Mobil Oil Corporation

3800 WEST ALAMEDA AVENUE, SUITE 700 2000
BURBANK, CALIFORNIA 91505-4331

June 12, 1992

Mr. Rich Hiett
CRWQCB - San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

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

Dear Mr. Hiett,

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

Groundwater samples were collected from the four existing MWs on May 5, 1992. TPHg and BTEX compounds were detected in the water samples collected from MW-2 and -7 (up to 9.1-ppb benzene in MW-2).

We plan to install an off-site, down-gradient MW to better define the extent of groundwater contamination at this site. A report detailing the findings of this additional investigation will be submitted to you when the work has been completed.

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

cc: Juliet Shin, Alameda Co. Dept. of Envir. Health (w/enclosure)
D.J. Hill, Mobil

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

Quarterly Monitoring Report

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

Sample Date: May 4, 1992

May 27, 1992 **8-019**

The purpose of this report is to present the results of Hydro-Environmental Technologies, Inc.'s (HETI's) quarterly water sampling for the above-referenced site. Well sampling was performed on May 4, 1992.

Work performed at the site by HETI included (1) well gauging, (2) well purging, (3) collection of ground water samples from each of the wells, and (4) analysis of water samples for total low to medium boiling point petroleum hydrocarbons (TPHg), and benzene, toluene, ethylbenzene, and xylenes (BTEX), using EPA method 8015/8020 (DHS modified). Additional water samples were collected from MW-5 for analysis of 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. All documentation related to the field work is appended to this report.

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). Kaprelian 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.

Field Activities

HETI collected water samples from monitoring wells MW-2, MW-5, MW-6 and MW-7 on May 5, 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 of greater than three well volumes or were purged dry. During purging, temperature, conductivity, and pH was monitored. Purging data is included in Appendix A.

Following recovery of the wells to at least 70 percent of their static water level, water samples were collected with dedicated bailers. 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.

Ground Water Data

The depth to ground water in each of the wells was approximately 20 feet below grade, according to the well gauging conducted for this investigation. Gauging data is attached as Appendix A. 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 0.0025 ft/ft (0.25%), based on May 4, 1992 measurements. This is consistent with the ground water flow direction calculated from previous gauging data.

Laboratory Analytical Results

TPHg and BTEX compounds were detected in water samples collected from wells MW-2 and MW-7. Neither TPHg nor BTEX compounds were detected in concentrations exceeding the method detection limit in water samples collected from wells MW-5 and MW-6. TPHg concentrations ranged from 480 parts per billion (ppb) in the sample collected from MW-2 to 640 ppb in the sample collected from MW-7. Benzene concentrations ranged from 4.5 ppb in the sample from MW-7 to 9.1 ppb in the sample from MW-2.

Neither TPHd, TOG, HVO, Cd, Cr, Ni, Zn nor O-Pb were detected in concentrations exceeding the method limits in the sample collected from MW-5. HETI recommends that these analyses not be repeated during the next sampling event.

Analytical results for water samples collected in May 1992 from wells MW-6 and MW-7 do not correlate well with the analytical results for the samples collected from the same wells in February 1992. Based on field observations during the installation of the wells and ground water sampling, water sample analytical results from this quarter represent the accurate distribution of dissolved hydrocarbon plume, which is centered in the vicinity of wells MW-2 and MW-7. The reporting error of analytical results for water samples collected from MW-6 and MW-7 in February 1992 was most likely due to either mislabeled sample containers or a laboratory reporting error.

Water sample analytical results are summarized in Table 1 and represented graphically on the TPHg Isoconcentration Map (Figure 5) and Benzene Isoconcentration Map (Figure 6). Cumulative water sample analytical results are summarized in Table 2. A copy of the laboratory report is included in Appendix B.

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.

If you have any questions or require additional information, please feel free to call.

Sincerely,
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

Frederick G. Moss, P.E., No. 35162
Senior Engineer

Brian M. Gwinn
Project Geologist

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

Table 1
WATER SAMPLES

SUMMARY OF ANALYTICAL RESULTS
Former Mobil Station No. 10-L1X
15884 Hesperian Boulevard
San Lorenzo, California
Sampling Date: May 4, 1992

MW No.	TPHg	B	T	E	X
MW-2	480	9.1	1.4	4.4	2.3
MW-5	ND	ND	ND	ND	ND
MW-6	ND	ND	ND	ND	ND
MW-7	640	4.5	ND	1.1	14

All concentrations in µg/l (ppb)

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 in concentrations exceeding the method limit

Note: None of the following compounds were detected in concentrations exceeding the method detection limit in the water sample collected from MW-5:

- Total high boiling point petroleum hydrocarbons (TPHd) by EPA Method 8015 (DHS - modified)
- Total oil and grease (TOG) by EPA Method 413.2
- Halongenated Volatile Organics (HVO) by EPA Method 8010
- Cadmium, chromium, nickel and zinc (Cd, Cr, Ni, Zn) by EPA Method 6000 series
- Organic Lead (o-Pb) by methods described in California LUFT Manual (revision)

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TECHNOLOGIES, INC.

