



PACIFIC ENVIRONMENTAL GROUP INC.

Date October 3, 1989
Project No. 330-06.05

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

10/5/89
ALAMEDA COUNTY
DEPT. OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS

We have enclosed

| Copies | Description |
|----------|---|
| <u>1</u> | <u>Groundwater monitoring report for the January to March quarter of 1989 for ARCO service station #0608.</u> |
| <u> </u> | <u> </u> |
| <u> </u> | <u> </u> |
| <u> </u> | <u> </u> |

For your XXXX Use
Approval
Information

Comments Please call if you have any questions.

Joe Neely



PACIFIC ENVIRONMENTAL GROUP, INC.

OCT 05 1989

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CONTROL BOARD

Date October 3, 1989

Project No. 330-06.05

To: Mr. Steve Ritchie
California Regional Water Quality
Control Board
San Francisco Bay Region
1111 Jackson St., Rm. 6040
Oakland, CA 94607

We have enclosed

| Copies | Description |
|----------|--|
| <u>1</u> | <u>Groundwater monitoring report for the January,</u> <u>to March quarter of 1989 for ARCO service</u> <u>station #0608.</u> |
| <u> </u> | <u> </u> |
| <u> </u> | <u> </u> |
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For your XXXX Use
 Approval
 Information

Comments Please call if you have any questions.

Joe Neely



PACIFIC
ENVIRONMENTAL
GROUP, INC.

October 2, 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 January to March quarter of 1989.

Groundwater samples were collected from Wells MW-3 to MW-5 on March 7, 1989 and analyzed for low-boiling hydrocarbons. Well MW-1 could not be located and Well MW-2 was destroyed during the 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 1,300 parts per billion (ppb) in Well MW-5 to 150,000 ppb in Well MW-3. Well MW-4 was found to have 84,000 ppb of dissolved gasoline. 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 Moser
Senior Geologist
CEG 1293



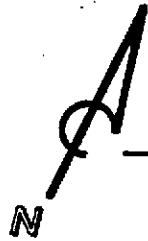
cc: Chris Winsor, ARCO Products Company
Cathryn Chesick, Alameda County Health Agency Hazardous
Materials Division
Steven Ritchie, Regional Water Quality Control Board

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 |
| | 3-7-89 | DRY | NA | NA | NA | NA | NA |
| MW-2 | 1-88 | NA | **3,300 | 804 | 115 | 168 | 166 |
| | 3-7-89 | ABANDONED | | | | | |
| 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 |
| 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 |
| 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 |

Note:

