

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS

SERVICES, INCORPORATED

RECEIVED

1:44 pm, Jun 08, 2009

Alameda County
Environmental Health

MPDS-UN5487-05
February 24, 1995

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

Attention: Ms. Penny L. Silzer

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

FILE #	5487	SS	X	BP	
RPT		QIM	X	TRANSMITTAL	
1	2	3	4	5	6

Dear Ms. Silzer:

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 1, 1995. Prior to sampling, the wells were each purged of between 9 and 13.5 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. MPDS Services, Inc. transported the purged ground water to the Unocal Refinery located in Rodeo, California, for treatment and discharge to San Pablo Bay under NPDES permit.

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.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

DISTRIBUTION

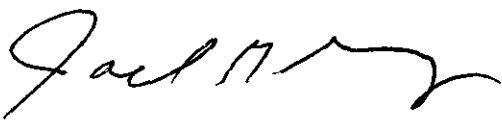
A copy of this report should be sent to the Alameda County Health Care Services Agency, and the City of Hayward Fire Department.

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

Sincerely,

MPDS Services, Inc.


Sarkis A. Karkarian
Staff Engineer


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

License No. EG 1633
Exp. Date 8/31/96

/bp

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) ♦	Total Well Depth (feet) ♦	Product Thickness (feet)	Sheen	Water Purged (gallons)
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(Monitored and Sampled on February 1, 1995)

MW1*	6.56	5.17	27.33	0	--	0
MW2*	6.45	6.13	23.84	0	--	0
MW3*	6.44	5.55	23.96	0	--	0
MW4*	6.35	5.23	24.56	0	--	0
MW5	5.94	4.85	24.13	0	No	13.5
MW6	6.14	5.04	18.04	0	No	9

(Monitored and Sampled on November 2, 1994)

MW1*	4.66	7.07	27.34	0	--	0
MW2*	4.60	7.98	23.86	0	--	0
MW3*	4.57	7.42	24.06	0	--	0
MW4*	4.45	7.13	24.62	0	--	0
MW5	3.93	6.86	24.16	0	No	12
MW6	4.13	7.05	18.04	0	No	8

(Monitored and Sampled on August 2, 1994)

MW1	4.84	6.89	27.37	0	No	14
MW2	4.71	7.87	23.84	0	No	11
MW3	4.75	7.24	24.00	0	No	11.5
MW4	4.63	6.95	24.60	0	No	12.5
MW5	4.11	6.68	24.14	0	No	12
MW6	4.30	6.88	18.03	0	No	8

(Monitored and Sampled on May 2, 1994)

MW1*	5.46	6.27	27.35	0	--	0
MW2*	5.35	7.23	23.84	0	--	0
MW3*	5.37	6.62	23.98	0	--	0
MW4*	5.26	6.32	24.58	0	--	0
MW5	4.83	5.96	24.12	0	No	12.5
MW6	5.00	6.18	18.02	0	No	8.5

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

<u>Well #</u>	<u>Well Casing Elevation (feet)**</u>
MW1	11.73
MW2	12.58
MW3	11.99
MW4	11.58
MW5	10.79
MW6	11.18

◆ The depth to water level and total well depth measurements were taken from the top of the well casings.

* Monitored only.

** The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per the City of Hayward Benchmark (elevation = 10.97 feet MSL).

-- Sheen determination was not performed.

TABLE 2

**SUMMARY OF LABORATORY ANALYSES
WATER**

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
2/01/95	MW1	SAMPLED ANNUALLY					
	MW2	SAMPLED ANNUALLY					
	MW3	SAMPLED ANNUALLY					
	MW4	SAMPLED ANNUALLY					
	MW5	--	170	11	ND	2.4	3.9
	MW6	--	340	26	0.77	2.6	7.0
11/02/94	MW1	SAMPLED ANNUALLY					
	MW2	SAMPLED ANNUALLY					
	MW3	SAMPLED ANNUALLY					
	MW4	SAMPLED ANNUALLY					
	MW5	--	450	73	1.6	6.2	11
	MW6	--	840	30	2.5	26	57
8/02/94	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	--	59	16	ND	2.4	3.1
	MW6	--	220	13	1.0	12	28
5/02/94	MW5	--	170♦	38	0.73	8.5	8.4
	MW6	--	440♦	20	4.2	11	26
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

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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
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

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
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
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

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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

◆ 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.

* Total Oil & Grease and all EPA method 8010 constituents were non-detectable.

