

May 23, 1997

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

Attention: Ms. Eva Chu

RE: Unocal Service Station #7176  
7850 Amador Valley Boulevard  
Dublin, California

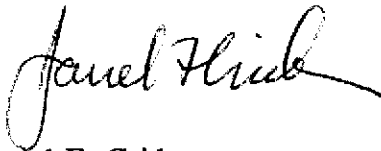
Dear Ms. Chu:

Per the request of the Tosco Marketing Company Project Manager, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN7176-07) dated May 7, 1997, 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) 277-2321.

Sincerely,

MPDS Services, Inc.



Jarrel F. Crider

/jfc

Enclosure

cc: Ms. Tina R. Berry

97 MAY 27 PM 5:46  
MOUNTAIN VIEW  
ENVIRONMENTAL



MPDS-UN7176-07  
 May 7, 1997

Tosco Marketing Company  
 Environmental Compliance Department  
 2000 Crow Canyon Place, Suite 400  
 San Ramon, California 94583

Attention: Mr. Edward C. Ralston

RE: Quarterly Data Report  
 Unocal Service Station #7176  
 7850 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

The monitoring wells that were monitored and sampled during this quarter are indicated in Table 1. Oxygen Release Compound (ORC<sup>®</sup>) filter socks were present in monitoring wells U-1, U-2, and U-3. 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 direction during the most recent quarter is shown on the attached Figure 1.

Ground water samples were collected on April 8, 1997. Dissolved oxygen concentrations were measured and are presented in Table 3. The samples were 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.

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 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. Eva Chu of the Alameda County Health Care Services Agency.

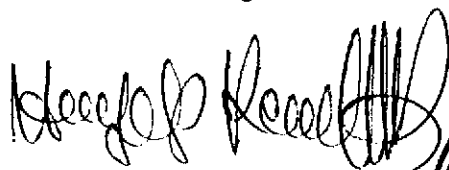
If you have any questions regarding this report, please do not hesitate to call Mr. Nubar Srabian at (510) 602-5120.

Sincerely,

MPDS Services, Inc.



Haig (Gary) Tejirian  
Senior Staff Geologist



Hagop Kevork, P.E.  
Senior Staff Engineer

License No. C55734  
Exp. Date December 31, 2000



Attachments: Tables 1, 2 & 3  
Location Map  
Figures 1 & 2  
Laboratory Analyses  
Chain of Custody documentation

cc: Mr. Kieth Romstad, ERI

**Table 1**  
 Summary of Monitoring Data

Well #	Ground Water Elevation (feet)	Depth to Water (feet)*	Total Well Depth (feet)*	Product Thickness (feet)	Sheen	Water Purged (gallons)
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**(Monitored and Sampled on April 8, 1997)**

U-1	342.16	13.46	27.98	0	--	0
U-2	342.52	14.07	26.54	0	--	0
U-3	342.40	15.73	28.88	0	--	0

**(Monitored and Sampled on January 27, 1997)**

U-1	343.42	12.20	28.00	0	--	0
U-2	343.68	12.91	26.56	0	--	0
U-3	343.72	14.41	28.90	0	--	0

**(Monitored and Sampled on October 30, 1996)**

U-1	339.77	15.85	27.98	0	--	0
U-2	339.77	16.82	26.55	0	--	0
U-3	339.89	18.24	28.89	0	--	0

**(Monitored and Sampled on July 10, 1996)**

U-1	341.78	13.84	28.03	0	--	0
U-2	342.17	14.42	26.57	0	--	0
U-3	342.15	15.98	28.85	0	--	0

Well #	Well Casing Elevation (feet)*
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U-1	355.62
U-2	356.59
U-3	358.13

♦ The depth to water level and total well depth measurements were taken from the top of the well casings.

\* The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per the Benchmark AM-STW1977 located at the easterly return at the most easterly corner of intersection of Amador Valley Blvd. and Starward Street (Elevation = 344.17 feet MSL).

-- Sheen determination was not performed.

