



PACIFIC  
ENVIRONMENTAL  
GROUP, INC.

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August 5, 1993  
Project 330-06.05

Mr. Michael Whelan  
ARCO Products Company  
P.O. Box 5811  
San Mateo, California 94402

Re: Quarterly Report and Remedial System Performance  
Evaluation - Second Quarter 1993  
ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

Dear Mr. Whelan:

This report, prepared by Pacific Environmental Group, Inc. (PACIFIC) on behalf of ARCO Products Company (ARCO) presents the results of the second quarter 1993 groundwater monitoring and remedial system performance evaluation at the site referenced above. In addition, a summary of work completed and anticipated at the site is included.

#### GROUNDWATER MONITORING RESULTS

Groundwater samples were collected on June 15 through 17, 1993, and analyzed for total petroleum hydrocarbons calculated as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). Field and laboratory procedures are presented as Attachment A.

The results of groundwater monitoring this quarter indicate that TPH-g and benzene concentrations are generally consistent with previous quarters, except Well MW-10 which had a historical high concentration of benzene. TPH-g was detected at concentrations ranging from 90 parts per billion (ppb) in Well MW-17 to 4,900 ppb in Well MW-10. Benzene was detected at concentrations ranging from 0.92 ppb in Well MW-17 to 860 ppb in Well MW-10. Wells MW-7, MW-9,

MW-11, MW-13 through MW-16, and MW-18 through MW-26 had non-detectable levels of TPH-g and BTEX compounds. Separate-phase hydrocarbons were not observed in any site well this quarter. Groundwater analytical data for TPH-g and BTEX compounds are presented in Table 1. A TPH-g and benzene concentration map is presented on Figure 1. Certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment B.

Depth to water data indicate that groundwater elevations have declined in site groundwater monitoring wells an average of 1.24 feet since March 15, 1993. Groundwater flow was to the west with an approximate gradient of 0.003. As discussed below, a groundwater depression has developed as a result of pumping extraction Well E-1A. Groundwater elevation data are presented in Table 2. A groundwater elevation contour map based on the June 1993 data is presented on Figure 2.

## REMEDIAL PERFORMANCE EVALUATION

### Groundwater Treatment System

The data presented in this section cover the period from March 15 to June 4, 1993. The system began continuous operation on October 15, 1991. The treatment system uses three granular activated carbon vessels to treat the influent groundwater stream before it is discharged into the sanitary sewer. The carbon vessels are arranged in series, with valving to permit bed order rotation. This allows for the primary vessel to become the secondary vessel after the carbon has been renewed. Sample ports are located at the treatment system influent, effluent, the mid-point between the carbon vessels, and at each individual well head. A sanitary sewer discharge permit was obtained from the Oro Loma Sanitary District on April 4, 1991. The updated permit is effective through April 4, 1994.

In order to evaluate treatment system performance, PACIFIC monitored well water levels, recorded instantaneous and average extracted groundwater flow rates, and sampled the influent and effluent of the treatment system for TPH-g and BTEX compounds on a monthly basis. Treatment system effluent is also analyzed for arsenic, as requested by the Oro Loma Sanitary District.

The dissolved TPH-g removed to date was calculated based on influent concentrations and total flow through the system (Table 3). Influent concentrations of TPH-g have ranged from 140 to 530 ppb, while TPH-g was not detected in treatment system effluent. A graphical summary of influent TPH-g concentration

versus total flow is presented on Figure 3, and a graphical summary of dissolved TPH-g removed versus total flow is presented on Figure 4. Analytical data for the treatment system are summarized in Table 4. Certified analytical reports, chain-of-custody documentation, and field data sheets for the monthly sampling dates are included as Attachment B.

The treatment system utilizes one groundwater extraction well (E-1A). The average pumping rate for the treatment system during this period was 2.9 gallons per minute (gpm). A total of 337,640 gallons of groundwater were extracted and 0.8 pound of dissolved TPH-g was recovered during this period of operation (Tables 4 and 5). A total of 2,543,500 gallons of groundwater have been extracted and 2.8 pounds of dissolved TPH-g have been recovered since the beginning of operation. Calculations indicate the primary carbon unit is approximately 3.5 percent loaded, and breakthrough is not expected during the next 12 months. The treatment system's operation was temporarily suspended from March 29 to April 2, 1993 do to soil vent/air sparge feasibility testing at the site. Otherwise, the treatment system operated continuously during the reporting period.

Groundwater elevation data indicate the groundwater extraction system has achieved hydraulic control of the on-site dissolved hydrocarbon plume.

## **SUMMARY OF WORK**

### **Work Completed Second Quarter 1993**

- o Continued monitoring groundwater treatment system performance.
- o Submittal of first quarter 1993 groundwater monitoring report.
- o Preparation and submittal of off-site domestic irrigation well sampling results letters for second quarter 1993.
- o Preparation of risk assessment program outline for Alameda County Health Care Services Agency (ACHCSA) review.
- o Initiated biofeasibility analysis.
- o Completed remedial investigation field work consisting of impact delineation and biofeasibility and aquifer testing.

- o Continued domestic irrigation water well owner reimbursement program with owners who have discontinued well use.
- o Sampled site wells for second quarter 1993 groundwater monitoring program.
- o Sampled domestic wells for third quarter 1993 groundwater monitoring program.

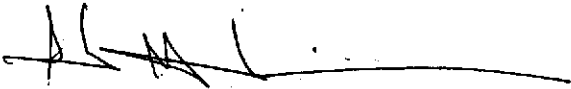
**Work Anticipated Third Quarter 1993**

- o Continue monitoring groundwater treatment system performance.
- o Complete risk assessment program outline for ACHCSA review.
- o Preparation and submittal of remedial investigation report.
- o Preparation and submittal of second quarter 1993 groundwater monitoring report.
- o Sample site irrigation wells for third quarter 1993 groundwater monitoring program.
- o Sample domestic wells for fourth quarter 1993 groundwater monitoring program.
- o Preparation and submittal of off-site domestic well sampling result letters for third quarter 1993.
- o Continue domestic irrigation well owner reimbursement program with owners who have discontinued well use.

If there are any questions regarding the contents of this report, please call.

Sincerely,

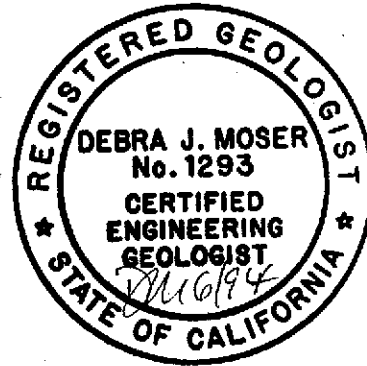
**Pacific Environmental Group, Inc.**



Shaw Garakani  
Project Engineer



Debra J. Moser  
Senior Geologist  
CEG 1293



- Attachments:
- Table 1 - Groundwater Analytical Data - Total Petroleum Hydrocarbons (TPH as Gasoline and BTEX Compounds)
  - Table 2 - Groundwater Elevation Data
  - Table 3 - Estimated Total Dissolved TPH-g Removed by the Groundwater Extraction System
  - Table 4 - Treatment System Analytical Data - Total Petroleum Hydrocarbons (TPH as Gasoline and BTEX Compounds)
  - Table 5 - Treatment System Metered Volume
  - Figure 1 - TPH-g/Benzene Concentration Map
  - Figure 2 - Groundwater Elevation Contour Map
  - Figure 3 - Influent Concentration versus Total Flow
  - Figure 4 - TPH-g Removed versus Total Flow
  - Attachment A - Field and Laboratory Procedures
  - Attachment B - Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets

cc: Ms. Susan Hugo, Alameda County Health Care Services  
Ms. Juliett Shin, Alameda County Health Care Services  
Mr. Richard Hiatt, Regional Water Quality Control Board - S.F. Bay Region

Table 1  
**Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons**  
**(TPH as Gasoline and BTEX Compounds)**

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Well Number | Date Sampled | TPH as Gasoline (ppb)                   | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |  |
|-------------|--------------|---|---------------|---------------|--------------------|---------------|--|
| MW-1        | 01/11/88     | 300                                     | 20            | 10            | 50                 | 80            |  |
|             | 06/14/88     | Well Destroyed                          |               |               |                    |               |  |
| MW-2        | 07/05/85     | 32,000                                  | 1,000         | 690           | NA*                | 1,500*        |  |
|             | 01/11/88     | 3,300                                   | 804           | 115           | 168                | 166           |  |
|             | 06/14/88     | Well Destroyed                          |               |               |                    |               |  |
| MW-3        | 01/11/88     | 1,800                                   | 20            | 20            | 80                 | 60            |  |
|             | 03/07/89     | 150,000                                 | 4,600         | 5,200         | 5,600              | 13,000        |  |
|             | 06/21/89     | 63,000                                  | 2,700         | 5,800         | 3,300              | 12,000        |  |
|             | 12/12/89     | Well Dry                                |               |               |                    |               |  |
|             | 03/29/90     | 1,100,000**                             | 13,000        | 60,000        | 17,000             | 91,000        |  |
|             | 06/22/90     | Well Dry                                |               |               |                    |               |  |
| MW-4        | 01/11/88     | 62,000                                  | 2,700         | 7,900         | 850                | 5,200         |  |
|             | 09/12/88     | Separate-Phase Hydrocarbon Sheen        |               |               |                    |               |  |
|             | 03/07/89     | 84,000                                  | 2,400         | 3,400         | 2,500              | 7,600         |  |
|             | 06/21/89     | 31,000                                  | 400           | 800           | 200                | 1,500         |  |
|             | 12/12/89     | Well Dry                                |               |               |                    |               |  |
|             | 03/29/90     | 0.01 foot of Separate-Phase Hydrocarbon |               |               |                    |               |  |
|             | 06/22/90     | Well Dry                                |               |               |                    |               |  |
|             | 07/18/90     | Well Destroyed                          |               |               |                    |               |  |
| MW-5        | 01/11/88     | 31,000                                  | 4,000         | 2,700         | 3,800              | 5,500         |  |
|             | 03/07/89     | 1,300                                   | 340           | ND            | 140                | 50            |  |
|             | 06/21/89     | 1,100                                   | 200           | ND            | 130                | 40            |  |
|             | 12/12/89     | Well Dry                                |               |               |                    |               |  |
|             | 03/29/90     | Well Dry                                |               |               |                    |               |  |
|             | 06/22/90     | Well Dry                                |               |               |                    |               |  |
|             | 09/19/90     | Well Dry                                |               |               |                    |               |  |
|             | 12/27/90     | Well Dry                                |               |               |                    |               |  |
|             | 03/21/91     | Well Dry                                |               |               |                    |               |  |
|             | 06/26/91     | Well Dry                                |               |               |                    |               |  |
|             | 09/24/91     | Well Dry                                |               |               |                    |               |  |
|             | 12/19/91     | Well Dry                                |               |               |                    |               |  |
|             | 03/18/92     | 11,000                                  | 110           | 2.0           | 410                | 150           |  |
|             | 06/15/92     | Well Dry                                |               |               |                    |               |  |
|             | 09/16/92     | Well Dry                                |               |               |                    |               |  |
|             | 12/22/92     | 960                                     | 220           | 6.5           | 4.0                | 2.0           |  |
|             | 03/17/93     | 2,600                                   | 180           | 1.4           | 28                 | 1.2           |  |
| 06/17/93    | 2,500        | 450                                     | 7.5           | 55            | <5                 |               |  |

Table 1 (continued)  
**Groundwater Analytical Data**  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Well Number   | Date Sampled | TPH as Gasoline (ppb)      | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |
|---------------|--------------|----------------------------|---------------|---------------|--------------------|---------------|
| MW-6<br>(E-1) | 06/21/89     | 1,700                      | 170           | 170           | 85                 | 290           |
|               | 12/12/89     | 500                        | 26            | 7             | 8                  | 18            |
|               | 03/29/90     | 130                        | 14            | 9             | 4                  | 11            |
|               | 06/22/90     | 150                        | 15            | 5             | 4                  | 13            |
|               | 07/18/90     | ----- Well Destroyed ----- |               |               |                    |               |
| MW-7          | 04/13/90     | <50                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 06/22/90     | <50                        | 0.5           | 1             | 0.6                | 3             |
|               | 09/19/90     | <50                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 12/27/90     | 69                         | <0.3          | 0.3           | 0.4                | 2             |
|               | 03/21/91     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 06/26/91     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 09/24/91     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 12/19/91     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 03/17/92     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 06/17/92     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 09/16/92     | <50                        | <0.5          | <0.5          | <0.5               | <0.5          |
|               | 12/21/92     | <50                        | <0.5          | <0.5          | <0.5               | <0.5          |
|               | 03/17/93     | <50                        | <0.5          | <0.5          | <0.5               | <0.5          |
|               | 06/15/93     | <50                        | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-8          | 04/13/90     | 4,900                      | 350           | 16            | 450                | 33            |
|               | 06/22/90     | 3,700                      | 370           | 12            | 330                | 28            |
|               | 09/19/90     | 140                        | 4             | 3             | 3                  | 3             |
|               | 12/27/90     | 1,200                      | 7             | 0.3           | 53                 | <0.3          |
|               | 03/21/91     | 540                        | 8.8           | <6.0          | 21                 | 9.6           |
|               | 06/26/91     | 2,100                      | 290           | <6.0          | 56                 | <6.0          |
|               | 09/24/91     | 260                        | 51            | 0.34          | 7.9                | <0.3          |
|               | 12/19/91     | 5,300                      | 300           | <3.0          | 21                 | 4.8           |
|               | 03/17/92     | 9,200                      | 370           | 3.0           | 48                 | 4.9           |
|               | 06/17/92     | 3,300                      | 460           | 2.7           | 63                 | 6.9           |
|               | 09/16/92     | 1,500                      | 58            | <0.5          | 6.1                | 4.5           |
|               | 12/22/92     | 3,600                      | 410           | 56            | 62                 | 4.4           |
|               | 03/18/93     | 3,800                      | 61            | <0.5          | 11                 | 1.2           |
|               | 06/17/93     | 2,400                      | 430           | <5            | 11                 | <5            |
| MW-9          | 04/13/90     | <50                        | <0.3          | <0.3          | <0.3               | 2             |
|               | 06/22/90     | 12,000                     | 200           | 3             | 250                | 180           |
|               | 09/19/90     | <50                        | <0.3          | <0.3          | <0.3               | 0.6           |
|               | 12/27/90     | <50                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 03/21/91     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |
|               | 06/26/91     | <30                        | <0.3          | <0.3          | <0.3               | <0.3          |

Table 1 (continued)  
**Groundwater Analytical Data**  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Well Number     | Date Sampled | TPH as Gasoline (ppb) | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |
|-----------------|--------------|-----------------------|---------------|---------------|--------------------|---------------|
| MW-9<br>(cont.) | 09/24/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 03/17/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 06/16/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 09/16/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                 | 12/21/92     | 75***                 | <0.5          | <0.5          | <0.5               | <0.5          |
|                 | 03/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                 | 06/15/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-10           | 04/13/90     | 10,000                | 150           | 4             | 280                | 200           |
|                 | 06/22/90     | 9,700                 | 28            | <0.3          | 131                | 210           |
|                 | 09/19/90     | 1,800                 | <0.3          | 4             | 0.8                | 10            |
|                 | 12/27/90     | 5,700                 | 7             | 3             | 95                 | 61            |
|                 | 03/21/91     | 6,900                 | 22            | <15           | 92                 | 33            |
|                 | 06/26/91     | 9,300                 | 51            | <0.3          | 59                 | 34            |
|                 | 09/24/91     | 360                   | 8.6           | 5.2           | 14                 | 6.2           |
|                 | 12/19/91     | 3,300                 | 9.2           | 8.4           | 11                 | 17            |
|                 | 03/18/92     | 4,700                 | 14            | <6.0          | 29                 | 10            |
|                 | 06/16/92     | 4,800                 | 0.46          | 0.34          | 7.4                | 3.8           |
|                 | 09/16/92     | 2,000                 | 8.3           | 3.0           | 3.3                | 5.5           |
|                 | 12/22/92     | 2,700***              | 6.2           | <1.0          | 7.5                | 2.8           |
|                 | 03/16/93     | 4,100                 | 340           | 2.4           | 58                 | 54            |
|                 | 06/17/93     | 4,900                 | 860           | <10           | 540                | 92            |
| MW-11           | 04/13/90     | <50                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 06/22/90     | 63                    | 0.4           | 0.9           | 0.7                | 3             |
|                 | 09/19/90     | <50                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 12/27/90     | <50                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 03/21/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 06/26/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 09/24/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 03/17/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 06/16/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                 | 09/16/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                 | 12/22/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                 | 03/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                 | 06/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| E-1A<br>(MW-12) | 09/19/90     | <50                   | 7             | 0.9           | 1                  | 2             |
|                 | 12/27/90     | <50                   | 3             | 0.5           | 1                  | 1             |
|                 | 03/21/91     | <30                   | 4.2           | <0.3          | 1.1                | 0.89          |
|                 | 06/26/91     | 41                    | 6.3           | <0.3          | 1.2                | 0.59          |

----- Converted to Extraction Well 8/91 -----



Table 1 (continued)  
 Groundwater Analytical Data  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Well Number | Date Sampled | TPH as Gasoline (ppb) | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |
|-------------|--------------|-----------------------|---------------|---------------|--------------------|---------------|
| MW-13       | 07/03/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 09/24/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 03/17/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 06/17/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 09/16/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 12/21/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 03/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 06/15/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-14       | 07/03/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 09/24/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 03/17/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 06/16/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 09/16/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 12/22/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 03/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 06/15/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-15       | 07/03/91     | 570                   | 1.8           | 1.0           | 1.0                | 2.2           |
|             | 09/24/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 12/19/91     | 360                   | <0.6          | <0.6          | 0.64               | <0.6          |
|             | 03/18/92     | 730                   | 0.74          | 0.98          | 1.8                | 0.68          |
|             | 06/16/92     | 310                   | 0.54          | 0.34          | 0.96               | 2.5           |
|             | 09/16/92     | 100                   | 1.0           | <0.5          | <0.5               | <0.5          |
|             | 12/22/92     | 130***                | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 03/18/93     | 130***                | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 06/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-16       | 07/03/91     | 2,700                 | 31            | 6.9           | 4.6                | 3.1           |
|             | 09/24/91     | 430                   | 1.8           | 1.3           | 1.9                | 1.5           |
|             | 12/19/91     | 75                    | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 03/18/92     | 1,500                 | 4.0           | 0.73          | 2.2                | 1.3           |
|             | 06/16/92     | 80                    | <0.3          | <0.3          | <0.3               | <0.3          |
|             | 09/16/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 12/22/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 03/18/93     | 380***                | <0.5          | <0.5          | <0.5               | <0.5          |
|             | 06/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-17       | 07/03/91     | 1,200                 | 12            | 1.9           | 28                 | 40            |
|             | 09/24/91     | 150                   | 2.7           | 0.5           | 3.9                | 0.59          |
|             | 12/19/91     | 370                   | 2.6           | <0.3          | 7.2                | 6.5           |
|             | 03/18/92     | 470                   | 3.1           | <0.3          | 9.1                | 8.6           |
|             | 06/16/92     | 310                   | 1.7           | 0.56          | 12                 | 9.6           |

Table 1 (continued)  
**Groundwater Analytical Data**  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Well Number      | Date Sampled | TPH as Gasoline (ppb) | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |
|------------------|--------------|-----------------------|---------------|---------------|--------------------|---------------|
| MW-17<br>(cont.) | 09/16/92     | 77                    | 1.5           | <0.5          | 1.2                | 1.0           |
|                  | 12/21/92     | 220                   | 1.2           | <0.5          | 9.8                | 9.4           |
|                  | 03/17/93     | 250                   | <0.5          | <0.5          | 7.8                | 3.3           |
|                  | 06/17/93     | 90                    | 0.92          | <0.5          | 2.7                | 2.4           |
| MW-18            | 10/04/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 03/18/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 06/15/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 09/15/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 12/21/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 03/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-19            | 10/04/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 03/18/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 06/15/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 09/15/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 12/21/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 03/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-20            | 10/04/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 03/18/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 06/15/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 09/15/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 12/21/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 03/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-21            | 10/04/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 03/18/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 06/15/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 09/15/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 12/22/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 03/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-22            | 10/04/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 03/17/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |

Table 1 (continued)  
**Groundwater Analytical Data**  
 Total Petroleum Hydrocarbons  
 (TPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Well Number      | Date Sampled | TPH as Gasoline (ppb) | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |
|------------------|--------------|-----------------------|---------------|---------------|--------------------|---------------|
| MW-22<br>(cont.) | 06/15/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 09/15/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 12/22/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 03/17/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-23            | 10/04/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 12/19/91     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 03/17/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 06/15/92     | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
|                  | 09/15/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 12/22/92     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 03/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/16/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-24            | 03/29/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/15/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-25            | 03/29/93     | <50                   | 0.69          | <0.5          | <0.5               | <0.5          |
|                  | 06/15/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| MW-26            | 03/29/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
|                  | 06/15/93     | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |

ppb = Parts per billion  
 NA = Not available  
 \* = Ethylbenzene and xylenes given as a combined value.  
 \*\* = Well contained slight product sheen.  
 \*\*\* = Non-typical gasoline chromatograph pattern.  
 < = Denotes minimum laboratory detection limits. See attached certified analytical reports.  
 MW-1 and MW-2 destroyed prior to March 7, 1989 sampling event.  
 MW-3, MW-4, and MW-6 (E-1) destroyed June 18, 1990.

Table 2  
Groundwater Elevation Data

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Well Number | Date Gauged | Well Elevation (feet, MSL) | Depth to Liquid (feet, TOB) | Separate-Phase Hydrocarbon Thickness (feet) | Liquid Surface Elevation (feet, MSL) |
|-------------|-------------|----------------------------|-----------------------------|---|--------------------------------------|
| MW-1        | 01/11/88    | NA                         | NA                          | --  | NA                                   |
|             | 06/14/88    | ----- Well Destroyed ----- |                             |   |                                      |
| MW-2        | 07/05/85    | NA                         | NA                          | --  | NA                                   |
|             | 01/11/88    | NA                         | NA                          | --  | NA                                   |
|             | 06/14/88    | ----- Well Destroyed ----- |                             |   |                                      |
| MW-3        | 01/11/88    | 33.27                      | NA                          | --  | NA                                   |
|             | 03/07/89    |                            | 11.96                       | --  | 21.31                                |
|             | 06/21/89    |                            | 12.85                       | --  | 20.42                                |
|             | 12/12/89    |                            | 13.46                       | --  | 19.81                                |
|             | 03/29/90    |                            | 13.21                       | --  | 20.06                                |
|             | 05/08/90    |                            | 13.23                       | --  | 20.04                                |
|             | 06/22/90    |                            | NA                          | --  | NA                                   |
|             | 07/18/90    | ----- Well Destroyed ----- |                             |   |                                      |
| MW-4        | 01/11/88    | 32.43                      | NA                          | --  | NA                                   |
|             | 09/12/88    |                            | NA                          | --  | NA                                   |
|             | 03/07/89    |                            | 10.76                       | --  | 21.67                                |
|             | 06/21/89    |                            | 11.96                       | --  | 20.47                                |
|             | 12/12/89    |                            | NA                          | --  | NA                                   |
|             | 03/29/90    |                            | 11.72                       | 0.01  | 20.71                                |
|             | 05/08/90    |                            | 12.19                       | --  | 20.24                                |
|             | 06/22/90    |                            | NA                          | --  | NA                                   |
|             | 07/18/90    | ----- Well Destroyed ----- |                             |   |                                      |
| MW-5        | 01/16/92    | 33.99                      | Dry                         | --  | NA                                   |
|             | 02/19/92    |                            | 13.5                        | --  | 20.49                                |
|             | 03/17/92    |                            | 11.90                       | --  | 22.09                                |
|             | 04/15/92    |                            | 12.18                       | --  | 21.81                                |
|             | 05/14/92    |                            | 12.78                       | --  | 21.21                                |
|             | 06/15/92    | ----- Well Dry -----       |                             |   |                                      |
|             | 07/14/92    | ----- Well Dry -----       |                             |   |                                      |
|             | 08/18/92    | ----- Well Dry -----       |                             |   |                                      |
|             | 09/15/92    | ----- Well Dry -----       |                             |   |                                      |
|             | 10/16/92    | ----- Well Dry -----       |                             |   |                                      |
|             | 11/18/92    | ----- Well Dry -----       |                             |   |                                      |
|             | 12/17/92    |                            | 12.74                       | --  | 21.25                                |
|             | 01/19/93    |                            | 10.92                       | --  | 23.07                                |

