

March 13, 1997

Alameda County Health Care Services  
1131 Harbor Bay Parkway  
Alameda, CA 94502

Attention: Ms. Susan Hugo

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

Dear Ms. Hugo:

Per the request of the 76 Products Company Project Professional, Mr. Edward C. Ralston, enclosed please find our most recent data report 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 Professional at (510) 277-2311.

Sincerely,

MPDS Services, Inc.



Jarrel F. Crider

Enclosure

cc: Mr. Edward C. Ralston

MPDS-UN5781-04  
March 4, 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,

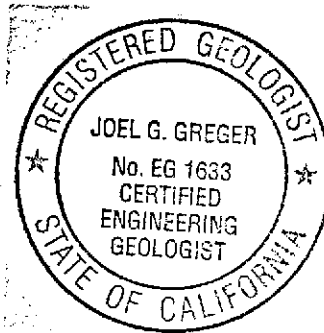
MPDS Services, Inc.



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)	Screen	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*	ND	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.

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.

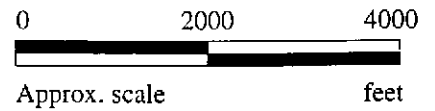
The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.

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.



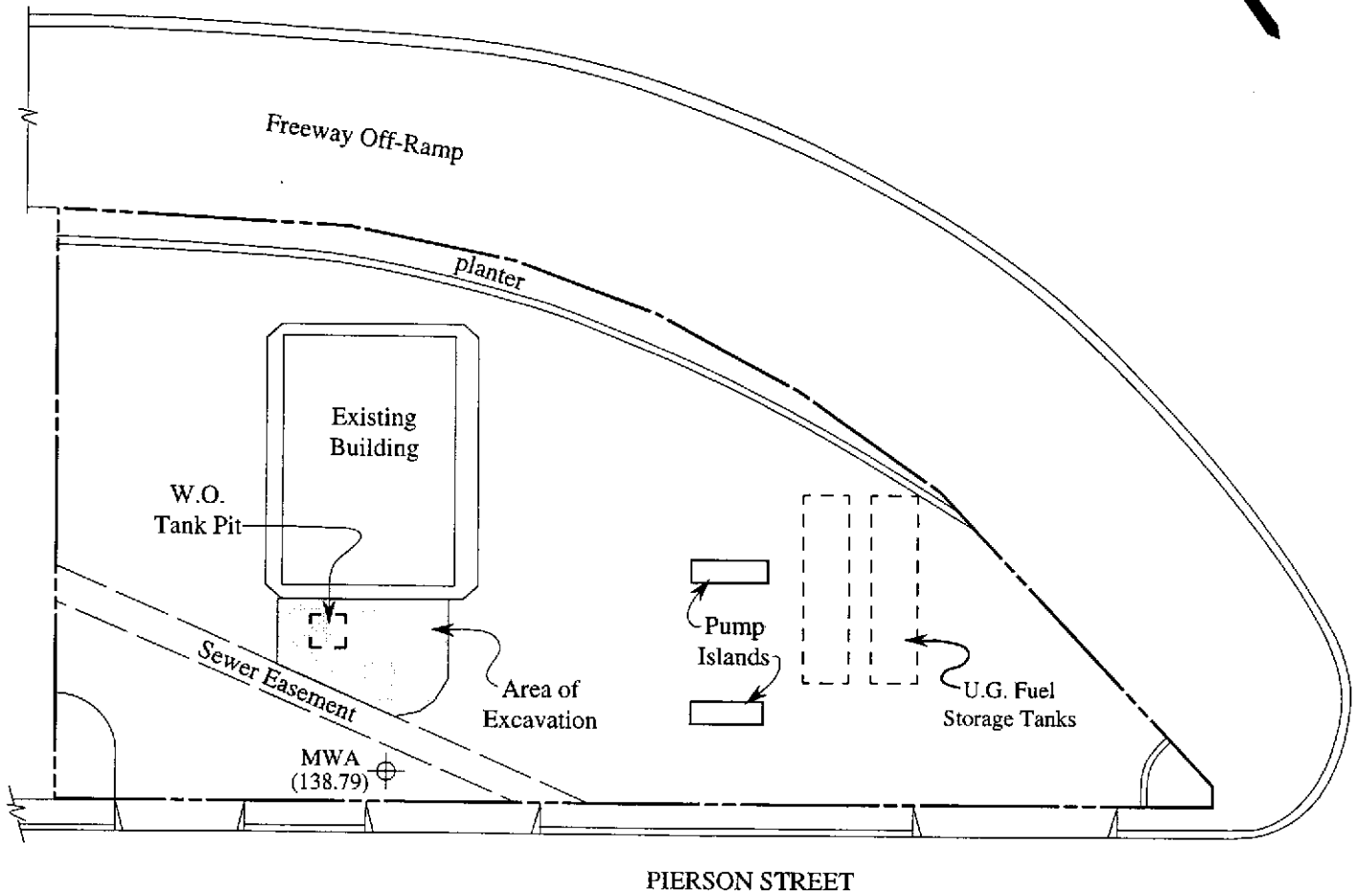
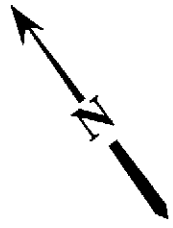
Base modified from 7.5 minute U.S.G.S. Oakland East Quadrangle  
 (photorevised 1980)



