MONITORING
PURGING
DISPOSING
SAMPLING
MPDS SERVICES, INCORPORATED

June 30, 1994

Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94261

RE: Unocal Service Station #5043
449 Hegenberger Road
Oakland, California

Per the request of the Unocal Corporation Project Manager, Mr. David B. DeWitt, enclosed please find our report (MPDS-UN5043-02) dated June 21, 1994, for the above referenced site.

Should you have any questions regarding the reporting of data, please feel free to call our office at (510) 602-5120. Any other questions may be directed to the Project Manager at (510) 277-2384.

Sincerely,

MPDS Services, Inc.

Brenda Pepito

/bp

Enclosure

cc: Mr. David B. DeWitt

2401 Stanwell Drive, Suite 400, Concord, CA 94520
TEL: (510) 602-5120 FAX: (510) 689-1918

MONITORING
PURGING
DISPOSING
SAMPLING
MPDS SERVICES, INCORPORATED

MPDS-UN5043-02
June 21, 1994

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

Attention: Mr. David B. DeWitt

RE: Quarterly Data Report
Unocal Service Station #5043
449 Hegenberger Road
Oakland, California

Dear Mr. DeWitt:

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 directions during the most recent quarter are shown on the attached Figures 1, 2, and 3.

Ground water samples were collected on May 19, 1994. A skimmer was present in well MW1. Prior to sampling, the wells were purged of between 6 and 30 gallons of water. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four casing volumes had been removed from each well, 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 3. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline, TPH as diesel, and benzene detected in the ground water samples collected this quarter are shown on the attached Figures 4, 5, and 6. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services Agency.

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

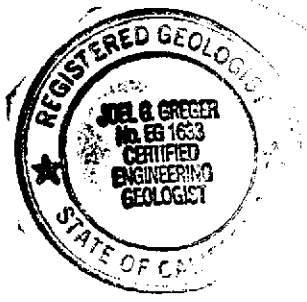
Sincerely,

MPDS Services, Inc.

Sarkis Karkar

Sarkis A. Karkarian
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, & 3
Location Map
Figures 1 through 6
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Robert H. Kezerian, Kaprealian Engineering, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)◆
		(Monitored and Sampled on May 19, 1994)					
MW1*	5.16▲	2.23	0.01	N/A	25	<1	12.67
MW2	6.45	2.13	0	No	30	0	14.35
MW3	3.82	3.60	0	No	7.5	0	14.05
MW4	4.49	3.92	0	No	6.5	0	12.95
MW5	3.86	5.09	0	No	6	0	13.56
MW6	4.25	4.62	0	No	6.5	0	13.77
		(Monitored on April 23, 1994)					
MW1	5.11	2.27	<0.01	N/A	20	<1	
MW2	6.15	2.43	0	--	0	0	
MW3	2.80	4.62	0	--	0	0	
MW4	4.47	3.94	0	--	0	0	
MW5	3.94	5.01	0	--	0	0	
MW6	4.29	4.58	0	--	0	0	
		(Monitored on March 15, 1994)					
MW1	5.26	2.12	0	--	10		
MW2	6.36	2.22	0	--	0		
MW3	2.89	4.53	0	--	0		
MW4	4.99	3.42	0	--	0		
MW5	4.66	4.29	0	--	0		
MW6	4.49	4.38	0	--	0		
		(Monitored and Sampled on February 7, 1994)					
MW1*	4.85▲	2.55	0.03	N/A	0	2	12.66
MW2*	6.18	2.40	<0.01	N/A	0	<1	14.33
MW3	5.02	2.40	0	No	8	0	14.03
MW4	5.06	3.35	0	No	7	0	12.96
MW5	3.84	5.11	0	No	6	0	13.56
MW6	4.32	4.55	0	No	6.5	0	13.76

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)◆
(Monitored and Sampled on November 3, 1993)							
MW1*	4.74	3.04	<0.01	N/A	0		0
MW2	5.21	3.37	0	No	5.5		0
MW3	2.89	4.53	0	No	4		0
MW4	4.18	4.23	0	No	4		0
MW5	3.27	5.68	0	No	3.5		0
MW6	3.62	5.25	0	No	4		0
(Monitored and Sampled on August 4, 1993)							
MW1*	4.88▲	2.92	0.03	N/A	0.25		<1.0
MW2	5.76	3.20	0	No	8		0
MW3	2.90	4.94	0	No	7		0
MW4	3.99	5.01	0	No	6		0
MW5	3.46	5.81	0	No	5		0
MW6	3.97	5.15	0	No	6		0

Well #	Well Cover Elevation (feet)**	Well Casing Elevation (feet)***
MW1	7.78	7.38
MW2	8.96	8.58
MW3	7.84	7.42
MW4	9.00	8.41
MW5	9.27	8.95
MW6	9.12	8.87

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

♦ The depth to water level and total well depth measurements were taken from the top of the well casings. Prior to November 3, 1993, the depth to water level and total well depth measurements were taken from the top of the well covers.

▲ The ground water elevation was corrected for the presence of free product (correction factor = 0.77).

* Monitored only.

** The elevations of the top of the well covers have been surveyed relative to Mean Sea Level (MSL), per the City of Oakland Benchmark #3880 (elevation = 20.37 MSL).

*** Relative to MSL.

-- Sheen determination was not performed.

N/A = Not Applicable.