Table 2 (continued)  
Groundwater Elevation Data

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Well Number     | Date Gauged | Well Elevation (feet, MSL) | Depth to Liquid (feet, TOB) | Separate-Phase Hydrocarbon Thickness (feet) | Liquid Surface Elevation (feet, MSL) |
|-----------------|-------------|----------------------------|-----------------------------|---|--------------------------------------|
| MW-5<br>(cont.) | 02/22/93    |                            | 11.10                       | --  | 22.89                                |
|                 | 03/15/93    |                            | 11.13                       | --  | 22.86                                |
|                 | 04/09/93    |                            | 11.46                       | --  | 22.53                                |
|                 | 05/13/93    |                            | 12.19                       | --  | 21.80                                |
|                 | 06/04/93    |                            | 12.51                       | --  | 21.48                                |
|                 | 06/15/93    |                            | 12.59                       | --  | 21.40                                |
| MW-6<br>(E-1)   | 06/21/89    | 32.95                      | 12.48                       | --  | 20.47                                |
|                 | 12/12/89    |                            | 13.16                       | --  | 13.16                                |
|                 | 03/29/90    |                            | 12.39                       | --  | 12.39                                |
|                 | 05/08/90    |                            | 12.93                       | --  | 12.93                                |
|                 | 06/22/90    |                            | 12.94                       | --  | 12.94                                |
|                 | 07/18/90    |                            | ----- Well Destroyed -----  |   |                                      |
| MW-7            | 01/16/92    | 34.40                      | 13.33                       | --  | 21.83                                |
|                 | 02/19/92    |                            | 12.16                       | --  | NA                                   |
|                 | 03/17/92    |                            | 11.86                       | --  | 22.54                                |
|                 | 04/15/92    |                            | 12.30                       | --  | 22.10                                |
|                 | 05/14/92    |                            | 13.04                       | --  | 21.36                                |
|                 | 06/15/92    |                            | 13.78                       | --  | 20.62                                |
|                 | 07/14/92    |                            | 14.20                       | --  | 20.20                                |
|                 | 08/18/92    |                            | 14.79                       | --  | 19.61                                |
|                 | 09/15/92    |                            | 15.12                       | --  | 19.28                                |
|                 | 10/16/92    |                            | 15.38                       | --  | 19.02                                |
|                 | 11/18/92    |                            | 15.10                       | --  | 19.30                                |
|                 | 12/17/92    |                            | 13.69                       | --  | 20.71                                |
|                 | 01/19/93    |                            | 10.92                       | --  | 23.48                                |
|                 | 02/22/93    |                            | 10.91                       | --  | 23.49                                |
|                 | 03/15/93    |                            | 11.13                       | --  | 23.03                                |
|                 | 04/09/93    |                            | 11.46                       | --  | 22.94                                |
| 05/13/93        |             | 12.22                      | --                          | 22.18                                       |                                      |
| 06/04/93        |             | 12.51                      | --                          | 21.89                                       |                                      |
| 06/15/93        |             | 12.66                      | --                          | 21.74                                       |                                      |
| MW-8            | 01/16/92    | 32.79                      | 13.40                       | --  | 19.39                                |
|                 | 02/19/92    |                            | 11.26                       | --  | 21.53                                |
|                 | 03/17/92    |                            | 10.90                       | --  | 21.89                                |
|                 | 04/15/92    |                            | 11.35                       | --  | 21.44                                |
|                 | 05/14/92    |                            | 12.06                       | --  | 20.73                                |

Table 2 (continued)  
Groundwater Elevation Data

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Well Number     | Date Gauged | Well Elevation (feet, MSL) | Depth to Liquid (feet, TOB) | Separate-Phase Hydrocarbon Thickness (feet) | Liquid Surface Elevation (feet, MSL) |
|-----------------|-------------|----------------------------|-----------------------------|---|--------------------------------------|
| MW-8<br>(cont.) | 06/15/92    |                            | 12.83                       | --  | 19.96                                |
|                 | 07/14/92    |                            | 12.75                       | --  | 20.04                                |
|                 | 08/18/92    |                            | 13.83                       | --  | 18.96                                |
|                 | 09/15/92    |                            | 14.17                       | --  | 18.62                                |
|                 | 10/16/92    |                            | 14.51                       | --  | 18.28                                |
|                 | 11/18/92    |                            | 14.15                       | --  | 18.64                                |
|                 | 12/17/92    |                            | 12.68                       | --  | 20.11                                |
|                 | 01/19/93    |                            | 9.79                        | --  | 23.00                                |
|                 | 02/22/93    |                            | 9.95                        | --  | 22.84                                |
|                 | 03/15/93    |                            | 10.31                       | --  | 22.48                                |
|                 | 04/09/93    |                            | 10.47                       | --  | 22.32                                |
|                 | 05/13/93    |                            | 11.18                       | --  | 21.61                                |
|                 | 06/04/93    |                            | 11.47                       | --  | 21.32                                |
|                 | 06/15/93    |                            | 11.62                       | --  | 21.17                                |
| MW-9            | 01/16/92    | 32.11                      | 12.45                       | --  | 19.66                                |
|                 | 02/19/92    |                            | 10.25                       | --  | 21.86                                |
|                 | 03/17/92    |                            | 10.01                       | --  | 22.10                                |
|                 | 04/15/92    |                            | 10.49                       | --  | 21.62                                |
|                 | 05/14/92    |                            | 11.19                       | --  | 20.92                                |
|                 | 06/15/92    |                            | 11.86                       | --  | 20.25                                |
|                 | 07/14/92    |                            | 12.28                       | --  | 19.83                                |
|                 | 08/18/92    |                            | 12.89                       | --  | 19.22                                |
|                 | 09/15/92    |                            | 13.28                       | --  | 18.83                                |
|                 | 10/16/92    |                            | 13.60                       | --  | 18.51                                |
|                 | 11/18/92    |                            | 13.24                       | --  | 18.87                                |
|                 | 12/17/92    |                            | 11.76                       | --  | 20.35                                |
|                 | 01/19/93    |                            | 8.99                        | --  | 23.12                                |
|                 | 02/22/93    |                            | 9.13                        | --  | 22.98                                |
|                 | 03/15/93    |                            | 9.48                        | --  | 22.63                                |
|                 | 04/09/93    |                            | 9.63                        | --  | 22.48                                |
|                 | 05/13/93    |                            | 10.35                       | --  | 21.76                                |
| 06/04/93        |             | 10.65                      | --                          | 21.46                                       |                                      |
| 06/15/93        |             | 10.81                      | --                          | 21.30                                       |                                      |
| MW-10           | 01/16/92    | 31.67                      | 12.55                       | --  | 19.12                                |
|                 | 02/19/92    |                            | 10.50                       | --  | 21.17                                |
|                 | 03/18/92    |                            | 10.12                       | --  | 21.55                                |
|                 | 04/15/92    |                            | 10.59                       | --  | 21.08                                |
|                 | 05/14/92    |                            | 11.30                       | --  | 20.37                                |

Table 2 (continued)  
Groundwater Elevation Data

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Well Number      | Date Gauged | Well Elevation (feet, MSL) | Depth to Liquid (feet, TOB) | Separate-Phase Hydrocarbon Thickness (feet) | Liquid Surface Elevation (feet, MSL) |
|------------------|-------------|----------------------------|-----------------------------|---|--------------------------------------|
| MW-10<br>(cont.) | 06/15/92    |                            | 11.93                       | --  | 19.74                                |
|                  | 07/14/92    |                            | 12.42                       | --  | 19.25                                |
|                  | 08/18/92    |                            | 13.03                       | --  | 18.64                                |
|                  | 09/15/92    |                            | 13.42                       | --  | 18.25                                |
|                  | 10/16/92    |                            | 13.74                       | --  | 17.93                                |
|                  | 11/18/92    |                            | 13.42                       | --  | 18.25                                |
|                  | 12/17/92    |                            | 11.94                       | --  | 19.73                                |
|                  | 01/19/93    |                            | 9.13                        | --  | 22.54                                |
|                  | 02/22/93    |                            | 9.22                        | --  | 22.45                                |
|                  | 03/15/93    |                            | 9.64                        | --  | 22.03                                |
|                  | 04/09/93    |                            | 9.75                        | --  | 21.92                                |
|                  | 05/13/93    |                            | 10.49                       | --  | 21.18                                |
|                  | 06/04/93    |                            | 10.78                       | --  | 20.89                                |
|                  | 06/15/93    |                            | 10.93                       | --  | 20.74                                |
|                  | MW-11       | 01/16/92                   | 32.54                       | 13.28                                       | --                                   |
| 02/19/92         |             |                            | 11.29                       | --  | 21.25                                |
| 03/17/92         |             |                            | 10.81                       | --  | 21.73                                |
| 04/15/92         |             |                            | 11.23                       | --  | 21.31                                |
| 05/14/92         |             |                            | 11.96                       | --  | 20.58                                |
| 06/15/92         |             |                            | 12.64                       | --  | 19.90                                |
| 07/14/92         |             |                            | 13.08                       | --  | 19.46                                |
| 08/18/92         |             |                            | 13.72                       | --  | 18.82                                |
| 09/15/92         |             |                            | 14.13                       | --  | 18.41                                |
| 10/16/92         |             |                            | 14.45                       | --  | 18.09                                |
| 11/18/92         |             |                            | 14.11                       | --  | 18.43                                |
| 12/17/92         |             |                            | 12.69                       | --  | 19.85                                |
| 01/19/93         |             |                            | 9.91                        | --  | 22.63                                |
| 02/22/93         |             |                            | 9.95                        | --  | 22.59                                |
| 03/15/93         |             |                            | 10.30                       | --  | 22.24                                |
| 04/09/93         |             |                            | 10.42                       | --  | 22.12                                |
| 05/13/93         |             |                            | 11.16                       | --  | 21.38                                |
| 06/04/93         |             | 11.44                      | --                          | 21.10                                       |                                      |
| 06/15/93         |             | 11.59                      | --                          | 20.95                                       |                                      |
| E-1A<br>(MW-12)  | 01/16/92    | 33.06                      | 23.68                       | --  | 9.38                                 |
|                  | 02/19/92    |                            | 18.71                       | --  | 14.35                                |
|                  | 03/17/92    |                            | 23.10                       | --  | 9.96                                 |
|                  | 04/15/92    |                            | 20.54                       | --  | 12.52                                |
|                  | 05/14/92    |                            | 23.09                       | --  | 9.97                                 |

Table 2 (continued)  
Groundwater Elevation Data

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Well Number     | Date Gauged | Well Elevation (feet, MSL) | Depth to Liquid (feet, TOB) | Separate-Phase Hydrocarbon Thickness (feet) | Liquid Surface Elevation (feet, MSL) |
|-----------------|-------------|----------------------------|-----------------------------|---|--------------------------------------|
| E-1A<br>(MW-12) | 06/15/92    |                            | 23.72                       | --  | 9.34                                 |
|                 | 07/14/92    |                            | 13.25                       | --  | 19.81                                |
|                 | 08/18/92    |                            | 23.73                       | --  | 9.33                                 |
|                 | 09/15/92    |                            | 23.62                       | --  | 9.44                                 |
|                 | 10/16/92    |                            | 23.78                       | --  | 9.28                                 |
|                 | 11/18/92    |                            | 23.80                       | --  | 9.26                                 |
|                 | 12/17/92    |                            | 22.65                       | --  | 10.41                                |
|                 | 01/19/93    |                            | 23.65                       | --  | 9.41                                 |
|                 | 02/22/93    |                            | 23.70                       | --  | 9.36                                 |
|                 | 03/15/93    |                            | 22.92                       | --  | 10.14                                |
|                 | 04/09/93    |                            | 22.50                       | --  | 10.56                                |
|                 | 05/13/93    |                            | 20.40                       | --  | 12.66                                |
|                 | 06/04/93    |                            | 18.74                       | --  | 14.32                                |
|                 | 06/15/93    |                            | 20.00                       | --  | 13.06                                |
|                 | MW-13       | 01/16/92                   | 35.42                       | 15.70                                       | --                                   |
| 02/19/92        |             |                            | 13.60                       | --  | 21.82                                |
| 03/17/92        |             |                            | 13.20                       | --  | 22.22                                |
| 04/15/92        |             |                            | 13.64                       | --  | 21.78                                |
| 05/14/92        |             |                            | 14.34                       | --  | 21.08                                |
| 06/15/92        |             |                            | 15.13                       | --  | 20.29                                |
| 07/14/92        |             |                            | 15.45                       | --  | 19.97                                |
| 08/18/92        |             |                            | 16.15                       | --  | 19.27                                |
| 09/15/92        |             |                            | 16.51                       | --  | 18.91                                |
| 10/16/92        |             |                            | 16.81                       | --  | 18.61                                |
| 11/18/92        |             |                            | 16.50                       | --  | 18.92                                |
| 12/17/92        |             |                            | 15.07                       | --  | 20.35                                |
| 01/19/93        |             |                            | 12.40                       | --  | 23.02                                |
| 02/22/93        |             |                            | 12.35                       | --  | 23.07                                |
| 03/15/93        |             |                            | 12.69                       | --  | 22.73                                |
| 04/09/93        |             |                            | 12.85                       | --  | 22.57                                |
| 05/13/93        |             |                            | 13.55                       | --  | 21.87                                |
| 06/04/93        |             | 13.83                      | --                          | 21.59                                       |                                      |
| 06/15/93        |             | 13.97                      | --                          | 21.45                                       |                                      |
| MW-14           | 01/16/92    | 30.46                      | 11.34                       | --  | 19.12                                |
|                 | 02/19/92    |                            | 9.32                        | --  | 21.14                                |
|                 | 03/17/92    |                            | 9.04                        | --  | 21.42                                |
|                 | 06/15/92    |                            | 10.83                       | --  | 19.63                                |
|                 | 09/15/92    |                            | 12.27                       | --  | 18.19                                |
|                 | 12/17/92    |                            | 10.69                       | --  | 19.77                                |
|                 | 03/15/93    |                            | 8.70                        | --  | 21.76                                |
|                 | 06/15/93    |                            | 9.90                        | --  | 20.56                                |



Table 2 (continued)  
Groundwater Elevation Data

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Well Number | Date Gauged | Well Elevation (feet, MSL) | Depth to Liquid (feet, TOB) | Separate-Phase Hydrocarbon Thickness (feet) | Liquid Surface Elevation (feet, MSL) |
|-------------|-------------|----------------------------|-----------------------------|---|--------------------------------------|
| MW-15       | 01/16/92    | 31.41                      | 12.80                       | --  | 18.61                                |
|             | 02/19/92    |                            | 10.85                       | --  | 20.56                                |
|             | 03/18/92    |                            | 10.41                       | --  | 21.00                                |
|             | 06/15/92    |                            | 12.19                       | --  | 19.22                                |
|             | 09/15/92    |                            | 13.69                       | --  | 17.72                                |
|             | 12/17/92    |                            | 12.26                       | --  | 19.15                                |
|             | 03/15/93    |                            | 10.05                       | --  | 21.36                                |
|             | 06/15/93    |                            | 11.32                       | --  | 20.09                                |
| MW-16       | 01/16/92    | 31.39                      | 13.09                       | --  | 18.30                                |
|             | 02/19/92    |                            | 10.99                       | --  | 20.40                                |
|             | 03/18/92    |                            | 10.85                       | --  | 20.54                                |
|             | 06/15/92    |                            | 12.64                       | --  | 18.75                                |
|             | 09/15/92    |                            | 14.07                       | --  | 17.32                                |
|             | 12/17/92    |                            | 12.56                       | --  | 18.83                                |
|             | 03/15/93    |                            | 10.60                       | --  | 20.79                                |
|             | 06/15/93    |                            | 11.86                       | --  | 19.53                                |
| MW-17       | 01/16/92    | 32.43                      | 13.92                       | --  | 18.51                                |
|             | 02/19/92    |                            | 11.65                       | --  | 20.78                                |
|             | 03/18/92    |                            | 11.71                       | --  | 20.72                                |
|             | 06/15/92    |                            | 13.50                       | --  | 18.93                                |
|             | 09/15/92    |                            | 14.95                       | --  | 17.48                                |
|             | 12/17/92    |                            | 13.34                       | --  | 19.09                                |
|             | 03/15/93    |                            | 11.47                       | --  | 20.96                                |
|             | 06/15/93    |                            | 12.69                       | --  | 19.74                                |
| MW-18       | 03/18/92    | 29.70                      | 9.73                        | --  | 19.97                                |
|             | 06/15/92    |                            | 11.50                       | --  | 18.20                                |
|             | 09/15/92    |                            | 12.90                       | --  | 16.80                                |
|             | 12/17/92    |                            | 11.21                       | --  | 18.49                                |
|             | 03/15/93    |                            | 9.62                        | --  | 20.08                                |
|             | 06/15/93    |                            | 10.85                       | --  | 18.85                                |
| MW-19       | 03/18/92    | 29.02                      | 9.22                        | --  | 19.80                                |
|             | 06/15/92    |                            | 10.94                       | --  | 18.08                                |
|             | 09/15/92    |                            | 12.38                       | --  | 16.64                                |
|             | 12/17/92    |                            | 10.51                       | --  | 18.51                                |
|             | 03/15/93    |                            | 9.23                        | --  | 19.79                                |
|             | 06/15/93    |                            | 10.28                       | --  | 18.74                                |

Table 2 (continued)  
Groundwater Elevation Data

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Well Number | Date Gauged | Well Elevation (feet, MSL) | Depth to Liquid (feet, TOB) | Separate-Phase Hydrocarbon Thickness (feet) | Liquid Surface Elevation (feet, MSL) |
|-------------|-------------|----------------------------|-----------------------------|---|--------------------------------------|
| MW-20       | 03/18/92    | 29.54                      | 9.49                        | --  | 20.05                                |
|             | 06/15/92    |                            | 11.11                       | --  | 18.43                                |
|             | 09/15/92    |                            | 12.50                       | --  | 17.04                                |
|             | 12/17/92    |                            | 10.74                       | --  | 18.80                                |
|             | 03/15/93    |                            | 9.44                        | --  | 20.10                                |
|             | 06/05/93    |                            | 10.45                       | --  | 19.09                                |
| MW-21       | 03/18/92    | 28.72                      | 9.55                        | --  | 19.17                                |
|             | 06/15/92    |                            | 11.30                       | --  | 17.42                                |
|             | 09/15/92    |                            | 12.78                       | --  | 15.94                                |
|             | 12/17/92    |                            | 10.80                       | --  | 17.92                                |
|             | 03/15/93    |                            | 9.59                        | --  | 19.13                                |
|             | 06/15/93    |                            | 10.77                       | --  | 17.95                                |
| MW-22       | 03/17/92    | 29.29                      | 10.05                       | --  | 19.24                                |
|             | 06/15/92    |                            | 11.84                       | --  | 17.45                                |
|             | 09/15/92    |                            | 13.27                       | --  | 16.02                                |
|             | 12/17/92    |                            | 11.58                       | --  | 17.71                                |
|             | 03/15/93    |                            | 10.03                       | --  | 19.26                                |
|             | 06/15/93    |                            | 11.22                       | --  | 18.07                                |
| MW-23       | 03/17/92    | 30.99                      | 11.20                       | --  | 19.79                                |
|             | 06/15/92    |                            | 12.94                       | --  | 18.05                                |
|             | 09/15/92    |                            | 14.40                       | --  | 16.59                                |
|             | 12/17/92    |                            | 13.01                       | --  | 17.98                                |
|             | 03/15/93    |                            | 11.01                       | --  | 19.98                                |
|             | 06/15/93    |                            | 12.26                       | --  | 18.73                                |
| MW-24       | 06/15/93    | 34.38                      | 13.39                       | --  | 20.99                                |
| MW-25       | 04/09/93    | 34.12                      | 11.18                       | --  | 22.94                                |
|             | 06/15/93    |                            | 12.35                       | --  | 21.77                                |
| MW-26       | 06/15/93    | 33.71                      | 12.66                       | --  | 21.05                                |

MSL = Mean sea level  
TOB = Top of box  
NA = Not available  
Well elevations are measured from set mark at top of vault box.  
For groundwater elevation data prior to January 1992, see previous groundwater monitoring reports.

**Table 3**  
**Estimated Total Dissolved TPH-g Removed**  
**by the Groundwater Extraction System**

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Influent Sample Date  | Hour Meter Reading (hours) | System Down Time (%) | Volume Reading (gallon) | Net Volume (gallon) | Influent TPH-g Concentration (ug/L) | Net Dissolved TPH-g Removed (pound) | Dissolved TPH-g Removed To Date (pound) | Dissolved TPH-g Removed To Date (gallon) | Primary Carbon Loading (%) |
|---|----------------------------|----------------------|-------------------------|---------------------|-------------------------------------|-------------------------------------|---|--|----------------------------|
| 09/25/91  | 0.0                        | NA                   | 0                       | 0                   | <50                                 | NA                                  | 0.0                                     | 0.0                                      | 0.0                        |
| 09/26/91  | NA                         | NA                   | 1,144                   | 1,144               | 38                                  | 0.0                                 | 0.0                                     | 0.0                                      | 0.0                        |
| 10/22/91  | 25.6                       | 95.9                 | 12,844                  | 11,700              | <50                                 | NA                                  | 0.0                                     | 0.0                                      | 0.0                        |
| 11/22/91  | 76.6                       | 93.1                 | 52,532                  | 39,688              | <50                                 | NA                                  | 0.0                                     | 0.0                                      | 0.0                        |
| 12/19/91  | 322.0                      | 62.1                 | 122,540                 | 70,008              | <50                                 | NA                                  | 0.0                                     | 0.0                                      | 0.0                        |
| 01/16/92  | 994.2                      | 0.0                  | 283,289                 | 160,749             | <50                                 | NA                                  | 0.0                                     | 0.0                                      | 0.0                        |
| 02/19/92  | 1,808.6                    | 0.2                  | 485,200                 | 201,911             | 370                                 | 0.3                                 | 0.3                                     | 0.1                                      | 0.4                        |
| 03/17/92  | 2,461.7                    | 0.0                  | 662,847                 | 177,647             | 160                                 | 0.4                                 | 0.7                                     | 0.1                                      | 0.9                        |
| 04/15/92  | 3,150.3                    | 1.1                  | 851,100                 | 188,253             | 200                                 | 0.3                                 | 1.0                                     | 0.2                                      | 1.2                        |
| 05/14/92  | 3,849.1                    | 0.0                  | 1,030,086               | 178,986             | 45                                  | 0.2                                 | 1.2                                     | 0.2                                      | 1.5                        |
| 06/19/92  | 4,712.1                    | 0.1                  | 1,229,960               | 199,874             | <50                                 | NA                                  | 1.2                                     | 0.2                                      | 1.5                        |
| 07/14/92  | 5,001.4                    | 51.8                 | 1,291,201               | 61,241              | 97                                  | 0.0                                 | 1.2                                     | 0.2                                      | 1.5                        |
| 08/18/92  | NA                         | NA                   | 1,410,018               | 118,817             | <50                                 | NA                                  | 1.2                                     | 0.2                                      | 1.5                        |
| 09/15/92  | 6,298.2                    | NA                   | 1,535,640               | 125,622             | <50                                 | NA                                  | 1.2                                     | 0.2                                      | 1.5                        |
| 10/16/92  | 7,011.7                    | 4.1                  | 1,651,623               | 115,983             | <50                                 | NA                                  | 1.2                                     | 0.2                                      | 1.5                        |
| 11/18/92  | 7,808.5                    | 0.0                  | 1,768,076               | 116,453             | <50                                 | NA                                  | 1.2                                     | 0.2                                      | 1.5                        |
| 12/17/92  | 8,501.7                    | 0.4                  | 1,864,300               | 96,224              | 96                                  | 0.0                                 | 1.2                                     | 0.2                                      | 1.5                        |
| 01/18/93  | 8,797.5                    | 61.5                 | 1,915,165               | 50,865              | 100                                 | 0.0                                 | 1.3                                     | 0.2                                      | 1.6                        |
| 02/22/93  | 9,606.6                    | 0.0                  | 2,096,930               | 181,765             | 480                                 | 0.4                                 | 1.7                                     | 0.3                                      | 2.1                        |
| 03/15/93  | 10,113.4                   | 0.0                  | 2,205,833               | 108,903             | 310                                 | 0.2                                 | 1.9                                     | 0.3                                      | 2.3                        |
| 04/09/93  | 10,516.8                   | 32.8                 | 2,298,770               | 92,937              | 140                                 | 0.2                                 | 2.1                                     | 0.4                                      | 2.6                        |
| 05/13/93  | 11,211.2                   | 14.9                 | 2,449,160               | 150,390             | 530                                 | 0.5                                 | 2.6                                     | 0.5                                      | 3.3                        |
| 06/04/93  | 11,733.7                   | 1.0                  | 2,543,500               | 94,340              | 170                                 | 0.1                                 | 2.8                                     | 0.5                                      | 3.5                        |
| AVERAGE PERCENT OF SYSTEM DOWN TIME SINCE START-UP:   |                            |                      |                         |                     |                                     |                                     |   |  | 20.5                       |
| TOTAL POUNDS OF TPH-g REMOVED:  |                            |                      |                         |                     |                                     |                                     |   |  | 2.8                        |
| TOTAL GALLONS OF TPH-g REMOVED:   |                            |                      |                         |                     |                                     |                                     |   |  | 0.5                        |
| ug/L = Micrograms per liter<br>TPH-g = Total petroleum hydrocarbons, calculated as gasoline<br>NA = Not available or not applicable<br>1. Net dissolved TPH-g removed data are approximate.<br>2. Density of Gasoline = 5.63 pounds per gallon.<br>3. Primary carbon loading is estimated using an isotherm of 8 percent by weight. |                            |                      |                         |                     |                                     |                                     |   |  |                            |
| Equations:<br>$\text{Net Dissolved TPH-g Removed (pound)} = \text{TPH-g concentration, [ug/L]} \times \text{net volume (gallon)} \times \text{density of gasoline [pound/gallon]}$ (Net dissolved TPH-g removed is calculated by averaging Influent concentrations)   |                            |                      |                         |                     |                                     |                                     |   |  |                            |

