

MONITORING  
PURGING  
DISPOSING  
SAMPLING

**MPDS**

SERVICES, INCORPORATED

ENVIRONMENTAL  
PROTECTION

95 APR -7 PM 1:13

April 6, 1995

Alameda County Health Care Services  
80 Swan Way, Room 200  
Oakland, CA 94621

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

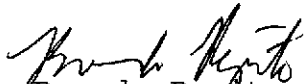
94619

Per the request of the Unocal Corporation Project Manager, Mr. Edward C. Ralston, enclosed please find our report (MPDS-UN5781-02) dated March 7, 1995, 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) 277-2311.

Sincerely,

MPDS Services, Inc.

  
Brenda Pepito

/bp

Enclosure

cc: Mr. Edward C. Ralston

MPDS-UN5781-02  
March 7, 1995

Unocal Corporation  
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 9, 1995. Prior to sampling, the well was purged of 21 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 this period are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

MPDS-UN5781-02  
March 7, 1995  
Page 2

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, and to the Regional Water Quality Control Board, San Francisco Bay Region.

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

Sincerely,

MPDS Services, Inc.

  
Sarkis Karkarian  
Staff Engineer



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

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

/jfc

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 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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(Monitored and Sampled on February 10, 1993)

MWA	134.34	17.71		0	No	19
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(Monitored and Sampled on August 4, 1992)

MWA	133.10	18.95		0	No	18
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Well #	Well Cover Elevation (feet)*	Well Casing Elevation (feet)**
MWA	152.05	151.80

♦ The depth to water level and total well depth measurement was taken from the top of the well casing. Prior to February 10, 1994, the depth to water level and total well depth measurement was taken from the top of the well cover.

\* The elevation of the top of the well cover has been surveyed relative to Mean Sea Level (MSL) (elevation = 119.80 MSL).

\*\* Relative to MSL.

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

TABLE 2

SUARY 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>
2/09/95	MWA*	ND	ND	ND	ND	ND	ND
2/10/94	MWA*	ND	ND	ND	0.52	ND	0.92
2/10/93	MWA*	ND	ND	ND	ND	ND	ND
8/04/92	MWA*	ND	ND	ND	ND	ND	0.51
2/06/92	MWA*	ND	ND	ND	ND	ND	ND
11/08/91	MWA*	ND	ND	ND	ND	ND	ND
8/07/91	MWA*	ND	ND	ND	ND	ND	ND
5/03/91	MWA*	ND	ND	ND	ND	ND	ND
12/18/90	MWA*	73	ND	ND	ND	ND	ND

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

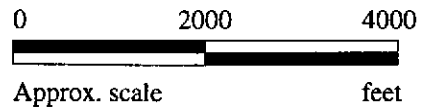
ND = Non-detectable.

Results are in micrograms per liter ( $\mu\text{g/L}$ ), unless otherwise indicated.