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

TABLE 2

RECORD OF THE TEMPERATURE, CONDUCTIVITY, AND pH VALUES
IN THE MONITORING WELLS DURING PURGING AND PRIOR TO SAMPLING

(Measured on May 19, 1994)

Well #	Gallons per Casing Volume	Time	Gallons Purged	Casing Volumes Purged	Temperature (°F)	Conductivity ([μmhos/cm] x1000)	pH
MW2	2.08	12:50	0	0	71.0	12.81	7.20
			2	0.96	69.8	4.85	6.57
			4	1.92	69.3	7.06	6.46
			6	2.88	69.9	9.17	6.58
		13:00	8.5	4.09	70.1	9.15	6.62
MW3	1.78	11:35	0	0	70.6	11.40	7.18
			2	1.12	71.8	5.27	6.47
			3.5	1.97	71.7	4.50	6.36
			5.5	3.09	72.1	5.71	6.28
		11:45	7.5	4.21	72.2	6.03	6.33
MW4	1.54	10:20	0	0	60.2	3.26	7.22
			1.5	0.97	66.0	4.32	6.74
			3	1.95	66.2	5.58	6.59
			4.5	2.92	68.4	6.48	6.62
		10:30	6.5	4.22	68.2	6.21	6.77
MW5	1.44	11:00	0	0	68.6	6.27	7.16
			1.5	1.04	68.9	9.91	6.85
			3	2.08	68.1	10.11	6.84
			4.5	3.13	68.3	11.63	6.85
		11:10	6	4.17	68.4	11.61	6.84
MW6	1.56	12:15	0	0	71.3	9.41	6.94
			1.5	0.96	67.4	11.86	6.91
			3	1.92	66.3	13.30	6.88
			4.5	2.88	66.7	13.56	7.00
		12:25	6.5	4.17	66.8	13.86	6.97

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
5/19/94	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	3,000♦♦	42,000	2,500	1,300	2,300	13,000
	MW3	480♦♦	1,800	83	ND	6.2	9.1
	MW4	90♦♦	140**	ND	ND	ND	ND
	MW5	600♦♦	260	44	ND	32	4.1
	MW6	1,400♦♦	3,600	300	1.7	210	41
2/07/94	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW3	620♦♦	2,700	110	ND	17	ND
	MW4	ND	56**	ND	ND	ND	ND
	MW5	830♦♦	2,000	87	ND	370	110
	MW6	970♦♦	4,900	650	ND	250	35
11/03/93	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	2,600♦♦	72,000	3,700	16,000	3,700	20,000
	MW3	160	640**	ND	ND	ND	ND
	MW4	68	130**	ND	ND	ND	ND
	MW5	2,100♦♦	13,000	350	ND	3,500	530
	MW6	390♦♦	1,400	320	ND	200	7.7
8/04/93	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	1,800♦♦	45,000	2,100	6,600	1,400	12,000
	MW3	100	210**	ND	ND	ND	ND
	MW4	81	250**	ND	3.5	ND	4.1
	MW5▲	970♦♦	1,500	130	1.0	460	11
	MW6	1,100♦♦	3,400	390	ND	440	190
5/04/93	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	7,100♦	63,000	3,200	17,000	470	17,000
	MW3	250♦♦	1,800*	95	ND	ND	ND
	MW4	ND	110*	0.95	ND	ND	ND
	MW5▲	4,600♦	7,400	41	ND	1,000	35
	MW6	1,800♦	4,900	360	18	450	430

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
2/04/93	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	6,100♦	18,000	1,600	3,000	ND	6,900
	MW3	550♦♦	3,300	320	ND	96	6.1
	MW4	ND	ND	ND	ND	ND	ND
	MW5▲	5,500♦♦	5,700	38	ND	620	170
	MW6	890♦♦	3,600	340	ND	290	550
11/30/92	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	5,700♦	29,000	2,000	3,400	1,200	6,900
	MW3	94	790**	ND	ND	ND	ND
	MW4	61	420**	ND	ND	ND	ND
	MW5▲	470♦♦	930	70	290	0.79	14
	MW6	1,400♦	9,200	550	ND	740	1,600
8/31/92	MW1	8,900♦	64,000	13,000	12,000	2,500	22,000
	MW2	1,600♦	9,000	1,800	640	140	2,000
	MW3	92♦♦	210**	1.0	ND	ND	ND
	MW4	90♦♦	240**	ND	ND	ND	0.54
	MW5	690♦	78	0.89	ND	ND	13
	MW6	750♦♦	ND	ND	ND	ND	ND
5/20/92	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	4,300♦	24,000	2,200	7,600	630	11,000
	MW3	WELL WAS INACCESSIBLE					
2/18/92	MW1	13,000	150,000	17,000	26,000	5,200	26,000
	MW2	4,300	29,000	1,000	5,300	260	7,900
	MW3	ND	230	4.8	22	1.8	33

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.

