# Mobil Oil Corporation

3800 WEST ALAMEDA AVENUE
BURBANK, CALIFORNIA 91505-4331

June 30, 1993

Ms. Juliet Shin
Alameda County Dept. of
Environmental Health
Hazardous Materials Division
80 Swan Way Room 200
Oakland, CA 94621

**MOBIL OIL CORP.**
**FORMER S/S #10-L1X**
**15884 HESPERIAN BLVD**
**SAN LORENZO, CA**

Dear Ms. Shin:

Enclosed for your information is the quarterly monitoring and sampling report dated June 9, 1993 for subject location. The completed hold harmless and indemnification letter was forwarded to the Public Works on June 23, 1993. Once the encroachment permit is granted, we can schedule the offsite drilling.

If you have any questions, please feel free to contact me at (818) 953-2626.

Sincerely,

S. Pao

Stephen Pao
Field Engineer II

enclosure

cc: Mr. Rich Hiett (w/ enclosure)
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

G. G. Smith (w/o)

Environmental
Awareness

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

# QUARTERLY MONITORING REPORT

Sampling Date: May 19, 1993

**Former Mobil Service Station No. 10-L1X**
**15884 Hesperian Blvd.**
**San Lorenzo, California**

Prepared for:

MOBIL OIL CORPORATION
3800 West Alameda Avenue, Suite 2000
Burbank, CA 91505

Prepared by:

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.
2363 Mariner Square Drive, Suite 243
Alameda, California 94501
HETI Job No. 8-019

**June 2, 1993**

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## 1.0 INTRODUCTION

The purpose of this report is to present the results of Hydro-Environmental Technologies, Inc.'s (HETI's) quarterly water sampling for the former Mobil Service Station No. 10-L1X previously located at 15884 Hesperian Boulevard in San Lorenzo, California. Well sampling was performed on May 19, 1993.

Work performed at the site by HETI included: (1) well gauging, (2) well purging, and (3) collection of ground water samples from each of the wells. All documentation related to the field work is appended to this report.

Ground water samples collected from the wells were analyzed for total low to medium boiling point petroleum hydrocarbons (TPHg) by EPA Method 5030/8015, and benzene, toluene, ethylbenzene and total xylenes (BTEX), by EPA Method 8020.

## 2.0 BACKGROUND

The site is located at 15884 Hesperian Blvd., in San Lorenzo, California (Figure 1), and is currently paved over and used as a parking lot for a shopping mall (Figure 2). Kaprealian Engineering, Inc. (KEI) installed four two-inch diameter monitoring wells, designated MW-1 through MW-4, at the site in July 1986. In preparation to abandon the site, the underground storage tanks were removed and the tank pit was over-excavated in December 1987.

Mobil retained HETI in October 1991 to continue with further subsurface investigation. After HETI's initial site inspection to locate the wells, the following conditions were observed. Monitoring well MW-2 was found in good condition, the casing to MW-3 was broken off and debris had filled in the well, and wells MW-1 and MW-4 could not be located and their existence/condition is unknown.

HETI installed three monitoring wells on-site , designated MW-5, MW-6 and MW-7, and properly abandoned monitoring well MW-3 in January 1992. Monitoring well locations are shown on the Site Plan (Figure 3). Results of that phase of investigation and detailed project history are presented in HETI's *Phase I Report* dated May 7, 1992.

## 3.0 FIELD ACTIVITIES

All field work performed by HETI is consistent with standard HETI protocols (submitted previously), and with guidelines established by local and state regulatory agencies.

HETI collected ground water samples from monitoring wells MW-2, MW-5, MW-6 and MW-7 on May 19, 1993. Prior to sampling, depth to water in each well was gauged to the nearest hundredth of a foot using an interface probe. No separate-phase petroleum was detected in any of the wells. Prior to sampling, all monitoring wells were purged dry or until three well volumes had been removed. Gauging data is included in Table 1. Purging data is included in Appendix A.

Following recovery of water levels in the wells to at least 80 percent of their static water level, water samples were collected from each well with a dedicated bailer. Each sample was transferred to sample containers appropriate for the analysis to be performed. Sample containers were labeled and placed in a chilled cooler. A chain of custody was prepared and accompanied the samples to the laboratory; a copy is included in Appendix B. Water sample analyses were performed by Sequoia Analytical, a State DHS-certified laboratory located in Redwood City, California.

## 4.0 RESULTS OF MONITORING

### 4.1 Ground Water Data

The depth to ground water in each of the wells ranged from approximately 11 to 12 feet below grade, according to the well gauging conducted for this investigation. The depth to water data was combined with wellhead elevation data previously collected by HETI to calculate ground water elevations. These elevations were used to produce the ground water contours shown on Figure 4. Ground water flows towards the southwest at a gradient of 0.026 ft/ft (2.6%). Ground water levels in the wells have decreased approximately one foot since the last quarter, and the gradient has increased by nearly one order of magnitude. However, ground water flow direction during this quarter is generally consistent with those calculated previously.

### 4.2 Laboratory Analytical Results

TPHg was detected in the ground water sample collected from well MW-2 at a concentration of 100 parts per billion (ppb). BTEX compounds were not detected in the ground water sample collected from well MW-2 in concentrations exceeding the method detection limit. TPHg and benzene were detected in the ground water sample collected from well MW-7 at concentrations of 67 and 0.85 ppb, respectively. Neither TPHg nor BTEX compounds were detected in concentrations exceeding the method detection limit in ground water samples collected from wells MW-5 and MW-6.

Ground water sample analytical results are summarized in Table 1 and presented graphically on the Hydrocarbon Concentration Map (Figure 5). A copy of the laboratory report is included in Appendix B.

## 5.0 CERTIFICATION

This report was prepared under the supervision of a registered professional engineer. All statements, conclusions and recommendations are based solely upon field observations and analytical analyses performed by a state-certified laboratory related to work performed by Hydro-Environmental Technologies, Inc.

It is possible that variations in soil or ground water conditions exist beyond the points explored in this investigation. Also, site conditions are subject to change at some time in the future due to variations in rainfall, temperature, regional water usage, or other factors.