Table 2
WATER SAMPLES

CUMULATIVE ANALYTICAL RESULTS
Mobil Service Station No. 10-L1X
15884 Hesperian Boulevard
San Lorenzo, California

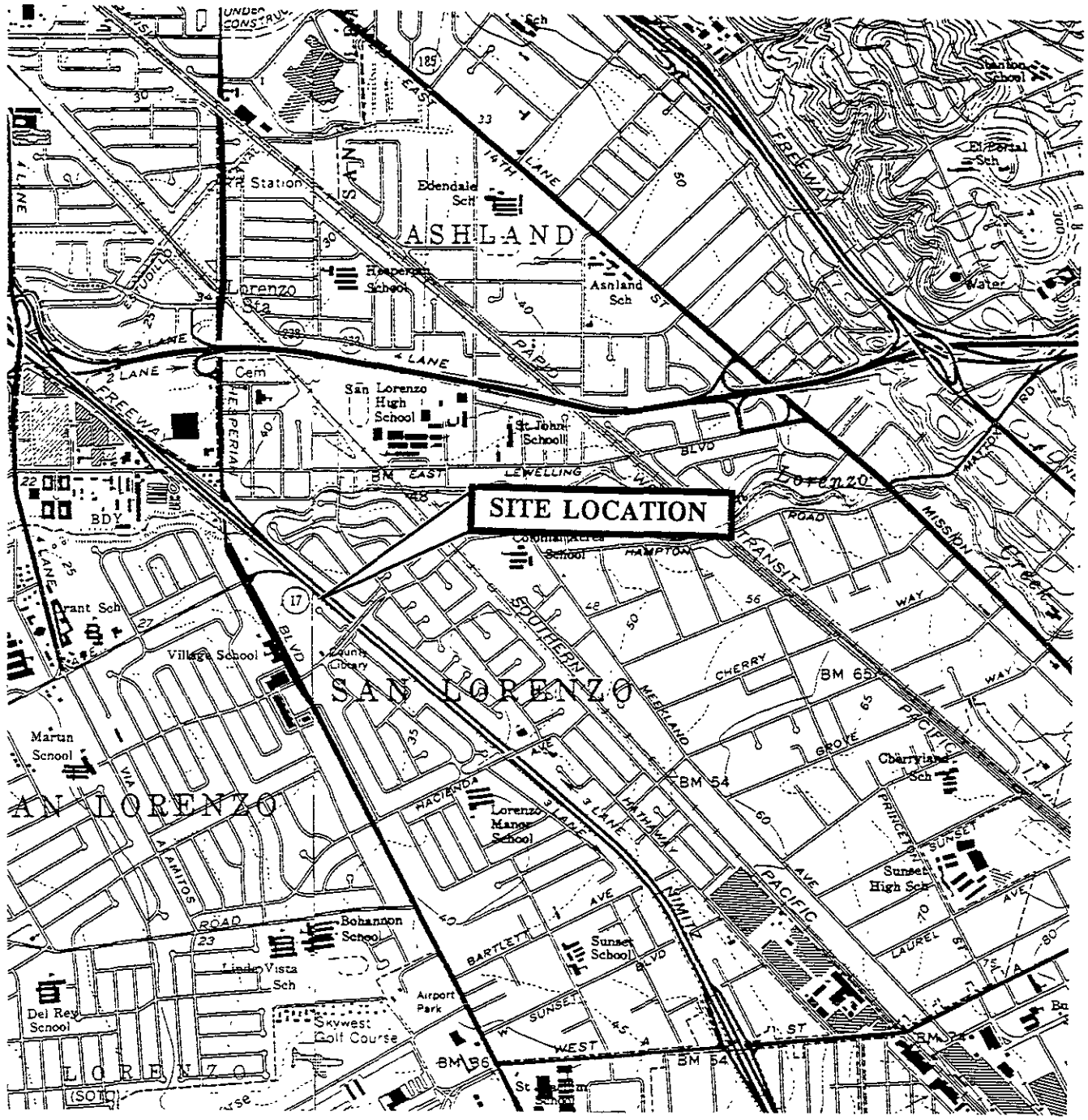
MW No.	Date	TPHg	B	T	E	X
MW-2	2/12/92	190	4.4	ND	4.7	3.8
	5/4/92	480	9.1	1.4	4.4	2.3
MW-5	2/12/92	ND	ND	ND	ND	ND
	5/4/92	ND	ND	ND	ND	ND
MW-6	2/12/92	2,700	14	3.5	27	39
	5/4/92	ND	ND	ND	ND	ND
MW-7	2/12/92	ND	ND	ND	ND	ND
	5/4/92	640	4.5	ND	11	14

All hydrocarbon concentrations in µg/l (ppb)
TPHg = Total petroleum hydrocarbons as gasoline by EPA method 5030/8015 (DHS modified)
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes

ND = Not detected above the laboratory method detection limit.

Note: For the 2/12/92 and 5/4/92 sampling rounds, none of the following compounds were detected in concentrations exceeding the method detection limit in the water sample collected from MW-5:

- Total high boiling point petroleum hydrocarbons (TPHd) by EPA Method 8015 (DHS-modified
- Total oil and grease (TOG) by EPA Method 413.2
- Halogenated volatile organics (HVO) by EPA Method 8010
- Cadmium, chromium, nickel, zinc, and organic lead (Cd,CR, Ni, Zn and O-Pb) by EPA Method 6000 series
- Organic Lead (O-Pb) by methods described in California LUFT Manual (revision)



