Mobil Oil Corporation

3800 WEST ALAMEDA AVENUE, SUITE 700
BURBANK, CALIFORNIA 91505-4331

October 8, 1992

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

FORMER MOBIL SS# 10-L1X
15884 HESPERIAN BLVD.
SAN LORENZO, CALIFORNIA

Dear Ms. Shin,

Enclosed is the Quarterly Monitoring Report for the above-referenced location, as prepared by our consultant, Hydro-Environmental Technologies, Inc. (HETI).

Groundwater samples were collected from the four existing monitoring wells (MW-2, -5, -6, and -7) on August 20, 1992. Only monitoring wells MW-2 and MW-7, which are located downgradient of the former USTs, contained detectable concentrations of TPHg and BTEX (up to 220-ppb TPHg and 1.2-ppb benzene in MW-7).

We had planned to install two downgradient, off-site MWs to further delineate the extent of groundwater contamination and determine if remediation is warranted at this site. However, we have been denied property access to drill and install these wells by both private property owners and the Alameda County Department of Public Works (see enclosed letter and site plan from HETI). Ideally, these wells would be installed in the "travelled way" of Hesperian Blvd. Any assistance you may be able to provide in helping us to obtain access from the Alameda County Department of Public Works to install these wells would be greatly appreciated.
wells

Please review the enclosed report. Should you have any comments or require additional information, please contact me at (818) 953-2649.

Sincerely,

Randy Begier

Randy Begier
Environmental Project
Engineer

93 0 1 1 0 1 1 0 3 6

cc: Rich Hiett, CRWQCB - S.F. Bay Region (w/enclosure)
Brian Gwinn, HETI
D.J. Hill, Mobil

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

QUARTERLY MONITORING REPORT

Sample Date: August 20, 1992

Former Mobil S/S 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

September 30, 1992

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

CERTIFICATION

This report was prepared under the supervision of a certified engineering geologist. All statements, conclusions and recommendations are based solely upon field observations and analytical test results related to the work performed by Hydro-Environmental Technologies, Inc.

Site conditions are subject to change with time; therefore, our conclusions result only from the interpretation of present conditions and available site information. This report was prepared in accordance with accepted professional standards and technical procedures as certified below.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

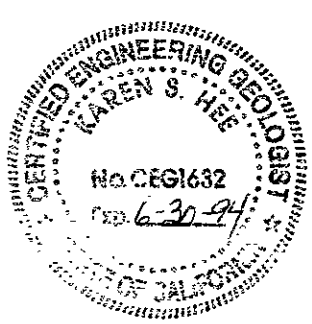
Prepared by:

Henry A. Hurkmans
Staff Geologist

Reviewed by:

Karen S. Hee
C.E.G. No. 1632

Brian M. Gwinn
Project Manager



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 August 20, 1992.

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), and benzene, toluene, ethylbenzene, and xylenes (BTEX), using EPA method 8015/8020 (DHS modified). Water samples collected from MW-5 were also analyzed for: total petroleum hydrocarbons as diesel (TPHd) using EPA Method 8015 (DHS-modified), total oil and grease (TOG) using EPA Method 413.2, halogenated volatile organics (HVO) using EPA Method 8010, cadmium, chromium, nickel, and zinc (Cd, Cr, Ni, Zn) using EPA method 6000 series, and organic lead (O-Pb) using methods described in the California LUFT manual.

At the request of Ms. Juliet Shin of the Alameda County Department of Environmental Health, water samples collected from MW-5 this quarter were also analyzed for polychlorinated biphenyls (PCB) using EPA Method 8080, and semi-volatile organics (SVO) using gas chromatography/mass spectroscopy EPA Method 8270.

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 overexcavated 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

HETI collected water samples from monitoring wells MW-2, MW-5, MW-6 and MW-7 on August 20, 1992. Prior to sampling the depth to water in each of the wells 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 until temperature, conductivity, and pH had stabilized or until they went dry. Gauging and purging data is included in Appendix A.

Following recovery of water levels in the wells to at least 70 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 documented, 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 analysis was 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 was approximately 18 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 potentiometric surface contours shown on Figure 4. Ground water flows towards the southwest at a gradient of 0.0045 ft/ft (0.45%). Although, ground water levels in the wells have fallen an average of 2.4 feet since the last quarter, ground water flow direction and gradient calculated during this quarter are generally consistent with those calculated previously.

4.2 Laboratory Analytical Results

TPHg and BTEX compounds were detected in the water sample collected from well MW-7 at concentrations of 220 and 1.2/ND/3.8/4.3 parts per billion (ppb), respectively. Benzene was detected in the water sample collected from MW-2 at a concentration of 0.99 ppb. TPHg and BTEX compounds were not detected in concentrations exceeding the method detection limit in water samples collected from wells MW-5 and MW-6.

Zinc was detected at a concentration of 0.012 parts per million (ppm) in the water sample collected from MW-5. TPHd, TOG, HVO, Cd, Cr, Ni, O-Pb, PCB, and SVO were not detected at concentrations exceeding method detection limits in the sample collected from MW-5. HETI recommends that these analyses not be repeated for the next sampling event.

Water sample analytical results are summarized in Table 1 and presented graphically on the Dissolved TPHg and BTEX Distribution Map (Figure 5). Cumulative water sample analytical results are summarized in Table 2. Analyte concentrations detected this quarter are generally lower than those detected in previous quarters. A copy of the laboratory report is included in Appendix B.

5.0 Status of Investigative Activities

The next proposed phase of investigation at the site includes the installation of a monitoring well in Hesperian Boulevard, to delineate the downgradient extent of the dissolved hydrocarbon plume. Details of the next phase of investigation can be found in HETI's proposed workplan dated May 11, 1992.