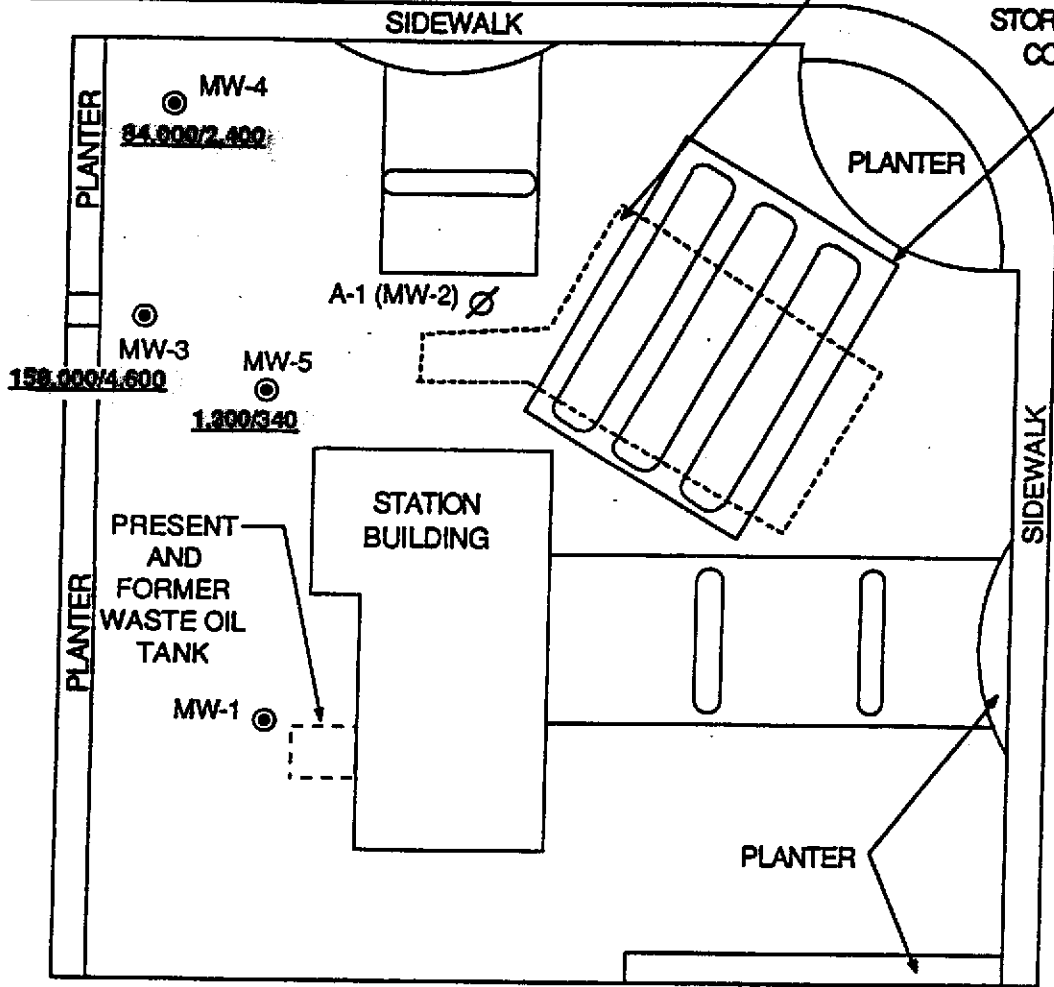
NA = Not available
 ppb = parts per billion
 * = Well elevations not surveyed.
 ** = Analysis reported as total volatile hydrocarbons
 See certified analytical results for detection limits



HACIENDA AVENUE

FORMER UNDERGROUND STORAGE TANK COMPLEX

EXISTING UNDERGROUND STORAGE TANK COMPLEX



HESPERIAN BOULEVARD

LEGEND

MW-3 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

A-1 (MW-2) ∅ DESTROYED MONITORING WELL LOCATION AND DESIGNATION

1,300/340 DISSOLVED GASOLINE CONCENTRATION
BENZENE CONCENTRATION IN PARTS PER BILLION (ppb), 3-7-89

APPROXIMATE DIRECTION OF REGIONAL GROUNDWATER FLOW



SCALE



PACIFIC ENVIRONMENTAL GROUP, INC.

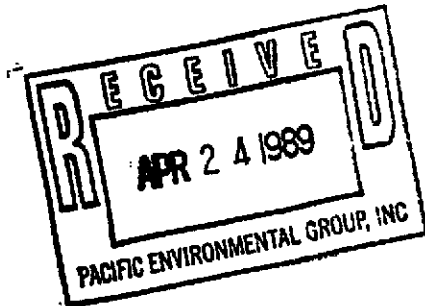
ARCO STATION #0608
17601 Hesperian Boulevard
San Lorenzo, California

GASOLINE AND BENZENE CONCENTRATION MAP

FIGURE: 1
PROJECT: 330-06.05



**INTERNATIONAL
TECHNOLOGY
CORPORATION**



Pacific Environmental Group, Inc.
1601 Civic Center Drive
Suite 202
Santa Clara, CA 95050

March 31, 1989

ATTN: John Adams

Following are the results of analyses on the samples described below.

