

# MPDS

SERVICES, INCORPORATED

MPDS-UN5043-01

March 10, 1994

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

Attention: Mr. David 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. A skimmer was present in well MW1. 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 February 7, 1994. Prior to sampling, the wells were purged of between 6 and 8 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, 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.

MPDS-UN5043-01  
March 10, 1994  
Page 2

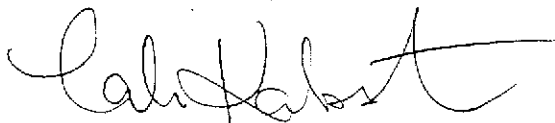
DISTRIBUTION

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

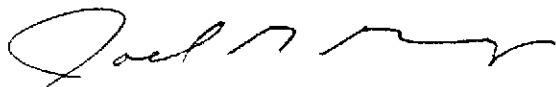
If you have any questions regarding this report, please do not hesitate to call at (510) 602-5120.

Sincerely,

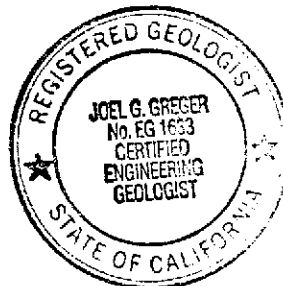
MPDS Services, Inc.



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 and 2  
                  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 Thickness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)◆
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(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

(Monitored on January 7, 1994)

MW1	4.57	2.81	0	--	50	0	12.65
MW2	5.68	2.90	<0.01	N/A	0	<1	NM
MW3	3.29	4.13	0	--	0	0	NM
MW4	4.60	3.81	0	--	0	0	NM
MW5	3.38	5.57	0	--	0	0	NM
MW6	3.87	5.00	0	--	0	0	NM

(Monitored on December 2, 1993)

MW1	4.57	2.81	0	--	0	0	NM
MW2	5.61	2.97	0	--	0	0	NM
MW3	3.25	4.17	0	--	0	0	NM
MW4	3.99	4.42	0	--	0	0	NM
MW5	3.04	5.91	0	--	0	0	NM
MW6	3.25	5.62	0	--	0	0	NM

(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	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

<u>Well #</u>	<u>Ground Water Elevation (feet)</u>	<u>Depth to Water (feet)◆</u>	<u>Product Thickness (feet)</u>	<u>Sheen</u>	<u>Water Purged (gallons)</u>	<u>Product Purged (ounces)</u>	<u>Total Well Depth (feet)◆</u>
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(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	

(Monitored and Sampled on May 4, 1993)

MW1▲	5.73*	2.13	0.10	N/A	0	0	
MW2	6.48	2.48	0	No	9	0	
MW3	3.52	4.32	0	No	7	0	
MW4	4.91	4.09	0	No	7	0	
MW5	4.90	4.37	0	No	7	0	
MW6	5.40	3.72	0	No	7	0	

<u>Well #</u>	<u>Well Cover Elevation (feet)**</u>	<u>Well Casing Elevation (feet)***</u>
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

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TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

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◆ 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 water level and total well depth measurements were taken from the top of the well covers

▲ Monitored only.

\* The ground water elevation was corrected for the presence of free product by the use of a specific gravity of 0.77.

\*\* 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.

NM = Not Measured.

Note: Monitoring data prior to December 2, 1993, 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	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 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>
2/04/93	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 FOR SAMPLING					
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

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**TABLE 2 (Continued)**

SUMMARY OF LABORATORY ANALYSES  
WATER

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- ◆ 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.
- + TOG was non-detectable.