TABLES

Table 1
GROUND WATER SAMPLES
SUMMARY OF ANALYTICAL RESULTS
Former Mobil Station No. 10-L1X
15884 Hesperian Boulevard
San Lorenzo, California

Sampling Date: August 20, 1992

MW No.	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
MW-2	ND	0.99	ND	ND	ND
MW-5	ND	ND	ND	ND	ND
MW-6	ND	ND	ND	ND	ND
MW-7	220	1.2	ND	3.8	4.3

TPHg = Total low to medium boiling point petroleum hydrocarbons by EPA Method 8015 (DHS modified)

B = Benzene
T = Toluene
E = Ethylbenzene
X = Total Xylenes
BTEX analyzed by EPA Method 8020

ND = Not detected at concentrations exceeding the method detection limit

Note: The following analytes were not detected in concentrations exceeding the method detection limit in the water samples collected from MW-5:

- Total high boiling point petroleum hydrocarbons (TPHd) by EPA Method 8015 (DHS-mod.)
- Total oil and grease (TOG) by EPA Method 413.2 (I.R.)
- Halongenated volatile organics (HVO) by EPA Method 8010
- Cadmium, chromium, and nickel (Cd, Cr, Ni) by EPA Method 6000 series
- Organic Lead (O-Pb) by methods described in California LUFT Manual (revised)
- Semi-volatile organics (SVO) by GC/MS EPA Method 8270
- Polychlorinated biphenyls (PCB) by EPA Method 8080

Note: Zinc (Zn) was detected in a water sample collected from MW-5 at a concentration of 0.012 ppm by EPA Method 6000 series with a method detection limit of 0.010 ppm

Table 2
GROUND WATER SAMPLES
CUMULATIVE ANALYTICAL RESULTS
Mobil Service Station No. 10-L1X
15884 Hesperian Boulevard
San Lorenzo, California

MW No.	Date	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
MW-2	2/12/92	190	4.4	ND	4.7	3.8
	5/4/92	480	9.1	1.4	4.4	2.3
	8/20/92	ND	0.99	ND	ND	ND
MW-5	2/12/92	ND	ND	ND	ND	ND
	5/4/92	ND	ND	ND	ND	ND
	8/20/92	ND	ND	ND	ND	ND
MW-6	2/12/92	2,700	14	3.5	27	39
	5/4/92	ND	ND	ND	ND	ND
	8/20/92	ND	ND	ND	ND	ND
MW-7	2/12/92	ND	ND	ND	ND	ND
	5/4/92	640	4.5	ND	11	14
	8/20/92	220	1.2	ND	3.8	4.3

TPHg = Total low to medium boiling point petroleum hydrocarbons
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes

ND = Not detected at concentrations exceeding the method detection limit.

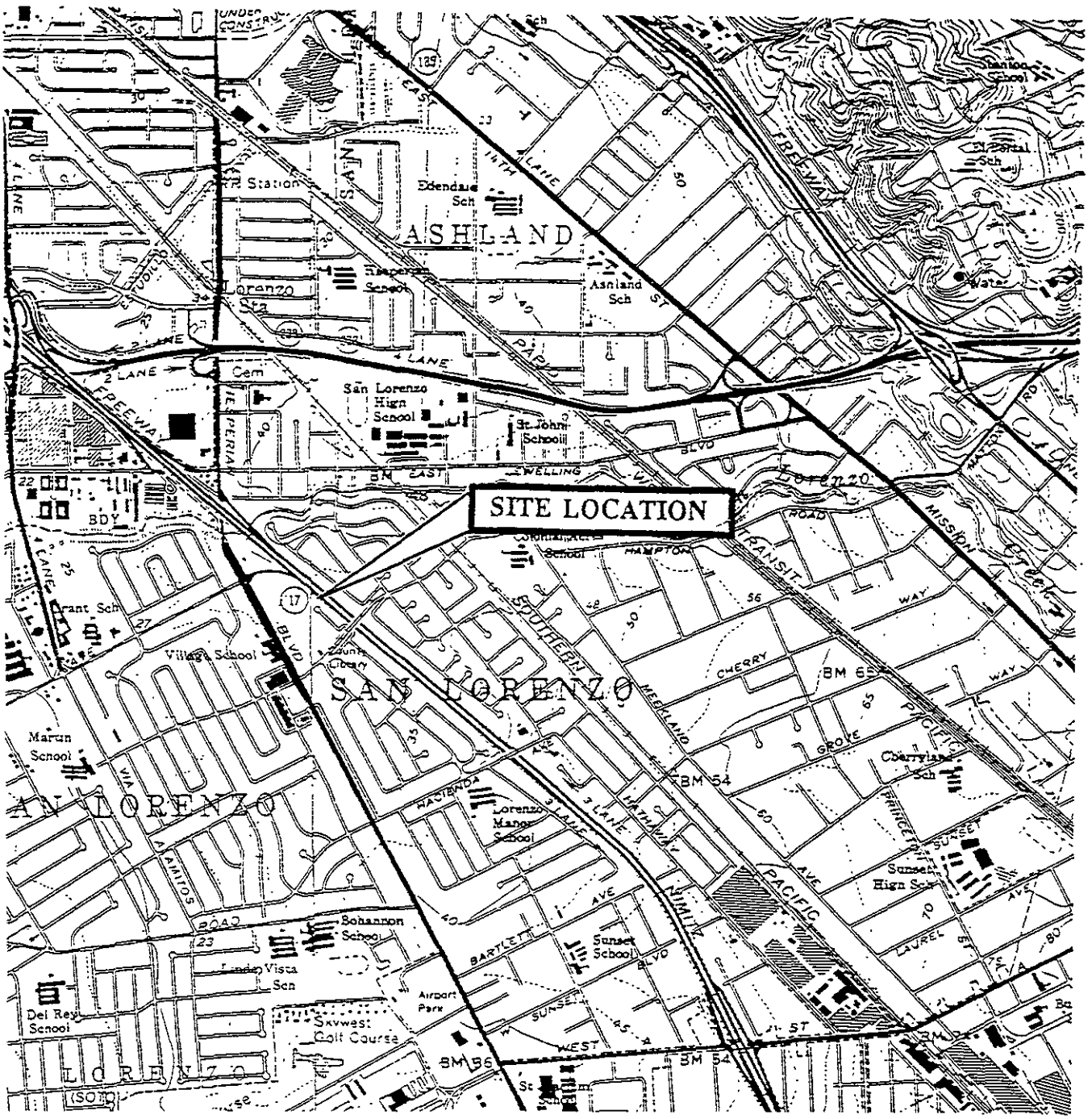
Note: For the 2/12/92 and 5/4/92 sampling rounds, the following analytes were not detected at concentrations exceeding the method detection limits, in the water samples collected from MW5:

- Total high boiling point petroleum hydrocarbons (TPHd)
- Total oil and grease (TOG)
- Halogenated volatile organics (HVO)
- Cadmium, chromium, nickel, zinc, and organic lead (Cd,Cr, Ni, and Zn)
- Organic Lead (O-Pb)

Note: For the 8/20/92 sampling round, the above listed analytes (with the exception of Zn at 0.012 ppm) and the below listed analytes were not detected at concentrations exceeding the method detection limits, in the water sample collecteds from MW-5:

-Semi-volatile organics (SVO)
-Polychlorinated biphenyls (PCB)

FIGURES

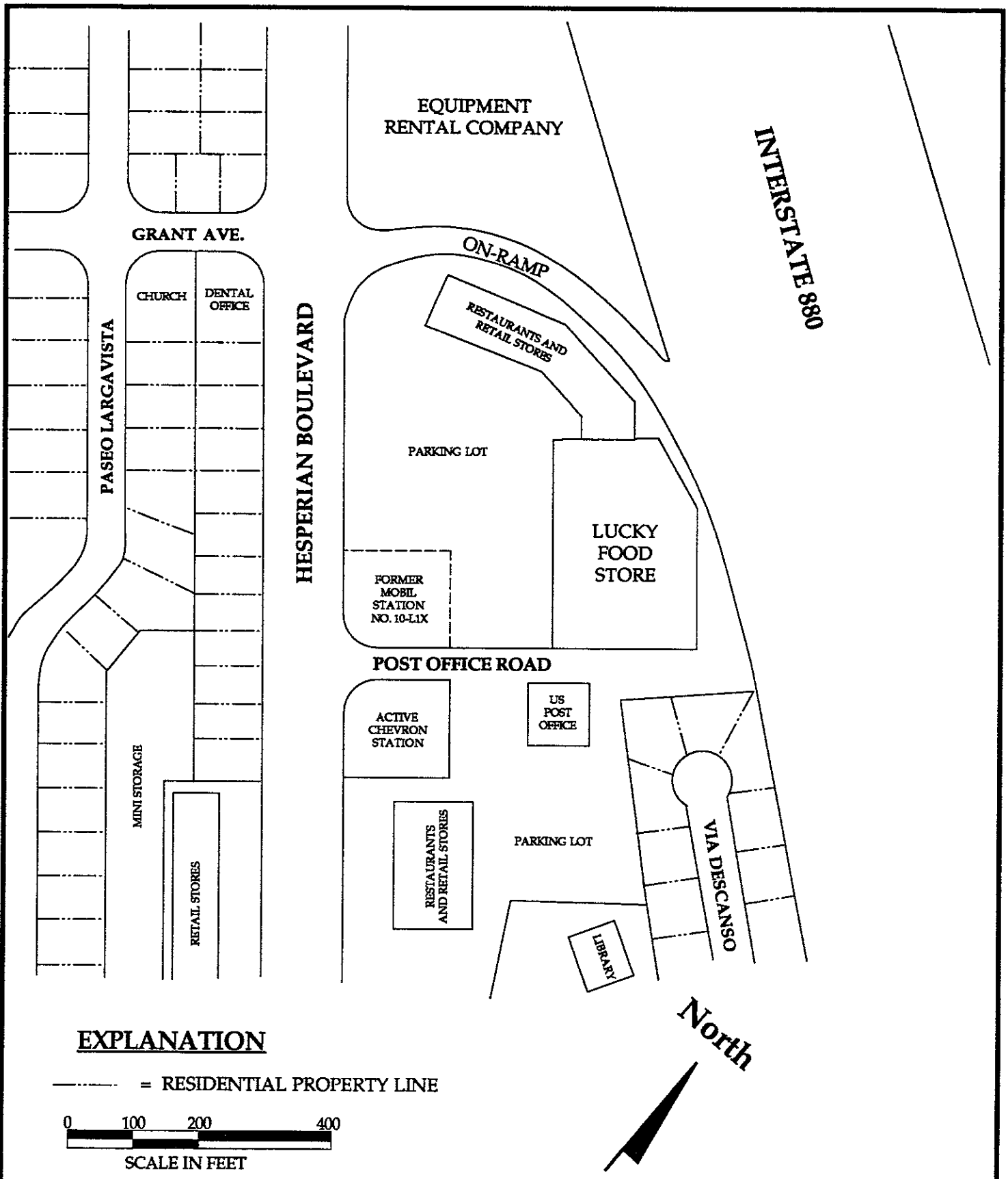


Source: U.S.Geological Survey
7.5 Minute Quadrangle Maps
Entitled: "San Leandro, California"
and "Hayward, California"
Revised 1980