**Table 2**  
Summary of Laboratory Analyses  
Water

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
4/8/97	U-1	1,300♦	2,800	50	ND	220	140	ND
	U-2	2,000♦	4,300	35	ND	400	16	ND
	U-3	ND	ND	ND	ND	ND	ND	ND
1/27/97	U-1	2,300♦	4,600	98	ND	360	290	150
	U-2	660♦	1,600	14	ND	130	7.0	100
	U-3	ND	ND	ND	ND	ND	ND	ND
10/30/96	U-1	560♦	2,200	67	19	140	150	360
	U-2	1,800♦	7,700	67	35	1,000	54	260
	U-3	ND	70	ND	ND	ND	ND	ND
7/10/96	U-1	2,200♦	2,600	81	4.4	210	230	510
	U-2	2,300♦	5,600	59	15	610	42	250
	U-3	ND	ND	ND	ND	ND	ND	ND
4/11/96	U-1*	630♦	3,200	110	ND	180	290	790
	U-2*	1,900♦	7,700	130	27	1,100	110	340
	U-3	ND	68*	ND	ND	ND	ND	ND
1/11/96‡	U-1	8,200♦	8,300	690	11	680	1,500	††
	U-2	8,600♦	10,000	210	55	1,400	240	††
	U-3	260♦♦	230	0.62	0.91	0.97	1.9	--
10/12/95	U-1	4,200♦	33,000	1,400	ND	1,400	3,100	†
	U-2	3,600♦	24,000	310	60	1,900	190	†
	U-3	470♦♦	560	ND	0.87	0.7	1.1	--
7/8/95	U-1	9,400*	39,000	1,500	19	1,600	5,200	--
	U-2	4,700*	17,000	430	ND	2,200	590	--
	U-3	710*	1,100**	0.57	2.1	1.7	2.4	--

\* On April 11, 1996, all PNA compounds were non-detectable.

‡ On January 11, 1996, PNA compound naphthalene was detected in well U-1 at a concentration of 320 µg/L, and at a concentration of 310 µg/L in well U-2. All other PNA compounds were non-detectable in both wells.

† Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the ground water sample 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 µg/L in the sample collected from this well.

**Table 2**  
Summary of Laboratory Analyses  
Water

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- \* Unidentified Hydrocarbon C9-C26
- \*\* Gas and Unidentified Hydrocarbons >C12
- ★ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.
- ◆ 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 did not appear to be diesel.

PNA = Polynuclear aromatic hydrocarbons (EPA method 8100).

MTBE = methyl tert butyl ether.

ND = Non-detectable.

Results are in micrograms per liter ( $\mu\text{g/L}$ ), 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 October 12, 1995, were provided by Enviros, Inc.

**Table 3**  
Summary of Monitoring Data

Date	Well #	Dissolved Oxygen Concentrations	
		Before Purging	After Purging
4/8/97★	U-1	2.09	--
	U-2	1.69	--
	U-3	3.73	--
1/27/97★	U-1	1.34	--
	U-2	1.29	--
	U-3	2.61	--
10/30/96★	U-1	1.41	--
	U-2	1.42	--
	U-3	2.18	--
7/10/96★	U-1	1.22	--
	U-2	1.01	--
	U-3	3.44	--
4/11/96	U-1	3.77	3.78
	U-2	3.32	3.41
	U-3	5.16	4.96
1/11/96	U-1	--	3.41
	U-2	--	3.99
	U-3	--	5.05
10/2/95	CC1*	2.83	--

