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OK

**BI-ANNUAL MONITORING REPORT**

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

Sampling Date: August 1, 1995

Prepared for:

MOBIL OIL CORPORATION  
3225 Gallows Rd., Rm 2M211  
Fairfax, VA 22037-0001

Prepared by:

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.  
2363 Mariner Square Drive, Suite 243  
Alameda, California 94501  
HETI Job No. 8-019.1

October 3, 1995

ENVIRONMENTAL  
PROTECTION  
95 OCT -5 PM 1:47



2363 Mariner Square Drive, Suite 243  
Alameda, California 94501  
Tel 510 521 2684  
Fax 510 521 5078

Massachusetts  
New York  
Maryland

October 3, 1995

8-019.1

Ms. Juliet Shin  
Alameda County Department of  
Environmental Health  
Hazardous Materials Division  
1131 Harbor Bay Parkway  
Alameda, CA 94502

Re: Former Mobil S/S No. 10-L1X, 15884 Hesperian Boulevard, San Lorenzo, CA

Dear Ms. Shin:

Enclosed please find one copy of Hydro-Environmental Technologies, Inc.'s (HETI's) Biannual Monitoring Report for sampling conducted on August 1, 1995 at the above-referenced site.

If you have any questions or require additional information, please feel free to call me at (510) 521-2684.

Sincerely,  
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

Frances H. Maroni  
Project Manager

enclosure

cc: Ms. Tara Lynch - Mobil Oil Corporation, Fairfax, VA (w/o enclosure)

HYDRO-ENVIRONMENTAL  
PROFESSIONAL  
95 OCT -5 PM 1:47

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## 1.0 INTRODUCTION

This report presents the results of biannual ground water sampling conducted by Hydro-Environmental Technologies, Inc. (HETI) at former Mobil Service Station No. 10-L1X, located at 15884 Hesperian Boulevard in San Lorenzo, California. A site location map is attached as Figure 1. Ground water sampling was performed on August 1, 1995.

Work performed at the site by HETI included: (1) well gauging, (2) well purging, (3) collection of ground water samples from five monitoring wells at the site and (4) analysis of water samples for total petroleum hydrocarbons as gasoline (TPHg) using EPA Method 8015 (modified), and benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8020 (modified).

## 2.0 BACKGROUND

The site was previously a Mobil gasoline service station located at the northern corner of the intersection of Hesperian Boulevard and Post Office Street in San Lorenzo, California. It is presently a paved parking lot for a shopping mall. Figure 2 shows the vicinity of the site, and Figure 3 shows the layout of the site and the location of existing monitoring wells.

In July 1986, Kaprealian Engineering, Inc. (KEI) installed four two-inch diameter monitoring wells (MW-1 through MW-4) on-site. In December 1987, in preparation to abandon the site, the underground storage tanks were removed and the tank pit was over-excavated.

In October 1991, HETI conducted 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 the well, and wells MW-1 and MW-4 could not be located and their existence/condition is unknown.

In January 1992, HETI installed three monitoring wells on-site (MW-5, MW-6 and MW-7) and properly abandoned monitoring well MW-3. Results of that phase of the investigation and a detailed project history were presented in HETI's *Phase I Report* dated May 7, 1992.

In August 1993, HETI installed one additional downgradient monitoring well (MW-8), off-site on the southwestern side of Hesperian Boulevard. Results of that phase of the investigation were presented in HETI's *Phase II Subsurface*

*Investigation and Quarterly Monitoring Report* dated September 16, 1993. All monitoring well locations are shown on the Site Plan (Figure 3).

A revised sampling program has been approved by the Alameda County Department of Environmental Health (ACDEH) and has been implemented at this site. All wells, MW-2 and MW-5 through MW-8, are sampled on a semi-annual basis.

### 3.0 FIELD ACTIVITIES

HETI personnel collected ground water samples from all four on-site wells and one off-site well on August 1, 1995. All sampling was performed according to HETI standard protocol, using methods which are consistent with guidelines established by the lead regulatory agencies. A copy of HETI's Ground Water Sampling Protocol has previously been submitted to the ACDEH.

Prior to purging the wells, the depth to first encountered groundwater in each of the five wells was gauged to the nearest hundredth of a foot using an electronic water sounder. Prior to sampling all monitoring wells, at least three well casing volumes were purged while the parameters of temperature, pH and conductivity were monitored. Purging data is included in Appendix A.

Following recovery of the water level in each of the wells to at least 80 percent of their static level, ground water samples were collected with dedicated bailers. The samples were transferred to sample containers provided by the analytical laboratory. Sample containers were documented, labeled and placed in a cooler. A chain of custody was prepared and accompanied the samples to the laboratory; a copy is included in Appendix B. Ground water sample analysis was performed by Sequoia Analytical, a state DHS-certified laboratory located in Redwood City, California.

### 4.0 RESULTS

#### 4.1 Ground Water Data

On August 1, 1995 depth to ground water in the wells ranged between 11.15 to 12.46 feet below grade. Depth to water measurements and calculated ground water elevations in the wells are presented on Table 1. The depth to water measurements and the wellhead elevation data were used to calculate ground water elevation contours. These contours are shown on Figure 4, the Ground Water Contour Map. Figure 4 shows ground water flow to be towards the southwest at an approximate gradient of 0.0022 (0.22%).

#### 4.2 Laboratory Analytical Results

Neither TPHg nor benzene were detected above the indicated laboratory method detection limits in any of the ground water samples collected from all the wells.

The previous four sampling events have showed concentrations of dissolved benzene detected in the ground water samples collected from well MW-7 below the California Department of Health Services current primary maximum contaminant level (MCL) of 1 microgram per kilogram ( $\mu\text{g}/\text{l}$ ) or below the laboratory method detection limit of  $0.5 \mu\text{g}/\text{l}$ .

Concentrations of dissolved ethylbenzene and xylene detected in the ground water sample collected from well MW-7 were  $2.6 \mu\text{g}/\text{l}$  and  $1.5 \mu\text{g}/\text{l}$ , respectively. These concentrations are below the MCLs of  $680 \mu\text{g}/\text{l}$  and  $1,750 \mu\text{g}/\text{l}$ , respectively.

