/92		14.78	59.11
	02/18/93		12.14	61.75
06/01/93	13.30	60.59		
08/30/93	14.32	59.57		
12/13/93	14.06	59.83		
03/03/94	13.12	60.77		
MW-2	07/14/88	75.24	15.18	60.06
	10/04/88		15.30	59.94
	11/10/88		15.17	60.07
	12/09/88		14.82	60.42
	01/20/89		14.54	60.70
	02/06/89		14.59	60.65
	03/10/89		14.88	60.36
	06/06/89		15.30	59.94
	09/07/89		16.76	58.48
	12/18/89		16.65	58.59
	03/08/90		15.92	59.32
	06/07/90		16.10	59.14
	09/05/90		16.61	58.63
	12/03/90		17.06	58.18
	03/01/91		16.62	58.62

Table 1 (continued)  
Groundwater Elevation Data

Shell Service Station  
230 West MacArthur Boulevard at Piedmont Avenue  
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth To Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-2 (cont.)	06/03/91		16.65	58.59
	09/04/91		16.57	58.67
	03/13/92		14.66	60.58
	06/03/92		15.90	59.34
	08/19/92		16.72	58.52
	11/16/92		16.66	58.58
	02/18/93		13.88	61.36
	06/01/93		14.74	60.50
	08/30/93		15.85	59.39
	12/13/93		15.83	59.41
	03/03/94		14.80	60.44
MW-3	07/14/88	74.68	14.05	60.63
	10/04/88		14.60	60.08
	11/10/88		14.35	60.33
	12/09/88		14.04	60.64
	01/10/89		13.70	60.98
	01/20/89		13.72	60.96
	02/06/89		13.75	60.93
	03/10/89		13.42	61.26
	06/06/89		14.52	60.16
	09/07/89		15.52	59.16
	12/18/89		19.59	55.09
	03/08/90		14.72	59.96
	06/07/90		14.65	60.03
	09/05/90		15.51	59.17
	12/03/90		14.85	59.83
	03/01/91		14.92	59.76
	06/03/91		14.75	59.93
	09/04/91		15.14	59.54
	03/13/92		13.50	61.18
	06/03/92		14.39	60.29
	08/19/92		15.08	59.60
	11/16/92		15.43	59.25
	02/18/93		12.96	61.72
06/01/93		13.98	60.70	
08/30/93		14.82	59.86	
12/13/93		14.70	59.98	
03/03/94		13.92	60.76	

Table 1 (continued)  
**Groundwater Elevation Data**

Shell Service Station  
 230 West MacArthur Boulevard at Piedmont Avenue  
 Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth To Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-4	01/23/90	73.83	14.68	59.15
	03/08/90		14.38	59.45
	06/07/90		14.27	59.56
	09/05/90		15.40	58.43
	12/03/90		15.90	57.93
	06/03/91		14.60	59.23
	09/04/91		15.25	58.58
	03/13/92		12.72	61.11
	06/03/92		14.33	59.50
	08/19/92		15.18	58.65
	11/16/92		15.39	58.44
	02/18/93		12.62	61.21
	06/01/93		13.68	60.15
	08/30/93		14.83	59.00
	12/13/93		14.50	59.33
03/03/94	13.48	60.35		
MSL = Mean sea level TOC = Top of casing				

