

MPDS-UN5366-11 October 2, 1996

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

Attention: Mr. Edward C. Ralston

RE: Quarterly Data Report

Former Unocal Service Station #5366

7375 Amador Valley Boulevard

Dublin, California

Dear Mr. Ralston:

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

Unocal's monitoring well MW-5 was monitored and sampled once during this quarter as indicated in Table 1. Oxygen Release Compound (ORC®) filter socks were present in well MW5. Prior to sampling, monitoring well MW-5 was checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations for the Unocal wells are summarized in Table 1.

A joint monitoring event was conducted with the consultants for the nearby Arco, Shell and B.P. sites on August 23, 1996. The monitoring data collected for the Arco, B.P. and Shell service stations (provided by EMCON, Alisto Engineering Group, and Blaine Tech Services, Inc., respectively) are summarized in Tables 5, 6, and 7. The ground water elevation contours at and in the vicinity of the Unocal and nearby sites during the most recent quarter are shown on the attached Figure 1.

A ground water sample was collected from Unocal's well MW5 on August 23, 1996. Dissolved oxygen concentrations were also measured and are presented in Table 4. A sample was then collected using a clean Teflon bailer. The sample was decanted into clean VOA vials and/or a one-liter amber bottle, 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 collected from Unocal's well MW5 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 from the Unocal wells to date are summarized in Tables 2 and 3. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline, TPH as diesel, and benzene detected in the ground water sample collected from Unocal well MW5 this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of

MPDS-UN5366-11 October 2, 1996 Page 2

Custody documentation for Unocal's well MW5 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. Eva Chu 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.

GEO

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JOEL G. GREGER

No. EG 1633

CERTIFIED

ENGINEERING

GEOLOGIST

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 8/31/98

/aab

Attachments:

Tables 1 through 7

Location Map Figures 1 & 2

Laboratory Analyses

Chain of Custody documentation

cc: Robert H. Kezerian, Kaprealian Engineering, Inc.

Table 1
Summary of Monitoring Data
Unocal Service Station Wells

	Ground Water	Depth to	Total Well	Product		Water
Well#	Elevation (feet)	Water (feet)◆	Depth (faet)◆	Thickness (feet)	Sheen	Purged (gallons)
		(Monitored an	d Sampled on A	August 23, 1996)		
MW5	325.94	10.02	19.99	0	No	0
		(Monitored	and Sampled M	Iay 23, 1996)		
MW5	327.31	8.65	20.02	0	No	8
		(Monitored a	nd Sampled Feb	ruary 26, 1996)		
MW1	329.62	6.45	19.48	0	No	9
MW2	330.39	6.39	19.26	0	No	9
MW3	330.59	6.39	18.89	0	No	8.5
MW4	329.68	6.75	19.37	0	No	9
MW5	328.81	7.15	19.98	0	No	9
		(Monitored an	d Sampled Nove	ember 28, 1995)		
MW1	325.62	10.45	19.51	0	No	6.5
MW2*	326.13	10.65	19.28	0		0
MW3*	326.13	10.85	18.95	0		0
MW4*	325.62	10.81	19.41	0		0
MW5	325.63	10.33	20.01	0	No	7

Table 1
Summary of Monitoring Data
Unocal Service Station Wells

Wan 4	Top of Casing Elevation
MW1	(feet)** 336.07
MW2	336.78
MW3	336.98
MW4	336.43
MW5	335.96

- ♦ The depth to water level and total well depth measurements were taken from the top of the well casings.
- Monitored only.
- \*\* The elevations of the top of the well casings have been surveyed relative to Mean Sea Level (MSL), per the County of Alameda Benchmark, standard brass disk in the westerly center island of Amador Valley Boulevard at Village Parkway, 15 feet from the nose and 0.8 feet from the northerly curb, stamped "VL PK AM VY, 1977" (elevation = 337.40 feet MSL).
- -- Sheen determination was not performed.