Project: 330-06.05, 17601 Hesperian Blvd
Lab Numbers: S9-03-082-01 thru S9-03-082-04
Number of Samples: 4
Sample Type: Water
Date Received: 3/8/89
Analyses Requested: Low Boiling Hydrocarbons

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.

| ITAS/San Jose Lab Number | Client Sample Identification | Sample Date | Date Analysis Completed | Sample Condition on Receipt |
|-----------------------------|---------------------------------|----------------|----------------------------|-----------------------------------|
| S9-03-082-01 | MW-3 | 3/7/89 | 3/21/89 | Cool, pH \leq 2 |
| S9-03-082-02 | MW-4 | 3/7/89 | 3/21/89 | Cool, pH \leq 2 |
| S9-03-082-03 | MW-5 | 3/7/89 | 3/21/89 | Cool, pH \leq 2 |
| S9-03-082-04 | Trip Blank | 3/7/89 | 3/21/89 | Cool, pH \leq 2 |

Fred Rouse

FR/mlh

1 Page Following - Table of Results

ITAS/San Jose to Pacific
Environmental Group, Inc.
ATTN: John Adams

March 31, 1989
Page 1 of 1

Project: 330-06.05, 17601 Hesperian Blvd

Summary of Results

ND = None Detected

Micrograms per Liter

| Lab Number | Sample Identification | Low Boiling Hydrocarbons (calculated as gasoline) | Ethyl | | | |
|------------------|--------------------------|--|---------|---------|---------|---------|
| | | | Benzene | Toluene | Benzene | Xylenes |
| S9-03-082-01 | MW-3 | 150,000. | 4,600. | 5,200. | 5,600. | 13,000. |
| Detection Limits | | 40,000. | 400. | 800. | 800. | 2,000. |
| S9-03-082-02 | MW-4 | 84,000. | 2,400. | 3,400. | 2,500. | 7,600. |
| Detection Limits | | 10,000. | 100. | 200. | 200. | 800. |
| S9-03-082-03 | MW-5 | 1,300. | 340. | ND | 140. | 50. |
| Detection Limits | | 500. | 5. | 10. | 10. | 30. |
| S9-03-082-04 | Trip Blank | ND | ND | ND | ND | ND |
| Detection Limits | | 50. | 0.5 | 1. | 1. | 3. |

SAMPLING/ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Project No.: 330-06.04

Requested By: JBA

P.O. No.: 10747

| REQUEST | | LABORATORY REQUIREMENTS | | | | | CHAIN OF CUSTODY | | | | |
|------------------------------|-----------------|-------------------------|----------|------------|-----------|----------------|---|---------------|--------------|----------------|---------------|
| SAMPLE TYPE: <u>WATER</u> | | | | | | | SAMPLER'S SIGNATURE <u>Mark Webb</u> | | | | |
| | | CONTAINERS | | | | | CONTRACT LABORATORY | | | | |
| SAMPLE I.D. | PARAMETERS | SIZE/TYPE | QUANTITY | PRES. | LAB | DUE DATE | SAMPLER | SAMPLE DATE | REC'D BY | COMMENTS | DATE REC'D |
| <u>MW-3</u> | <u>GAS BTXE</u> | <u>40 ml VOA</u> | <u>3</u> | <u>HCL</u> | <u>IT</u> | <u>3-28-89</u> | <u>MW</u> | <u>3-7-89</u> | <u>gp.D.</u> | <u>ok Cool</u> | <u>3/8/89</u> |
| <u>MW-4</u> | ↓ | ↓ | <u>3</u> | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| <u>MW-5</u> | ↓ | ↓ | <u>3</u> | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| <u>Trip Blank</u> | | ↓ | <u>2</u> | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
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SIGNATURES:

RELEASED BY: _____

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RECEIVED BY: _____

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RECEIVED BY: _____

RELEASED BY: _____

RELEASED BY: _____

RELEASED BY: Mark Webb

RECEIVED BY: _____

RECEIVED BY: _____

RECEIVED BY LAB: Josephine DeCarli

3/8/89 9:28

3/8/89 9:28

PACIFIC ENVIRONMENTAL GROUP, INC.



PACIFIC
ENVIRONMENTAL
GROUP, INC.

