

MONITORING
PURGING
DISPOSING
SAMPLING



SERVICES, INCORPORATED

ENVIRONMENTAL
PROTECTION

97 MAR 21 PM 2:11

March 20, 1997

76 Products Company
2000 Crow Canyon Place, Suite 400
P.O.Box 5155
San Ramon, California 94583

Attention: Mr. Edward C. Ralston

RE: Quarterly Data Report
Unocal Service Station #5781
3535 Pierson Street
Oakland, California

Dear : Mr. Ralston:

In reference to our report (MPDS-UN5781-04), enclosed please find a revised report (MPDS-UN5781-04R) dated March 18, 1997 for the above referenced site. Please discard our previous report dated March 4, 1997. This revision corrects the TPH as diesel concentration detected in monitoring well MWA, in Table 2 and Figure 2.

Should you have any questions, please do not hesitate to contact me at (510) 602-5120.

Sincerely,

MPDS Services, Inc.

Haig (Gary) Tejirian
Senior Staff Geologist

Enclosure

cc: Mr. Thomas J. Berkins, Kaprealian Engineering, Inc.
Ms. Susan Hugo, Alameda County Health Care Services Agency



MPDS-UN5781-04R
March 18, 1997

76 Products Company
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Mr. Edward C. Ralston

RE: Annual Data Report
Unocal Service Station #5781
3535 Pierson Street
Oakland, California

Dear Mr. Ralston:

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

RECENT FIELD ACTIVITIES

Monitoring well MWA was monitored and sampled once during this annual period as indicated in Table 1. Prior to sampling, the well was 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 monitoring well location and ground water elevation is shown on the attached Figure 1.

A ground water sample was collected on February 5, 1997. Prior to sampling, the well was purged of 16.5 gallons of water. A sample was then collected using a clean Teflon bailer. The sample was 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 sample was analyzed at Sequoia Analytical Laboratory and was 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 sample collected during this monitoring and sampling event 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 Ms. Susan Hugo of the Alameda County Health Care Services Agency.

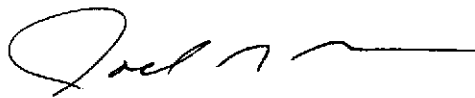
If you have any questions regarding this report, please do not hesitate to call Mr. Joel G. Greger at (510) 602-5120.

Sincerely,

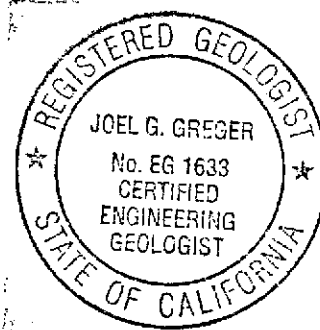
MPDS Services, Inc.



Haig (Gary) Tejirian
Senior Staff Geologist



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



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

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)	Seen	Water Purged (gallons)
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(Monitored and Sampled on February 5, 1997)

MWA	138.79	13.01	45.02	0	No	16.5
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(Monitored and Sampled on February 6, 1996)

MWA	139.28	12.52	37.60	0	No	23
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(Monitored and Sampled on February 9, 1995)

MWA	136.12	15.68	45.10	0	No	21
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(Monitored and Sampled on February 10, 1994)

MWA	136.55	15.25	44.93	0	No	21
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Well #	Well Casing Elevation (feet) *
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MWA	151.80
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♦ The depth to water level and total well depth measurement was taken from the top of the well casing.

* Relative to MSL.

Note: Monitoring data prior to February 10, 1994 were provided by Kaprealian Engineering, Inc.

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MWA	12/18/90*	73	ND	ND	ND	ND	ND	--
	5/3/91*	ND	ND	ND	ND	ND	ND	--
	8/7/91*	ND	ND	ND	ND	ND	ND	--
	11/8/91*	ND	ND	ND	ND	ND	ND	--
	2/6/92*	ND	ND	ND	ND	ND	ND	--
	8/4/92*	ND	ND	ND	ND	ND	0.51	--
	2/10/93*	ND	ND	ND	ND	ND	ND	--
	2/10/94*	ND	ND	ND	0.52	ND	0.92	--
	2/9/95*	ND	ND	ND	ND	ND	ND	--
	2/6/96**	120†	ND	ND	ND	ND	2.1	--
	2/5/97*	61††	ND	ND	ND	ND	ND	ND

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

** TOG and all EPA method 8010 compounds were non-detectable except for tetrachloroethene, which was detected at a concentration of 1.8 µg/L.