Table 4  
**Treatment System Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

| Date Sampled                             | TPH as Gasoline (ppb) | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |
|--|-----------------------|---------------|---------------|--------------------|---------------|
| <b>INFL (influent to primary carbon)</b> |                       |               |               |                    |               |
| 09/26/91                                 | 38                    | 4.8           | 0.6           | 1.6                | 1.1           |
| 10/22/91                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 11/22/91                                 | <30                   | 0.52          | <0.3          | <0.3               | <0.3          |
| 12/19/91                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 01/16/91                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 02/19/92                                 | 370                   | 14            | 0.34          | 14                 | 2.4           |
| 03/17/92                                 | 160                   | 18            | 0.32          | 0.56               | 1.6           |
| 04/15/92                                 | 200                   | 11            | <0.3          | 7.3                | 0.77          |
| 05/14/92                                 | 45                    | 1.4           | <0.3          | <0.3               | <0.3          |
| 06/19/92                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 07/14/92                                 | 97                    | 25            | <0.5          | 8.5                | <0.5          |
| 08/18/92                                 | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 09/15/92                                 | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 10/16/92                                 | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 11/18/92                                 | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 12/17/92                                 | 96                    | 7.7           | 13            | 0.56               | 9.7           |
| 01/18/93                                 | 100                   | 13            | 6.6           | 1.1                | 11            |
| 02/22/93                                 | 480                   | 36            | 29            | 4.9                | 96            |
| 03/15/93                                 | 310                   | 29            | 14            | 4.9                | 55            |
| 04/09/93                                 | 140                   | 11            | 2.8           | 2.6                | 17            |
| 05/13/93                                 | 530                   | 27            | 12            | 18                 | 96            |
| 06/04/93                                 | 170                   | 5.2           | 1.6           | 2.5                | 23            |
| <b>MID-1 (between carbons)</b>           |                       |               |               |                    |               |
| 09/26/91                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 10/22/91                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 12/19/91                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 01/16/91                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 02/19/92                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 03/17/92                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 04/15/92                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 05/14/92                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 06/19/92                                 | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 07/14/92                                 | NS                    | NS            | NS            | NS                 | NS            |
| 08/18/92                                 | NS                    | NS            | NS            | NS                 | NS            |
| 09/15/92                                 | NS                    | NS            | NS            | NS                 | NS            |
| 10/16/92                                 | NS                    | NS            | NS            | NS                 | NS            |
| 11/18/92                                 | NS                    | NS            | NS            | NS                 | NS            |
| 12/17/92                                 | NS                    | NS            | NS            | NS                 | NS            |
| 01/18/93                                 | NS                    | NS            | NS            | NS                 | NS            |

Table 4 (continued)  
**Treatment System Analytical Data**  
**Total Petroleum Hydrocarbons**  
 (TPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

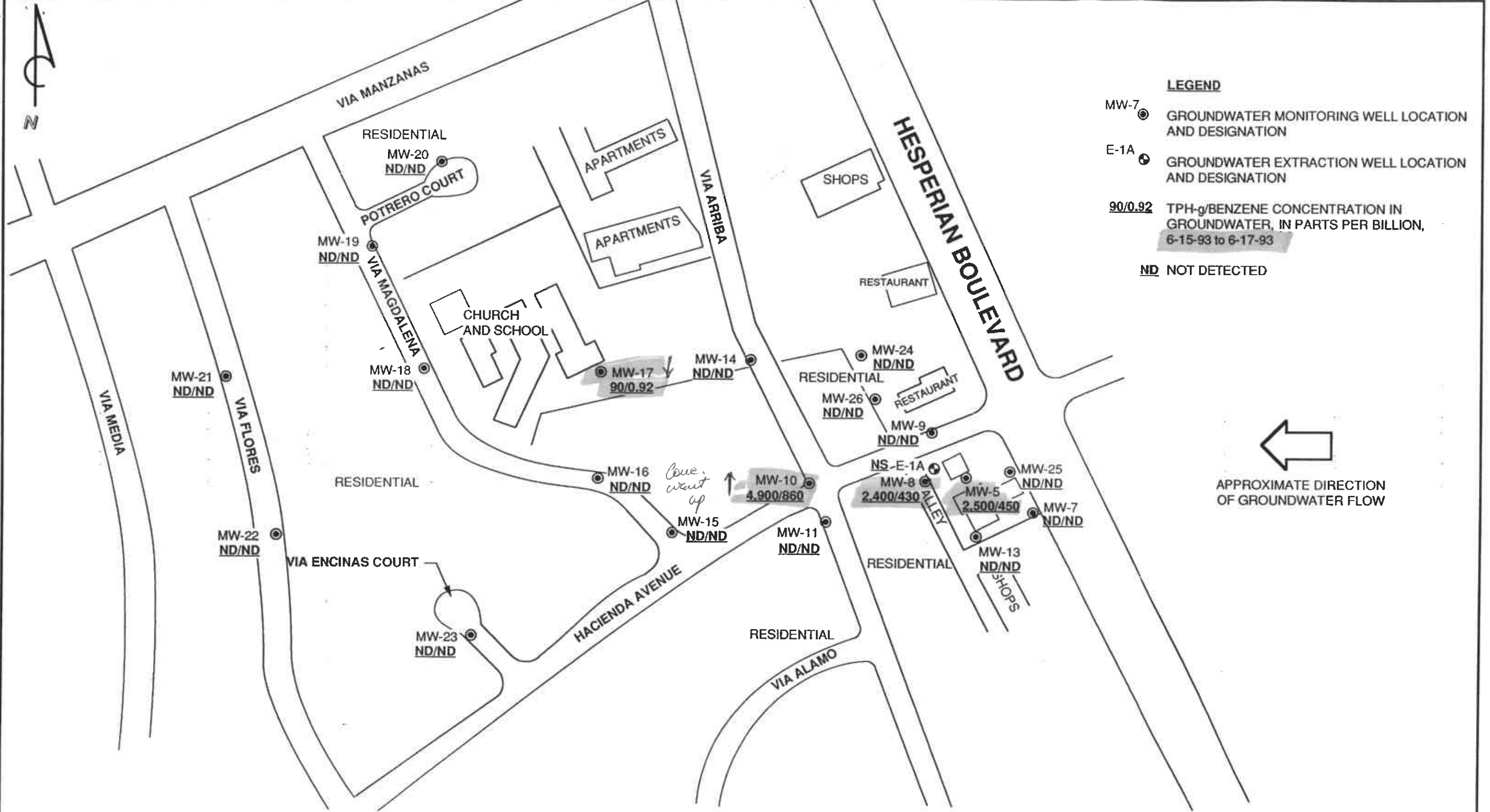
| Date Sampled   | TPH as Gasoline (ppb) | Benzene (ppb) | Toluene (ppb) | Ethylbenzene (ppb) | Xylenes (ppb) |
|--|-----------------------|---------------|---------------|--------------------|---------------|
| <b>MID-1 (between carbons) (continued)</b>   |                       |               |               |                    |               |
| 02/22/93   | NS                    | NS            | NS            | NS                 | NS            |
| 03/15/93   | NS                    | NS            | NS            | NS                 | NS            |
| 04/09/93   | NS                    | NS            | NS            | NS                 | NS            |
| 05/13/93   | NS                    | NS            | NS            | NS                 | NS            |
| 06/04/93   | NS                    | NS            | NS            | NS                 | NS            |
| <b>EFFL (effluent to sewer)</b>  |                       |               |               |                    |               |
| 09/26/91   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 10/22/91   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 11/22/91   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 12/19/91   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 01/16/91   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 02/19/92   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 03/17/92   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 04/15/92   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 05/14/92   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 06/19/92   | <30                   | <0.3          | <0.3          | <0.3               | <0.3          |
| 07/14/92   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 08/18/92   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 09/15/92   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 10/16/92   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 11/18/92   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 12/17/92   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 01/18/93   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 02/22/93   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 03/15/93   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 04/09/93   | <50                   | <0.5          | <0.5          | <0.5               | <0.5          |
| 05/13/93   | <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<br>< = Denotes minimum laboratory detection limit.<br>NS = Not sampled |                       |               |               |                    |               |

Table 5  
Treatment System Metered Volume

ARCO Service Station 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

| Meter Reading Date | Meter Reading (gallons) | Volume Since Previous Reading (gallons) | Volume Since Start-up (gallons) | Approximate Flow Rate (gpm) |
|--------------------|-------------------------|---|---------------------------------|-----------------------------|
| 09/25/91           | 0                       | 0                                       | 0                               | NA*                         |
| 09/26/91           | 1,144                   | 1,144                                   | 1,144                           | 0.8                         |
| 10/15/91           | 5,146                   | 4,002                                   | 5,146                           | 0.1                         |
| 10/22/91           | 12,844                  | 7,698                                   | 12,844                          | 0.9                         |
| 11/22/91           | 52,532                  | 39,688                                  | 52,532                          | 0.6                         |
| 12/11/91           | 78,842                  | 26,310                                  | 78,842                          | 1.0                         |
| 12/19/91           | 122,540                 | 43,698                                  | 122,540                         | 3.8                         |
| 01/16/92           | 283,289                 | 160,749                                 | 283,289                         | 4.0                         |
| 02/19/92           | 485,200                 | 201,911                                 | 485,200                         | 4.1                         |
| 03/17/92           | 662,847                 | 177,647                                 | 662,847                         | 4.7                         |
| 04/15/92           | 851,100                 | 188,253                                 | 851,100                         | 4.5                         |
| 05/14/92           | 1,030,086               | 178,986                                 | 1,030,086                       | 4.3                         |
| 06/19/92           | 1,229,960               | 199,874                                 | 1,229,960                       | 3.9                         |
| 07/14/92           | 1,291,201               | 61,241                                  | 1,291,201                       | 1.7                         |
| 08/18/92           | 1,410,018               | 118,817                                 | 1,410,018                       | 2.4                         |
| 09/15/92           | 1,535,640               | 125,622                                 | 1,535,640                       | 3.1                         |
| 10/16/92           | 1,651,623               | 115,983                                 | 1,651,623                       | 2.6                         |
| 11/18/92           | 1,768,076               | 116,453                                 | 1,768,076                       | 2.6                         |
| 12/17/92           | 1,864,300               | 96,224                                  | 1,864,300                       | 2.3                         |
| 01/19/93           | 1,915,165               | 50,865                                  | 1,915,165                       | 1.1                         |
| 02/22/93           | 2,096,930               | 181,765                                 | 2,096,930                       | 3.7                         |
| 03/15/93           | 2,205,833               | 108,903                                 | 2,205,833                       | 3.6                         |
| 04/09/93           | 2,298,770               | 92,937                                  | 2,298,770                       | 2.6                         |
| 05/13/93           | 2,449,160               | 150,390                                 | 2,449,160                       | 3.1                         |
| 06/04/93           | 2,543,500               | 94,340                                  | 2,543,500                       | 3.0                         |

gpm = Gallons per minute  
NA = Not available  
\* System start-up



**LEGEND**

- MW-7 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- E-1A ● GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION
- 90/0.92 TPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 6-15-93 to 6-17-93
- ND** NOT DETECTED

←  
APPROXIMATE DIRECTION OF GROUNDWATER FLOW



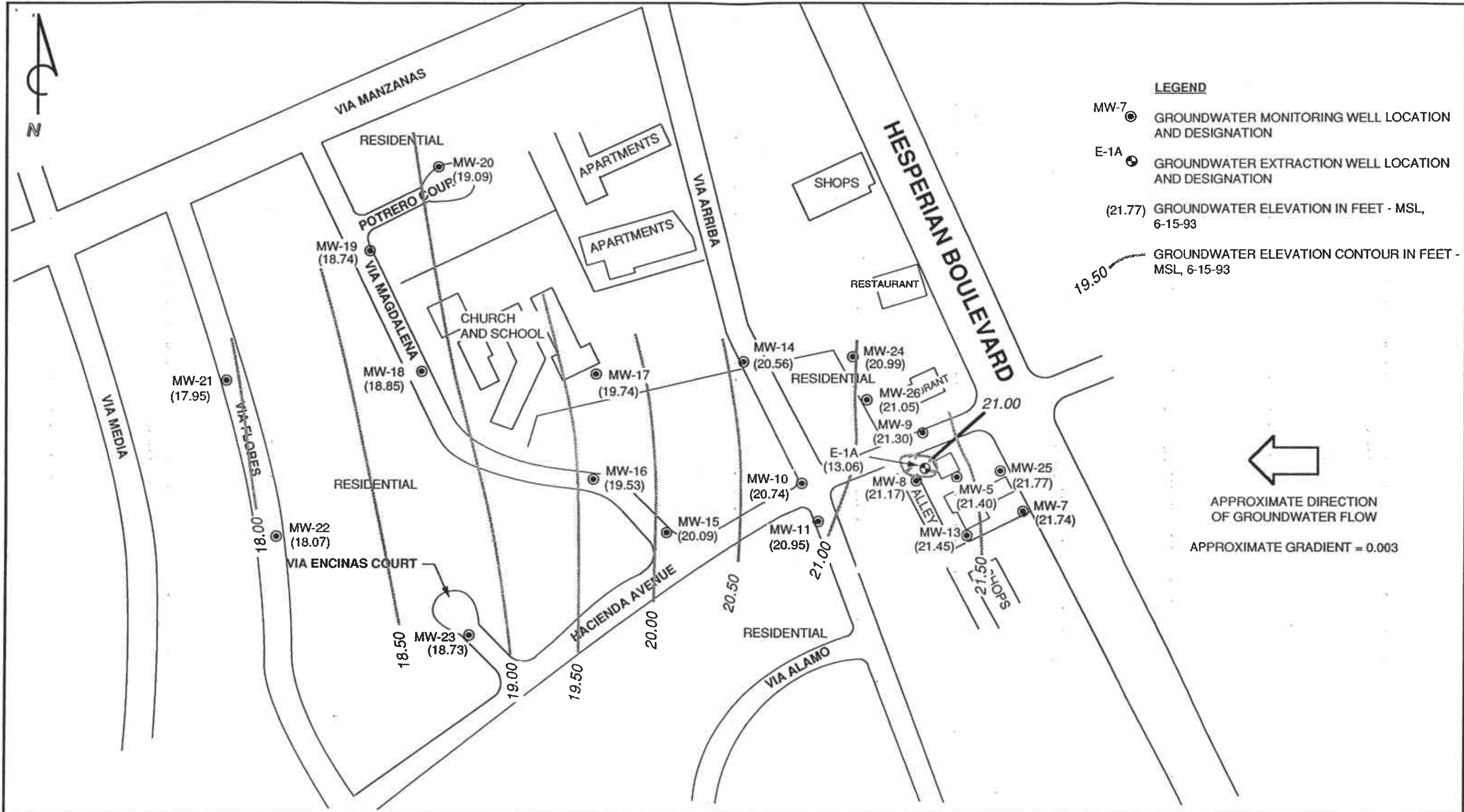
PACIFIC ENVIRONMENTAL GROUP, INC.



ARCO SERVICE STATION 0608  
17601 Hesperian Boulevard  
San Lorenzo, California

TPH-g/BENZENE CONCENTRATION MAP

FIGURE: 1  
PROJECT: 330-06.05



PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE



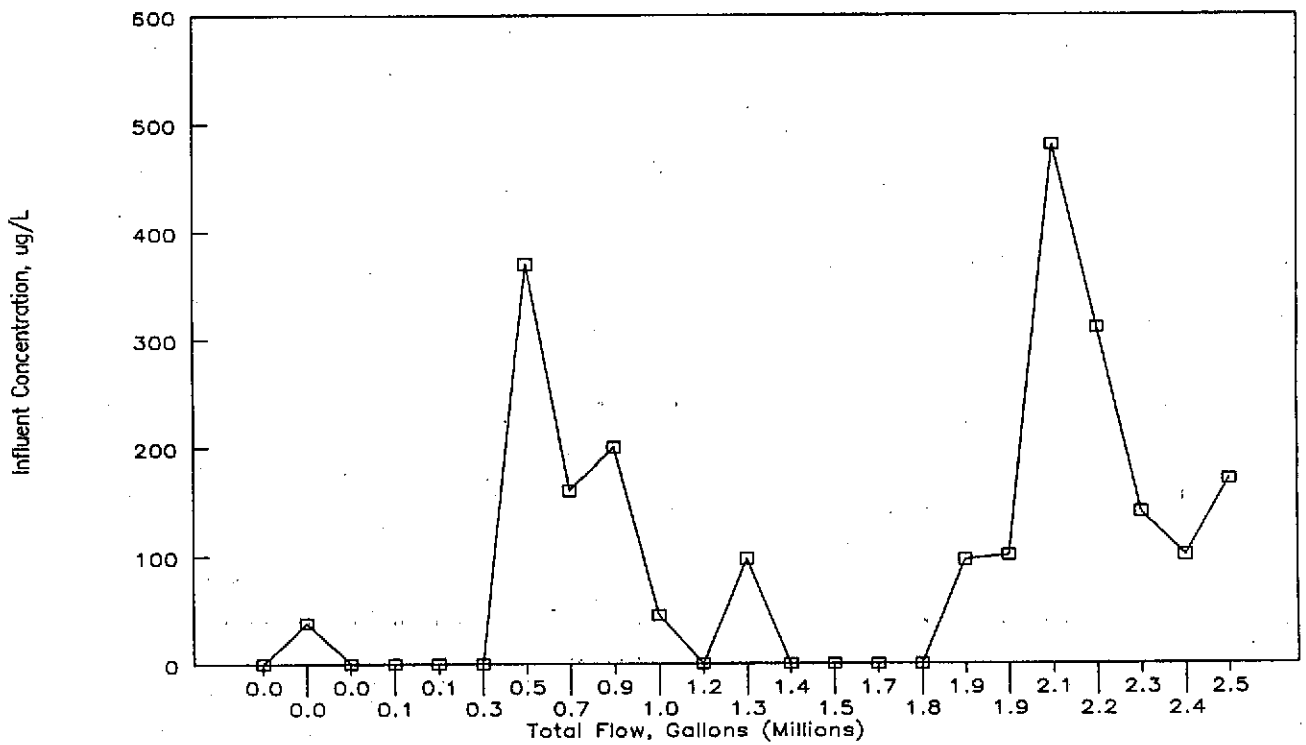
ARCO SERVICE STATION 0608  
 17601 Hesperian Boulevard at Hacienda Avenue  
 San Lorenzo, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE: 2

PROJECT: 330-06.05



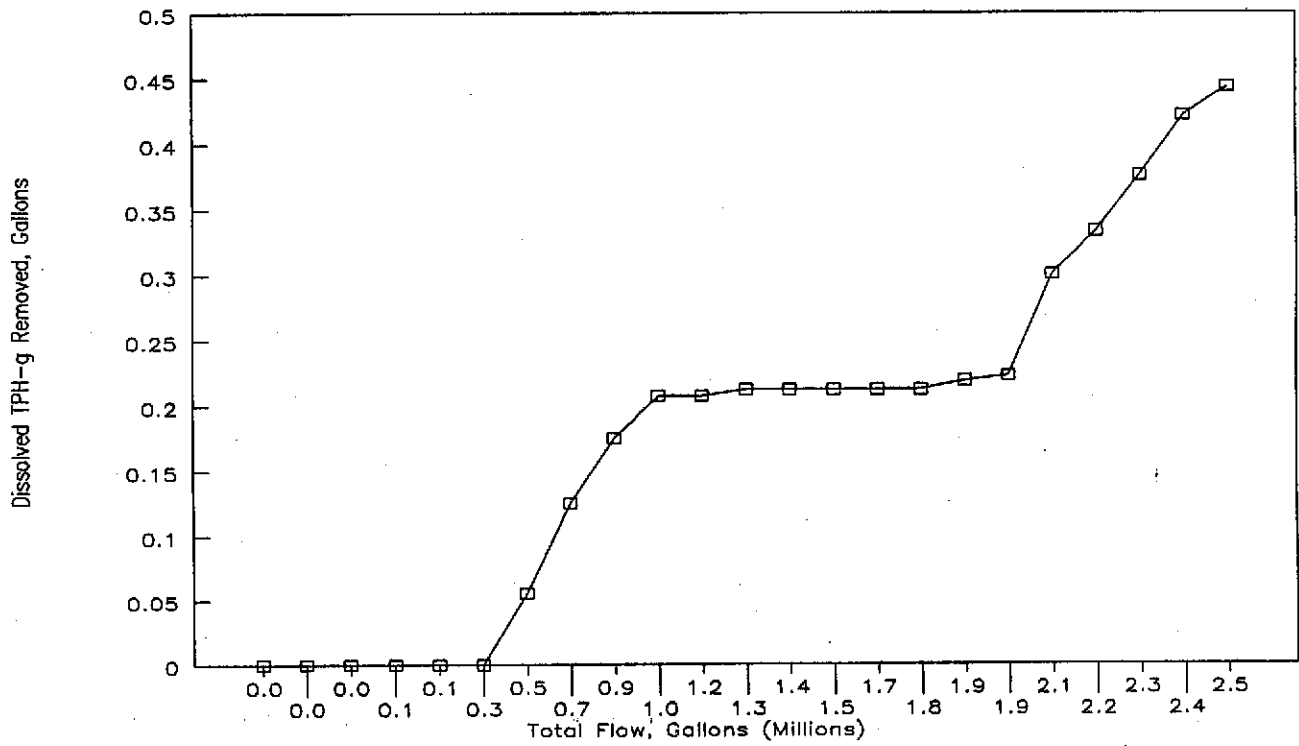


PACIFIC  
ENVIRONMENTAL  
GROUP INC.

ARCO SERVICE STATION 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

INFLUENT CONCENTRATION VERSUS TOTAL FLOW

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



PACIFIC  
ENVIRONMENTAL  
GROUP, INC.

ARCO SERVICE STATION 0608  
17601 Hesperian Boulevard at Hacienda Avenue  
San Lorenzo, California

DISSOLVED TPH-g VERSUS TOTAL FLOW

FIGURE:

4

PROJECT:

330-06.05

**ATTACHMENT A**  
**FIELD AND LABORATORY PROCEDURES**

## ATTACHMENT A

### FIELD AND LABORATORY PROCEDURES

---

#### **Sampling Procedures**

The sampling procedure for each well consists first of measuring the water level and checking for the presence of separate-phase hydrocarbons (SPH), using either an electronic indicator and a clear Teflon bailer or an oil-water interface probe. Wells not containing SPH are then purged of approximately four casing volumes (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. Equipment used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored in order to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover. Groundwater samples are collected using a Teflon bailer, placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to a California State-certified laboratory.

#### **Laboratory Procedures**

The groundwater samples were analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). The analyses were performed according to EPA Methods 8015 (modified), 8020, and 5030 utilizing a purge-and-trap extraction technique. Final detection was by gas chromatography using a flame-ionization detector and photo-ionization detector. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical report, chain-of-custody documentation, and field data sheets are presented as Attachment B.

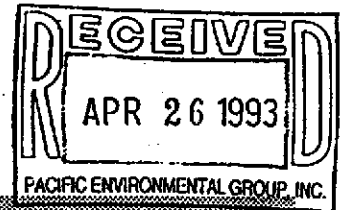
**ATTACHMENT B**

**CERTIFIED ANALYTICAL REPORTS,  
CHAIN-OF-CUSTODY DOCUMENTATION, AND  
FIELD DATA SHEETS**



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689



|   |   |   |
|---|---|---|
| Pacific Environmental Group<br>2025 Gateway Place, Ste. 440<br>San Jose, CA 95110<br>Attention: Kelly Brown | Client Project ID: #0608-91-5/Arco #0608<br>Sample Matrix: Water<br>Analysis Method: EPA 5030/8015/8020<br>First Sample #: 304-0387 | Sampled: Apr 9, 1993<br>Received: Apr 9, 1993<br>Reported: Apr 20, 1993 |
|---|---|---|

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte                | Reporting Limit<br>µg/L | Sample I.D.<br>304-0387<br>INFL | Sample I.D.<br>304-0388<br>EFFL |
|------------------------|-------------------------|---------------------------------|---------------------------------|
| Purgeable Hydrocarbons | 50                      | 140                             | N.D.                            |
| Benzene                | 0.5                     | 11                              | N.D.                            |
| Toluene                | 0.5                     | 2.8                             | N.D.                            |
| Ethyl Benzene          | 0.5                     | 2.6                             | N.D.                            |
| Total Xylenes          | 0.5                     | 17                              | N.D.                            |
| Chromatogram Pattern:  |                         | Gasoline                        | --                              |

### Quality Control Data

|   |         |         |
|---|---------|---------|
| Report Limit Multiplication Factor:             | 1.0     | 1.0     |
| Date Analyzed:                                  | 4/14/93 | 4/14/93 |
| Instrument Identification:                      | HP-4    | HP-4    |
| Surrogate Recovery, %:<br>(QC Limits = 70-130%) | 108     | 104     |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager



# SEQUOIA ANALYTICAL

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Pacific Environmental Group  
2025 Gateway Place, Ste. 440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: #0608-91-5/Arco #0608  
Sample Descript: Water  
Analysis for: Total Suspended Solids  
First Sample #: 304-0388

Sampled: Apr 9, 1993  
Received: Apr 9, 1993  
Analyzed: Apr 15, 1993  
Reported: Apr 23, 1993

## LABORATORY ANALYSIS FOR: Total Suspended Solids

| Sample Number | Sample Description | Detection Limit mg/L | Sample Result mg/L |
|---------------|--------------------|----------------------|--------------------|
| 304-0388      | EFFL               | 1.0                  | N.D.               |

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

  
Karen L. Enstrom  
Project Manager



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1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group  
2025 Gateway Place, Ste. 440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: #0608-91-5/Arco #0608  
Sample Descript: Water  
Analysis for: pH  
First Sample #: 304-0388

Sampled: Apr 9, 1993  
Received: Apr 9, 1993  
Analyzed: Apr 9, 1993  
Reported: Apr 23, 1993

## LABORATORY ANALYSIS FOR: pH

| Sample Number | Sample Description | Detection Limit | Sample Result |
|---------------|--------------------|-----------------|---------------|
| 304-0388      | EFFL               | N/A             | 7.0           |

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

  
Karen L. Enstrom  
Project Manager





# SEQUOIA ANALYTICAL

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(510) 686-9600 • FAX (510) 686-9689

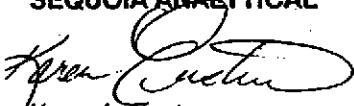
|   |  |   |
|---|--|---|
| Pacific Environmental Group<br>2025 Gateway Place, Ste. 440<br>San Jose, CA 95110<br>Attention: Kelly Brown | Client Project ID: #0608-91-5/Arco #0608<br>Sample Descript: Water<br>Analysis for: Chemical Oxygen Demand<br>First Sample #: 304-0388 | Sampled: Apr 9, 1993<br>Received: Apr 9, 1993<br>Analyzed: Apr 23, 1993<br>Reported: Apr 23, 1993 |
|---|--|---|