SUMMARY REPORT
April-June Quarter, 1989

Project No. 330-06.05
July 11, 1989

ARCO Service Station No. 0608
17601 Hesperian Boulevard
San Lorenzo, California

Alameda County

BACKGROUND

ARCO Service Station No. 0608 is located at the southern corner of the intersection of Hesperian Boulevard and Hacienda Avenue, San Lorenzo, California (see Figures 1 and 2). Following is a brief chronological summary of this past quarter's investigative activities for the site:

- o March 1989, interpretation of data from the February 1989 soil vapor survey performed on and off-site. The soil gas survey indicates that hydrocarbons may extend off-site to the west-southwest of the ARCO station. The investigation and results will be reported in the technical workplan described below.
- o March 1989, water samples were collected from Wells MW-3 to MW-5. Well MW-1 was dry. Well MW-2 was destroyed during tank pull activities. Water samples were analyzed for gasoline, benzene, toluene, ethylbenzene and xylene compounds. Laboratory analysis of the water samples detected gasoline concentrations ranging from 1,300 parts per billion (ppb) to 150,000 ppb (see Table 1 and Figure 3).
- o June 1989, initiated preparation of a work plan for further soil and groundwater assessment at the site. It includes a report on the soil gas survey, and recommends well installation on and off-site to document the extent of hydrocarbons in the groundwater. Proposed well locations are based on the soil gas survey.

STATUS SUMMARY: SITE INVESTIGATION

- o Currently the soil and groundwater conditions are not fully assessed, although a soil gas survey conducted in February 1989 indicates that a hydrocarbon plume may extend downgradient of the site.

QUARTERLY GROUNDWATER MONITORING

- o The existing wells (A-1 to A-5) have been on a quarterly sampling program since March 1989. The laboratory results are presented in Table 1.

Project No. 330-06.05
ARCO Service Station No. 0608
Page 2

STATUS SUMMARY: REMEDIATION

- o No change from last quarter. No groundwater remediation is planned for the July-September quarter.

ANTICIPATED WORK FOR THE JULY-SEPTEMBER QUARTER

- o Completion of a work plan proposing additional soil and groundwater investigative activities.
- o The second set of quarterly sampling results will be transmitted.

