MONITORING PURGING DISPOSING SAMPLING
mpds SERVICES, INCORPORATED

MPDS-UN5043-03
September 13, 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. A skimmer was present in well MW1. 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 August 15, 1994. Prior to sampling, the wells were purged of between 5.5 and 25 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, 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.

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.

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 8/31/96

/bp

Attachments: Tables 1 & 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)♦	Total Well Depth (feet)♦	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)
(Monitored and Sampled on August 15, 1994)							
MW1*	4.61▲	2.85	12.53	0.11	N/A	35	2
MW2	5.33	3.25	14.33	0	No	25	0
MW3	2.77	4.65	14.02	0	No	6.5	0
MW4	4.14	4.27	12.94	0	No	6	0
MW5	3.27	5.68	13.54	0	No	5.5	0
MW6	3.50	5.37	13.74	0	No	6	0
(Monitored on July 27, 1994)							
MW1	4.28	3.10	~	0	--	14	0
MW2	5.14	3.44	~	0	--	12	0
MW3	2.84	4.58	~	0	--	0	0
MW4	4.13	4.28	~	0	--	0	0
MW5	3.23	5.72	~	0	--	0	0
MW6	3.57	5.30	~	0	--	0	0
(Monitored on June 25, 1994)							
MW1	4.90▲	2.49	~	0.01	--	25	<1
MW2	5.93	2.65	~	0	--	15	0
MW3	2.84	4.58	~	0	--	0	0
MW4	4.06	4.35	~	0	--	0	0
MW5	4.40	4.55	~	0	--	0	0
MW6	3.79	5.08	~	0	--	0	0
(Monitored and Sampled on May 19, 1994)							
MW1*	5.16▲	2.23	12.67	0.01	N/A	25	<1
MW2	6.45	2.13	14.35	0	No	30	0
MW3	3.82	3.60	14.05	0	No	7.5	0
MW4	4.49	3.92	12.95	0	No	6.5	0
MW5	3.86	5.09	13.56	0	No	6	0
MW6	4.25	4.62	13.77	0	No	6.5	0

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Total Well Depth (feet)◆	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)
(Monitored and Sampled on February 7, 1994)							
MW1*	4.85▲	2.55	12.66	0.03	N/A	0	2
MW2*	6.18	2.40	14.33	<0.01	N/A	0	<1
MW3	5.02	2.40	14.03	0	No	8	0
MW4	5.06	3.35	12.96	0	No	7	0
MW5	3.84	5.11	13.56	0	No	6	0
MW6	4.32	4.55	13.76	0	No	6.5	0
(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

Well #	Well Casing Elevation (feet)**
MW1	7.38
MW2	8.58
MW3	7.42
MW4	8.41
MW5	8.95
MW6	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.

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

~ Total well depth was not measured.

* Monitored only.

** The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per the City of Oakland Benchmark #3880 (elevation = 20.37 feet 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

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
8/15/94	MW1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW2	2,800◆◆	35,000	2,400	850	1,700	15,000
	MW3	110◆◆	130	1.1	0.54	ND	0.97
	MW4	72◆◆	59**	ND	0.60	ND	ND
	MW5	860◆◆	1,600	110	ND	340	72
	MW6	790◆◆	1,300	130	6.7	54	57
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

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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
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 2 (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.