The service performed by Hydro-Environmental Technologies, Inc. has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Hydro-Environmental Technologies, Inc. includes in this report chemical analytical data from a state-certified laboratory. These analyses are performed according to procedures suggested by the U.S. EPA and the State of California. Hydro-Environmental Technologies, Inc. is not responsible for laboratory errors in procedure or result reporting.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

Prepared by:

Brian M. Gwinn
Project Manager

Reviewed by:

John H. Turney, P.E.
Senior Engineer

# TABLES

## Table 1

## SUMMARY OF GROUND WATER ELEVATIONS AND GROUND WATER ANALYTICAL RESULTS

Former Mobil Station No. 10-L1X
15884 Hesperian Boulevard
San Lorenzo, California

| MW-No. | Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHd (ppb) | TPHg (ppb) | B (ppb) | T (ppb) | E (ppb) | X (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 | 2/12/92 | 31.81 | 12.74 | 19.07 | -- | 190 | 4.4 | ND<0.3 | 4.7 | 3.8 |
| | 5/4/92 | 31.81 | 11.36 | 20.45 | -- | 480 | 9.1 | 1.4 | 4.4 | 2.3 |
| | 8/20/92 | 31.81 | 13.80 | 18.01 | -- | ND<50 | 0.99 | ND<0.5 | ND<0.5 | ND<0.5 |
| | 11/27/92 | 31.81 | 14.30 | 17.51 | -- | 56 | 3.2 | ND<0.5 | 0.87 | 2.1 |
| | 2/24/93 | 31.81 | 9.73 | 22.08 | -- | 330 | 14 | ND<0.5 | ND<0.5 | ND<0.5 |
| | 5/19/93 | 31.81 | 11.82 | 19.99 | -- | 100 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| MW-5 | 2/12/92 | 32.92 | 13.59 | 19.33 | ND<50 | 0.3 | ND<0.3 | ND<0.3 | ND<0.3 | ND<0.3 |
| | 5/4/92 | 32.92 | 12.25 | 20.67 | ND<50 | ND<30 | ND<0.3 | ND<0.3 | ND<0.3 | ND<0.3 |
| | 8/20/92 | 32.92 | 14.62 | 18.30 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| | 11/27/92 | 32.92 | 15.14 | 17.78 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| | 2/24/93 | 32.92 | 10.57 | 22.35 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| | 5/19/93 | 32.92 | 11.66 | 21.26 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| MW-6 | 2/12/92 | 32.68 | 13.57 | 19.11 | -- | 2700 | 14 | 3.5 | 27 | 39 |
| | 5/4/92 | 32.68 | 12.23 | 20.45 | -- | ND<30 | ND<0.3 | ND<0.3 | ND<0.3 | ND<0.3 |
| | 8/20/92 | 32.68 | 14.64 | 18.04 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | 3.8 |
| | 11/27/92 | 32.68 | 15.14 | 17.54 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| | 2/24/93 | 32.68 | 10.62 | 22.06 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| | 5/19/93 | 32.68 | 11.66 | 21.02 | -- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| MW-7 | 2/12/92 | 33.08 | 13.90 | 19.18 | -- | ND<30 | ND<0.3 | ND<0.3 | ND<0.3 | ND<0.3 |
| | 5/4/92 | 33.08 | 12.60 | 20.48 | -- | 640 | 4.5 | ND<0.6 | 11 | 14 |
| | 8/20/92 | 33.08 | 14.96 | 18.12 | -- | 220 | 1.2 | ND<0.5 | 3.8 | 4.3 |
| | 11/27/92 | 33.08 | 15.49 | 17.59 | -- | 82 | 1.6 | ND<0.5 | 4.3 | 3.6 |
| | 2/24/93 | 33.08 | 10.97 | 22.11 | -- | 82 | 1.5 | ND<0.5 | 6.0 | 4.0 |
| | 5/19/93 | 33.08 | 12.09 | 20.99 | -- | 67 | 0.85 | ND<0.5 | 6.4 | 3.8 |

## Table 1

## SUMMARY OF GROUND WATER ELEVATIONS AND GROUND WATER ANALYTICAL RESULTS

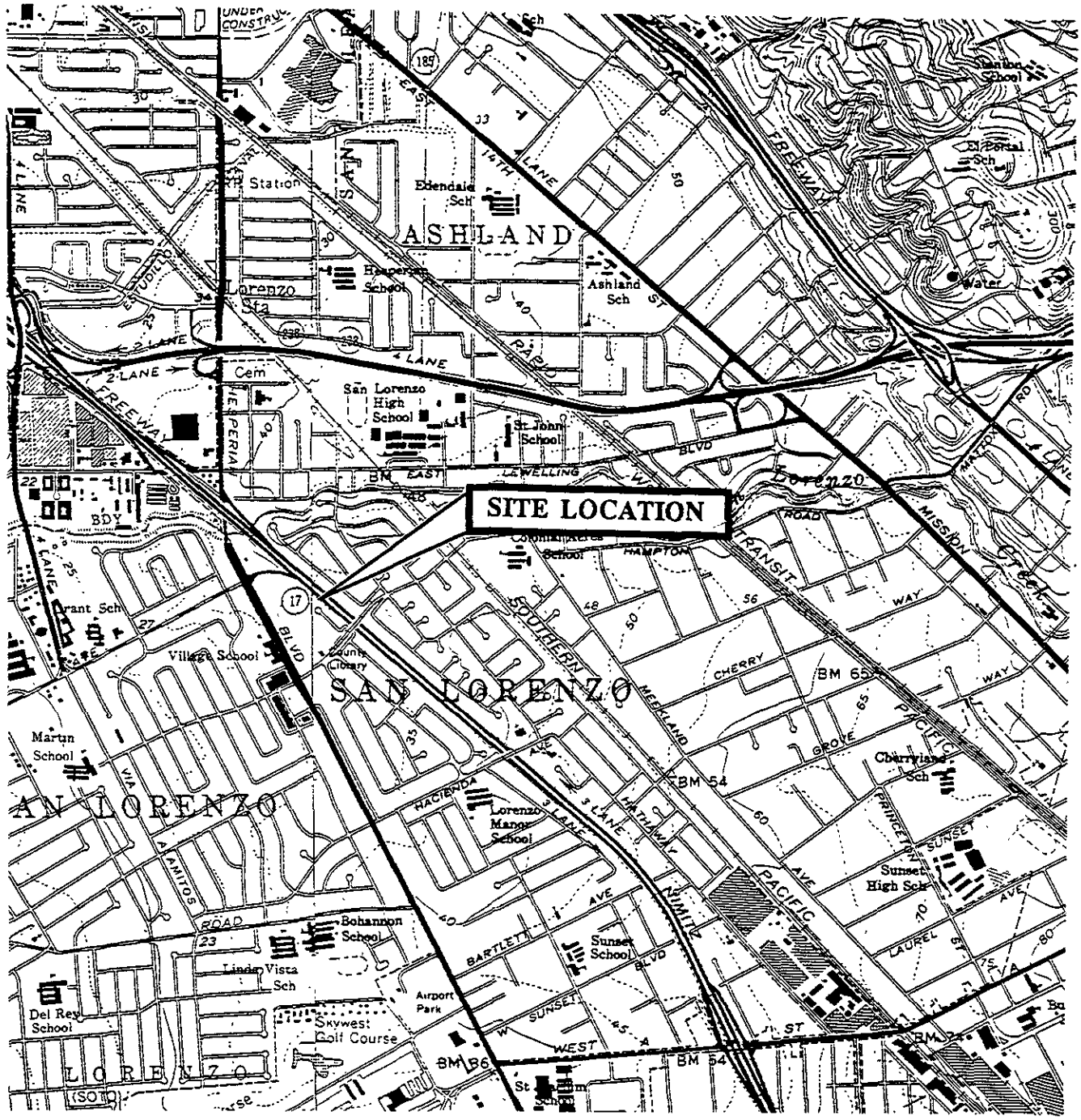
Former Mobil Station No. 10-L1X
15884 Hesperian Boulevard
San Lorenzo, California