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

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

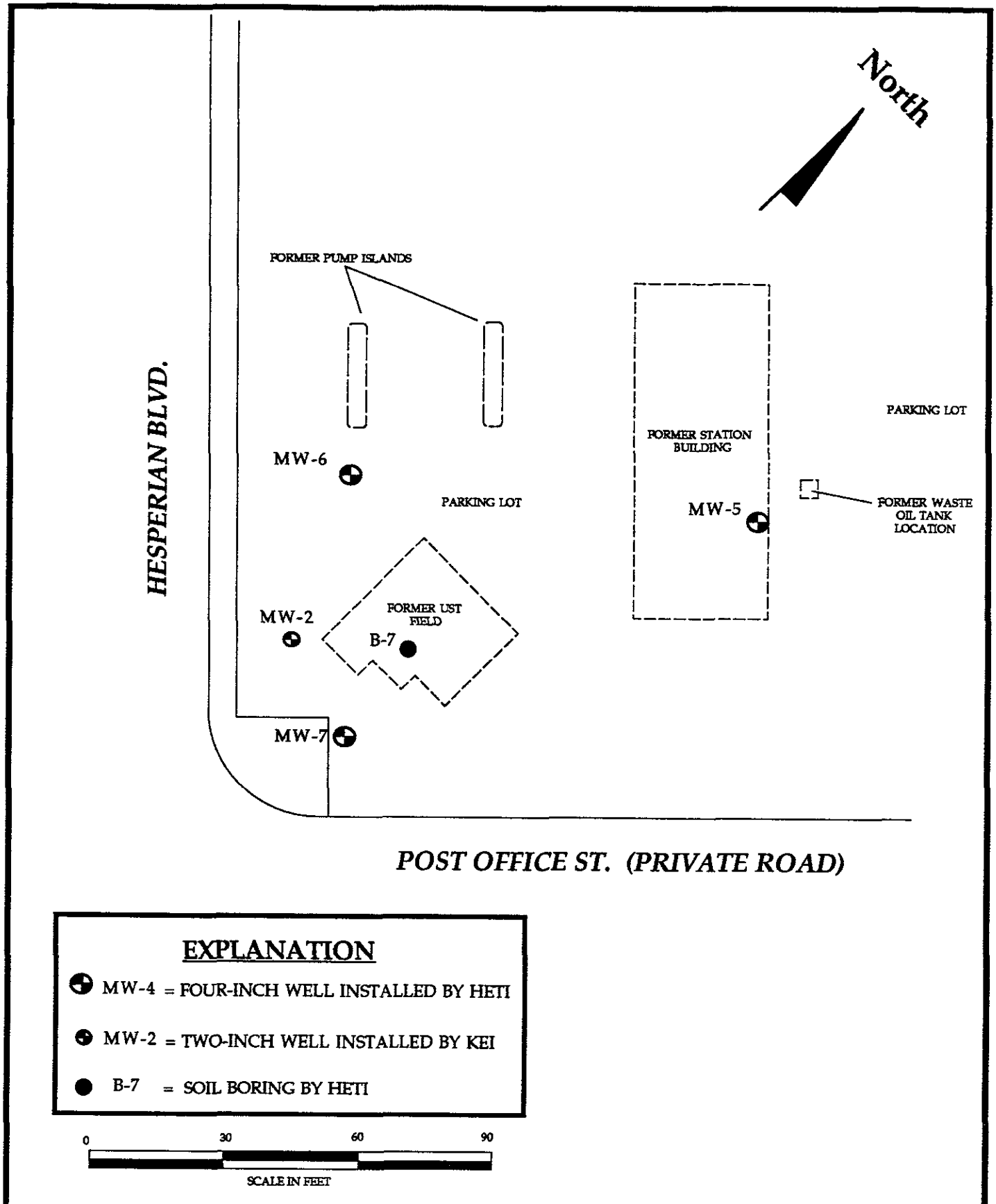
Job No. 8-019
Figure 1



HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

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

Job No.
8-019
Figure
2



EXPLANATION

- MW-4 = FOUR-INCH WELL INSTALLED BY HETI
- MW-2 = TWO-INCH WELL INSTALLED BY KEI
- B-7 = SOIL BORING BY HETI

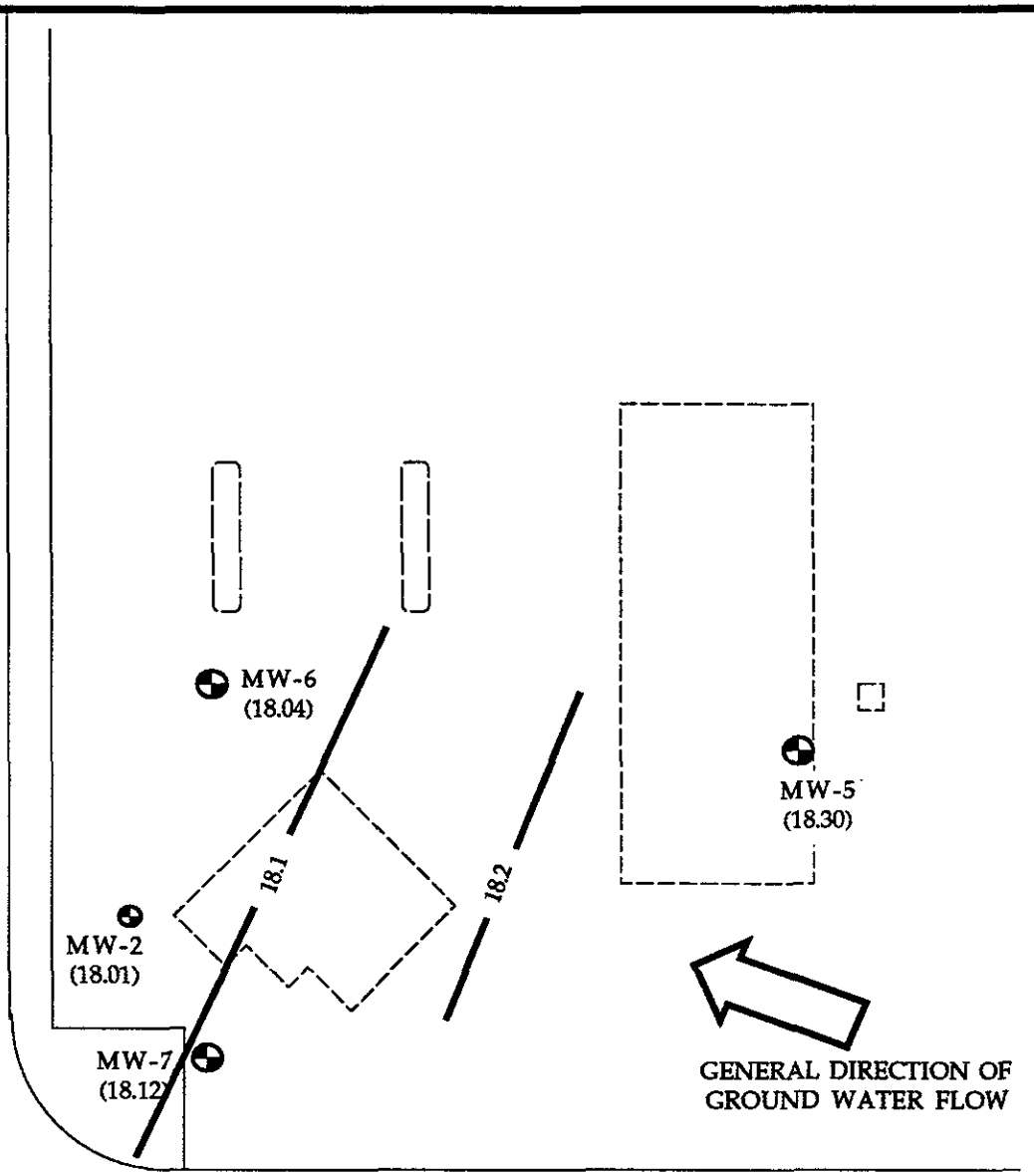
0 30 60 90

SCALE IN FEET

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

