



PACIFIC  
ENVIRONMENTAL  
GROUP, INC.

92 JUL 13 11:21

July 13, 1992  
Project 305-85.01

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

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

Dear Mr. Kirk:

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

#### **FINDINGS**

Groundwater monitoring wells were sampled and gauged by Emcon Associates (Emcon) at the direction of PACIFIC on June 3, 1992. Groundwater elevation contours for the sampling date are shown on Figure 2. Table 1 presents groundwater elevation data.

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

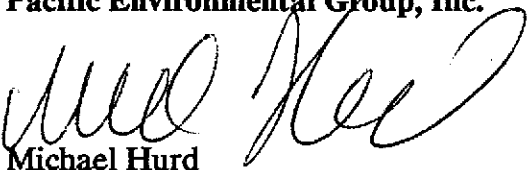
July 13, 1992

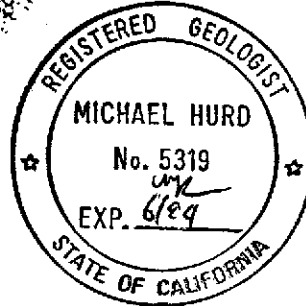
Page 2

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

Sincerely,

Pacific Environmental Group, Inc.

  
Michael Hurd  
Project Geologist  
RG 5319



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

cc: Ms. Lisa McCann, California Regional Water Quality Control Board  
Bay Area 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 Sampled	Well Elevation (feet, MSL)	Depth to Water (feet)	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		
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
	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		

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

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

Well Number	Date Sampled	Well Elevation (feet, MSL)	Depth To Water (feet)	Groundwater Elevation (feet, MSL)
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		
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		

MSL = Mean sea level, measurements taken from top of casing.

Table 2  
**Groundwater Analytical Data**  
 Low-Boiling Hydrocarbons

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

Well Number	Date Sampled	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	
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
	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	

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

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

Well Number	Date Sampled	Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
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
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	NS	NS	NS	NS	NS
	03/13/92	2,700	180	70	5.9	29
06/03/92	1,700	190	ND	30	23	

ppb = Parts per billion  
 ND = Not detected  
 NA = Not analyzed  
 NS = Not sampled, hydrocarbon sheen observed  
 See certified analytical results for detection limits.