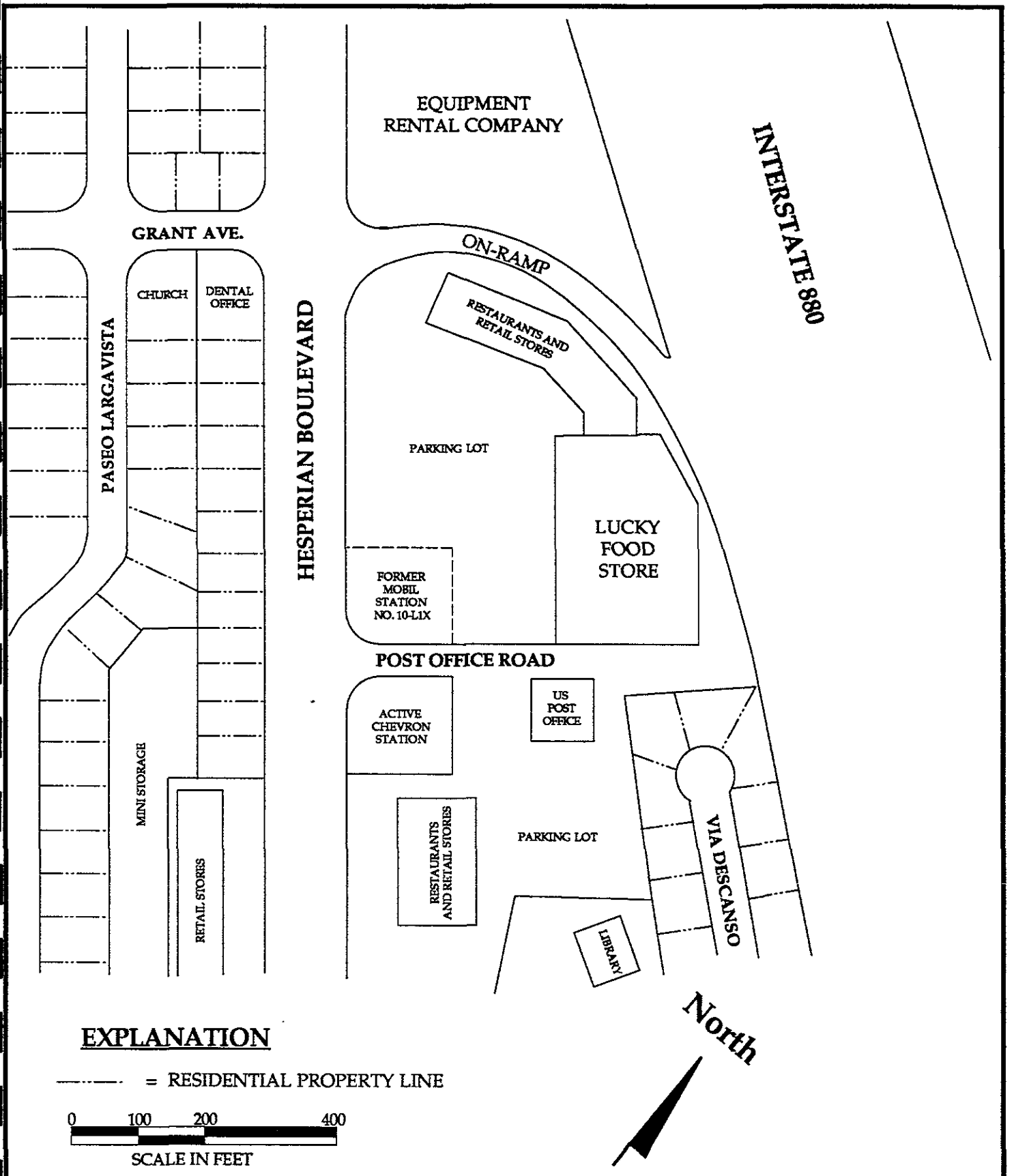
Source: U.S.Geological Survey
7.5 Minute Quadrangle Maps
Entitled: "San Leandro, California"
and "Hayward, California"
Revised 1980