Analytical results are presented graphically on Figure 5, the Hydrocarbon Concentration Map. A summary of ground water analytical results is presented on Table 1. Copies of the laboratory report and the chain-of-custody form are attached in Appendix B.

#### 5.0 SUMMARY

The results of the field activities and laboratory analyses of ground water samples collected during this sampling round are discussed below:

- Ground water elevations measured in all the wells ranged from 11.15 to 12.46 feet below grade. The ground water gradient was calculated to be approximately 0.0022 in a general southwesterly direction beneath the site.
- Separate phase petroleum was not detected in any of the monitoring wells.
- Neither TPHg nor benzene were detected in any of the ground water samples collected from any of the wells.
- Concentrations of dissolved ethylbenzene and xylene detected in the ground water sample collected from well MW-7 are far below the California Department of Health Services current MCLs.

## 6.0 RECOMMENDATIONS

Currently, ground water sample analytical results do not indicate TPHg and benzene concentrations above laboratory method detection limits in any wells. Previous ground water monitoring results did not indicate a threat of off-site migration or other potential risks.

Therefore, HETI recommends discontinuation of all ground water monitoring at the site. Further, HETI, on behalf of Mobil, recommends closure for the site, and will coordinate with the ACDEH and Regional Water Quality Control Board for closure activities.

A Request for Case Closure Report and Workplan to Destroy Wells will be sent for approval to the ACDEH and RWQCB. After approval of the request for closure, permit applications for well destruction will be submitted to Zone 7 Water Agency. Once the permit applications are approved, all existing monitoring wells will be destroyed. Prior to destruction, monitoring wells MW-1 and MW-4 will be located using an underground service locator. A final report will be prepared documenting well destruction.

### 7.0 CERTIFICATION

This report was prepared under the supervision of a registered professional geologist. 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:

FRANCES MARONI

Frances Maroni  
Project Manager

Reviewed by:

Thomas E. Lindemuth, P.E.  
Regional Manager

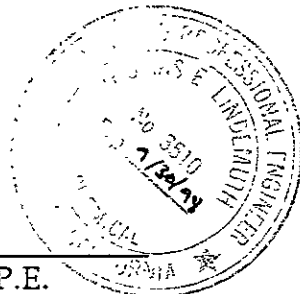




Table 1

## GROUND WATER ELEVATIONS AND ANALYTICAL RESULTS

Former Mobil Station No. 10-L1X

15884 Hesperian Boulevard

San Lorenzo, California

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-2	2/12/92	31.81	12.74	19.07	NT	190	4.4	ND<0.3	4.7	3.8
	5/4/92	31.81	11.36	20.45	NT	480	9.1	1.4	4.4	2.3
	8/20/92	31.81	13.80	18.01	NT	ND<50	0.99	ND<0.5	ND<0.5	ND<0.5
	11/27/92	31.81	14.30	17.51	NT	56	3.2	ND<0.5	0.87	2.1
	2/24/93	31.81	9.73	22.08	NT	330	14	ND<0.5	ND<0.5	ND<0.5
	5/19/93	31.81	11.82	19.99	NT	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/19/93	31.81	12.27	19.54	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	31.81	12.91	18.90	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94*	31.81	10.30	21.51	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/24/94	31.81	11.25	20.56	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/24/94	31.81	12.77	19.04	NT	NT	NT	NT	NT	NT
	2/17/95	31.81	9.99	21.82	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/1/95	31.81	11.20	20.61	NT	ND<50	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	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/27/92	32.92	15.14	17.78	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/24/93	32.92	10.57	22.35	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/19/93	32.92	11.66	21.26	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/19/93	32.92	13.01	19.91	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	32.92	13.69	19.23	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94*	32.92	11.10	21.82	NT	NT	NT	NT	NT	NT
	5/24/94	32.92	12.03	20.89	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/24/94	32.92	13.59	19.33	NT	NT	NT	NT	NT	NT
	2/17/95	32.92	10.87	22.05	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Table 1

## GROUND WATER ELEVATIONS AND ANALYTICAL RESULTS

Former Mobil Station No. 10-L1X

15884 Hesperian Boulevard

San Lorenzo, California

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-5	8/1/95	32.92	12.06	20.86	NT	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	NT	2700	14	3.5	27	39
	5/4/92	32.68	12.23	20.45	NT	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3
	8/20/92	32.68	14.64	18.04	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	3.8
	11/27/92	32.68	15.14	17.54	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/24/93	32.68	10.62	22.06	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/19/93	32.68	11.66	21.02	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/19/93	32.68	13.06	19.62	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	32.68	13.73	18.95	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94*	32.68	11.20	21.48	NT	NT	NT	NT	NT	NT
	5/24/94	32.68	12.11	20.57	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/24/94	32.68	13.60	19.08	NT	NT	NT	NT	NT	NT
	2/17/95	32.68	10.85	21.83	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/1/95	32.68	12.05	20.63	NT	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	NT	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3
	5/4/92	33.08	12.60	20.48	NT	640	4.5	ND<0.6	11	14
	8/20/92	33.08	14.96	18.12	NT	220	1.2	ND<0.5	3.8	4.3
	11/27/92	33.08	15.49	17.59	NT	82	1.6	ND<0.5	4.3	3.6
	2/24/93	33.08	10.97	22.11	NT	82	1.5	ND<0.5	6.0	4.0
	5/19/93	33.08	12.09	20.99	NT	67	0.85	ND<0.5	6.4	3.8
	8/19/93	33.08	13.48	19.60	NT	88	1.7	ND<0.5	9.0	4.8
	11/19/93	33.08	14.10	18.98	NT	50	ND<0.5	ND<0.5	1.5	ND<0.5
	2/18/94*	33.08	11.55	21.53	NT	61	1.2	ND<0.5	8.0	3.2
5/24/94	33.08	12.48	20.60	NT	83	0.95	ND<0.5	10	4.0	

