MPDS

SERVICES, INCORPORATED

MPDS-UN5487-01
March 2, 1994

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Mr. Tim Howard

RE: Quarterly Data Report
Unocal Service Station #5487
28250 Hesperian Boulevard
Hayward, California

FILE # 5487 SS ✓ BP ____
RPT ____ QM ✓ TRANSMITTAL ____
1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___

Dear Mr. Howard:

This data report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site by MPDS Services, Inc.

RECENT FIELD ACTIVITIES

The monitoring wells that were monitored and sampled during this quarter are indicated in Table 1. Prior to sampling, the wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations are summarized in Table 1. The ground water flow direction during the most recent quarter is shown on the attached Figure 1.

Ground water samples were collected on February 7, 1994. Prior to sampling, the wells were each purged of between 9 and 13 gallons of water. Samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The analytical results of the ground water samples collected to date are summarized in Table 2. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services Agency, the City of Hayward, and to the Regional Water Quality Control Board, San Francisco Bay Region.

If you have any questions regarding this report, please do not hesitate to call at (510) 602-5120.

Sincerely,

MPDS Services, Inc.

Talin Kaloustian
Staff Engineer

Joel G. Greger, C.E.G.
Senior Engineering Geologist

License No. EG 1633
Exp. Date 6/30/94

/dlh

Attachments: Tables 1 & 2
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Thomas Berkins, Kaprealian Engineering, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)◆
(Monitored and Sampled on February 7, 1994)						
MW1*	5.47	6.26	0	--	0	27.23
MW2*	5.49	7.09	0	--	0	23.79
MW3*	5.41	6.58	0	--	0	23.93
MW4*	5.37	6.21	0	--	0	24.53
MW5	5.09	5.70	0	No	13	24.07
MW6	5.18	6.00	0	No	9	17.95
(Monitored and Sampled on November 5, 1993)						
MW1*	4.75	6.98	0	--	0	
MW2*	4.61	7.97	0	--	0	
MW3*	4.64	7.35	0	--	0	
MW4*	4.51	7.07	0	--	0	
MW5	3.98	6.81	0	No	12	
MW6	4.16	7.02	0	No	7.5	
(Monitored and Sampled on August 5, 1993)						
MW1	5.08	7.49	0	No	15	
MW2	4.92	7.97	0	No	11	
MW3	4.96	7.50	0	No	12	
MW4	4.81	7.28	0	No	13	
MW5	4.21	6.97	0	No	12	
MW6	4.42	7.05	0	No	8	
(Monitored and Sampled on May 3, 1993)						
MW1*	5.70	6.87	0	--	0	
MW2*	5.59	7.30	0	--	0	
MW3*	5.64	6.82	0	--	0	
MW4*	5.49	6.60	0	--	0	
MW5	5.02	6.16	0	No	13	
MW6	5.19	6.28	0	No	8	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Well Cover Elevation (feet)**	Well Casing Elevation (feet)***
MW1	12.57	11.73
MW2	12.89	12.58
MW3	12.46	11.99
MW4	12.09	11.58
MW5	11.18	10.79
MW6	11.47	11.18

♦ The depth to water level and total well depth measurements were taken from the top of the well casings. Prior to November 5, 1993, the water level and total well depth measurements were taken from the top of the well covers.

* Monitored only.

** The elevations of the top of the well covers have been surveyed relative to Mean Sea Level (MSL), per the City of Hayward Benchmark (elevation = 10.97 MSL).

*** Relative to MSL.

-- Sheen determination was not performed.

Note: Monitoring data prior to February 7, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
2/07/94	MW5	--	180	22	ND	6.4	5.9
	MW6	--	1,100	130	14	13	130
11/05/93	MW5	--	110	12	ND	2.3	2.3
	MW6	--	100	1.8	ND	0.79	2.2
8/05/93	MW1	--	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	530	210	0.62	54	44
	MW6	--	230	25	1.6	12	29
5/03/93	MW5	--	260	35	ND	2.3	3.1
	MW6	--	520	47	2.6	33	48
2/02/93	MW5	--	77♦	5.0	ND	1.2	1.3
	MW6	--	400♦	66	5.5	32	13
11/05/92	MW5	--	120	16	ND	3.5	3.0
	MW6	--	300	16	2.3	14	14
8/04/92	MW1	--	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	80	13	ND	4.5	6.9
	MW6	--	540	12	7.9	35	110
5/05/92	MW5	--	170	45	0.48	9.0	6.8
2/05/92	MW5	--	120	20	ND	4.4	4.7
11/07/91	MW1	--	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	700	43	1.7	29	24