Scale 1:24,000

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

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

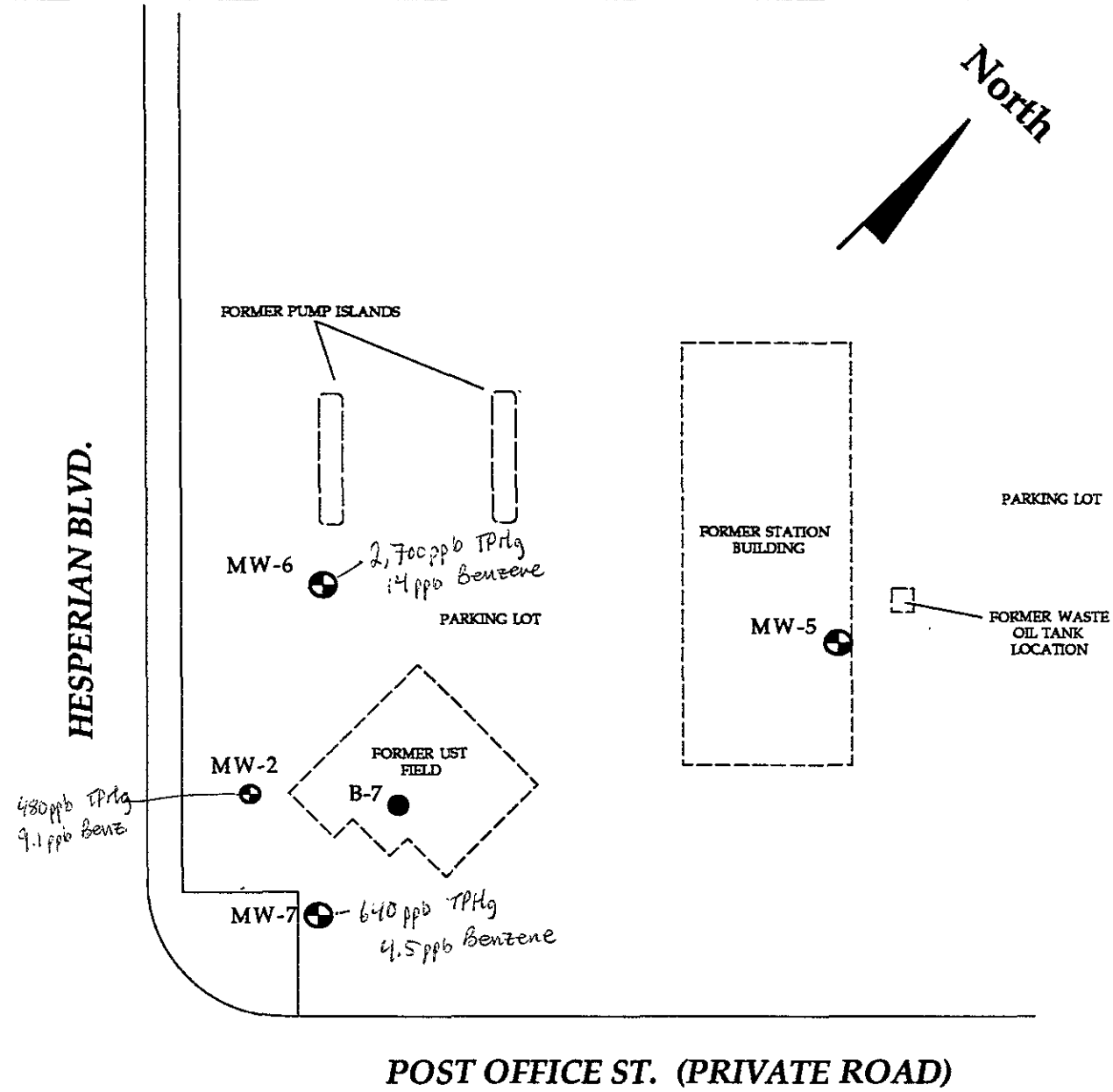
Job No.
8-019
Figure
1



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



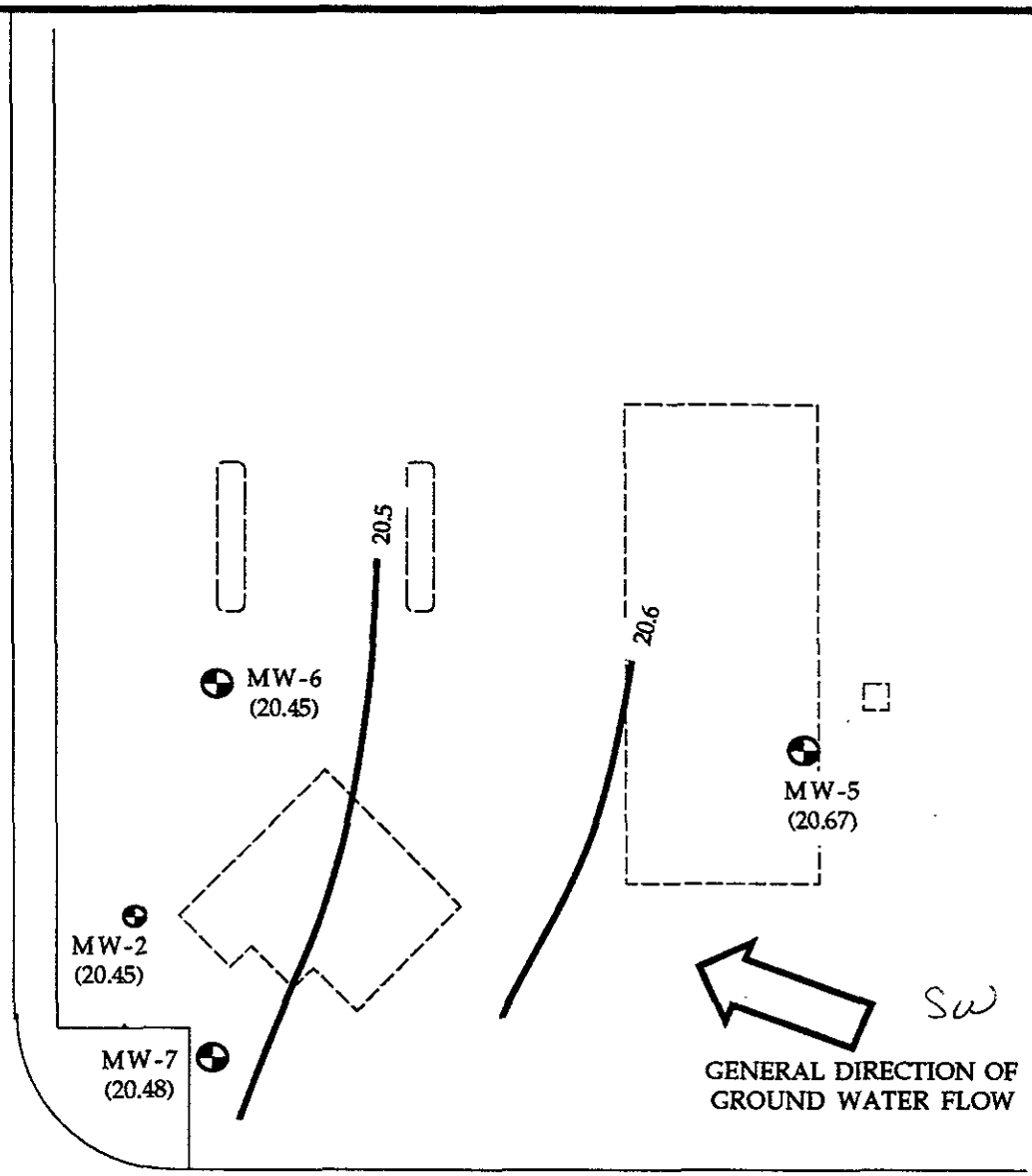
EXPLANATION

- 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

HYDR◊ ENVIR◊NMENTAL TECHN◊LOGIES, 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 = EXISTING TWO-INCH WELL INSTALLED BY KEI