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

Shell Service Station  
 230 West MacArthur Boulevard at Piedmont Avenue  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-1	07/14/88	ND	ND	ND	ND	ND
	10/04/88	ND	8	4.3	ND	9
	11/10/88	ND	ND	ND	ND	ND
	12/09/88	ND	ND	ND	ND	ND
	01/10/89	ND	ND	ND	ND	NA
	01/20/89	ND	ND	NA	NA	ND
	02/06/89	ND	ND	ND	ND	ND
	03/10/89	ND	ND	ND	ND	ND
	06/06/89	ND	ND	ND	ND	ND
	09/07/89	ND	ND	ND	ND	ND
	12/18/89	ND	ND	ND	ND	ND
	03/08/90	ND	ND	ND	ND	ND
	06/07/90	ND	ND	ND	ND	ND
	09/05/90	ND	ND	ND	ND	ND
	12/03/90	ND	ND	ND	ND	ND
	03/01/91	ND	ND	ND	ND	ND
	06/03/91	ND	ND	ND	ND	ND
	09/04/91	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND
	06/03/92	ND	ND	ND	ND	ND
	08/19/92	87	ND	ND	ND	ND
	11/16/92	ND	ND	ND	ND	ND
	02/18/93	59*	ND	ND	ND	ND
06/01/93	ND	ND	ND	ND	ND	
08/30/93	ND	ND	ND	ND	ND	
12/13/93	ND	ND	ND	ND	ND	
03/03/94	100	ND	ND	ND	ND	
MW-2	07/14/88	ND	7.9	2.6	1.1	4
	10/04/88	90	ND	1.3	2.3	12
	11/10/88	ND	ND	ND	ND	2
	12/09/88	ND	ND	0.6	ND	3
	01/20/89	ND	ND	ND	ND	ND
	02/06/89	NA	ND	ND	ND	ND
	03/10/89	ND	ND	ND	ND	ND
	06/06/89	ND	ND	0.5	ND	ND
	09/07/89	ND	ND	ND	ND	ND
	12/18/89	ND	ND	ND	ND	ND
03/08/90	ND	ND	ND	ND	ND	

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

Shell Service Station  
 230 West MacArthur Boulevard at Piedmont Avenue  
 Oakland, California

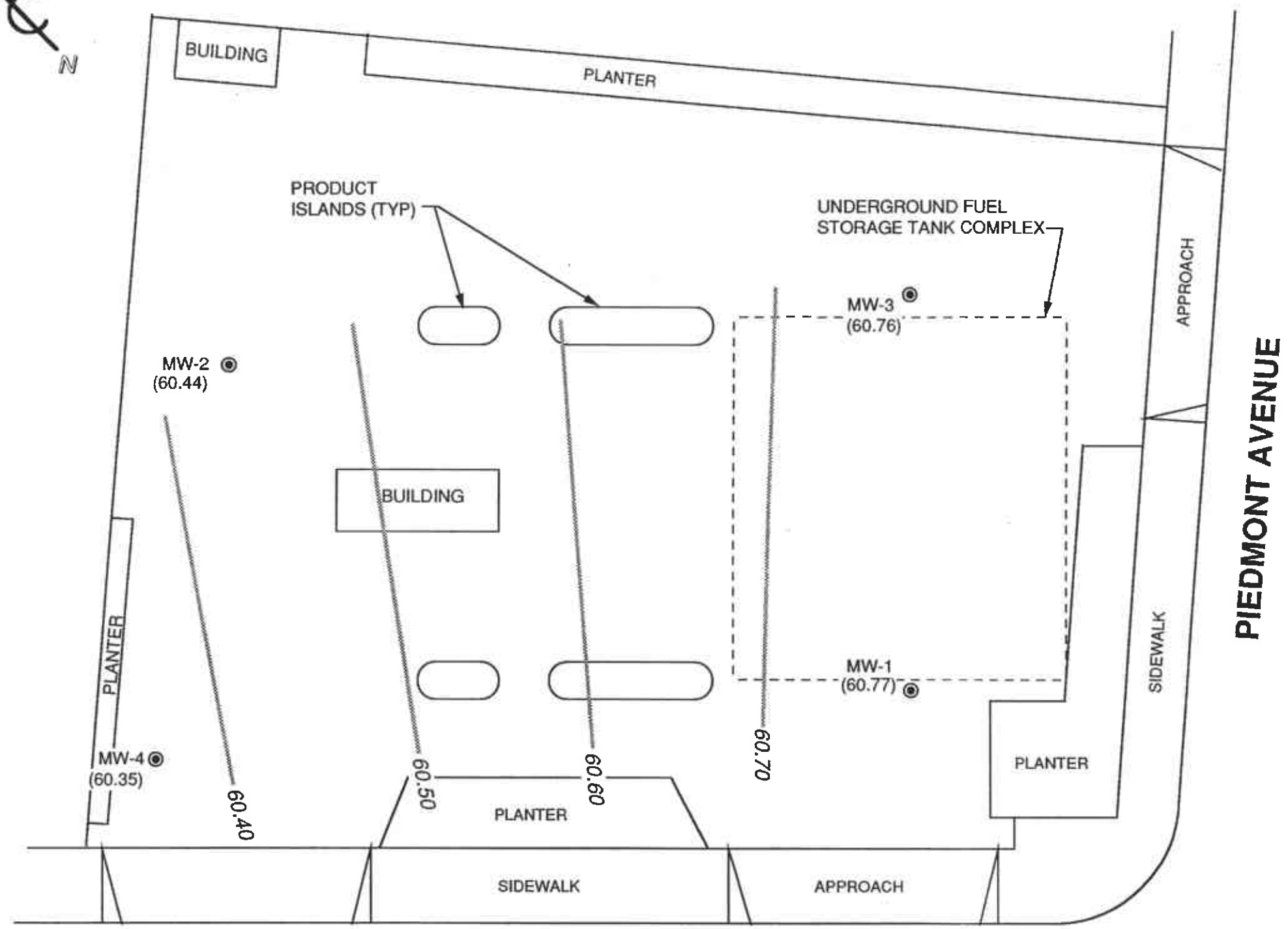
Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-2 (cont.)	06/07/90	ND	ND	ND	ND	ND
	09/05/90	ND	ND	ND	ND	ND
	12/03/90	ND	ND	ND	ND	ND
	03/01/91	ND	ND	ND	ND	ND
	06/03/91	ND	ND	ND	ND	ND
	09/04/91	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND
	06/03/92	ND	ND	ND	ND	ND
	08/19/92	67	ND	ND	ND	ND
	11/16/92	50	ND	ND	ND	1.2
	02/18/93	52*	ND	ND	ND	ND
	02/18/93(D)	52*	ND	ND	ND	ND
	06/01/93	ND	ND	ND	ND	ND
	08/30/93	70*	ND	ND	ND	ND
	12/13/93	68*	ND	ND	ND	ND
	03/03/94	280*	ND	ND	ND	ND
MW-3	07/14/88	ND	ND	ND	ND	ND
	10/04/88	ND	ND	ND	ND	5
	11/10/88	ND	ND	ND	ND	ND
	12/09/88	ND	ND	ND	ND	ND
	01/10/89	ND	ND	ND	ND	NA
	01/20/89	NA	NA	ND	ND	ND
	02/06/89	70	ND	ND	ND	ND
	03/10/89	150	ND	ND	ND	ND
	06/06/89	ND	ND	ND	ND	ND
	09/07/89	ND	0.65	ND	ND	ND
	12/06/89	46	1.3	ND	0.44	0.66
	03/08/90	ND	ND	ND	ND	ND
	06/07/90	ND	ND	ND	ND	ND
	09/05/91	ND	ND	ND	ND	ND
	12/03/90	ND	ND	ND	ND	ND
	03/01/91	1.9	59	ND	22	ND
	06/03/91	ND	ND	ND	ND	ND
	09/04/91	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND
	06/03/92	ND	ND	ND	ND	ND
08/19/92	92	ND	ND	ND	ND	
08/19/92(D)	76	ND	ND	ND	ND	
11/16/92	200*	ND	ND	ND	ND	