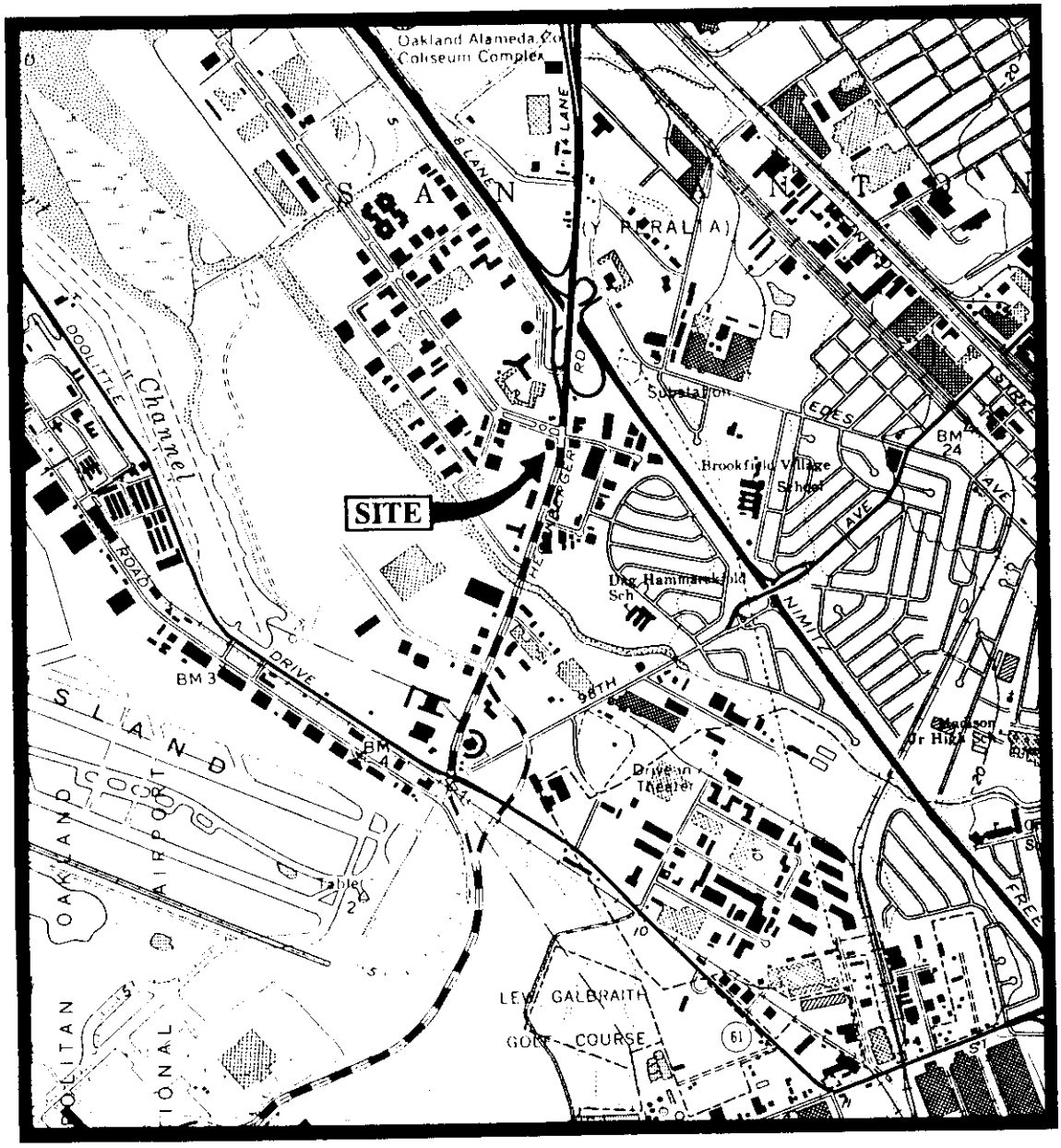
** Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

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

ND = Non-detectable.