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

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

North

0 30 60 90

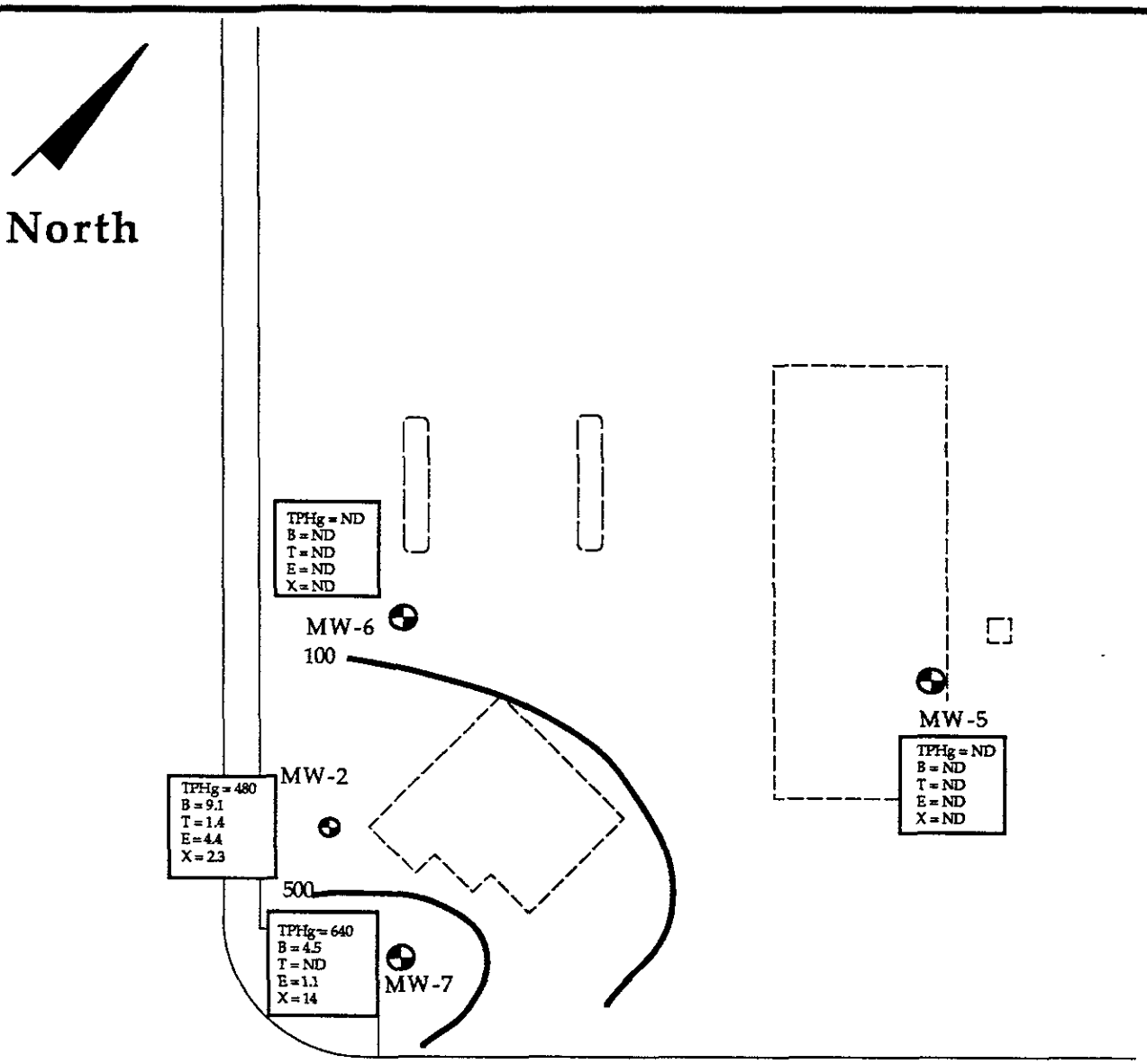
SCALE IN FEET

BASED ON DATA COLLECTED 5/4/92

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



EXPLANATION

MW-5 = FOUR-INCH WELL INSTALLED BY HETI

MW-2 = EXISTING TWO-INCH WELL INSTALLED BY KEI

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

= CONCENTRATION OF DISSOLVEDHYDROCARBONS AS GASOLINE (TPHG), BENZENE (B), TOLUENE (T), ETHYLBENZENE (E), AND TOTAL XYLENE (X), DETECTED IN GROUND WATER SAMPLE - IN PPB

500 = ESTIMATED LIMIT OF DESIGNATED CONCENTRATION OF TPHg DISSOLVED IN GROUND WATER - IN PPB (DASHED WHERE INFERRED)