TABLE 1

APRIL-JUNE, 1989 QUARTERLY GROUNDWATER MONITORING RESULTS

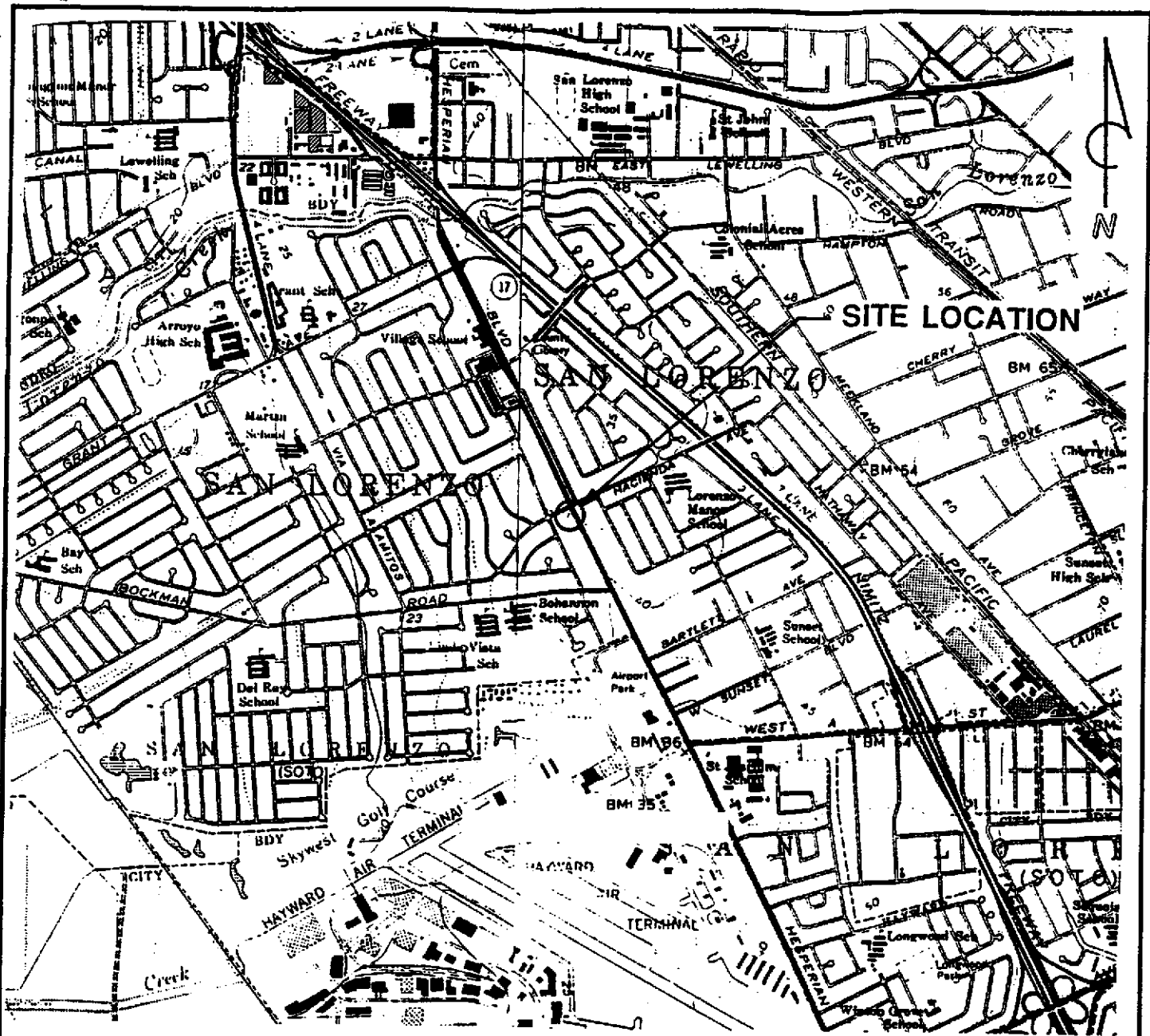
ARCO Service Station No. 0608

Low Boiling Hydrocarbons
Sampling Date: 3-7-89

| <u>Well No.</u> | <u>Gasoline (ppb)</u> | <u>Benzene (ppb)</u> | <u>Toluene (ppb)</u> | <u>Ethyl benzene (ppb)</u> | <u>Xylenes (ppb)</u> |
|-----------------|-----------------------|----------------------|----------------------|----------------------------|----------------------|
| MW-1 | N/A | N/A | N/A | N/A | N/A |
| MW-2 | N/A | N/A | N/A | N/A | N/A |
| MW-3 | 150,000 | 4,600 | 5,200 | 5,600 | 13,000 |
| MW-4 | 84,000 | 2,400 | 3,400 | 2,500 | 7,600 |
| MW-5 | 1,300 | 340 | <10 | 140 | 50 |

Note: ppb = parts per billion
N/A= Not applicable

Well MW-1 was dry.
Well MW-2 is destroyed.



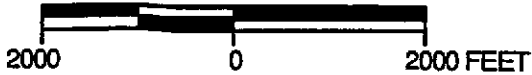
SITE LOCATION



QUADRANGLE LOCATIONS

REFERENCE:
 USGS 7.5 MIN. TOPOGRAPHIC MAP
 TITLED: HAYWARD, CALIFORNIA
 DATED: 1959 REVISED: 1980
 TITLED: SAN LEANDRO, CALIFORNIA
 DATED: 1959 REVISED: 1980