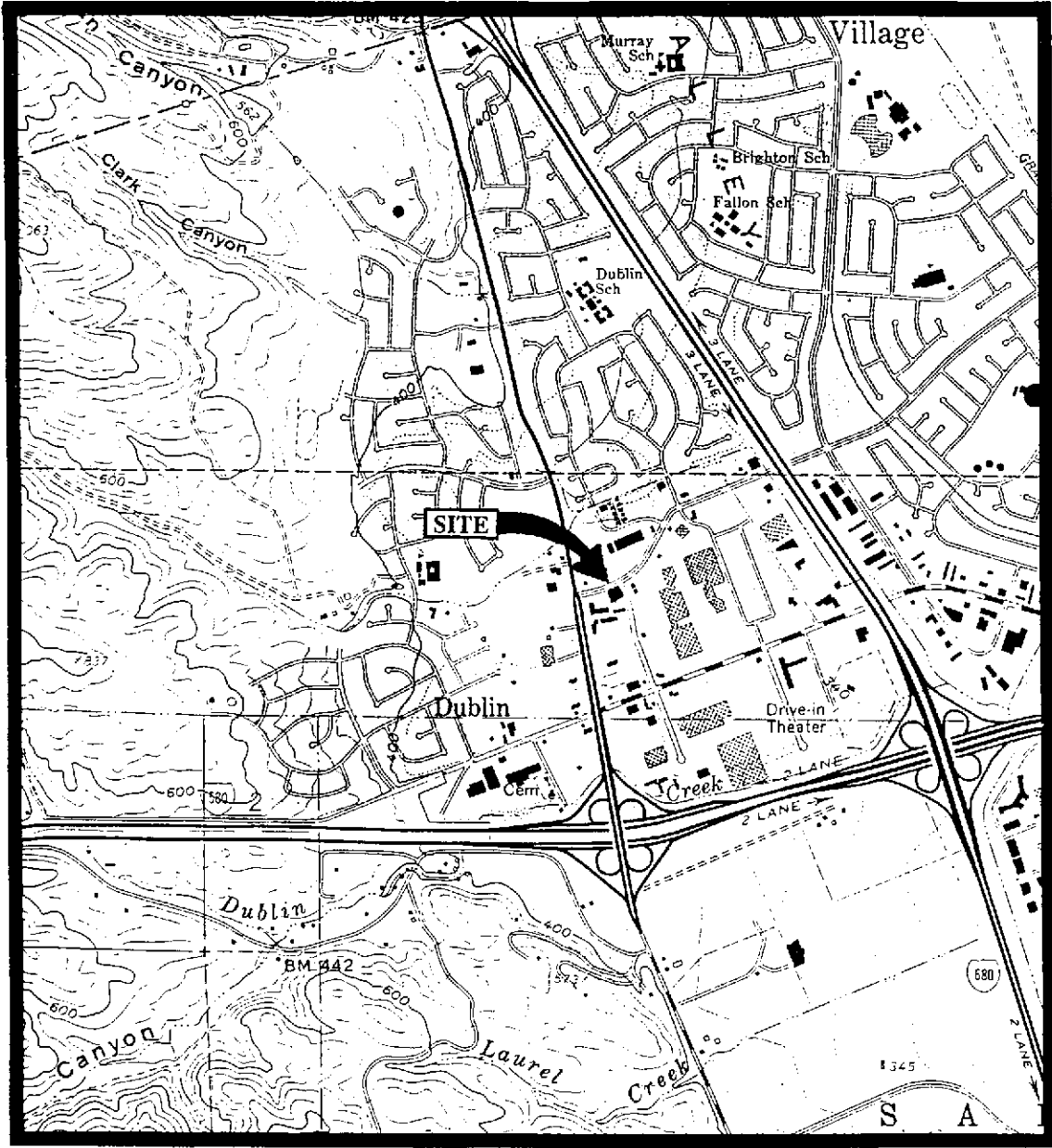
\* For the location of sample point CC1, see Figure 1.

★ The wells were not purged on this date.

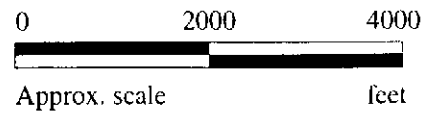
-- Measurement was not taken.


Results are in milligrams per liter (mg/L).