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
8/02/91	MW1	--	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	100	43	0.33	12	5.2
5/10/91	MW1	--	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	ND	ND	ND	ND
	MWD+	--	ND	ND	ND	ND	ND
2/11/91	MW1*	ND	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	58	23	ND	2.9	1.3
11/15/90	MW1*	ND	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	ND	ND	ND	0.47
8/29/90	MW1*	ND	ND	ND	ND	ND	0.74
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	0.52	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	0.70	ND	0.57	1.1
5/16/90	MW1*	ND	ND	ND	ND	ND	ND
	MW2*	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	1,100	310	2.8	70	110

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
2/16/90	MW1*	ND	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	ND	ND	ND	ND
11/14/89	MW1*	ND	ND	ND	ND	ND	ND
	MW2*	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	73	4.7	0.97	2.9	16
8/31/89	MW5	--	910	120	7.1	50	53
8/16/89	MW1**	ND	ND	ND	ND	ND	ND
	MW2**	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	4,400	1,400	84	200	950
4/26/89	MW1*	ND	ND	2.1	ND	ND	ND
	MW2*	ND	ND	ND	ND	ND	ND
	MW3*	ND	ND	ND	ND	ND	ND
	MW4*	ND	ND	0.33	ND	ND	ND
	MW5*	ND	ND	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appear to be a gasoline and non-gasoline mixture.

\+ MWD was a quality assurance duplicate water sample collected from well MW5.

* TOG and all EPA method 8010 constituents were non-detectable.

** TOG for the samples collected from MW1 and MW2 were 23 mg/L and 7.4 mg/L, respectively. All EPA method 8010 constituents were non-detectable for both samples.

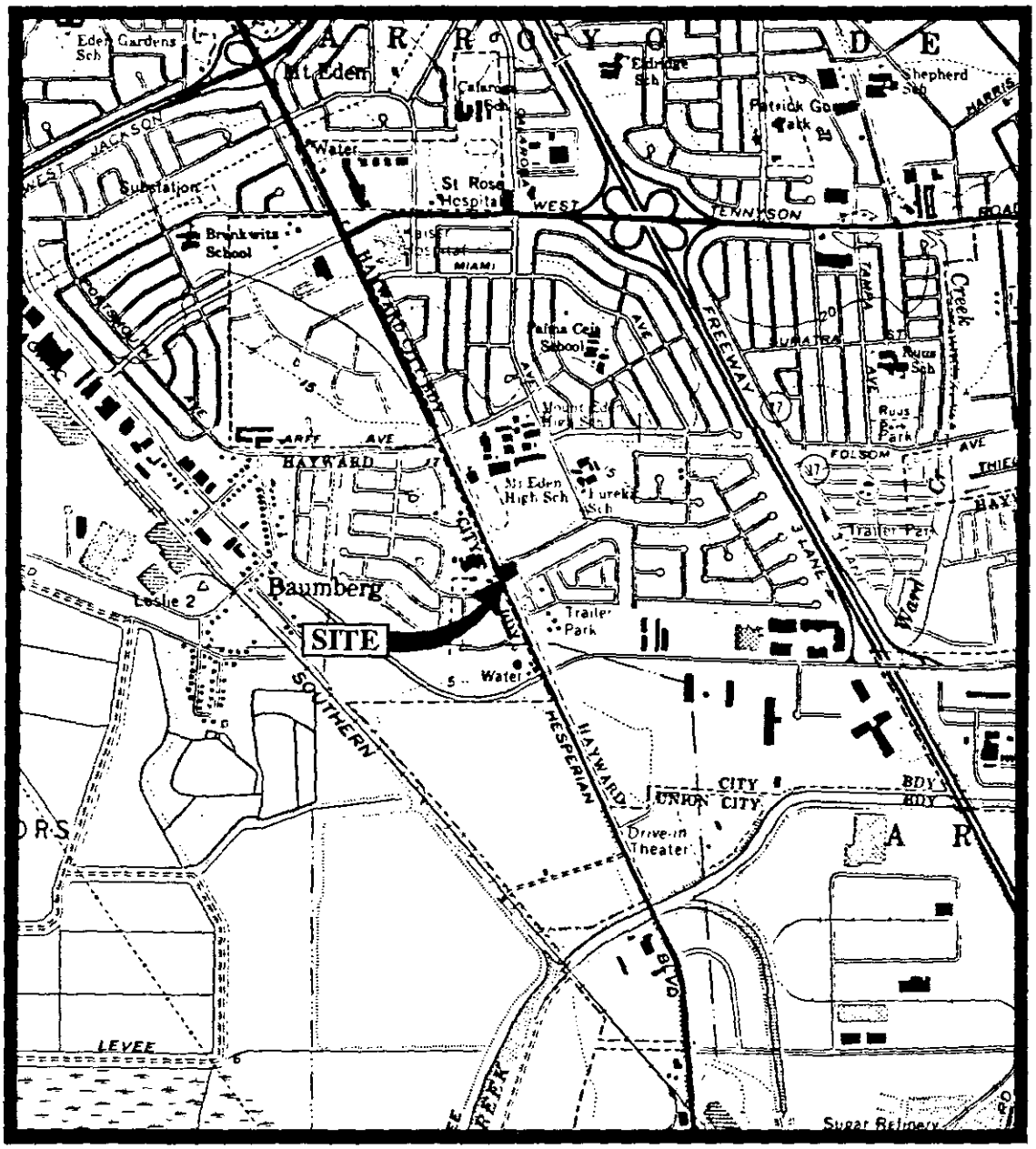
ND = Non-detectable.