Table 2
Summary of Laboratory Analyses
Water

Well#	Date	TPH as Gasoline	Benzene	Toluene	Ethyl* Benzene	Xylenes	MTBE
tal re- rate source	mana an m <del>alandan</del> manah			30. San -		**************************************	
MW1	4/29/88	10,000	960	17	870	1,500	
	7/25/88	6,100	170	2.1	94	94	
	10/28/88	5,200	150	ND	250	12	
	1/26/89	1,900	240	1.8	81	30	
	4/28/89	1,000	97	0.8	170	24	
	7/27/89	1,900	130	6.3	ND	68	
	10/20/89	ND	ND	ND	ND	ND	
	2/6/90	2,700	170	ND	350	29	
	5/18/90	2,000	140	1.8	460	19	
	8/15/90	2,200	160	ND	570	45	
	11/14/90	2,000	110	0.52	410	16	
	2/14/91	1,900	150	2.9	340	43	
	5/15/91	2,100	220	ND	360	27	
	8/12/91	1,100	68	2.6	210	9.3	
	11/13/91	860	40	ND	11	2.5	
	2/25/92	3,900	500	ND	450	400	
	5/22/92	2,500	120	ND	230	37	
	8/12/92	1,700	51	ND	93	21	
	11/10/92	1,100	49	ND	71	21	
	2/10/93	3,000	230	ND	340	200	
	5/10/93	1,600	39	0.4	25	3.3	
	8/12/93	1,000	46	ND	29	6.3	
	11/11/93	350	19	2.5	2.7	3.4	
	2/11/94	970	40	3.2	2.8	15	
	5/17/94	1,000	41	ND	49	32	<b>~</b> -
	8/25/94	650	10	1.6	7.7	2.1	
	11/18/94	820	21	ND	19	6.6	
	2/15/95	2,400	61	ND	87	34	
	6/13/95	1,300	28	ND	15	ND	
	8/25/95	530	16	ND	2.2	13	†
	11/28/95	650	15	ND	21	6.7	††
	2/26/96	1,900	40	ND	84	46	110
	5/23/96			IN MAY OF 1			-
MW2	4/29/88	170	2.7	0.6	ND	13	==
	7/25/88	ND	ND	ND	ND	ND	
	10/28/88	ND	ND	ND	ND	ND	
	1/26/89	ND	ND	ND	ND	ND	
	4/28/89	ND	ND	ND	ND	ND	
	7/27/89	ND	ND	ND	ND	ND	
	10/20/89	ND	ND	ND	ND	ND	==
	2/6/90	ND	ND	ND	ND	ND	

Table 2
Summary of Laboratory Analyses
Water

		TPH as			Edyl-		
Well#	Date	Gasoline	Benzene	Toluene	Benzene	Xylenes	MTBE
MW2	5/18/90	ND	ND	ND	ND	ND	
	5/22/92	ND ND	ND	ND		ND ND	
(Cont.)		ND ND			ND	ND	
	2/10/93		ND	ND	ND	ND	
	2/11/94	ND	ND	ND	ND	ND	
	5/17/94	SAMPLED A		ND	ND	NID	
	2/15/95	ND	ND	ND	ND	ND	
	2/26/96	ND	ND	ND	ND	ND	
	5/23/96	WELL WAS I	DESTROYED 1	IN MAY OF I	996.		
MW3	4/29/88	ND	ND	ND	ND	ND	
	7/25/88		ND	ND	ND	ND	
	10/28/88		ND	ND	ND	ND	
	1/26/89	ND	ND	ND	ND	ND	
	4/28/89	880	9.6	9.7	19	12.7	
	5/22/89	ND	ND	ND	ND	ND	
	7/27/89	ND	ND	ND	ND	ND	
	10/20/89	ND	ND	ND	0.38	ND	
	2/6/90	ND	ND	ND	ND	ND	
	5/18/90	ND	ND	ND	ND	ND	
	2/10/93	ND	ND	ND	ND	ND	
	2/11/94	ND	ND	ND	ND	ND	
	5/17/94	SAMPLED A			- 1-		
	2/15/95	ND	ND	ND	ND	ND	
	2/26/96	ND	ND	ND	ND	ND	
	5/23/96		DESTROYED I			112	
MW4	4/29/88	ND	ND	ND	ND	ND	
	7/25/88	ND	ND	ND	ND	ND	
	10/28/88	ND	ND	ND	ND	ND	
	1/26/89	ND	0.67	ND	ND	ND	
	4/28/89	ND	0.3	ND	ND	ND	
	7/27/89	ND	0.34	ND	ND	ND	
	10/20/89	ND	ND	ND	ND	ND	
	2/6/90	ND	ND	ND	ND	ND	
	5/18/90	ND	ND	ND	ND	ND	
	2/10/93	ND	ND	ND	ND	ND	
	2/11/94	ND	ND	ND	ND	ND	
	5/17/94	SAMPLED A	NNUALLY				
	2/15/95	ND	ND	ND	ND	ND	
	2/26/96	ND	ND	ND	ND	ND	
	5/23/96	WELL WAS I	DESTROYED I	IN MAY OF 1	996.		