## LABORATORY ANALYSIS FOR: Chemical Oxygen Demand

| Sample Number | Sample Description | Detection Limit mg/L | Sample Result mg/L |
|---------------|--------------------|----------------------|--------------------|
| 304-0388      | EFFL               | 20                   | N.D.               |

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

  
Karen L. Enstrom  
Project Manager



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group  
2025 Gateway Place, Ste. 440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: #0608-91-5/Arco #0608  
Matrix: Water

QC Sample Group 3040387-388

Reported: Apr 20, 1993

## QUALITY CONTROL DATA REPORT

| ANALYTE                    | Chemical<br>Oxygen Demand | Toluene    | Ethyl-<br>Benzene | Xylenes    | Benzene    |
|----------------------------|---------------------------|------------|-------------------|------------|------------|
| <b>Method:</b>             | EPA 410.4                 | EPA 8020   | EPA 8020          | EPA 8020   | EPA 8020   |
| <b>Analyst:</b>            | S. Phillips               | J.F.       | J.F.              | J.F.       | J.F.       |
| <b>Conc. Spiked:</b>       | 250                       | 20         | 20                | 60         | 20         |
| <b>Units:</b>              | mg/L                      | µg/L       | µg/L              | µg/L       | µg/L       |
| <b>LCS Batch#:</b>         | BLK042393                 | 2LCS041493 | 2LCS041493        | 2LCS041493 | 2LCS041493 |
| <b>Date Prepared:</b>      | 4/23/93                   | 4/14/93    | 4/14/93           | 4/14/93    | 4/14/93    |
| <b>Date Analyzed:</b>      | 4/23/93                   | 4/14/93    | 4/14/93           | 4/14/93    | 4/14/93    |
| <b>Instrument I.D.#:</b>   | Spect 320                 | HP-4       | HP-4              | HP-4       | HP-4       |
| <b>LCS %<br/>Recovery:</b> | 103                       | 104        | 108               | 124        | 103        |
| <b>Control Limits:</b>     | 75-125%                   | 70-130%    | 70-130%           | 70-130%    | 70-130%    |

| MS/MSD  |           |         |         |         |         |
|---|-----------|---------|---------|---------|---------|
| <b>Batch #:</b>                                   | 3040388   | 3040388 | 3040388 | 3040388 | 3040388 |
| <b>Date Prepared:</b>                             | 4/23/93   | 4/14/93 | 4/14/93 | 4/14/93 | 4/14/93 |
| <b>Date Analyzed:</b>                             | 4/23/93   | 4/14/93 | 4/14/93 | 4/14/93 | 4/14/93 |
| <b>Instrument I.D.#:</b>                          | Spect 320 | HP-4    | HP-4    | HP-4    | HP-4    |
| <b>Matrix Spike<br/>% Recovery:</b>               | 104       | 105     | 110     | 123     | 105     |
| <b>Matrix Spike<br/>Duplicate %<br/>Recovery:</b> | 96        | 105     | 110     | 123     | 105     |
| <b>Relative %<br/>Difference:</b>                 | 8.0       | 0.0     | 0.0     | 0.0     | 0.0     |

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
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Pacific Environmental Group  
2025 Gateway Place, Ste. 440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: #0608-91-5/Arco #0608

QC Sample Group: 3040387-388

Reported: Apr 23, 1993

## QUALITY CONTROL DATA REPORT

| ANALYTE | Total Suspended |    |
|---------|-----------------|----|
|         | Solids          | pH |

|                  |              |             |
|------------------|--------------|-------------|
| Method:          | EPA 160.2    | EPA 150.1   |
| Analyst:         | M. Nguyen    | M. Nguyen   |
| Reporting Units: | mg/L         | N/A         |
| Date Analyzed:   | Apr 15, 1993 | Apr 9, 1993 |
| QC Sample #:     | 304-0470     | 304-0388    |

Sample Conc.: 21 7.0

Spike Conc. Added: N/A N/A

Conc. Matrix Spike: N/A N/A

Matrix Spike % Recovery: N/A N/A

Conc. Matrix Spike Dup.: 21 7.0

Matrix Spike Duplicate % Recovery: N/A N/A

Relative % Difference: 0.0 0.0

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager

|                        |  |
|------------------------|--|
| % Recovery:            | $\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$                            |
| Relative % Difference: | $\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$ |

ARCO Facility no. **0608** City (Facility) \_\_\_\_\_ Project manager (Consultant) **Kelly Brown**  
 ARCO engineer **Mike Whelan** Telephone no. (ARCO) \_\_\_\_\_ Telephone no. (Consultant) **408-441-7500** Fax no. (Consultant) **408-441-7539**  
 Consultant name **Pacific Env. Group** Address (Consultant) **2025 Gateway Plac. #440 San Jose 95110**

Laboratory name **Concord**  
**Sequoia**  
 Contract number \_\_\_\_\_

| Sample I.D. | Lab no. | Container no. | Matrix |       |       | Preservation |                               | Sampling date | Sampling time | BTEX<br>602/EPA 8020 | BTEX/TPH<br>EPA 1632/8020/8015 | TPH Modified 8015<br>Gas <input type="checkbox"/> Diesel <input type="checkbox"/> | Oil and Grease<br>413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/> | TPH<br>EPA 418.1/SM503E | EPA 601/8010 | EPA 624/8240 | EPA 625/8270 | TCLP<br>Metals <input type="checkbox"/> VOC <input type="checkbox"/> VOA <input type="checkbox"/> | CMM Metals<br>EPA 8210/7000<br>TTLC <input type="checkbox"/> STLIC <input type="checkbox"/> | Lead Org./DHS<br>Lead EPA<br>7420/7421 <input type="checkbox"/> | Chemical<br>Oxy Gen<br>Demand | PH | Total Suspended<br>Solids |  |  |
|-------------|---------|---------------|--------|-------|-------|--------------|-------------------------------|---------------|---------------|----------------------|--------------------------------|---|---|-------------------------|--------------|--------------|--------------|---|---|---|-------------------------------|----|---------------------------|--|--|
|             |         |               | Soil   | Water | Other | Ice          | Acid                          |               |               |                      |                                |   |   |                         |              |              |              |   |   |   |                               |    |                           |  |  |
| DNFL        |         | 3             |        | W     |       | Yes          | HCl                           | 4-4-93        | 9:15          |                      | X                              |   |   |                         |              |              |              |   |   |   |                               |    |                           |  |  |
| EFFL        |         | 3             |        | ↓     |       | ↓            | HCl                           |               | 9:00          |                      | X                              |   |   |                         |              |              |              |   |   |   |                               |    |                           |  |  |
| EFFL        |         | 2             |        | ↓     |       | ↓            | H <sub>2</sub> O <sub>2</sub> |               | 9:00          |                      |                                |   |   |                         |              |              |              |   |   |   |                               | X  |                           |  |  |
| EFFL        |         | 1             |        | ↓     |       | ↓            | N.P.                          |               | 9:00          |                      |                                |   |   |                         |              |              |              |   |   |   |                               |    | X                         |  |  |

Method of shipment \_\_\_\_\_

Special detection  
 Limit/reporting

Special QA/QC

Remarks  
 pH analysis  
 needs to be  
 run. 48hrs  
 from time  
 sample taken!

Lab number

Turnaround time  
 Priority Rush 1 Business Day   
 Rush 2 Business Days   
 Expedited 5 Business Days   
 Standard 10 Business Days

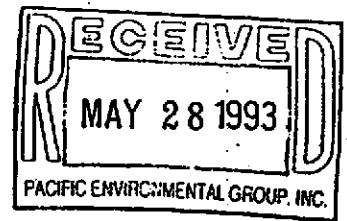
Condition of sample: \_\_\_\_\_ Temperature received: \_\_\_\_\_

|  |                       |                      |                                 |      |      |
|--|-----------------------|----------------------|---------------------------------|------|------|
| Relinquished by sampler<br><b>Scott Reid</b> | Date<br><b>4-9-93</b> | Time<br><b>12:55</b> | Received by<br><b>Clay Ingo</b> | Date | Time |
| Relinquished by                              | Date                  | Time                 | Received by                     | Date | Time |
| Relinquished by                              | Date                  | Time                 | Received by laboratory          | Date | Time |



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233



Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Kelly Brown

Project: 330-06.12/Arco 0608, San Lorenzo

Enclosed are the results from 2 water samples received at Sequoia Analytical on May 14, 1993. The requested analyses are listed below:

| SAMPLE # | SAMPLE DESCRIPTION | DATE OF COLLECTION | TEST METHOD        |
|----------|--------------------|--------------------|--------------------|
| 3E63501  | Water, Infl        | 5/13/93            | EPA 5030/8015/8020 |
| 3E63502  | Water, Effl        | 5/13/93            | EPA 5030/8015/8020 |

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

  
Eileen A. Manning  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: 330-06.12/Arco 0608, San Lorenzo  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 3E63501

Sampled: May 13, 1993  
Received: May 14, 1993  
Reported: May 27, 1993

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte                | Reporting Limit<br>µg/L | Sample I.D.<br>3E63501<br>Infl | Sample I.D.<br>3E63502<br>Effl |
|------------------------|-------------------------|--------------------------------|--------------------------------|
| Purgeable Hydrocarbons | 50                      | 530                            | N.D.                           |
| Benzene                | 0.50                    | 27                             | N.D.                           |
| Toluene                | 0.50                    | 12                             | N.D.                           |
| Ethyl Benzene          | 0.50                    | 18                             | N.D.                           |
| Total Xylenes          | 0.50                    | 96                             | N.D.                           |
| Chromatogram Pattern:  |                         | Gas                            | --                             |

### Quality Control Data

|   |         |         |
|---|---------|---------|
| Report Limit Multiplication Factor:             | 1.0     | 1.0     |
| Date Analyzed:                                  | 5/21/93 | 5/21/93 |
| Instrument Identification:                      | HP-4    | HP-4    |
| Surrogate Recovery, %:<br>(QC Limits = 70-130%) | 96      | 102     |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

  
Eileen A. Manning  
Project Manager

3E63501.PPP <1>



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: 330-06.12/Arco 0608, San Lorenzo  
Matrix: Water

QC Sample Group: 3E63501-02

Reported: May 27, 1993

## QUALITY CONTROL DATA REPORT

| ANALYTE                  | Benzene     | Toluene     | Ethyl-Benzene | Xylenes     |
|--------------------------|-------------|-------------|---------------|-------------|
| <b>Method:</b>           | EPA 8020    | EPA 8020    | EPA 8020      | EPA 8020    |
| <b>Analyst:</b>          | J. Fontecha | J. Fontecha | J. Fontecha   | J. Fontecha |
| <b>Conc. Spiked:</b>     | 20          | 20          | 20            | 60          |
| <b>Units:</b>            | µg/L        | µg/L        | µg/L          | µg/L        |
| <b>LCS Batch#:</b>       | LCS052193   | LCS052193   | LCS052193     | LCS052193   |
| <b>Date Prepared:</b>    | 5/21/93     | 5/21/93     | 5/21/93       | 5/21/93     |
| <b>Date Analyzed:</b>    | 5/21/93     | 5/21/93     | 5/21/93       | 5/21/93     |
| <b>Instrument I.D.#:</b> | HP-4        | HP-4        | HP-4          | HP-4        |
| <b>LCS % Recovery:</b>   | 92          | 94          | 98            | 106         |
| <b>Control Limits:</b>   | 70-130      | 70-130      | 70-130        | 70-130      |

|   |         |         |         |         |
|---|---------|---------|---------|---------|
| <b>MS/MSD Batch #:</b>                    | 3050923 | 3050923 | 3050923 | 3050923 |
| <b>Date Prepared:</b>                     | 5/21/93 | 5/21/93 | 5/21/93 | 5/21/93 |
| <b>Date Analyzed:</b>                     | 5/21/93 | 5/21/93 | 5/21/93 | 5/21/93 |
| <b>Instrument I.D.#:</b>                  | HP-4    | HP-4    | HP-4    | HP-4    |
| <b>Matrix Spike % Recovery:</b>           | 90      | 95      | 100     | 105     |
| <b>Matrix Spike Duplicate % Recovery:</b> | 95      | 95      | 100     | 108     |
| <b>Relative % Difference:</b>             | 5.4     | 0.0     | 0.0     | 2.8     |

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

  
Eileen A. Manning  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

3E63501.PPP <2>

Products Company  
Division of AtlanticRichfieldCompany

330-0612

Task Order No.

608-91-5

Chain of Custody

|                      |  |  |                         |
|----------------------|--|--|-------------------------|
| ility no. 0608       | City (Facility) San Lorenzo  | Project manager (Consultant) Kelly Brown | Laboratory name Sequoia |
| lineer Mike Whelan   | Telephone no. (ARCO)   | Telephone no. (Consultant) 408-441-7500  | Contract number         |
| name Env. Group Inc. | Address (Consultant) 2025 Gateway Place Ste 440 San Jose Ca. 95110 |  |                         |

| Lab no. | Container no. | Matrix |       |       | Preservation |      | Sampling date | Sampling time | BTEX EPA 8020 | BTEX/TPH EPA 1602/8020/8015 | TPH Modified 8015 Gas Diesel | Oil and Grease 413.1 413.2 | TPH EPA 418.1/5M/50E | EPA 601/8010 | EPA 624/8240 | EPA 625/8270 | TCMP Metals VOA VOA | CAN Metals EPA 601/7000 TLIC STLC | Lead Org./DHS Lead EPA 7420/7421 | Method of shipment |            |
|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|---------------|-----------------------------|------------------------------|----------------------------|----------------------|--------------|--------------|--------------|---------------------|-----------------------------------|----------------------------------|--------------------|------------|
|         |               | Soil   | Water | Other | Ice          | Acid |               |               |               |                             |                              |                            |                      |              |              |              |                     |                                   |                                  |                    |            |
|         | 3             |        | W     |       | Yes          | HCl  | 5-13-93       | 12:30         |               | X                           |                              |                            |                      |              |              |              |                     |                                   |                                  |                    | 9305635-01 |
|         | 3             |        | W     |       | Yes          | HCl  | 5-13-93       | 12:30         |               | X                           |                              |                            |                      |              |              |              |                     |                                   |                                  |                    | ↓ 02       |

|                                   |
|-----------------------------------|
| Special detection Limit/reporting |
| Special QA/QC                     |
| Remarks                           |
| Lab number                        |
| Turnaround time                   |

|                                 |  |
|---------------------------------|--|
| if sample:                      | Temperature received:                                    |
| Received by sample: [Signature] | Date 5-14-93 Time 10:35 Received by: [Signature]         |
| Received by: [Signature]        | Date 5-14-93 Time 11:15 Received by:                     |
| Received by:                    | Date 5/14 Time 11:15 Received by Laboratory: [Signature] |

|                              |                                     |
|------------------------------|-------------------------------------|
| Priority Rush 1 Business Day | <input type="checkbox"/>            |
| Rush 2 Business Days         | <input type="checkbox"/>            |
| Expedited 5 Business Days    | <input type="checkbox"/>            |
| Standard 10 Business Days    | <input checked="" type="checkbox"/> |

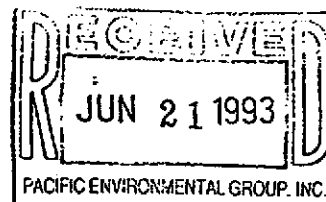
SENT BY: SEQUOIA-CONCORD : 5-24-93 : 15:12 : 5106869689- 1 415 364 9233: #11





# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689



|   |  |   |
|---|--|---|
| Pacific Environmental Group<br>2025 Gateway Place, Ste. 440<br>San Jose, CA 95110<br>Attention: Kelly Brown | Client Project ID: Arco #608-91-5, San Lorenzo/#330-06.12<br>Sample Matrix: Water<br>Analysis Method: EPA 5030/8015/8020<br>First Sample #: 306-0184 | Sampled: Jun 4, 1993<br>Received: Jun 4, 1993<br>Reported: Jun 16, 1993 |
|---|--|---|

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte                | Reporting Limit<br>µg/L | Sample I.D.<br>306-0184<br>INFL | Sample I.D.<br>306-0185<br>EFFL |
|------------------------|-------------------------|---------------------------------|---------------------------------|
| Purgeable Hydrocarbons | 50                      | 170                             | N.D.                            |
| Benzene                | 0.5                     | 5.2                             | N.D.                            |
| Toluene                | 0.5                     | 1.6                             | N.D.                            |
| Ethyl Benzene          | 0.5                     | 2.5                             | N.D.                            |
| Total Xylenes          | 0.5                     | 23                              | N.D.                            |
| Chromatogram Pattern:  |                         | Gasoline                        | --                              |

### Quality Control Data

|   |        |        |
|---|--------|--------|
| Report Limit Multiplication Factor:             | 1.0    | 1.0    |
| Date Analyzed:                                  | 6/8/93 | 6/9/93 |
| Instrument Identification:                      | HP-2   | HP-4   |
| Surrogate Recovery, %:<br>(QC Limits = 70-130%) | 102    | 97     |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager



# SEQUOIA ANALYTICAL

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(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group  
2025 Gateway Place, Ste. 440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: Arco #608-91-5, San Lorenzo/#330-06.12  
Matrix: Water

QC Sample Group 3060185-185

Reported: Jun 16, 1993

## QUALITY CONTROL DATA REPORT

| ANALYTE           | Benzene    | Toluene    | Ethyl-Benzene | Xylenes    |
|-------------------|------------|------------|---------------|------------|
|                   | Method:    | EPA 8020   | EPA 8020      | EPA 8020   |
| Analyst:          | J.F.       | J.F.       | J.F.          | J.F.       |
| Conc. Spiked:     | 20         | 20         | 20            | 60         |
| Units:            | µg/L       | µg/L       | µg/L          | µg/L       |
| LCS Batch#:       | 1LCS060893 | 1LCS060893 | 1LCS060893    | 1LCS060893 |
| Date Prepared:    | 6/8/93     | 6/8/93     | 6/8/93        | 6/8/93     |
| Date Analyzed:    | 6/8/93     | 6/8/93     | 6/8/93        | 6/8/93     |
| Instrument I.D.#: | HP-2       | HP-2       | HP-2          | HP-2       |
| LCS % Recovery:   | 98         | 95         | 97            | 99         |
| Control Limits:   | 70-130     | 70-130     | 70-130        | 70-130     |

| MS/MSD Batch #:                    | 3060068 | 3060068 | 3060068 | 3060068 |
|------------------------------------|---------|---------|---------|---------|
| Date Prepared:                     | 6/8/93  | 6/8/93  | 6/8/93  | 6/8/93  |
| Date Analyzed:                     | 6/8/93  | 6/8/93  | 6/8/93  | 6/8/93  |
| Instrument I.D.#:                  | HP-2    | HP-2    | HP-2    | HP-2    |
| Matrix Spike % Recovery:           | 100     | 95      | 100     | 102     |
| Matrix Spike Duplicate % Recovery: | 100     | 100     | 100     | 102     |
| Relative % Difference:             | 0.0     | 5.1     | 0.0     | 0.0     |

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

**ARCO Products Company**  
Division of AtlanticRichfield Company

330-06.12 Task Order No. 608-91-5

**Chain of Custody**

|  |                                    |  |  |
|--|------------------------------------|--|--|
| ARCO Facility no. <b>0608</b>                      | City (Facility) <b>San Lorenzo</b> | Project manager (Consultant) <b>Kelly Brown</b>                    |  |
| ARCO engineer <b>Mike Whelan</b>                   | Telephone no. (ARCO) _____         | Telephone no. (Consultant) <b>408-441-7500</b>                     | Fax no. (Consultant) <b>408-441-7539</b> |
| Consultant name <b>Pacific Environmental Group</b> |                                    | Address (Consultant) <b>2025 Gateway Place #440 San Jose 95110</b> |  |

Laboratory name **Serenoia**

Contract number \_\_\_\_\_

| Sample I.D. | Lab no. | Container no. | Matrix |       |       | Preservation |      | Sampling date | Sampling time | BTEX<br>602/EPA 8020 | BTEX/TPH<br>603<br>EPA 1632/820/8015 | TPH Modified 8015<br>Gas <input type="checkbox"/><br>Diesel <input type="checkbox"/> | Oil and Grease<br>413.1 <input type="checkbox"/><br>413.2 <input type="checkbox"/> | TPH<br>EPA 418.1/MS/SGE | EPA 801/8010 | EPA 824/8240 | EPA 825/8270 | TCMP<br>Metals <input type="checkbox"/><br>VOA <input type="checkbox"/><br>VOC <input type="checkbox"/> | Semi<br>Metals <input type="checkbox"/><br>VOA <input type="checkbox"/><br>VOC <input type="checkbox"/> | CAM Metals<br>EPA 801/7000<br>ITLC <input type="checkbox"/><br>STLC <input type="checkbox"/> | Lead Org OHS<br>Lead EPA<br>7420/7421 <input type="checkbox"/> |  |  |  |  |  |  |  |
|-------------|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|----------------------|--------------------------------------|--|--|-------------------------|--------------|--------------|--------------|---|---|--|--|--|--|--|--|--|--|--|
|             |         |               | Soil   | Water | Other | Ice          | Acid |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
| INFL        |         | 3             |        | W     |       | Yes          | HCl  | 6-4-93        | 8:35          |                      | X                                    |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
| EFFL        |         | 3             |        | W     |       | Yes          | HCl  | 6-4-93        | 8:30          |                      | X                                    |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                      |                                      |  |  |                         |              |              |              |   |   |  |  |  |  |  |  |  |  |  |

Method of shipment \_\_\_\_\_

Special detection Limit/reporting

3060 184AC  
↓ 185AC

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

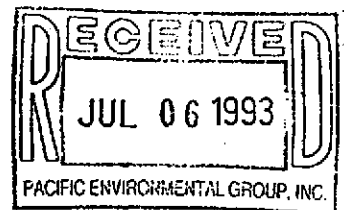
Standard 10 Business Days

|   |  |                    |                   |                        |                       |                     |  |  |  |
|---|--|--------------------|-------------------|------------------------|-----------------------|---------------------|--|--|--|
| Condition of sample:                    |  |                    |                   |                        | Temperature received: |                     |  |  |  |
| Relinquished by sampler <i>Pat Telp</i> |  | Date <b>6-4-93</b> | Time <b>11:20</b> | Received by            |                       |                     |  |  |  |
| Relinquished by                         |  | Date               | Time              | Received by            |                       |                     |  |  |  |
| Relinquished by                         |  | Date               | Time              | Received by laboratory | Date <b>6-4-93</b>    | Time <b>11:20am</b> |  |  |  |



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689



Pacific Environmental Group  
2025 Gateway Pl., #440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: Arco #608-92-5/330-06.15  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 306-0728

Sampled: 6/15 & 6/17/93  
Received: Jun 18, 1993  
Reported: Jun 30, 1993

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte                | Reporting Limit<br>µg/L | Sample I.D.<br>306-0728<br>TB - 1 | Sample I.D.<br>306-0729<br>MW - 5      | Sample I.D.<br>306-0730<br>MW - 7 | Sample I.D.<br>306-0731<br>MW - 8      | Sample I.D.<br>306-0732<br>MW - 9 | Sample I.D.<br>306-0733<br>MW - 10     |
|------------------------|-------------------------|-----------------------------------|--|-----------------------------------|--|-----------------------------------|--|
| Purgeable Hydrocarbons | 50                      | N.D.                              | 2,500                                  | N.D.                              | 2,400                                  | N.D.                              | 4,900                                  |
| Benzene                | 0.5                     | N.D.                              | 450                                    | N.D.                              | 430                                    | N.D.                              | 860                                    |
| Toluene                | 0.5                     | N.D.                              | 7.5                                    | N.D.                              | N.D.                                   | N.D.                              | N.D.                                   |
| Ethyl Benzene          | 0.5                     | N.D.                              | 55                                     | N.D.                              | 11                                     | N.D.                              | 540                                    |
| Total Xylenes          | 0.5                     | N.D.                              | N.D.                                   | N.D.                              | N.D.                                   | N.D.                              | 92                                     |
| Chromatogram Pattern:  |                         | --                                | Gasoline & Non Gasoline Mixture (>C10) | --                                | Gasoline & Non Gasoline Mixture (>C10) | --                                | Gasoline & Non Gasoline Mixture (>C10) |

### Quality Control Data

|   |         |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|---------|
| Report Limit Multiplication Factor:             | 1.0     | 10      | 1.0     | 10      | 1.0     | 20      |
| Date Analyzed:                                  | 6/21/93 | 6/23/93 | 6/21/93 | 6/23/93 | 6/21/93 | 6/23/93 |
| Instrument Identification:                      | HP-4    | HP-5    | HP-4    | HP-5    | HP-4    | HP-5    |
| Surrogate Recovery, %:<br>(QC Limits = 70-130%) | 94      | 95      | 101     | 98      | 103     | 97      |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group  
2025 Gateway Pl., #440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: Arco #608-92-5/330-06.15  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 306-0734

Sampled: 6/15 & 6/17/93  
Received: Jun 18, 1993  
Reported: Jun 30, 1993

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte                | Reporting Limit<br>µg/L | Sample I.D.<br>306-0734<br>MW - 11 | Sample I.D.<br>306-0735<br>MW - 13 | Sample I.D.<br>306-0736<br>MW - 14 | Sample I.D.<br>306-0737<br>MW - 15 | Sample I.D.<br>306-0738<br>MW - 16 | Sample I.D.<br>306-0739<br>MW - 17 |
|------------------------|-------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Purgeable Hydrocarbons | 50                      | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | 90                                 |
| Benzene                | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | 0.92                               |
| Toluene                | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               |
| Ethyl Benzene          | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | 2.7                                |
| Total Xylenes          | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | 2.4                                |
| Chromatogram Pattern:  |                         | --                                 | --                                 | --                                 | --                                 | --                                 | Gasoline                           |