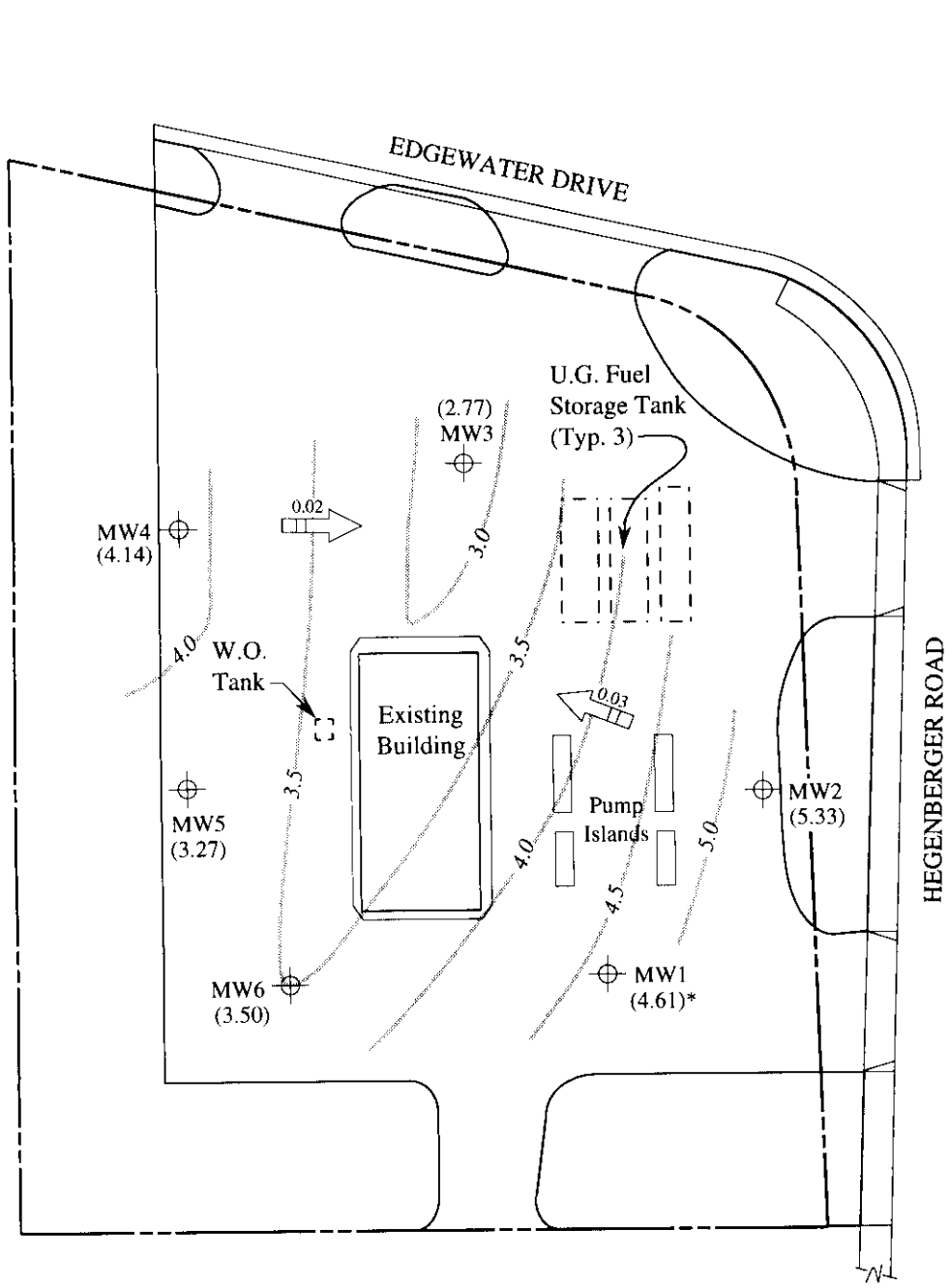
Results are in micrograms per liter (µg/L), unless otherwise indicated.

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)

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

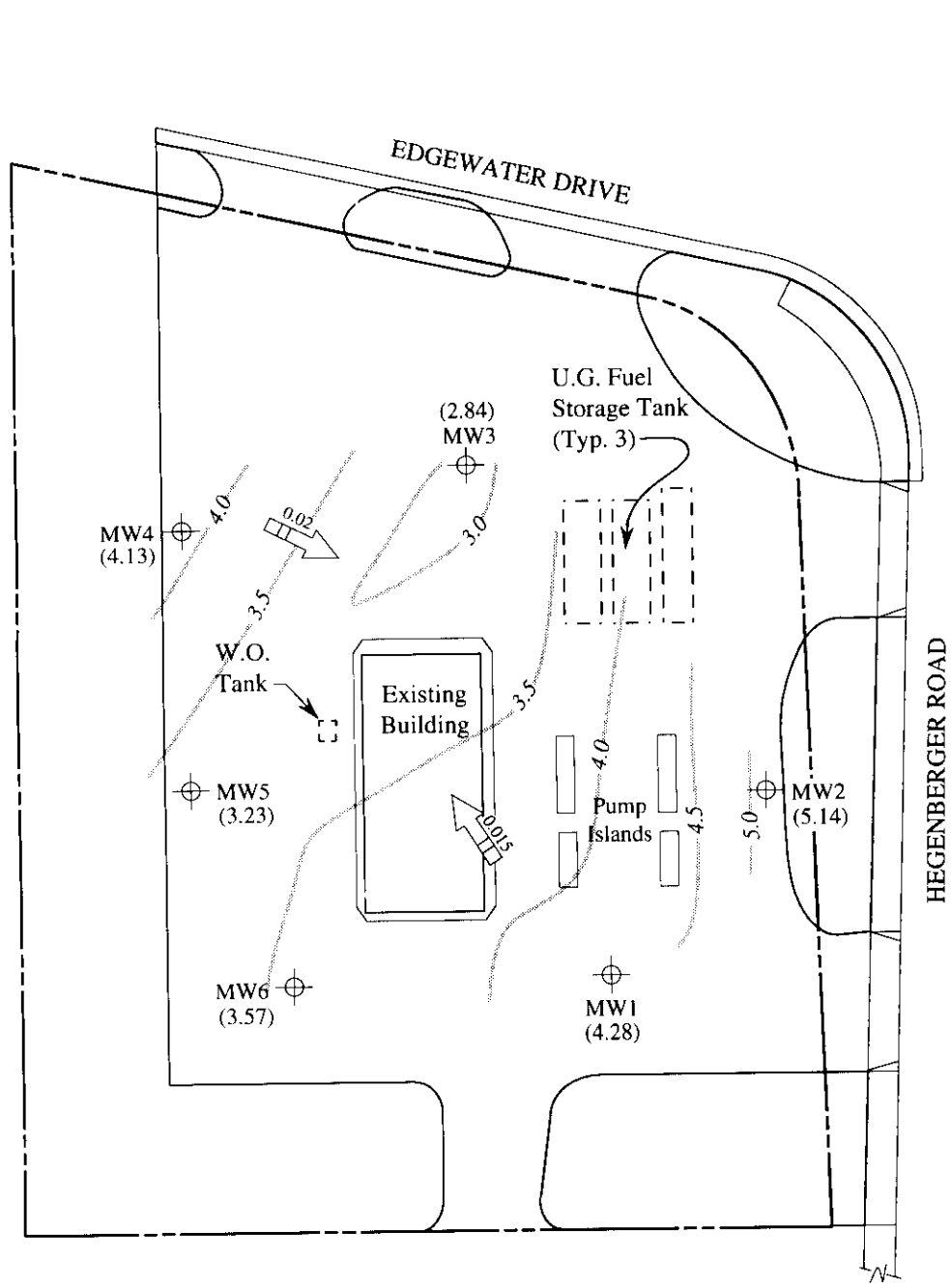
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE AUGUST 15, 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