SCALE

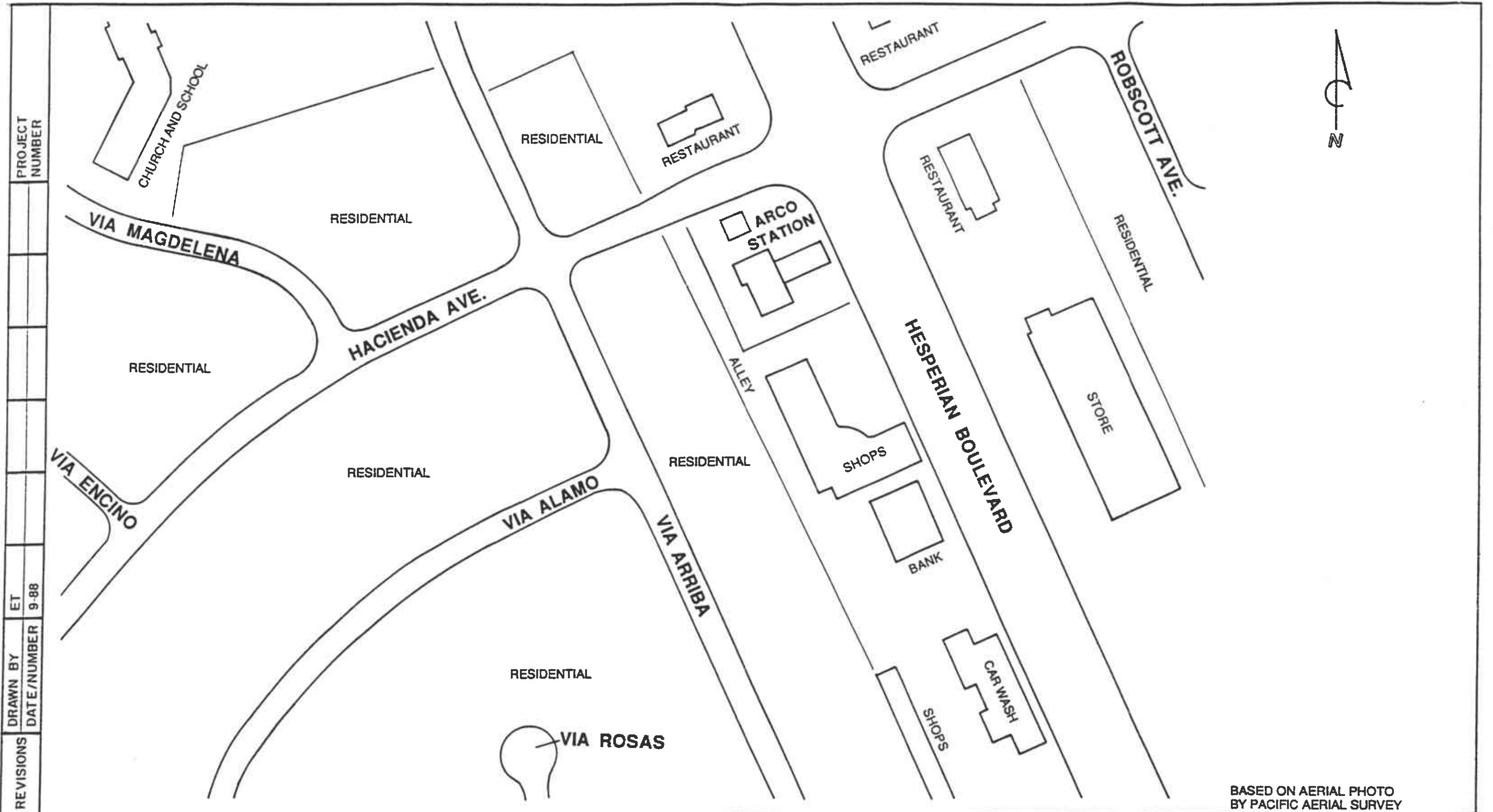


PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO SERVICE STATION #0608
 17601 Hesperian Boulevard
 San Lorenzo, California