0 30 60 90

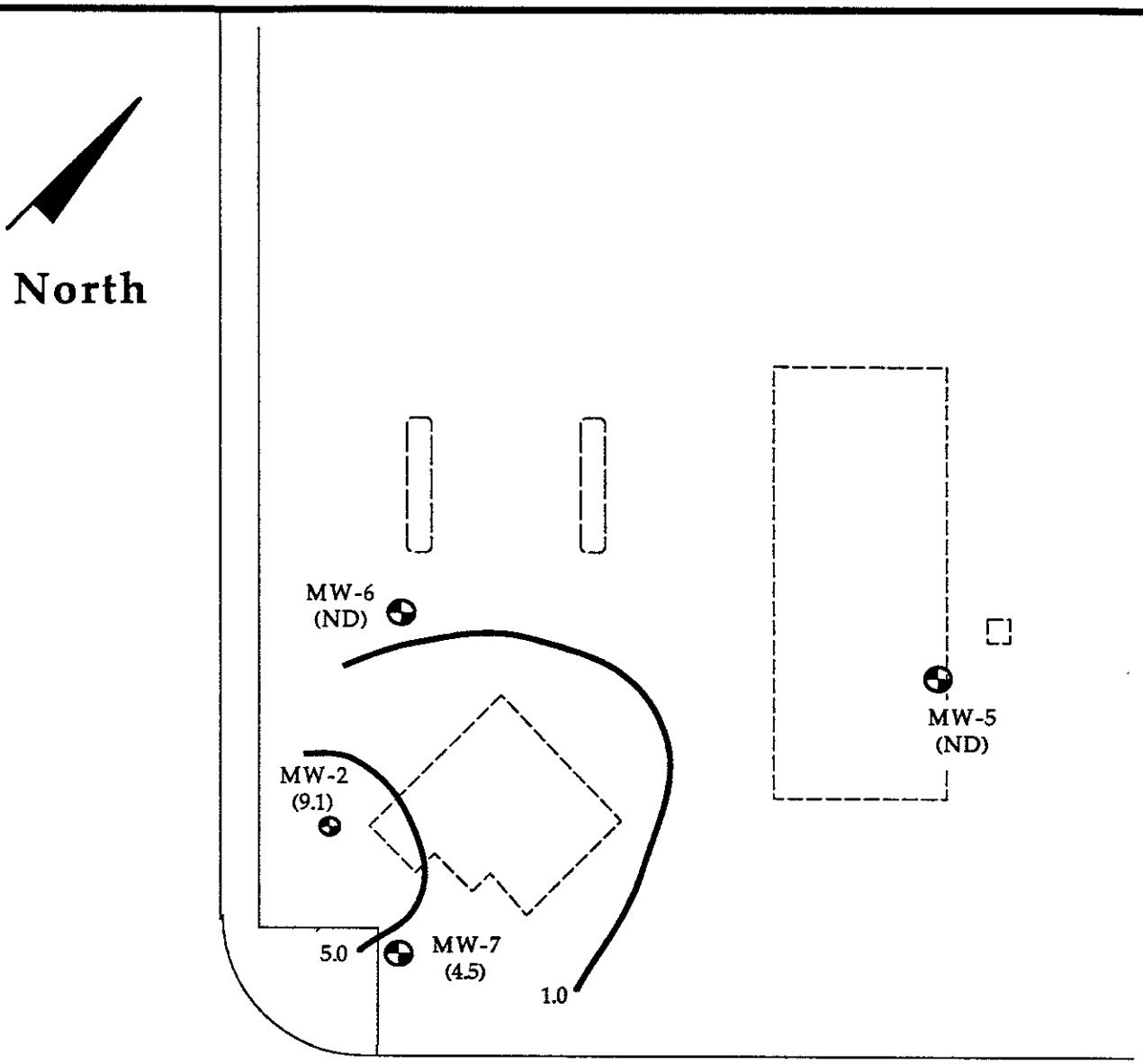
SCALE IN FEET

* BASED ON DATA COLLECTED 5/4/92

HYDR◆ ENVIR◆NMENTAL TECHN◆LOGIES, INC.

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

Job No. 8-019
Figure 5



EXPLANATION

- MW-4 = FOUR-INCH WELL INSTALLED BY HETI
- MW-2 = EXISTING TWO-INCH WELL INSTALLED BY KEI
- (9.1) = CONCENTRATION OF DISSOLVED BENZENE DETECTED IN GROUND WATER SAMPLE - IN PPB
- 5.0 = ESTIMATED LIMIT OF DESIGNATED CONCENTRATION OF BENZENE DISSOLVED IN GROUND WATER - IN PPB (DASHED WHERE INFERRED)

* BASED ON DATA COLLECTED 5/4/92

0 30 60 90

SCALE IN FEET

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

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

Job No. 8-019
Figure 6

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	11.36	5/4/92	20.45	Olive-tan color, moderate turbidity, good recharge
MW-5	32.92	12.25	5/4/92	20.67	Tan color, moderate turbidity, poor recharge
MW-6	32.68	12.23	5/4/92	20.45	Tan color, moderate turbidity, poor recharge
MW-7	33.08	12.60	5/4/92	20.48	Light tan color, light 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: 5/4/92

GAUGING DATA:

Depth to bottom: 27.30 ft.

Depth to water: 11.36 ft.

Saturated Thickness: 15.94 ft.

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

Well casing volume 2.48 gallons

volumes to purge x 3 vols.

*Total volume to purge = 7.5 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
1035	0	—	—	—
	2	71.7	1.54	8.14
	4	70.0	1.50	8.03
↓	6	69.1	1.50	7.91
1042	8	69.1	1.52	7.85
Sample at				
After sampling				

Color: Olive-tan Turbidity: Moderate

Recharge: Good Petroleum hydrocarbon odor: Yes or SPP 8 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	8260 8270

Other: _____

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

MONITORING WELL PURGE/SAMPLE SHEET

WELL # MW-2

LOCATION Former Mobil 10-LIX San Lorenzo, CA

JOB NO. 8-019

PURGED/SAMPLED BY: BG DATE: 5/4/98

GAUGING DATA:

Depth to bottom: 22.45 ft.

Depth to water: 12.25 ft.

Saturated Thickness: 10.20 ft.

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

Well casing volume 6.67 gallons

volumes to purge x 3 vols.