Table 1

GROUND WATER ELEVATIONS AND ANALYTICAL RESULTS

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

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-7	8/24/94	33.08	13.98	19.10	NT	77	0.57	ND<0.5	6.9	2.8
	2/17/95	33.08	11.25	21.83	NT	71	ND<0.5	ND<0.5	4.3	2.2
	8/1/95	33.08	12.46	20.62	NT	ND<50	ND<0.5	ND<0.5	2.6	1.5
MW-8	8/19/93	31.31	12.21	19.10	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	31.31	12.84	18.47	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94*	31.31	10.41	20.90	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/24/94	31.31	11.21	20.10	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/24/94	31.31	12.71	18.60	NT	NT	NT	NT	NT	NT
	2/17/95	31.31	9.94	21.37	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/1/95	31.31	11.15	20.16	NT	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-No.	Date	TOG (mg/L)	HVO (µg/L)	SVO (µg/L)	PCB (µg/L)	Cd (mg/L)	Cr (mg/L)	Ni (mg/L)	Zn (mg/L)	O-Pb (mg/L)
MW-5	2/12/92	ND<1.0	ND<0.5-5.0	NT	NT	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	NT	NT	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

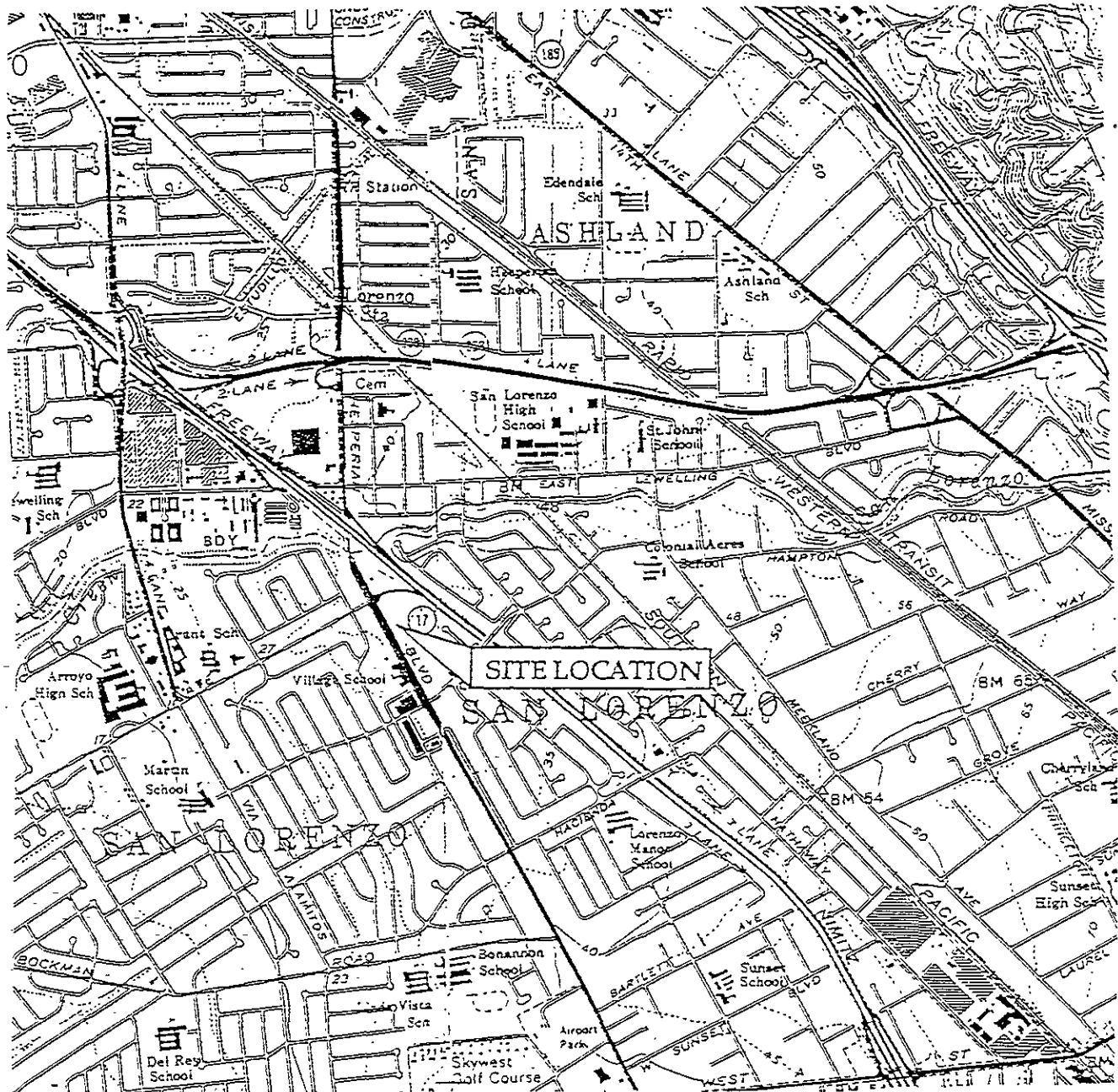
Table 1

GROUND WATER ELEVATIONS AND ANALYTICAL RESULTS

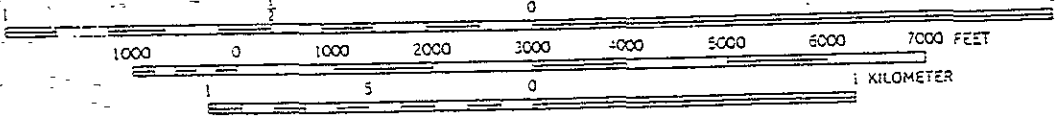
Former Mobil Station No. 10-L1X  
15884 Hesperian Boulevard  
San Lorenzo, California

Notes:

MW No. : Monitoring well number  
Date : Ground water sample collection date  
TOC : Elevation at the north side of the top of the well casing referenced to approximate mean sea level  
DTW : Depth to water  
GWE : Ground water elevation  
TPHd : Total petroleum hydrocarbons as diesel by EPA Method 8015  
TPHg : Total petroleum hydrocarbons as gasoline by EPA Method 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 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)  
µg/L : Micrograms per liter  
mg/L : Milligrams per liter  
ND : Not detected in concentrations exceeding the indicated laboratory method detection limit  
NT : Not tested  
\* : Wells gauged on 2/24/94



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QUADRANGLE LOCATION

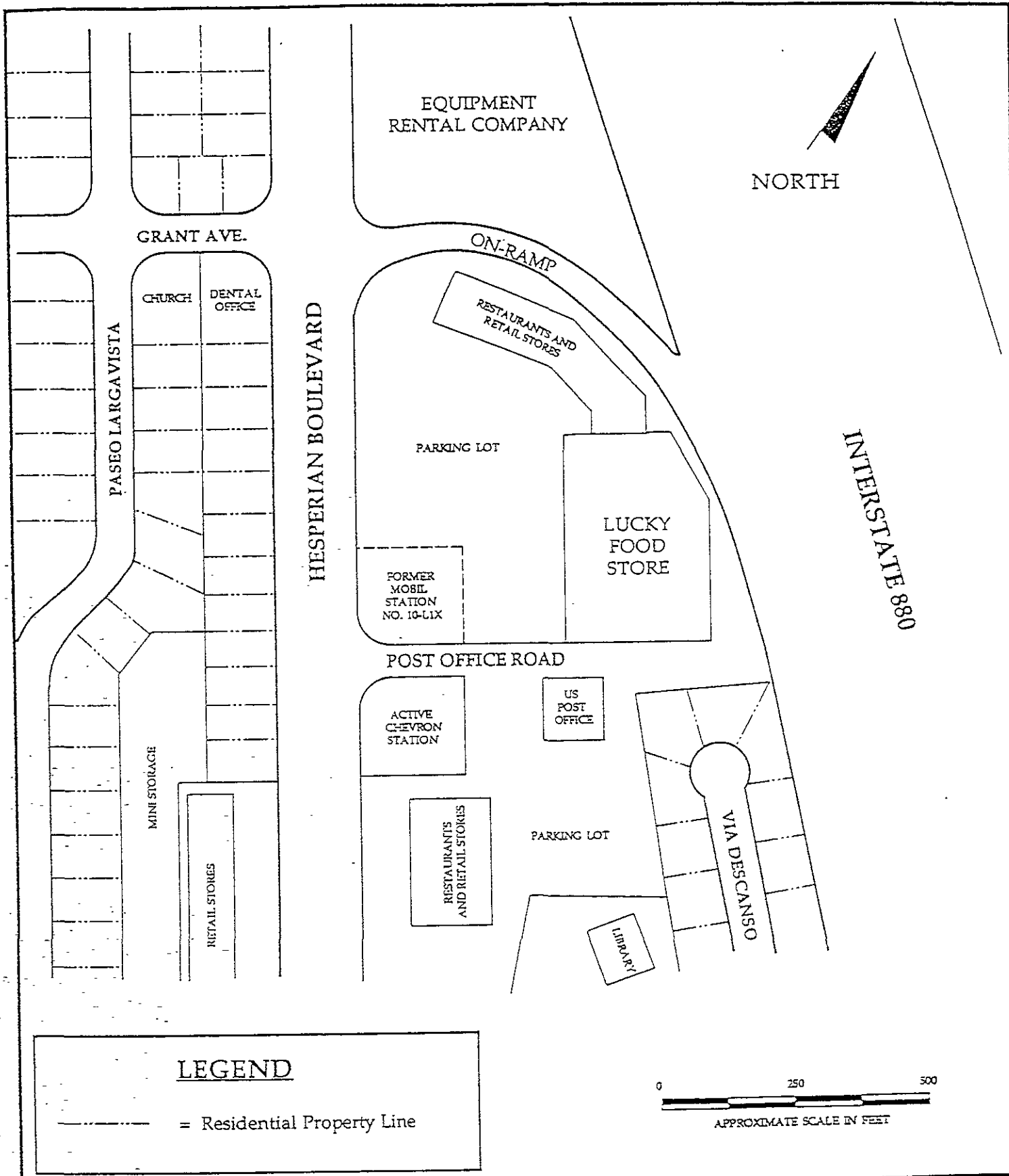
NORTH

SOURCE: U.S. GEOLOGICAL SURVEY  
 7.5 MINUTE QUADRANGLE MAPS  
 ENTITLED: "SAN LEANDRO, CALIFORNIA"  
 AND "HAYWARD, CALIFORNIA"  
 PHOTOREVISED 1980

HYDR -  
 ENVIR NMENTAL  
 TECHN OLOGIES, INC.