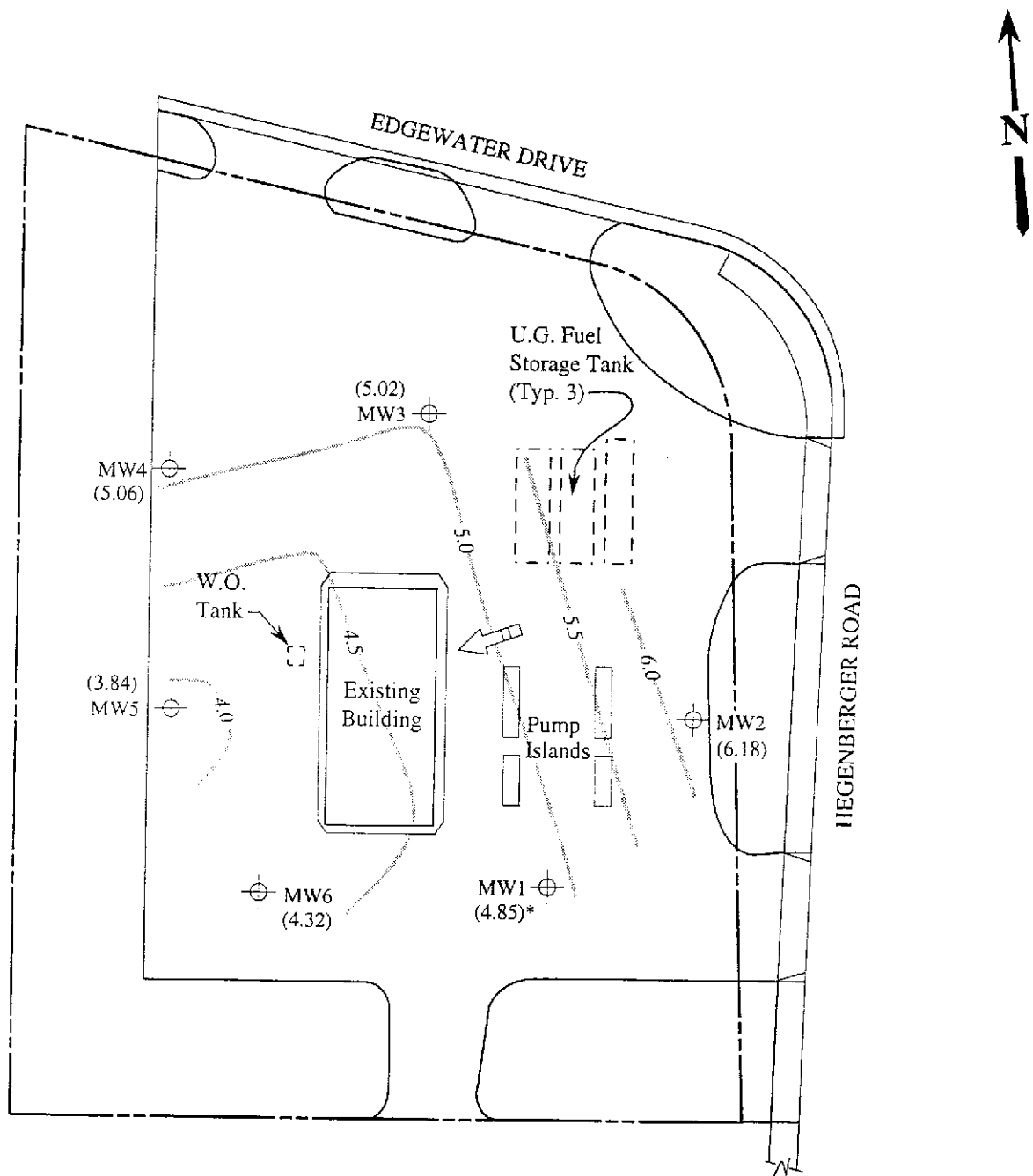
ND = Non-detectable.

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.



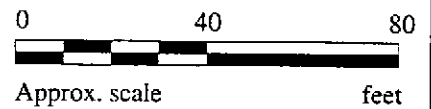




**LEGEND**

- ⊕ Monitoring well
- ( ) Ground water elevation in feet above Mean Sea Level
- ➔ Direction of ground water flow
- Contours of ground water elevation

\* Ground water elevation corrected due to the presence of free product.