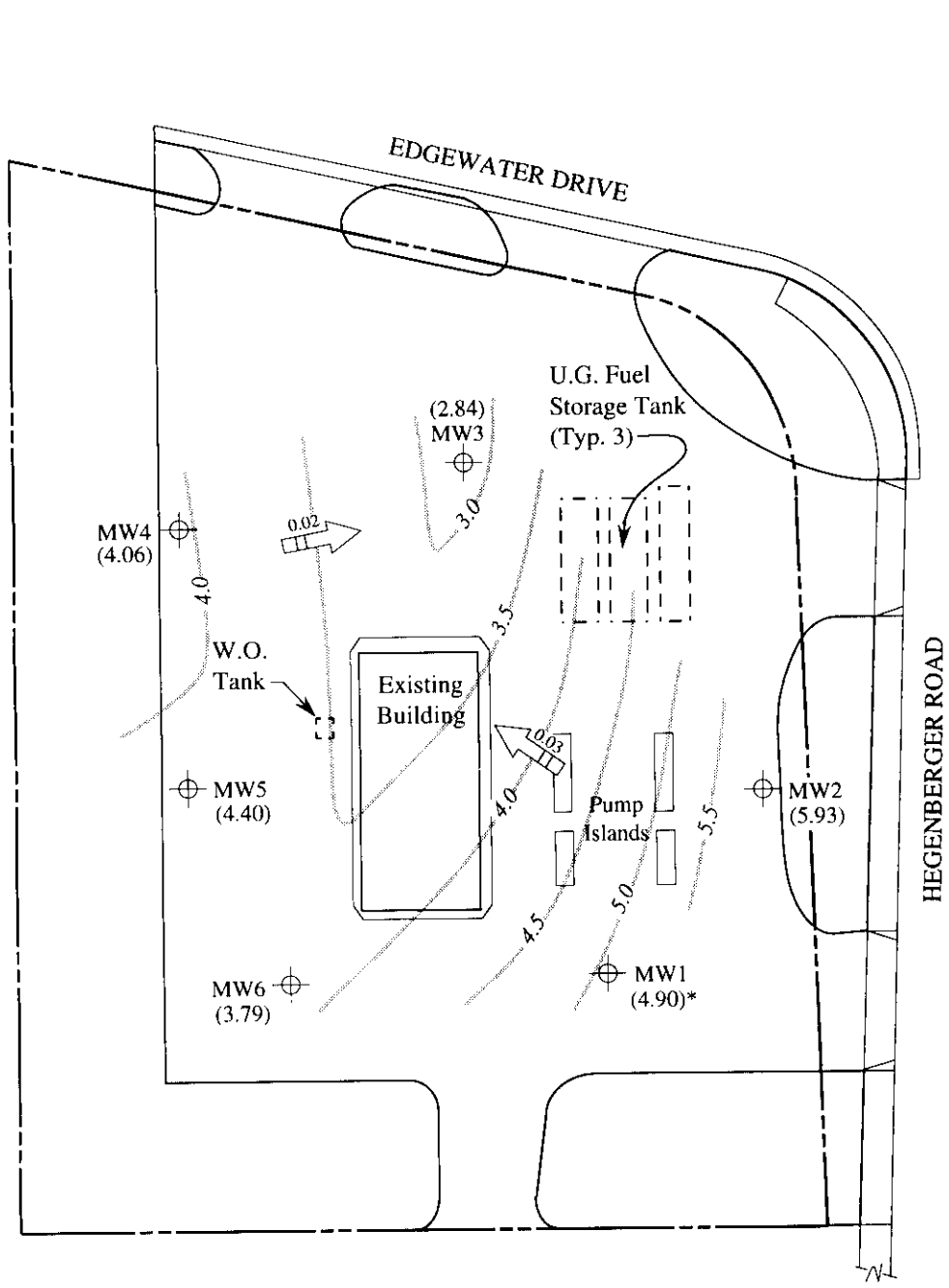
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE JULY 27, 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
- * Ground water elevation corrected due to the presence of free product.