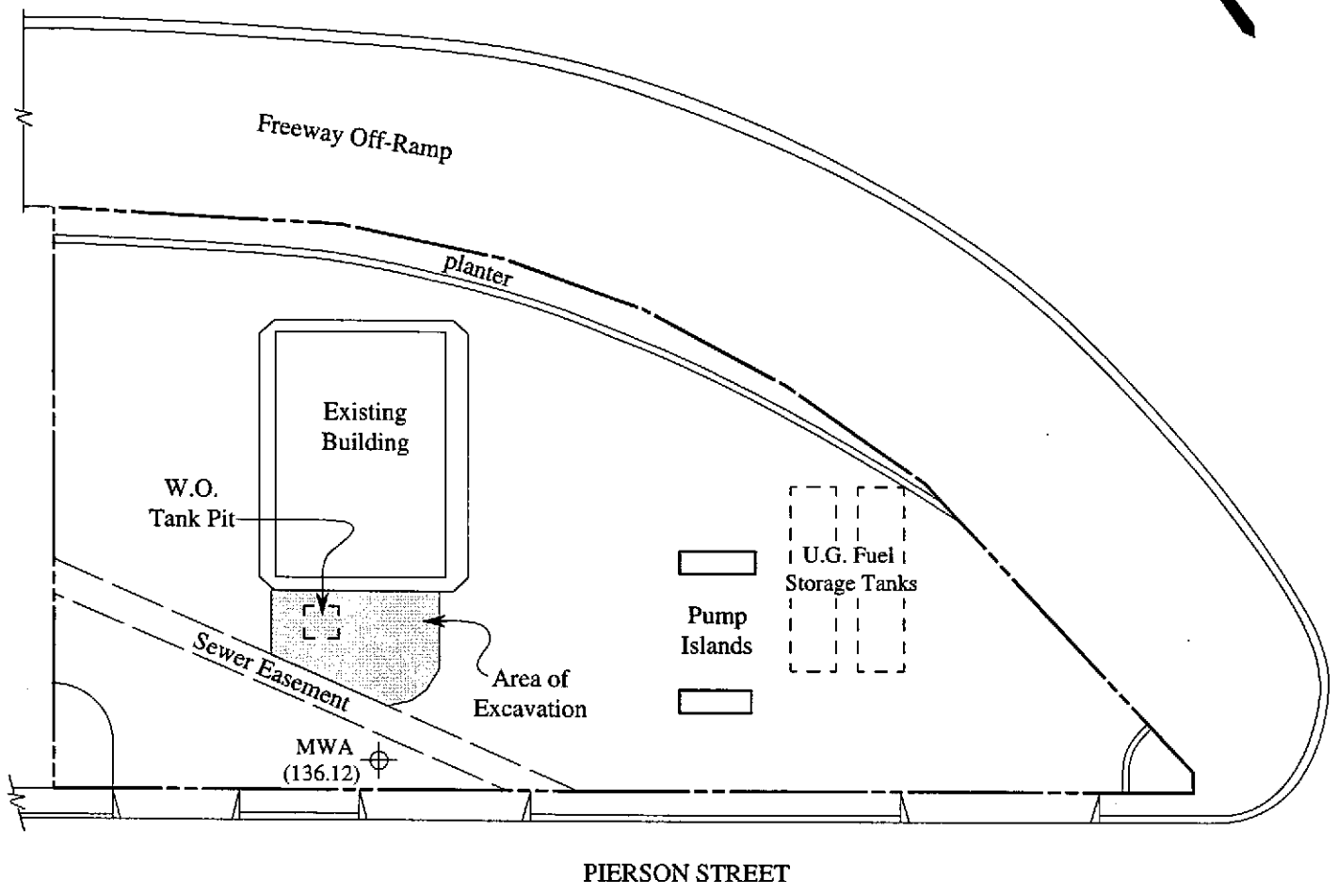
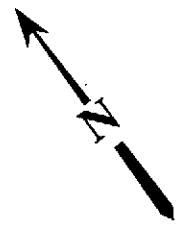
Note: Laboratory analyses data prior to February 10, 1994, were provided by Kaprealian Engineering, Inc.



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

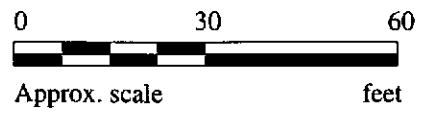


	<p><b>UNOCAL SERVICE STATION #5781</b>  <b>3535 PIERSON STREET</b>  <b>OAKLAND, CALIFORNIA</b></p>	<p><b>LOCATION</b>  <b>MAP</b></p>
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**LEGEND**