**mpds** SERVICES, INCORPORATED

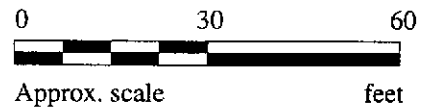
**UNOCAL SERVICE STATION #5781  
 3535 PIERSON STREET  
 OAKLAND, CALIFORNIA**

**LOCATION  
 MAP**



**LEGEND**

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

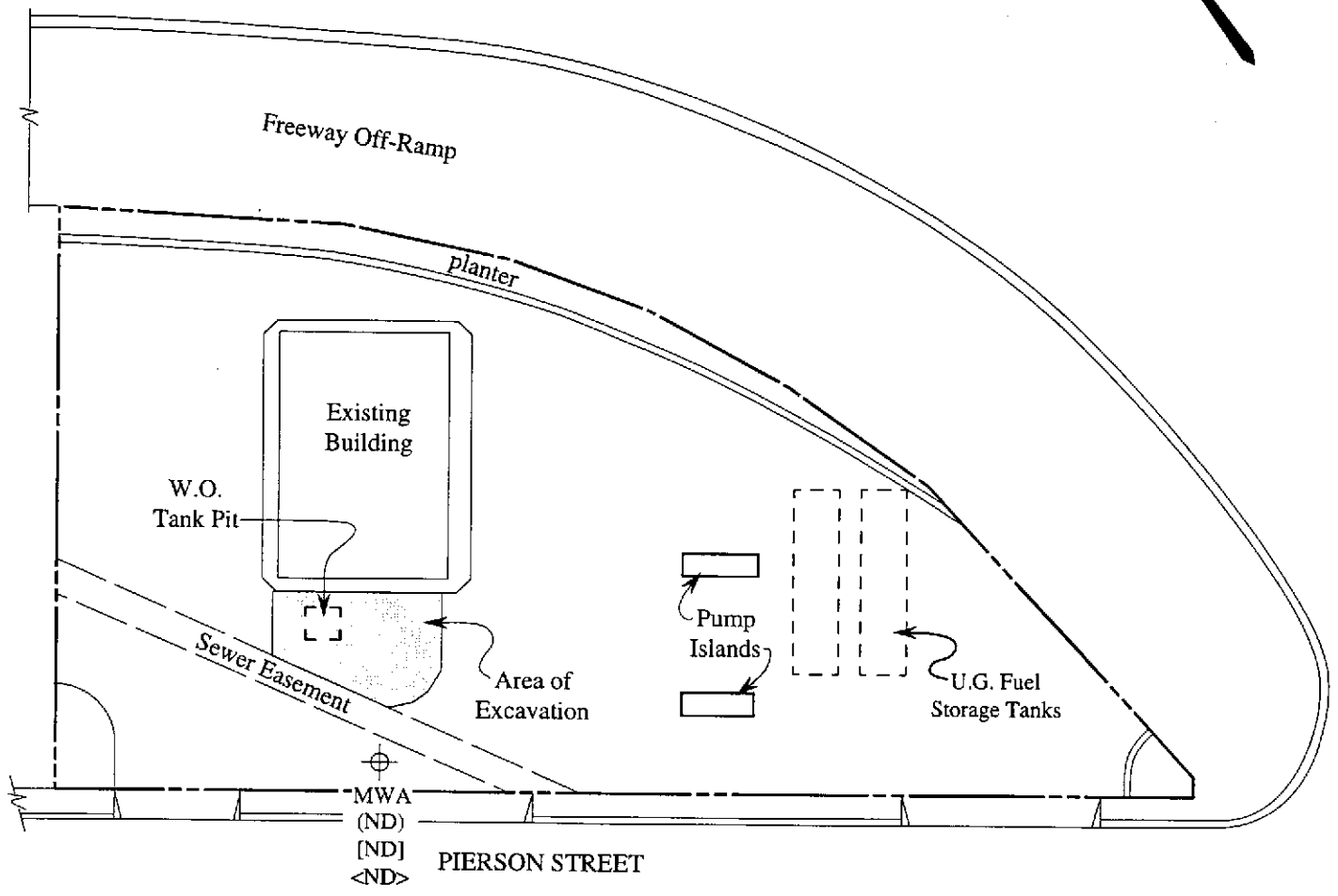
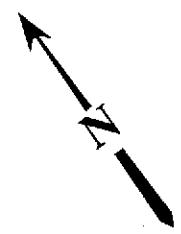