*Total volume to purge = 20.0 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
	1000	0	~~72.5~~	~~1.62~~	~~10.93~~
	↓	5	72.5	1.62	10.93
	↓	10	70.7	1.53	10.78
dry →	1005	15	69.8	1.48	10.60
Sample at					
After sampling					

Color: Tan Turbidity: Moderate

Recharge: Poor Petroleum hydrocarbon odor: NONE or SPP 0 ft.

SAMPLING DATA:

Sampling method: Dedicated bailer / _____

Sample for: (circle)

~~TPHg/BTEX~~ ~~METALS~~ ~~TOG~~ ~~TPH~~

~~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 Former Mobil 10-LIX San Lorenzo, CA

JOB NO. 8-019

PURGED/SAMPLED BY: BG DATE: 5/4/92

GAUGING DATA:

Depth to bottom: 22.50 ft.

Depth to water: 12.23 ft.

Saturated Thickness: 10.27 ft.

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

Well casing volume 6.71 gallons

volumes to purge x 3 vols.

*Total volume to purge = 21.0 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
1020	0	—	—	—
↓	5	70.7	1.49	9.55
↓	10	70.3	1.54	9.01
1025	15	70.1	1.47	8.78
Sample at				
After sampling				

dry

Color: Tan Turbidity: Moderate

Recharge: Poor Petroleum hydrocarbon odor: None or 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 Former Mobil 10-LIX San Lorenzo, CA

JOB NO. 8-019

PURGED/SAMPLED BY: BS DATE: 5/4/92

GAUGING DATA:

Depth to bottom: 23.90 ft.

Depth to water: 12.60 ft.

Saturated Thickness: 11.30 ft.

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

Well casing volume 7.34 gallons

volumes to purge x 3 vols.

*Total volume to purge = 23.0 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
1010	0	—	—	—
↓	↓	69.6	3.17	12.36
1015	10	69.5	3.15	12.13
Sample at				
After sampling				

dry

Color: Light Tan Turbidity: Light

Recharge: Poor Petroleum hydrocarbon odor: None or 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-7

LOCATION Former Mobil 10-LIX San Lorenzo, CA

JOB NO. 8-019

RECEIVED MAY 1 4 1992

-B-019
- Analytical

SEQUOIA ANALYTICAL

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

Hydro Environmental	Client Project ID:	#10-LIX, Mobil	Sampled:	May 4, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Matrix Descript:	Water	Received:	May 5, 1992
Alameda, CA 94501	Analysis Method:	EPA 5030/8015/8020	Analyzed:	5/6-7/92
Attention: Brian Gwinn	First Sample #:	205-0514	Reported:	May 12, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)
205-0514	MW-5	N.D.	N.D.	N.D.	N.D.	N.D.
205-0515	MW-2	480	9.1	1.4	4.4	2.3
205-0516	MW-6	N.D.	N.D.	N.D.	N.D.	N.D.
Detection Limits:		**30**	**0.30**	**0.30**	**0.30**	**0.30**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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, Mobil	Sampled:	May 4, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Matrix Descript:	Water	Received:	May 5, 1992
Alameda, CA 94501	Analysis Method:	EPA 5030/8015/8020	Analyzed:	May 8, 1992
Attention: Brian Gwinn	First Sample #:	205-0517	Reported:	May 12, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)
205-0517	MW-7	640	4.5	N.D.	11	14
Detection Limits:		**60**	**0.60**	**0.60**	**0.60**	**0.60**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

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, Mobil	Sampled:	May 4, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Matrix Descript:	Water	Received:	May 5, 1992
Alameda, CA 94501	Analysis Method:	EPA 3510/8015	Extracted:	May 6, 1992
Attention: Brian Gwinn	First Sample #:	205-0514	Analyzed:	May 7, 1992
			Reported:	May 12, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons µg/L (ppb)
205-0514	MW-5	N.D.

Detection Limits:	50

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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, Mobil	Sampled:	May 4, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Matrix Descript:	Water	Received:	May 5, 1992
Alameda, CA 94501	Analysis Method:	EPA 413.2 (I.R.)		
Attention: Brian Gwinn	First Sample #:	205-0514	Analyzed:	May 9, 1992
			Reported:	May 12, 1992

TOTAL RECOVERABLE OIL & GREASE

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
205-0514	MW-5	N.D.

Detection Limits:	**1.0**

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

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, Mobil	Sampled:	May 4, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Water, MW-5	Received:	May 5, 1992
Alameda, CA 94501	Analysis Method:	EPA 5030/8010	Analyzed:	May 8, 1992
Attention: Brian Gwinn	Lab Number:	205-0514	Reported:	May 12, 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.

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Project Manager

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Hydro Environmental	Client Project ID:	#10-LIX, Mobil	Sampled:	May 4, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Water, MW-5	Received:	May 5, 1992
Alameda, CA 94501			Analyzed:	May 7, 1992
Attention: Brian Gwinn	Lab Number:	205-0514	Reported:	May 12, 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	0.10

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, Mobil	Sampled:	May 4, 1992
2363 Mariner Square Dr., Bldg. 3, Suite 243	Sample Descript:	Soil	Received:	May 5, 1992
Alameda, CA 94501	Analysis Method:	California LUFT Manual, 12/87		
Attention: Brian Gwinn	First Sample #:	205-0514	Analyzed:	May 11, 1992
			Reported:	May 12, 1992

ORGANIC LEAD

Sample Number	Sample Description	Sample Results mg/kg (ppm)
205-0514	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
2363 Mariner Square Dr., Bldg. 3, Suite 243
Alameda, CA 94501
Attention: Brian Gwinn