| MW-No. | Date | TOG (ppm) | HVO (ppb) | SVO (ppb) | PCB (ppb) | Cd (ppm) | Cr (ppm) | Ni (ppm) | Zn (ppm) | O-Pb (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-5 | 2/12/92 | ND<1.0 | ND<0.5-5.0 | – | – | ND<0.010 | ND<0.010 | ND<0.050 | ND<0.010 | ND<0.050 |
| | 5/4/92 | ND<1.0 | ND<0.5-5.0 | – | – | ND<0.010 | ND<0.010 | ND<0.050 | ND<0.010 | ND<0.050 |
| | 8/20/92 | ND<1.0 | ND<0.5-5.0 | ND<2-10 | ND<0.5-2.0 | ND<0.010 | ND<0.010 | ND<0.050 | 0.012 | ND<0.050 |
| | 11/27/92 | – | – | – | – | – | – | – | – | – |
| | 2/24/93 | – | – | – | – | – | – | – | – | – |
| | 5/19/93 | – | – | – | – | – | – | – | – | – |

Notes:

| | |
|---|---|
| TOC : | Elevation at the north side of the top of the well casing referenced to mean sea level |
| DTW : | Depth to water |
| GWE : | Ground water elevation |
| TPHd : | Total high boiling point petroleum hydrocarbons by EPA Method 3510/8015 |
| TPHg : | Total low-to-medium boiling point petroleum hydrocarbons by EPA Method 5030/8015 |
| BTEX : | Benzene, Toluene, Ethylbenzene, and total Xylenes by EPA Method 8020 |
| TOG : | Total oil and grease by EPA Method 413.2 (I.R.) |
| HVO : | Halogenated volatile organics by EPA Method 5030/8010 |
| SVO | Semi-volatile organics by EPA Method 8270 GC/MS |
| PCB | Polychlorinated biphenyls by EPA Method 8080 |
| Cd, Cr, Ni, Zn : | Cadmium, chromium, nickel and zinc by EPA Method 6000 |
| O-Pb | Organic lead by California LUFT Manual (revised) |
| ND : | Not detected in concentrations exceeding the indicated laboratory method detection limit |
| – : | Not tested |