† 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.

MTBE = Methyl tert butyl ether.

ND = Non-detectable.

-- Indicates analysis was not performed.

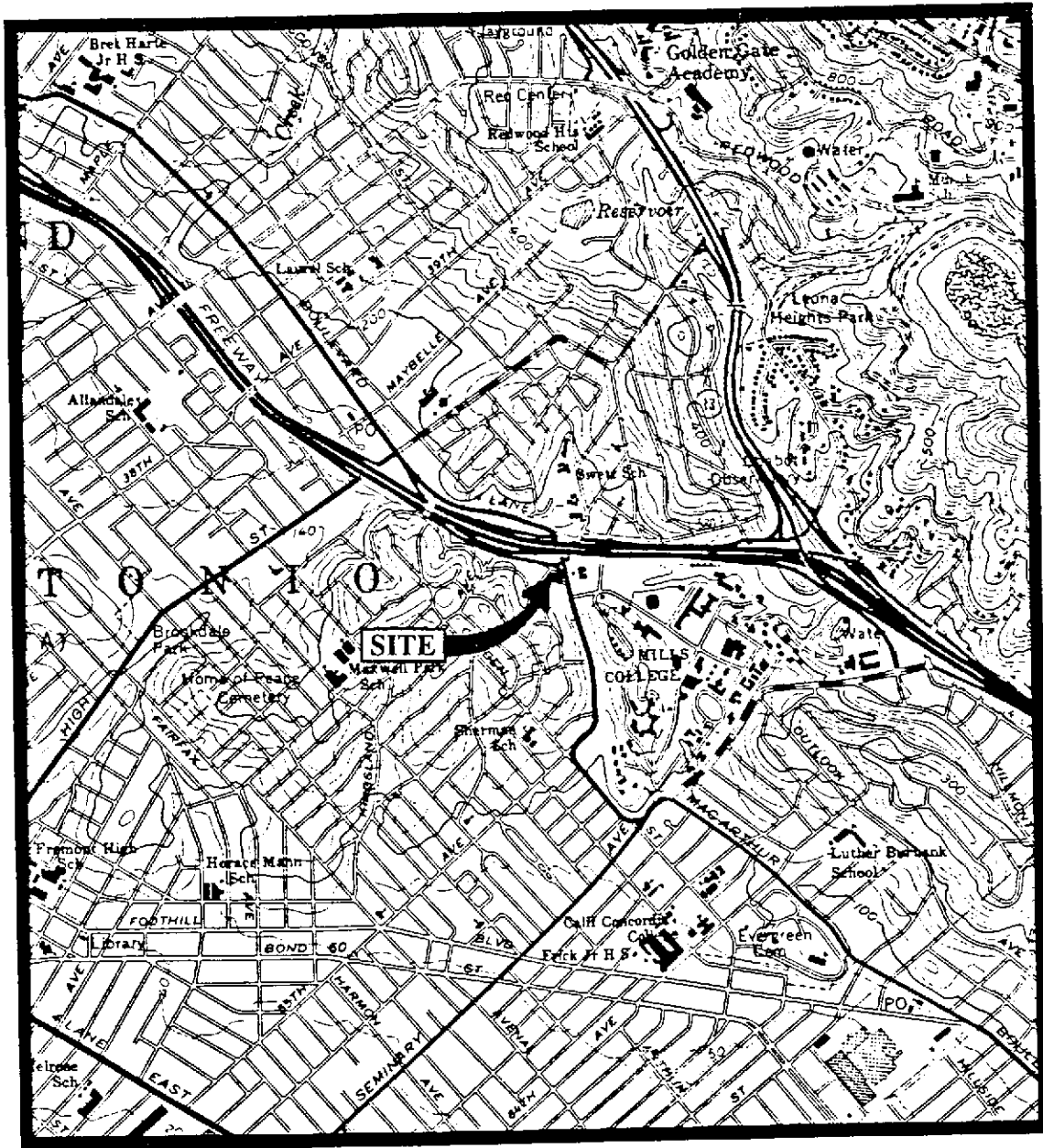
Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: TOG and all EPA method 8010 compounds were non-detectable, except as noted above.