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

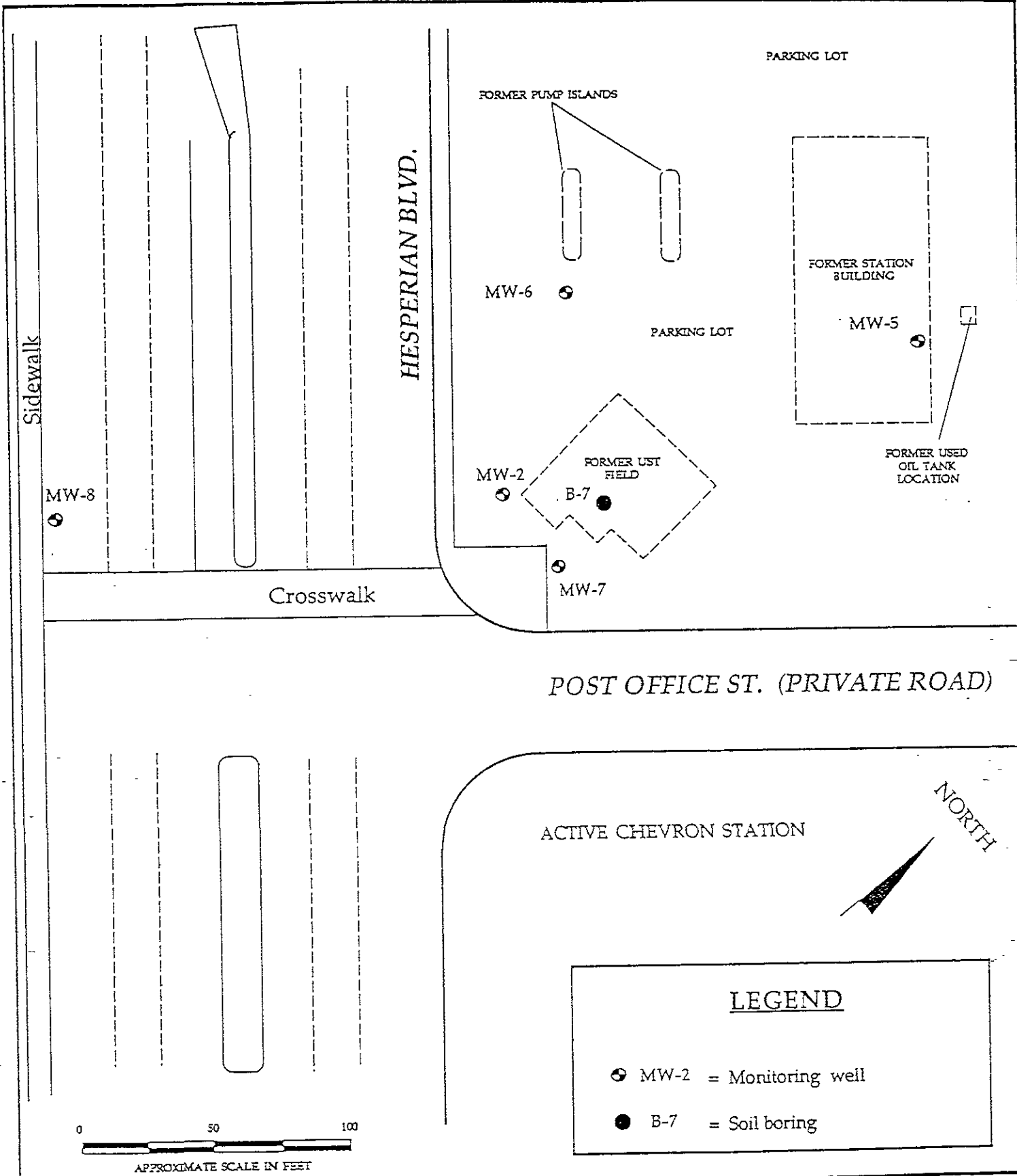
Figure  
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 8-019 1/9



HYDR -  
 ENVIR NMENTAL  
 TECHN LOGIES, INC.

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

Figure  
 2  
 8-019 9/93

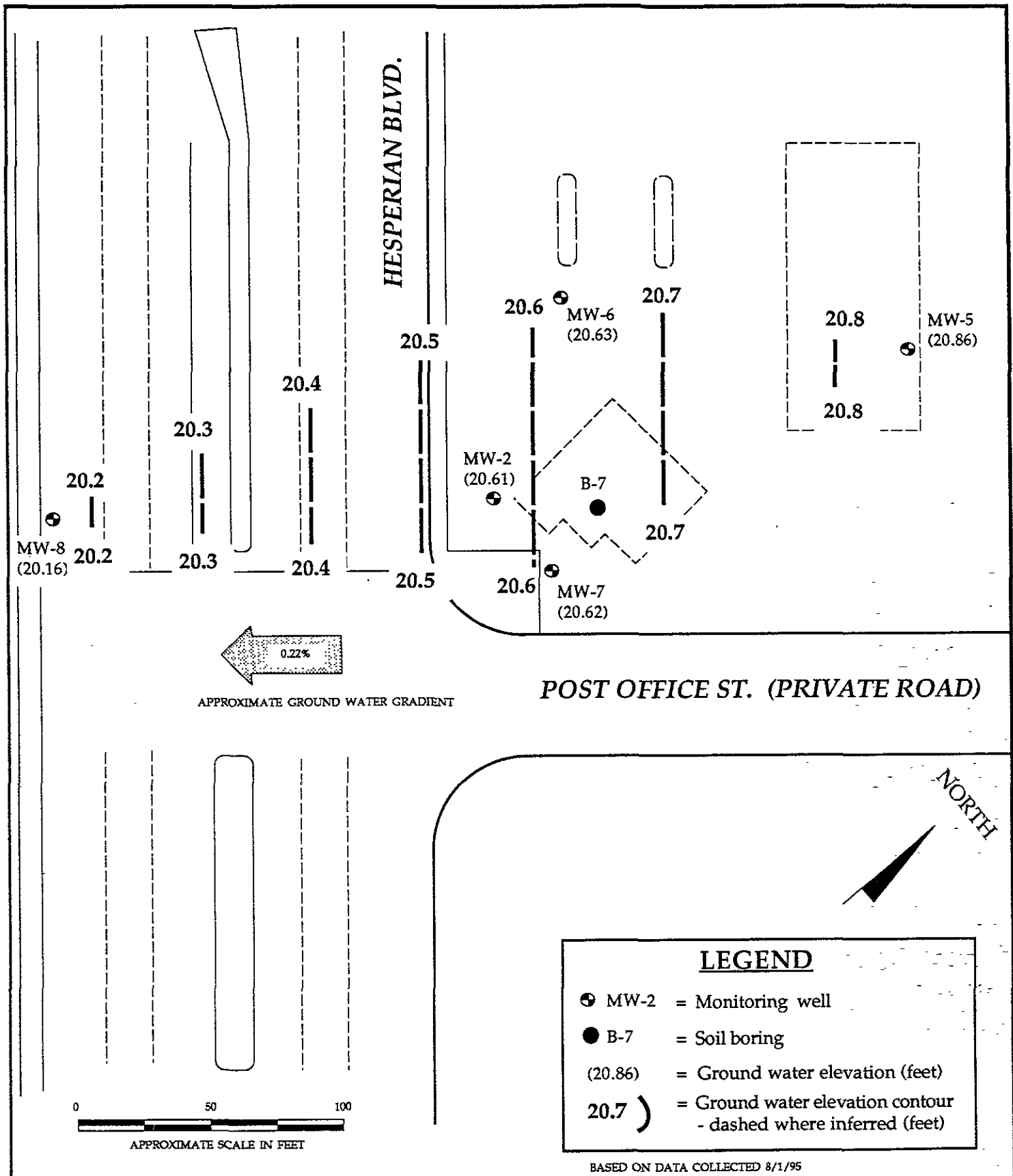


HYDR -  
 ENVIR NMENTAL  
 TECHN LOGIES, INC.