-- Indicates that analysis was not performed.

mg/L = milligrams per liter.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: Laboratory analyses data prior to February 7, 1994, were provided by Kaprealian Engineering, Inc.

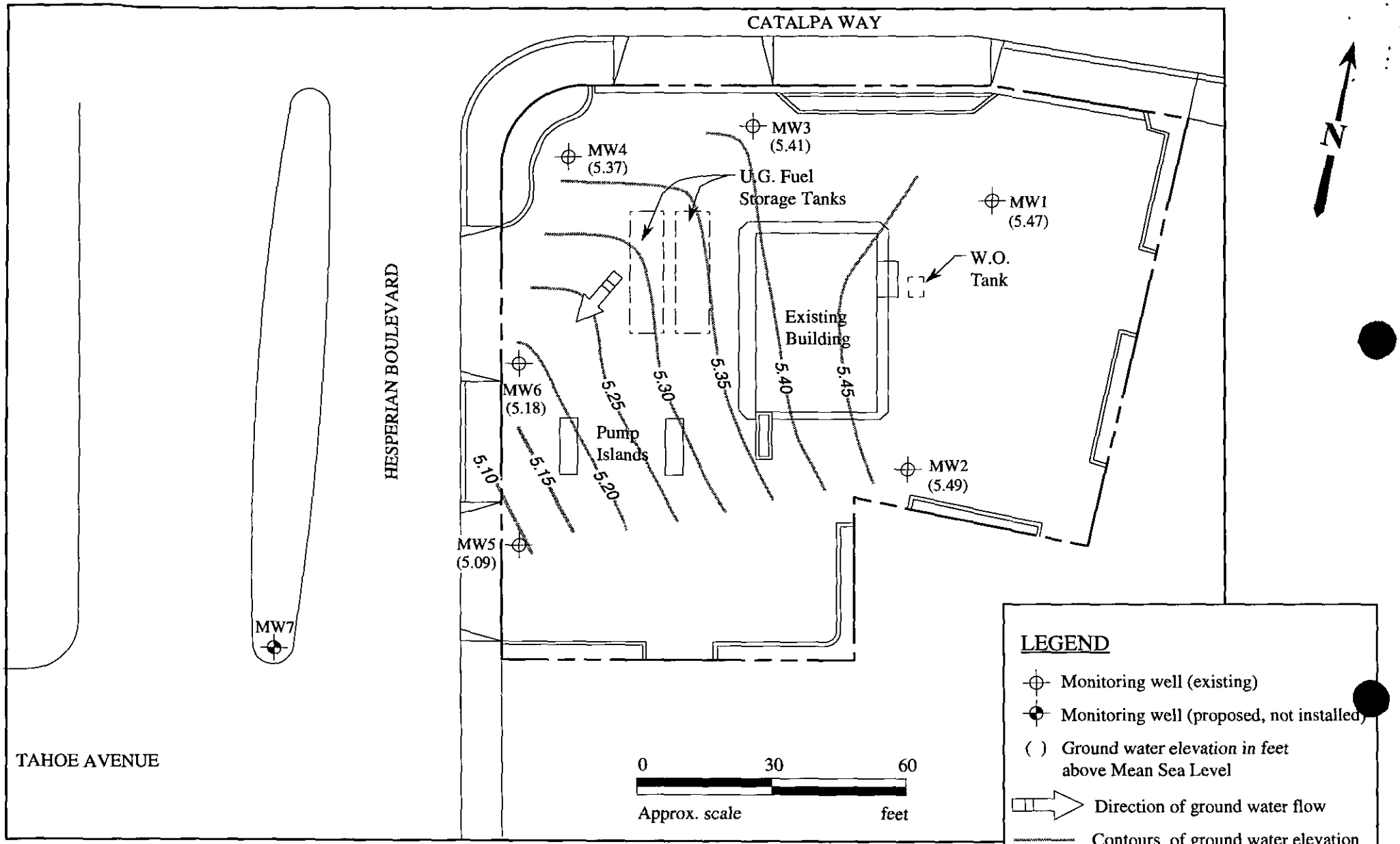


Base modified from 7.5 minute U.S.G.S.
Hayward & Newark Quadrangles
(both photorevised 1980)

