

MPDS-UN5366-12
January 3, 1997

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 at the referenced site by MPDS Services, Inc. (MPDS).

RECENT FIELD ACTIVITIES

Unocal's monitoring well MW-5 was monitored and sampled this quarter as indicated in Table 1. Oxygen Release Compound (ORC[®]) filter socks were present in well MW5. Prior to sampling, monitoring well MW5 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 scheduled to be conducted with the consultants for the nearby Arco, B.P., and Shell sites on November 22, 1996. However, MPDS was informed by the consultants for the ARCO and Shell sites that their respective sites were being monitored semi-annually during the first and third quarters of the year. The consultant for the BP site could not monitor the site on the scheduled day. MPDS will attempt to schedule a joint monitoring event during the next quarter. The ground water elevation in Unocal's monitoring well MW5 is shown on the attached Figure 1.

A ground water sample was collected from Unocal's well MW5 on November 22, 1996. The well was not purged prior to sampling. Dissolved oxygen concentrations were also measured and are presented in Table 4. A water sample was 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 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 Custody documentation are attached to this report.

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UNOCAL
CORPORATION
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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.

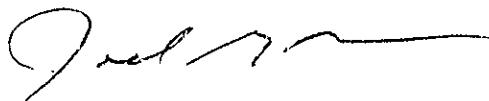
If you have any questions regarding this report, please do not hesitate to call Mr. Joel G. Greger at (510) 602-5120.

Sincerely,

MPDS Services, Inc.

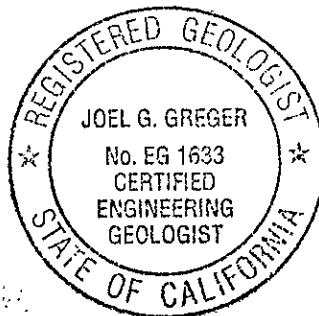


Haig (Gary) Tejirian
Senior Staff Geologist



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

License No. EG 1633
Exp. Date 8/31/98



- Attachments: Tables 1 through 4
 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

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 November 22, 1996)

MW5	325.80	10.16	20.02	0	No	0
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(Monitored and Sampled on August 23, 1996)

MW5	325.94	10.02	19.99	0	No	0
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(Monitored and Sampled May 23, 1996)

MW5	327.31	8.65	20.02	0	No	8
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(Monitored and Sampled February 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

Well #	Top of Casing Elevation (feet)**
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MW1	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
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	--
	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	WELL WAS DESTROYED IN MAY 1996.						
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

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	MTBE	
MW2 (Cont.)	5/18/90	ND	ND	ND	ND	ND	--	
	5/22/92	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 ANNUALLY						
	2/15/95	ND	ND	ND	ND	ND	--	
	2/26/96	ND	ND	ND	ND	ND	--	
	5/23/96	WELL WAS DESTROYED IN MAY 1996.						
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 ANNUALLY						
	2/15/95	ND	ND	ND	ND	ND	--	
	2/26/96	ND	ND	ND	ND	ND	--	
	5/23/96	WELL WAS DESTROYED IN MAY 1996.						
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 ANNUALLY						
	2/15/95	ND	ND	ND	ND	ND	--	
	2/26/96	ND	ND	ND	ND	ND	--	
	5/23/96	WELL WAS DESTROYED IN MAY 1996.						

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-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
	11/22/96	380	6.0	0.98	ND	ND	33

† 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 #	Date	TPH as Diesel	Total Oil & Grease (mg/L)	EPA 8010 Constituents
MW1	5/10/93	730*	--	--
MW3	4/29/88	ND	--	ND
	7/25/88	ND	--	ND
	10/28/88	ND	--	ND
	1/26/89	ND	--	ND
	4/28/89	72	ND	ND
	5/22/89	--	--	--
	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	--
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**	--	--	
11/22/96	350*	--	--	

* 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.

ND = Non-detectable.

-- Indicates analysis was not performed.

mg/L = milligrams per liter.