# FIGURES



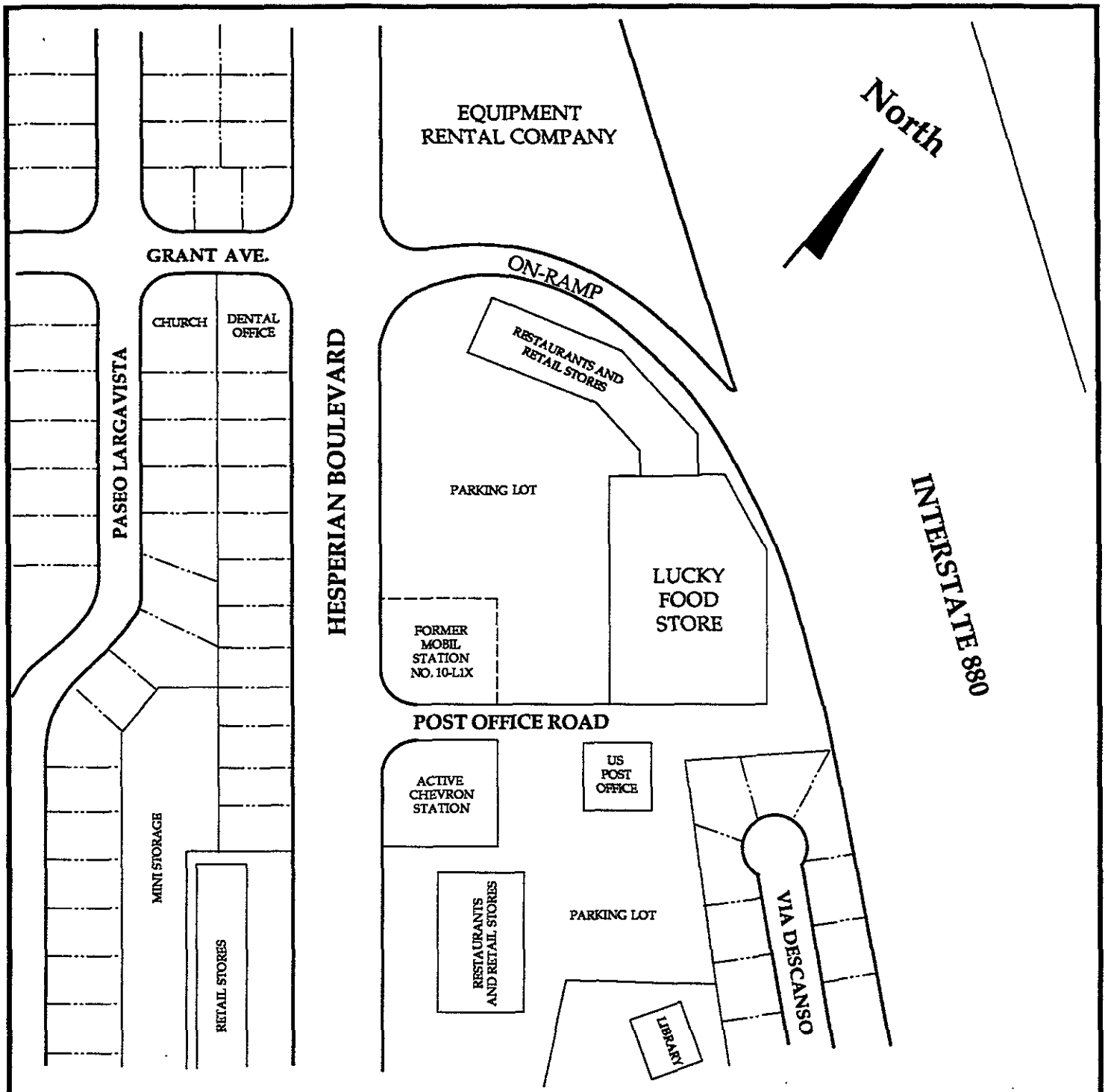

Source: U.S.Geological Survey
7.5 Minute Quadrangle Maps
Entitled: "San Leandro, California"
and "Hayward, California"
Revised 1980

Scale 1:24,000

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

**SITE LOCATION MAP**
Former Mobil Service Station No. 10-L1X
15884 Hesperian Boulevard
San Lorenzo, California

Job No.
**8-019**
Figure
**1**



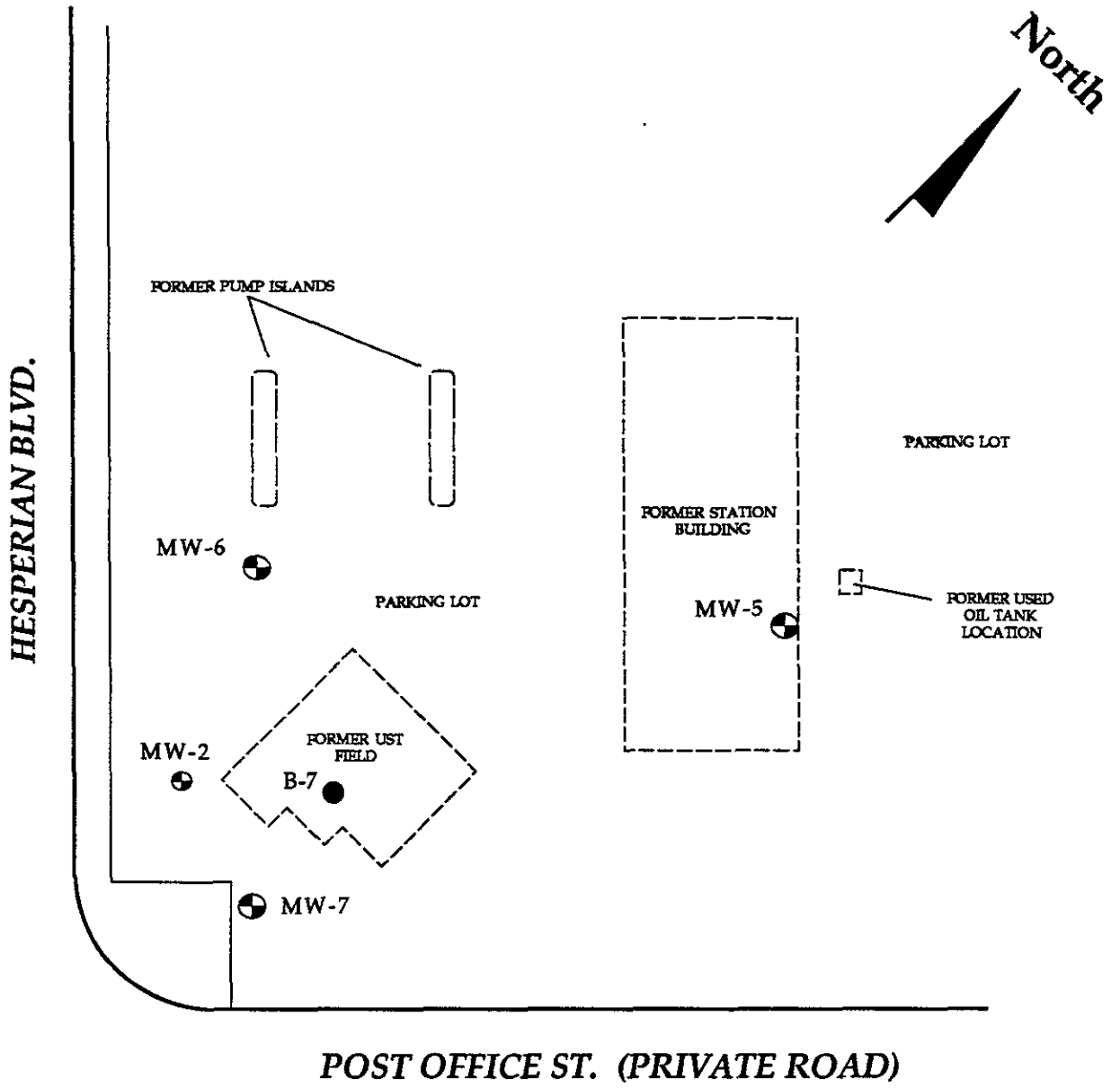

**EXPLANATION**

——·——·—— = Residential Property Line

0 200 400

FEET

| | | |
|---|---|---|
| HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC. | **SITE VICINITY MAP**<br>Former Mobil Service Station No. 10-L1X<br>15884 Hesperian Boulevard<br>San Lorenzo, California | Job No.<br>8-019<br>Figure<br>**2** |