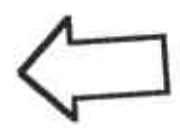
Table 2 (continued)  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline and BTEX Compounds)

Shell Service Station  
 230 West MacArthur Boulevard at Piedmont Avenue  
 Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	
MW-3 (cont.)	11/16/92(D)	140*	ND	ND	ND	ND	
	02/18/93	680*	ND	ND	ND	ND	
	06/01/93	160*	ND	ND	ND	ND	
	06/01/93(D)	150*	ND	ND	ND	ND	
	08/30/93	110*	ND	ND	ND	ND	
	12/13/93	140*	ND	ND	ND	ND	
	12/13/93(D)	110*	ND	ND	ND	ND	
	03/03/94	61*	ND	ND	ND	ND	
MW-4	01/23/90	1,600	100	10	30	20	
	03/08/90	4,200	260	18	88	39	
	06/07/90	2,000	150	6.9	14	17	
	09/05/90	1,700	130	10	7.2	19	
	12/03/90	2,600	108	41	17	59	
	06/03/91	2,800	160	15	8.8	32	
	09/04/91	----- Separate-Phase Hydrocarbon Sheen -----					
	03/13/92	2,700	180	70	5.9	29	
	06/03/92	1,700	190	ND	30	23	
	08/19/92	170	4.2	ND	0.6	1.0	
	11/16/92	2,600	92	49	50	81	
	02/18/93	7,400	120	38	51	87	
	06/01/93	7,000	1,800	1,700	1,600	1,700	
	08/30/93	2,100	80	11	ND	11	
	08/30/93(D)	2,100	77	5.6	ND	5.5	
	12/13/93	2,000*	20	ND	21	52	
	03/03/94	3,500	150	86	85	90	
	03/03/94(D)	3,200	130	73	74	76	
ppb = Parts per billion ND = Not detected NA = Not analyzed (D) = Duplicate sample * = The concentration reported as gasoline is primarily due to the presence of a discrete hydrocarbon peak not indicative of gasoline. See certified analytical reports for detection limits.							