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

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

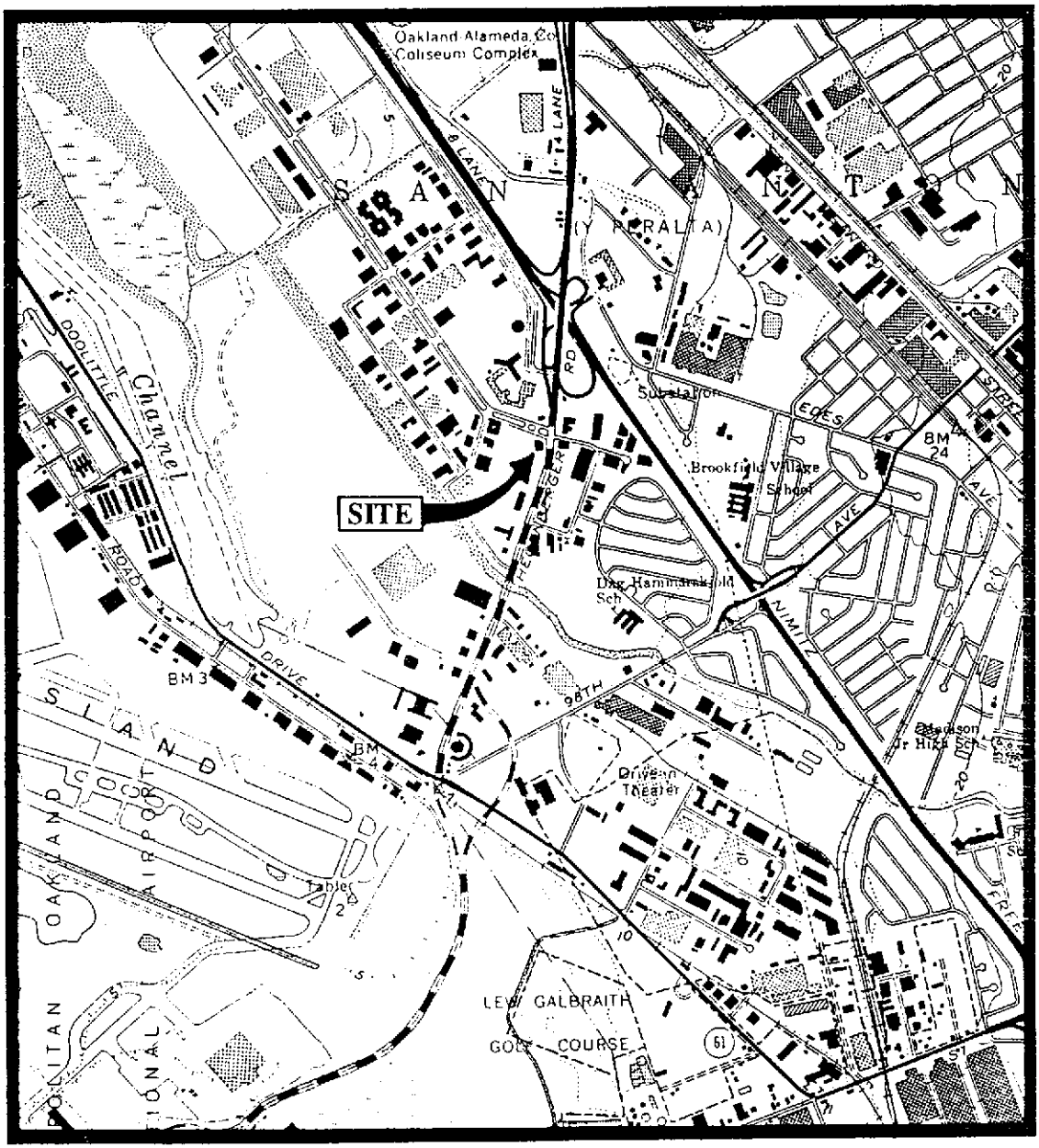
** Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

▲ Total Oil & Grease (TOG) was non-detectable.

ND = Non-detectable.

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.