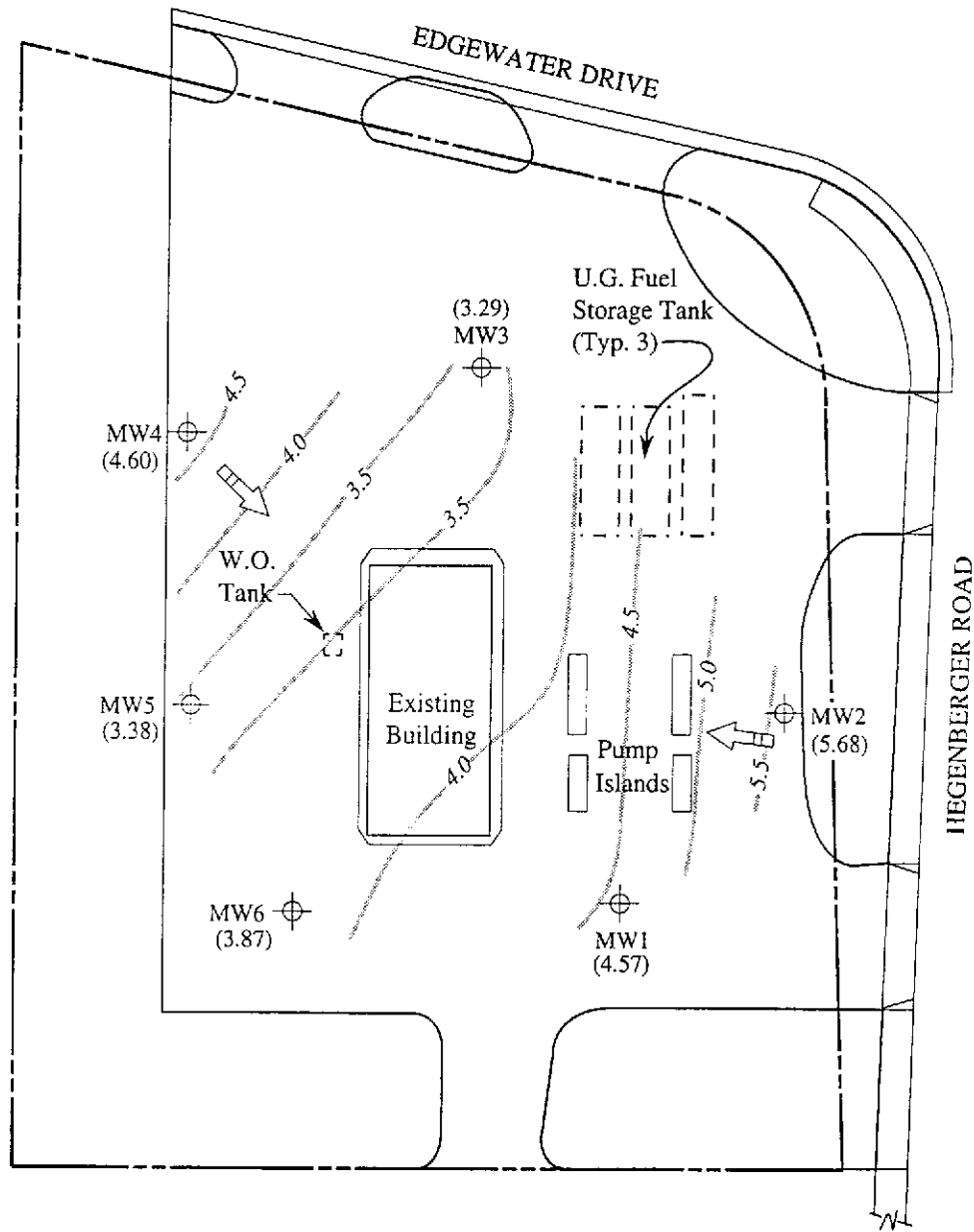


**POTENTIOMETRIC SURFACE MAP FOR THE FEBRUARY 7, 1994 MONITORING EVENT**

**MPDS**  
SERVICES, INCORPORATED

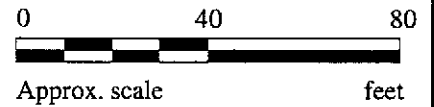
UNOCAL SERVICE STATION #5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

FIGURE  
**1**



**LEGEND**

- Monitoring well
- Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow
- Contours of ground water elevation