0 40 80

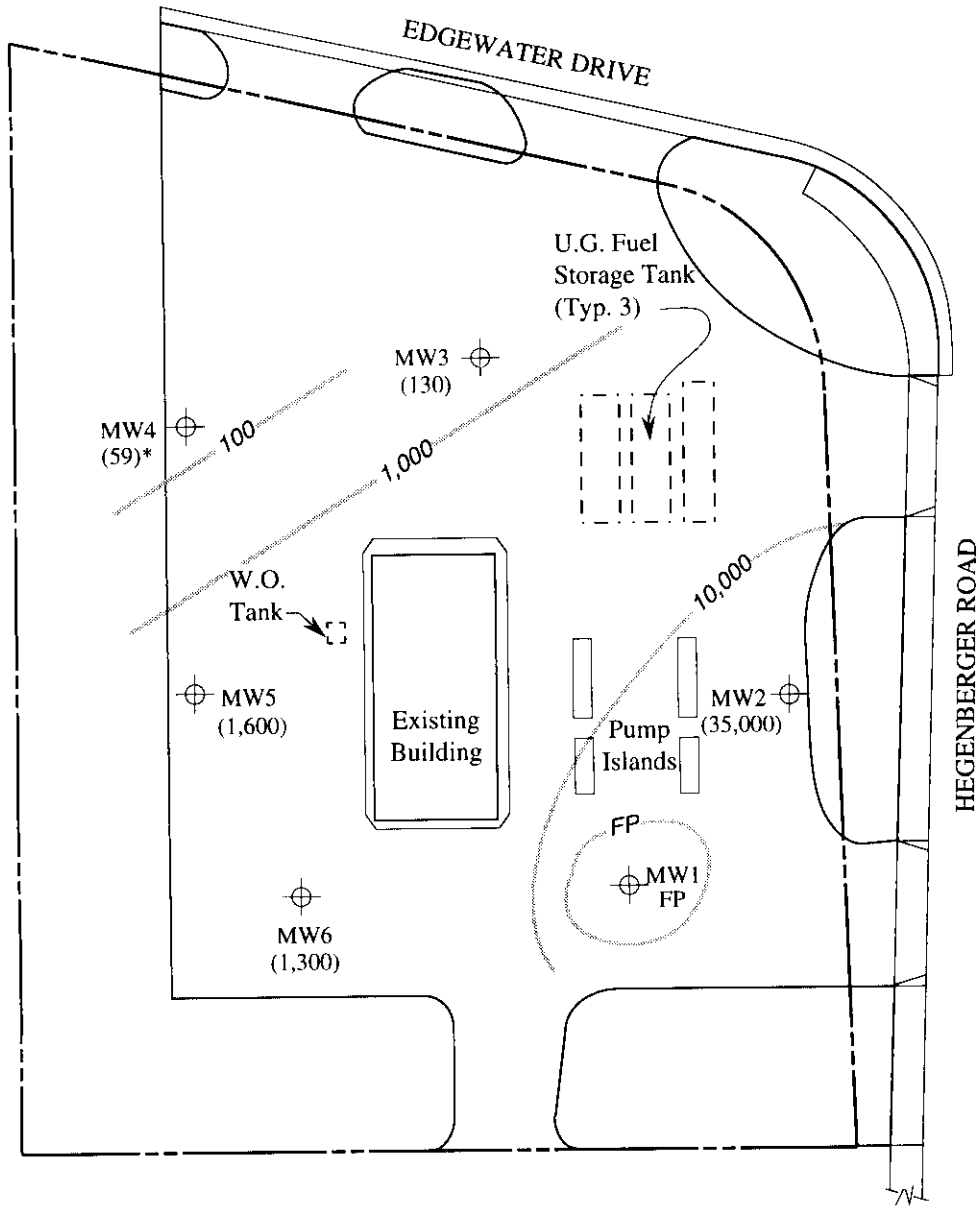
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE JUNE 25, 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