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

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

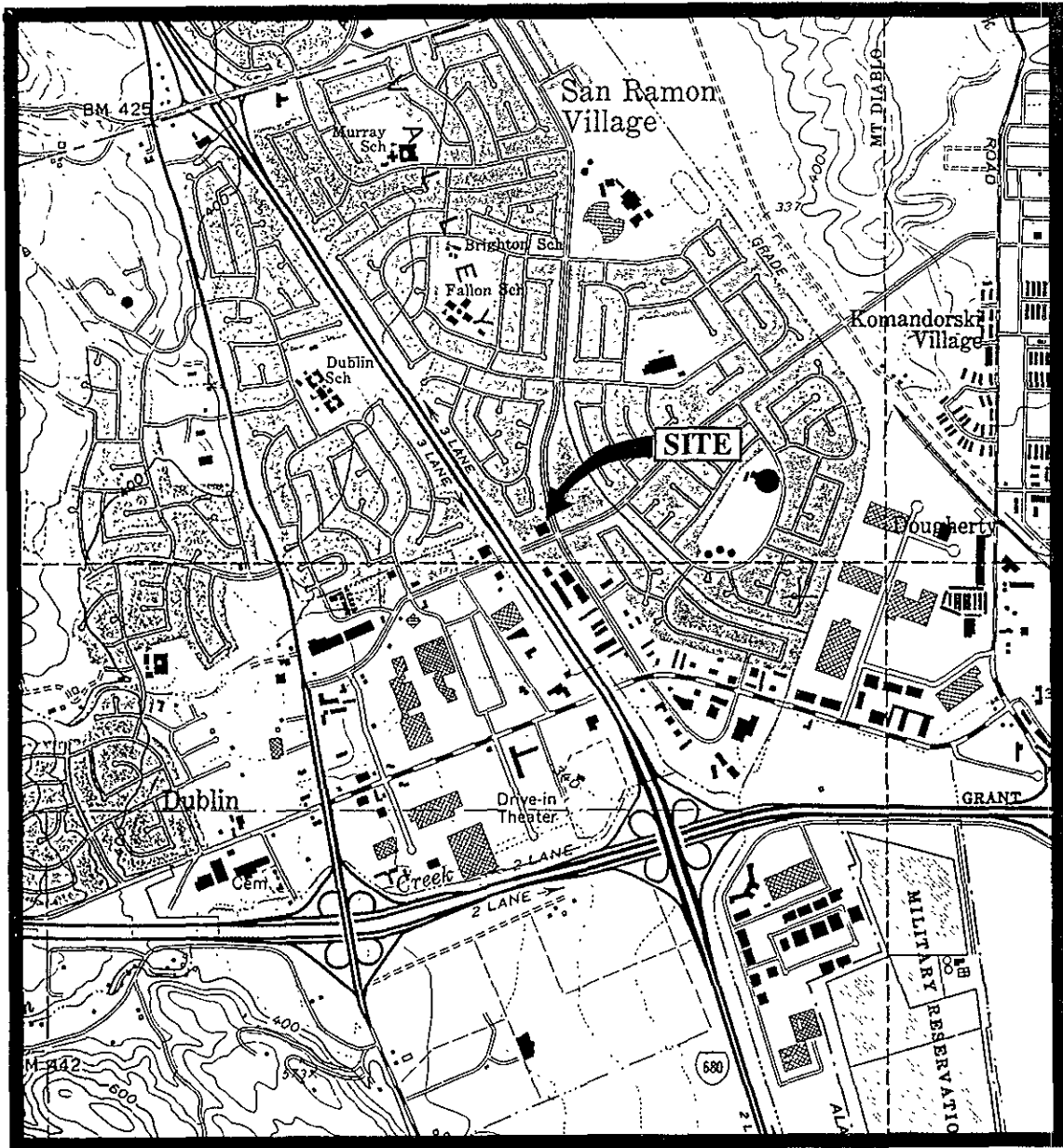
Table 4
Summary of Monitoring Data

Well	Date	Dissolved Oxygen Concentrations	
		Before Purging (mg/L)	After Purging (mg/L)
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	--
11/22/96	0.05	--	

-- Indicates measurement was not taken.

mg/L = milligrams per liter.