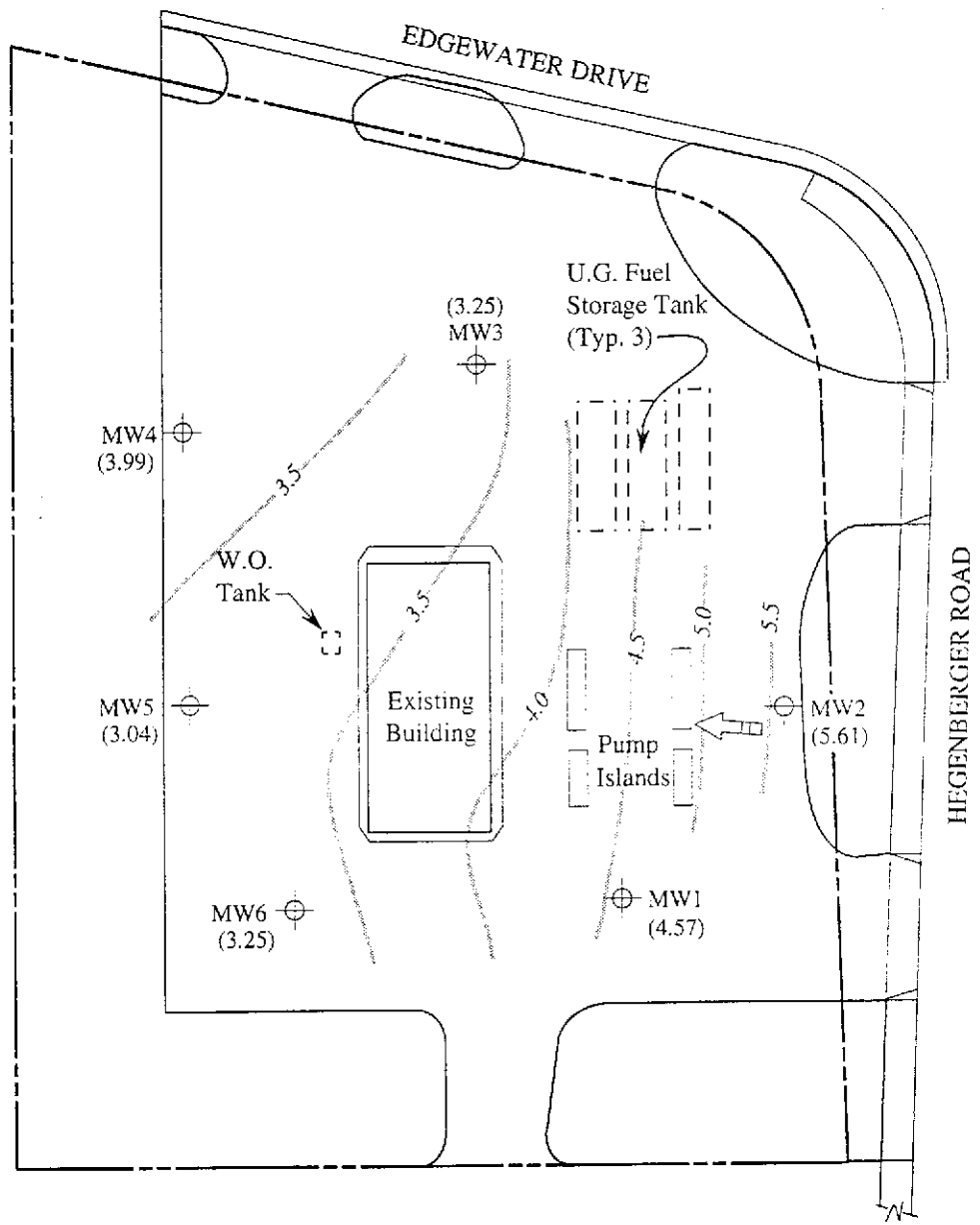


**POTENTIOMETRIC SURFACE MAP FOR THE JANUARY 7, 1994 MONITORING EVENT**

**MPDS**  
SERVICES, INCORPORATED

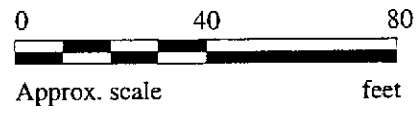
UNOCAL SERVICE STATION #5043  
449 HEGENERBERGER ROAD  
OAKLAND, CALIFORNIA

FIGURE  
**2**



**LEGEND**

- Monitoring well
- Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow
- Contours of ground water elevation