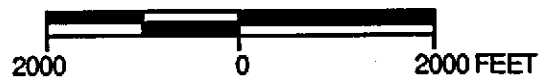


QUADRANGLE  
LOCATION

**REFERENCES:**

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

**SCALE**

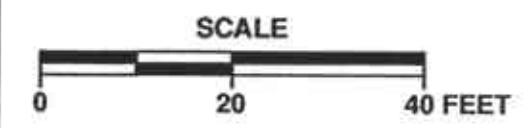
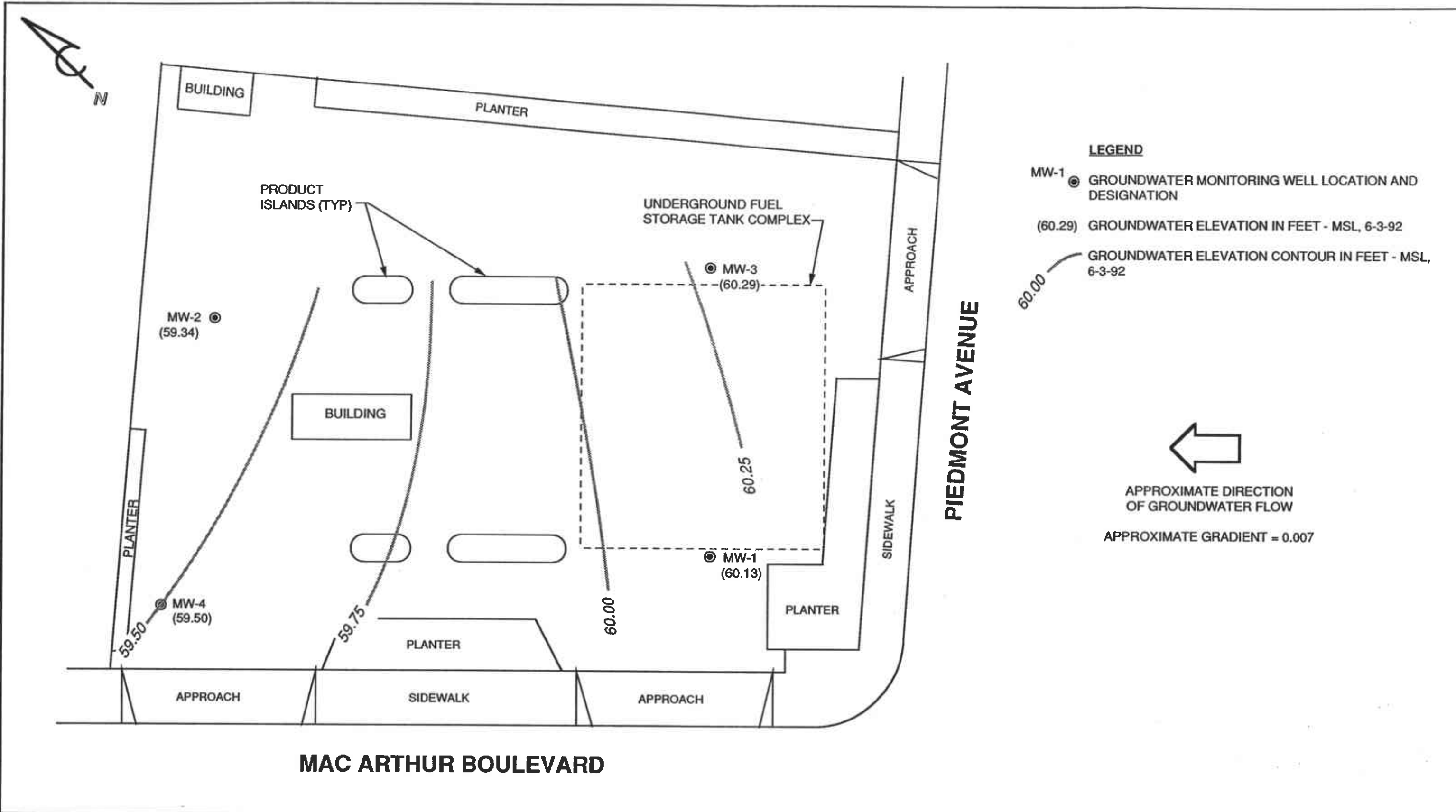


PACIFIC  
 ENVIRONMENTAL  
 GROUP, INC.

