PACIFIC
ENVIRONMENTAL
GROUP, INC.

89 NOV 16 PM 12:55

Date November 14, 1989

Project No. 330-06.05

To: Cathryn Chesick
Alameda County Health Agency
Hazardous Materials Division
80 Swan Way, Suite 200
Oakland, CA 94621

We have enclosed

Copies	Description
1	Quarterly Groundwater Sampling report for ARCO Service Station Number 0608 located at 17601 Hesparian Blvd., San Lorenzo, CA

For your XX Use
____ Approval
____ Information

Comments Please call if you have any questions.

Sincerely,

Joe Neely

1601 Civic Center Drive, Suite 202, Santa Clara, California 95050, (408) 984-6536

PACIFIC
ENVIRONMENTAL
GROUP, INC.

November 14, 1989
Project No. 330-06.05

Mr. Kyle Christie
ARCO Petroleum Products Co.
P. O. Box 5811
San Mateo, California 94402

RE: ARCO Service Station No. 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Dear Mr. Christie:

This report presents the results of groundwater sampling performed by Pacific Environmental Group, Inc. (PACIFIC) at the above-referenced site for the April to June quarter of 1989.

On June 21, 1989 groundwater samples were collected from Wells MW-3, MW-4, MW-5, and E-1. Well E-1 is an eight-inch well that was discovered at the site in March, 1989. Groundwater samples were analyzed for low-boiling hydrocarbons (calulated as gasoline), benzene, toluene, ethylbenzene and xylene compounds (BTEX). Well MW-1 could not be located and MW-2 was destroyed during tank pull activities. The well locations are shown on Figure 1.

PROCEDURE

The sampling procedure consisted of first measuring the water level in each well, and checking the well for the presence of floating petroleum product using a clear Teflon bailer. The wells were then purged of a minimum of four casing volumes of water using a centrifugal pump. During purging, temperature, pH and electrical conductivity were monitored to document that a representative sample was collected. After the water level partially recovered, a sample was collected from each well using a Teflon bailer and was placed into appropriate EPA-approved containers. The sample was labeled, logged onto chain-of-custody documents, and transported on ice to the laboratory.

The methods of analysis for the water samples are described on the certified analytical reports. Certified analytical reports

and chain-of-custody documents are attached at the end of this report.

FINDINGS

The concentration of dissolved gasoline detected in the wells ranged from 1,100 parts per billion (ppb) in Well MW-5 to 63,000 ppb in Well MW-3. The concentration of dissolved gasoline detected in Wells MW-4 and E-1 were 31,000 ppb and 1,700 ppb, respectively. The current and historical analytical results are summarized on Table 1. A gasoline and benzene concentration map is presented on Figure 1.

If there are any questions regarding the contents of this report, please do not hesitate to call.

Sincerely,

PACIFIC ENVIRONMENTAL GROUP, INC.

Joe Neely
Staff Geologist

Debra J. Moser
Senior Geologist
CEG 1293

REGISTERED GEOLOGIST
DEBRA J. MOSER
No. 1293
CERTIFIED ENGINEERING GEOLOGIST
6/90
STATE OF CALIFORNIA

cc: Chris Winsor, ARCO Products Company
Cathryn Chesick, Alameda County Health Agency Hazardous Materials Division
Steve Ritchie, Regional Water Quality Control Board