- LEGEND**
- MW-1 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - (60.76) GROUNDWATER ELEVATION IN FEET - MSL, 3-3-94
  - 59.60 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 3-3-94

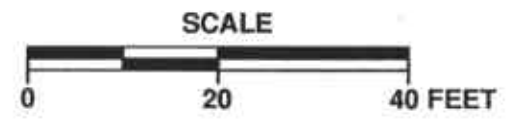


APPROXIMATE DIRECTION OF GROUNDWATER FLOW  
 APPROXIMATE GRADIENT = 0.002

**MAC ARTHUR BOULEVARD**



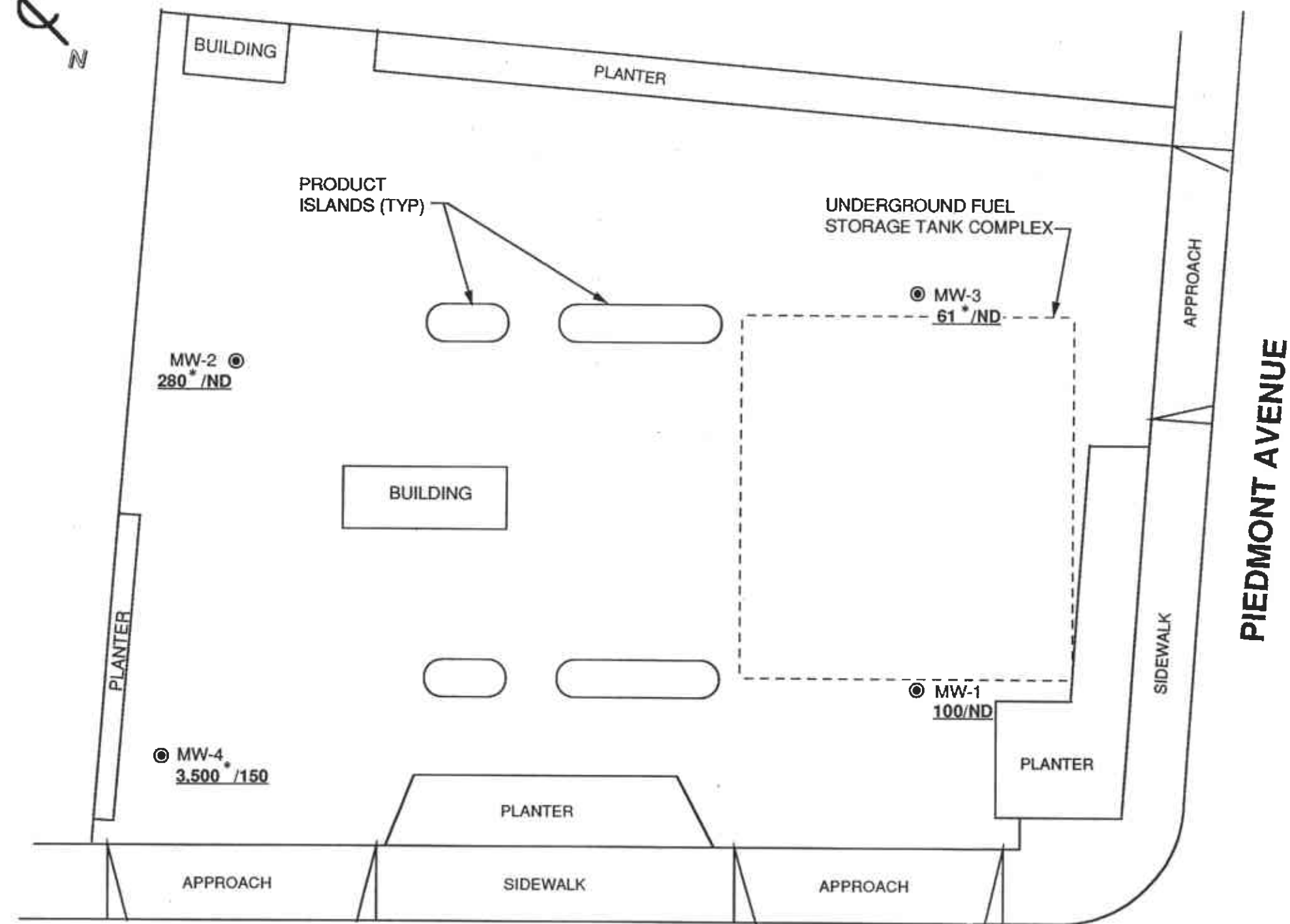
PACIFIC ENVIRONMENTAL GROUP, INC.