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



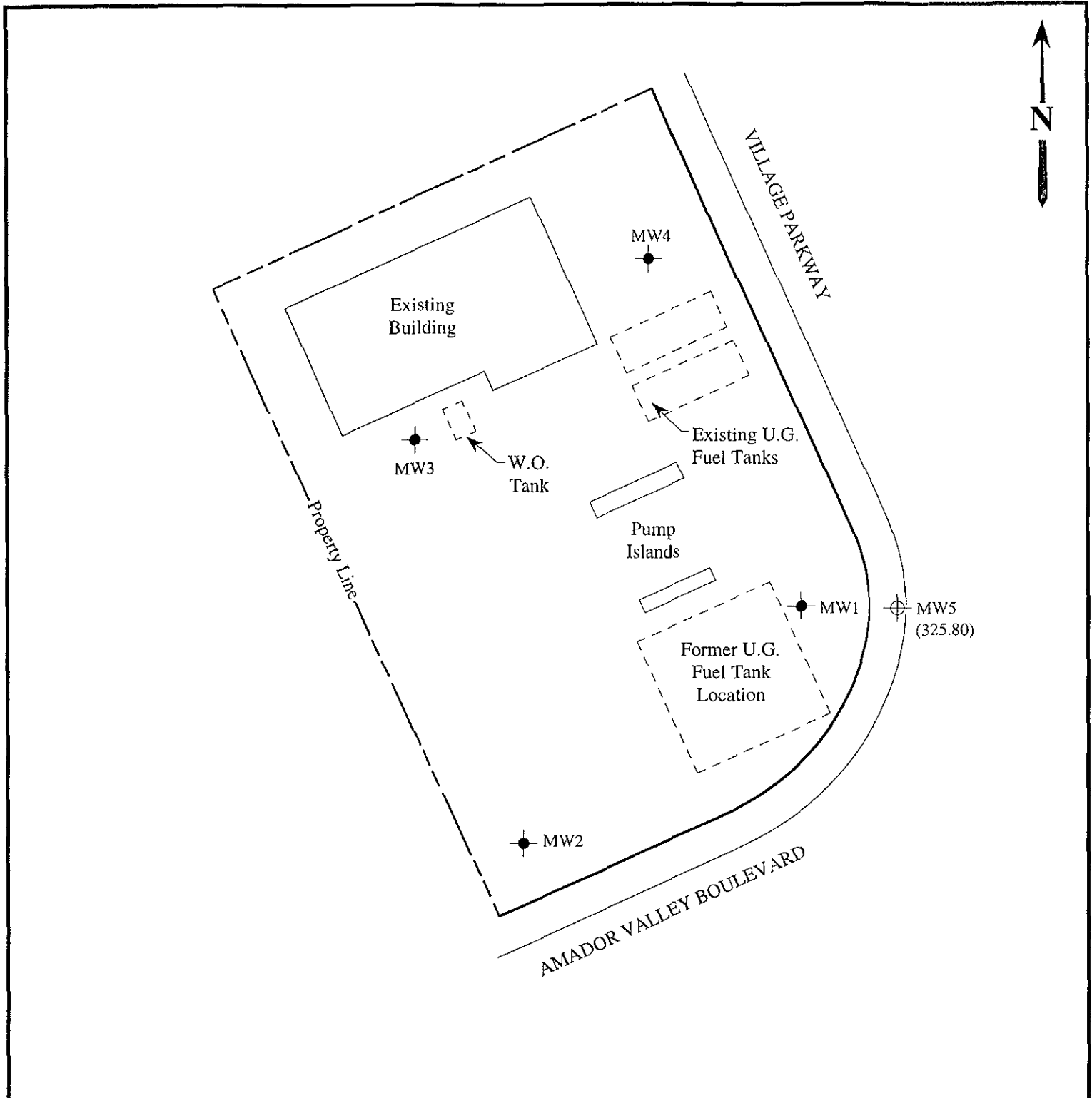
Base modified from 7.5 minute U.S.G.S. Dublin Quadrangle
(photorevised 1980)



MPDS SERVICES, INCORPORATED

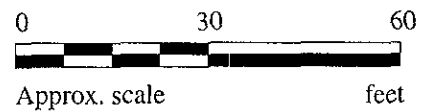
FORMER UNOCAL S/S #5366
7375 AMADOR VALLEY BLVD.
DUBLIN, CALIFORNIA