**SHELL SERVICE STATION**  
 230 Mac Arthur Boulevard at Piedmont Avenue  
 Oakland, California

**SITE LOCATION MAP**

**FIGURE:**  
**1**  
**PROJECT:**  
**305-85.01**

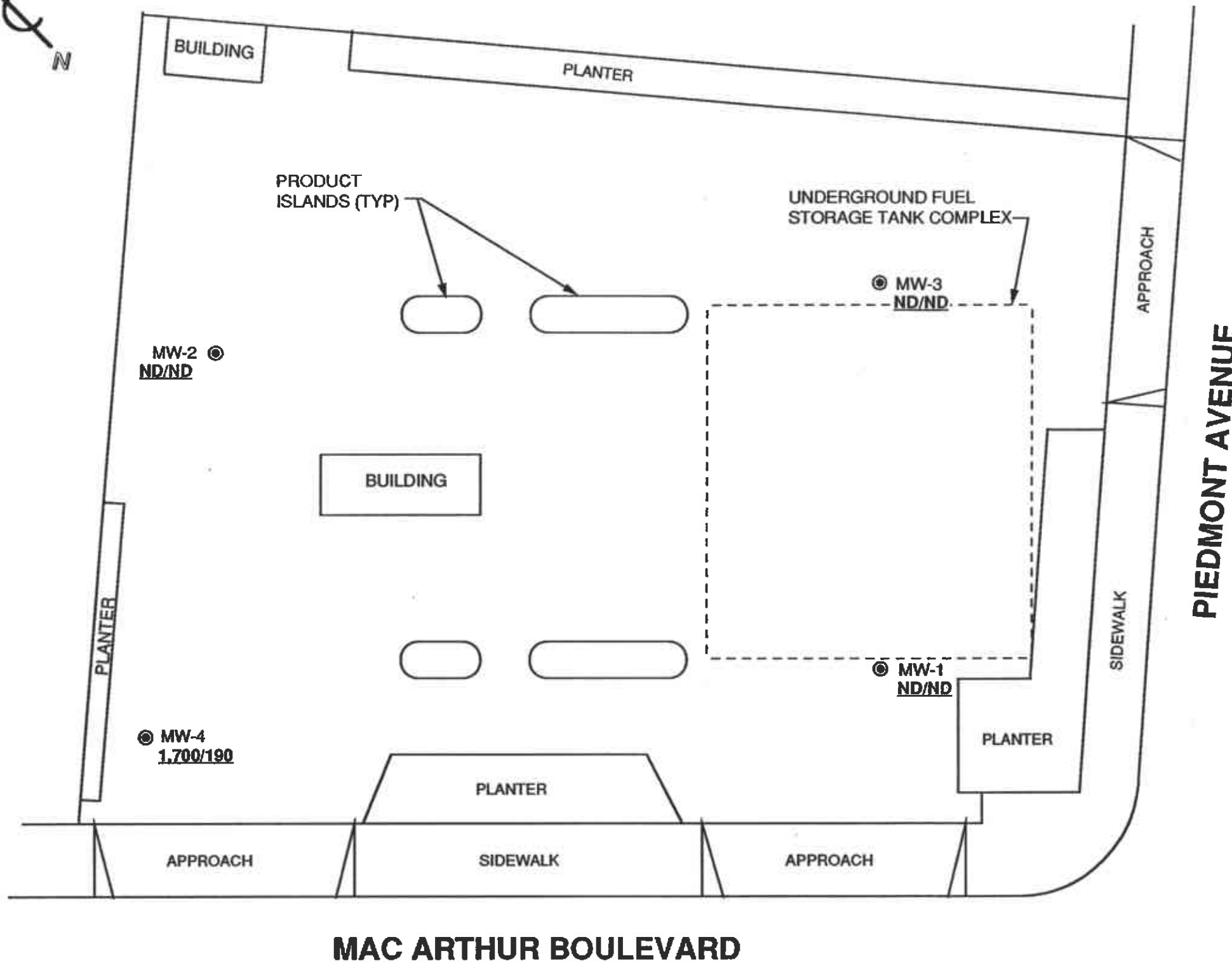


**SHELL SERVICE STATION**  
 230 West MacArthur Boulevard at Piedmont Avenue  
 Oakland, California

**GROUNDWATER CONTOUR MAP**

FIGURE:  
**2**  
 PROJECT:  
 305-85.01





**LEGEND**

MW-1 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

1.700/190 GASOLINE/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 6-3-92

ND NOT DETECTED



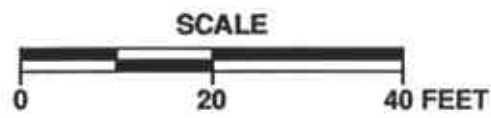
APPROXIMATE DIRECTION OF GROUNDWATER FLOW

**MAC ARTHUR BOULEVARD**

**PIEDMONT AVENUE**



PACIFIC ENVIRONMENTAL GROUP, INC.