## EXPLANATION

MW-4 = Four-inch well installed by HETI

MW-2 = Two-inch well installed by KEI

B-7 = Soil boring by HETI

SCALE: 1" = 30'

0 30 60

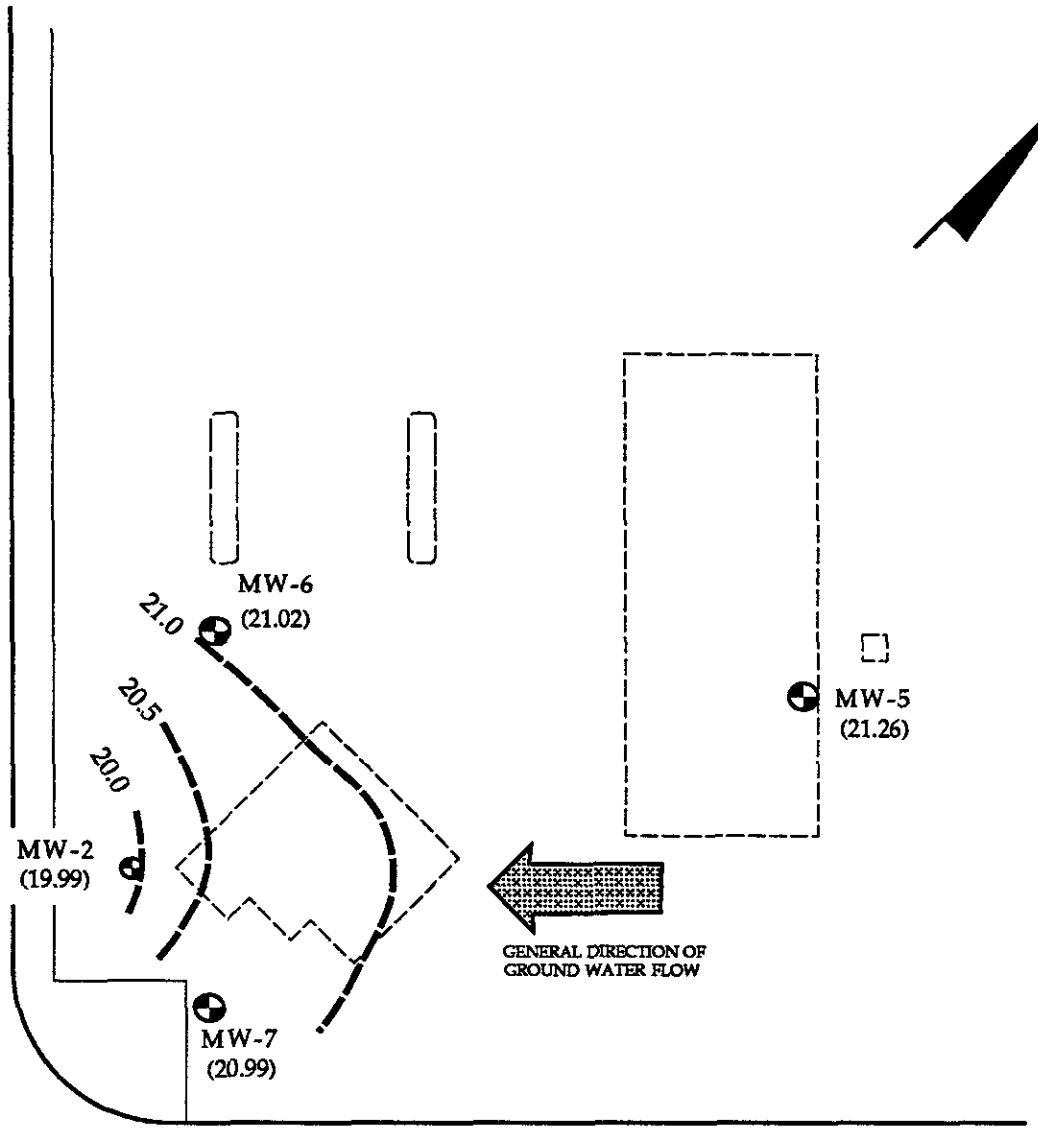
FEET

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

# SITE PLAN

Former Mobil Service Station No. 10-L1X
15884 Hesperian Blvd.
San Lorenzo, California

Job No. 8-019
Figure 3




## EXPLANATION

- MW-4 = Four-inch well installed by HETI
- MW-2 = Two-inch well installed by KEI
- (21.26) = Elevation of ground water - in feet based on project datum
- 21.0 = Estimated ground water elevation contour in feet - based on project datum

SCALE: 1" = 30'