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

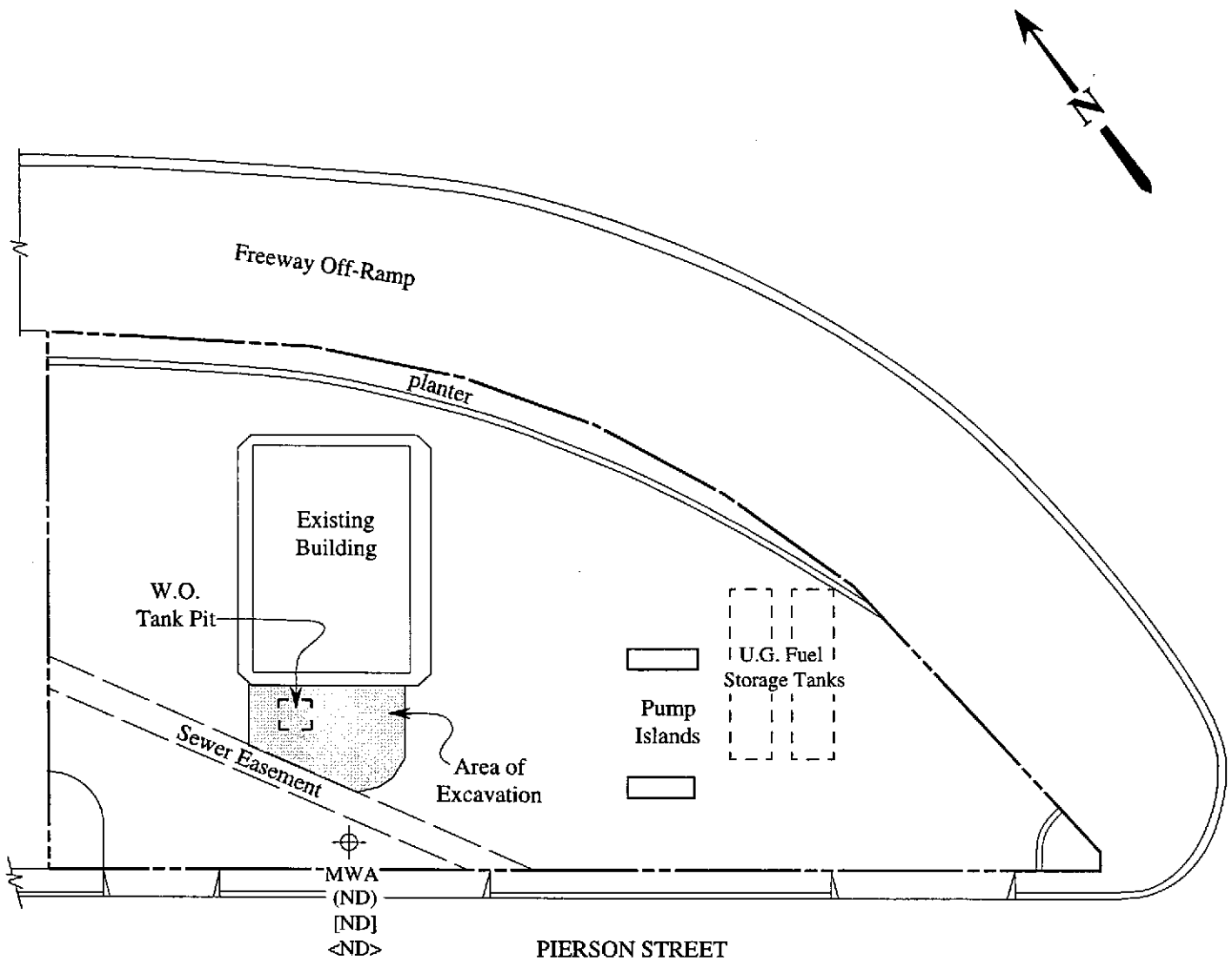


**GROUND WATER ELEVATION MAP FOR THE FEBRUARY 9, 1995 MONITORING EVENT**



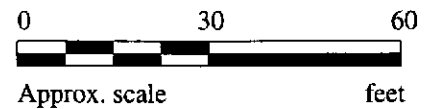
**UNOCAL SERVICE STATION #5781  
3535 PIERSON STREET  
OAKLAND, CALIFORNIA**

**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 9, 1995**

**mpds** SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5781  
3535 PIERSON STREET  
OAKLAND, CALIFORNIA

FIGURE  
**2**





MPDS Services	Client Project ID: Unocal #5781, 3535 Pierson, Oakland	Sampled: Feb 9, 1995
2401 Stanwell Dr., Ste. 400	Matrix Descript: Water	Received: Feb 9, 1995
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Feb 27, 1995
Attention: Avo Avedissian	First Sample #: 502-0638	