### Quality Control Data

|   |         |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|---------|
| Report Limit Multiplication Factor:             | 1.0     | 1.0     | 1.0     | 1.0     | 1.0     | 1.0     |
| Date Analyzed:                                  | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 |
| Instrument Identification:                      | HP-4    | HP-4    | HP-4    | HP-4    | HP-4    | HP-4    |
| Surrogate Recovery, %:<br>(QC Limits = 70-130%) | 99      | 100     | 100     | 97      | 101     | 95      |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group  
2025 Gateway Pl., #440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: Arco #608-92-5/330-06.15  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 306-0740

Sampled: Jun 16, 1993  
Received: Jun 18, 1993  
Reported: Jun 30, 1993

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte                | Reporting Limit<br>µg/L | Sample I.D.<br>306-0740<br>MW - 18 | Sample I.D.<br>306-0741<br>MW - 19 | Sample I.D.<br>306-0742<br>MW - 20 | Sample I.D.<br>306-0743<br>MW - 21 | Sample I.D.<br>306-0744<br>MW - 22 | Sample I.D.<br>306-0745<br>MW - 23 |
|------------------------|-------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Purgeable Hydrocarbons | 50                      | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               |
| Benzene                | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               |
| Toluene                | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               |
| Ethyl Benzene          | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               |
| Total Xylenes          | 0.5                     | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               | N.D.                               |
| Chromatogram Pattern:  |                         | ---                                | --                                 | --                                 | --                                 | --                                 | --                                 |

### Quality Control Data

|   |         |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|---------|
| Report Limit Multiplication Factor:             | 1.0     | 1.0     | 1.0     | 1.0     | 1.0     | 1.0     |
| Date Analyzed:                                  | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 |
| Instrument Identification:                      | HP-4    | HP-2    | HP-2    | HP-2    | HP-2    | HP-2    |
| Surrogate Recovery, %:<br>(QC Limits = 70-130%) | 100     | 109     | 103     | 101     | 102     | 102     |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Karen L. Enstrom  
Project Manager



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group  
2025 Gateway Pl., #440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: Arco #608-92-5/330-06.15  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 306-0746

Sampled: Jun 15, 1993  
Received: Jun 18, 1993  
Reported: Jun 30, 1993

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte                | Reporting Limit<br>µg/L | Sample I.D.<br>306-0746<br>MW - 24 | Sample I.D.<br>306-0747<br>MW - 25 | Sample I.D.<br>306-0748<br>MW - 26 |
|------------------------|-------------------------|------------------------------------|------------------------------------|------------------------------------|
| Purgeable Hydrocarbons | 50                      | N.D.                               | N.D.                               | N.D.                               |
| Benzene                | 0.5                     | N.D.                               | N.D.                               | N.D.                               |
| Toluene                | 0.5                     | N.D.                               | N.D.                               | N.D.                               |
| Ethyl Benzene          | 0.5                     | N.D.                               | N.D.                               | N.D.                               |
| Total Xylenes          | 0.5                     | N.D.                               | N.D.                               | N.D.                               |
| Chromatogram Pattern:  |                         | --                                 | --                                 | --                                 |

### Quality Control Data

|   |         |         |         |
|---|---------|---------|---------|
| Report Limit Multiplication Factor:             | 1.0     | 1.0     | 1.0     |
| Date Analyzed:                                  | 6/23/93 | 6/21/93 | 6/21/93 |
| Instrument Identification:                      | HP-5    | HP-2    | HP-2    |
| Surrogate Recovery, %:<br>(QC Limits = 70-130%) | 101     | 96      | 96      |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

  
Karen L. Enstrom  
Project Manager



# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520  
(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group  
2025 Gateway Pl., #440  
San Jose, CA 95110  
Attention: Kelly Brown

Client Project ID: Arco #608-92-5/330-06.15  
Matrix: Water

QC Sample Group 3060728-748

Reported: Jun 30, 1993

## QUALITY CONTROL DATA REPORT

| ANALYTE            | Benzene    | Toluene    | Ethyl-<br>Benzene | Xylenes    |
|--------------------|------------|------------|-------------------|------------|
|                    | Method:    | EPA 8020   | EPA 8020          | EPA 8020   |
| Analyst:           | J.F.       | J.F.       | J.F.              | J.F.       |
| Conc. Spiked:      | 20         | 20         | 20                | 60         |
| Units:             | µg/L       | µg/L       | µg/L              | µg/L       |
| LCS Batch#:        | 2LCS062193 | 2LCS062193 | 2LCS062193        | 2LCS062193 |
| Date Prepared:     | 6/21/93    | 6/21/93    | 6/21/93           | 6/21/93    |
| Date Analyzed:     | 6/21/93    | 6/21/93    | 6/21/93           | 6/21/93    |
| Instrument I.D.#:  | HP-4       | HP-4       | HP-4              | HP-4       |
| LCS %<br>Recovery: | 90         | 93         | 95                | 98         |
| Control Limits:    | 70-130     | 70-130     | 70-130            | 70-130     |

| MS/MSD<br>Batch #:                       | 3060728 | 3060728 | 3060728 | 3060728 |
|--|---------|---------|---------|---------|
| Date Prepared:                           | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 |
| Date Analyzed:                           | 6/21/93 | 6/21/93 | 6/21/93 | 6/21/93 |
| Instrument I.D.#:                        | HP-4    | HP-4    | HP-4    | HP-4    |
| Matrix Spike<br>% Recovery:              | 90      | 90      | 90      | 93      |
| Matrix Spike<br>Duplicate %<br>Recovery: | 90      | 95      | 95      | 98      |
| Relative %<br>Difference:                | 0.0     | 5.4     | 5.4     | 5.3     |

SEQUOIA ANALYTICAL

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

Karen L. Enstrom  
Project Manager





**ARCO Products Company**  
Division of AtlanticRichfieldCompany

330-06.15 Task Order No. 608-92-5

**Chain of Custody**

|   |                                    |  |                                |
|---|------------------------------------|--|--------------------------------|
| ARCO Facility no. <b>0608</b>             | City (Facility) <b>San Lorenzo</b> | Project manager (Consultant) <b>Kelly Brown</b>                    | Laboratory name <b>Sequoia</b> |
| ARCO engineer <b>Mike Whelan</b>          | Telephone no. (ARCO) <b>---</b>    | Telephone no. (Consultant) <b>408-441-7500</b>                     | Contract number <b>---</b>     |
| Consultant name <b>Pacific Env. Group</b> |                                    | Address (Consultant) <b>2025 Graveney Pl. #240, San Jose 95110</b> |                                |
| Fax no. (Consultant) <b>408-441-7539</b>  |                                    | Method of shipment <b>---</b>                                      |                                |

| Sample I.D. | Lab no. | Container no. | Matrix |       |       | Preservation |      | Sampling date | Sampling time | BTEX<br>602/EPA 8020 | BTEX/TPH<br>6-45<br>EPA 1602/8020/8015 | TPH Modified 8015<br>Gas <input type="checkbox"/> Diesel <input type="checkbox"/> | Oil and Grease<br>413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/> | TPH<br>EPA 418.1/SM4503E | EPA 601/8010 | EPA 624/8240 | EPA 625/8270 | TCLP<br>Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/> | Semi<br>Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/> | CAM Metals EPA 601/7000<br>TLC <input type="checkbox"/> STLC <input type="checkbox"/> | Lead Org./DHS <input type="checkbox"/><br>Lead EPA <input type="checkbox"/><br>7420/7421 <input type="checkbox"/> | Special detection<br>Limit/reporting |             |
|-------------|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|----------------------|--|---|---|--------------------------|--------------|--------------|--------------|--|---|---|---|--------------------------------------|-------------|
|             |         |               | Soil   | Water | Other | Ice          | Acid |               |               |                      |  |   |   |                          |              |              |              |  |   |   |   |                                      |             |
| MW-22       |         | 3             |        | X     |       | X            | HCL  | 6-16-93       | 8:10          |                      | X                                      |   |   |                          |              |              |              |  |   |   |   |                                      | 2000 744 AC |
| MW-23       |         | 3             |        | X     |       |              |      | 6-16-93       | 7:40          |                      | X                                      |   |   |                          |              |              |              |  |   |   |   |                                      | 745         |
| MW-24       |         | 3             |        | X     |       |              |      | 6-15-93       | 12:10         |                      | X                                      |   |   |                          |              |              |              |  |   |   |   |                                      | 746         |
| MW-25       |         | 3             |        | X     |       |              |      | 6-15-93       | 10:00         |                      | X                                      |   |   |                          |              |              |              |  |   |   |   |                                      | 747         |
| MW-26       |         | 3             |        | X     |       |              |      | 6-15-93       | 12:45         |                      | X                                      |   |   |                          |              |              |              |  |   |   |   |                                      | 748         |

|  |                     |                       |                                |   |      |
|--|---------------------|-----------------------|--------------------------------|---|------|
| Condition of sample:                       |                     | Temperature received: |                                | Priority Rush 1 Business Day <input type="checkbox"/> |      |
| Relinquished by sampler <b>[Signature]</b> | Date <b>6-18-93</b> | Time <b>10:40</b>     | Received by <b>[Signature]</b> | Rush 2 Business Days <input type="checkbox"/>         |      |
| Relinquished by                            | Date                | Time                  | Received by                    | Expedited 5 Business Days <input type="checkbox"/>    |      |
| Relinquished by                            | Date                | Time                  | Received by laboratory         | Date  | Time |
|  |                     |                       |                                | Standard 10 Business Days <input type="checkbox"/>    |      |

SITE INFORMATION FORM

| Identification                             | Project Type  | Prefield Contacts/Permits                            |
|--|---|--|
| Project # <u>330-06, 12</u>                | <input type="checkbox"/> 1st Time visit   | <input type="checkbox"/> Cal Trans _____             |
| Location # <u>608</u>                      | <input type="checkbox"/> Quarterly  | <input type="checkbox"/> County _____                |
| Site Address: <u>17601 Hesperian Blvd.</u> | <input type="checkbox"/> 1st <input type="checkbox"/> 2nd <input type="checkbox"/> 3rd <input type="checkbox"/> 4th | <input type="checkbox"/> City _____                  |
| <u>San Lorenzo</u>                         | <input checked="" type="checkbox"/> Monthly   | <input type="checkbox"/> Private _____               |
| County: _____                              | <input type="checkbox"/> Semi-Monthly   | <input type="checkbox"/> Multi-Consultant Scheduling |
| Project Manager: <u>LG/DM</u>              | <input type="checkbox"/> Weekly   | Date(s): _____                                       |
| Requestor: <u>JM</u>                       | <input type="checkbox"/> One time event   |  |
| Client: <u>ARCO</u>                        | <input type="checkbox"/> Other: _____   | <b>Site Safety</b>                                   |
| Client P.O.C.: <u>Mike Whelan</u>          | Ideal field date(s):  | Concerns   |
| Date of request: <u>8/13/92</u>            | <u>15th ± 3 days</u>  | _____  |

**Field Tasks**

System Sampling    System Start-up    System Repair    System Modification    System Resample    System Shut-down

Tank Pull    Soil Sampling    Subcontractor Observation    SPH Bailing

Report required for: \_\_\_\_\_    Data summary required for: \_\_\_\_\_

① DTW in wells MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, E-1A  
 Change filter if necessary.

③ Sample system (monthly = M, quarterly = Q)

|          | INFL | EFFL |  |
|----------|------|------|--|
| Gas/BTEX | M    | M    | ① Note: Quarterly event to occur in January, April, July, October        |
| COD      |      | Q    |  |
| TSS      |      | Q    |  |
| pH       |      | Q    | ② MID samples will be taken when breakthrough is expected in the future. |

(Please attach Site Map, Process and Instrumentation Diagram, Site Safety Plan, Well logs, Other information as appropriate)

Budgeted hours: 6   Actual hours: On-Site: 3.5   Mob-de-Mob: 1 hr. Travel  
1/2 hr. to Lab.  
1/2 Demob.

Comments, remarks, etc. from Field Staff (Include problems encountered and out-of-scope work)

System was turned off the week of 3-29-93 to 4-2-93  
 However water was run through the system via Hydrotest equipment.

# ARCO Products Company

Division of AtlanticRichfield Company

330-06.12 Task Order No. 0608-91-5

## Chain of Custody

|   |  |   |                                  |
|---|--|---|----------------------------------|
| ARCO Facility no. <b>0608</b>             | City (Facility)  | Project manager (Consultant) <b>Kelly Brown</b> | Laboratory name <b>CONCORD</b>   |
| ARCO engineer <b>M E Whelan</b>           | Telephone no. (ARCO)   | Telephone no. (Consultant) <b>408-441-7500</b>  | Contract number <b>Seq 1019.</b> |
| Consultant name <b>Pacific Env. Group</b> | Address (Consultant) <b>2025 Gateway Plac. #440 San Jose 95110</b> |   |                                  |
| Fax no. (Consultant) <b>408-441-7539</b>  | Method of shipment   |   |                                  |

| Sample I.D. | Lab no. | Container no. | Matrix |       |       | Preservation |      | Sampling date | Sampling time | BTEX<br>607EPA 6020 | BTEX/TPH Gas<br>EPA 8020/8020/8015 | TPH Modified 8016<br>Gas <input type="checkbox"/> Diesel <input type="checkbox"/> | Oil and Grease<br>4131 <input type="checkbox"/> 4132 <input type="checkbox"/> | TPH<br>EPA 418.1/81500E | EPA 601/6010 | EPA 604/6040 | EPA 605/6070 | TCUP<br>Mercury <input type="checkbox"/> VOA <input type="checkbox"/> YOA <input type="checkbox"/> | GM High EPA 603/6030<br>ITLC <input type="checkbox"/> STLC <input type="checkbox"/> | Lead Org ZDHS<br>Lead EPA<br>7420/7421 <input type="checkbox"/> | Cadmium<br>Cadmium<br>7420/7421 <input type="checkbox"/> | PH<br>pH<br>pH<br>pH |   |  |
|-------------|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|---------------------|------------------------------------|---|---|-------------------------|--------------|--------------|--------------|--|---|---|--|----------------------|---|--|
|             |         |               | Soil   | Water | Other | Ice          | Acid |               |               |                     |                                    |   |   |                         |              |              |              |  |   |   |  |                      |   |  |
| INFL        |         | 3             |        | W     |       |              |      | 4/9/93        | 9:15          |                     | X                                  |   |   |                         |              |              |              |  |   |   |  |                      |   |  |
| EFEL        |         | 3             |        |       |       |              |      |               | 9:00          |                     | X                                  |   |   |                         |              |              |              |  |   |   |  |                      |   |  |
| EFEL        |         | 2             |        |       |       |              |      |               | 9:00          |                     |                                    |   |   |                         |              |              |              |  |   |   |  |                      | X |  |
| EFEL        |         | 1             |        |       |       |              |      |               | 9:30          |                     |                                    |   |   |                         |              |              |              |  |   |   |  |                      | X |  |

Special detection Limit reporting

Special QA/QC

Remarks  
pH analysis needs to be run. 48hrs from time sample taken!

Lab number

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

|   |                    |                   |                        |                       |      |             |      |
|---|--------------------|-------------------|------------------------|-----------------------|------|-------------|------|
| Condition of sample:                    |                    |                   |                        | Temperature received: |      |             |      |
| Relinquished by sampler <b>Not Rife</b> | Date <b>4-9-93</b> | Time <b>12:55</b> | Received by            | Date                  | Time | Received by | Date |
| Relinquished by                         | Date               | Time              | Received by            | Date                  | Time | Received by | Date |
| Relinquished by                         | Date               | Time              | Received by laboratory | Date                  | Time | Received by | Date |

**Groundwater Extraction System  
San Lorenzo ARCO 608  
17601 Hesperian Boulevard  
San Lorenzo, California  
330-06.12**

Revised: October 12, 1992

Name: Scott Pisle

Date/Time: 4-9-93 09:20

**Treatment System Readings**

|   |                            |                                |            |           |
|---|----------------------------|--------------------------------|------------|-----------|
| Effluent Totalizer (gallons)                | 02298770                   | Bag Filter INFL Pressure (psi) | 8.5 psi    |           |
| Effluent Flowrate (gpm)                     | 4.25 gpm                   | Carbon 1 INFL Pressure (psi)   | 6.5 psi    |           |
| E-1A Hourmeter (hours)                      | 10516.8                    | MID-1 Pressure Pressure (psi)  | 5.75       |           |
| Electric meter (kw-hrs)                     | 85918                      | MID-2 Pressure (psi)           | 1.5 psi    |           |
| Sewer Level Overflowing?                    | NO                         | EFFL Pressure (psi)            | 0          |           |
| E-1A DTW (TOB) (feet)                       | 2250                       | Spare Bag Filters On-site      | Yes        |           |
| Does Autodialer Call Office?                | Only when Manually tripped | Does Pressure Switch Work?     | Yes        |           |
| Sample groundwater at E-1A, MID-1, and EFFL |                            |                                |            |           |
| Temperature (F)                             | E-1A 65.6                  | MID-1 65.3                     | MID-2 64.9 | EFFL 64.0 |
| pH (units)                                  | E-1A 6.98                  | MID-1 6.98                     | MID-2 7.00 | EFFL 7.08 |

1. Check all fittings and piping for leaks. (Initials) SP
2. Check control panel for discrepancies. (Initials) SP
3. Take DTW/DTL from all on-site wells. (Initials) SP
4. Inspect the condition of the secondary containment (Initials) SP

Comments H<sub>2</sub>O level in E-1A was fluctuating rapidly.  
 \* Reduced Effluent flow rate to below 4 gal/min  
 \* Replaced emergency call placard  
 \* Picked up Barricade left from drilling  
 \* Swept secondary containment

Distribute a copy of this form to the project supervisor.

# FIELD REPORT

## DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 332-06.12 LOCATION: San Lorenzo DATE: 4-9-93  
 CLIENT/STATION NO.: Arco 0608 FIELD TECHNICIAN: SP DAY OF WEEK: Friday

PROBE TYPE/ID No.  
 Oil/Water IF \_\_\_\_\_  
 H<sub>2</sub>O level indicator \_\_\_\_\_  
 Other: \_\_\_\_\_

| D/W Order | Well ID | Time | Surface Seal | Lid Secure | Gasket | Lock | Expanding Cap | Total Depth (feet) | First Depth to Water (feet) TOB/TOC | Second Depth to Water (feet) TOB/TOC | SEPARATE-PHASE HYDROCARBONS (SPH) |                      |       |           |     |     |                               |  |  |  |
|-----------|---------|------|--------------|------------|--------|------|---------------|--------------------|-------------------------------------|--------------------------------------|-----------------------------------|----------------------|-------|-----------|-----|-----|-------------------------------|--|--|--|
|           |         |      |              |            |        |      |               |                    |                                     |                                      | SPH Depth (feet) TOB/TOC          | SPH Thickness (feet) | Fresh | Weathered | Gas | Oil | VISCOSITY<br>Lbs Medium Heavy |  | Liquid Removed (gallons)<br>SPH / H <sub>2</sub> O |  |
|           | E-1A    | 8:20 |              |            |        |      |               |                    | 22.50                               | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-5    | 8:42 |              |            |        |      |               |                    | 11.46                               | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-7    | 8:24 |              |            |        |      |               |                    | 11.46                               | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-8    | 8:39 |              |            |        |      |               |                    | 10.47                               | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-9    | 8:30 |              |            |        |      |               |                    | 9.63                                | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-10   | 8:35 |              |            |        |      |               |                    | 9.75                                | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-11   | 8:33 |              |            |        |      |               |                    | 10.42                               | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-13   | 8:26 |              |            |        |      |               |                    | 12.85                               | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |
|           | MW-25   | 8:44 |              |            |        |      |               |                    | 11.18                               | ✓                                    |                                   |                      |       |           |     |     |                               |  |  |  |

Comments: MW-25 is a new on sight site well. So, I took a measurement

SENT BY: PACIFIC ENVIRON. GRP. 04-09-93 01:25PM 5108250882- 4084417539 # 8

**SITE INFORMATION FORM**

Identification

Project # 330-06.12

on # 608

Site Address: 17601 Hesperian Blvd.

San Lorenzo

County: \_\_\_\_\_

Project Manager: LG/DM

Requestor: JM

Client: ARCO

Client P.O.C.: Mike Whelan

Date of request: 8/13/92

Project Type

- 1st Time visit
- Quarterly
  - 1st  2nd  3rd  4th
- Monthly
- Semi-Monthly
- Weekly
- One time event
- Other: \_\_\_\_\_

Ideal field date(s): 15th ± 3 days

Prefield Contacts/Permits

- Cal Trans \_\_\_\_\_
- County \_\_\_\_\_
- City \_\_\_\_\_
- Private \_\_\_\_\_
- Multi-Consultant Scheduling  
Date(s): \_\_\_\_\_

Site Safety

Concerns

Field Tasks

- System Sampling
- System Start-up
- System Repair
- System Modification
- System Resample
- System Shut-down
- Tank Pull
- Soil Sampling
- Subcontractor Observation
- SPH Bailing
- Report required for: \_\_\_\_\_
- Data summary required for: \_\_\_\_\_

① DTW in wells MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, E-1A  
Change filter if necessary.  
Sample system (monthly = M, quarterly = Q)

|          | INFL | EFFL |
|----------|------|------|
| Gas/BTEX | M    | M    |
| COD      |      | Q    |
| TSS      |      | Q    |
| pH       |      | Q    |

① Note: Quarterly event to occur in January, April, July, October  
② MID samples will be taken when breakthrough is expected in the future.

(Please attach Site Map, Process and Instrumentation Diagram, Site Safety Plan, Well logs, Other Information as appropriate)

Budgeted hours: 6

Actual hours; On-Site: 5 Mob-de-Mob: 1-2

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

3 Q hours of on-site will be charged to 330-06.18

Completed by: Scott Pisle Date: 5-13-93

Checked by: \_\_\_\_\_ PITS Update: \_\_\_\_\_

Groundwater Extraction System  
 San Lorenzo ARCO 608  
 17601 Hesperian Boulevard  
 San Lorenzo, California  
 330-06.12

3.07 gpm

Revised: October 12, 1992

Name: Scott Disle

Date/Time: 5-13-93 11-13:00

Treatment System Readings

|   |           |                                |            |           |
|---|-----------|--------------------------------|------------|-----------|
| Effluent Totalizer (gallons)                | 02449160  | Bag Filter INFL Pressure (psi) | 16-18 psi  |           |
| Effluent Flowrate (gpm)                     | 3.25 gpm  | Carbon 1 INFL Pressure (psi)   | 7.75 psi   |           |
| E-1A Hourmeter (hours)                      | 11211.2   | MID-1 Pressure (psi)           | 6 psi      |           |
| Electric meter (kw-hrs)                     | 06332     | MID-2 Pressure (psi)           | 1.75 psi   |           |
| Sewer Level Overflowing?                    | NO        | EFFL Pressure (psi)            | 0 psi      |           |
| E-1A DTW (TOB) (feet)                       | 20.40     | Spare Bag Filters On-site      | YES        |           |
| Does Autodialer Call Office?                | YES       | Does Pressure Switch Work?     | YES        |           |
| Sample groundwater at E-1A, MID-1, and EFFL |           |                                |            |           |
| Temperature (F)                             | E-1A 67.4 | MID-1 67.0                     | MID-2 67.3 | EFFL 68.5 |
| pH (units)                                  | E-1A 6.93 | MID-1 6.94                     | MID-2 6.80 | EFFL 6.96 |

1. Check all fittings and piping for leaks. (Initials) SD
2. Check control panel for discrepancies. (Initials) SP
3. Take DTW/DTL from all on-site wells. (Initials) SD
4. Inspect the condition of the secondary containment (Initials) SP

Comments Changed bag filter - New Bag Filter pressure 8-10 psi;

Carbon pressure = 6.25 psi

Mid 1 = 6 psi

Mid 2 = 1 psi

Swept up leaf debris in secondary containment

Distribute a copy of this form to the project supervisor.



# FIELD REPORT

## DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

 PROJECT No.: 330-06.12

 LOCATION: San Lorenzo

 DATE: 5-13-93

 CLIENT/STATION NO.: Arco 0608

 FIELD TECHNICIAN: SP

 DAY OF WEEK: Thursday

**PROBE TYPE/ID No.**

Oil/Water IF \_\_\_\_\_

H<sub>2</sub>O level indicator pH

Other: \_\_\_\_\_

| Dtw Order | Well ID | Time   | Surface Seal | Lid Secure | Gasket | Lock | Expanding Cap | Total Depth (feet) | First Depth to Water (feet) TOB/TOC | Second Depth to Water (feet) TOB/TOC | SEPARATE-PHASE HYDROCARBONS (SPH) |                      |       |           |     |     |           |        |       |                          |                  |
|-----------|---------|--------|--------------|------------|--------|------|---------------|--------------------|-------------------------------------|--------------------------------------|-----------------------------------|----------------------|-------|-----------|-----|-----|-----------|--------|-------|--------------------------|------------------|
|           |         |        |              |            |        |      |               |                    |                                     |                                      | SPH Depth (feet) TOB/TOC          | SPH Thickness (feet) | Fresh | Weathered | Gas | Oil | VISCOSITY |        |       | LIQUID REMOVED (gallons) |                  |
|           |         |        |              |            |        |      |               |                    |                                     |                                      |                                   |                      |       |           |     |     | Light     | Medium | Heavy | SPH                      | H <sub>2</sub> O |
|           |         |        |              |            |        |      |               |                    |                                     |                                      | COLOR                             |                      |       |           |     |     |           |        |       |                          |                  |
|           |         |        |              |            |        |      |               |                    |                                     |                                      |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-5    | 10:55  |              |            |        |      |               |                    | 12.19                               | ✓                                    |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-7    | 10:50  |              |            |        |      |               |                    | 12.22                               | ✓                                    |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-8    | 11:04  |              |            |        |      |               |                    | 11.18                               | ✓                                    |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-9    | 10:57  |              |            |        |      |               |                    | 10.35                               | ✓✓                                   |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-10   | 10:59  |              |            |        |      |               |                    | 10.49                               | ✓✓                                   |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-11   | 11:02  |              |            |        |      |               |                    | 11.16                               | ✓                                    |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-13   | 10:47  |              |            |        |      |               |                    | 13.55                               | ✓                                    |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | E-1A    | 11:09. |              |            |        |      |               |                    | 20.40                               | ✓                                    |                                   |                      |       |           |     |     |           |        |       |                          |                  |
|           | MW-     |        |              |            |        |      |               |                    |                                     |                                      |                                   |                      |       |           |     |     |           |        |       |                          |                  |

 Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Identification

Project Type

Prefield Contacts/Permits

Object # 330-06,12

1st Time visit

Cal Trans \_\_\_\_\_

1# 608

Quarterly

County \_\_\_\_\_

Site Address: \_\_\_\_\_

1st  2nd  3rd  4th

7601 Hesperian Blvd.

Monthly

City \_\_\_\_\_

San Lorenzo

Semi-Monthly

Private \_\_\_\_\_

County: \_\_\_\_\_

Weekly

Multi-Consultant Scheduling

Project Manager: LG/DM

One time event

Date(s): \_\_\_\_\_

Requestor: JM

Other: \_\_\_\_\_

Site Safety

Client: ARCO

Concerns

Client P.O.C.: Mike Whelan

Ideal field date(s): \_\_\_\_\_

Date of request: 8/13/92

15th ± 3 days

Field Tasks

- System Sampling
- System Start-up
- System Repair
- System Modification
- System Resample
- System Shut-down
- Tank Pull
- Soil Sampling
- Subcontractor Observation
- SPH Bailing
- Report required for: \_\_\_\_\_
- Data summary required for: \_\_\_\_\_

DDTW in wells MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, E-1A

change filter if necessary.