**SHELL SERVICE STATION**  
 230 West MacArthur Boulevard at Piedmont Avenue  
 Oakland, California

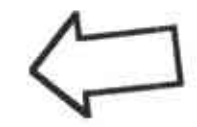
**GROUNDWATER ELEVATION CONTOUR MAP**

FIGURE: **1**  
 PROJECT: 305-085.2B



**LEGEND**

- MW-1 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- 61\*/ND TPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 3-3-94
- ND NOT DETECTED
- \* PRIMARILY DUE TO A DISCRETE PEAK NOT INDICATIVE OF GASOLINE



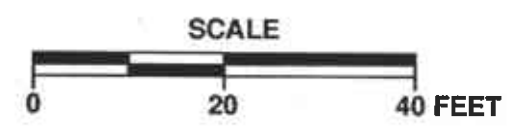
APPROXIMATE DIRECTION OF GROUNDWATER FLOW

**MAC ARTHUR BOULEVARD**

**PIEDMONT AVENUE**



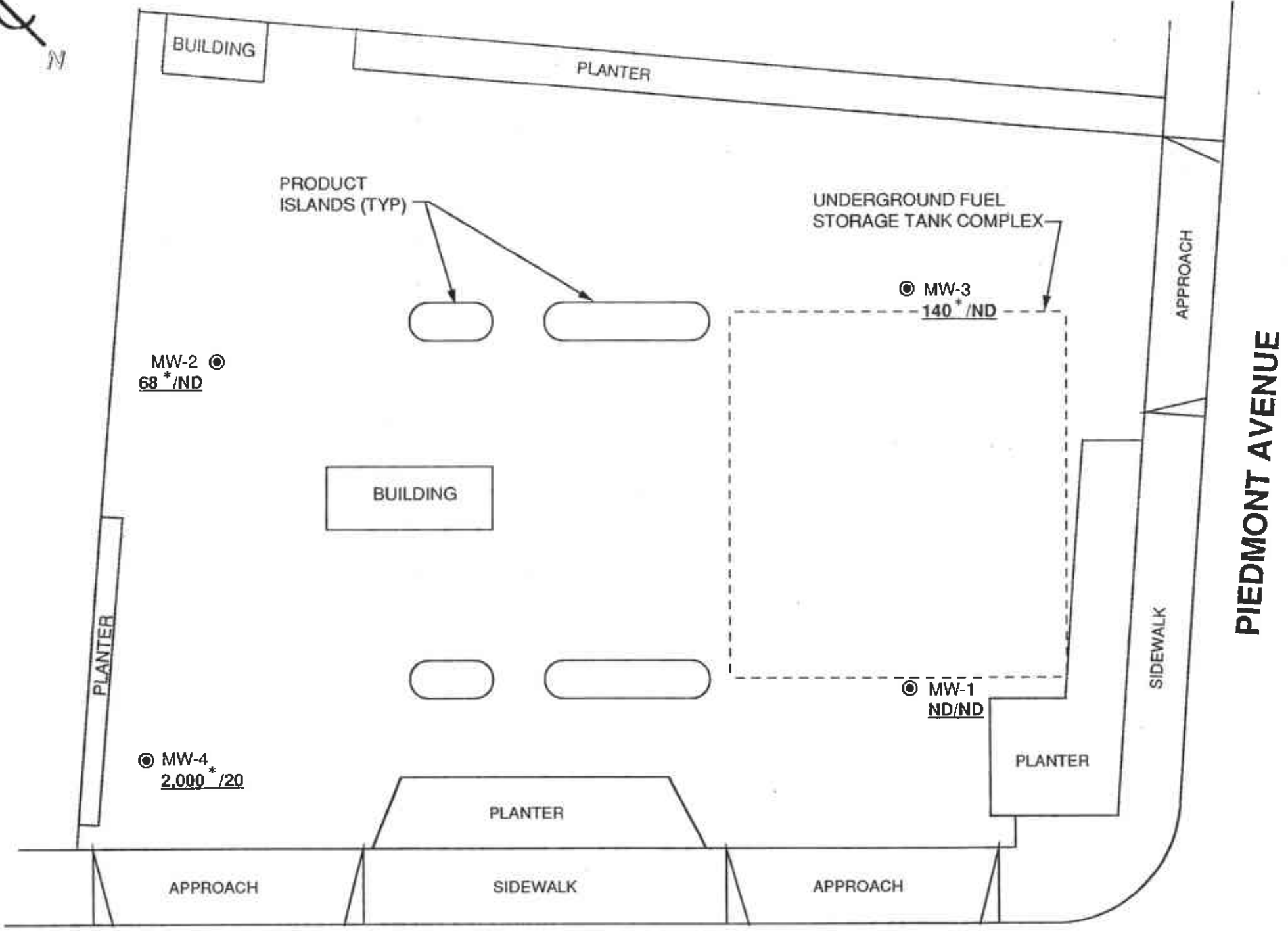
PACIFIC ENVIRONMENTAL GROUP, INC.