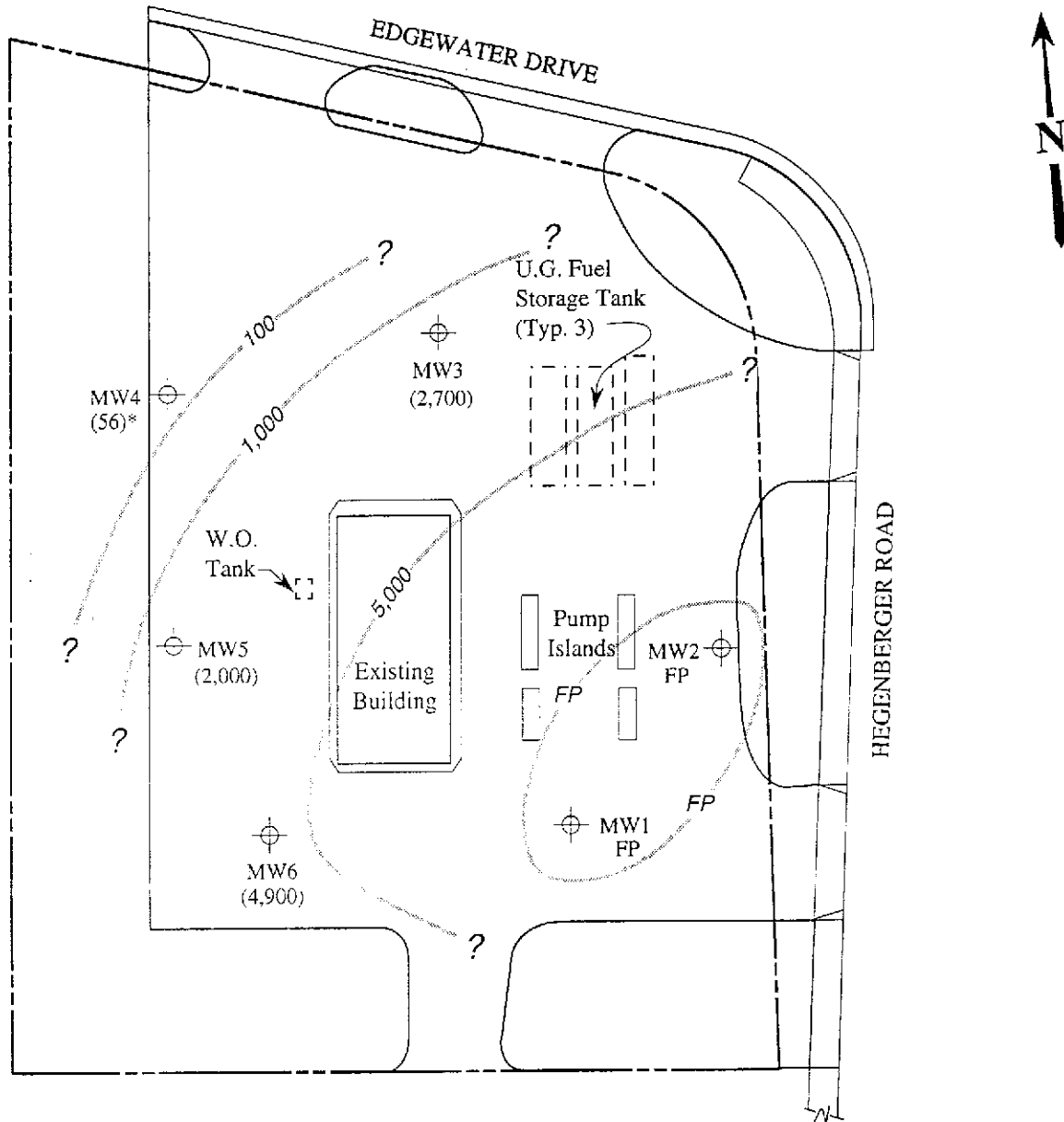


**POTENTIOMETRIC SURFACE MAP FOR THE DECEMBER 2, 1993 MONITORING EVENT**

**MPDS**  
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

FIGURE  
**3**



**LEGEND**

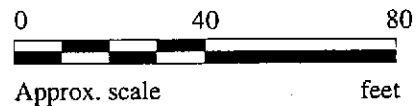
⊕ Monitoring well

( ) 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.