Sample system (monthly = M, quarterly = Q)

|          | INFL | EFFL |
|----------|------|------|
| Gas/BTEX | M    | M    |
| COD      |      | Q    |
| TSS      |      | Q    |
| pH       |      | Q    |

① Note: Quarterly event to occur in January, April, July, October.

② MID samples will be taken when breakthrough is expected in the future.

(Please attach: Site Map, Process and Instrumentation Diagram, Site Safety Plan, Well logs, Other information as appropriate)

Budgeted hours: 6.

Actual hours; On-Site: 2

Mob-de-Mob: 2 hrs travel / 0.5 Demob

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

\_\_\_\_\_

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\_\_\_\_\_

Completed by: Scott Pisle Date: 6-4-93

**FIELD REPORT**

**DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY**

PROJECT No.: 330-06.12 LOCATION: San Lorenzo DATE: 6-4-93  
 CLIENT/STATION NO.: Arco 0608 FIELD TECHNICIAN: sl DAY OF WEEK: Friday

PROBE TYPE/ID No. \_\_\_\_\_  
 Oil/Water IF \_\_\_\_\_  
 H<sub>2</sub>O level Indicator \_\_\_\_\_  
 Other: \_\_\_\_\_

| D/W Order | Well ID | Time | Surface Seal | Lid Secure | Gasket | Lock | Expanding Cap | Total Depth (feet) | First Depth to Water (feet) TOP/TOC | Second Depth to Water (feet) TOB/TOC | SEPARATE-PHASE HYDROCARBONS (SPH) |                      |       |           |     |     |                                 | LIQUID REMOVED (gallons)<br>SPH / H <sub>2</sub> O |  |  |  |  |  |  |
|-----------|---------|------|--------------|------------|--------|------|---------------|--------------------|-------------------------------------|--------------------------------------|-----------------------------------|----------------------|-------|-----------|-----|-----|---------------------------------|--|--|--|--|--|--|--|
|           |         |      |              |            |        |      |               |                    |                                     |                                      | SPH Depth (feet) TOB/TOC          | SPH Thickness (feet) | Fresh | Weathered | Gas | Oil | VISCOSITY<br>Light Medium Heavy |  |  |  |  |  |  |  |
|           |         |      |              |            |        |      |               |                    |                                     |                                      |                                   | COLOR                |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 4         | E1-A    | 7:20 |              |            |        |      |               |                    | 18.74                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 3         | MW-5    | 7:18 |              |            |        |      |               |                    | 12.51                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 2         | MW-7    | 7:13 |              |            |        |      |               |                    | 12.51                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 5         | MW-8    | 7:23 |              |            |        |      |               |                    | 11.47                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 6         | MW-9    | 7:27 |              |            |        |      |               |                    | 10.65                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 7         | MW-10   | 7:34 |              |            |        |      |               |                    | 10.78                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 8         | MW-11   | 7:38 |              |            |        |      |               |                    | 11.44                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |
| 1         | MW-13   | 7:10 |              |            |        |      |               |                    | 13.83                               | ✓                                    |                                   |                      |       |           |     |     |                                 |  |  |  |  |  |  |  |

Comments: After Bq F.Hr. was replaced DTW in E1-A fluctuated between 20" and 22"

ARCO Facility no. 0608 City (Facility) San Lorenzo Project manager (Consultant) Kelly Brown  
 ARCO engineer Mike Whelan Telephone no. (ARCO) Telephone no. (Consultant) 408-441-7500 Fax no. (Consultant) 408-441-7539

Laboratory name Sequoia  
 Contract number

Consultant name Pacific Environmental Group Address (Consultant) 2025 Gateway Place #940 San Jose 95110

| Sample I.D. | Lab no. | Container no. | Matrix |       |       | Preservation |      | Sampling date | Sampling time | BTEX<br>EPA 821/820 | BTEX/TPH<br>EPA 821/820/801/5 | TPH Modified 8015<br>Gas Diesel | Oil and Grease<br>413.1 413.2 | TPH<br>EPA 418.1/SM503E | EPA 601/8010 | EPA 624/8240 | EPA 625/8270 | TCJP<br>Metals VOC VOA | Semi<br>Metals VOC VOA | CAM Metals EPA 601/8010/7000<br>TTLT STLC | Lead Org/DHS<br>Lead EPA<br>7420/7421 |  |  |  |  |  |
|-------------|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|---------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------|--------------|--------------|--------------|------------------------|------------------------|---|---------------------------------------|--|--|--|--|--|
|             |         |               | Soil   | Water | Other | Ice          | Acid |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
| INFL        |         | 3             |        | W     |       | Yes          | HCl  | 6-4-93        | 8:35          |                     | X                             |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
| EFFL        |         | 3             |        | W     |       | Yes          | HCl  | 6-4-93        | 5:30          |                     | X                             |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |
|             |         |               |        |       |       |              |      |               |               |                     |                               |                                 |                               |                         |              |              |              |                        |                        |   |                                       |  |  |  |  |  |

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

- Priority Rush 1 Business Day
- Rush 2 Business Days
- Expedited 5 Business Days
- Standard 10 Business Days

Condition of sample: Temperature received:

|   |                        |   |
|---|------------------------|---|
| Relinquished by sampler <i>Pat Lamb</i> | Date 6-4-93 Time 11:20 | Received by                               |
| Relinquished by                         | Date _____ Time _____  | Received by                               |
| Relinquished by                         | Date _____ Time _____  | Received by laboratory <i>[Signature]</i> |

Date 6-4-93 Time 11:20 *[Signature]*

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant  
 APPC-3292 (2-91)

Groundwater Extraction System  
 San Lorenzo ARCO 608  
 17601 Hesperian Boulevard  
 San Lorenzo, California  
 330-06.12

Revised: October 12, 1992

Name: Scott Pishp

Date/Time: 6-4-93 8:30 am

**Treatment System Readings**

|   |   |                                |            |           |
|---|---|--------------------------------|------------|-----------|
| Effluent Totalizer (gallons)                | 02543500  | Bag Filter INFL Pressure (psi) | 8 psi      |           |
| Effluent Flowrate (gpm)                     | 3 gpm.  | Carbon 1 INFL Pressure (psi)   | 6.25 psi   |           |
| E-1A Hourmeter (hours)                      | 11733.7   | MID-1 Pressure Pressure (psi)  | 6 psi      |           |
| Electric meter (kw-hrs)                     | 06625   | MID-2 Pressure (psi)           | 0.75 psi   |           |
| Sewer Level Overflowing?                    | No  | EFFL Pressure (psi)            | 0 psi      |           |
| E-1A DTW (TOB) (feet)                       | 18.74 Initially<br>20' to 22' after<br>Bag Filter change. | Spare Bag Filters. On-site     | Yes.       |           |
| Does Autodialer Call Office?                | Yes   | Does Pressure Switch Work?     | Yes        |           |
| Sample groundwater at E-1A, MID-1, and EFFL |   |                                |            |           |
| Temperature (F)                             | E-1A 65.7   | MID-1 65.8                     | MID-2 65.3 | EFFL 64.9 |
| pH (units)                                  | E-1A 7.07   | MID-1 7.08                     | MID-2 7.11 | EFFL 7.29 |

1. Check all fittings and piping for leaks. (Initials) SP
2. Check control panel for discrepancies. (Initials) SP
3. Take DTW/DTL from all on-site wells. (Initials) SP
4. Inspect the condition of the secondary containment (Initials) SP

Comments Bag Filter INFL Pressure was 18-20 psi when I arrived.  
Removed old Filter and it contained approx. 0.5' of fine silt.

- \* Replaced Filter and reactivated System
- \* Swept debris from secondary Containment

Distribute a copy of this form to the project supervisor.

**E INFORMATION FORM**

**FILE COPY**

**Identification**

Project # 330-06.15  
 Location # 0608  
 Address: 17601 Hesperian Blvd.  
San Lorenzo  
 City: Alameda  
 Project Manager: Kelly Brown  
 Requestor: Kelly Brown  
 Client: Arco  
 Client P.O.C.: Mike Whelan  
 Date of request: 3rd month of Quarter

**Project Type**

- 1st Time visit
- Quarterly
  - 1st  2nd  3rd  4th
- Monthly
- Semi-Monthly
- Weekly
- One time event
- Other: \_\_\_\_\_
- Ideal field date(s): \_\_\_\_\_

**Prefield Contacts/Permits**

- Cal Trans \_\_\_\_\_
  - County \_\_\_\_\_
  - City \_\_\_\_\_
  - Private Arco District Manager  
1 week notice
  - Multi-Consultant Scheduling  
Date(s): \_\_\_\_\_
- Purge Water Containment:**
- Drums
  - Treatment System use in-line filter
  - Other Describe: \_\_\_\_\_

**Field Tasks**

H<sub>2</sub>O levels All wells.  
 H<sub>2</sub>O Sampling TPH Gas/BTEX for Wells  
0-5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17,  
18, 19, 20, 21, 22, 23, 24, 25,  
26 and E1-A

**Well Development**

Other: \_\_\_\_\_

**Site Safety**

**Wells**

**Concerns**

- Flash Safety
- Flagman
- Cones
- Barricades
- No Turn/Lane Closed sign

Other: \_\_\_\_\_

**Comments, remarks, etc. from Field Staff**

**(include problems encountered and out-of-scope work)**

Describe task (i.e. Well groups and analytical parameters)

**Activities occurring on site**

**(medical system construction, ongoing projects, etc.)**

see attached Site Map, Well Information Data, Site Safety Plan, Well logs as appropriate

Estimated hours: \_\_\_\_\_

Actual hours; On-Site: 18.5

Vehicle-Mob: 3 Mobil 25 travel

All Wells secured

|   |                                    |   |                                 |
|---|------------------------------------|---|---------------------------------|
| ARCO Facility no. <b>0608</b>             | City (Facility) <b>SAN LORENZO</b> | Project manager (Consultant) <b>Kelly Brown</b>                           | Laboratory name <b>SPG10101</b> |
| ARCO engineer <b>MIKE WILKIN</b>          | Telephone no. (ARCO) <b>---</b>    | Telephone no. (Consultant) <b>418-441-7500</b>                            | Contract number                 |
| Consultant name <b>PACIFIC ENV. GROUP</b> |                                    | Address (Consultant) <b>205 S. KILLIP PI. #440, SAN LORENZO, OH 44681</b> |                                 |

| Sample I.D. | Lab no. | Container no. | Matrix |       |       | Preservation |      | Sampling date | Sampling time | BTEX EPA 802 | BTEX/TPH EPA 802/802/9015 | TPH Modified 8015 Gas Diesel | Oil and Grease 413.1 413.2 | TPH EPA 418.1/SM509E | EPA 801/8010 | EPA 821/8240 | EPA 825/8270 | TCMP Metals VOA VOC | Semi Metals EPA 601/7000 TLCL STLC | Lead Org/DHS Lead EPA 7420/7421 | Method of shipment | Special detection Limit/reporting |  |
|-------------|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|--------------|---------------------------|------------------------------|----------------------------|----------------------|--------------|--------------|--------------|---------------------|------------------------------------|---------------------------------|--------------------|-----------------------------------|--|
|             |         |               | Soil   | Water | Other | Ice          | Acid |               |               |              |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| TB-1        |         | 2             |        | X     |       | X            | HCL  | 6-15-93       | ---           | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-5        |         | 3             |        |       |       |              |      | 6-17-93       | 6:00          | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-7        |         | 3             |        |       |       |              |      | 6-15-93       | 9:35          | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-8        |         | 3             |        |       |       |              |      | 6-17-93       | 10:45         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-9        |         | 3             |        |       |       |              |      | 6-15-93       | 11:00         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-10       |         | 3             |        |       |       |              |      | 6-17-93       | 10:30         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-11       |         | 3             |        |       |       |              |      | 6-16-93       | 12:30         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-13       |         | 3             |        |       |       |              |      | 6-15-93       | 9:15          | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-14       |         | 3             |        |       |       |              |      | 6-15-93       | 13:10         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-15       |         | 3             |        |       |       |              |      | 6-17-93       | 9:25          | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-16       |         | 3             |        |       |       |              |      | 6-17-93       | 9:15          | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-17       |         | 3             |        |       |       |              |      | 6-17-93       | 8:15          | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-18       |         | 3             |        |       |       |              |      | 6-16-93       | 11:20         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-19       |         | 3             |        |       |       |              |      | 6-16-93       | 10:50         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-20       |         | 3             |        |       |       |              |      | 6-16-93       | 10:15         | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |
| MW-21       |         | 3             |        |       |       |              |      | 6-16-93       | 9:10          | X            |                           |                              |                            |                      |              |              |              |                     |                                    |                                 |                    |                                   |  |

|                         |         |       |                        |                       |      |  |  |
|-------------------------|---------|-------|------------------------|-----------------------|------|--|--|
| Condition of sample:    |         |       |                        | Temperature received: |      |  |  |
| Relinquished by sampler | Date    | Time  | Received by            |                       |      |  |  |
|                         | 6-18-93 | 10:40 | <i>[Signature]</i>     |                       |      |  |  |
| Relinquished by         | Date    | Time  | Received by            |                       |      |  |  |
| Relinquished by         | Date    | Time  | Received by laboratory | Date                  | Time |  |  |

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

**ARCO Products Company**  
Division of AtlanticRichfieldCompany

330-06.15 Task Order No. 608-92-5

**Chain of Custody**

ARCO Facility no. 0608 City (Facility) San Lorenzo Project manager (Consultant) Kelly Brown  
 ARCO engineer Mike Whelan Telephone no. (ARCO) --- Telephone no. (Consultant) 408-441-7500 Fax no. (Consultant) 408-441-7539  
 Consultant name Pacific Env. Group Address (Consultant) 3225 Gratiot Blvd. #440, San Jose 95110

Laboratory name Sequoia  
Contract number

| Sample I.D. | Lab no. | Container no. | Matrix |       |       | Preservation |      | Sampling date | Sampling time | STEX EPA 8020 | STEX/TPH 6.3.5 EPA M602/6020/6015 | TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/> | Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/> | TPH EPA 418.1/SM503E | EPA 601/8010 | EPA 624/8240 | EPA 625/8270 | TCUP Metals <input type="checkbox"/> VOA <input type="checkbox"/> TOVA <input type="checkbox"/> | CAN Metals EPA 6010/7000 TLIC <input type="checkbox"/> STIC <input type="checkbox"/> | Lead Org./DHS <input type="checkbox"/> Lead EPA 7420/7421 <input type="checkbox"/> |  |
|-------------|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|---------------|-----------------------------------|--|--|----------------------|--------------|--------------|--------------|---|--|--|--|
|             |         |               | Soil   | Water | Other | Ice          | Acid |               |               |               |                                   |  |  |                      |              |              |              |   |  |  |  |
| MW-22       |         | 3             |        | X     |       | X            | HCL  | 6-16-93       | 8:10          |               | X                                 |  |  |                      |              |              |              |   |  |  |  |
| MW-23       |         | 3             |        | X     |       |              |      | 6-16-93       | 7:40          |               | X                                 |  |  |                      |              |              |              |   |  |  |  |
| MW-24       |         | 3             |        | X     |       |              |      | 6-15-93       | 12:10         |               | X                                 |  |  |                      |              |              |              |   |  |  |  |
| MW-25       |         | 3             |        | X     |       |              |      | 6-15-93       | 10:00         |               | X                                 |  |  |                      |              |              |              |   |  |  |  |
| MW-26       |         | 3             |        | X     |       |              |      | 6-15-93       | 12:45         |               | X                                 |  |  |                      |              |              |              |   |  |  |  |

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

Condition of sample: \_\_\_\_\_ Temperature received: \_\_\_\_\_  
 Relinquished by sampler [Signature] Date 6-18-93 Time 10:40 Received by [Signature]  
 Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by \_\_\_\_\_  
 Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by laboratory \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_



# FIELD REPORT

## DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-06.15 LOCATION: San Lorenzo DATE: 6-15-93  
 CLIENT/STATION NO.: Arco 0608 FIELD TECHNICIAN: SP DAY OF WEEK: Tuesday

PROBE TYPE/ID No. \_\_\_\_\_  
 Oil/Water IF \_\_\_\_\_  
 H<sub>2</sub>O level Indicator \_\_\_\_\_  
 Other: \_\_\_\_\_

| Dtw Order | Well ID | Time | Surface Seal | Lid Secure | Gasket | Lock | Expanding Cap | Total Depth (feet)            | First Depth to Water (feet)<br>TOB/TOC | Second Depth to Water (feet)<br>TOB/TOC | SEPARATE-PHASE HYDROCARBONS (SPH) |                      |       |           |     |     | Liquor REMOVED (gallons)<br>SPH / H <sub>2</sub> O |           |        |       |
|-----------|---------|------|--------------|------------|--------|------|---------------|-------------------------------|--|---|-----------------------------------|----------------------|-------|-----------|-----|-----|--|-----------|--------|-------|
|           |         |      |              |            |        |      |               |                               |  |   | SPH Depth (feet)<br>TOB/TOC       | SPH Thickness (feet) | Fresh | Weathered | Gas | Oil |  | VISCOSITY |        |       |
|           |         |      |              |            |        |      |               |                               |  |   |                                   |                      |       |           |     |     |  | Light     | Medium | Heavy |
|           |         |      |              |            |        |      | COLOR         |                               |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 1         | E-1A    | 6:57 |              |            |        |      |               | Fluctuating<br>20-22<br>20.00 |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 2         | MW-5    | 7:09 |              |            |        |      | 14            | 12.59                         |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 4         | MW-7    | 7:22 |              |            |        |      |               | 12.66                         |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 6         | MW-8    | 7:30 |              |            |        |      |               | 11.62                         |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 7         | MW-9    | 7:35 |              |            |        |      |               | 10.81                         |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 11        | MW-10   | 7:49 |              |            |        |      |               | 10.93                         |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 10        | MW-11   | 7:46 |              |            |        |      |               | 11.59                         |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 3         | MW-13   | 7:19 |              |            |        |      |               | 13.97                         |  |   |                                   |                      |       |           |     |     |  |           |        |       |
| 14        | MW-14   | 7:59 |              |            |        |      |               | 9.90                          |  |   |                                   |                      |       |           |     |     |  |           |        |       |

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# FIELD REPORT

## DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-06.15 LOCATION: San Lorenzo DATE: 6-15-93  
 CLIENT/STATION NO.: Arco 0608 FIELD TECHNICIAN: SP DAY OF WEEK: Tuesday

PROBE TYPE/ID No. \_\_\_\_\_

Oil/Water IF \_\_\_\_\_

H<sub>2</sub>O level Indicator \_\_\_\_\_

Other: \_\_\_\_\_

| Dwg Order | Well ID | Time | Surface Seal | Lid Secure | Gasket | Lock | Expanding Cap | Total Depth (feet) | First Depth to Water (feet) TOB/TOC | Second Depth to Water (feet) TOB/TOC | SEPARATE-PHASE HYDROCARBONS (SPH) |                      |       |           |                  |     |           |        |       |                         |     |  |  |
|-----------|---------|------|--------------|------------|--------|------|---------------|--------------------|-------------------------------------|--------------------------------------|-----------------------------------|----------------------|-------|-----------|------------------|-----|-----------|--------|-------|-------------------------|-----|--|--|
|           |         |      |              |            |        |      |               |                    |                                     |                                      | SPH Depth (feet) TOB/TOC          | SPH Thickness (feet) | Fresh | Weathered | Gas              | Oil | VISCOSITY |        |       | LIQUID REMOVED (gallon) |     |  |  |
|           |         |      |              |            |        |      |               |                    |                                     |                                      |                                   |                      |       |           |                  |     | Light     | Medium | Heavy |                         | SPH |  |  |
|           |         |      |              |            |        |      |               |                    |                                     |                                      |                                   | COLOR                |       |           | H <sub>2</sub> O |     |           |        |       |                         |     |  |  |
| 23        | MW-15   | 8:47 |              |            |        |      |               |                    | 11.32                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 22        | MW-16   | 8:42 |              |            |        |      |               |                    | 11.86                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 21        | MW-17   | 8:35 |              |            |        |      |               |                    | 12.69                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 20        | MW-18   | 8:28 |              |            |        |      |               |                    | 10.85                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 19        | MW-19   | 8:25 |              |            |        |      |               |                    | 10.28                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 18        | MW-20   | 8:20 |              |            |        |      |               |                    | 10.45                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 17        | MW-21   | 8:14 |              |            |        |      |               |                    | 10.77                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 16        | MW-22   | 8:11 |              |            |        |      |               |                    | 11.22                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |
| 15        | MW-23   | 8:06 |              |            |        |      |               |                    | 12.26                               |                                      |                                   |                      |       |           |                  |     |           |        |       |                         |     |  |  |

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# FIELD REPORT

## DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-06.15 LOCATION: San Lorenzo DATE: 6-15-93  
 CLIENT/STATION NO.: Arco 0608 FIELD TECHNICIAN: SP DAY OF WEEK: Tuesday

PROBE TYPE/ID No. \_\_\_\_\_  
 Oil/Water IF \_\_\_\_\_  
 H<sub>2</sub>O level Indicator \_\_\_\_\_  
 Other: \_\_\_\_\_

| Dtw Order | Well ID     | Time | Surface Seal | Lid Secure | Gasket | Lock | Expanding Cap | Total Depth (feet) | First Depth to Water (feet) TOB/TOC | Second Depth to Water (feet) TOB/TOC | SEPARATE-PHASE HYDROCARBONS (SPH) |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
|-----------|-------------|------|--------------|------------|--------|------|---------------|--------------------|-------------------------------------|--------------------------------------|-----------------------------------|----------------------|-------|-----------|-----|-----|-----------|------------------|--|--------------------------|--|--|--|--|--|
|           |             |      |              |            |        |      |               |                    |                                     |                                      | SPH Depth (feet) TOB/TOC          | SPH Thickness (feet) | Fresh | Weathered | Gas | Oil | VISCOSITY |                  |  | Liquid Removed (gallons) |  |  |  |  |  |
|           |             |      |              |            |        |      |               |                    |                                     |                                      | COLOR                             |                      |       |           |     |     | SPH       | H <sub>2</sub> O |  |                          |  |  |  |  |  |
|           |             |      |              |            |        |      |               |                    |                                     |                                      | Light                             | Medium               | Heavy |           |     |     |           |                  |  |                          |  |  |  |  |  |
| 9         | MW-24       | 7:42 |              |            |        |      |               | 19.8               | 13.39                               |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
| 5         | MW-25       | 7:27 |              |            |        |      |               | 21.4               | 12.35                               |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
| 8         | MW-26       | 7:39 |              |            |        |      |               | 20.1               | 12.66                               |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
| —         | SP-1        | 7:13 |              |            |        |      |               |                    | 12.45                               |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
| 12        | SP-2        | 7:53 |              |            |        |      |               |                    | 10.80                               |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
| —         | V-1         | 7:13 |              |            |        |      |               |                    | 12.21                               |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
| 13        | V-2         | 7:54 |              |            |        |      |               | 10.25              | —                                   |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |
| —         | Church well | 8:36 |              |            |        |      |               |                    | 12.48                               |                                      |                                   |                      |       |           |     |     |           |                  |  |                          |  |  |  |  |  |

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**WELL SAMPLE FIELD DATA SHEET**

OBJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: \_\_\_\_\_

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid: \_\_\_\_\_ TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Depth to water: \_\_\_\_\_ TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Total depth: \_\_\_\_\_ TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Date: \_\_\_\_\_ Time (2400): \_\_\_\_\_

Probe Type and I.D. #  
 Oil/Water interface \_\_\_\_\_  
 Electronic indicator \_\_\_\_\_  
 Other: \_\_\_\_\_

CASING

DIAMETER GAL/ LINEAR FT.  
 2 \_\_\_\_\_ 0.17  
 3 \_\_\_\_\_ 0.38  
 4 \_\_\_\_\_ 0.66  
 4.5 \_\_\_\_\_ 0.83  
 5 \_\_\_\_\_ 1.02  
 6 \_\_\_\_\_ 1.5  
 8 \_\_\_\_\_ 2.6

SAMPLE TYPE

Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other: \_\_\_\_\_

TD \_\_\_\_\_ - DTW \_\_\_\_\_ = \_\_\_\_\_ x Foot \_\_\_\_\_ = \_\_\_\_\_ x Casings \_\_\_\_\_ = Calculated Purge \_\_\_\_\_