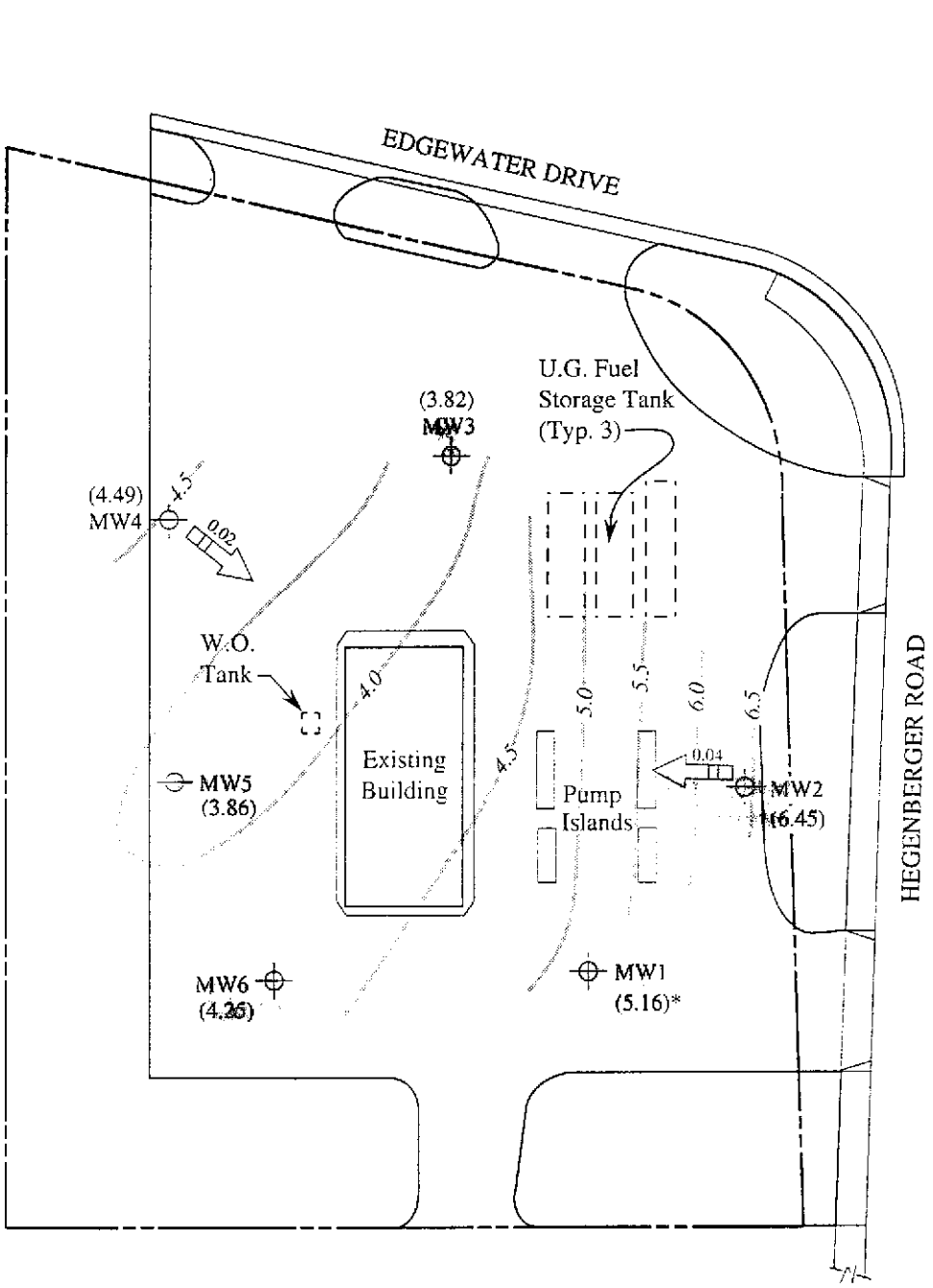


Base modified from 7.5 minute U.S.G.S. San Leandor Quadrangle
(photorevised 1980)

0 2000 4000

Approx. scale feet

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5043** **449 HEGENBERGER ROAD** **OAKLAND, 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
- * Ground water elevation corrected due to the presence of free product.

0 40 80

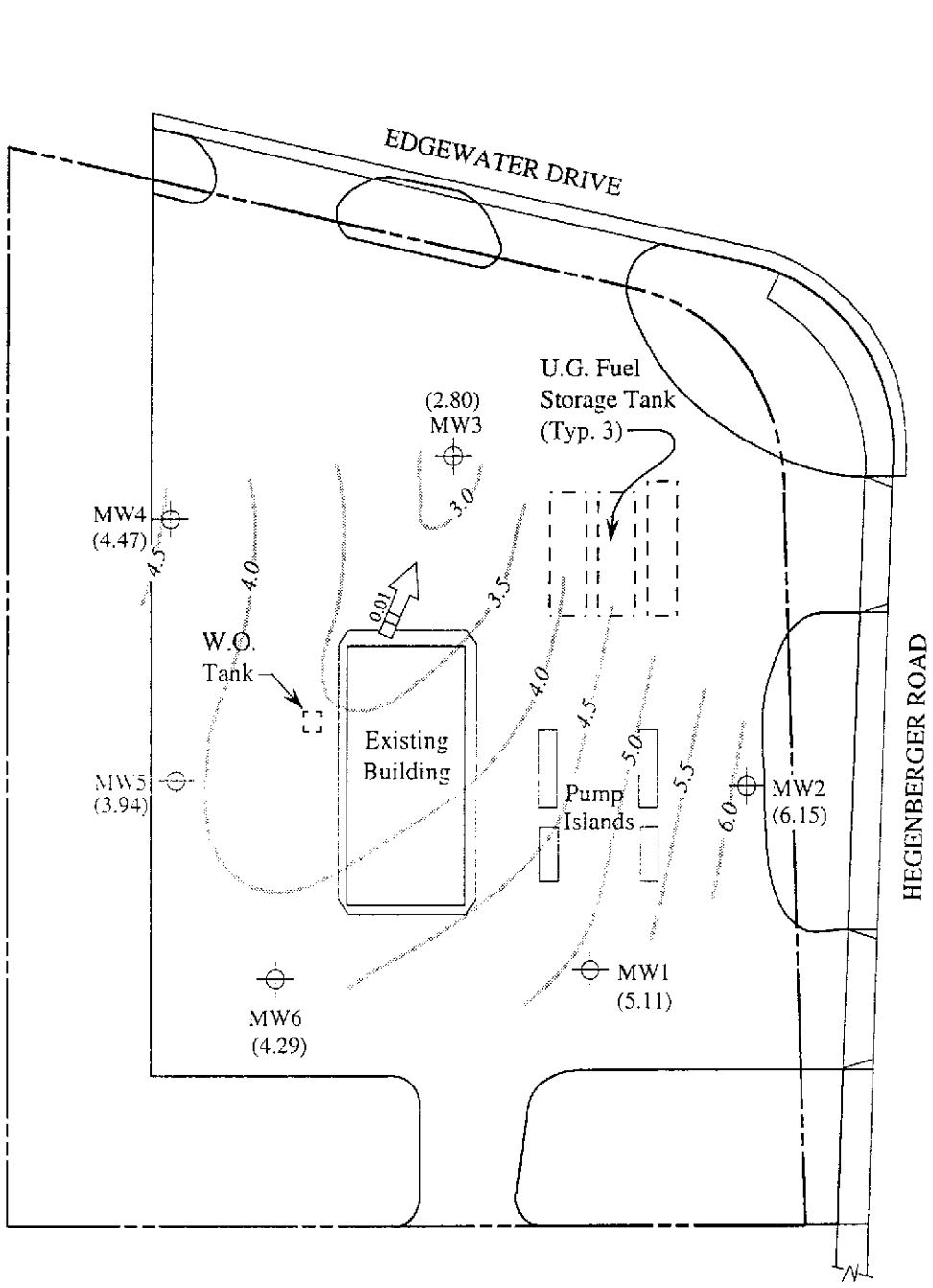
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE MAY 19, 1994 MONITORING EVENT