0 30 60

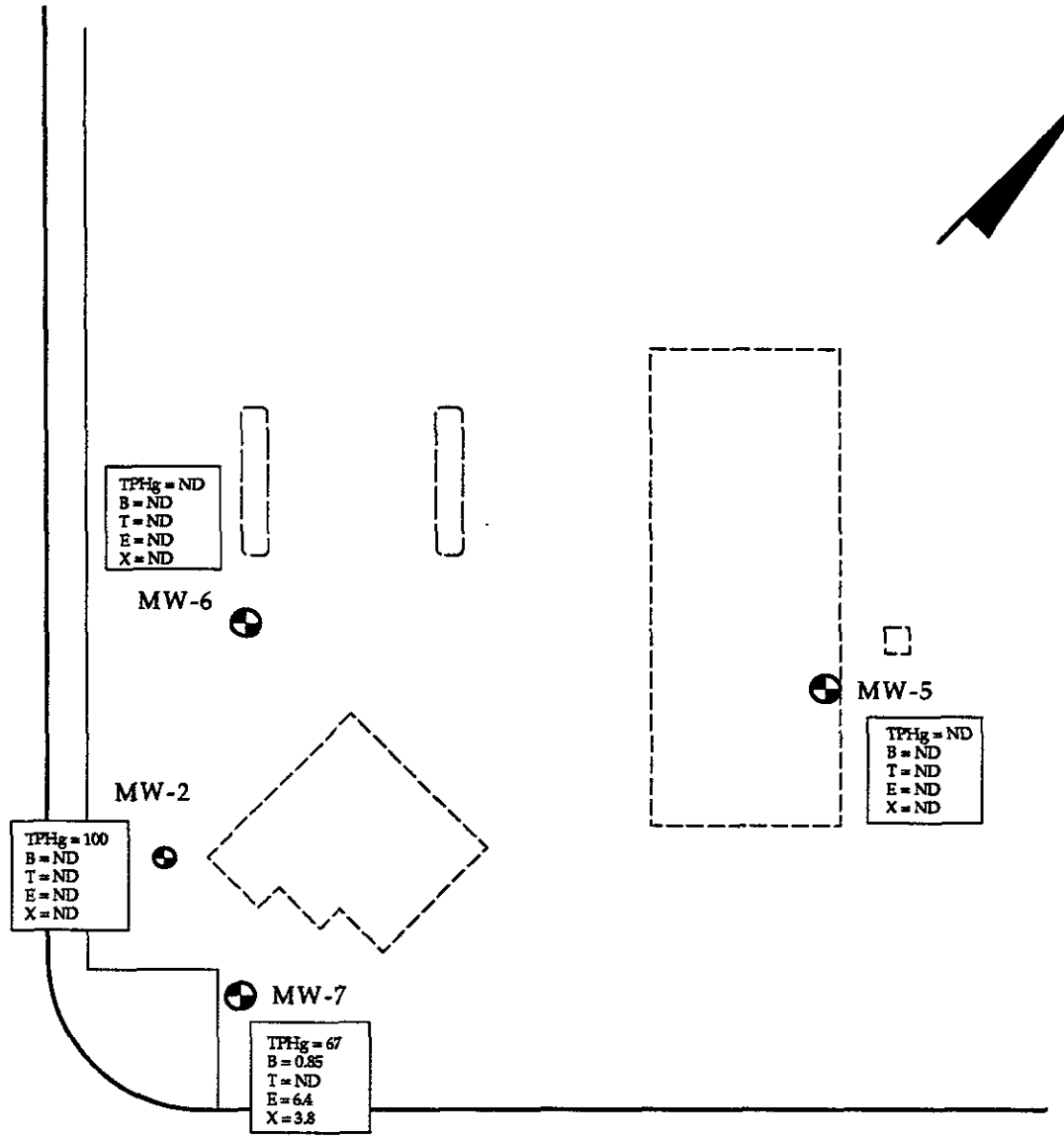
FEET

BASED ON DATA COLLECTED 5/19/93

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

**POTENTIOMETRIC SURFACE MAP**
Former Mobil Service Station No. 10-L1X
15884 Hesperian Blvd.
San Lorenzo, California

Job No. 8-019
Figure 4




## EXPLANATION

MW-4 = Four-inch well installed by HETI

MW-2 = Two-inch well installed by KEI

TPHg = ND
B = ND
T = ND
E = ND
X = ND

= Concentration of dissolved hydrocarbons as gasoline (TPHg), benzene (B), toluene (T), ethylbenzene (E), And total xylenes (X), detected in ground water sample - in ppb

SCALE: 1" = 30'

0 30 60

FEET

BASED ON DATA COLLECTED 5/19/93

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

# HYDROCARBON CONCENTRATION MAP

Former Mobil Service Station No. 10-L1X
15884 Hesperian Blvd.
San Lorenzo, California

Job No. 8-019
Figure 5

# APPENDIX A

PURGED/SAMPLED BY: HH DATE: 5-19-93

GAUGING DATA:

Depth to bottom: 26.40 ft.

Depth to water: 11.82 ft.

Saturated Thickness: 14.58 ft.

| Conversion | |
|---|---|
| diam. | gals/ft. |
| 2 in. | x 0.16 |
| 4 in. | x 0.65 |
| 6 in. | x 1.44 |

Well casing volume 2.33 gallons

# volumes to purge x 3 vols.

*Total volume to purge = 7 gallons

* unless chemical parameters stabilize earlier

PURGING DATA:

Purge method: (PVC bailer) / Submersible pump / Suction lift pump / _____ (circle one)

| Time | Volume (gallons) | Temp. (°F) | Conductivity (mS/cm) | pH |
|---|---|---|---|---|
| 2:05 | 0 | — | — | — |
| | 3 | 73.5 | — | 6.30 |
| ↓ | 5 | 73.2 | — | 6.29 |
| 2:20 | 7 | 73.0 | — | 6.27 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Color: tan olive Turbidity: light

Recharge: good SPP 0 ft.

SAMPLING DATA:

Sampling method: (Dedicated bailer) / _____

Sample for: (circle)

| | | | |
|---|---|---|---|
| (TPHg/BTEX) | METALS | TOG | 8010 |
| TPHd | O-Pb | TEL | 8021 |
| TPH mo | Total Pb | EDB | 8240 |
| 601 | 602 | Nitrates | 8260 8270 |

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

MONITORING WELL PURGE/SAMPLE SHEET

WELL # MW-2

LOCATION Mobil, San Lorenzo

Job No. 93-019

SHEET 1 of 1

PURGED/SAMPLED BY: HH DATE: 5-19-93

GAUGING DATA:

Depth to bottom: 22.21 ft.

Depth to water: 11.66 ft.

Saturated Thickness: 10.55 ft.

| Conversion | |
|---|---|
| diam. | gals/ft. |
| 2 in. | x 0.16 |
| 4 in. | x 0.65 |
| 6 in. | x 1.44 |

Well casing volume 6.86 gallons

# volumes to purge x 3 vols.

*Total volume to purge = 20.6 gallons

* unless chemical parameters stabilize earlier

PURGING DATA:

Purge method: PVC bailer / Submersible pump/ Suction lift pump/ _____ (circle one)

| Time | Volume (gallons) | Temp. (°F) | Conductivity (mS/cm) | pH |
|---|---|---|---|---|
| 12:10 | 0 | — | — | — |
| | 5 | 73.6 | — | 8.06 |
| | 10 | 73.5 | — | 7.94 |
| | ~~15~~ | 73.1 | — | 7.81 |
| dry 12:28 | 20 | 73.2 | — | 7.74 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Color: tan Turbidity: light

Recharge: poor SPP 0 ft.