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



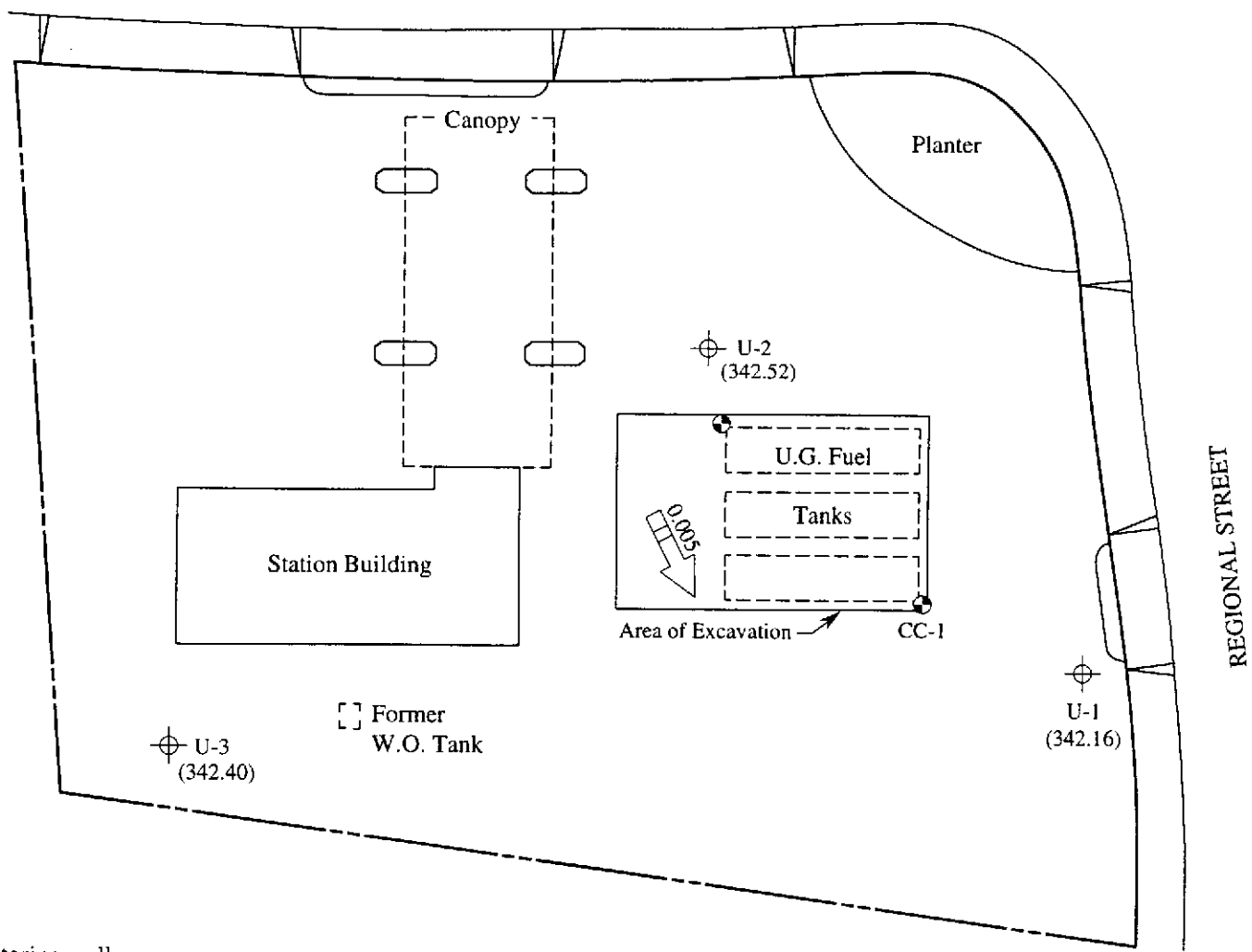
Base modified from 7.5 minute U.S.G.S. Dublin Quadrangle  
(photorevised 1980)



	<p><b>UNOCAL SERVICE STATION #7176</b>  <b>7850 AMADOR VALLEY BOULEVARD</b>  <b>DUBLIN, CALIFORNIA</b></p>	<p><b>LOCATION</b>  <b>MAP</b></p>
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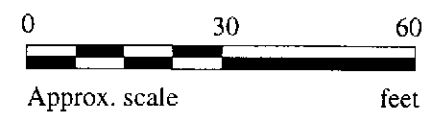


AMADOR VALLEY BOULEVARD



**LEGEND**

- Monitoring well
- Conductor casing
- Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow with approximate hydraulic gradient