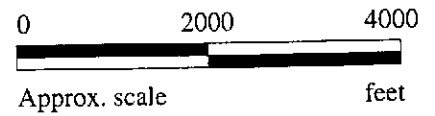
The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.


Prior to August 1, 1995, the total purgeable petroleum hydrocarbon (TPH as gasoline) quantification range used by Sequoia Analytical Laboratory was C4 - C12. Since August 1, 1995, the quantification range used by Sequoia Analytical Laboratory is C6 - C12.

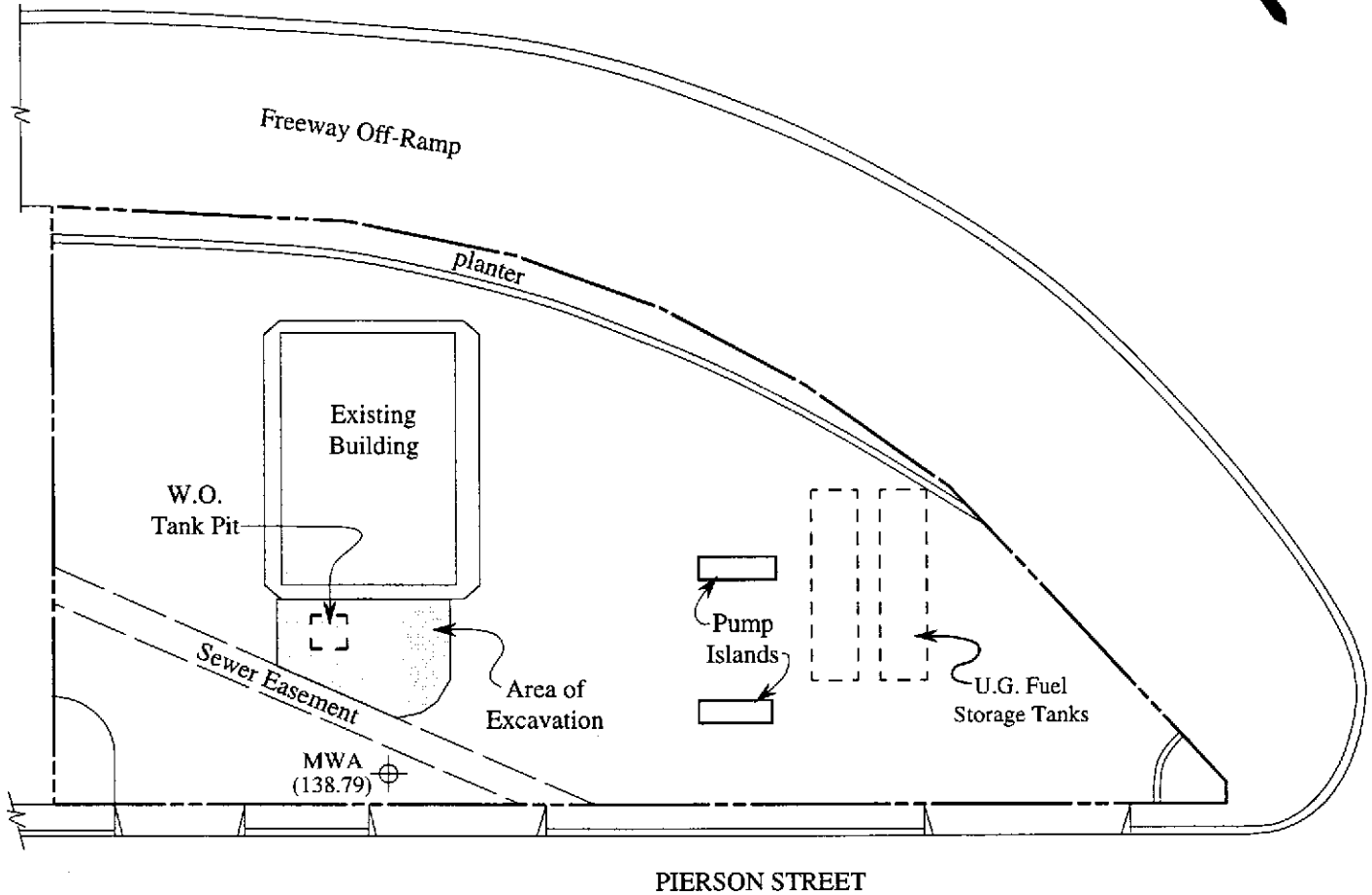
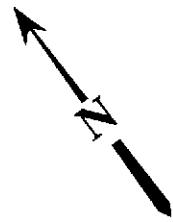
Laboratory analyses data prior to February 10, 1994 were provided by Kaprealian Engineering, Inc.