Table 2
Summary of Laboratory Analyses
Water

		TPH as			Emyle		
Well#	Date	Gasoline	Benzene	Toluene	Benzene	Xylenes	MTBE
MW5	2/11/94	18,000	2,400	140	920	3,100	
	5/17/94	20,000	4,300	ND	2,300	130	
	8/25/94	9,400	3,800	ND	2,200	150	
	11/18/94	18,000	2,400	52	1,600	51	
	2/15/95	16,000	2,700	ND	1,700	50	
	6/13/95	14,000	2,200	ND	2,200	ND	
	8/25/95	3,100	43	ND	590	8.4	†
	11/28/95	6,400	320	ND	720	ND	††
	2/26/96	2,800	75	ND	160	ND	74
	5/23/96	71	7.9	ND	3.4	ND	43
	8/23/96	350	22	1.0	13	3.0	56

- † Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the ground water samples collected from this well.
- †† Sequoia Analytical Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 mg/L in the sample collected from this well.
- ND = Non-detectable.
  - Indicates that analysis was not performed.

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

Note: 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 11, 1994 were provided by Kaprealian Engineering, Inc.

**Table 3**Summary of Laboratory Analyses
Water

Well#	Dat8:	TPH as Diesel	Total Oil & Grease (ing/L)	EPA 8010 Constituents
MW1	5/10/93	730*		<u>-</u> -
MW3	4/29/88	ND		ND
	7/25/88	ND		ND
	10/28/88	ND		ND
	1/26/89	NĐ		ND
	4/28/89	72	ND	ND
	5/22/89	-+	<del></del>	
	7/27/89	ND	1.6	ND
	10/20/89	ND	2.5	ND
	2/6/90	ND	ND	ND
	5/18/90	ND	ND	ND
	2/10/93	200	ND	
	2/11/94	ND	ND	
	2/15/95	ND	ND	<b></b>
	2/26/96	ND	ND	
MW5	2/11/94	2,300*		
	5/17/94	2,500*		
	8/25/94	2,000**		
	11/18/94	2,000**		
	2/15/95	2,000*		
	6/13/95	2,400**		
	8/25/95	2,300**		
	11/28/95	3,800**		
	2/26/96	1,600**		
	5/23/96	190*		
	8/23/96	140**		

<sup>\*</sup> Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

ND = Non-detectable.

-- Indicates analysis was not performed.

mg/L = milligrams per liter.

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

Note: Laboratory analyses data prior to February 11, 1994, were provided by Kaprealian Engineering, Inc.

<sup>\*\*</sup> Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.

Table 4
Summary of Monitoring Data

		Dissolved Oxyge Before Purging	n Concentrations
Well	Date	mg/L)	11 CO A T 1 K BO ON O 11 1 O T A TONO NO A TONO NO POR 1 O T
MW1	5/24/95	2.32	
	6/13/95	2.32	~-
	8/25/95	3.20	~-
	11/28/95	3.26	~-
	3/26/96	0.54	0.62
MW5	5/24/95	2.80	~-
	6/13/95	2.80	~=
	8/25/95	5.79	
	11/28/95	2.25	~-
	3/26/96	0.32	0.39
	5/23/96	9.72	4.57
	8/23/96	3.19	~~

<sup>--</sup> Indicates measurement was not taken.

mg/L = milligrams per liter.

Note: Measurements were taken using a LaMotte DO4000 dissolved oxygen meter.

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Table 5
Summary of Monitoring Data
ARCO Service Station Wells
(Provided by EMCON)

	Well#	Ele	vation	Water	Top of Casing Elevation (feet)*
ı					

### (Monitored and Sampled August 23, 1996)

MW1	326.31	10.25	336.56
MW2	326.35	8.45	334.80
MW3	326.28	9.25	335.53
MW4	326.56	7.66	334.22
MW5	326.41	9.46	335.87
MW6	326.26	9.58	335.84

- The depth to water level measurements were taken from the top of the well casings.
- \* The elevations of the top of the well casings have been surveyed relative to Mean Sea Level (MSL), per the County of Alameda Benchmark, standard brass disk in the westerly center island of Amador Valley Boulevard at Village Parkway, 15 feet from the nose and 0.8 feet from the northerly curb, stamped "VL PK AM VY, 1977" (elevation = 337.40 feet MSL).