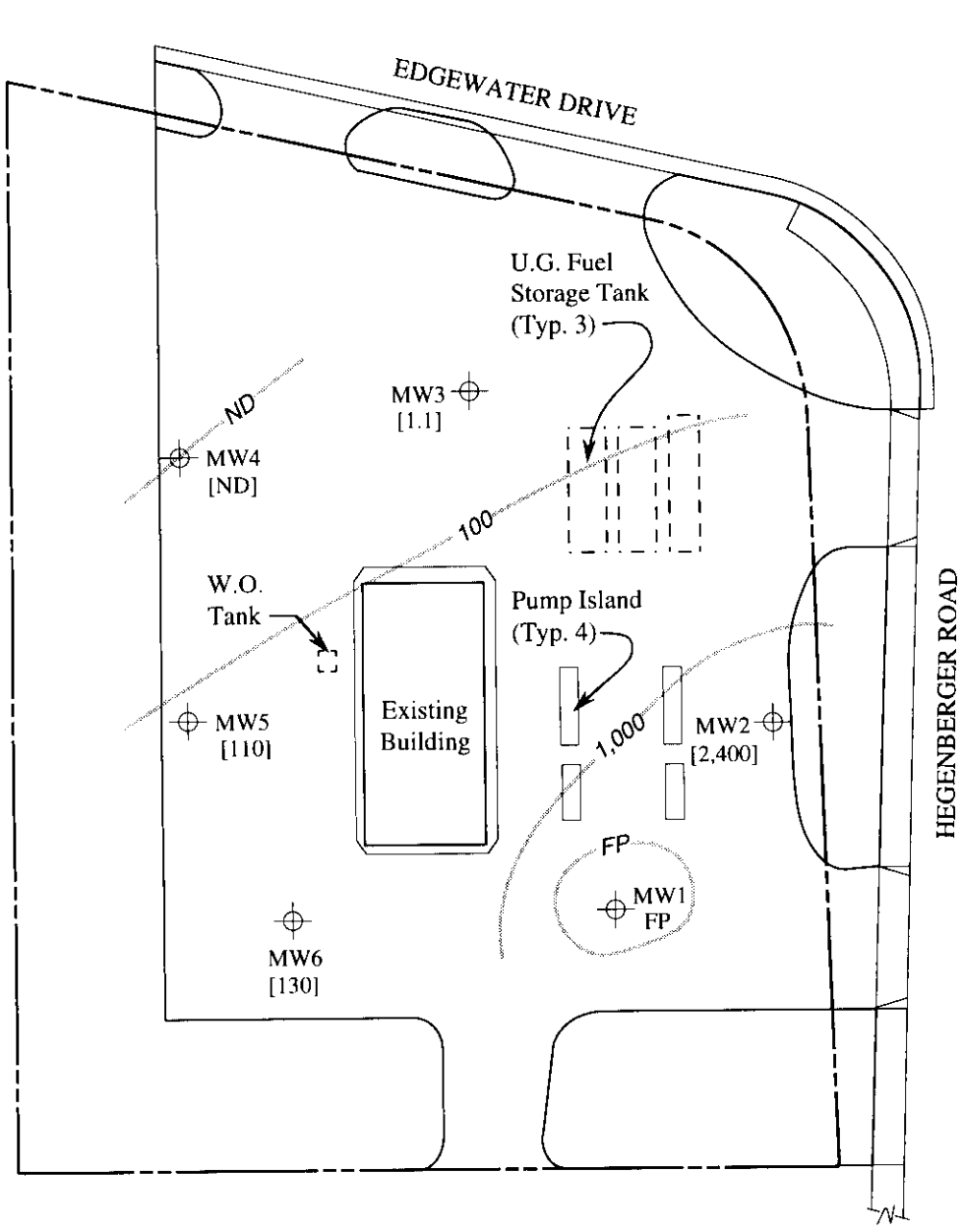
Approx. scale feet

TPH AS GASOLINE CONCENTRATIONS IN GROUND WATER ON AUGUST 15, 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

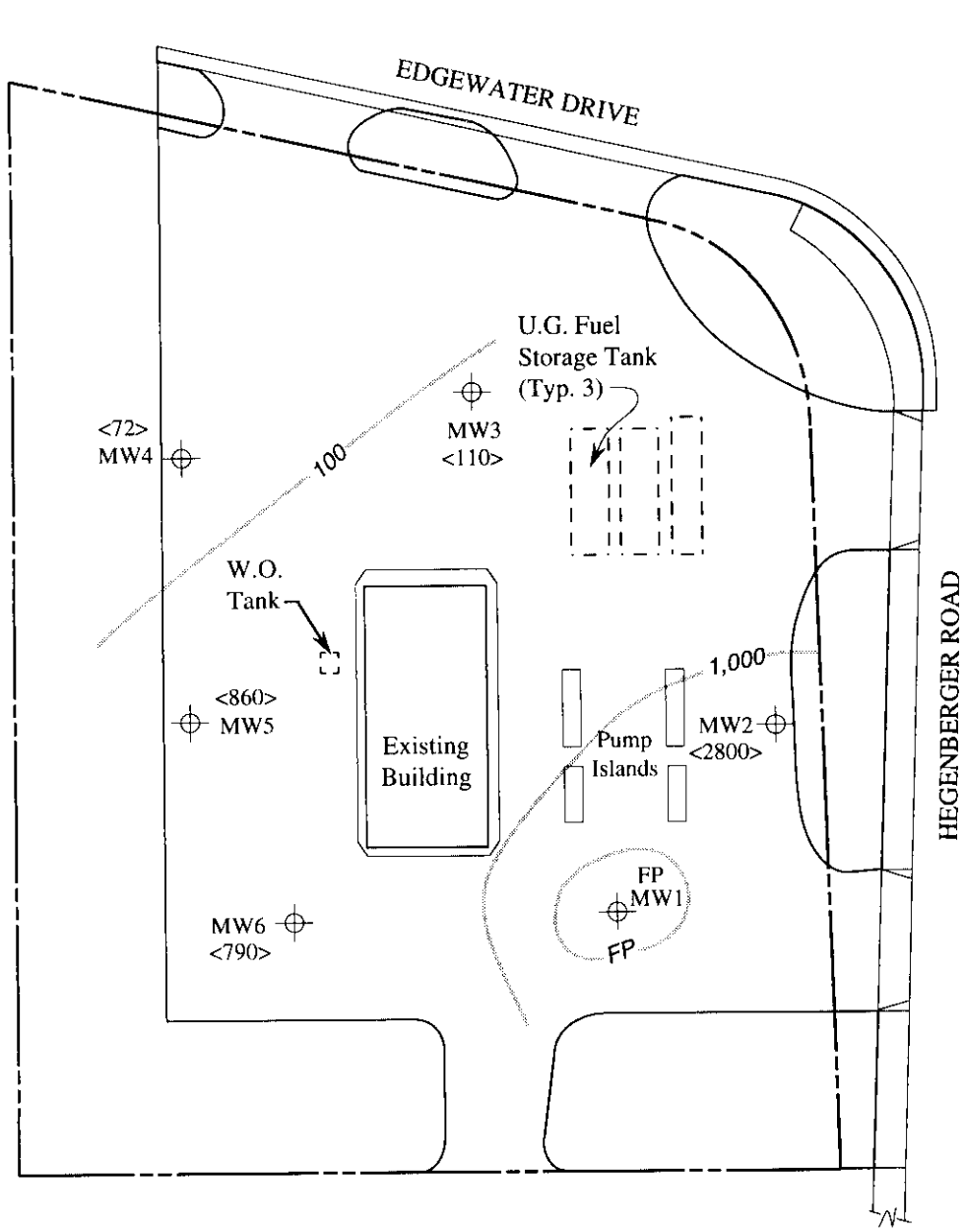
Approx. scale feet

BENZENE CONCENTRATIONS IN GROUND WATER ON AUGUST 15, 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
- FP = Free product

0 40 80

Approx. scale feet

TPH AS DIESEL CONCENTRATIONS IN GROUND WATER ON AUGUST 15, 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: Aug 15, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript:	Water	Received: Aug 16, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Aug 30, 1994
Attention: Avo Avedessian	First Sample #:	408-1027	

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
408-1027	MW-2	35,000	2,400	850	1,700	15,000
408-1028	MW-3	130	1.1	0.54	ND	0.97
408-1029	MW-4	59*	ND	0.60	ND	ND
408-1030	MW-5	1,600	110	ND	340	72
408-1031	MW-6	1,300	130	6.7	54	57

* Hydrocarbons detected did not appear to be gasoline.