Client Project ID: #10-LIX, Mobil
QC Sample Group: 2050514 - 16
Reported: May 12, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	L.Laikhtman	L.Laikhtman	L.Laikhtman	L.Laikhtman
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	May 6, 1992	May 6, 1992	May 6, 1992	May 6, 1992
QC Sample #:	G2044935	G2044935	G2044935	G2044935
Sample Conc.:	530	210	110	430
Spike Conc. Added:	500	500	500	1500
Conc. Matrix Spike:	1100	760	660	2100
Matrix Spike % Recovery:	114	110	110	111
Conc. Matrix Spike Dup.:	1100	740	630	1900
Matrix Spike Duplicate % Recovery:	114	106	104	98
Relative % Difference:	0.0	2.7	4.7	10

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, Mobil
QC Sample Group: 205-0515

Reported: May 12, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	L.Laikhtman	L.Laikhtman	L.Laikhtman	L.Laikhtman
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	May 7, 1992	May 7, 1992	May 7, 1992	May 7, 1992
QC Sample #:	BLK050792	BLK050792	BLK050792	BLK050792
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	9.8	9.8	9.8	30
Matrix Spike % Recovery:	98	98	98	100
Conc. Matrix Spike Dup.:	10	10	97	30
Matrix Spike Duplicate % Recovery:	100	100	97	100
Relative % Difference:	2.0	2.0	1.0	0.0

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

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

SEQUOIA ANALYTICAL

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Hydro Environmental — Client Project ID: #10-LIX, Mobil
2363 Mariner Square Dr., Bldg. 3, Suite 243
Alameda, CA 94501
Attention: Brian Gwinn — QC Sample Group: 205-0517 — Reported: May 12, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	L.Laikhtman	L.Laikhtman	L.Laikhtman	L.Laikhtman
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	May 8, 1992	May 8, 1992	May 8, 1992	May 8, 1992
QC Sample #:	GBLK050892	GBLK050892	GBLK050892	GBLK050892
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	8.4	8.4	8.4	25
Matrix Spike % Recovery:	84	84	84	83
Conc. Matrix Spike Dup.:	8.4	8.5	8.6	26
Matrix Spike Duplicate % Recovery:	84	85	86	87
Relative % Difference:	0.0	1.2	2.3	3.9

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

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

SEQUOIA ANALYTICAL

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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, Mobil

QC Sample Group: 205-0514

Reported: May 12, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel	Ttl. Oil & Grease	1,1-Dichloro-ethene	Trichloro ethene	Chloro-benzene
Method:	EPA 8015	EPA 413.2	EPA 8010	EPA 8020	EPA 8010
Analyst:	R.Lee	B.Samra	M.Trujillo	M.Trujillo	M.Trujillo
Reporting Units:	µg/L	mg/L	µg/L	µg/L	µg/L
Date Analyzed:	May 7, 1992	May 9, 1992	May 8, 1992	May 8, 1992	May 8, 1992
QC Sample #:	DBLK050692	BLK050992	BLK050892	BLK050892	BLK050892
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	300	40	25	25	25
Conc. Matrix Spike:	210	43	22	19	25
Matrix Spike % Recovery:	70	108	88	76	100
Conc. Matrix Spike Dup.:	190	45	27	20	25
Matrix Spike Duplicate % Recovery:	63	113	108	80	100
Relative % Difference:	10	4.5	20	5.1	0.0

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

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

SEQUOIA ANALYTICAL

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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, Mobil

QC Sample Group: 205-0514

Reported: May 12, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Cadmium	Chromium	Nickel	Zinc	Organic Lead
Method:	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	LUFT
Analyst:	C.Medefesser	C.Medefesser	C.Medefesser	C.Medefesser	S.Chin
Reporting Units:	mg/L	mg/L	mg/L	mg/L	mg/L
Date Analyzed:	May 7, 1992	May 7, 1992	May 7, 1992	May 7, 1992	May 11, 1992
QC Sample #:	205-0818	205-0818	205-0818	205-0818	020-4355
Sample Conc.:	N.D.	N.D.	N.D.	0.24	N.D.
Spike Conc. Added:	1.0	1.0	1.0	1.0	0.12
Conc. Matrix Spike:	0.99	0.98	1.2	1.1	0.11
Matrix Spike % Recovery:	99	98	120	86	92
Conc. Matrix Spike Dup.:	1.0	1.0	1.2	1.1	0.12
Matrix Spike Duplicate % Recovery:	100	100	120	86	100
Relative % Difference:	1.0	2.0	0.0	0.0	8.7

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

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

Mobil Chain of Custody

SEQUOIA ANALYTICAL

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

Consulting Firm Name: Hydro-Environmental Tech.	Site SS #: 10-L1X	Phase of Work:
Address: 2363 Mariner Square Dr. #243	Mobil Site Address: 15884 Hesperian, San Lorenzo	☐ A. Emrg. Response
City: Alameda State: Ca Zip Code: 94501	Mobil Engineer: R. Begier	☐ B. Site Assessment
Telephone: 510-521-2684 FAX #: 510-521-5078	Consultant Project #: 8-019	☐ C. Remediation
Project Contact: B. Gwinn Sampled by: TSG	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	Cd, Cr, Ni, Zn	O-Pb	Comments
1. MW-2	5/4/92 1180	Water	2		X							
2. MW-5	1130		9		X	X		X	X	X	X	
3. MW-6	1140		2		X							
4. MW-7	1150		2		X							Filter prior to analysis
5.												
6.												
7.												
8.												
9.												
10.												

Relinquished By: Juniper Neill	Date:	Time:	Received By: Keri Follett	Date: 5-5-92	Time: 1535
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Page ___ of ___