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE
1



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

0 40 80

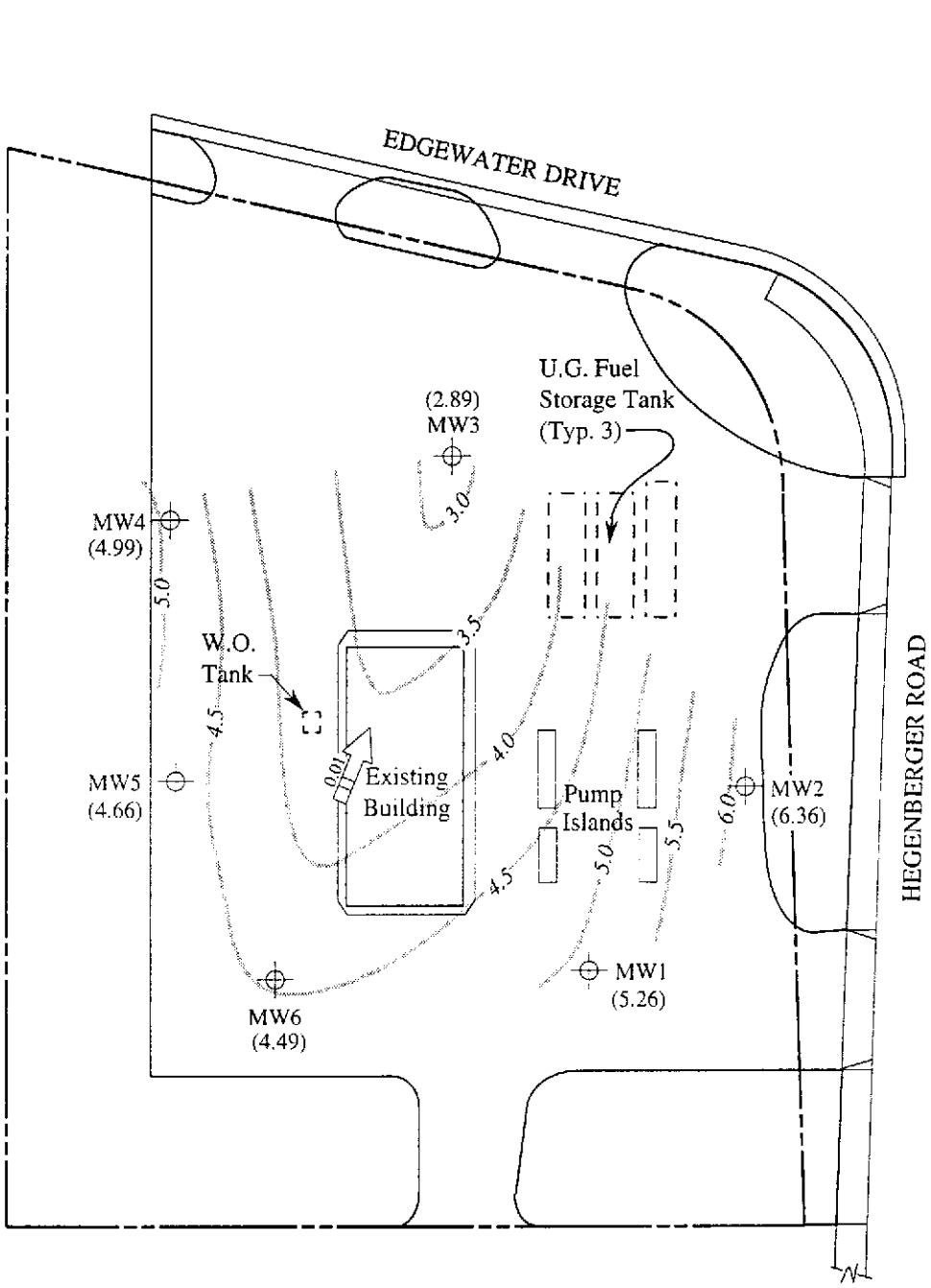
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE APRIL 23, 1994 MONITORING EVENT