**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
502-0638	MWA	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>
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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





**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 #5781, 3535 Pierson, Oakland	Sampled: Feb 9, 1995
2401 Stanwell Dr., Ste. 400	Matrix Descript: Water	Received: Feb 9, 1995
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Feb 27, 1995
Attention: Avo Avedissian	First Sample #: 502-0638	

**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
502-0638	MWA	--	1.0	2/13/95	HP-5	96

**SEQUOIA ANALYTICAL, #1271**

Signature on File

Alan B. Kemp  
Project Manager

5020638.MPD <2>





<b>MPDS Services</b>	<b>Client Project ID:</b> Unocal #5781, 3535 Pierson, Oakland	<b>Sampled:</b> Feb 9, 1995
2401 Stanwell Dr., Ste. 400	<b>Sample Matrix:</b> Water	<b>Received:</b> Feb 9, 1995
Concord, CA 94520	<b>Analysis Method:</b> EPA 3510/3520/8015	<b>Reported:</b> Feb 27, 1995
<b>Attention: Avo Avedissian</b>	<b>First Sample #:</b> 502-0638	

**TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS**

Analyte	Reporting Limit µg/L	Sample I.D. 502-0638 MWA
Extractable Hydrocarbons	50	N.D.
Chromatogram Pattern:		--

**Quality Control Data**

Report Limit Multiplication Factor:	1.0
Date Extracted:	2/15/95
Date Analyzed:	2/16/95
Instrument Identification:	HP-3B

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





<b>MPDS Services</b> 2401 Stanwell Dr., Ste. 400 Concord, CA 94520 Attention: Avo Avedissian	<b>Client Project ID:</b> Unocal #5781, 3535 Pierson, Oakland <b>Matrix Descript:</b> Water <b>Analysis Method:</b> SM 5520 B&F (Gravimetric) <b>First Sample #:</b> 502-0638	<b>Sampled:</b> Feb 9, 1995 <b>Received:</b> Feb 9, 1995 <b>Extracted:</b> Feb 22, 1995 <b>Analyzed:</b> Feb 22, 1995 <b>Reported:</b> Feb 27, 1995
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**TOTAL RECOVERABLE PETROLEUM OIL**

<b>Sample Number</b>	<b>Sample Description</b>	<b>Oil &amp; Grease mg/L (ppm)</b>	<b>Detection Limit Multiplication Factor</b>
502-0638	MWA	N.D.	1.0

<b>Detection Limits:</b>	<b>5.0</b>
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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, Oakland	Sampled: Feb 9, 1995
2401 Stanwell Dr., Ste. 400	Sample Descript: Water, MWA	Received: Feb 9, 1995
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed: Feb 13, 1995
Attention: Avo Avedissian	Lab Number: 502-0638	Reported: Feb 27, 1995

**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 Client Project ID: Unocal #5781, 3535 Pierson, Oakland  
 2401 Stanwell Dr., Ste. 400 Matrix: Liquid  
 Concord, CA 94520  
 Attention: Avo Avedissian QC Sample Group: 502-0638 Reported: Mar 2, 1995

**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 Mod	SM 5520 B&F
<b>Analyst:</b>	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon	K. Wimer	D. Newcomb