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

Figure  
 3

8-019 9/93



**HYDR-  
ENVIRONMENTAL  
TECHNOLOGIES, INC.**

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

Figure  
**4**  
8-019 8/95

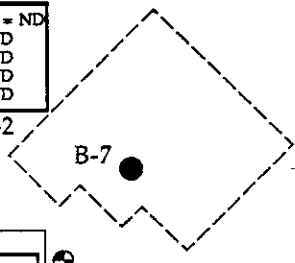


HESPERIAN BLVD.

MW-6  
TPHg = ND  
B = ND  
T = ND  
E = ND  
X = ND

MW-5  
TPHg = ND  
B = ND  
T = ND  
E = ND  
X = ND

MW-2  
TPHg = ND  
B = ND  
T = ND  
E = ND  
X = ND



MW-8  
TPHg = ND  
B = ND  
T = ND  
E = ND  
X = ND

MW-7  
TPHg = ND<50  
B = ND<0.5  
T = ND<0.5  
E = 2.6  
X = 1.5

POST OFFICE ST. (PRIVATE ROAD)

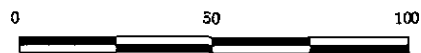


**LEGEND**

- ⊕ MW-2 = Monitoring well
- B-7 = Soil boring

TPHg = ND<50  
B = ND<0.5  
T = ND<0.5  
E = 2.6  
X = 1.5

= Concentrations of Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene (B), Toluene (T), Ethylbenzene (E), and Total Xylenes (X) dissolved in sample collected from designated well - in µg/L



APPROXIMATE SCALE IN FEET

BASED ON DATA COLLECTED 8/1/95

**HYDR** -  
**ENVIR** **NMENTAL**  
**TECHN** **LOGIES, INC.**

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

Figure  
**5**  
8-019 8/95

PURGED/SAMPLED BY: FM DATE: 8-1-95

**GAUGING DATA:**

Depth to bottom: 25.75 ft.  
 Depth to water: 14.30 m  
~~12.76~~ ft.  
 Saturated Thickness: 14.55 m  
~~13.22~~ ft.

Conversion	
diam.	gals/ft.
<u>2 in.</u>	<u>x 0.16</u>
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 = 7.0 gallons  
 \* unless chemical parameters do not stabilize

**PURGING DATA:**

Purge method: PVC bailer / Submersible pump / Suction lift pump / \_\_\_\_\_ (circle one)  
 Temp/Conductivity/pH Instrument: HYDAP 3E1

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
1345	0	—	—	—
1348	2.5	77.5	<del>1.48</del> 1.48	6.90
1351	5.0	76.4	1.54	6.94
1354	7.0	76.0	1.51	6.96

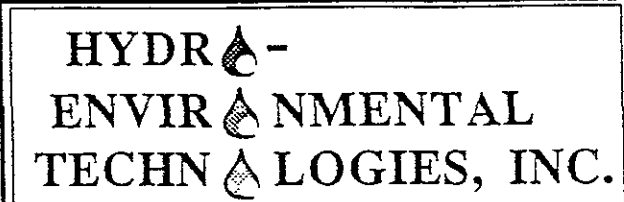
Color: BROWN Turbidity: SIGHT  
 Recharge: GOOD SPP \_\_\_\_\_ ft. Sheen \_\_\_\_\_

**SAMPLING DATA:**

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

<u>TPHg/BTEX</u>	METALS	TOG	8010
TPHd	O-Pb	TEL	8020
TPH mo	Total Pb	EDB	8240
601	602	Nitrates	8260
Other: _____			



PURGE/SAMPLE DATA SHEET  
 WELL # MW-2  
 LOCATION: MOBIL SAULDRUZ

Job No. 8-019-1  
 SHEET  
 1 of 1

PURGED/SAMPLED BY: FM DATE: 8-1-95

**GAUGING DATA:**

Depth to bottom: 22.15 ft.  
 Depth to water: 12.06 ft.  
 Saturated Thickness: 10.09 ft.

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

Well casing volume 6.56 gallons  
 # volumes to purge x 3 vols.  
 \*Total volume to purge = 19.68 gallons  
 \* unless chemical parameters do not stabilize

**PURGING DATA:**

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

Temp/Conductivity/pH Instrument: TNDAC#1

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
11:30	0	—	—	—
11:35	5	80.3	1.58	6.96
11:40	10	79.3	1.46	7.00
11:45	15	76.6	1.42	7.01
11:50	20	74.7	1.35	7.02

Color: CLEAR Turbidity: NONE  
 Recharge: GOOD SPP \_\_\_\_\_ ft. Sheen \_\_\_\_\_

**SAMPLING DATA:**

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

- TPH<sub>3</sub>/BTEX
- METALS
- TOG
- 8010
- TPH<sub>4</sub>
- C-Pb
- TEL
- 8020
- TPH<sub>5</sub>
- Total Pb
- EDB
- 8240
- 601
- 602
- Nitrates
- 8260
- Other: \_\_\_\_\_

**HYDR-  
 ENVIRONMENTAL  
 TECHNOLOGIES, INC.**

PURGE/SAMPLE DATA SHEET  
 WELL # MW-5  
 LOCATION: MOBIL SAU LOPEZ

Job No. 8019  
 SHEET  
 1 of 1

PURGED/SAMPLED BY: FM DATE: 8-19-95

GAUGING DATA:

Depth to bottom: 22.25 ft.  
 Depth to water: 12.05 ft.  
 Saturated Thickness: 10.20 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
<u>4 in.</u>	<u>x 0.65</u>
6 in.	x 1.44

Well casing volume 6.63 gallons  
 # volumes to purge x 3 vols.  
 \*Total volume to purge = 19.9 gallons  
 \* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / Submersible pump / Suction lift pump / \_\_\_\_\_ (circle one)  
 Temp/Conductivity/pH Instrument: Hydrolab 1

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
12:00	0	—	—	—
12:05	5	79.4	1.17	6.95
12:10	10	76.6	1.13	7.05
12:15	15	75.7	1.18	7.03
12:20	20	76.1	1.14	7.01

Color: TAN - CLEAR Turbidity: SLIGHT - NONE  
 Recharge: GOOD SPP \_\_\_\_\_ ft. Sheen \_\_\_\_\_

SAMPLING DATA:

Sampling method: Dedicated bailer / Disposable bailer

- Sample for: (circle)
- TPHg/BTEX METALS TOG 8010
  - TPHd O-Pb TEL 8020
  - TPH no Total Pb EDB 8240
  - SOI 602 Nitrates 8260
  - Other: \_\_\_\_\_

**HYDR**  **ENVIRONMENTAL TECHNOLOGIES, INC.**

PURGE/SAMPLE DATA SHEET  
 WELL # MU-6  
 LOCATION: MOBIL, SANDOZ/CEUZE

Job No. 809  
 SHEET 1 of 1

PURGED/SAMPLED BY: FM DATE: 8.1.95

GAUGING DATA:

Depth to bottom: 24.25 ft.  
 Depth to water: 12.40 ft.  
 Saturated Thickness: 11.79 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
<u>4 in.</u>	<u>x 0.65</u>
6 in.	x 1.44

Well casing volume 7.66 gallons  
 # volumes to purge x 3 vols.  
 \*Total volume to purge = 23.0 gallons  
 \* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / Submersible pump / Suction lift pump / \_\_\_\_\_ (circle one)  
 Temp/Conductivity/pH Instrument: HYDAC #1

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
12:25	0	—	—	—
12:30	5	79.1	1.12	6.95
12:35	10	77.6	1.08	7.11
12:40	15	76.6	1.19	7.04
12:45	20	74.9	1.30	7.07
12:50	<u>33</u>	<u>73.8</u>	1.31	7.13

Color: clear Turbidity: NONE  
 Recharge: GOOD SPP \_\_\_\_\_ ft. Sheen \_\_\_\_\_

SAMPLING DATA:

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

- TPHg/BTEX
- METALS
- TOG
- 8010
- TPHd
- O-Pb
- TEL
- 8020
- TPH no
- Total Pb
- EDB
- 8240
- 601
- 602
- Nitrates
- 8260
- Other: \_\_\_\_\_

**HYDR - ENVIRONMENTAL TECHNOLOGIES, INC.**

PURGE/SAMPLE DATA SHEET  
 WELL # MW-7  
 LOCATION: MORAN SW/LOP&LZE

Job No. 8010  
 SHEET 1 of 1

PURGED/SAMPLED BY: FM DATE: 8.1.95

GAUGING DATA:

Depth to bottom: 22.35 ft.  
 Depth to water: 11.15 ft.  
 Saturated Thickness: 11.20 ft.

Conversion	
diam.	gals/ft.
<u>2 in.</u>	<u>x 0.16</u>
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.8 gallons  
 # volumes to purge x 3 vols.  
 \*Total volume to purge = 5.4 gallons  
 \* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer/ Submersible pump/ Suction lift pump/ \_\_\_\_\_ (circle one)  
 Temp/Conductivity/pH Instrument: HUDAC #1

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
13:05	0	—	—	—
13:07	2	75.3	<sup>cm</sup> 262.49	6.80
13:09	4	73.4	<sup>cm</sup> 252.48	6.88
13:12	5.5	71.1	1.50	6.89

Color: TAN Turbidity: SUBT  
 Recharge: GOOD SPP \_\_\_\_\_ ft. Sheen \_\_\_\_\_

SAMPLING DATA:

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

- TPHg/BTEX METALS TOG 8010
- TPHd O-Pb TEL 8020
- TPH no Total Pb EDB 8240
- 601 602 Nitrates 8260
- Other: \_\_\_\_\_

**HYDR** -  
**ENVIR**  **NMENTAL**  
**TECHN**  **LOGIES, INC.**

PURGE/SAMPLE DATA SHEET  
 WELL # MU8  
 LOCATION: MOBIL SAULOPUZE

Job No. 8019  
 SHEET 1 of 1



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Stnker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(415) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

RECEIVED AUG - 9 1995

Hydro Environmental  
2363 Mariners Square Drive  
Suite 243  
Alameda, CA 94501  
Attention: F. Maroni

Client Proj. ID: Mobil 10LIX/8-019.1  
Sample Descript: MW-2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9508152-01

Sampled: 08/01/95  
Received: 08/02/95  
Analyzed: 08/04/95  
Reported: 08/08/95

QC Batch Number: GC080495BTEX07A  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	84

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory  
Project Manager



Hydro Environmental	Client Proj. ID: Mobil 10LIX/8-019.1	Sampled: 08/01/95
2363 Mariners Square Drive	Sample Descript: MW-5	Received: 08/02/95
Suite 243	Matrix: LIQUID	
Alameda, CA 94501	Analysis Method: 8015Mod/8020	Analyzed: 08/07/95
Attention: F. Maroni	Lab Number: 9508152-02	Reported: 08/08/95

QC Batch Number: GC080795BTEX22A  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory  
Project Manager





Hydro Environmental  
2363 Mariners Square Drive  
Suite 243  
Alameda, CA 94501  
Attention: F. Maroni

Client Proj. ID: Mobil 10LIX/8-019.1  
Sample Descript: MW-6  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9508152-03

Sampled: 08/01/95  
Received: 08/02/95  
Analyzed: 08/04/95  
Reported: 08/08/95

QC Batch Number: GC080495BTEX07A  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	84