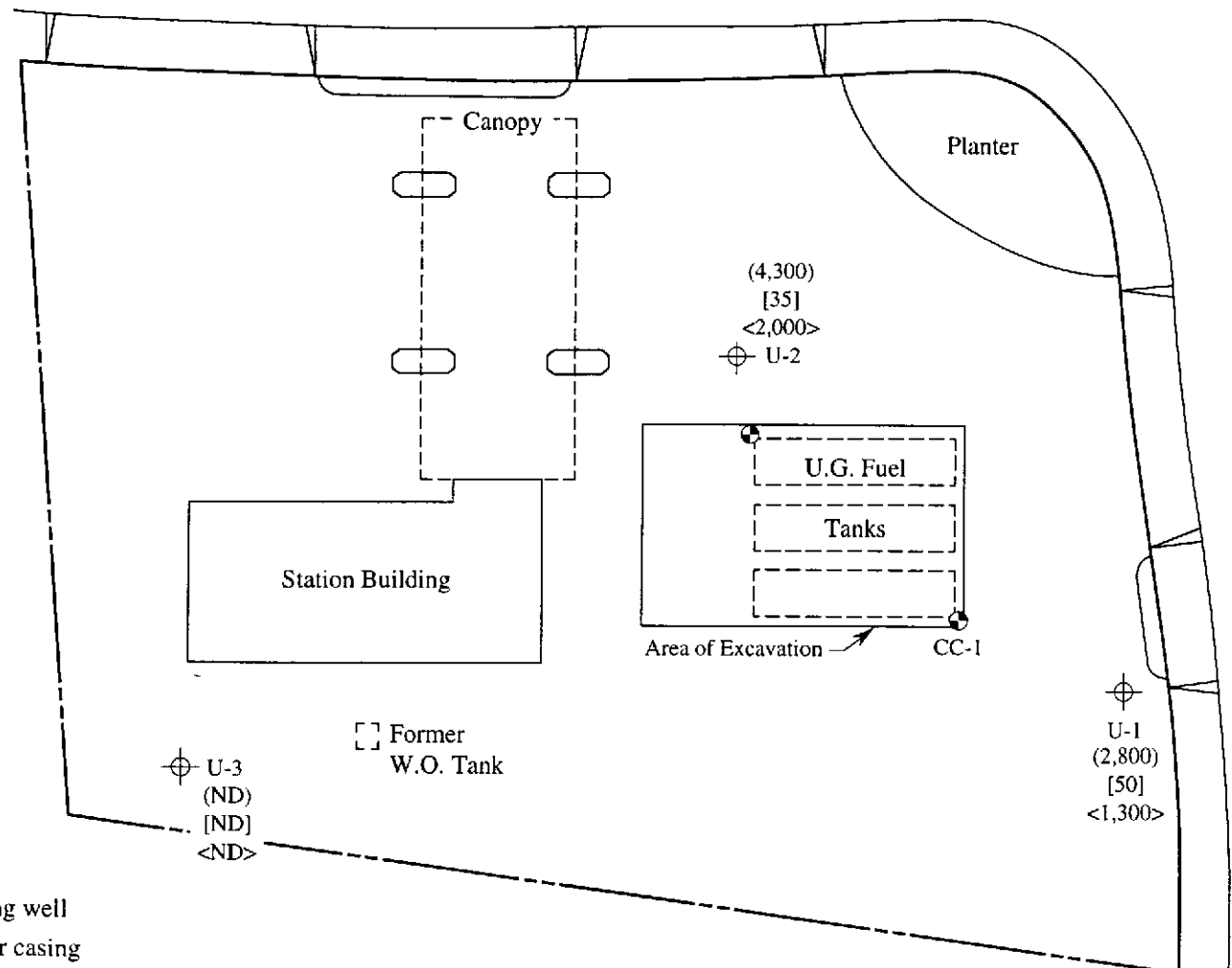
**GROUND WATER FLOW DIRECTION MAP FOR THE APRIL 8, 1997 MONITORING EVENT**

UNOCAL SERVICE STATION #7176  
 7850 AMADOR VALLEY BOULEVARD  
 DUBLIN, CALIFORNIA



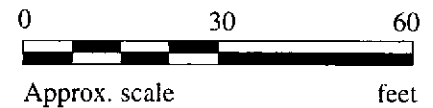
**FIGURE 1**

AMADOR VALLEY BOULEVARD



**LEGEND**

- ⊕ Monitoring well
- Conductor casing
- ( ) 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 APRIL 8, 1997**

UNOCAL SERVICE STATION #7176  
7850 AMADOR VALLEY BOULEVARD  
DUBLIN, CALIFORNIA



FIGURE  
**2**



MPDS Services	Client Project ID: Unocal #7176, 7850 Amador Valley, Dublin	Sampled: Apr 8, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water	Received: Apr 8, 1997
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Apr 21, 1997
Attention: Jarrel Crider	First Sample #: 704-0561	

**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
704-0561	U-1	2,800	50	ND	220	140
704-0562	U-2	4,300	35	ND	400	16
704-0563	U-3	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





MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Jarrel Crider	Client Project ID: Unocal #7176, 7850 Amador Valley, Dublin Matrix Descript: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 704-0561	Sampled: Apr 8, 1997 Received: Apr 8, 1997 Reported: Apr 21, 1997
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**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
704-0561	U-1	Gasoline	5.0	4/14/97	HP-5	87
704-0562	U-2	Gasoline	10	4/14/97	HP-5	87
704-0563	U-3	--	1.0	4/14/97	HP-5	113

**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 #7176, 7850 Amador Valley, Dublin  
Sample Descript: Water  
Analysis for: MTBE (Modified EPA 8020)  
First Sample #: 704-0561