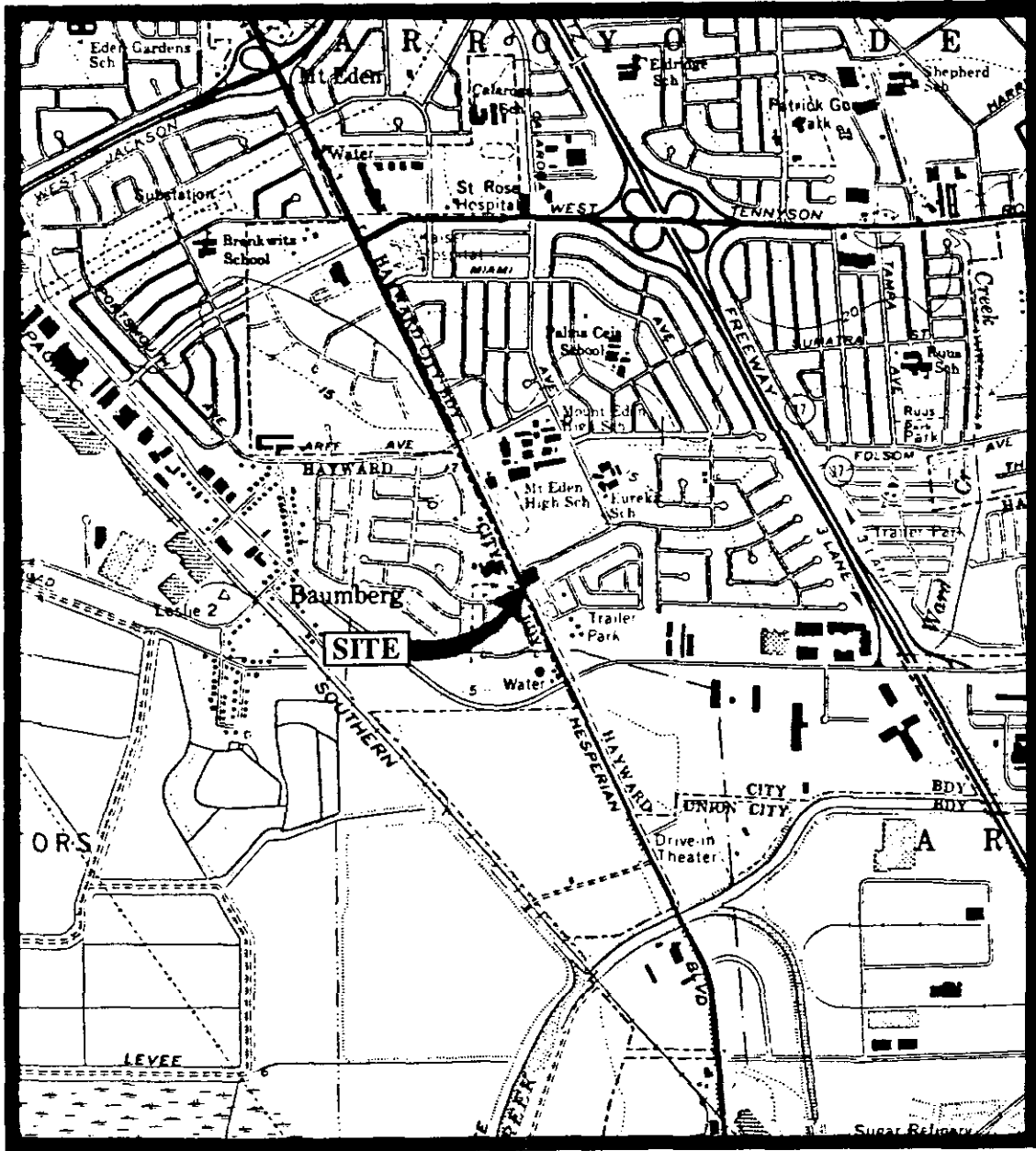
** TOG for the samples collected from MW1 and MW2 were 23 milligrams per liter (mg/L) and 7.4 mg/L, respectively. All EPA method 8010 constituents were non-detectable for both samples.

ND = Non-detectable.

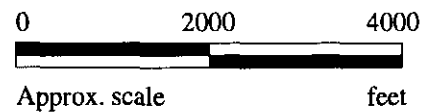
-- Indicates that analysis was not performed.

Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.