DATE PURGED: \_\_\_\_\_ START: \_\_\_\_\_ END (2400 hr): \_\_\_\_\_ PURGED BY: \_\_\_\_\_

DATE SAMPLED: \_\_\_\_\_ START: \_\_\_\_\_ END (2400 hr): \_\_\_\_\_ SAMPLED BY: \_\_\_\_\_

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR | TURBIDITY | ODOR |
|----------------|---------------|------------|------------------------|------------------|-------|-----------|------|
|                |               |            |                        |                  |       |           |      |
|                |               |            |                        |                  |       |           |      |
|                |               |            |                        |                  |       |           |      |
|                |               |            |                        |                  |       |           |      |

Pumped dry Yes / No

Cobalt 0-100  
 Clear  
 Cloudy  
 Yellow  
 Brown  
 NTU 0-200  
 Heavy  
 Moderate  
 Light  
 Trace  
 Strong  
 Moderate  
 Faint  
 None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: \_\_\_\_\_ TOB/TOC \_\_\_\_\_

PURGING EQUIPMENT/I.D. #

Bailer: \_\_\_\_\_  
 Centrifugal: \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Airlift: \_\_\_\_\_  
 Dedicated: \_\_\_\_\_

SAMPLING EQUIPMENT/I.D. #

Bailer: \_\_\_\_\_  
 Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

| SAMPLE I.D. | DATE    | TIME (2400) | No. of Cont. | SIZE | CONTAINER | PRESERVE | ANALYTICAL PARAMETER |
|-------------|---------|-------------|--------------|------|-----------|----------|----------------------|
| TB-1        | 6-15-93 | —           | 2            | 40   | VOA       | HCl      | TPH GAS / BTEX       |
|             |         |             |              |      |           |          |                      |
|             |         |             |              |      |           |          |                      |
|             |         |             |              |      |           |          |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: Scott Lind



WELL SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: E1A

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC         
 Depth to water:        TOB        TOC         
 Total depth:        TOB        TOC         
 Date: 6-4-93 Time (2400):       

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other:       

CASING DIAMETER GAL/ LINEAR FT.  
 2        0.17  
 3        0.38  
 4        0.66  
 4.5        0.83  
 5        1.02  
 6        1.5  
 8        2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:       

TD        - DTW        =        Gal/Linear x Foot =        Number of 5 Casings =        Calculated Purge

DATE PURGED: 6-4-93 START: Constant END (2400 hr):        PURGED BY: SP  
 DATE SAMPLED: 6-4-93 START:        END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.)    | pH (units) | EC. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR | TURBIDITY | ODOR |
|----------------|------------------|------------|-----------------------|------------------|-------|-----------|------|
|                | Extraction well. |            |                       |                  |       |           |      |
|                |                  |            |                       |                  |       |           |      |
|                |                  |            |                       |                  |       |           |      |
|                |                  |            |                       |                  |       |           |      |

Pumped dry Yes /  No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #  
 Bailor:         Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

SAMPLING EQUIPMENT/I.D. #  
 Bailor: 17 SP  
 Dedicated:         
 Other:       

| SAMPLE I.D. | DATE          | TIME (2400)   | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER |
|-------------|---------------|---------------|--------------|-----------|------------|------------|----------------------|
| <u>INFL</u> | <u>6-4-93</u> | <u>      </u> | <u>3</u>     | <u>40</u> | <u>USA</u> | <u>HCl</u> | <u>TPH Gas/BTEX</u>  |
|             |               |               |              |           |            |            |                      |
|             |               |               |              |           |            |            |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS: E-1A is sampled with the O+M work. Refer to Sample (INFL) from 330-06.12 field data sheets on Friday 6-4-93. Also refer to the appropriate GOC and CAP info from 6-4-93

SIGNATURE: [Signature]



WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-5

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:      TOB      TOC       
 Depth to water: 12.58 TOB      TOC       
 Total depth: 14 TOB      TOC       
 Date: 6-16-93 Time (2400): 6:30

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic Indicator  
 Other:     

| CASING DIAMETER                       | GAL/ LINEAR FT. |
|---------------------------------------|-----------------|
| <input type="checkbox"/> 2            | 0.17            |
| <input type="checkbox"/> 3            | 0.38            |
| <input checked="" type="checkbox"/> 4 | 0.66            |
| <input type="checkbox"/> 4.5          | 0.83            |
| <input type="checkbox"/> 5            | 1.02            |
| <input type="checkbox"/> 6            | 1.5             |
| <input type="checkbox"/> 8            | 2.6             |

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:     

TD 14 - DTW 12.58 = 1.42 x Gal/Linear Foot 0.66 = 0.93 x Number of Casings 5 = Calculated Purge 4.68

DATE PURGED: 6-16-93 START: 6:37 END (2400 hr): 6:41 PURGED BY: SP  
 DATE SAMPLED: 6-17-93 START: 6:00 END (2400 hr):      SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR        | TURBIDITY    | ODOR          |
|----------------|---------------|-------------|------------------------|------------------|--------------|--------------|---------------|
| <u>6:41</u>    | <u>1.5</u>    | <u>6.97</u> | <u>1098</u>            | <u>67.5</u>      | <u>clear</u> | <u>trace</u> | <u>strong</u> |
|                |               |             |                        |                  |              |              |               |
|                |               |             |                        |                  |              |              |               |
|                |               |             |                        |                  |              |              |               |

Pumped dry  Yes /  No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 12.71 TOB/TOC 6.95 1048 67.0 clear trace strong

PURGING EQUIPMENT/I.D. #

Bailer: 17-2  Airlift:       
 Centrifugal:       Dedicated:       
 Other:     

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-2  
 Dedicated:       
 Other:     

| SAMPLE I.D. | DATE           | TIME (2400)                    | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|-------------|----------------|--------------------------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-5</u> | <u>6-17-93</u> | <u>6:00</u><br><del>6:00</del> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCl</u> | <u>TPA Gas / BTEX</u> |
|             |                |                                |              |           |            |            |                       |
|             |                |                                |              |           |            |            |                       |
|             |                |                                |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:     

SIGNATURE: [Signature]

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: NW-7

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC         
 Depth to water: 12.66 TOB        TOC         
 Total depth: 18.9 TOB        TOC         
 Date: 6-15-93 Time (2400): 7:22

Probe Type:  Oil/Water interface  
 and  Electronic Indicator  
 I.D. #  Other:       

CASING DIAMETER GAL/ LINEAR FT.  
 2        0.17  
 3        0.38  
 4        0.66  
 4.5        0.83  
 5        1.02  
 6        1.5  
 8        2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:       

TD 18.9 - DTW 12.66 = 6.24 Gal/Linear 0.38 x Foot = 2.37 x Number of 5 Casings = Calculated = Purge 11.85

DATE PURGED: 6-15-93 START: 9:23 END (2400 hr): 9:32 PURGED BY: SP  
 DATE SAMPLED: 6-15-93 START: 9:35 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 2.5°C) | TEMPERATURE (°F) | COLOR | TURBIDITY | ODOR  |
|----------------|---------------|------------|-------------------------|------------------|-------|-----------|-------|
| 9:25           | 4             | 7.00       | 824                     | 65.1             | clear | trace     | faint |
| 9:29           | 8             | 6.76       | 846                     | 65.3             | ↓     | ↓         | ↓     |
| 9:32           | 12            | 6.73       | 870                     | 65.3             | ↓     | ↓         | ↓     |

Pumped dry Yes /  No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #

Bailer: 17-3  Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

SAMPLING EQUIPMENT/I.D. #

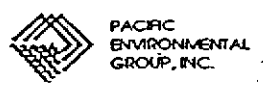
Bailer: 17-3  
 Dedicated:         
 Other:       

| SAMPLE I.D. | DATE    | TIME (2400) | No. of Cont. | SIZE | CONTAINER | PRESERVE | ANALYTICAL PARAMETER |
|-------------|---------|-------------|--------------|------|-----------|----------|----------------------|
| NW-7        | 6-15-93 | 9:35        | 3            | 40   | VQA       | HCl      | TPH Gas / BTEX       |
|             |         |             |              |      |           |          |                      |
|             |         |             |              |      |           |          |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: Scott Pardo



ER SAMPLE FIELD DATA SHEET

OBJECT No.: 330-06.15 LOCATION: SAN LORENZO WELL ID #: MW-8

IDENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC  
 Depth to water: 11.62 TOB        TOC  
 Total depth: 21.7 TOB        TOC  
 Date: 6-17-93 Time (2400): 6:15

| CASING DIAMETER                       | GAL/LINEAR FT. |
|---------------------------------------|----------------|
| <input type="checkbox"/> 2            | 0.17           |
| <input checked="" type="checkbox"/> 3 | 0.38           |
| <input type="checkbox"/> 4            | 0.66           |
| <input type="checkbox"/> 4.5          | 0.83           |
| <input type="checkbox"/> 5            | 1.02           |
| <input type="checkbox"/> 6            | 1.5            |
| <input type="checkbox"/> 8            | 2.6            |

- SAMPLE TYPE
- Groundwater
  - Duplicate
  - Extraction well
  - Trip blank
  - Field blank
  - Equipment blank
  - Other;

Probe Type and I.D. #

- Oil/Water interface
- Electronic indicator
- Other;

TD 21.7 - DTW 11.62 = 10.08 Gal/Linear Foot 0.38 = 3.83 x Number of Casings 5 = Calculated Purge 19.15

DATE PURGED: 6-17-93 START: 6:25 END (2400 hr): 6:27 PURGED BY: SP  
 DATE SAMPLED: 6-17-93 START: 6:45 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | EC (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR        | TURBIDITY    | ODOR          |
|----------------|---------------|-------------|----------------------|------------------|--------------|--------------|---------------|
| <u>6:26</u>    | <u>6.5</u>    | <u>6.87</u> | <u>944</u>           | <u>66.9</u>      | <u>clear</u> | <u>trace</u> | <u>Strong</u> |
| <u>6:27</u>    | <u>13</u>     | <u>6.90</u> | <u>948</u>           | <u>66.5</u>      | <u>↓</u>     | <u>↓</u>     | <u>↓</u>      |
| <u>6:28</u>    |               |             |                      |                  |              |              |               |

Pumped dry (Yes/No) - SP

- |  |  |                                     |
|--|--|-------------------------------------|
| Cobach 0-100<br>Clear<br>Cloudy<br>Yellow<br>Brown | NTU 0-200<br>Heavy<br>Moderate<br>Light<br>Trace | Strong<br>Moderate<br>Faint<br>None |
|--|--|-------------------------------------|

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE

DTW: 11.89 TOB/TOC 6.78 EC 926 TEMPERATURE 66.3 COLOR clear TURBIDITY clear ODOR Strong

PURGING EQUIPMENT/I.D. #

- Bailer:
- Centrifugal:
- Other:
- Airlift:
- Dedicated:

SAMPLING EQUIPMENT/I.D. #

- Bailer: 17-1
- Dedicated:
- Other:

| SAMPLE I.D. | DATE           | TIME (2400) | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|-------------|----------------|-------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-8</u> | <u>6-17-93</u> | <u>6:45</u> | <u>3</u>     | <u>40</u> | <u>VQA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|             |                |             |              |           |            |            |                       |
|             |                |             |              |           |            |            |                       |
|             |                |             |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: Paul Rish





**WATER SAMPLE FIELD DATA SHEET**

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-9

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid: \_\_\_\_\_ TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Depth to water: 10.81 TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Total depth: 18.7 TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Date: 6-15-93 Time (2400): 7:35

Probe Type and I.D. #  Oil/Water interface \_\_\_\_\_  
 Electronic indicator \_\_\_\_\_  
 Other: \_\_\_\_\_

CASING  
DIAMETER GAL/  
LINEAR FT.

|                                     |     |       |      |
|-------------------------------------|-----|-------|------|
| <input type="checkbox"/>            | 2   | _____ | 0.17 |
| <input checked="" type="checkbox"/> | 3   | _____ | 0.38 |
| <input type="checkbox"/>            | 4   | _____ | 0.66 |
| <input type="checkbox"/>            | 4.5 | _____ | 0.83 |
| <input type="checkbox"/>            | 5   | _____ | 1.02 |
| <input type="checkbox"/>            | 6   | _____ | 1.5  |
| <input type="checkbox"/>            | 8   | _____ | 2.6  |

SAMPLE TYPE

Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other: \_\_\_\_\_

TD 18.7 - DTW 10.81 = 7.89 Gal/Linear x Foot 0.38 = 2.99 x Casings 5 = Purge 14.99 Calculated

DATE PURGED: 6-15-93 START: 10:41 END (2400 hr): 10:44 PURGED BY: SP  
 DATE SAMPLED: 6-15-93 START: 11:00 END (2400 hr): \_\_\_\_\_ SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR  | TURBIDITY | ODOR |
|----------------|---------------|------------|------------------------|------------------|--------|-----------|------|
| 10:42          | 5             | 6.78       | 950                    | 66.1             | cloudy | light     | None |
| 10:43          | 10            | 6.72       | 949                    | 67.6             | clear  | trace     | ↓    |
| 10:44          | 15            | 6.70       | 951                    | 67.5             | ↓      | ↓         | ↓    |

Pumped dry Yes /  No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: \_\_\_\_\_ TOB/TOC \_\_\_\_\_

PURGING EQUIPMENT/I.D. #

Bailer: \_\_\_\_\_  Airlift: \_\_\_\_\_  
 Centrifugal: \_\_\_\_\_  Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-5  
 Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

| SAMPLE I.D. | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|-------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-9</u> | <u>6-15-93</u> | <u>11:00</u> | <u>3</u>     | <u>40</u> | <u>UBA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|             |                |              |              |           |            |            |                       |
|             |                |              |              |           |            |            |                       |
|             |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS: \_\_\_\_\_

SIGNATURE: [Signature]



WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-10

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid: TOB TOC  
 Depth to water: 10.96 TOB TOC  
 Total depth: 23 TOB TOC  
 Date: 6-17-93 Time (2400): 10:00

Probe Type  Oil/Water interface  
 and  Electronic indicator  
 I.D. #  Other: \_\_\_\_\_

CASING DIAMETER GAL/LINEAR FT.  
 2 \_\_\_\_\_ 0.17  
 3 \_\_\_\_\_ 0.38  
 4 \_\_\_\_\_ 0.66  
 4.5 \_\_\_\_\_ 0.83  
 5 \_\_\_\_\_ 1.02  
 6 \_\_\_\_\_ 1.5  
 8 \_\_\_\_\_ 2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other: \_\_\_\_\_

DTW 23 - DTW 10.96 = 12.04 Gal/Linear x Foot 0.38 = 4.57 Number of 5 Casings Calculated = Purge 22.87

DATE PURGED: 6-17-93 START: 10:07 END (2400 hr): 10:17 PURGED BY: SP  
 DATE SAMPLED: 6-17-93 START: 10:30 END (2400 hr): \_\_\_\_\_ SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | EC (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR | TURBIDITY | ODOR   |
|----------------|---------------|------------|----------------------|------------------|-------|-----------|--------|
| 10:11          | 7.5           | 6.45       | 1161                 | 73.4             | clear | trace     | strong |
| 10:14          | 15            | 6.41       | 1127                 | 70.9             | ↓     | ↓         | ↓      |
| 10:17          | 23            | 6.41       | 1174                 | 69.9             | ↓     | ↓         | ↓      |

Pumped dry Yes /  No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: \_\_\_\_\_ TOB/TOC \_\_\_\_\_

PURGING EQUIPMENT/I.D. #

Bailor: \_\_\_\_\_  Airlift: \_\_\_\_\_  
 Centrifugal: \_\_\_\_\_  Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

SAMPLING EQUIPMENT/I.D. #

Bailor: 17-6  
 Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

| SAMPLE I.D. | DATE    | TIME (2400) | No. of Cont. | SIZE | CONTAINER | PRESERVE | ANALYTICAL PARAMETER |
|-------------|---------|-------------|--------------|------|-----------|----------|----------------------|
| MW-10       | 6-17-93 | 10:30       | 3            | 40   | VOA       | HCl      | TPH Gas/BTEX         |
|             |         |             |              |      |           |          |                      |
|             |         |             |              |      |           |          |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS: \_\_\_\_\_

SIGNATURE: [Signature]



TER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-11

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid: TOB TOC  
 Depth to water: 11.57 TOB TOC  
 Total depth: 19.2 TOB TOC  
 Date: 6-16-93 Time (2400): 12:04

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other:

CASING DIAMETER GAL/ LINEAR FT.  
 2 0.17  
 3 0.38  
 4 0.66  
 4.5 0.83  
 5 1.02  
 6 1.5  
 8 2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:

TD 19.2 - DTW 11.57 = 7.63 Gal/Linear x Foot 0.38 = 2.89 x Number of Casings 5 = Calculated Purge 14.49

DATE PURGED: 6-16-93 START: 12:10 END (2400 hr): 12:24 PURGED BY: SP  
 DATE SAMPLED: 6-16-93 START: 12:30 END (2400 hr): --- SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | EC. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR  | TURBIDITY | ODOR |
|----------------|---------------|------------|-----------------------|------------------|--------|-----------|------|
| 12:14          | 5             | 6.70       | 1045                  | 73.4             | cloudy | light     | None |
| 12:19          | 10            | 6.72       | 994                   | 69.6             | ↓      | ↓         | ↓    |
| 12:24          | 14.5          | 6.72       | 976                   | 68.9             | ↓      | ↓         | ↓    |

Pumped dry Yes /  No

Cobach 0-100: Clear, Cloudy, Yellow, Brown  
 NTU 0-200: Heavy, Moderate, Light, Trace  
 Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: --- TOB/TOC ---

PURGING EQUIPMENT/I.D. #

Bailer: 17-7  Airlift:  
 Centrifugal:  Dedicated:  
 Other:

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-7  
 Dedicated:  
 Other:

| SAMPLE I.D.  | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-11</u> | <u>6-16-93</u> | <u>12:30</u> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:

SIGNATURE: [Signature]



**ER SAMPLE FIELD DATA SHEET**

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-13

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

**WELL INFORMATION**

Depth to Liquid:        TOB        TOC         
 Depth to water: 13.97 TOB        TOC         
 Total depth: 23.4 TOB        TOC         
 Date: 6-15-93 Time (2400): 7:19

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other:       

**CASING DIAMETER GAL/LINEAR FT.**

2        0.17  
 3        0.38  
 4        0.66  
 4.5        0.83  
 5        1.02  
 6        1.5  
 8        2.6

**SAMPLE TYPE**  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:       

TD 23.4 - DTW 13.97 = 9.43 Gal/Linear Foot 0.38 = 3.58 x Casings 5 = Calculated Purge 17.91

DATE PURGED: 6-15-93 START: 9:03 END (2400 hr): 9:08 PURGED BY: SP  
 DATE SAMPLED: 6-15-93 START: 9:15 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR  | TURBIDITY | ODOR |
|----------------|---------------|------------|------------------------|------------------|--------|-----------|------|
| 9:04           | 6             | 6.85       | 932                    | 65.7             | cloudy | light     | none |
| 9:06           | 12            | 6.88       | 934                    | 65.7             | ↓      | ↓         | ↓    |
| 9:08           | 18            | 6.86       | 936                    | 65.7             | ↓      | ↓         | ↓    |

Pumped dry Yes /  No

Color 0-100: Clear, Cloudy, Yellow, Brown  
 NTU 0-200: Heavy, Moderate, Light, Trace  
 Odor: Strong, Moderate, Faint, None

**FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:**

DTW:        TOB/TOC       

**PURGING EQUIPMENT/I.D. #**

Bailer: 7-6  Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

**SAMPLING EQUIPMENT/I.D. #**

Bailer: 17-6  
 Dedicated:         
 Other:       

| SAMPLE I.D. | DATE    | TIME (2400) | No. of Cont. | SIZE | CONTAINER | PRESERVE | ANALYTICAL PARAMETER |
|-------------|---------|-------------|--------------|------|-----------|----------|----------------------|
| MW-13       | 6-15-93 | 9:15        | 3            | 40   | VOA       | HCl      | TPH Gas / BTEX       |
|             |         |             |              |      |           |          |                      |
|             |         |             |              |      |           |          |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: [Signature]



WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: SAN LORENZO WELL ID #: MW-14

CLIENT/STATION No.: ARCO 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:      TOB      TOC       
 Depth to water: 9.90 TOB      TOC       
 Total depth: 23.1 TOB      TOC       
 Date: 6-15-93 Time (2400): 7:59

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other:     

CASING DIAMETER GAL/LINEAR FT.  
 2      0.17  
 3      0.38  
 4      0.66  
 4.5      0.83  
 5      1.02  
 6      1.5  
 8      2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:     

TD 23.1 - DTW 9.90 = 13.20 x Foot 0.38 = 5.01 x Number of Casings 5 = Calculated Purge 25.08

DATE PURGED: 6-15-93 START: 12:56 END (2400 hr): 13:04 PURGED BY: SP  
 DATE SAMPLED: 6-15-93 START: 13:10 END (2400 hr):      SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR         | TURBIDITY    | ODOR         |
|----------------|---------------|-------------|------------------------|------------------|---------------|--------------|--------------|
| <u>12:58</u>   | <u>8.5</u>    | <u>6.91</u> | <u>947</u>             | <u>70.6</u>      | <u>cloudy</u> | <u>light</u> | <u>faint</u> |
| <u>13:01</u>   | <u>17</u>     | <u>6.53</u> | <u>946</u>             | <u>69.6</u>      | <u>clear</u>  | <u>trace</u> | <u>↓</u>     |
| <u>13:04</u>   | <u>25</u>     | <u>6.53</u> | <u>940</u>             | <u>    </u>      | <u>↓</u>      | <u>↓</u>     | <u>↓</u>     |

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:      TOB/TOC     

PURGING EQUIPMENT/I.D. #

Bailer:       Airlift:       
 Centrifugal:       Dedicated:       
 Other:     

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-1  
 Dedicated:       
 Other:     

| SAMPLE I.D.  | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-14</u> | <u>6-15-93</u> | <u>13:10</u> | <u>3</u>     | <u>40</u> | <u>WHA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:     

SIGNATURE: [Signature]



WELL SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-15

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:      TOB      TOC  
 Depth to water: 11.35 TOB      TOC  
 Total depth: 23.6 TOB      TOC  
 Date: 6-17-93 Time (2400): 8:41

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other:     

CASING DIAMETER GAL/LINEAR FT.  
 2      0.17  
 3      0.38  
 4      0.66  
 4.5      0.83  
 5      1.02  
 6      1.5  
 8      2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:     

TD 23.6 - DTW 11.35 = 12.25 Gal/Linear Foot 0.38 = 4.65 Number of Casings 5 Calculated = Purge 23.27

DATE PURGED: 6-17-93 START: 8:47 END (2400 hr): 8:51 PURGED BY: SP  
 DATE SAMPLED: 6-17-93 START: 9:25 END (2400 hr):      SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR  | TURBIDITY | ODOR   |
|----------------|---------------|------------|------------------------|------------------|--------|-----------|--------|
| 8:49           | 5             | 6.37       | 1041                   | 69.3             | cloudy | light     | strong |
| 8:51           | 16            | 6.72       | 1073                   | 68.4             | ↓      | ↓         | ↓      |
|                |               |            |                        |                  |        |           |        |
|                |               |            |                        |                  |        |           |        |

Pumped dry  Yes / No

Cobalt 0-100: Clear, Cloudy, Yellow, Brown  
 NTU 0-200: Heavy, Moderate, Light, Trace  
 Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:  
 DTW: 11.39 TOB/TOC 4.77 1099 68.0 clear trace Mod.