Sampled: Apr 8, 1997  
Received: Apr 8, 1997  
Analyzed: Apr 14, 1997  
Reported: Apr 21, 1997

## LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit $\mu\text{g/L}$	Sample Result $\mu\text{g/L}$
704-0561	U-1	13	N.D.
704-0562	U-2	25	N.D.
704-0563	U-3	5.0	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

7040561.MPD <3>





MPDS Services	Client Project ID: Unocal #7176, 7850 Amador Valley, Dublin	Sampled: Apr 8, 1997
2401 Stanwell Dr., Ste. 300	Sample Matrix: Water	Received: Apr 8, 1997
Concord, CA 94520	Analysis Method: EPA 3510/8015 Mod.	Reported: Apr 21, 1997
Attention: Jarrel Crider	First Sample #: 704-0561	

**TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS W/ SILICA GEL CLEANUP**

Analyte	Reporting Limit µg/L	Sample I.D. 704-0561 U-1 <sup>^</sup>	Sample I.D. 704-0562 U-2 <sup>^</sup>	Sample I.D. 704-0563 U-3
Extractable Hydrocarbons	50	1300	2,000	N.D.
Chromatogram Pattern:		Diesel & Unidentified Hydrocarbons <C15	Diesel & Unidentified Hydrocarbons <C15	--

**Quality Control Data**

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Extracted:	4/15/97	4/15/97	4/15/97
Date Analyzed:	4/16/97	4/16/97	4/16/97
Instrument Identification:	HP-3B	HP-3B	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:**

<sup>^</sup> This sample appears to contain diesel and non diesel mixtures. "Unidentified Hydrocarbons <C15" are probably gasoline.





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

Client Project ID: Unocal #7176, 7850 Amador Valley, Dublin  
Matrix: Liquid

QC Sample Group: 7040561-563

Reported: Apr 21, 1997

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 M
<b>Analyst:</b>	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Sharma

<b>MS/MSD Batch#:</b>	7040520	7040520	7040520	7040520	BLK041597
<b>Date Prepared:</b>	4/14/97	4/14/97	4/14/97	4/14/97	4/15/97
<b>Date Analyzed:</b>	4/14/97	4/14/97	4/14/97	4/14/97	4/16/97
<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
<b>Matrix Spike % Recovery:</b>	75	90	100	98	83
<b>Matrix Spike Duplicate % Recovery:</b>	75	90	100	95	83
<b>Relative % Difference:</b>	0.0	0.0	0.0	3.5	0.0

<b>LCS Batch#:</b>	5LCS041497	5LCS041497	5LCS041497	5LCS041497	LCS041597
<b>Date Prepared:</b>	4/14/97	4/14/97	4/14/97	4/14/97	4/15/97
<b>Date Analyzed:</b>	4/14/97	4/14/97	4/14/97	4/14/97	4/16/97
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	HP-3A
<b>LCS % Recovery:</b>	80	95	100	100	83

<b>% Recovery Control Limits:</b>	60-140	60-140	60-140	60-140	50-150
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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



# 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

5/10/97

SAMPLER			UNOCAL					ANALYSES REQUESTED							TURN AROUND TIME:				
DOUG LEE			S/S # 7176 CITY: DUBLIN					TPH-G	BTEX	TPH-D	MTBE	SPPS	DETECT.	LIMIT				REGULAR	
			ADDRESS: 7950 AMADOR VALLEY															REMARKS	
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION												
U-1	4-8-97		X	X		2 VOA/11			X	X	X	X			7040561	A-C	FILTER TPH-D WITH SILICA GEL		
U-2	↓		↓	↓		↓			↓	↓	↓	↓		7040562	↓				
U-3	↓		↓	↓		↓			↓	↓	↓	↓		7040563	↓				

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	THE FOLLOWING <u>MUST</u> BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:
(SIGNATURE) <i>D. Lee</i>	4-8-97/15:30	(SIGNATURE) <i>RBG</i>	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <i>Y</i>
(SIGNATURE) _____	_____	(SIGNATURE) _____	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <i>Y</i>
(SIGNATURE) _____	_____	(SIGNATURE) _____	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <i>N</i>
(SIGNATURE) _____	_____	(SIGNATURE) _____	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <i>Y</i>
(SIGNATURE) _____	_____	(SIGNATURE) _____	SIGNATURE: <i>RBG Analyst</i> TITLE: <i>Analyst</i> DATE: <i>4/8/97</i>