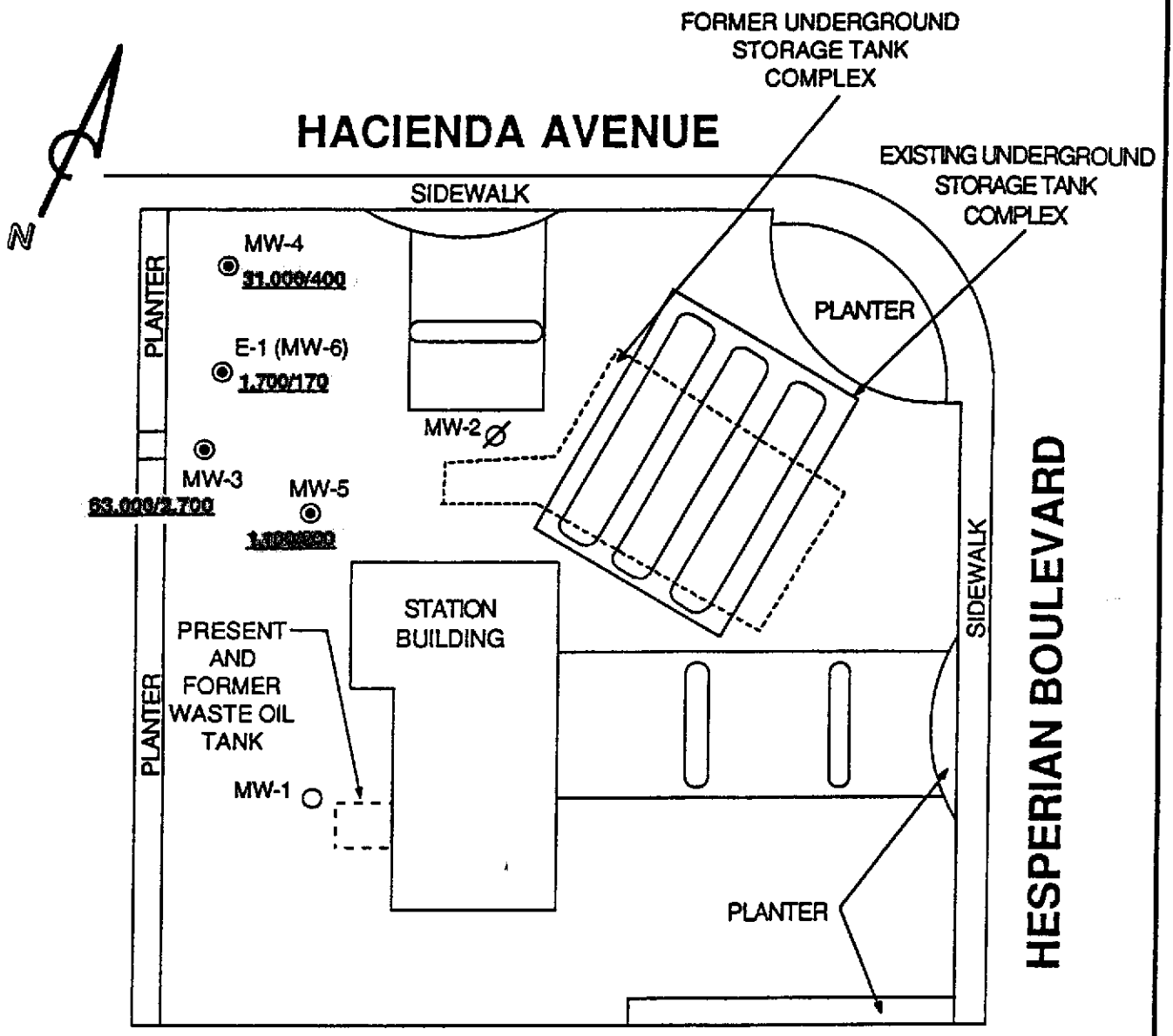
TABLE 1

QUARTERLY GROUNDWATER MONITORING RESULTS

ARCO Service Station No. 0608
Low Boiling Hydrocarbons

WELL NO.	SAMPLE DATE	DEPTH TO GROUNDWATER (FT.)*	GASOLINE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)
MW-1	1-88	NA	300**	20	50	10	80
			---------- Well not locatable ----------				
MW-2	1-88	NA	3,300**	804	115	168	166
			---------- Well destroyed ----------				
MW-3	1-88	NA	1,800**	20	20	80	60
	3-7-89	11.96	150,000	4,600	5,200	5,600	13,000
	6-21-89	12.85	63,000	2,700	5,800	3,300	12,000
MW-4	1-88	NA	62,000**	2,700	7,900	850	5,200
	3-7-89	10.76	84,000	2,400	3,400	2,500	7,600
	6-21-89	11.96	31,000	400	800	200	1,500
MW-5	1-88	NA	31,000**	4,000	2,700	3,800	5,500
	3-7-89	12.74	1,300	340	ND	140	50
	6-21-89	13.26	1,100	200	ND	130	40
E-1	6-21-89	12.48	1,700	170	170	85	290

Note:
NA = Not available
ppb = parts per billion
* = Well elevations not surveyed.
** = Analysis reported as total volatile hydrocarbons
See certified analytical results for detection limits