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

**GASOLINE/BENZENE CONCENTRATION MAP**

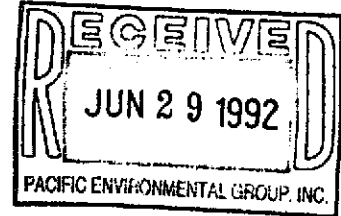
FIGURE: **3**  
PROJECT: 305-85.01

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



**EMCON**  
ASSOCIATES

Consultants in Wastes  
Management and  
Environmental Control



June 29, 1992  
Project: G67-67.01  
WIC#: 204-5508-0703

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

Re: Second quarter 1992 ground-water monitoring report, Shell Oil  
Company, 230 West MacArthur Boulevard, Oakland, California

Dear Mr. O'Regan:

This letter presents the results of the second quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 230 West MacArthur Boulevard, Oakland, California. Second quarter monitoring was conducted on June 3, 1992. The site is monitored quarterly.

#### **GROUND-WATER LEVEL SURVEY**

A water-level survey preceded the purging and sampling of the monitoring wells. The wells included in the survey are identified in figure 1 (supplied by Pacific Environmental Group, Inc.). During the survey, wells MW-1 through MW-4 were measured for depth to water, floating product thickness, and total depth. Depth to water and floating product thickness were measured to the nearest 0.01 foot with an oil/water interface probe. No floating product was observed in the wells. Total depth was measured to the nearest 0.1 foot. Results of the second quarter water-level survey, and available data from four previous surveys, are summarized in table 1.

#### **SAMPLING AND ANALYSIS**

Ground-water samples were collected from wells MW-1 through MW-4 on June 3, 1992. Prior to sample collection, the wells were purged with polyvinyl chloride bailers. During the purging operation, ground water was monitored for pH, electrical conductivity, and temperature as a function of volume of water removed. Purging continued until these parameters were stable and a minimum of three casing volumes of ground water were removed. Well MW-3 was evacuated to dryness before the removal of three casing volumes. The well was allowed to recharge for up to 24 hours. Samples were collected after the well had recharged to a level sufficient for sample collection. Field measurements from second quarter monitoring, and available measurements from four previous monitoring events, are summarized in table 1. Purge water from the monitoring

G676701B.DOC



wells was contained in 55-gallon drums. The drums were identified with Shell-approved labels and secured for on-site storage.

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

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

Quality control samples for second quarter monitoring included a trip blank. All water samples collected during second quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and total xylenes (BTEX).

### **ANALYTICAL RESULTS**

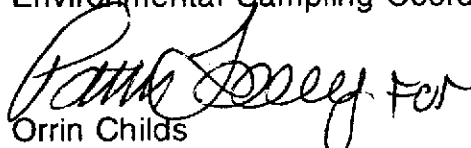
Analytical results for the second quarter 1992 monitoring event, and available results from four previous monitoring events, are summarized in table 2. The original certified analytical report and chain-of-custody document are attached.

If you have any questions, please call.

Very truly yours,

EMCON Associates

  
David Larsen  
Environmental Sampling Coordinator

  
Orrin Childs  
Environmental Sampling Supervisor

DL/OC:dl

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

**Table 1**  
**Monitoring Well Field Measurement Data**  
**Second Quarter 1992**

Shell Station: 230 West MacArthur Boulevard  
 Oakland, California  
 WIC #: 204-5508-0703