SITE PLAN
Former Mobil 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

(18.01) = ELEVATION OF GROUND WATER - IN FEET BASED ON PROJECT DATUM

18.2 = ESTIMATED GROUND WATER ELEVATION CONTOUR IN FEET - BASED ON PROJECT DATUM

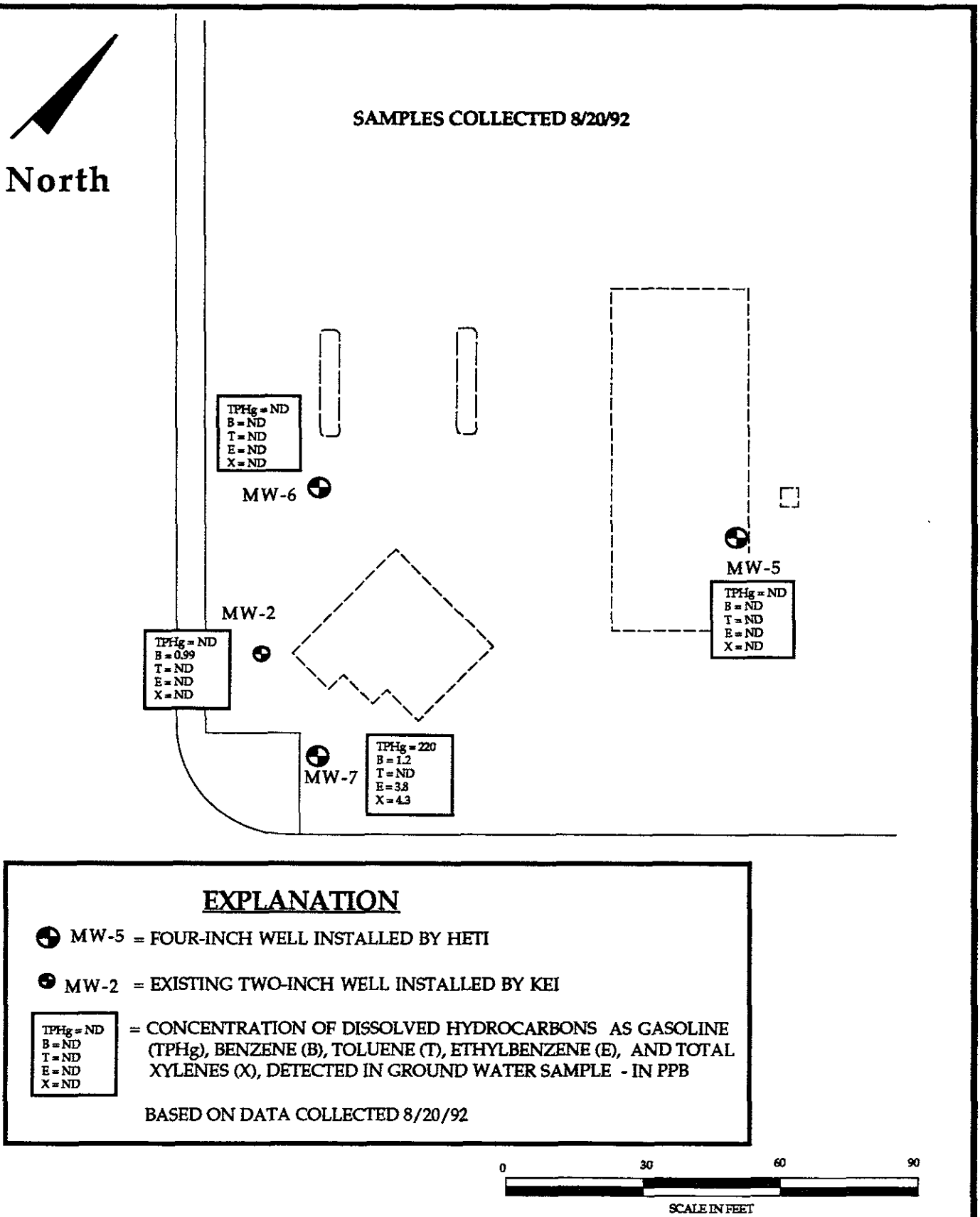
BASED ON DATA COLLECTED 8/20/92

North

0 30 60 90

SCALE IN FEET

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.	POTENTIOMETRIC SURFACE MAP Former Mobil Station No. 10-L1X 15884 Hesperian Blvd. San Lorenzo, California	Job No. 8-019 Figure 4



HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

DISSOLVED TPHg AND BTEX DISTRIBUTION MAP

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

Job No. 8-019
Figure 5

APPENDIX A

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

WATER TABLE ELEVATION DATA

Location: 15884 Hesperian Blvd., San Lorenzo, California

Client: MOBIL OIL CORP. **Job No.** 8-019

MW No.	Elev. T.C.*	D T W	Date Measured	Elev. Water	Remarks/Observations
MW-2	31.81	13.80	8/20/92	18.01	Tan color, moderate turbidity, good recharge
MW-5	32.92	14.62	8/20/92	18.30	Light tan color, moderate turbidity, poor recharge
MW-6	32.68	14.64	8/20/92	18.04	Tan color, moderate turbidity, poor recharge
MW-7	33.08	14.96	8/20/92	18.12	Tan color, moderate turbidity, poor recharge

Project Datum:
Top of Fire Hydrant -
Northeast Corner of
Hesperian and Post Office Rd.
Assumed Elev = 35 MSL

T. C.* = Top of PVC Casing -- North Edge

PURGED/SAMPLED BY: BG DATE: 8/19/92

GAUGING DATA:

Depth to bottom: 27.30 ft.

Depth to water: 13.80 ft.

Saturated Thickness: 13.5 ft.

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

Well casing volume 2.16 gallons

volumes to purge x 3 vols.

*Total volume to purge = 6.5 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
1030	0	—	—	—
1032	2	74.3	1.50	7.85
1033	4	73.3	1.49	7.79
1034	6	72.4	1.40	7.71
1035	7	72.2	1.36	7.65

Color: Tan Turbidity: Moderate

Recharge: Good SPP Ø 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-2

LOCATION MOBIL 10-LTK

JOB NO. 8-09

PURGED/SAMPLED BY: BG DATE: 8/19/92

GAUGING DATA:

Depth to bottom: 22.45 ft.

Depth to water: 14.62 ft.

Saturated Thickness: 7.83 ft.

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

Well casing volume 5.08 gallons

volumes to purge x 3 vols.

*Total volume to purge = 15.3 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
1045	0	←	←	—
1047	5	75.8	1.43	7.97
1049 (dry →)	9	74.2	1.45	7.81

Color: Light tan Turbidity: Moderate

Recharge: Poor SPP Ø ft.

SAMPLING DATA:

Sampling method: Dedicated bailer / _____

Sample for: (circle)

TPHg/BTEX METALS TOC 6010

TPHd O-Pb TEL 8020

TPH mo Total Pb EDB 8240

601 602 Nitrates 8260 8270

Other: PCB's

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

MONITORING WELL PURGE/SAMPLE SHEET

WELL # MW-5

LOCATION MOBIL 10-LIX

JOB NO. 8-019

PURGED/SAMPLED BY: BG DATE: 8/19/92

GAUGING DATA:

Depth to bottom: 22.50 ft.

Depth to water: 14.64 ft.

Saturated Thickness: 7.86 ft.

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

Well casing volume 5.11 gallons

volumes to purge x 3 vols.

*Total volume to purge = 15.4 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
	1055	0	←	←	—
	1056	5	75.4	1.40	7.86
dry →	1058	8	73.9	1.35	7.73

Color: Tan Turbidity: Moderate

Recharge: Poor SPP Ø 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-6

LOCATION MOBIL 10-21X

JOB NO. 8-019

PURGED/SAMPLED BY: BB DATE: 8/19/92

GAUGING DATA:

Depth to bottom: 23.90 ft.

Depth to water: 14.96 ft.

Saturated Thickness: 8.94 ft.

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

Well casing volume 5.81 gallons

volumes to purge x 3 vols.

*Total volume to purge = 17.5 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
1100	0	—	—	—
1104	5	74.0	1.30	11.34
dry → 1107	7	72.0	1.06	11.42

Color: Tan Turbidity: Moderate

Recharge: Poor SPP 8 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-7

LOCATION MOBIL 10-LIK

JOB NO. 8-019

APPENDIX B

- 8-019
- Analytical

RECEIVED SEP - 2 1992

SEQUOIA ANALYTICAL

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

Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Matrix:	Water	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	EPA 5030/8015/8020	Reported:	Aug 31, 1992
Attention: Brian Gwinn	First Sample #:	208-3773		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 208-3773 MW-2	Sample I.D. 208-3774 MW-5	Sample I.D. 208-3775 MW-6	Sample I.D. 208-3776 MW-7	Sample I.D.	Sample I.D.
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	220		
Benzene	0.50	0.99	N.D.	N.D.	1.2		
Toluene	0.50	N.D.	N.D.	N.D.	N.D.		
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	3.8		
Total Xylenes	0.50	N.D.	N.D.	N.D.	4.3		
Chromatogram Pattern:		C4-C12 Non-Gas Mixture	--	--	Non-Gas Mixture C4-C12		

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Analyzed:	8/24/92	8/24/92	8/24/92	8/24/92
Instrument Identification:	GCHP-3	GCHP-2	GCHP-2	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	122	97	104	124

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:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Matrix:	Water	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	EPA 3510/3520/8015	Reported:	Aug 31, 1992
Attention: Brian Gwinn	First Sample #:	208-3774		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 208-3774 MW-5	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Extractable Hydrocarbons	50	N.D.					
Chromatogram Pattern:		--					

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	8/24/92
Date Analyzed:	8/25/92
Instrument Identification:	GCHP-5

Extractable Hydrocarbons are quantitated against a fresh diesel 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:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Matrix Descript:	Water	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	EPA 413.2 (I.R.)		
Attention: Brian Gwinn	First Sample #:	208-3774	Analyzed:	Aug 27, 1992
			Reported:	Sep 1, 1992

TOTAL RECOVERABLE OIL & GREASE

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
208-3774	MW-5	N.D.