Detection Limits:	**50**	**0.50**	**0.50**	**0.50**	**0.50**

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, 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	Client Project ID:	Unocal # 5043, 449 Hegenberger, Oakland	Sampled:	Aug 15, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript:	Water	Received:	Aug 16, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Aug 30, 1994
Attention: Avo Avedessian	First Sample #:	408-1027		

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%)
408-1027	MW-2	Gasoline	100	8/24/94	HP-2	95
408-1028	MW-3	Gasoline	1.0	8/24/94	HP-5	96
408-1029	MW-4	Discrete Peak*	1.0	8/24/94	HP-5	101
408-1030	MW-5	Gasoline	5.0	8/24/94	HP-2	95
408-1031	MW-6	Gasoline	5.0	8/24/94	HP-2	93

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

Please Note:
* "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: Aug 15, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Aug 16, 1994
Concord, CA 94520	Analysis Method:	EPA 3510/8015	Reported: Aug 30, 1994
Attention: Avo Avedessian	First Sample #:	408-1027	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 408-1027 MW-2*	Sample I.D. 408-1028 MW-3*	Sample I.D. 408-1029 MW-4*	Sample I.D. 408-1030 MW-5*	Sample I.D. 408-1031 MW-6*
Extractable Hydrocarbons	50	2,800	110	72	860	790
Chromatogram Pattern:		Diesel and Unidentified Hydrocarbons <C14	Diesel and Unidentified Hydrocarbons <C14 & >C20	Diesel and Unidentified Hydrocarbons >C20	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:	8/22/94	8/22/94	8/22/94	8/22/94	8/22/94
Date Analyzed:	8/24/94	8/24/94	8/24/94	8/24/94	8/24/94
Instrument Identification:	HP-3A	HP-3B	HP-3B	HP-3B	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

Signature on File

Alan B. Kemp
Project Manager

Please Note:
* This sample appears to contain diesel and non-diesel mixtures. "Unidentified Hydrocarbons <C14" are probably gasoline; ">20" refers to unidentified peaks in the total oil and grease range.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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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: 4081027-031

Reported: Aug 30, 1994

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#:	4080905	4080905	4080905	4080905
Date Prepared:	8/24/94	8/24/94	8/24/94	8/24/94
Date Analyzed:	8/24/94	8/24/94	8/24/94	8/24/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	95	95	100	105
Matrix Spike Duplicate % Recovery:	95	95	100	102
Relative % Difference:	0.0	0.0	0.0	2.9
LCS Batch#:	1LCS082494	1LCS082494	1LCS082494	1LCS082494
Date Prepared:	8/24/94	8/24/94	8/24/94	8/24/94
Date Analyzed:	8/24/94	8/24/94	8/24/94	8/24/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	105	106	114	112
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1271

Signature on File

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: 4081027-031

Reported: Aug 30, 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:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon	K.V.S.
MS/MSD Batch#:	4081196	4081196	4081196	4081196	BLK082294
Date Prepared:	8/24/94	8/24/94	8/24/94	8/24/94	8/22/94
Date Analyzed:	8/24/94	8/24/94	8/24/94	8/24/94	8/24/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	95	105	110	105	108
Matrix Spike Duplicate % Recovery:	95	105	105	105	108
Relative % Difference:	0.0	0.0	4.6	0.0	0.0
LCS Batch#:	3LCS082494	3LCS082494	3LCS082494	3LCS082494	BLK082294
Date Prepared:	8/24/94	8/24/94	8/24/94	8/24/94	8/22/94
Date Analyzed:	8/24/94	8/24/94	8/24/94	8/24/94	8/24/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	HP-3
LCS % Recovery:	98	104	107	107	108
% Recovery Control Limits:	71-133	72-128	72-130	71-120	28-122

SEQUOIA ANALYTICAL, #1271

Signature on File

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.

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 # 5043 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	8/5/94	2:00 PM	✓	✓		2 VOAS 1 AMBER	WELL	4081027 AP
MW-3	"	12:15 PM	✓	✓		"	"	4081028
MW-4	"	10:20 AM	✓	✓		"	"	4081029
MW-5	"	11:20 AM	✓	✓		"	"	4081030
MW-6	"	1:00 PM	✓	✓		"	"	4081031

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
(SIGNATURE)	8/6/94 8:00	(SIGNATURE)
(SIGNATURE)	8/16/94 5:45	(SIGNATURE) R.J. Kelley 8/16/94 5:45 PM
(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: TITLE: F.T DATE: 8/16/94