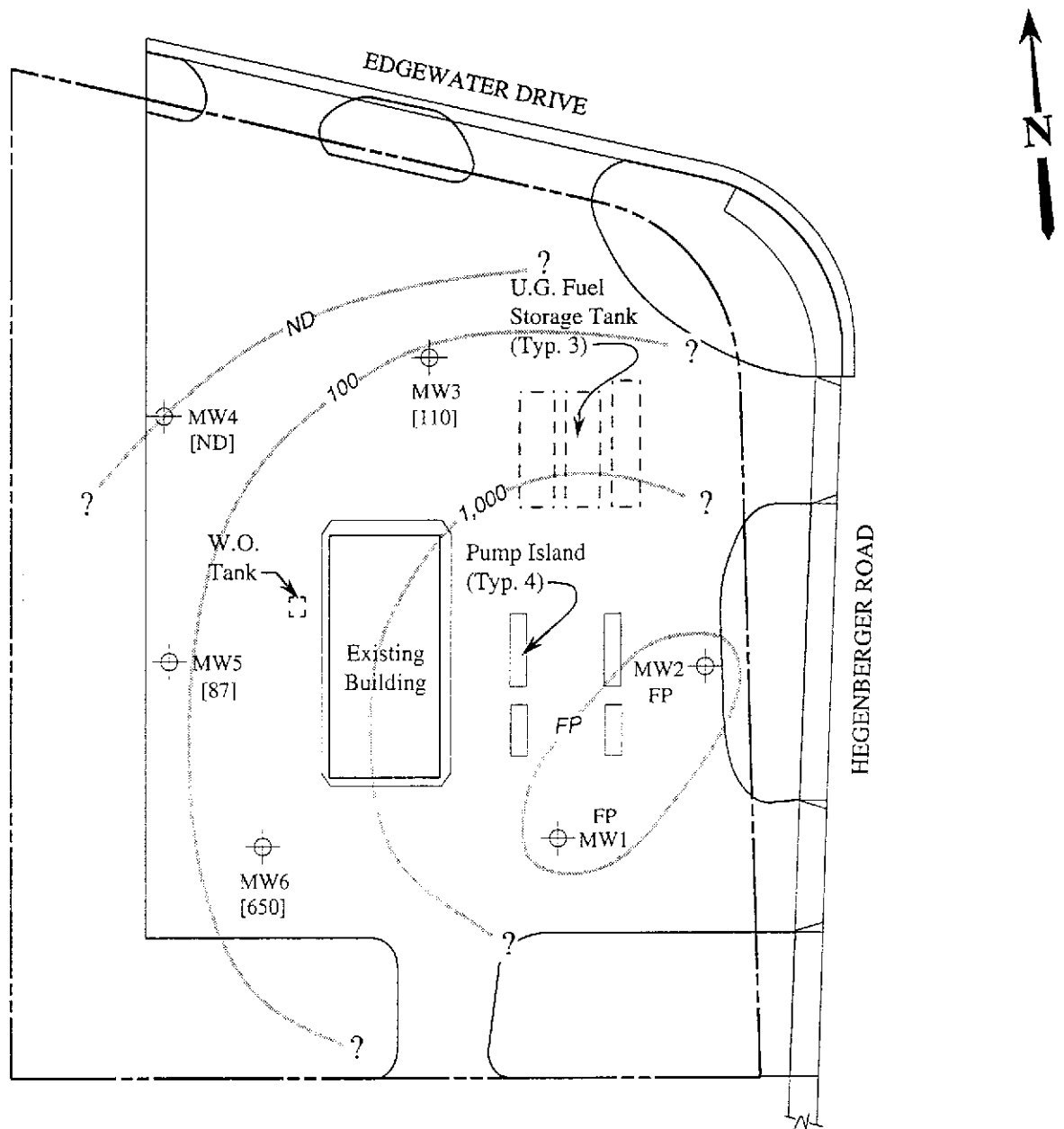


**TPH AS GASOLINE CONCENTRATIONS IN GROUND WATER ON FEBRUARY 7, 1994**

**MPDS**  
SERVICES, INCORPORATED

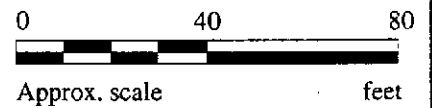
UNOCAL SERVICE STATION #5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

FIGURE  
**4**



**LEGEND**

- ⊕ Monitoring well
- [ ] Concentrations of benzene in µg/L
- Iso-concentration contours in µg/L
- ND = Non-detectable, FP = Free product