LOCATION
MAP

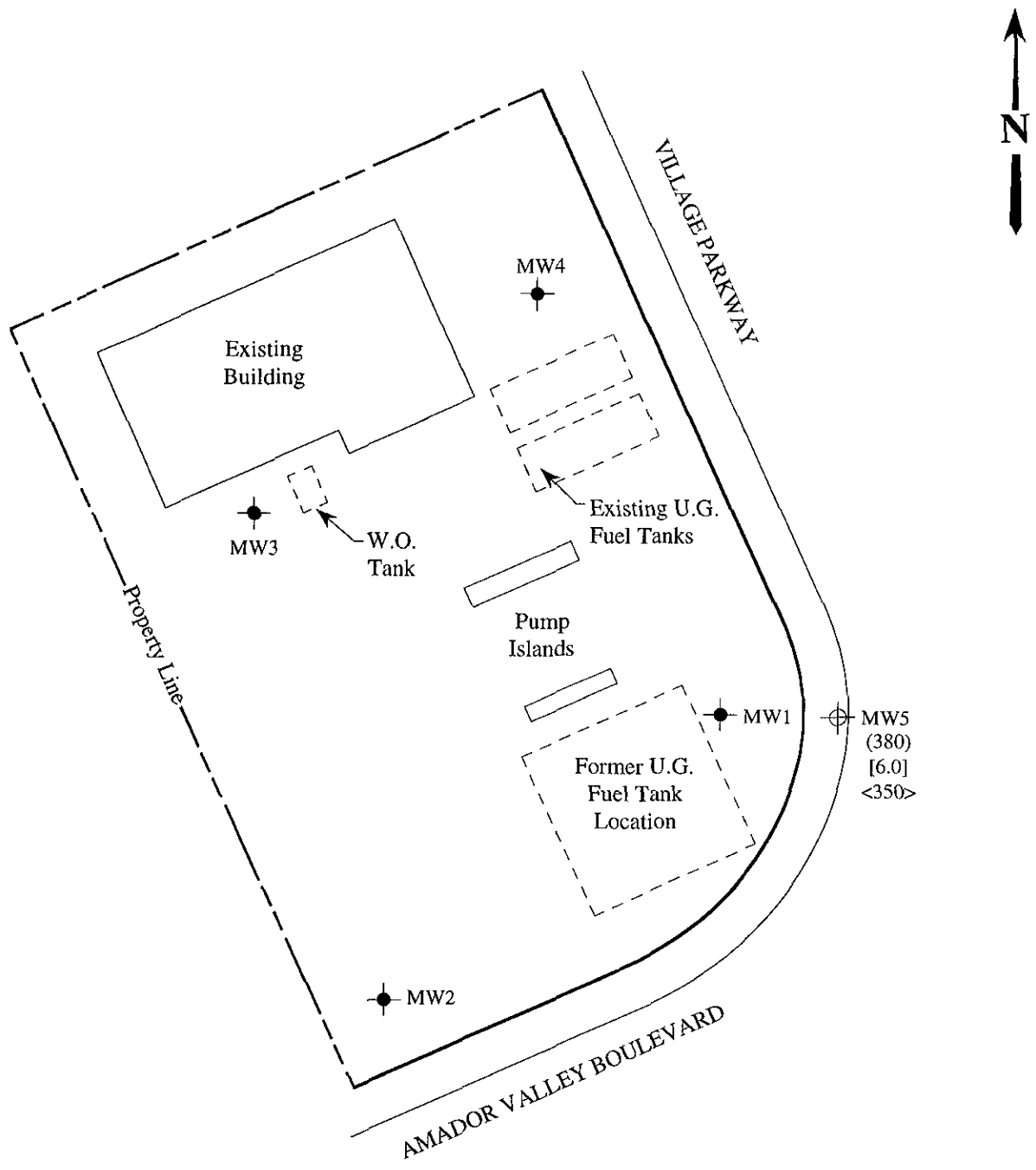


LEGEND

- ⊕ Monitoring well (existing)
- Monitoring well (destroyed May, 1996)
- () Ground water elevation in feet above Mean Sea Level