Date: 06/25/92  
 Project Number: G67-67.01

Well Design- ation	Water Level Field Date	TOC Elevation (ft-MSL)	Depth to Water (feet)	Ground- water Elevation (ft-MSL)	Total Well Depth (feet)	Floating Product Thickness (feet)	Water Sample Field Date	pH  (std. units)	Electrical Conductivity (micromhos/cm)	Temperature  (degrees F)	Turbidity  (NTU)
MW-1	03/01/91	73.89	14.34	59.55	NR	NR	03/01/91	NR	NR	NR	NR
MW-1	06/03/91	73.89	14.16	59.73	NR	NR	06/03/91	NR	NR	NR	NR
MW-1	09/04/91	73.89	14.60	59.29	NR	NR	09/04/91	NR	NR	NR	NR
MW-1	03/13/92	73.89	12.72	61.17	29.3	ND	03/13/92	6.55	522	64.3	>200
MW-1	06/03/92	73.89	13.76	60.13	29.4	ND	06/03/92	6.31	535	71.2	>1000
MW-2	03/01/91	75.24	16.62	58.62	NR	NR	03/01/91	NR	NR	NR	NR
MW-2	06/03/91	75.24	16.65	58.59	NR	NR	06/03/91	NR	NR	NR	NR
MW-2	09/04/91	75.24	16.57	58.67	NR	NR	09/04/91	NR	NR	NR	NR
MW-2	03/13/92	75.24	14.66	60.58	27.6	ND	03/13/92	6.35	548	64.4	>200
MW-2	06/03/92	75.24	15.90	59.34	28.2	ND	06/03/92	6.18	630	66.3	>1000
MW-3	03/01/91	74.68	14.92	59.76	NR	NR	03/01/91	NR	NR	NR	NR
MW-3	06/03/91	74.68	14.75	59.93	NR	NR	06/03/91	NR	NR	NR	NR
MW-3	09/04/91	74.68	15.14	59.54	NR	NR	09/04/91	NR	NR	NR	NR
MW-3	03/13/92	74.68	13.50	61.18	28.0	ND	03/13/92	6.54	557	67.6	>200
MW-3	06/03/92	74.68	14.39	60.29	28.1	ND	06/03/92	6.36	427	73.3	759
MW-4	03/01/91	73.83	NR	NR	NR	NR	03/01/91	NR	NR	NR	NR
MW-4	06/03/91	73.83	14.60	59.23	NR	NR	06/03/91	NR	NR	NR	NR
MW-4	09/04/91	73.83	15.25	58.58	NR	NR	09/04/91	NR	NR	NR	NR
MW-4	03/13/92	73.83	13.40	60.43	23.8	ND	03/13/92	6.68	743	66.7	>200
MW-4	06/03/92	73.83	14.33	59.50	23.9	ND	06/03/92	6.60	821	71.8	546

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

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

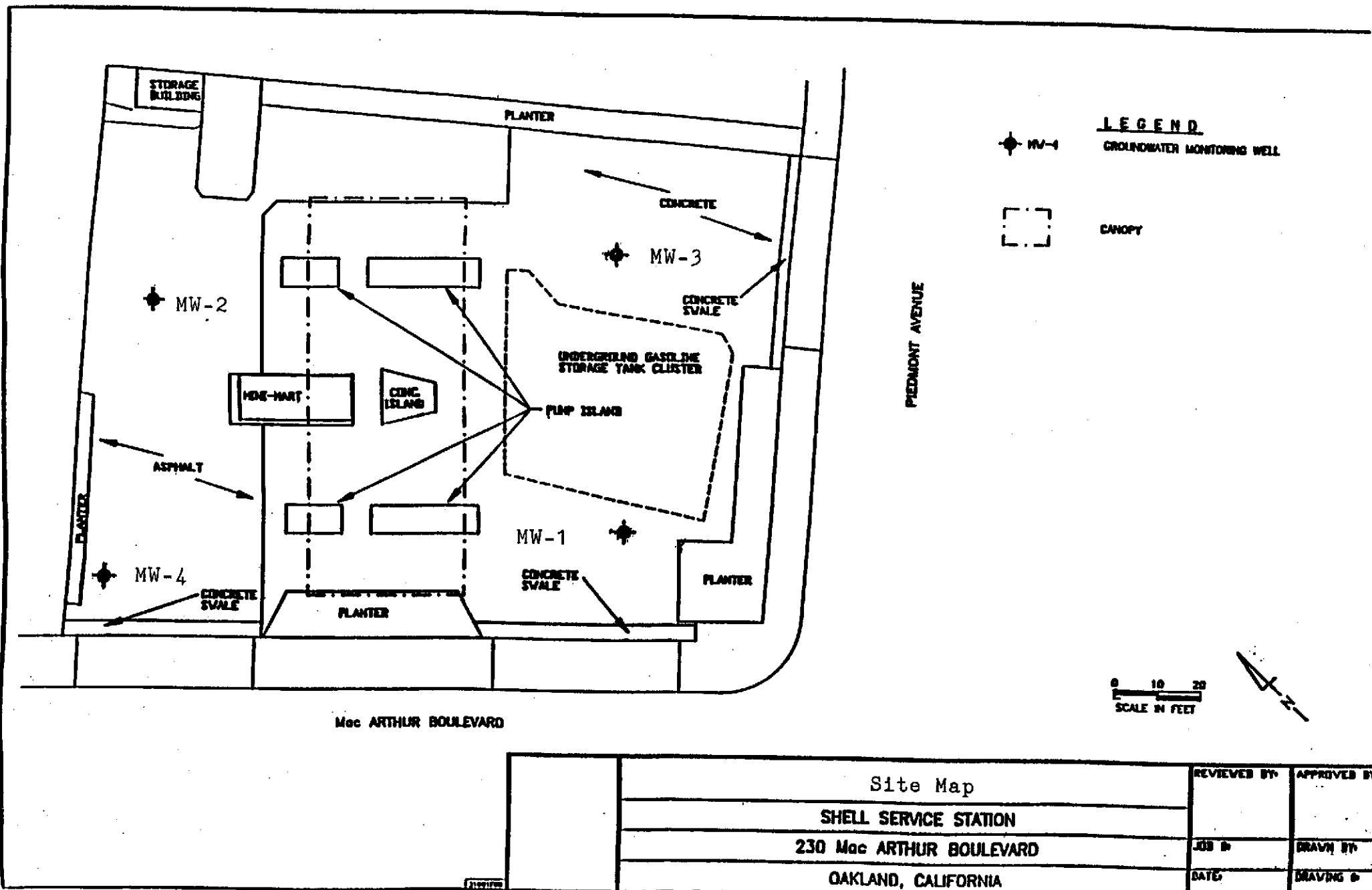
Shell Station: 230 West MacArthur Boulevard  
 Oakland, California  
 WIC #: 204-5508-0703