PURGING EQUIPMENT/I.D. #  
 Bailer:       Airlift:       
 Centrifugal:       Dedicated:       
 Other:     

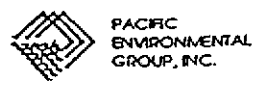
SAMPLING EQUIPMENT/I.D. #  
 Bailer: 17-5  
 Dedicated:       
 Other:     

| SAMPLE I.D.  | DATE           | TIME (2400) | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|-------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-15</u> | <u>6-17-93</u> | <u>9:25</u> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |             |              |           |            |            |                       |
|              |                |             |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:     

SIGNATURE: [Signature]



ER SAMPLE FIELD DATA SHEET

OBJECT No.: 330-06.15 LOCATION: SAN LORENZO WELL ID #: MW-16

IDENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid: \_\_\_\_\_ TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Depth to water: 11.86 TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Total depth: 22.5 TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Date: 6-17-93 Time (2400): 8:22

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic Indicator  
 Other: \_\_\_\_\_

CASING DIAMETER GAL/ LINEAR FT.  
 2 \_\_\_\_\_ 0.17  
 3 \_\_\_\_\_ 0.38  
 4 \_\_\_\_\_ 0.66  
 4.5 \_\_\_\_\_ 0.83  
 5 \_\_\_\_\_ 1.02  
 6 \_\_\_\_\_ 1.5  
 8 \_\_\_\_\_ 2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other: \_\_\_\_\_

TD 22.5 - DTW 11.86 = 10.64 x Gal/Linear Foot 0.38 = 4.04 x Number of Casings 5 = Calculated Purge 20.21

DATE PURGED: 6-17-93 START: 8:29 END (2400 hr): 8:30 PURGED BY: SP  
 DATE SAMPLED: 6-17-93 START: 9:15 END (2400 hr): \_\_\_\_\_ SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR           | TURBIDITY   | ODOR        |
|----------------|---------------|-------------|------------------------|------------------|-----------------|-------------|-------------|
| <u>8:30</u>    | <u>6</u>      | <u>6.80</u> | <u>990</u>             | <u>70.0</u>      | <u>Gray/Tan</u> | <u>Mod.</u> | <u>None</u> |
|                |               |             |                        |                  |                 |             |             |
|                |               |             |                        |                  |                 |             |             |

Pumped dry (Yes/No) (Yes)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 11.86 TOB/TOC 6.88 989 68.7 cloudy light None

PURGING EQUIPMENT/I.D. #

Bailer: \_\_\_\_\_  
 Centrifugal: \_\_\_\_\_  
 Other: \_\_\_\_\_

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-4  
 Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

| SAMPLE I.D.  | DATE           | TIME (2400) | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER |
|--------------|----------------|-------------|--------------|-----------|------------|------------|----------------------|
| <u>MW-16</u> | <u>6-17-93</u> | <u>9:15</u> | <u>3</u>     | <u>40</u> | <u>VQA</u> | <u>HCl</u> | <u>TPH Gas/BTEX</u>  |
|              |                |             |              |           |            |            |                      |
|              |                |             |              |           |            |            |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature]



WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-17

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC         
 Depth to water: 12.71 TOB        TOC         
 Total depth: 23.6 TOB        TOC         
 Date: 6-17-93 Time (2400): 7:52

CASING

| DIAMETER                              | GAL/ LINEAR FT. |
|---------------------------------------|-----------------|
| <input type="checkbox"/> 2            | 0.17            |
| <input checked="" type="checkbox"/> 3 | 0.38            |
| <input checked="" type="checkbox"/> 4 | 0.66            |
| <input type="checkbox"/> 4.5          | 0.83            |
| <input type="checkbox"/> 5            | 1.02            |
| <input type="checkbox"/> 6            | 1.5             |
| <input type="checkbox"/> 8            | 2.6             |

SAMPLE TYPE

Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other;

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other;

TD 23.6 - DTW 12.71 = 10.89 Gal/Linear Foot 0.38 = 4.13 x Casings 5 = Purge 20.69

DATE PURGED: 6-17-93 START: 8:00 END (2400 hr): 8:06 PURGED BY: SP  
 DATE SAMPLED: 6-17-93 START: 8:15 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | EC. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR         | TURBIDITY    | ODOR       |
|----------------|---------------|-------------|-----------------------|------------------|---------------|--------------|------------|
| <u>8:02</u>    | <u>7</u>      | <u>6.87</u> | <u>999</u>            | <u>69.2</u>      | <u>cloudy</u> | <u>light</u> | <u>Mod</u> |
| <u>8:04</u>    | <u>14</u>     | <u>6.60</u> | <u>972</u>            | <u>68.7</u>      | <u>↓</u>      | <u>↓</u>     | <u>↓</u>   |
| <u>8:06</u>    | <u>21</u>     | <u>6.56</u> | <u>958</u>            | <u>68.4</u>      | <u>↓</u>      | <u>↓</u>     | <u>↓</u>   |

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #

Bailer:         Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-6  
 Dedicated:         
 Other:       

| SAMPLE I.D.  | DATE           | TIME (2400) | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|-------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-17</u> | <u>6-17-93</u> | <u>8:15</u> | <u>3</u>     | <u>40</u> | <u>VQA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |             |              |           |            |            |                       |
|              |                |             |              |           |            |            |                       |
|              |                |             |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: Tom Rish





TER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-18

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:      TOB      TOC  
 Depth to water: 10.82 TOB      TOC  
 Total depth: 21.7 TOB      TOC  
 Date: 6-16-93 Time (2400): 10:53

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other:     

CASING DIAMETER GAL/LINEAR FT.  
 2      0.17  
 3      0.38  
 4      0.66  
 4.5      0.83  
 5      1.02  
 6      1.5  
 8      2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:     

TD 21.7 - DTW 10.82 = 10.88 Gal/Linear Foot 0.38 = 4.13 Number of Casings 5 Calculated = Purge 20.65

DATE PURGED: 6-16-93 START: 11:04 END (2400 hr): 11:10 PURGED BY: SP  
 DATE SAMPLED: 6-16-93 START: 11:20 END (2400 hr):      SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR         | TURBIDITY     | ODOR        |
|----------------|---------------|-------------|------------------------|------------------|---------------|---------------|-------------|
| <u>11:06</u>   | <u>7</u>      | <u>6.60</u> | <u>1014</u>            | <u>69.0</u>      | <u>cloudy</u> | <u>traces</u> | <u>None</u> |
| <u>11:08</u>   | <u>14</u>     | <u>6.80</u> | <u>1030</u>            | <u>69.4</u>      | <u>clear</u>  | <u>↓</u>      | <u>↓</u>    |
| <u>11:10</u>   | <u>21</u>     | <u>6.81</u> | <u>1037</u>            | <u>69.1</u>      | <u>↓</u>      | <u>↓</u>      | <u>↓</u>    |

Pumped dry Yes /  No

Cobek 0-100  
 Clear  
 Cloudy  
 Yellow  
 Brown  
 NTU 0-200  
 Heavy  
 Moderate  
 Light  
 Trace  
 Strong  
 Moderate  
 Faint  
 None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:      TOB/TOC     

PURGING EQUIPMENT/I.D. #

Bailer:       Airlift:       
 Centrifugal:       Dedicated:       
 Other:     

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-3  
 Dedicated:       
 Other:     

| SAMPLE I.D.  | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-18</u> | <u>6-16-93</u> | <u>11:20</u> | <u>3</u>     | <u>40</u> | <u>WHA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:     

SIGNATURE: [Signature]



ER SAMPLE FIELD DATA SHEET

OBJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-19

IDENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC  
 Depth to water: 10.30 TOB        TOC  
 Total depth: 21.6 TOB        TOC  
 Date: 6-16-93 Time (2400): 10:20

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other:       

CASING DIAMETER

2 \_\_\_\_\_ 0.17  
 3 \_\_\_\_\_ 0.38  
 4 \_\_\_\_\_ 0.66  
 4.5 \_\_\_\_\_ 0.83  
 5 \_\_\_\_\_ 1.02  
 6 \_\_\_\_\_ 1.5  
 8 \_\_\_\_\_ 2.6

GAL/LINEAR FT.

SAMPLE TYPE

Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:       

TD 21.6 - DTW 10.30 = 11.30 Gal/Linear Foot 0.38 = 4.29 Number of Casings 5 Calculated = Purge 21.45

DATE PURGED: 6-16-93 START: 10:31 END (2400 hr): 10:37 PURGED BY: SP  
 DATE SAMPLED: 6-16-93 START: 10:50 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | EC (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR        | TURBIDITY    | ODOR        |
|----------------|---------------|-------------|----------------------|------------------|--------------|--------------|-------------|
| <u>10:33</u>   | <u>7</u>      | <u>6.85</u> | <u>1057</u>          | <u>68.0</u>      | <u>Clear</u> | <u>trace</u> | <u>None</u> |
| <u>10:35</u>   | <u>14</u>     | <u>6.86</u> | <u>1062</u>          | <u>67.4</u>      | <u>↓</u>     | <u>↓</u>     | <u>↓</u>    |
| <u>10:37</u>   | <u>21.5</u>   | <u>6.82</u> | <u>1055</u>          | <u>67.0</u>      | <u>↓</u>     | <u>↓</u>     | <u>↓</u>    |

Pumped dry Yes / No

Cobach 0-100  
 Clear  
 Cloudy  
 Yellow  
 Brown  
 NTU 0-200  
 Heavy  
 Moderate  
 Light  
 Trace  
 Strong  
 Moderate  
 Faint  
 None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #

Bailer:         Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-2  
 Dedicated:         
 Other:       

| SAMPLE I.D.  | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-19</u> | <u>6-16-93</u> | <u>10:50</u> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE:       



WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: SAN LORENZO WELL ID #: MW-20

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC  
 Depth to water: 10.51 TOB        TOC  
 Total depth: 219 TOB        TOC  
 Date: 6-16-93 Time (2400): 9:50

Probe Type .  Oil/Water interface  
 and  Electronic indicator  
 I.D. #  Other;

| CASING DIAMETER                       | GAL/LINEAR FT. |
|---------------------------------------|----------------|
| <input type="checkbox"/> 2            | 0.17           |
| <input checked="" type="checkbox"/> 3 | 0.38           |
| <input type="checkbox"/> 4            | 0.66           |
| <input type="checkbox"/> 4.5          | 0.83           |
| <input type="checkbox"/> 5            | 1.02           |
| <input type="checkbox"/> 6            | 1.5            |
| <input type="checkbox"/> 8            | 2.6            |

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other;

TD 21.9 - DTW 10.51 = 11.39 Gal/Linear Foot 0.38 = 4.32 x Casings 5 = Calculated Purge 21.64

DATE PURGED: 6-14-93 START: 10:00 END (2400 hr): 10:06 PURGED BY: SP

DATE SAMPLED: 6-16-93 START: 10:15 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | EC. (umhos/cm @ 2.5°C) | TEMPERATURE (°F) | COLOR        | TURBIDITY    | ODOR        |
|----------------|---------------|-------------|------------------------|------------------|--------------|--------------|-------------|
| <u>10:02</u>   | <u>7.5</u>    | <u>6.88</u> | <u>984</u>             | <u>69.1</u>      | <u>clear</u> | <u>trace</u> | <u>none</u> |
| <u>10:04</u>   | <u>15</u>     | <u>6.51</u> | <u>975</u>             | <u>68.9</u>      | <u>↓</u>     | <u>↓</u>     | <u>↓</u>    |
| <u>10:06</u>   | <u>22</u>     | <u>6.54</u> | <u>967</u>             | <u>68.1</u>      | <u>↓</u>     | <u>↓</u>     | <u>↓</u>    |

Pumped dry Yes /  No

Cobak 0-100  
 Clear  
 Cloudy  
 Yellow  
 Brown  
 NTU 0-200  
 Heavy  
 Moderate  
 Light  
 Trace  
 Strong  
 Moderate  
 Faint  
 None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #

Bailer:         Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-1  
 Dedicated:         
 Other:       

| SAMPLE I.D.  | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-20</u> | <u>6-16-93</u> | <u>10:15</u> | <u>3</u>     | <u>40</u> | <u>UBA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: [Signature]



TER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: SAN LORENZO WELL ID #: MW-21

CLIENT/STATION No.: ARCO 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC  
 Depth to water: 10.85 TOB        TOC  
 Total depth: 22 TOB        TOC  
 Date: 6-16-93 Time (2400): 8:50

CASING GAL/  
 DIAMETER LINEAR FT.  
 2        0.17  
 3        0.38  
 4        0.66  
 4.5        0.83  
 5        1.02  
 6        1.5  
 8        2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:       

Probe Type:  Oil/Water interface  
 and  Electronic indicator  
 I.D. #  Other:       

TD 22 - DTW 10.85 = 11.15 Gal/Linear x Foot 0.38 = 4.23 Number of 5 Casings = Purge 21.18

DATE PURGED: 6-16-93 START: 9:00 END (2400 hr): 9:06 PURGED BY: SP

DATE SAMPLED: 6-16-93 START: 9:10 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR | TURBIDITY | ODOR |
|----------------|---------------|------------|------------------------|------------------|-------|-----------|------|
| 9:02           | 7             | 7.12       | 1019                   | 71.5             | clear | trace     | None |
| 9:04           | 14            | 6.31       | 1005                   | 70.5             | ↓     | ↓         | ↓    |
| 9:06           | 21            | 6.28       | 1000                   | 70.2             | ↓     | ↓         | ↓    |

Pumped dry Yes / No

Cobach 0-100  
 Clear  
 Cloudy  
 Yellow  
 Brown  
 NTU 0-200  
 Heavy  
 Moderate  
 Light  
 Trace  
 Strong  
 Moderate  
 Faint  
 None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #

Bailor:         Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

SAMPLING EQUIPMENT/I.D. #

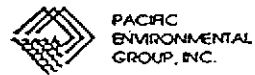
Bailor: 17-6  
 Dedicated:         
 Other:       

| SAMPLE I.D.  | DATE           | TIME (2400) | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER |
|--------------|----------------|-------------|--------------|-----------|------------|------------|----------------------|
| <u>MW-21</u> | <u>6-16-93</u> | <u>9:10</u> | <u>3</u>     | <u>40</u> | <u>USA</u> | <u>HCl</u> | <u>TPH Gas/BTEX</u>  |
|              |                |             |              |           |            |            |                      |
|              |                |             |              |           |            |            |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: Pat Risk



ER SAMPLE FIELD DATA SHEET

OBJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-22

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC  
 Depth to water: 11.20 TOB        TOC  
 Total depth: 21.8 TOB        TOC  
 Date: 6-16-93 Time (2400): 7:45

CASING

| DIAMETER                              | GAL/ LINEAR FT. |
|---------------------------------------|-----------------|
| <input type="checkbox"/> 2            | 0.17            |
| <input checked="" type="checkbox"/> 3 | 0.38            |
| <input type="checkbox"/> 4            | 0.66            |
| <input type="checkbox"/> 4.5          | 0.83            |
| <input type="checkbox"/> 5            | 1.02            |
| <input type="checkbox"/> 6            | 1.5             |
| <input type="checkbox"/> 8            | 2.6             |

SAMPLE TYPE

Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other;

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other;

TD 21.8 - DTW 11.20 = 10.60 Gal/Linear x Foot 0.38 = 4.02 Number of 5 Casings = Calculated = Purge 20.14

DATE PURGED: 6-16-93 START: 7:55 END (2400 hr): 8:03 PURGED BY: SP  
 DATE SAMPLED: 6-16-93 START: 8:10 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | EC. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR         | TURBIDITY    | ODOR        |
|----------------|---------------|-------------|-----------------------|------------------|---------------|--------------|-------------|
| <u>7:58</u>    | <u>7</u>      | <u>7.08</u> | <u>991</u>            | <u>67.8</u>      | <u>cloudy</u> | <u>light</u> | <u>None</u> |
| <u>8:01</u>    | <u>14</u>     | <u>6.67</u> | <u>979</u>            | <u>67.1</u>      | <u>clear</u>  | <u>trace</u> | <u>↓</u>    |
| <u>8:03</u>    | <u>20</u>     | <u>6.65</u> | <u>968</u>            | <u>67.0</u>      | <u>↓</u>      | <u>↓</u>     | <u>↓</u>    |

Pumped dry Yes /  No

Cobalt 0-100: Clear, Cloudy, Yellow, Brown  
 NTU 0-200: Heavy, Moderate, Light, Trace  
 Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #

Bailor:         Airlift:         
 Centrifugal:         Dedicated:         
 Other:       

SAMPLING EQUIPMENT/I.D. #

Bailor: 17-5  
 Dedicated:         
 Other:       

| SAMPLE I.D.  | DATE           | TIME (2400) | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER   |
|--------------|----------------|-------------|--------------|-----------|------------|------------|------------------------|
| <u>MW-22</u> | <u>6-16-93</u> | <u>8:10</u> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCL</u> | <u>TPH Gas / STE X</u> |
|              |                |             |              |           |            |            |                        |
|              |                |             |              |           |            |            |                        |
|              |                |             |              |           |            |            |                        |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: Paul Rishy



ER SAMPLE FIELD DATA SHEET

OBJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-23

IDENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid: \_\_\_\_\_ TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Depth to water: 12.30 TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Total depth: 22 TOB \_\_\_\_\_ TOC \_\_\_\_\_  
 Date: 6-16-93 Time (2400): 6:58

CASING

DIAMETER GAL/ LINEAR FT.  
 2 \_\_\_\_\_ 0.17  
 3 \_\_\_\_\_ 0.38  
 4 \_\_\_\_\_ 0.66  
 4.5 \_\_\_\_\_ 0.83  
 5 \_\_\_\_\_ 1.02  
 6 \_\_\_\_\_ 1.5  
 8 \_\_\_\_\_ 2.6

SAMPLE TYPE

Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other, \_\_\_\_\_

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other, \_\_\_\_\_

TD 22 - DTW 12.30 = 9.70 Gal/Linear x Foot 0.38 = 3.68 x Number of Casings 5 = Calculated Purge 18.43

DATE PURGED: 6-16-93 START: 7:27 END (2400 hr): 7:34 PURGED BY: SP

DATE SAMPLED: 6-16-93 START: 7:40 END (2400 hr): \_\_\_\_\_ SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR  | TURBIDITY | ODOR |
|----------------|---------------|------------|------------------------|------------------|--------|-----------|------|
| 7:30           | 6.5           | 6.92       | 1059                   | 71.0             | cloudy | light     | none |
| 7:32           | 12.5          | 6.57       | 1025                   | 68.6             | ↓      | ↓         | ↓    |
| 7:34           | 18.5          | 6.56       | 1020                   | 68.1             | ↓      | ↓         | ↓    |

Pumped dry Yes / No

Cobak 0-100  
 Clear  
 Cloudy  
 Yellow  
 Brown

NTU 0-200  
 Heavy  
 Moderate  
 Light  
 Trace

Strong  
 Moderate  
 Faint  
 None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: \_\_\_\_\_ TOB/TOC \_\_\_\_\_

PURGING EQUIPMENT/I.D. #

Bailer: \_\_\_\_\_  Airlift: \_\_\_\_\_  
 Centrifugal: \_\_\_\_\_  Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-4  
 Dedicated: \_\_\_\_\_  
 Other: \_\_\_\_\_

| SAMPLE I.D. | DATE    | TIME (2400) | No. of Cont. | SIZE | CONTAINER | PRESERVE | ANALYTICAL PARAMETER |
|-------------|---------|-------------|--------------|------|-----------|----------|----------------------|
| MW-23       | 6-16-93 | 7:40        | 3            | 40   | VOA       | HCl      | TPH Gas/BTEX         |
|             |         |             |              |      |           |          |                      |
|             |         |             |              |      |           |          |                      |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature]



PACIFIC ENVIRONMENTAL GROUP, INC.

ER SAMPLE FIELD DATA SHEET

OBJECT No.: 330-06.15 LOCATION: SAN LORENZO WELL ID #: MW-24

IDENT/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid: 13.39 TOB — TOC —  
 Depth to water: 13.39 TOB — TOC —  
 Total depth: 20.1 TOB — TOC —  
 Date: 6-15-93 Time (2400): 7:42

| CASING DIAMETER                       | GAL/LINEAR FT. |
|---------------------------------------|----------------|
| <input checked="" type="checkbox"/> 2 | 0.17           |
| <input checked="" type="checkbox"/> 3 | 0.38           |
| <input type="checkbox"/> 4            | 0.66           |
| <input type="checkbox"/> 4.5          | 0.83           |
| <input type="checkbox"/> 5            | 1.02           |
| <input type="checkbox"/> 6            | 1.5            |
| <input type="checkbox"/> 8            | 2.6            |

- SAMPLE TYPE
- Groundwater
  - Duplicate
  - Extraction well
  - Trip blank
  - Field blank
  - Equipment blank
  - Other;

Probe Type and I.D. #

- Oil/Water interface
- Electronic indicator
- Other;

TD 20.1 - DTW 13.39 = 6.71 Gal/Linear Foot 0.17 = 1.14 x Casings 5 = Purge 5.70

DATE PURGED: 6-15-93 START: 11:58 END (2400 hr): 12:07 PURGED BY: SP  
 DATE SAMPLED: 6-15-93 START: 12:10 END (2400 hr): — SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR      | TURBIDITY    | ODOR        |
|----------------|---------------|-------------|------------------------|------------------|------------|--------------|-------------|
| <u>12:01</u>   | <u>2</u>      | <u>7.11</u> | <u>1072</u>            | <u>76.5</u>      | <u>Tan</u> | <u>Heavy</u> | <u>None</u> |
| <u>12:04</u>   | <u>4</u>      | <u>7.01</u> | <u>1041</u>            | <u>74.1</u>      | <u>↓</u>   | <u>↓</u>     | <u>↓</u>    |
| <u>12:07</u>   | <u>5.5</u>    | <u>6.96</u> | <u>1019</u>            | <u>73.8</u>      | <u>↓</u>   | <u>↓</u>     | <u>↓</u>    |

Pumped dry: Yes / No

- |             |           |          |
|-------------|-----------|----------|
| Cobak 0-100 | NTU 0-200 | Strong   |
| Clear       | Heavy     | Moderate |
| Cloudy      | Moderate  | Faint    |
| Yellow      | Light     | None     |
| Brown       | Trace     |          |

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC —

PURGING EQUIPMENT/I.D. #

- Bailer: 17-3
- Centrifugal:
- Other:
- Airlift:
- Dedicated:

SAMPLING EQUIPMENT/I.D. #

- Bailer: 17-3
- Dedicated:
- Other:

| SAMPLE I.D.  | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-24</u> | <u>6-15-93</u> | <u>12:10</u> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:  

SIGNATURE: [Signature]



ER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: TLW-25

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:      TOB      TOC  
 Depth to water: 12.35 TOB      TOC  
 Total depth: 21.4 TOB      TOC  
 Date: 6-15-93 Time (2400): 7:27

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic Indicator  
 Other:     

CASING DIAMETER GAL/ LINEAR FT.  
 2      0.17  
 3      0.38  
 4      0.66  
 4.5      0.83  
 5      1.02  
 6      1.5  
 8      2.6

SAMPLE TYPE  
 Groundwater  
 Duplicate  
 Extraction well  
 Trip blank  
 Field blank  
 Equipment blank  
 Other:     

TD 21.4 - DTW 12.35 = 9.05 Gal/Linear x Foot 0.17 = 1.53 x Number of Casings 5 = Calculated Purge 7.69

DATE PURGED: 6-15-93 START: 9:41 END (2400 hr): 9:54 PURGED BY: SP  
 DATE SAMPLED: 6-15-93 START: 10:00 END (2400 hr):      SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units) | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR | TURBIDITY | ODOR |
|----------------|---------------|------------|------------------------|------------------|-------|-----------|------|
| 9:44           | 2.5           | 6.90       | 955                    | 65.4             | Tan   | Mod       | None |
| 9:51           | 5.5           | 6.67       | 978                    | 65.5             | ↓     | ↓         | ↓    |
| 9:54           | 8             | 6.64       | 993                    | 65.5             | ↓     | ↓         | ↓    |

Pumped dry Yes / No

Cobalt 0-100: Clear, Cloudy, Yellow, Brown  
 NTU 0-200: Heavy, Moderate, Light, Trace  
 Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:      TOB/TOC     

PURGING EQUIPMENT/I.D. #

Bailer: 17-4  Airlift:       
 Centrifugal:       Dedicated:       
 Other:     

SAMPLING EQUIPMENT/I.D. #

Bailer: 17-4  
 Dedicated:       
 Other:     

| SAMPLE I.D.   | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER   |
|---------------|----------------|--------------|--------------|-----------|------------|------------|------------------------|
| <u>TLW-25</u> | <u>6-15-93</u> | <u>10:00</u> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCl</u> | <u>TPH Gas / STE X</u> |
|               |                |              |              |           |            |            |                        |
|               |                |              |              |           |            |            |                        |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:     

SIGNATURE: [Signature]





WELL SAMPLE FIELD DATA SHEET

OBJECT No.: 330-06.15 LOCATION: San Lorenzo WELL ID #: MW-26

WELL/STATION No.: Arco 0608 FIELD TECHNICIAN: SP

WELL INFORMATION

Depth to Liquid:        TOB        TOC         
 Depth to water: 12.66 TOB        TOC         
 Total depth: 19.8 TOB        TOC         
 Date: 6-15-93 Time (2400): 7:39

CASING DIAMETER GAL/LINEAR FT.

- 2        0.17
- 3        0.38
- 4        0.66
- 4.5        0.83
- 5        1.02
- 6        1.5
- 8        2.6

SAMPLE TYPE

- Groundwater
- Duplicate
- Extraction well
- Trip blank
- Field blank
- Equipment blank
- Other;

Probe Type and I.D. #  
 Oil/Water interface  
 Electronic indicator  
 Other;       

TD 19.8 - DTW 12.66 = 7.14 Gal/Linear Foot 0.17 = 1.21 x Number of 5 Casings = Calculated Purge 6.06

DATE PURGED: 6-15-93 START: 12:28 END (2400 hr): 12:38 PURGED BY: SP  
 DATE SAMPLED: 6-15-93 START: 12:45 END (2400 hr):        SAMPLED BY: SP

| TIME (2400 hr) | VOLUME (gal.) | pH (units)  | E.C. (umhos/cm @ 25°C) | TEMPERATURE (°F) | COLOR      | TURBIDITY    | ODOR        |
|----------------|---------------|-------------|------------------------|------------------|------------|--------------|-------------|
| <u>12:31</u>   | <u>2</u>      | <u>7.14</u> | <u>1047</u>            | <u>71.7</u>      | <u>Tan</u> | <u>Heavy</u> | <u>None</u> |
| <u>12:35</u>   | <u>4</u>      | <u>6.65</u> | <u>1019</u>            | <u>70.5</u>      | <u>↓</u>   | <u>↓</u>     | <u>↓</u>    |
| <u>12:38</u>   | <u>6</u>      | <u>6.63</u> | <u>998</u>             | <u>69.8</u>      | <u>↓</u>   | <u>↓</u>     | <u>↓</u>    |

Pumped dry Yes /  No

Cobalt 0-100  
 Clear  
 Cloudy  
 Yellow  
 Brown

NTU 0-200  
 Heavy  
 Moderate  
 Light  
 Trace

Strong  
 Moderate  
 Faint  
 None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW:        TOB/TOC       

PURGING EQUIPMENT/I.D. #

- Bailer: 17-2
- Centrifugal:
- Other:
- Airlift:
- Dedicated:

SAMPLING EQUIPMENT/I.D. #

- Bailer: 17-2
- Dedicated:
- Other:

| SAMPLE I.D.  | DATE           | TIME (2400)  | No. of Cont. | SIZE      | CONTAINER  | PRESERVE   | ANALYTICAL PARAMETER  |
|--------------|----------------|--------------|--------------|-----------|------------|------------|-----------------------|
| <u>MW-26</u> | <u>6-15-93</u> | <u>12:45</u> | <u>3</u>     | <u>40</u> | <u>VOA</u> | <u>HCl</u> | <u>TPH Gas / BTEX</u> |
|              |                |              |              |           |            |            |                       |
|              |                |              |              |           |            |            |                       |

WELL INTEGRITY:  Good  Fair  Poor

REMARKS:       

SIGNATURE: *[Signature]*