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE
2



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

0 40 80

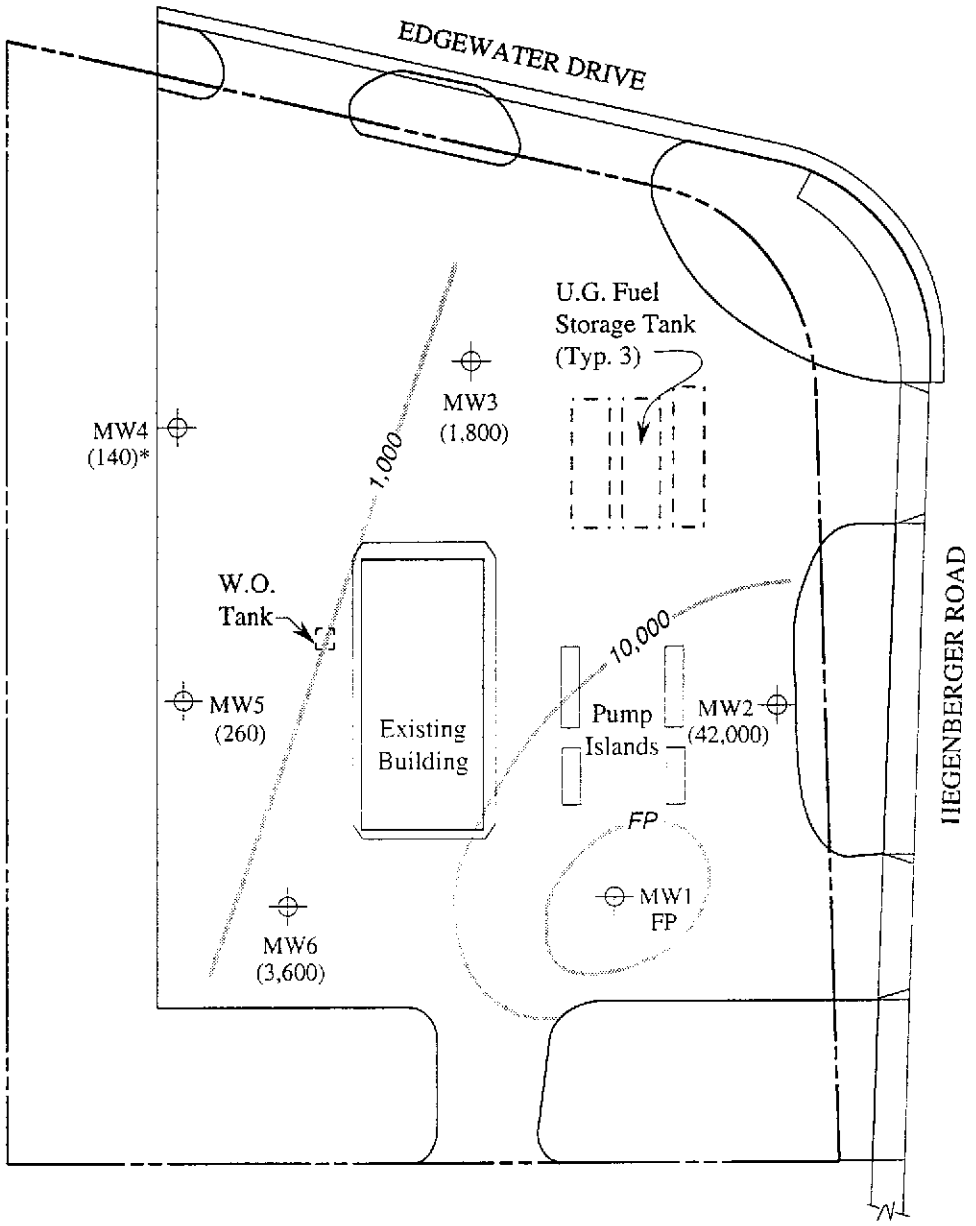
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE MARCH 15, 1994 MONITORING EVENT

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE
3



LEGEND

- Monitoring well
- ( ) Concentrations of TPH as gasoline in µg/L
- Iso-concentration contours in µg/L
- FP = Free product
- * The lab reported that the hydrocarbons detected did not appear to be gasoline.