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



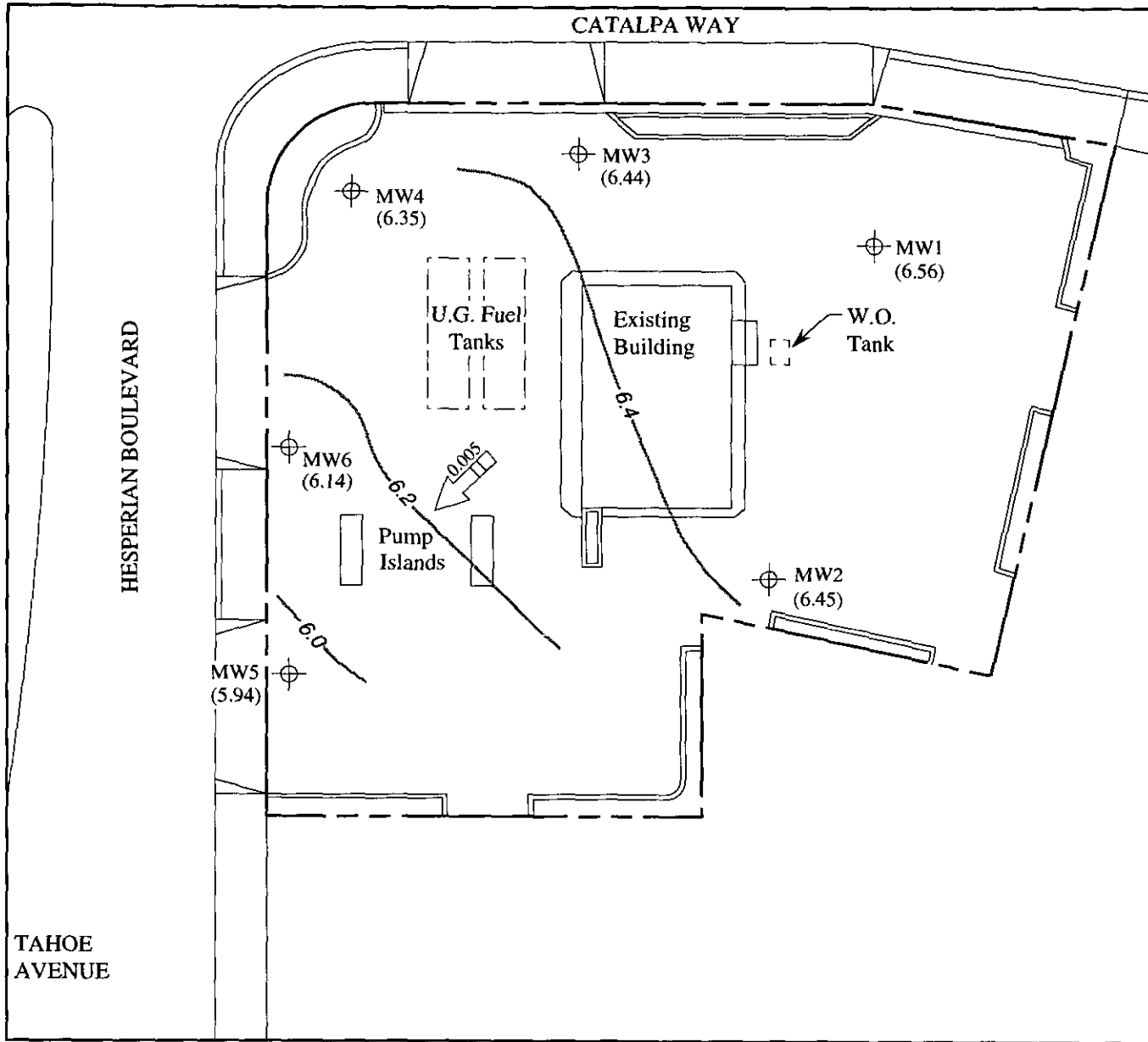
Base modified from 7.5 minute U.S.G.S.
 Hayward & Newark Quadrangles
 (both photorevised 1980)



MPDS SERVICES, INCORPORATED

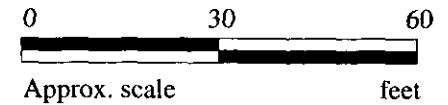
UNOCAL SERVICE STATION #5487
 28250 HESPERIAN BOULEVARD
 HAYWARD, CALIFORNIA

LOCATION
 MAP



LEGEND

- ⊕ Monitoring well
- () Ground water elevation in feet above Mean Sea Level
- ### → Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation