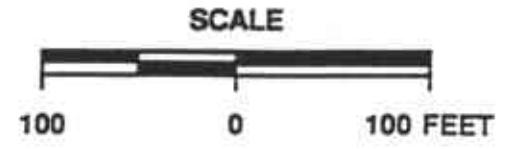
SITE LOCATION MAP

FIGURE: 1
PROJECT: 330-06.05



| | |
|----------------|------|
| PROJECT NUMBER | |
| DRAWN BY | ET |
| DATE/NUMBER | 9-88 |
| REVISIONS | |

BASED ON AERIAL PHOTO
BY PACIFIC AERIAL SURVEY



ARCO STATION #0608
17601 Hesperian Boulevard
San Lorenzo, California

EXTENDED SITE MAP

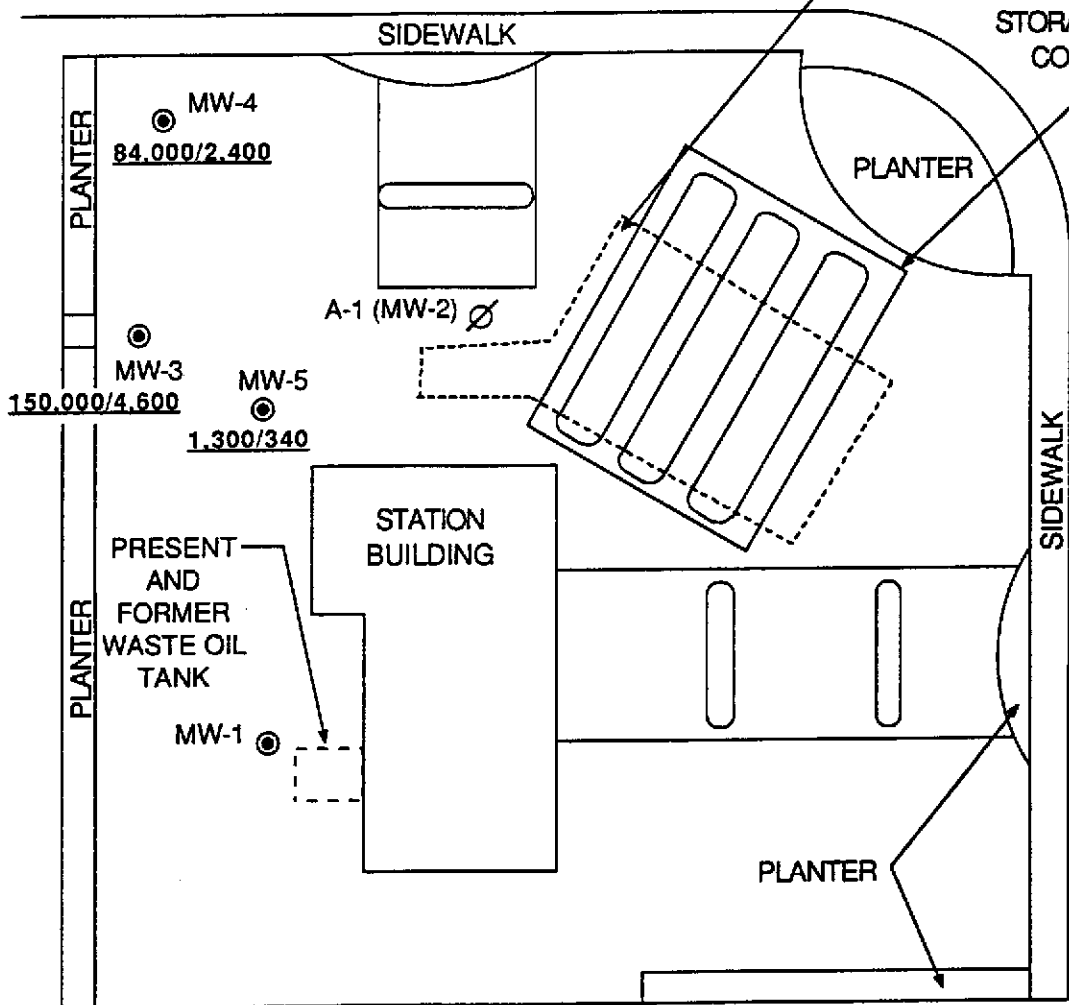
FIGURE :
2
PROJECT :
330-06.05



HACIENDA AVENUE

FORMER UNDERGROUND STORAGE TANK COMPLEX

EXISTING UNDERGROUND STORAGE TANK COMPLEX



HESPERIAN BOULEVARD

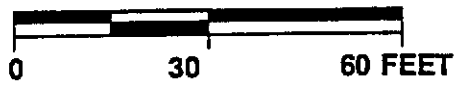
LEGEND

- MW-3 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- A-1 (MW-2) ∅ DESTROYED MONITORING WELL LOCATION AND DESIGNATION
- 1.300/340 DISSOLVED GASOLINE CONCENTRATION/ BENZENE CONCENTRATION IN PARTS PER BILLION (ppb), 3-7-89

APPROXIMATE DIRECTION OF REGIONAL GROUNDWATER FLOW



SCALE



PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO STATION #0608
17601 Hesperian Boulevard
San Lorenzo, California

GASOLINE AND BENZENE CONCENTRATION MAP

FIGURE: **3**
PROJECT: 330-06.05