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel	Oil & Grease
<b>Batch#:</b>	5020740	5020740	5020740	5020740	BLK021595	BLK022295
<b>Date Prepared:</b>	2/13/95	2/13/95	2/13/95	2/13/95	2/15/95	2/22/95
<b>Date Analyzed:</b>	2/13/95	2/13/95	2/13/95	2/13/95	2/16/95	2/22/95
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	HP-3A	--
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L	5000 mg/L
<b>Matrix Spike % Recovery:</b>	110	110	105	105	81	85
<b>Matrix Spike Duplicate % Recovery:</b>	110	110	105	103	84	90
<b>Relative % Difference:</b>	0.0	0.0	0.0	1.9	3.6	5.7

LCS Batch#:	3LCS021395	3LCS021395	3LCS021395	3LCS021395	BLK021595	BLK022295
<b>Date Prepared:</b>	2/13/95	2/13/95	2/13/95	2/13/95	2/15/95	2/22/95
<b>Date Analyzed:</b>	2/13/95	2/13/95	2/13/95	2/13/95	2/16/95	2/22/95
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	HP3A	--
<b>LCS % Recovery:</b>	109	106	106	103	81	90

% Recovery Control Limits:	71-133	72-128	72-130	71-120	28-122	75-125
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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. 400  
Concord, CA 94520  
Attention: Avo Avedissian

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

QC Sample Group: 502-0638

Reported: Mar 2, 1995

**QUALITY CONTROL DATA REPORT**

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	K. Nill	K. Nill	K. Nill

**MS/MSD**

Batch#: 5020469 5020469 5020469

Date Prepared: 2/13/95 2/13/95 2/13/95

Date Analyzed: 2/13/95 2/13/95 2/13/95

Instrument I.D.#: HP5890/6 HP5890/6 HP5890/6

Conc. Spiked: 10 µg/L 10 µg/L 10 µg/L

**Matrix Spike**

% Recovery: 92 111 107

**Matrix Spike Duplicate %**

Recovery: 96 113 113

**Relative %**

Difference: 4.3 1.8 5.6

LCS Batch#: LCS021395 LCS021395 LCS021395

Date Prepared: 2/13/95 2/13/95 2/13/95

Date Analyzed: 2/13/95 2/13/95 2/13/95

Instrument I.D.#: HP5890/6 HP5890/6 HP5890/6

**LCS %**

Recovery: 99 105 105

% Recovery Control Limits:	28-167	35-146	38-150
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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.



**CHAIN OF CUSTODY**

<b>SAMPLER</b> RAY MARANGOSIAN			<b>UNOCAL</b> S/S # <u>5781</u> CITY: <u>OAKLAND</u>					<b>ANALYSES REQUESTED</b>							<b>TURN AROUND TIME:</b> REGULAR			
<b>WITNESSING AGENCY</b>			ADDRESS: <u>3535 PIERSON</u>					TPH-GAS BTEX	TPH- DIESEL	TOG	8010							<b>REMARKS</b> 5070678 AF
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION											
MWA	2.9.95	14:00	x	x		6	Well	x	x	x	x							
<b>RELINQUISHED BY:</b> Ray Marangosian (SIGNATURE)		<b>DATE/TIME</b> 15:50 2.9.95		<b>RECEIVED BY:</b> RJ Kelly (SIGNATURE)			<b>DATE/TIME</b> 2/9/95 15:50		<b>THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:</b>									
(SIGNATURE)				(SIGNATURE)					1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>Yes</u>									
(SIGNATURE)				(SIGNATURE)					2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>Yes</u>									
(SIGNATURE)				(SIGNATURE)					3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>No</u>									
(SIGNATURE)				(SIGNATURE)					4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>Yes</u>									
(SIGNATURE)				(SIGNATURE)					SIGNATURE: RJ Kelly			TITLE: Sample Control			DATE: 2/9/95			

**Note:** All water containers to be sampled for TPHG/BTEX, 8010 & 8240 are preserved with HCL. All water containers to be sampled for Lead or Metals are preserved with HN03. All other containers are unpreserved.