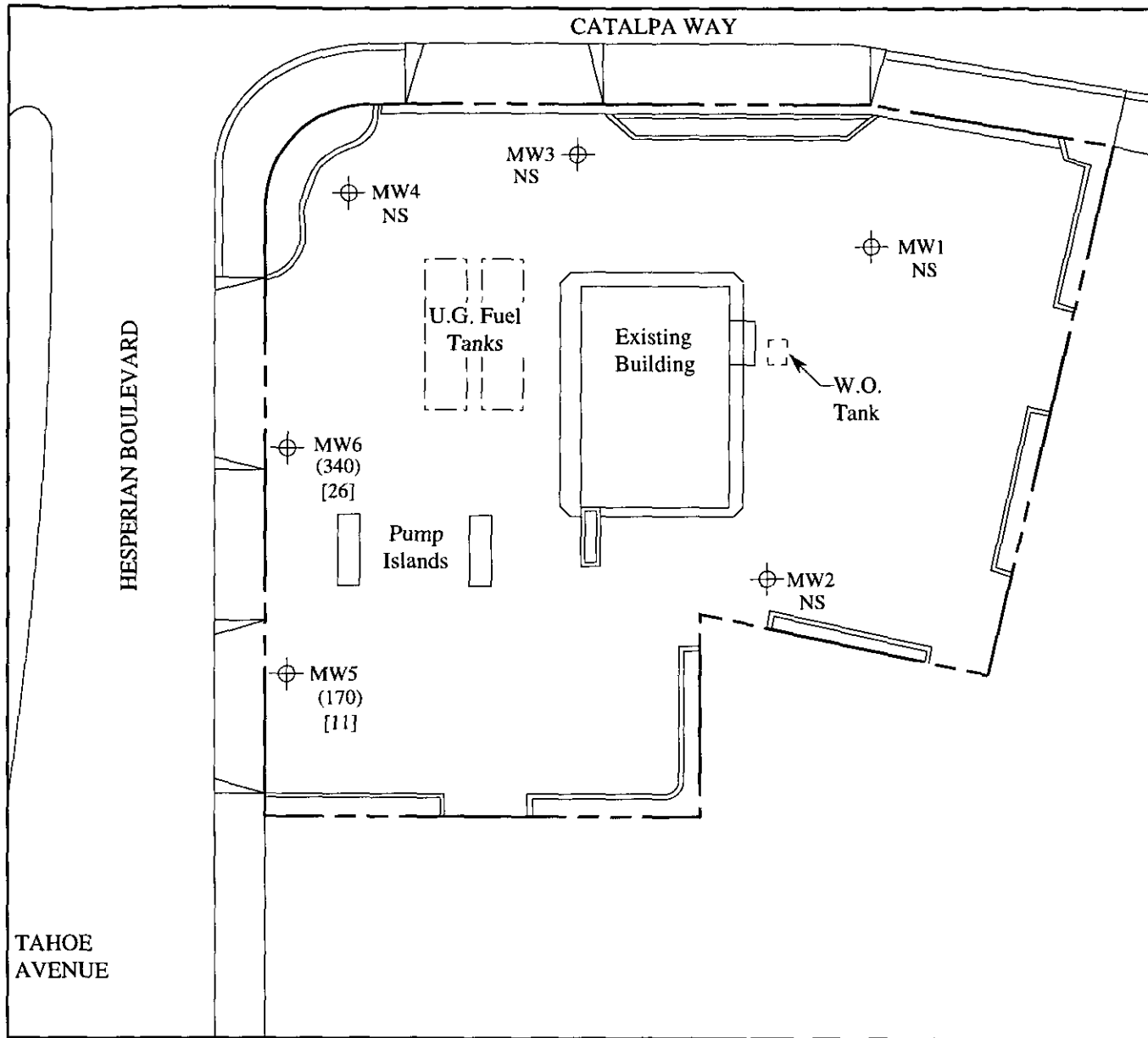


POTENTIOMETRIC SURFACE MAP FOR THE FEBRUARY 1, 1995 MONITORING EVENT

mpds SERVICES, INCORPORATED

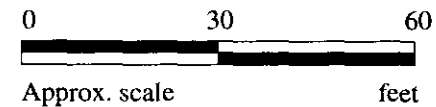
UNOCAL SERVICE STATION #5487
 28250 HESPERIAN BOULEVARD
 HAYWARD, CALIFORNIA

FIGURE
1



LEGEND

- ⊕ Monitoring well
- () Concentration of TPH as gasoline in $\mu\text{g/L}$
- [] Concentration of benzene in $\mu\text{g/L}$
- NS = Not sampled