Base modified from 7.5 minute U.S.G.S. Oakland East Quadrangle
 (photorevised 1980)

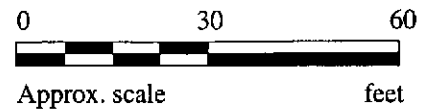


	<p>UNOCAL SERVICE STATION #5781 3535 PIERSON STREET OAKLAND, CALIFORNIA</p>	<p>LOCATION MAP</p>
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LEGEND

- ⊕ Monitoring well
- () Ground water elevation in feet above Mean Sea Level

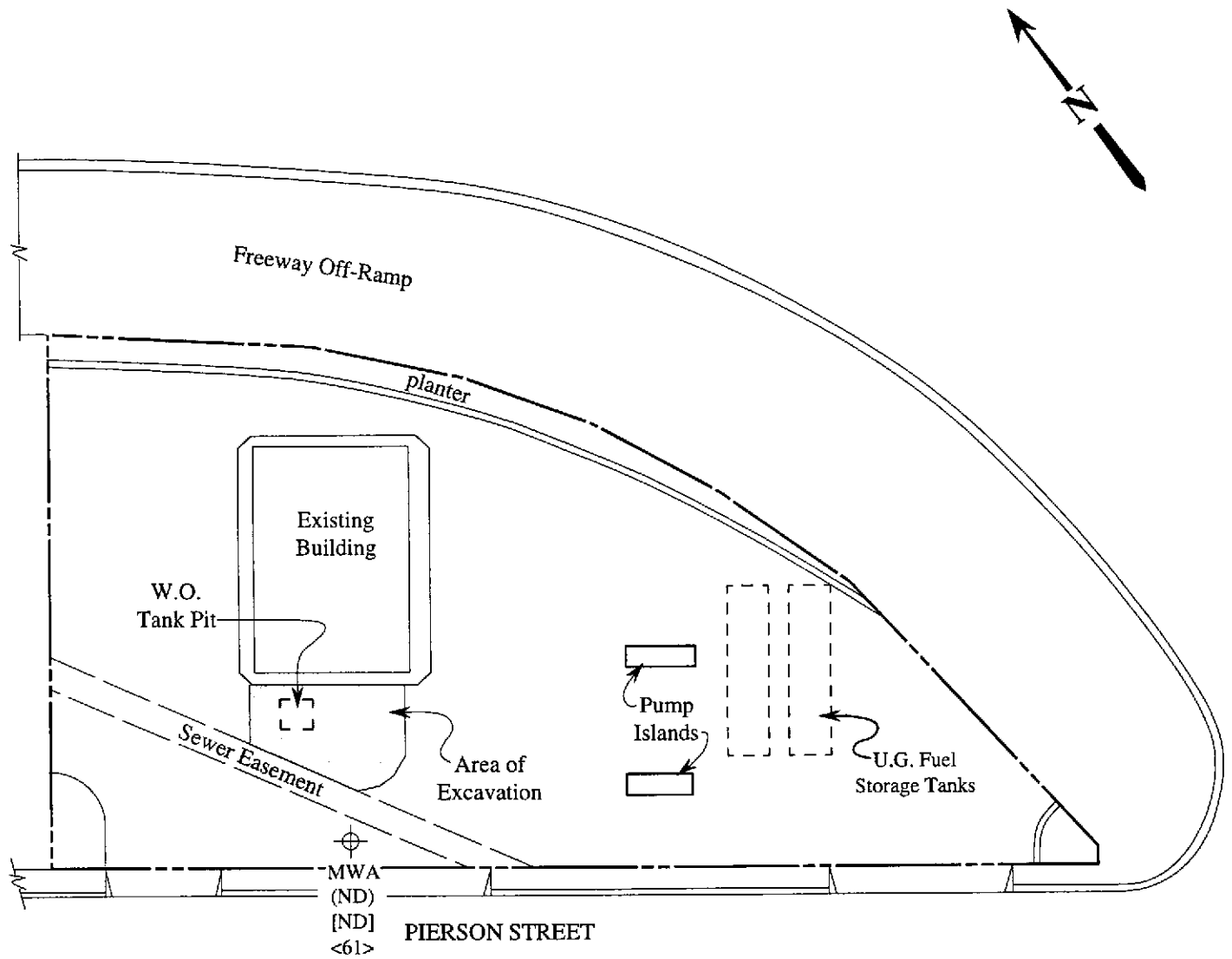


GROUND WATER ELEVATION MAP FOR THE FEBRUARY 5, 1997 MONITORING EVENT

MPDS SERVICES, INCORPORATED

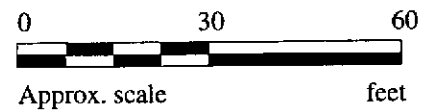
**UNOCAL SERVICE STATION #5781
3535 PIERSON STREET
OAKLAND, CALIFORNIA**

**FIGURE
1**



LEGEND

- ⊕ Monitoring well
- () Concentration of TPH as gasoline in $\mu\text{g/L}$
- [] Concentration of benzene in $\mu\text{g/L}$
- < > Concentration of TPH as diesel in $\mu\text{g/L}$
- ND Non-detectable



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON FEBRUARY 5, 1997

MPDS SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5781
3535 PIERSON STREET
OAKLAND, CALIFORNIA

FIGURE
2



MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5781, 3535 Pierson St., Oakland
Matrix Descript: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 702-0387

Sampled: Feb 5, 1997
Received: Feb 5, 1997
Reported: Feb 19, 1997

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	MTBE µg/L
702-0387	MW-A	ND	ND	ND	ND	ND	ND

Detection Limits:	50	0.50	0.50	0.50	0.50	5.0
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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





MPDS Services	Client Project ID: Unocal #5781, 3535 Pierson St., Oakland	Sampled: Feb 5, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water	Received: Feb 5, 1997