LEGEND

MW-3 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

MW-2 ⌀ DESTROYED MONITORING WELL LOCATION AND DESIGNATION

1,100/340 DISSOLVED GASOLINE/BENZENE CONCENTRATION IN PARTS PER BILLION, 6-21-89

MW-1 ○ UNABLE TO LOCATE WELL 6-21-89

APPROXIMATE DIRECTION OF REGIONAL GROUNDWATER FLOW

SCALE

0 30 60 FEET

PACIFIC ENVIRONMENTAL GROUP, INC.	ARCO STATION #0608 17601 Hesperian Boulevard San Lorenzo, California	FIGURE: 1 PROJECT: 330-06.05
	GASOLINE AND BENZENE CONCENTRATION MAP	

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Pacific Environmental Group, Inc.
1601 Civic Center Dr., Suite 202
Santa Clara, CA 95050
ATTN: John Adams

Date: July 17, 1989

Work Order Number: S9-06-291

P.O. Number: 11278

This is the Certificate of Analysis for the following samples:

Client Project ID:	330-06.05, 17601 Hesperian Blvd., San Lorenzo
Date Received by Lab:	6/26/89
Number of Samples:	4
Sample Type:	Water

The method of analysis for low boiling hydrocarbons is taken from EPA Methods 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector as well as a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline and includes benzene, toluene, ethyl benzene and xylenes.

Reviewed and Approved

David A. Pichette
Project Manager

DAP/mlh
1 Page Following - Table of Results

Page: 1 of 1
Date: July 17, 1989
Client Project ID: 330-06.05,
17601 Hesperian Blvd., San Lorenzo

IT ANALYTICAL SERVICES
SAN JOSE, CA
Work Order Number:
S9-06-291

Lab Sample ID	Client Sample ID	Sample Date	Date Analysis Completed	Sample Condition on Receipt
S9-06-291-01	MW-3	6/21/89	7/1/89	Cool, pH ≤2
S9-06-291-02	MW-4	6/21/89	7/1/89	Cool, pH ≤2
S9-06-291-03	MW-5	6/21/89	7/1/89	Cool, pH ≤2
S9-06-291-04	E-1	6/21/89	7/2/89	Cool, pH ≤2

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

ND = None Detected

		Results - Micrograms per Liter				
Lab Sample ID	Client Sample ID	Low Boiling Hydrocarbons (calculated as Gasoline)	Benzene	Toluene	Ethyl Benzene	Xylenes (total)
S9-06-291-01	MW-3	63,000.	2,700.	5,800.	3,300.	12,000.
Detection Limits		25,000.	200.	500.	500.	2,000.
S9-06-291-02	MW-4	31,000.	400.	800.	200.	1,500.
Detection Limits		10,000.	100.	200.	200.	600.
S9-06-291-03	MW-5	1,100.	200.	ND	130.	40.
Detection Limits		500.	5.	10.	10.	30.
S9-06-291-04	E-1	1,700.	170.	170.	85.	290.
Detection Limits		100.	1.	2.	2.	6.

59-06-291

SAMPLING/ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Project No.: 330-06.05 Requested By: JBA P.O. No.: 11278

REQUEST		LABORATORY REQUIREMENTS					CHAIN OF CUSTODY				
SAMPLE TYPE: WATER		CONTAINERS					SAMPLER'S SIGNATURE Mike Webber		CONTRACT LABORATORY		
SAMPLE I.D.	PARAMETERS	SIZE/TYPE	QUANTITY	PRES.	LAB	DUE DATE	SAMPLER	SAMPLE DATE	REC'D BY	COMMENTS	DATE REC'D
MW-3	GAS BTXE	40ml VOA	3	HCL	ET	7-10-89	MW	6-21-89	Q.D.	OK/Cool	6/26/89
MW-4	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
MW-5											
E-1											

SIGNATURES:

RELEASED BY: _____ RELEASED BY: _____ RELEASED BY: _____

RECEIVED BY: _____ RECEIVED BY: _____ RECEIVED BY: _____

RELEASED BY: _____ RELEASED BY: _____ RELEASED BY: Mike Webber 10:25 6-26-89

RECEIVED BY: _____ RECEIVED BY: _____ RECEIVED BY LAB: Josephine DeCarli 10:34 6/26/89

PACIFIC ENVIRONMENTAL GROUP, INC.