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON FEBRUARY 1, 1995

mpds SERVICES, INCORPORATED

**UNOCAL SERVICE STATION #5487
 28250 HESPERIAN BOULEVARD
 HAYWARD, CALIFORNIA**

**FIGURE
 2**



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

Client Project ID: Unocal #5487, 28250 Hesperian, Hayward
Matrix Descript: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 502-0115

Sampled: Feb 1, 1995
Received: Feb 1, 1995
Reported: Feb 15, 1995

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons µg/L	Benzene µg/L	Toluene µg/L	Ethyl Benzene µg/L	Total Xylenes µg/L
502-0115	MW-5	170	11	ND	2.4	3.9
502-0116	MW-6	340	26	0.77	2.6	7.0

Detection Limits:	50	0.50	0.50	0.50	0.50
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Total Purgeable Petroleum Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as ND were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





**Sequoia
Analytical**

680 Chesapeake Drive
1900 Bates Avenue, Suite L
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Concord, CA 94520
Sacramento, CA 95834

(415) 364-9600
(510) 686-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 686-9689
FAX (916) 921-0100

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

Client Project ID: Unocal #5487, 28250 Hesperian, Hayward
Matrix Descript: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 502-0115

Sampled: Feb 1, 1995
Received: Feb 1, 1995
Reported: Feb 15, 1995

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrument ID	Surrogate Recovery, % QC Limits: 70-130
502-0115	MW-5	Gasoline	1.0	2/6/95	HP-4	93
502-0116	MW-6	Gasoline	1.0	2/6/95	HP-4	97

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

5020115.MPD <2>





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

Client Project ID: Unocal #5487, 28250 Hesperian, Hayward
Matrix: Liquid

QC Sample Group: 5020115-116

Reported: Feb 17, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon

MS/MSD Batch#:	5020213	5020213	5020213	5020213
Date Prepared:	2/6/95	2/6/95	2/6/95	2/6/95
Date Analyzed:	2/6/95	2/6/95	2/6/95	2/6/95
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	80	90	95	97
Matrix Spike Duplicate % Recovery:	85	95	95	97
Relative % Difference:	6.1	5.4	0.0	0.0

LCS Batch#:	2LCS020695	2LCS020695	2LCS020695	2LCS020695
Date Prepared:	2/6/95	2/6/95	2/6/95	2/6/95
Date Analyzed:	2/6/95	2/6/95	2/6/95	2/6/95
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	77	86	90	90

% Recovery Control Limits:	71-133	72-128	72-130	71-120
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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, #1271

Signature on File

Alan B. Kemp
Project Manager



M P D S Services, Inc.

2401 Stanwell Drive, Suite 400, Concord, CA 94520
 Tel: (510) 602-6120 Fax: (510) 689-1918

CHAIN OF CUSTODY

SAMPLER			UNOCAL					ANALYSES REQUESTED							TURN AROUND TIME:	
(JOE) HOVSIA AJEMIAN			S/S # <u>5487</u> CITY: <u>Hayward</u>					TPH-GAS BTEX	TPH-DIESEL	TOG	8010					Regular
WITNESSING AGENCY			ADDRESS: <u>28250 Hesperian</u>													
SAMPLE ID NO	DATE	TIME	WATER	GRAB	COMP	NO OF CDNT	SAMPLING LOCATION									
MW-5	2-1-95	8:30 A.M.	✓	✓		2 (VOL)	Wells	✓					5020115	AB	No A-c processed	
MW-6	"	9:00 A.M.	✓	✓		"	"	✓					5020116	↓		
RELINQUISHED BY:			DATE/TIME		RECEIVED BY:			THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:								
(SIGNATURE) <u>[Signature]</u>			5:25 2-1-95		(SIGNATURE) <u>[Signature]</u>			1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE?								
(SIGNATURE) <u>[Signature]</u>			2-1-95 3:45		(SIGNATURE) <u>[Signature]</u>			2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED?								
(SIGNATURE)					(SIGNATURE)			3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE?								
(SIGNATURE)					(SIGNATURE)			4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED?								
(SIGNATURE)					(SIGNATURE)			SIGNATURE:		TITLE:		DATE:				