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Feb 19, 1997
Attention: Jarrel Crider	First Sample #: 702-0387	

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
702-0387	MW-A	--	1.0	2/12/97	HP-2	81

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5781, 3535 Pierson St., Oakland
Sample Matrix: Water
Analysis Method: EPA 3510/8015 Mod.
First Sample #: 702-0387

Sampled: Feb 5, 1997
Received: Feb 5, 1997
Reported: Feb 19, 1997

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 702-0387 MW-A^
Extractable Hydrocarbons	50	61

Chromatogram Pattern:

Diesel &
Unidentified
Hydrocarbons
>C20

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	2/11/97
Date Analyzed:	2/13/97
Instrument Identification:	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 >C20" refers to unidentified peaks in the total oil and grease range.





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5781, 3535 Pierson St., Oakland
Matrix Descript: Water
Analysis Method: SM 5520 B&F (Gravimetric)
First Sample #: 702-0387

Sampled: Feb 5, 1997
Received: Feb 5, 1997
Extracted: Feb 13, 1997
Analyzed: Feb 14, 1997
Reported: Feb 18, 1997

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)	Detection Limit Multiplication Factor
702-0387	MW-A	N.D.	1.1

Detection Limits: 5.0

Analytes reported as N.D. 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
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5781, 3535 Pierson St., Oakland
Sample Descript: Water, MW-A
Analysis Method: EPA 5030/8010
Lab Number: 702-0387

Sampled: Feb 5, 1997
Received: Feb 5, 1997
Analyzed: Feb 14, 1997
Reported: Feb 19, 1997