0 40 80

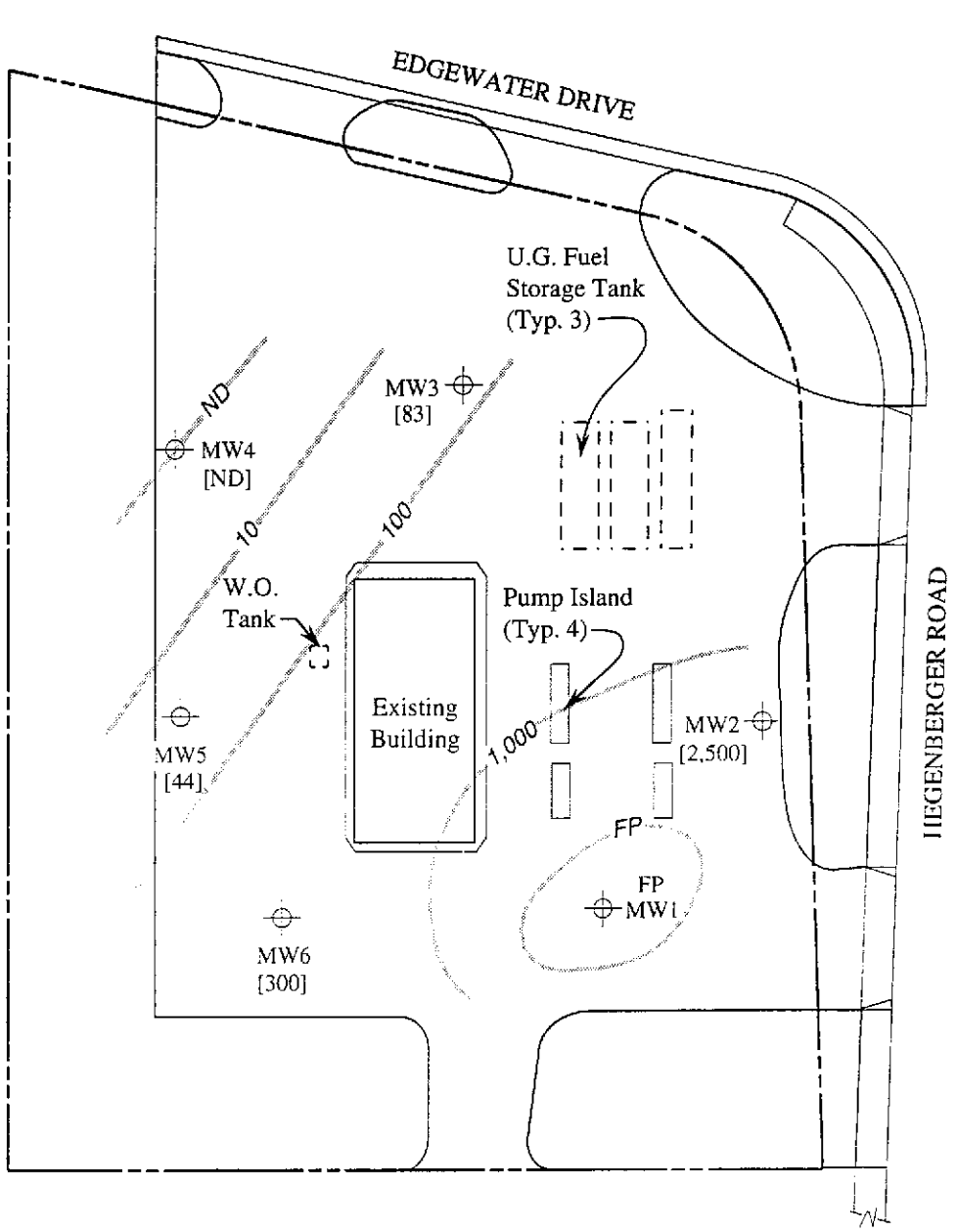
Approx. scale feet

TPH AS GASOLINE CONCENTRATIONS IN GROUND WATER ON MAY 19,1994

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE
4



LEGEND

- Monitoring well
- [ ] Concentrations of benzene in µg/L
- Iso-concentration contours in µg/L

ND = Non-detectable, FP = Free product

0 40 80

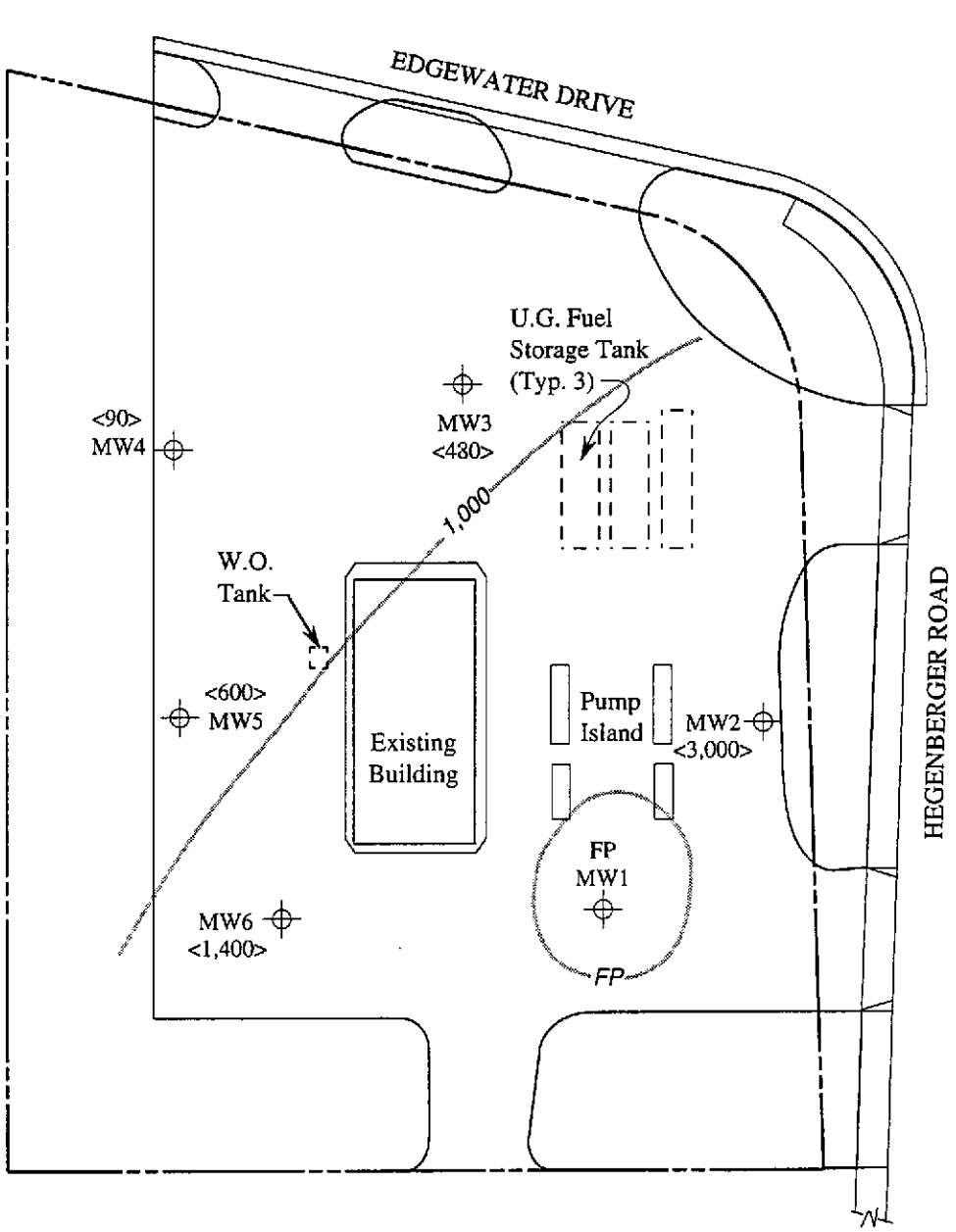
Approx. scale feet

BENZENE CONCENTRATIONS IN GROUND WATER ON MAY 19, 1994

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE
5



LEGEND

- Monitoring well
- < > Concentrations of TPH as diesel in µg/L
- Iso-concentration contours in µg/L
- ND = Non-detectable, FP = Free product