Table 6
Summary of Monitoring Data
BP Service Station Wells
(Provided by Alisto Engineering Group)

Ground Water Elevation	Depth to Top of Casing Water Elevation
Elevation Well # (feet)	(feel)♦ (feet)*

# (Monitored and Sampled August 23, 1996)

MW1	328.46	6.71	335.17
MW2	328.05	6.53	334.58
MW3	328.29	6.84	335.13
AW4	328.68	4.73	333.41
AW5	326.63	8.18	334.81
AW6	328.40	6.50	334.90

- The depth to water level measurements were taken from the top of the well casings.
- \* Relative to Mean Sea Level.

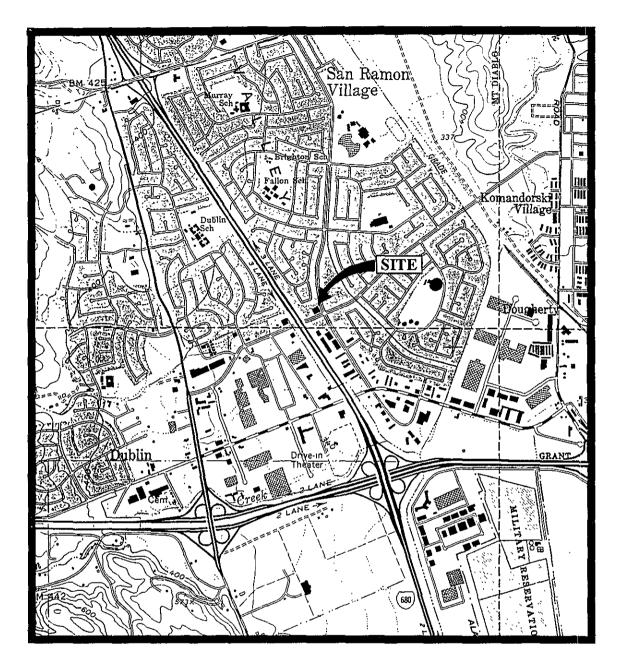
Table 7
Summary of Monitoring Data
Shell Service Station Wells
(Provided by Blaine Tech Services, Inc.)

nd Water Depth	to Top of Casing Elevation
feet) (feet)	

# (Monitored and Sampled August 23, 1996)

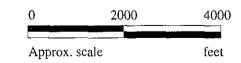
MW1	326.60	8.23	334.83
MW2	326.67	10.29	336.96
MW3	326.93	10.00	336.93
MW4	327.30	9.84	337.14
MW6	326.54	8.88	335.42
MW13	326.98	8.66	335.64

- ♦ The depth to water level measurements were taken from the top of the well casings.
- \* Relative to Mean Sea Level.