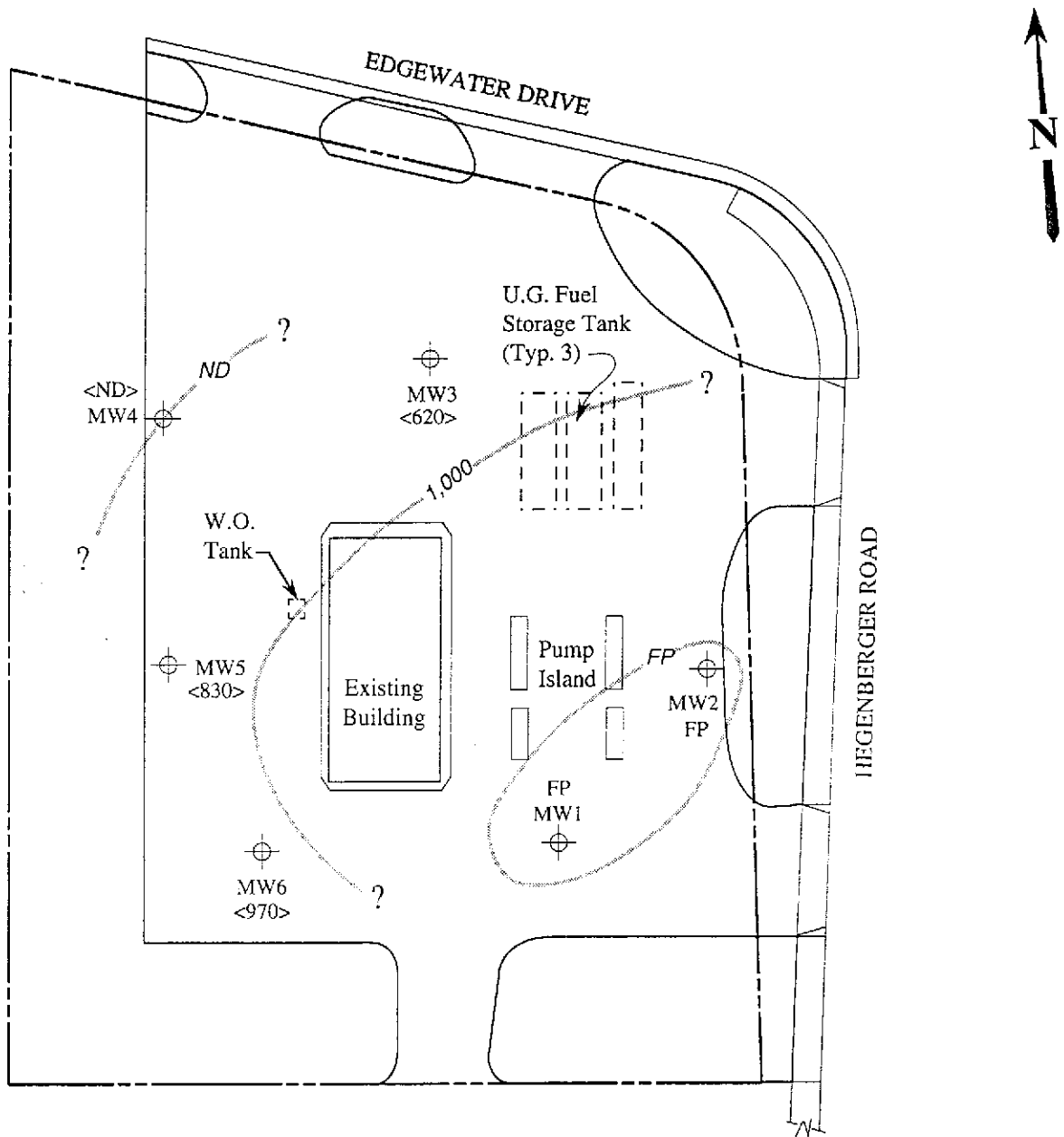


**BENZENE CONCENTRATIONS IN GROUND WATER ON FEBRUARY 7, 1994**

**MPDS**  
SERVICES, INCORPORATED

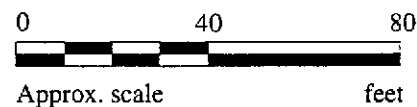
UNOCAL SERVICE STATION #5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

FIGURE  
**5**



**LEGEND**

- ⊕ Monitoring well
- < > Concentrations of TPH as diesel in  $\mu\text{g/L}$
- Iso-concentration contours in  $\mu\text{g/L}$
- ND = Non-detectable, FP = Free product



**TPH AS DIESEL CONCENTRATIONS IN GROUND WATER ON FEBRUARY 7, 1994**

**MPDS**  
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

FIGURE  
**6**



# 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 #5043, 449 Hegenberger Rd.,  
Sample Matrix: Water Oakland  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 402-0446

Sampled: Feb 7, 1994  
Received: Feb 8, 1994  
Reported: Feb 23, 1994

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 402-0446 MW-3	Sample I.D. 402-0447 MW-4*	Sample I.D. 402-0448 MW-5	Sample I.D. 402-0449 MW-6	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	50	2,700	56	2,000	4,900	
Benzene	0.5	110	N.D.	87	650	
Toluene	0.5	N.D.	N.D.	N.D.	N.D.	
Ethyl Benzene	0.5	17	N.D.	370	250	
Total Xylenes	0.5	N.D.	N.D.	110	35	
Chromatogram Pattern:		Gasoline	Discrete Peak	Gasoline	Gasoline	

### Quality Control Data

Report Limit Multiplication Factor:	10	1.0	4.0	10	1.0
Date Analyzed:	2/17/94	2/17/94	2/18/94	2/18/94	2/18/94
Instrument Identification:	HP-4	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	90	101	79	82	102