Detection Limits:	1.0

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

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director

SEQUOIA ANALYTICAL

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

Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Water, MW-5	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	EPA 5030/8010	Analyzed:	Aug 27, 1992
Attention: Brian Gwinn	Lab Number:	208-3774	Reported:	Aug 31, 1992

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Water, MW-5	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	EPA 8080	Extracted:	Aug 25, 1992
Attention: Brian Gwinn	Lab Number:	208-3774	Analyzed:	Aug 26, 1992
			Reported:	Sep 1, 1992

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/L	Sample Results µg/L
PCB 1016	0.50	N.D.
PCB 1221	2.0	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

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

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Project Manager

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Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Water, MW-5	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	EPA 8270	Extracted:	Aug 24, 1992
Attention: Brian Gwinn	Lab Number:	208-3774	Analyzed:	Aug 26, 1992
			Reported:	Aug 31, 1992

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	2.0	N.D.
Acenaphthylene	2.0	N.D.
Aniline	2.0	N.D.
Anthracene	2.0	N.D.
Benzidine	50	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	2.0	N.D.
Benzo(b)fluoranthene	2.0	N.D.
Benzo(k)fluoranthene	2.0	N.D.
Benzo(g,h,i)perylene	2.0	N.D.
Benzo(a)pyrene	2.0	N.D.
Benzyl alcohol	2.0	N.D.
Bis(2-chloroethoxy)methane	2.0	N.D.
Bis(2-chloroethyl)ether	2.0	N.D.
Bis(2-chloroisopropyl)ether	2.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	2.0	N.D.
Butyl benzyl phthalate	2.0	N.D.
4-Chloroaniline	2.0	N.D.
2-Chloronaphthalene	2.0	N.D.
4-Chloro-3-methylphenol	2.0	N.D.
2-Chlorophenol	2.0	N.D.
4-Chlorophenyl phenyl ether	2.0	N.D.
Chrysene	2.0	N.D.
Dibenz(a,h)anthracene	2.0	N.D.
Dibenzofuran	2.0	N.D.
Di-N-butyl phthalate	10	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	2.0	N.D.
Diethyl phthalate	2.0	N.D.
2,4-Dimethylphenol	2.0	N.D.
Dimethyl phthalate	2.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.

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Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, S	Sample Descript:	Water, MW-5	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	EPA 8270	Extracted:	Aug 24, 1992
Attention: Brian Gwinn	Lab Number:	208-3774	Analyzed:	Aug 26, 1992
			Reported:	Aug 31, 1992

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
2,4-Dinitrotoluene	2.0	N.D.
2,6-Dinitrotoluene	2.0	N.D.
Di-N-octyl phthalate	2.0	N.D.
Fluoranthene	2.0	N.D.
Fluorene	2.0	N.D.
Hexachlorobenzene	2.0	N.D.
Hexachlorobutadiene	2.0	N.D.
Hexachlorocyclopentadiene	2.0	N.D.
Hexachloroethane	2.0	N.D.
Indeno(1,2,3-cd)pyrene	2.0	N.D.
Isophorone	2.0	N.D.
2-Methylnaphthalene	2.0	N.D.
2-Methylphenol	2.0	N.D.
4-Methylphenol	2.0	N.D.
Naphthalene	2.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	2.0	N.D.
2-Nitrophenol	2.0	N.D.
4-Nitrophenol	10	N.D.
N-Nitrosodiphenylamine	2.0	N.D.
N-Nitroso-di-N-propylamine	2.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	2.0	N.D.
Phenol	2.0	N.D.
Pyrene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	2.0	N.D.

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

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Maile A. Springer
Project Manager

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Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Water	Received:	Aug 21, 1992
Alameda, CA 94501	Analysis Method:	California LUFT Manual, 12/87		
Attention: Brian Gwinn	First Sample #:	208-3774	Analyzed:	Aug 24, 1992
			Reported:	Aug 31, 1992

ORGANIC LEAD

Sample Number	Sample Description	Sample Results mg/L
208-3774	MW-5	N.D.

Detection Limits:	0.050

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

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Project Manager

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Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	Sampled:	Aug 20, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Water, MW-4	Received:	Aug 21, 1992
Alameda, CA 94501			Analyzed:	Aug 26, 1992
Attention: Brian Gwinn	Lab Number:	208-3774	Reported:	Aug 31, 1992

LABORATORY ANALYSIS

Analyte	Detection Limit mg/L	Sample Results mg/L
Cadmium	0.010	N.D.
Chromium	0.010	N.D.
Nickel	0.050	N.D.
Zinc	0.010	0.012

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

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Please Note:
* - Sample filtered prior to analyses.

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Hydro Environmental
2363 Mariner Square Dr., Bldg. 3, Suite 243
Alameda, CA 94501
Attention: Brian Gwinn

Client Project ID: 10-LIX, 8-019, Mobil

QC Sample Group: 208-3773

Reported: Aug 31, 1992

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
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Aug 24, 1992	Aug 24, 1992	Aug 24, 1992	Aug 24, 1992
QC Sample #:	GBLK082492	GBLK082492	GBLK082492	GBLK082492
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	9.8	9.4	9.9	29
Matrix Spike % Recovery:	98	94	99	97
Conc. Matrix Spike Dup.:	9.5	9.5	9.5	29
Matrix Spike Duplicate % Recovery:	95	95	95	97
Relative % Difference:	3.1	1.1	4.1	0.0

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Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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Hydro Environmental
2363 Mariner Square Dr., Bldg. 3, Suite 243
Alameda, CA 94501
Attention: Brian Gwinn