0 2000 4000

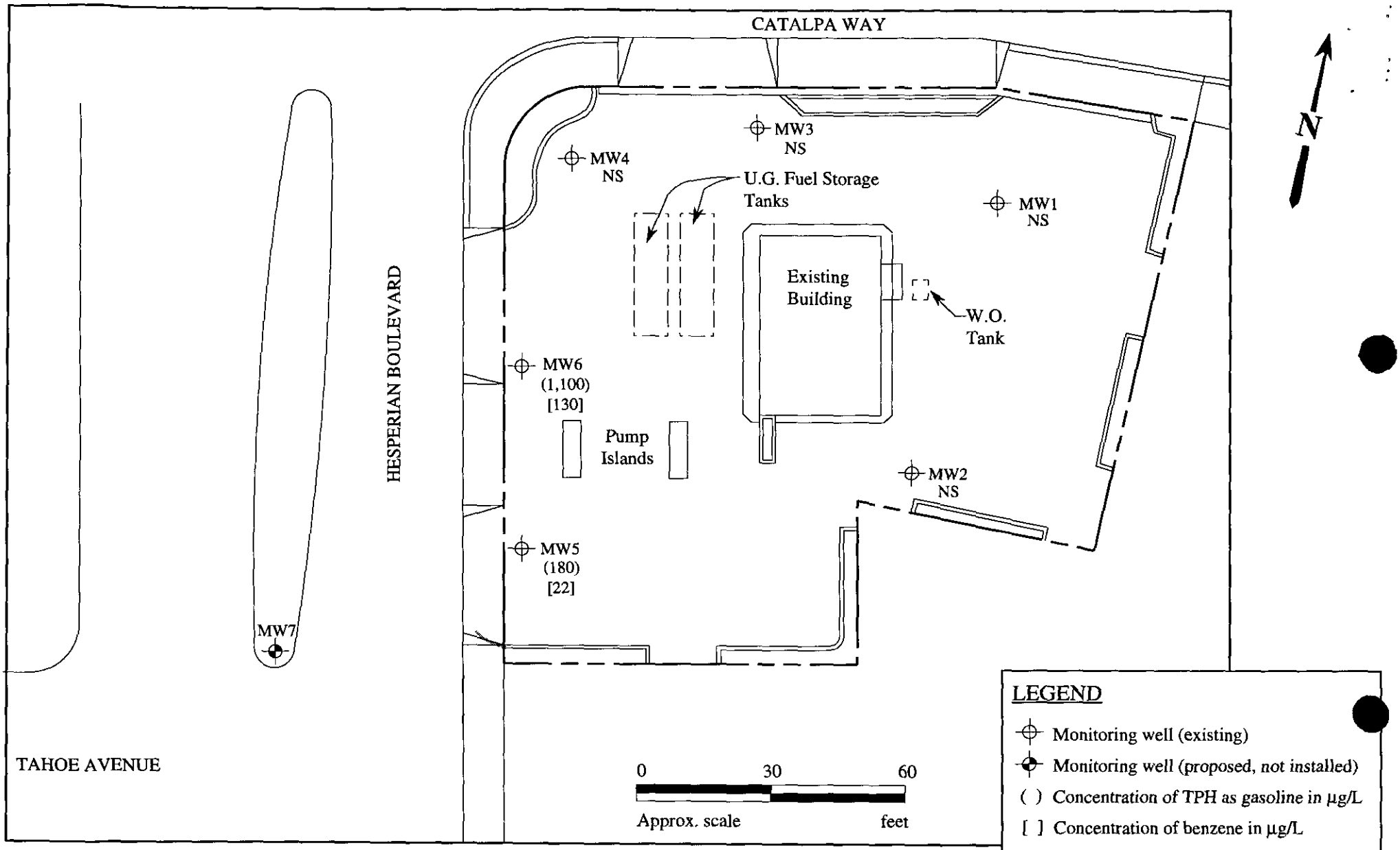
Approx. scale feet

MPDS SERVICES, INC.	**UNOCAL SERVICE STATION #5487** **28250 HESPERIAN BOULEVARD** **HAYWARD, CALIFORNIA**	**LOCATION MAP**