Date: 06/25/92  
 Project Number: G67-67.01

Sample Designation	Water Sample Field Date	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes
		(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-1	03/01/91	ND	ND	ND	ND	ND
MW-1	06/03/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	09/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	03/13/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	06/03/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-2	03/01/91	ND	ND	ND	ND	ND
MW-2	06/03/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-2	09/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-2	03/13/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-2	06/03/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-3	03/01/91	1.9	0.059	ND	0.022	ND
MW-3	06/03/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-3	09/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-3	03/13/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-3	06/03/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-4	03/01/91	NR	NR	NR	NR	NR
MW-4	06/03/91	2.8	0.16	0.015	0.066	0.032
MW-4	09/04/91	NA	NA	NA	NA	NA
MW-4	03/13/92	2.7	0.180	0.0058	0.070	0.029
MW-4	06/03/92	1.7	0.19	<0.0125	0.030	0.023
TB	03/13/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	06/03/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline  
 ND = None detected  
 NR = Not reported; data not available  
 NA = Not analyzed

Figure 1  
 (Supplied by Pacific Environmental Group)



**ANAMETRIX INC**

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

**REPORT**

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

Workorder # : 9206087  
 Date Received : 06/05/92  
 Project ID : G67-67.01  
 Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9206087- 1	MW-1
9206087- 2	MW-2
9206087- 3	MW-3
9206087- 4	MW-4
9206087- 5	TB

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anamatrix 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 Anamatrix 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.

Anamatrix 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 Anamatrix.

*Sarah Schoer*  
 Sarah Schoer, Ph.D.  
 Laboratory Director

*06-17-92*  
 Date

EMCON ASSOCIATES

JUN 18 1992

RECEIVED



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

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

Workorder # : 9206087  
Date Received : 06/05/92  
Project ID : G67-67.01  
Purchase Order: MOH-B813  
Department : GC  
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9206087- 1	MW-1	WATER	06/03/92	TPHg/BTEX
9206087- 2	MW-2	WATER	06/03/92	TPHg/BTEX
9206087- 3	MW-3	WATER	06/03/92	TPHg/BTEX
9206087- 4	MW-4	WATER	06/03/92	TPHg/BTEX
9206087- 5	TB	WATER	06/03/92	TPHg/BTEX