Client Project ID: 10-LIX, 8-019, Mobil
QC Sample Group: 2083774 - 76
Reported: Aug 31, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A.Miraftab	A.Miraftab	A.Miraftab	A.Miraftab
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Aug 24, 1992	Aug 24, 1992	Aug 24, 1992	Aug 24, 1992
QC Sample #:	GBLK082492	GBLK082492	GBLK082492	GBLK082492
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	10	10	10	30
Matrix Spike % Recovery:	100	100	100	100
Conc. Matrix Spike Dup.:	10	10	10	32
Matrix Spike Duplicate % Recovery:	100	100	100	107
Relative % Difference:	0.0	0.0	0.0	6.4

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Project Manager

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

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

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Hydro Environmental
2363 Mariner Square Dr., Bldg. 3, Suite 243
Alameda, CA 94501
Attention: Brian Gwinn

Client Project ID: 10-LIX, 8-019, Mobil
QC Sample Group: 208-3774
Reported: Aug 31, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel	Ttl. Oil & Grease	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	AR 1260
Method:	EPA 8015	EPA 413.2	EPA 8010	EPA 8010	EPA 8010	EPA 8080
Analyst:	M.Tran	P.Penner	V.Nunzir	V.Nunzir	V.Nunzir	D.Dreblow
Reporting Units:	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Aug 25, 1992	Aug 27, 1992	Aug 27, 1992	Aug 27, 1992	Aug 27, 1992	Aug 26, 1992
QC Sample #:	DBLK082492	Blank	VBLK082792	VBLK082792	VBLK082792	PBLK082592
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	300	40	20	20	20	500
Conc. Matrix Spike:	210	35	27	14	18	450
Matrix Spike % Recovery:	70	88	135	70	90	90
Conc. Matrix Spike Dup.:	180	35	27	14	18	500
Matrix Spike Duplicate % Recovery:	60	88	135	70	90	100
Relative % Difference:	15	0.0	0.0	0.0	0.0	11

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Maile A. Springer
Project Manager

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

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Hydro Environmental	Client Project ID:	10-LIX, 8-019, Mobil	
2363 Mariner Square Dr., Bldg. 3, Suite 243	Method:	EPA 8270	Q.C. Sample Dates
Alameda, CA 94501	Analyst(s):	N.Injejikian	Extracted: Aug 24, 1992
Attention: Brian Gwinn	QC Sample #:	CBLK082492	Analyzed: Aug 27, 1992
			Reported: Aug 31, 1992

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
Phenol	N.D.	100	85	85	81	85	4.8
2-Chlorophenol	N.D.	100	86	86	85	85	1.2
1,4-Dichloro-benzene	N.D.	50	38	76	40	80	5.1
N-Nitroso-Di-N-propylamine	N.D.	50	46	92	44	88	4.4
1,2,4-Trichloro-benzene	N.D.	50	39	78	41	82	5.0
4-Chloro-3-Methylphenol	N.D.	100	76	76	92	92	19
Acenaphthene	N.D.	50	41	82	42	84	2.4
4-Nitrophenol	N.D.	100	97	97	93	93	4.2
2,4-Dinitro-toluene	N.D.	50	41	82	49	98	18
Pentachloro-phenol	N.D.	100	81	81	78	78	3.8
Pyrene	N.D.	50	41	82	47	94	14

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

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

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Hydro Environmental
2363 Mariner Square Dr., Bldg. 3, Suite 243
Alameda, CA 94501
Attention: Brian Gwinn

Client Project ID: 10-LIX, 8-019, Mobil
QC Sample Group: 208-3774
Reported: Aug 31, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Organic Lead	Cadmium	Chromium	Nickel	Zinc
Method:	LUFT	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Analyst:	S.Chin	C.Medefesser	C.Medefesser	C.Medefesser	C.Medefesser
Reporting Units:	mg/L	mg/L	mg/L	mg/L	mg/L
Date Analyzed:	Aug 24, 1992	Aug 26, 1992	Aug 26, 1992	Aug 26, 1992	Aug 26, 1992
QC Sample #:	208-3774	208-4189	208-4189	208-4189	208-4189
Sample Conc.:	N.D.	0.014	0.012	N.D.	N.D.
Spike Conc. Added:	0.12	1.0	1.0	1.0	10
Conc. Matrix Spike:	0.13	0.81	0.83	0.81	12
Matrix Spike % Recovery:	108	80	82	81	120
Conc. Matrix Spike Dup.:	0.13	0.78	0.79	0.78	12
Matrix Spike Duplicate % Recovery:	108	77	78	78	120
Relative % Difference:	0.0	3.8	4.9	3.8	0.0

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Maile A. Springer
Project Manager

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

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

Mobil Chain of Custody

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

Consulting Firm Name: Hydro-Environmental Technologies, Inc.	Site SS #: 10-L1X	Phase of Work:
Address: 2363 Mariner Square Dr., #243	Mobil Site Address: 15884 Hesperian, San Lorenzo CA	☐ A. Emrg. Response
City: Alameda State: CA Zip Code: 9	Mobil Engineer: Randy Begier	☐ B. Site Assessment
Telephone: 510-521-2694 FAX #: 521-5078	Consultant Project #: 8-019	☐ C. Remediation
Project Contact: Brian Gwinn Sampled by: BG	Sequoia's Work Order Release #:	☒ D. Monitoring
		☐ 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	EPA 8010	C.-Pb EPA 6010 (Cd, Cr, Ni, Zn)	EPA 8270 PCB	Comments
1. MW-2	8/20/92 1130	H_2O	2	2083773	X							
2. MW-5	1140		11	74	X	X		X	X	X	X	
3. MW-6	1150		2	75	X					X		
4. MW-7	1200		2	76	X							
5.												
6.												*Filter prior to analysis
7.												RC
8.												
9.												
10.												

Relinquished By: (HETI)	Date: 8/21/92	Time: 1210	Received By:	Date: 8/21/92	Time: 12:10 PM
Relinquished By:	Date: 8/21/92	Time: 2:10PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8-21-92	Time: 2:10 PM