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane.....	0.50	N.D.
Bromoform.....	0.50	N.D.
Bromomethane.....	1.0	N.D.
Carbon tetrachloride.....	0.50	N.D.
Chlorobenzene.....	0.50	N.D.
Chloroethane.....	1.0	N.D.
2-Chloroethylvinyl ether.....	1.0	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	1.0	N.D.
Dibromochloromethane.....	0.50	N.D.
1,3-Dichlorobenzene.....	0.50	N.D.
1,4-Dichlorobenzene.....	0.50	N.D.
1,2-Dichlorobenzene.....	0.50	N.D.
1,1-Dichloroethane.....	0.50	N.D.
1,2-Dichloroethane.....	0.50	N.D.
1,1-Dichloroethene.....	0.50	N.D.
cis-1,2-Dichloroethene.....	0.50	N.D.
trans-1,2-Dichloroethene.....	0.50	N.D.
1,2-Dichloropropane.....	0.50	N.D.
cis-1,3-Dichloropropene.....	0.50	N.D.
trans-1,3-Dichloropropene.....	0.50	N.D.
Methylene chloride.....	5.0	N.D.
1,1,2,2-Tetrachloroethane.....	0.50	N.D.
Tetrachloroethene.....	0.50	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	0.50	N.D.
Vinyl chloride.....	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5781, 3535 Pierson St., Oakland
Matrix: Liquid

QC Sample Group: 702-0387

Reported: Feb 20, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel	Oil & Grease
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015	SM 5520BF
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill	D. Sharma	I. Dalvand

MS/MSD Batch#:	7020387	7020387	7020387	7020387	BLK021197	BLK021397
Date Prepared:	2/11/97	2/11/97	2/11/97	2/11/97	2/11/97	2/13/97
Date Analyzed:	2/11/97	2/11/97	2/11/97	2/11/97	2/13/97	2/14/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B	Manual
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L	100 mg/L
Matrix Spike % Recovery:	80	95	90	88	107	93
Matrix Spike Duplicate % Recovery:	80	95	85	83	100	97
Relative % Difference:	0.0	0.0	5.7	5.8	6.5	4.2

LCS Batch#:	2LCS021197	2LCS021197	2LCS021197	2LCS021197	LCS021197	LCS021397
Date Prepared:	2/11/97	2/11/97	2/11/97	2/11/97	2/11/97	2/13/97
Date Analyzed:	2/11/97	2/11/97	2/11/97	2/11/97	2/13/97	2/14/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B	Manual
LCS % Recovery:	85	100	90	88	103	96

% Recovery Control Limits:	60-140	60-140	60-140	60-140	60-140	60-140
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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





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5781, 3535 Pierson St., Oakland
Matrix: Liquid

QC Sample Group: 702-0387

Reported: Feb 19, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	P. Horton	P. Horton	P. Horton

MS/MSD			
Batch#:	7020387	7020387	7020387
Date Prepared:	2/14/97	2/14/97	2/14/97
Date Analyzed:	2/14/97	2/14/97	2/14/97
Instrument I.D.#:	HP-6	HP-6	HP-6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L
Matrix Spike			
% Recovery:	98	115	95
Matrix Spike Duplicate %			
Recovery:	90	102	89
Relative % Difference:	8.5	12	6.5

LCS Batch#:	LCS021397	LCS021397	LCS021397
Date Prepared:	2/13/97	2/13/97	2/13/97
Date Analyzed:	2/13/97	2/13/97	2/13/97
Instrument I.D.#:	HP-6	HP-6	HP-6
LCS % Recovery:	96	106	93

% Recovery Control Limits:	60-140	60-140	60-140
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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 JOE ASEMIAN			UNOCAL S/S # <u>5781</u> CITY: <u>Oakland</u>				ANALYSES REQUESTED						TURN AROUND TIME: Regular							
WITNESSING AGENCY			ADDRESS: <u>3535 Pierson St.</u>				TPH	BTX	MTBE	8010	TOG	TPHD							REMARKS	
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION		TPH	BTX	MTBE	8010	TOG	TPHD						
MW-A	2-5-97	12:00 p.m.	✓	✓		4 VOA 2 Amber	well		-	-	-	-	-	-						7020387A-F MTBE: 5ppb.

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:
(SIGNATURE)	2-5-97 12:45 p.m.	(SIGNATURE)	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? Y
(SIGNATURE)	2/5/97 (36)	(SIGNATURE)	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? Y
(SIGNATURE)	2-6-1510	(SIGNATURE)	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? N
(SIGNATURE)	2-6	(SIGNATURE)	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? Y
(SIGNATURE)		(SIGNATURE)	SIGNATURE: TITLE: <u>Group leader</u> DATE: <u>2/5/97</u>