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

#### Please Note:

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





# SEQUOIA ANALYTICAL

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

Client Project ID: Unocal #5043, 449 Hegenberger Rd.,  
Sample Matrix: Water Oakland  
Analysis Method: EPA 3510/3520/8015  
First Sample #: 402-0446

Sampled: Feb 7, 1994  
Received: Feb 8, 1994  
Reported: Feb 23, 1994

## TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 402-0446 MW-3*	Sample I.D. 402-0447 MW-4	Sample I.D. 402-0448 MW-5*	Sample I.D. 402-0449 MW-6*	Sample I.D. Matrix Blank
Extractable Hydrocarbons	50	620	N.D.	830	970	
Chromatogram Pattern:		Diesel and Unidentified Hydrocarbons <C14	--	Diesel and Unidentified Hydrocarbons <C14	Diesel and Unidentified Hydrocarbons <C14	

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Extracted:	2/11/94	2/11/94	2/11/94	2/11/94	2/11/94
Date Analyzed:	2/16/94	2/16/94	2/16/94	2/16/94	2/17/94
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

  
Alan B. Kemp  
Project Manager

#### Please Note:

\*This sample appears to contain diesel and a non-diesel mixture. Unidentified Hydrocarbons <C14 are probably gasoline.



# SEQUOIA ANALYTICAL

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

Client Project ID: Unocal #5043, 449 Hegenberger Rd., Oakland  
Matrix: Liquid

QC Sample Group: 4020446-449

Reported: Feb 28, 1994

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
<b>Analyst:</b>	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	K. Wimer

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
<b>Batch#:</b>	4020572	4020572	4020572	4020572	BLK021194
<b>Date Prepared:</b>	2/17/94	2/17/94	2/17/94	2/17/94	2/11/94
<b>Date Analyzed:</b>	2/17/94	2/17/94	2/17/94	2/17/94	2/18/94
<b>Instrument I.D.#:</b>	HP-4	HP-4	HP-4	HP-4	HP-3A
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
<b>Matrix Spike % Recovery:</b>	95	90	100	93	109
<b>Matrix Spike Duplicate % Recovery:</b>	95	95	100	93	94
<b>Relative % Difference:</b>	0.0	5.4	0.0	0.0	15

LCS Batch#:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
<b>Batch#:</b>	2LCS021794	2LCS021794	2LCS021794	2LCS021794	BLK021194
<b>Date Prepared:</b>	2/17/94	2/17/94	2/17/94	2/17/94	2/11/94
<b>Date Analyzed:</b>	2/17/94	2/17/94	2/17/94	2/17/94	2/17/94
<b>Instrument I.D.#:</b>	HP-4	HP-4	HP-4	HP-4	HP-3A
<b>LCS % Recovery:</b>	84	86	87	88	109

% Recovery Control Limits:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
<b>Control Limits:</b>	71-133	72-128	72-130	71-120	28-122

### 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

Alan B. Kemp  
Project Manager



# SEQUOIA ANALYTICAL

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(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 #5043, 449 Hegenberger Rd., Oakland  
Matrix: Liquid

QC Sample Group: 4020446-449

Reported: Feb 28, 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#:	4020756	4020756	4020756	4020756
Date Prepared:	2/18/94	2/18/94	2/18/94	2/18/94
Date Analyzed:	2/18/94	2/18/94	2/18/94	2/18/94
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:	105	100	100	102
Matrix Spike Duplicate % Recovery:	85	80	80	85
Relative % Difference:	21	22	22	18


LCS Batch#:	2LCS021894	2LCS021894	2LCS021894	2LCS021894
Date Prepared:	2/18/94	2/18/94	2/18/94	2/18/94
Date Analyzed:	2/18/94	2/18/94	2/18/94	2/18/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	90	92	94	95

% 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

  
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 #5043, 449 Hegenberger Rd., Oakland

QC Sample Group: 4020446-449

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## QUALITY CONTROL DATA REPORT

### SURROGATE

Method:	EPA 8015	EPA 8015	EPA 8015	EPA 8015	EPA 8015
Analyst:	K. Wimer	K. Wimer	K. Wimer	K. Wimer	K. Wimer
Reporting Units:	µg/L	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Feb 16, 1994	Feb 16, 1994	Feb 16, 1994	Feb 16, 1994	Feb 17, 1994
Sample #:	402-0446	402-0447	402-0448	402-0449	Method Blank

<b>Surrogate</b>					
<b>% Recovery:</b>	96	98	99	99	81

SEQUOIA ANALYTICAL

  
Alan B. Kemp  
Project Manager

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