SHELL SERVICE STATION  
230 West MacArthur Boulevard at Piedmont Avenue  
Oakland, California

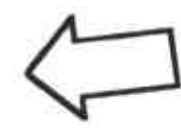
**TPH-g/BENZENE CONCENTRATION MAP**

FIGURE: 2  
PROJECT: 305-085.2B



**LEGEND**

- MW-1 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- 140\* /ND TPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION (ppb), 12-13-93
- ND NOT DETECTED
- \* PRIMARILY DUE TO A DISCRETE PEAK NOT INDICATIVE OF GASOLINE

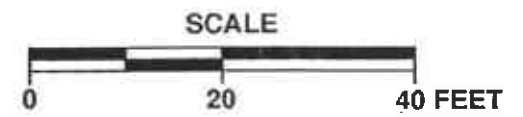


APPROXIMATE DIRECTION OF GROUNDWATER FLOW

**MAC ARTHUR BOULEVARD**



PACIFIC ENVIRONMENTAL GROUP, INC.



**SHELL SERVICE STATION**  
230 West MacArthur Boulevard at Piedmont Avenue  
Oakland, California

TPH-g/BENZENE CONCENTRATION MAP

FIGURE: **3**  
PROJECT: 305-085.01

**ATTACHMENT A**  
**GROUNDWATER SAMPLING REPORT**

**ATTACHMENT A**  
**GROUNDWATER SAMPLING REPORT**



# BLAINE TECH SERVICES INC.

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

March 27, 1994

MAR 30 1994

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

Attn: Daniel T. Kirk

SITE:  
Shell WIC #204-5508-0703  
230 West MacArthur Blvd.  
Oakland, California

QUARTER:  
1st quarter of 1994

## QUARTERLY GROUNDWATER SAMPLING REPORT 940303-L-1

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

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

## STANDARD PROCEDURES

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

### Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

### Free Product Skimmer

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



recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such 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.

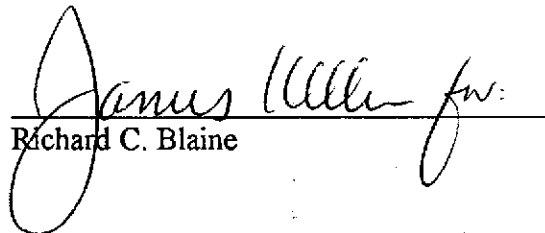
### Objective Information Collection

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.