0 40 80

Approx. scale feet

TPH AS DIESEL CONCENTRATIONS IN GROUND WATER ON MAY 19, 1994

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE
6

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #5043, 449 Hegenberger, Oakland	Sampled: May 19, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: May 19, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Jun 3, 1994
Attention: Avo Avedessian	First Sample #:	405-0992	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 405-0992 MW2	Sample I.D. 405-0993 MW3	Sample I.D. 405-0994 MW4*	Sample I.D. 405-0995 MW5	Sample I.D. 405-0996 MW6
Purgeable Hydrocarbons	50	42,000	1,800	140	260	3,600
Benzene	0.5	2,500	83	N.D.	44	300
Toluene	0.5	1,300	N.D.	N.D.	N.D.	1.7
Ethyl Benzene	0.5	2,300	6.2	N.D.	32	210
Total Xylenes	0.5	13,000	9.1	N.D.	4.1	41
Chromatogram Pattern:		Gasoline	Gasoline	Discrete Peak	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	100	10	1.0	1.0	10
Date Analyzed:	6/2/94	6/1/94	6/1/94	6/1/94	6/2/94
Instrument Identification:	HP-4	HP-2	HP-2	HP-2	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	84	98	103	96	72

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Please Note:
* This sample does not appear to contain gasoline. "Discrete Peak" refers to an unidentified peak in the MTBE range.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #5043, 449 Hegenberger, Oakland	Sampled: May 19, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: May 19, 1994
Concord, CA 94520	Analysis Method:	EPA 3510/3520/8015	Reported: Jun 3, 1994
Attention: Avo Avedessian	First Sample #:	405-0992	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 405-0992 MW2*	Sample I.D. 405-0993 MW3*	Sample I.D. 405-0994 MW4*	Sample I.D. 405-0995 MW5*	Sample I.D. 405-0996 MW6*
Extractable Hydrocarbons	50	3000	480	90	600	1400
Chromatogram Pattern:		Diesel & Unidentified Hydrocarbons <C14	Diesel & Unidentified Hydrocarbons <C14 ; >C20	Diesel & Unidentified Hydrocarbons >C20	Diesel & Unidentified Hydrocarbons <C14	Diesel & Unidentified Hydrocarbons <C14

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Extracted:	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94
Date Analyzed:	5/31/94	5/31/94	6/1/94	6/1/94	6/1/94
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Please Note:
All samples above appear to contain diesel and non-diesel mixtures. "Unidentified Hydrocarbons <C14" are probably gasoline; ">C20" refers to unidentified peaks in the total oil and grease range.
Revised report, 6/24/94

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
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MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #5043, 449 Hegenberger, Oakland
Matrix: Liquid
QC Sample Group: 4050992-96
Reported: Jun 6, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 Mod.
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	K. Wimer
MS/MSD Batch#:	4051412	4051412	4051412	4051412	BLK052694
Date Prepared:	6/1/94	6/1/94	6/1/94	6/1/94	5/26/94
Date Analyzed:	6/1/94	6/1/94	6/1/94	6/1/94	6/1/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	105	105	105	105	84
Matrix Spike Duplicate % Recovery:	105	105	105	105	88
Relative % Difference:	0.0	0.0	0.0	0.0	3.9
LCS Batch#:	2LCS060194	2LCS060194	2LCS060194	2LCS060194	BLK052694
Date Prepared:	6/1/94	6/1/94	6/1/94	6/1/94	5/26/94
Date Analyzed:	6/1/94	6/1/94	6/1/94	6/1/94	6/1/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
LCS % Recovery:	104	101	101	102	84
% Recovery Control Limits:	71-133	72-128	72-130	71-120	28-122

SEQUOIA ANALYTICAL, #1271

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

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

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

Client Project ID: Unocal #5043, 449 Hegenberger, Oakland
Matrix: Liquid
QC Sample Group: 4050992-96
Reported: Jun 6, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD Batch#:	4051328	4051328	4051328	4051328
Date Prepared:	6/2/94	6/2/94	6/2/94	6/2/94
Date Analyzed:	6/2/94	6/2/94	6/2/94	6/2/94
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:	95	95	95	93
Matrix Spike Duplicate % Recovery:	90	90	90	92
Relative % Difference:	5.4	5.4	5.4	1.1
LCS Batch#:	2LCS060294	2LCS060294	2LCS060294	2LCS060294
Date Prepared:	6/2/94	6/2/94	6/2/94	6/2/94
Date Analyzed:	6/2/94	6/2/94	6/2/94	6/2/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	85	85	85	88
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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M P D S Services, Inc.
2401 Stanwell Drive, Suite 400, Concord, CA 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

CHAIN OF CUSTODY

SAMPLER: NICHOLAS PERROW
WITNESSING AGENCY:

UNOCAL S/S # [illegible] CITY: OAKLAND
ADDRESS: 449 HEGENBERGER

ANALYSES REQUESTED: TPH-GAS BTEX; TPH-DIESEL; TOG; 8010

TURN AROUND TIME: REGULAR

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	REMARKS
MW-2	5/19/94	1:10PM	✓	✓		2 VOA's 1 AMBER	WELL	9405092A
MW-3	"	12:00PM	✓	✓		"	"	993
MW-4	"	10:45AM	✓	✓		"	"	994
MW-5	"	11:20AM	✓	✓		"	"	995
MW-6	"	12:35PM	✓	✓		"	"	996

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
[signature]	5/19/94 4:20 PM	Melissa Creusere
(SIGNATURE)		(SIGNATURE)
(SIGNATURE)		(SIGNATURE)
(SIGNATURE)		(SIGNATURE)
(SIGNATURE)		(SIGNATURE)

THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:

1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON 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: Melissa Creusere TITLE: Sample Control DATE: 5/19/94