SAMPLING DATA:

Sampling method: Dedicated bailer /_____

Sample for: (circle)

| | | | |
|---|---|---|---|
| TPHg/BTEX | METALS | TOG | 8010 |
| TPHd | O-Pb | TEL | 8020 |
| TPH mo | Total Pb | EDB | 8240 |
| 601 | 602 | Nitrates | 8260 8270 |

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

MONITORING WELL PURGE/SAMPLE SHEET

WELL # MW-5

LOCATION Mobil, San Lorenzo

Job No. 93-019

SHEET 1 of 1

PURGED/SAMPLED BY: HH DATE: 5-19-93

GAUGING DATA:

Depth to bottom: 22.25 ft.

Depth to water: 11.66 ft.

Saturated Thickness: 10.59 ft.

| Conversion | |
|---|---|
| diam. | gals/ft. |
| 2 in. | x 0.16 |
| 4 in. | x 0.65 |
| 6 in. | x 1.44 |

Well casing volume 6.88 gallons

# volumes to purge x 3 vols.

*Total volume to purge = 20.65 gallons

* unless chemical parameters stabilize earlier

PURGING DATA:

Purge method: PVC bailer / Submersible pump/ Suction lift pump/ _____ (circle one)

| Time | Volume (gallons) | Temp. (°F) | Conductivity (mS/cm) | pH |
|---|---|---|---|---|
| 12:45 | 0 | — | — | — |
| | 5 | 75.2 | — | 8.10 |
| | 10 | 74.8 | — | 8.04 |
| | 15 | 74.4 | — | 8.06 |
| 5/19/93 | 20 | 74.0 | — | 8.04 |
| 1:05 | 21 | 74.0 | — | 7.96 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Color: tan Turbidity: light

Recharge: [illegible] SPP 0 ft.

SAMPLING DATA:

Sampling method: Dedicated bailer

Sample for: (circle)

TPHg/BTEX METALS TOC 8010

TPHd O-Pb TEL 8020

TPH mo Total Pb EDB 8240

601 602 Nitrates 8250 8270

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

MONITORING WELL PURGE/SAMPLE SHEET

WELL # MW-6

LOCATION Mobil, San Lorenzo

Job No. 93-019

SHEET 1 of 1

PURGED/SAMPLED BY: HH DATE: 5-19-93

GAUGING DATA:

Depth to bottom: 23.84 ft.

Depth to water: 12.09 ft.

Saturated Thickness: 11.75 ft.

| Conversion | |
|---|---|
| diam. | gals/ft. |
| 2 in. | x 0.16 |
| 4 in. | x 0.65 |
| 6 in. | x 1.44 |

Well casing volume 7.63 gallons

# volumes to purge x 3 vols.

*Total volume to purge = 23 gallons

* unless chemical parameters stabilize earlier

PURGING DATA:

Purge method: (PVC bailer) Submersible pump/ Suction lift pump/ _____ (circle one)

| Time | Volume (gallons) | Temp. (°F) | Conductivity (mS/cm) | pH |
|---|---|---|---|---|
| 1:30 | 0 | — | — | — |
| | 5 | 73.9 | — | 9.18 |
| | 10 | 73.6 | — | 9.09 |
| | 15 | 73.4 | — | 9.03 |
| dry → 1:55 | 20 | 73.1 | — | 8.95 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Color: tan Turbidity: light

Recharge: poor SPP Ø ft.

SAMPLING DATA:

Sampling method: (Dedicated bailer) _____

Sample for: (circle)

(TPHg/BTEX) METALS TOG 8010

TPHd O-Pb TEL 8021

TPH mo Total Pb EDB 8240

601 602 Nitrates 8250 8270

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

MONITORING WELL PURGE/SAMPLE SHEET

WELL # MW-7

LOCATION Mobil, San Lorenzo

Job No. 93-019

SHEET 1 of 1

# APPENDIX B

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

RECEIVED JUN 0 7 1993

| | | | |
|---|---|---|---|
| Hydro Environmental | Client Project ID: | Mobil, 10-LIX | Sampled: May 19, 1993 |
| 2363 Mariner Square Dr., Bldg. 3, Ste 243 | Sample Matrix: | Water | Received: May 21, 1993 |
| Alameda, CA 94501 | Analysis Method: | EPA 5030/8015/8020 | Reported: May 27, 1993 |
| Attention: Brian Gwinn | First Sample #: | 3E95001 | |

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte | Reporting Limit µg/L | Sample I.D. 3E95001 MW-2 | Sample I.D. 3E95002 MW-5 | Sample I.D. 3E95003 MW-6 | Sample I.D. 3E95004 MW-7 | Sample I.D. | Sample I.D. |
|---|---|---|---|---|---|---|---|
| Purgeable Hydrocarbons | 50 | 100 | N.D. | N.D. | 67 | | |
| Benzene | 0.50 | N.D. | N.D. | N.D. | 0.85 | | |
| Toluene | 0.50 | N.D. | N.D. | N.D. | N.D. | | |
| Ethyl Benzene | 0.50 | N.D. | N.D. | N.D. | 6.4 | | |
| Total Xylenes | 0.50 | N.D. | N.D. | N.D. | 3.8 | | |
| Chromatogram Pattern: | | Discrete Peaks | -- | -- | Gas | | |

**Quality Control Data**

| | | | | |
|---|---|---|---|---|
| Report Limit Multiplication Factor: | 1.0 | 1.0 | 1.0 | 1.0 |
| Date Analyzed: | 5/25/93 | 5/25/93 | 5/25/93 | 5/25/93 |
| Instrument Identification: | GCHP-3 | GCHP-3 | GCHP-3 | GCHP-2 |
| Surrogate Recovery, %: (QC Limits = 70-130%) | 100 | 90 | 103 | 101 |

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

**SEQUOIA ANALYTICAL**

Maile A. Springer
Project Manager

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


| | | |
|---|---|---|
| Hydro Environmental | Client Project ID: | Mobil, 10-LIX |
| 2363 Mariner Square Dr., Bldg. 3, Ste 243 | Matrix: | Water |
| Alameda, CA 94501 | | |
| Attention: Brian Gwinn | QC Sample Group: 3E95004 | Reported: May 27, 1993 |

## QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl-Benzene | Xylenes |
|---|---|---|---|---|
| **Method:** | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 |
| **Analyst:** | M.Nipp | M.Nipp | M.Nipp | M.Nipp |
| **Conc. Spiked:** | 10 | 10 | 10 | 30 |
| **Units:** | µg/L | µg/L | µg/L | µg/L |
| **LCS Batch#:** | GBLK052593 | GBLK052593 | GBLK052593 | GBLK052593 |
| **Date Prepared:** | N.A. | N.A. | N.A. | N.A. |
| **Date Analyzed:** | 5/25/93 | 5/25/93 | 5/25/93 | 5/25/93 |
| **Instrument I.D.#:** | GCHP-2 | GCHP-2 | GCHP-2 | GCHP-2 |
| **LCS % Recovery:** | 97 | 86 | 86 | 87 |
| **Control Limits:** | 80-120 | 80-120 | 80-120 | 80-120 |
| **MS/MSD Batch #:** | G3E83901 | G3E83901 | G3E83901 | G3E83901 |
| **Date Prepared:** | N.A. | N.A. | N.A. | N.A. |
| **Date Analyzed:** | 5/25/93 | 5/25/93 | 5/25/93 | 5/25/93 |
| **Instrument I.D.#:** | GCHP-2 | GCHP-2 | GCHP-2 | GCHP-2 |
| **Matrix Spike % Recovery:** | 96 | 96 | 96 | 93 |
| **Matrix Spike Duplicate % Recovery:** | 98 | 97 | 97 | 97 |
| **Relative % Difference:** | 2.1 | 1.0 | 1.0 | 4.2 |

SEQUOIA ANALYTICAL

Maile A. Springer
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
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(415) 364-9600 • FAX (415) 364-9233


| | | |
|---|---|---|
| Hydro Environmental | Client Project ID: | Mobil, 10-LIX |
| 2363 Mariner Square Dr., Bldg. 3, Ste 243 | Matrix: | Water |
| Alameda, CA 94501 | | |
| Attention: Brian Gwinn | QC Sample Group: 3E95001 - 03 | Reported: May 27, 1993 |

## QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl-Benzene | Xylenes |
|---|---|---|---|---|
| **Method:** | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 |
| **Analyst:** | M.Nipp | M.Nipp | M.Nipp | M.Nipp |
| **Conc. Spiked:** | 10 | 10 | 10 | 30 |
| **Units:** | µg/L | µg/L | µg/L | µg/L |
| **LCS Batch#:** | GBLK052593 | GBLK052593 | GBLK052593 | GBLK052593 |
| **Date Prepared:** | N.A. | N.A. | N.A. | N.A. |
| **Date Analyzed:** | 5/25/93 | 5/25/93 | 5/25/93 | 5/25/93 |
| **Instrument I.D.#:** | GCHP-3 | GCHP-3 | GCHP-3 | GCHP-3 |
| **LCS % Recovery:** | 100 | 100 | 110 | 103 |
| **Control Limits:** | 80-120 | 80-120 | 80-120 | 80-120 |
| **MS/MSD Batch #:** | G3E83901 | G3E83901 | G3E83901 | G3E83901 |
| **Date Prepared:** | N.A. | N.A. | N.A. | N.A. |
| **Date Analyzed:** | 5/25/93 | 5/25/93 | 5/25/93 | 5/25/93 |
| **Instrument I.D.#:** | GCHP-3 | GCHP-3 | GCHP-3 | GCHP-3 |
| **Matrix Spike % Recovery:** | 100 | 100 | 100 | 100 |
| **Matrix Spike Duplicate % Recovery:** | 100 | 100 | 110 | 103 |
| **Relative % Difference:** | 0.0 | 0.0 | 9.5 | 3.3 |

**SEQUOIA ANALYTICAL**

Marie A. Springer
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.

# Mobil Chain of Custody

SEQUOIA ANALYTICAL
Redwood City: (415) 364-9600
Concord: (510) 686-9600
Sacramento: (916) 921-9600

| | | |
|---|---|---|
| Consulting Firm Name: Hydro-Environmental Tech. Inc | Site SS #: 10-LIX | Phase of Work: |
| Address: 2363 Mariner Square Dr. | Mobil Site Address: 15864 Hesperian Blvd. San Lorenzo, CA | ☐ A. Emrg. Response |
| City: Alameda State: CA Zip Code: 94501 | Mobil Engineer: Steve Pao | ☐ B. Site Assessment |
| Telephone: (510) 521-2684 FAX #: (510) 521-5078 | Consultant Project #: 96-019 | ☐ C. Remediation |
| Project Contact: Brian Gwinn | Sampled by: Henry Hurkman | ☒ D. Monitoring |
| | Sequoia's Work Order Release #: | ☐ E. OGC/Claims |

Turnaround Time: ☒ Standard TAT (5 - 10 Working Days)
☐ Other _____

Analyses Requested

| Client Sample I.D. | Date/Time Sampled | Matrix Description | # of Containers | Sequoia's Sample # | TPH Gas/BTEX | TPH Diesel | TRPH by I.R. EPA 418.1 | % Oil & Grease EPA 413.2 | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1. MW-2 | 5-19-93 2pm | $H_2O$ | 2 HCl Vial | 9305950 01 | X | | | | |
| 2. MW-5 | ↓ | ↓ | ↓ | 02 | ↓ | | | | |
| 3. MW-6 | | | | 03 | | | | | |
| 4. MW-7 | | | | 04 | | | | | |
| 5. | | | | | | | | | |
| 6. | | | | | | | | | |
| 7. | | | | | | | | | |
| 8. | | | | | | | | | |
| 9. | | | | | | | | | |
| 10. | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: Henry Hurkman | Date: 5-19-93 | Time: 4:00 | Received By: | Date: 5/19/93 | Time: 4:00 |
| Relinquished By: | Date: 5/21/93 | Time: 1145 | Received By: | Date: 5/21/93 | Time: 1145 |
| Relinquished By: | Date: 5/21/93 | Time: 1400 | Received By: | Date: 5/21/93 | Time: 1400 |

Method of Shipment: lab courier