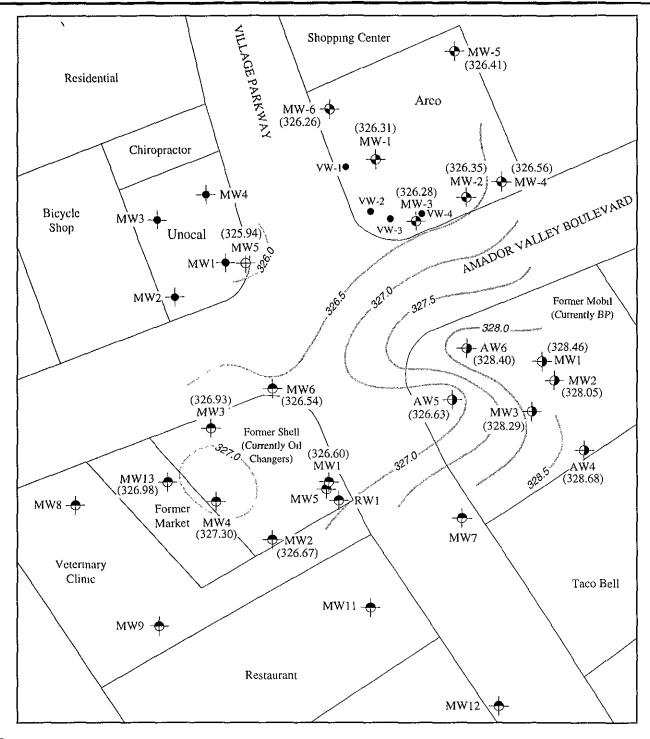
N

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





FORMER UNOCAL S/S #5366 7375 AMADOR VALLEY BLVD. DUBLIN, CALIFORNIA LOCATION MAP

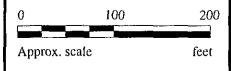


## **LEGEND**

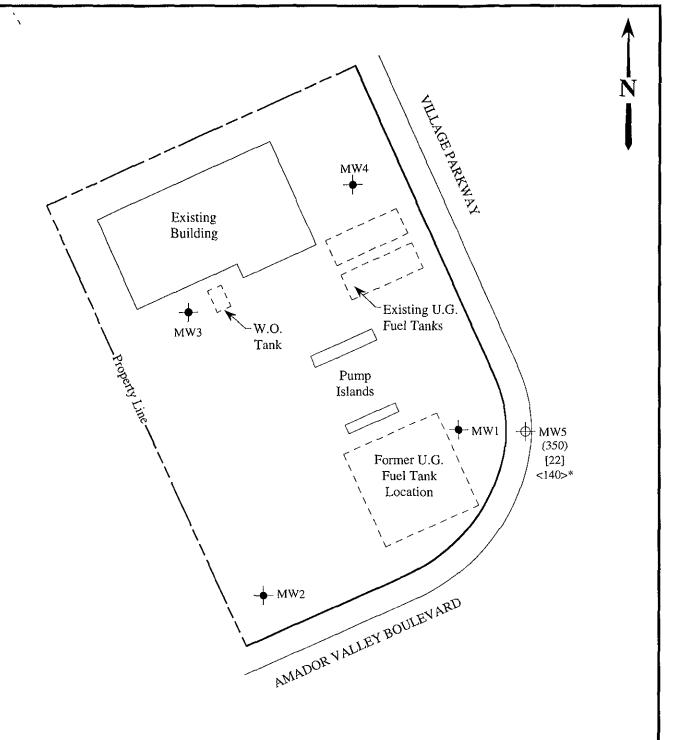
- → Monitoring well (Unocal)
- Monitoring well (Unocal, destroyed 5/96)
- Monitoring well (BP)
- → Monitoring well (Shell)
- Monitoring well (Arco)
- Vapor extraction well (Arco)
- ( ) Ground water elevation in feet above Mean Sea Level
- Contours of ground water elevation

### POTENTIOMETRIC SURFACE MAP FOR THE AUGUST 23, 1996 JOINT MONITORING EVENT





FORMER UNOCAL S/S #5366 7375 AMADOR VALLEY BLVD. DUBLIN, CALIFORNIA figure 1



# **LEGEND**

- Monitoring well (existing)
- Monitoring well (destroyed May, 1996)
- ( ) Concentration of TPH as gasoline in μg/L
- [ ] Concentration of benzene in  $\mu$ g/L
- < > Concentration of TPH as diesel in µg/L
  - \* The lab reported that the hydrocarbons detected did not appear to be diesel.



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON AUGUST 23, 1996



FORMER UNOCAL S/S #5366 7375 AMADOR VALLEY BLVD. DUBLIN, CALIFORNIA FIGURE



680 Chesapeake Drive 404 N. Wiget Lane 819 Striker Avenue, Suite 8 Sacramento, CA 95834

Redwood City, CA 94063 Walnut Creek, CA 94598

(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: Matrix Descript:

Unocal #5366, 7375 Amador Valley Blvd. Water

Dublin

Sampled: Aug 23, 1996 Aug 26, 1996 Received:

Analysis Method: First Sample #:

EPA 5030/8015 Mod./8020

Reported:

Sep 12, 1996

608-1866

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons μg/L	<b>Benzene</b> μg/L	<b>Toluene</b> μg/L	Ethyl Benzene μg/L	Total Xylenes μg/L	<b>MTBE</b> μg/L
608-1866	MW-5	350	22	1.0	13	3.0	56

Detection Limits:	50	V EV	0.50	0.50	0.50	40
Detection Limits:	อบ	<b>0.50</b>	0.30	0.50	0.50	40 I
			<b></b>			70 }

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

Page 1 of 2





680 Chesapeake Drive 404 N. Wiget Lane 819 Striker Avenue, Suite 8 Sacramento, CA 95834

Redwood City, CA 94063 Walnut Creek, CA 94598

(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

Matrix Descript: Analysis Method:

First Sample #:

Client Project ID: Unocal #5366, 7375 Amador Valley Blvd. Water Dublin

EPA 5030/8015 Mod./8020

608-1866

Sampled: Received:

Aug 23, 1996 Aug 26, 1996

Reported: Sep 12, 1996

# TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrumen ID	t Surrogate Recovery, % QC Limits: 70-130
608-1866	MW-5		1.0	9/10/96	HP-11	89

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp Project Manager



680 Chesapeake Drive 404 N. Wiget Lane

Redwood City, CA 94063 Walnut Creek, CA 94598 819 Striker Avenue, Suite 8 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 Sample Matrix:

Client Project ID: Unocal #5366, 7375 Amador Valley Blvd. Water

Dublin

**电影电影图象 1000 电影** 

Sampled: Aug 23, 1996 Received:

A HOLD AND THE WHOLE WAS A SECOND

Analysis Method: First Sample #:

20.55

EPA 3510/8015 Mod.