  
Richard C. Blaine

RCB/mla

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	3/3/94	TOC	--	NONE	--	--	13.12	29.38
MW-2	3/3/94	TOC	--	NONE	--	--	14.80	27.68
MW-3	3/3/94	TOC	--	NONE	--	--	13.92	28.10
MW-4 *	3/3/94	TOC	--	NONE	--	--	13.48	23.98

\* Sample DUP was a duplicate sample taken from well MW-4.



**SHELL OIL COMPANY**  
RETAIL ENVIRONMENTAL ENGINEERING - WEST

**CHAIN OF CUSTODY RECORD**

Serial No: 940303-L1

Date: 3/3/94

Page 1 of 1

Site Address: 230 West MacArthur Blvd., Oakland

WIC#: 204-5508-0703

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) 295-5535  
Fax #: 293-8773

Comments:

Sampled by: Paul Bolger

Printed Name: LAD BOLGER

**Analysis Required**

LAB: Anamatrix

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/>	6441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Clarity/Disposal <input type="checkbox"/>	6442	16 days <input checked="" type="checkbox"/> (Normal)
Water Clarity/Disposal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. of Sys. O & M <input type="checkbox"/>	6452	NOTE: Notify Lab as soon as possible of 24/48 hr. TAT.
Water Rem. of Sys. O & M <input type="checkbox"/>	6453	
Other <input type="checkbox"/>		

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	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
① MW-1	3/3			X		3					X					
② MW-2				X		3					X					
③ MW-3				X		3					X					
④ MW-4				X		3					X					
⑤ DUP.				X		3					X					
⑥ E.B.				X		3					X					
⑦ T.B.	↓			X		2					X					

MATERIAL DESCRIPTION

SAMPLE CONDITION/ COMMENTS

PLACE EB3 ON HOLD

Relinquished By (signature): <u>Paul Bolger</u>	Printed Name: <u>LAD BOLGER</u>	Date: <u>3/4/94</u>	Time: <u>11:50</u>	Received (signature): <u>Paul Leonard</u>	Printed Name: <u>Paul Leonard</u>	Date: <u>3/4/94</u>	Time: <u>11:50</u>
Relinquished By (signature): <u>Paul Leonard</u>	Printed Name: <u>Paul Leonard</u>	Date: <u>3/4/94</u>	Time: <u>11:50</u>	Received (signature): <u>Paul Leonard</u>	Printed Name: <u>Paul Leonard</u>	Date: <u>3/4/94</u>	Time: <u>11:50</u>
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:

1494

9403099

18

5/19/94



# 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 # : 9403099  
 Date Received : 03/04/94  
 Project ID : 204-5508-0703  
 Purchase Order: MOH-B813

The following samples were received at Anametrix for analysis :

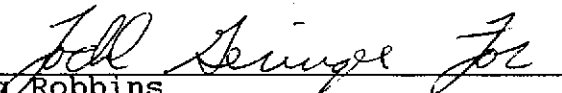
ANAMETRIX ID	CLIENT SAMPLE ID
9403099- 1	MW-1
9403099- 2	MW-2
9403099- 3	MW-3
9403099- 4	MW-4
9403099- 5	DUP
9403099- 6	EB
9403099- 7	TB

This report consists of 5 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Anametrix cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

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

  
 Doug Robbins  
 Laboratory Director

3/18/94  
 Date

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

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

Workorder # : 9403099  
Date Received : 03/04/94  
Project ID : 204-5508-0703  
Purchase Order: MOH-B813  
Department : GC  
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9403099- 1	MW-1	WATER	03/03/94	TPHgBTEX
9403099- 2	MW-2	WATER	03/03/94	TPHgBTEX
9403099- 3	MW-3	WATER	03/03/94	TPHgBTEX
9403099- 4	MW-4	WATER	03/03/94	TPHgBTEX
9403099- 5	DUP	WATER	03/03/94	TPHgBTEX
9403099- 7	TB	WATER	03/03/94	TPHgBTEX

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

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

Workorder # : 9403099  
Date Received : 03/04/94  
Project ID : 204-5508-0703  
Purchase Order: MOH-B813  
Department : GC  
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as gasoline for samples MW-2 and MW-3 are primarily due to the presence of a discrete peak not indicative of gasoline.