POTENTIOMETRIC SURFACE MAP FOR THE FEBRUARY 7, 1994 MONITORING EVENT

MPDS SERVICES, INC.	**UNOCAL SERVICE STATION #5487** **28250 HESPERIAN BOULEVARD** **HAYWARD, CALIFORNIA**	FIGURE **1**



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON FEBRUARY 7, 1994

MPDS SERVICES, INC.	**UNOCAL SERVICE STATION #5487** **28250 HESPERIAN BOULEVARD** **HAYWARD, CALIFORNIA**	FIGURE **2**

SEQUOIA ANALYTICAL

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

MPDS Services, Inc.	Client Project ID:	Unocal # 5487, 28250 Hesperian Blvd.,		Sampled:	Feb 7, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Hayward	Received:	Feb 7, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020		Reported:	Feb 18, 1994
Attention: Avo Avedissian	First Sample #:	402-0417			

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 402-0417 MW-5	Sample I.D. 402-0418 MW-6	Sample I.D. Method Blank
Purgeable Hydrocarbons	50	180	1,100	
Benzene	0.5	22	130	
Toluene	0.5	N.D.	14	
Ethyl Benzene	0.5	6.4	13	
Total Xylenes	0.5	5.9	130	
Chromatogram Pattern:		*Gasoline*	*Gasoline*	

Quality Control Data

Report Limit Multiplication Factor:	1.0	5.0	1.0
Date Analyzed:	2/15/94	2/16/94	2/16/94
Instrument Identification:	HP-4	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	96	108	106

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

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

MPDS Services, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal # 5487, 28250 Hesperian Blvd., Hayward
Matrix: Liquid
QC Sample Group: 4020417-418

Reported: Feb 18, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	JF	JF	JF	JF
MS/MSD Batch#:	4020411	4020411	4020411	4020411
Date Prepared:	2/15/94	2/15/94	2/15/94	2/15/94
Date Analyzed:	2/15/94	2/15/94	2/15/94	2/15/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20µg/L	20µg/L	20µg/L	60µg/L
Matrix Spike % Recovery:	90	95	95	93
Matrix Spike Duplicate % Recovery:	95	95	95	97
Relative % Difference:	5.4	0.0	0.0	4.2
LCS Batch#:	2LCS021594	2LCS021594	2LCS021594	2LCS021594
Date Prepared:	2/15/94	2/15/94	2/15/94	2/15/94
Date Analyzed:	2/15/94	2/15/94	2/15/94	2/15/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	90	95	95	97
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The 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

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

MPDS Services, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal # 5487, 28250 Hesperian Blvd., Hayward
Matrix: Liquid
QC Sample Group: 4020417-418

Reported: Feb 18, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	JF	JF	JF	JF
MS/MSD Batch#:	4020878	4020878	4020878	4020878
Date Prepared:	2/16/94	2/16/94	2/16/94	2/16/94
Date Analyzed:	2/16/94	2/16/94	2/16/94	2/16/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20µg/L	20µg/L	20µg/L	60µg/L
Matrix Spike % Recovery:	100	100	95	98
Matrix Spike Duplicate % Recovery:	100	100	100	97
Relative % Difference:	0.0	0.0	5.1	1.0
LCS Batch#:	1LCS021694	1LCS021694	1LCS021694	1LCS021694
Date Prepared:	2/16/94	2/16/94	2/16/94	2/16/94
Date Analyzed:	2/16/94	2/16/94	2/16/94	2/16/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	103	98	98	99
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The 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.

MPDS
Services, Inc.

CHAIN OF CUSTODY

SAMPLER: RAY MARANGOSIAN
WITNESSING AGENCY:

SITE NAME & ADDRESS: UNOCAL #5487 HAYWARD
28250 HESPERIAN BLVD

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG BTEX
MW5	2-7			x	x		2	VOA	x
MW6	"			x	x		"	"	x

ANALYSES REQUESTED

TURN AROUND TIME: REGULAR

REMARKS: 4020417 AB ↓ 418 ↓

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Ray Marangosian	2-7-94	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Steve Troxa	2/8/94 1100	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	2/8/94	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in ice? YES
2. Will samples remain refrigerated until analyzed? YES
3. Did any samples received for analysis have head space? NO
4. Were samples in appropriate containers and properly packaged? YES

Signature | DM Title | 2-7-94 Date

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510 602 5100 Fax: 510 602 0602