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

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

Workorder # : 9206087  
Date Received : 06/05/92  
Project ID : G67-67.01  
Purchase Order: MOH-B813  
Department : GC  
Sub-Department: tph

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl B. Jensen 6/16/92  
Department Supervisor Date

Lina Sher 6/16/92  
Chemist Date

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

Anamatrix W.O.: 9206087  
Matrix : WATER  
Date Sampled : 06/03/92

Project Number : G67-67.01  
Date Released : 06/16/92

Reporting Limit	Sample I.D.# MW-1	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# MW-4	Sample I.D.# TB	
COMPOUNDS (mg/L)	-01	-02	-03	-04	-05	
Benzene	0.0005	ND	ND	ND	0.19	ND
Toluene	0.0005	ND	ND	ND	ND	ND
Ethylbenzene	0.0005	ND	ND	ND	0.030	ND
Total Xylenes	0.0005	ND	ND	ND	0.023	ND
TPH as Gasoline	0.050	ND	ND	ND	1.7	ND
% Surrogate Recovery	92%	119%	96%	89%	92%	
Instrument I.D.	HP4	HP4	HP4	HP4	HP4	
Date Analyzed	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	
RLMF	1	1	1	25	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.

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

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

Luca Stor 6/17/92  
Analyst Date

Cheryl Balmer 6/16/92  
Supervisor Date

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

Anamatrix W.O.: 9206087  
 Matrix : WATER  
 Date Sampled : N/A

Project Number : G67-67.01  
 Date Released : 06/16/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# BU1101E2 BLANK
Benzene	0.0005	ND
Toluene	0.0005	ND
Ethylbenzene	0.0005	ND
Total Xylenes	0.0005	ND
TPH as Gasoline	0.050	ND
% Surrogate Recovery Instrument I.D. Date Analyzed RLMF		109% HP4 06/11/92 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.
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- RLMF - Reporting Limit Multiplication Factor.

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

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

Luise Shor 6/17/92  
 Analyst Date

Charles Balmer 6/16/92  
 Supervisor Date

Site Address: 230 W. Mac Arthur Blvd  
Oakland CA

Analysis Required **(2)**

LAB: Anametrix

WIC#: 204-5508-0703

12:30 PM

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

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND
Quarterly Monitoring <input checked="" type="checkbox"/> 5461		24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 5441		48 hours <input type="checkbox"/>
Soil for disposal <input type="checkbox"/> 5442		15 days <input checked="" type="checkbox"/> (N/A)
Water for disposal <input type="checkbox"/> 5443		Other <input type="checkbox"/>
Air Sample - Sys O&M <input type="checkbox"/> 5452		NOTE: Notify Lab soon as possible of 24/48 hrs. TAT.
Water Sample - Sys O&M <input type="checkbox"/> 5453		
Other <input type="checkbox"/>		

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

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

Comments: 3-VOAs (HCl) for GIBTEX

Sampled By: J Butera  
Printed Name: J BUTERA

Sample ID	Date	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	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION COMMENT
① MW-1	6-3-92		X		3	X		X			40 ml	HCL	No		Sample
② MW-2	↓		↓		3	X		X			↓	↓	↓		rec'd
③ MW-3	↓		↓		3	X		X			↓	↓	↓		cool +
④ MW-4	↓		↓		3	X		X			↓	↓	↓		in prep
⑤ TB	↓		↓		3	X		X			↓	↓	↓		con frame

Relinquished By (signature): J Butera  
Printed name: J BUTERA  
Date: 6-5-92  
Time: 6:30

Received (signature): BENNY S. CARRIZOSA  
Printed name: BENNY S. CARRIZOSA  
Date: 6-5-92  
Time: 6:52

Relinquished By (signature): BENNY S. CARRIZOSA  
Printed name: BENNY S. CARRIZOSA  
Date: 6-5-92  
Time: 10:25

Received (signature): D GOWAN  
Printed name: D GOWAN  
Date: 6-5-92  
Time: 10:25

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