**GROUND WATER ELEVATION MAP FOR THE FEBRUARY 5, 1997 MONITORING EVENT**

**MPDS** SERVICES, INCORPORATED

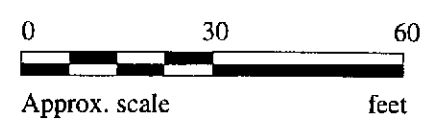
UNOCAL SERVICE STATION #5781  
3535 PIERSON STREET  
OAKLAND, CALIFORNIA

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**



**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
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**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

<b>Detection Limits:</b>	<b>50</b>	<b>0.50</b>	<b>0.50</b>	<b>0.50</b>	<b>0.50</b>	<b>5.0</b>
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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	Client Project ID: Unocal #5781, 3535 Pierson St., Oakland	Sampled: Feb 5, 1997
2401 Stanwell Dr., Ste. 300	Sample Matrix: Water	Received: Feb 5, 1997
Concord, CA 94520	Analysis Method: EPA 3510/8015 Mod.	Reported: Feb 19, 1997
Attention: Jarrel Crider	First Sample #: 702-0387	

**TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS**

Analyte	Reporting Limit µg/L	Sample I.D. 702-0387 MW-A <sup>^</sup>
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:**

<sup>^</sup> 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





MPDS Services	Client Project ID: Unocal #5781, 3535 Pierson St., Oakland	Sampled: Feb 5, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript: Water, MW-A	Received: Feb 5, 1997
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed: Feb 14, 1997
Attention: Jarrel Crider	Lab Number: 702-0387	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.
1,1,1,2-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
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015	SM 5520BF
<b>Analyst:</b>	K. Nill	K. Nill	K. Nill	K. Nill	D. Sharma	I. Dalvand

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

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

<b>% Recovery Control Limits:</b>	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
<b>Method:</b>	EPA 8010	EPA 8010	EPA 8010
<b>Analyst:</b>	P. Horton	P. Horton	P. Horton

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

LCS Batch#:	LCS021397	LCS021397	LCS021397
<b>Date Prepared:</b>	2/13/97	2/13/97	2/13/97
<b>Date Analyzed:</b>	2/13/97	2/13/97	2/13/97
<b>Instrument I.D.#:</b>	HP-6	HP-6	HP-6
<b>LCS % Recovery:</b>	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.