Reported:

Aug 26, 1996 Sep 12, 1996

### TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

608-1866

Analyte	Reporting Limit μg/L	Sample I.D. 608-1866 MW-5 *	
Extractable Hydrocarbons	50	140	
Chromatogram Pa	ttern:	Unidentified Hydrocarbons <c15< td=""><td></td></c15<>	

**Quality Control Data** 

Report Limit Multiplication Factor:

1.0

Date Extracted:

8/26/96

Date Analyzed:

8/26/96

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,

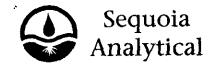
SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp **Project Manager**  Please Note:

\* This sample does not appear to contain diesel. " Unidentified Hydrocarbons < C15" are probably gasoline.





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 #5366, 7375 Amador Valley Blvd. Dublin

Matrix:

Liquid

QC Sample Group: 608-1866

Reported:

Sep 12, 1996

# QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl	Xylenes	Diesel	
1			Benzene			
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015	
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	J. Dinsay	
MS/MSD						
Batch#:	6082258	6082258	6082258	6082258	BLK082696	
Date Prepared:	9/10/96	9/10/96	9/10/96	9/10/96	8/26/96	
Date Analyzed:	9/10/96	9/10/96	9/10/96	9/10/96	8/26/96	
Instrument I.D.#:	HP-11	HP-11	HP-11	HP-11	HP-3A	
Conc. Spiked:	20 μg/L	20 μg/L	20 μg/L	60 μg/L	300 μg/L	
Matrix Spike						
% Recovery:	100	110	110	105	113	
Matrix Spike Duplicate %						
Recovery:	100	115	110	103	80	
Relative %						
Difference:	0.0	4.4	0.0	1.6	34	

LCS Batch#:	11LCS091096	11LCS091096	11LCS091096	11LCS091096	LCS082696	
Date Prepared:	9/10/96	9/10/96	9/10/96	9/10/96	8/26/96	
Date Analyzed:	9/10/96	9/10/96	9/10/96	9/10/96	8/26/96	
Instrument I.D.#:	HP-11	HP-11	HP-11	HP-11	HP-3A	
LCS % Recovery:	115	115	120	112	80	
% Recovery Control Limits:	60-140	60-140	60-140	60-140	50-150	

**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

SAMPLER I	KEVOR	K	UNO S/S	NOCAL S/S # 5366 CITY: DUBLIN				ANALYSES REQUESTED						····	TURN AROUND TIM		
WITNESSING AGENCY			í			5 AMAD		BLVD, BLVD,	TPH-GAS BTEX	TPH-DIESEL	g	10	MTBE				REGULAR
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT	r	SAMPLING LOCATION	TPH	TPH	T0G	8010	₩.				REMARKS
MW5	8/23/96		V	V		2 VOA'S	R	MELL WELL	V	V			V		6081	866	AL
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						<del></del>			TL	E FOLLOW	ING MUST	DE COMPI	ETEN DV T	ZE 1 A DODA	TORY ACC	PERTING CA	MPLES FOR ANALYSES:
Hoself 7	DUSHED BY:	HA	DA 8/26,	TE/TIN	NE DGOO	REC	ELVED	BY:	1. HAVE A							×	imples for analyses:
ISIGNATURE	1 ward	#)				(SIGNATURE)			2. WILL SA	AMPLES RE	MAIN REFI	RIGERATED	UNTIL AN	ALYZED?		X	
(SIGNATURE)						(SIGNATURE)			3. DID AN	Y SAMPLES	S RECEIVED	FOR ANA	LYSIS HAV	E HEAD SP	ACE?	N	
(SIGNATURE)					1	(SIGNATURE)			4. WERE S	AMPLES IN	APPROPR	IATE CON	TAINERS AT	ND PROPER	LY PACKA	GED? Y	
(SIGNATURE)						(SIGNATURE)			SIGNATU	IRE:	Doz	Qu		LE:		8 DA	126/96