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*Claudia Hunter*  
Mike Gregory  
Project Manager



Hydro Environmental 2363 Mariners Square Drive Suite 243 Alameda, CA 94501 Attention: F. Maroni	Client Proj. ID: Mobil 10LIX/8-019.1 Sample Descript: MW-7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508152-04	Sampled: 08/01/95 Received: 08/02/95 Analyzed: 08/07/95 Reported: 08/08/95
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QC Batch Number: GC080795BTEX22A  
Instrument ID: GCHP22

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	2.6
Xylenes (Total)	0.50	1.5
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	100

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

**SEQUOIA ANALYTICAL** - ELAP #1210

*Claudia Hawthorn*  
\_\_\_\_\_  
Mike Gregory  
Project Manager



Hydro Environmental  
2363 Mariners Square Drive  
Suite 243  
Alameda, CA 94501  
Attention: F. Maroni

Client Proj. ID: Mobil 10LIX/8-019.1  
Sample Descript: MW-8  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9508152-05

Sampled: 08/01/95  
Received: 08/02/95  
Analyzed: 08/04/95  
Reported: 08/08/95

QC Batch Number: GC080495BTEX07A  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	87

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

SEQUOIA ANALYTICAL - ELAP #1210

*Claudia Horton*  
Mike Gregory  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(415) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Hydro Environmental  
2363 Mariner Square Dr., Ste 243  
Alameda, CA 94501  
Attention: F. Maroni

Client Project ID: Mobil 10LIX/8-019.1  
Matrix: Liquid

Work Order #: 9508152 -01, 03, 05

Reported: Aug 8, 1995

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080495BTEX07A	GC080495BTEX07A	GC080495BTEX07A	GC080495BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
MS/MSD #:	9508006-02	9508006-02	9508006-02	9508006-02
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/4/95	8/4/95	8/4/95	8/4/95
Analyzed Date:	8/4/95	8/4/95	8/4/95	8/4/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	10	11	10	31
MS % Recovery:	100	110	100	103
Dup. Result:	9.1	8.6	8.6	25
MSD % Recov.:	91	86	86	83
RPD:	9.4	24	15	21
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS	71-133	72-128	72-130	71-120
Control Limits				

### 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 matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*For* *Claudia Hawthorn*  
Mike Gregory  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9508152.HEN <1>



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(415) 364-9600  
(510) 988-9600  
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FAX (510) 988-9673  
FAX (916) 921-0100

Hydro Environmental  
2363 Mariner Square Dr., Ste 243  
Alameda, CA 94501  
Attention: F. Maroni

Client Project ID: Mobil 10LIX/8-019.1  
Matrix: Liquid

Work Order #: 9508152 -02, 04

Reported: Aug 8, 1995

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080795BTEX22A	GC080795BTEX22A	GC080795BTEX22A	GC080795BTEX22A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Lee	R. Lee	R. Lee	R. Lee
MS/MSD #:	9508100-02B	9508100-02B	9508100-02B	9508100-02B
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/7/95	8/7/95	8/7/95	8/7/95
Analyzed Date:	8/7/95	8/7/95	8/7/95	8/7/95
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	8.8	8.9	9.2	27
MS % Recovery:	88	89	92	90
Dup. Result:	8.0	8.3	8.2	24
MSD % Recov.:	80	83	82	80
RPD:	9.5	7.0	11	12
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD				
LCS	71-133	72-128	72-130	71-120
Control Limits				

**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 matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*Claudia Hunk*

For Mike Gregory  
Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9508152.HEN <2>



Consulting Firm Name: <u>INDRO ENVIRONMENTAL</u>		Site SS #: <u>10 LIX</u>	Phase of Work:
Address: <u>23015 MARINER SQ DR</u>		Mobil Site Address: <u>15881 HESPERIAO</u>	<input type="checkbox"/> A. Emrg. Response
City: <u>ALAMEDA</u>	State: <u>CA</u>	Zip Code: <u>94501</u>	<input type="checkbox"/> B. Site Assessment
Telephone: <u>521-2681</u>	FAX #: <u>521-3078</u>	Mobil Engineer: <u>MICHELE FEAR</u>	<input type="checkbox"/> C. Remediation
Project Contact: <u>F. MARON</u>		Consultant Project #: <u>8-0171</u>	<input checked="" type="checkbox"/> D. Monitoring
Sampled by: <u>F. MARON</u>		Sequoia's Work Order Release #:	<input type="checkbox"/> E. OGC/Claims

Turnaround Time:  Standard TAT (5 - 10 Working Days)  
 Other \_\_\_\_\_

Analyses Requested: 9508152

Client Sample I.D.	Date/Time Sampled	Matrix Description	# of Containers	Sequoia's Sample #	Analyses Requested				Comments
					TPH Gas/BTEX	TPH Diesel	TPH by I.R. EPA 418.1	Oil & Grease EPA 413.2	
1. MW-2	8/1/95 2:15 pm	H <sub>2</sub> O	3	1 A-C	X				
2. MW-5	11:30 am	H <sub>2</sub> O	3	2 ↓	X				
3. MW-6	12 pm	H <sub>2</sub> O	3	3 ↓	X				
4. MW-7	12:45 pm	H <sub>2</sub> O	3	4 ↓	X				
5. MW-8	1:20 pm	H <sub>2</sub> O	3	5 ↓	X				
6.									
7.									
8.									
9.									
10.									

Relinquished By: <u>FRANCES MARON</u>	Date: <u>8/2/95</u>	Time: <u>11:30</u>	Received By: <u>[Signature]</u>	Date: <u>8/2/95</u>	Time: <u>11:30</u>
Relinquished By: <u>[Signature]</u>	Date: <u>8/2/95</u>	Time: <u>1:20</u>	Received By: <u>[Signature]</u>	Date: _____	Time: _____
Relinquished By: <u>[Signature]</u>	Date: _____	Time: _____	Received By: <u>[Signature]</u>	Date: <u>8/2/95</u>	Time: <u>1320</u>

Method of Shipment \_\_\_\_\_