Cheryl Palmer 3/15/94  
Department Supervisor Date

Ino Skelton 03/15/94  
Chemist Date

**Organic Analysis Data Sheet**  
**Total Petroleum Hydrocarbons as Gasoline with BTEX**  
**ITS - Anametrix Laboratories - (408)432-8192**

Lab Workorder : 9403099

Client Project ID : 204-5508-0703

Matrix : WATER

Units : ug/L

Compound Name	Method Reporting Limit*	Client ID	Client ID	Client ID	Client ID	Client ID
		MW-1	MW-2	MW-3	MW-4	DUP
		Lab ID	Lab ID	Lab ID	Lab ID	Lab ID
		9403099-01	9403099-02	9403099-03	9403099-04	9403099-05
Benzene	0.50	ND	ND	ND	150	130
Toluene	0.50	ND	ND	ND	86	73
Ethylbenzene	0.50	ND	ND	ND	85	74
Total Xylenes	0.50	ND	ND	ND	90	76
TPH as Gasoline	50	100	280	61	3500	3200
Surrogate Recovery		106%	106%	107%	100%	109%
Instrument ID		HP4	HP4	HP4	HP4	HP4
Date Sampled		03/03/94	03/03/94	03/03/94	03/03/94	03/03/94
Date Analyzed		03/11/94	03/11/94	03/11/94	03/11/94	03/11/94
RLMF		1	1	1	10	10
Filename Reference		FPM09901.D	FPM09902.D	FPM09903.D	FPM09904.D	FPM09905.D

\* The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.

TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.

BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

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

*Orsel Patel*

03/15/94

Analyst

Date

*Cheryl Balmer*

3/15/94

Supervisor

Date



Organic Analysis Data Sheet  
 Total Petroleum Hydrocarbons as Gasoline with BTEX  
 ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9403099  
 Matrix : WATER

Client Project ID : 204-5508-0703  
 Units : ug/L

Compound Name	Method Reporting Limit*	Client ID	Client ID	Client ID	Client ID	Client ID
		TB				
		Lab ID	Lab ID	Lab ID	Lab ID	Lab ID
		9403099-07	METHOD BLANK			
Benzene	0.50	ND	ND			
Toluene	0.50	ND	ND			
Ethylbenzene	0.50	ND	ND			
Total Xylenes	0.50	ND	ND			
TPH as Gasoline	50	ND	ND			
Surrogate Recovery		105%	102%			
Instrument ID		HP4	HP4			
Date Sampled		03/03/94	N/A			
Date Analyzed		03/11/94	03/11/94			
RLMF		1	1			
Filename Reference		FPM09907.D	BM1101E1.D			

\* The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.  
 TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.  
 BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

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

*Erskine*  
 Analyst

03/15/94  
 Date

*Cheryl Balman*  
 Supervisor Date 3/15/94

**Laboratory Control Spike Report**  
**Total Petroleum Hydrocarbons as Gasoline**  
**ITS - Anametrix Laboratories - (408)432-8192**

Instrument ID : HP4

Analyst : *AR*

Matrix : LIQUID

Supervisor : *g*

Units : ug/L

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Gasoline	500	80%	56-141
Surrogate Recovery		95%	61-139
Date Analyzed		03/12/94	
Multiplier		1	
Filename Reference		MM1102E1.D	

\* Limits established by Incheape Testing Services, Anametrix Laboratories.

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)  
 2.  Restricted Delivery (Extra charge)

<p>3. Article Addressed to:</p> <p>Kurt Miller          Shell Oil Co.          PO Box 4023          Concord CA 94524</p>	<p>4. Article Number (SH) #413 <i>Shell</i></p> <p>Type of Service:</p> <p><input type="checkbox"/> Registered      <input type="checkbox"/> Insured  <input type="checkbox"/> Certified      <input type="checkbox"/> COD  <input type="checkbox"/> Express Mail    <input type="checkbox"/> Return Receipt for Merchandise</p> <p>Always obtain signature of addressee or agent and <b>DATE DELIVERED.</b></p>
<p>5. Signature - Address X</p>	<p>8. Addressee's Address (ONLY if requested and fee paid)</p>
<p>6. Signature - Agent X <i>J. Baker</i></p>	
<p>7. Date of Delivery APR 6 1992</p>	