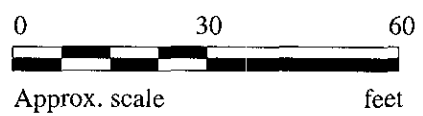


GROUND WATER ELEVATION MAP FOR FOR THE NOVEMBER 22, 1996 MONITORING EVENT



LEGEND

- ⊕ Monitoring well (existing)
- Monitoring well (destroyed May, 1996)
- () Concentration of TPH as gasoline in $\mu\text{g/L}$
- [] Concentration of benzene in $\mu\text{g/L}$
- < > Concentration of TPH as diesel in $\mu\text{g/L}$



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON NOVEMBER 22, 1996



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

**FIGURE
2**



MPDS Services	Client Project ID: Unocal 5366, 7375 Amador Valley Rd. Dublin	Sampled: Nov 22, 1996
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water	Received: Nov 25, 1996
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Dec 10, 1996
Attention: Jarrel Crider	First Sample #: 611-1341	

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
611-1341	MW-5	380	6.0	0.98	ND	ND	33

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

Client Project ID: Unocal 5366, 7375 Amador Valley Rd. Dublin
 Matrix Descript: Water
 Analysis Method: EPA 5030/8015 Mod./8020
 First Sample #: 611-1341

Sampled: Nov 22, 1996
 Received: Nov 25, 1996
 Reported: Dec 10, 1996

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
611-1341	MW-5	Gasoline	1.0	12/5/96	HP-4	70

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
404 N. Wiget Lane	Walnut Creek, CA 94598	(510) 988-9600	FAX (510) 988-9673
819 Striker Avenue, Suite 8	Sacramento, CA 95834	(916) 921-9600	FAX (916) 921-0100

MPDS Services	Client Project ID: Unocal 5366, 7375 Amador Valley Rd. Dublin	Sampled: Nov 22, 1996
2401 Stanwell Dr., Ste. 300	Sample Matrix: Water	Received: Nov 25, 1996
Concord, CA 94520	Analysis Method: EPA 3510/8015 Mod.	Reported: Dec 10, 1996
Attention: Jarrel Crider	First Sample #: 611-1341	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 611-1341 MW-5 ^
Extractable Hydrocarbons	50	350

Chromatogram Pattern: Diesel & Unidentified Hydrocarbons <C15

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	11/27/96
Date Analyzed:	12/3/96
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 <C15" are probably gasoline.





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

Client Project ID: Unocal 5366, 7375 Amador Valley Rd. Dublin
Matrix: Liquid

QC Sample Group: 611-1341

Reported: Dec 12, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Sharma

MS/MSD Batch#:	6111473	6111473	6111473	6111473	BLK112796
Date Prepared:	12/5/96	12/5/96	12/5/96	12/5/96	11/27/96
Date Analyzed:	12/5/96	12/5/96	12/5/96	12/5/96	12/3/96
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	85	90	90	87	110
Matrix Spike Duplicate % Recovery:	85	90	85	82	110
Relative % Difference:	0.0	0.0	5.7	5.9	0.0

LCS Batch#:	4LCS120596	4LCS120596	4LCS120596	4LCS120596	LCS112796
Date Prepared:	12/5/96	12/5/96	12/5/96	12/5/96	11/27/96
Date Analyzed:	12/5/96	12/5/96	12/5/96	12/5/96	12/3/96
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3A
LCS % Recovery:	85	90	95	95	117

% Recovery Control Limits:	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



9611403

CHAIN OF CUSTODY

SAMPLER			UNOCAL					ANALYSES REQUESTED						TURN AROUND TIME:		
ARMOND SALAIAN			S/S # <u>5346</u> CITY: <u>DUBLIN</u>					TPH-GAS BTEX	TPH-DIESEL	TOG	8010	MTSE*				REGULAR
WITNESSING AGENCY			ADDRESS: <u>7375 AMADOR VALLEY RD.</u>													
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION									
MW-5	11-22-96		X	X		3	WELL	X	X	A-C	X			6111341	* DETECTION LIMIT OF 5ppb	
RELINQUISHED BY:			DATE/TIME		RECEIVED BY:										THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:	
(SIGNATURE) <u>Armond Salian</u>			8:45 11-25-96		(SIGNATURE) <u>[Signature]</u>										1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>Y</u>	
(SIGNATURE) _____					(SIGNATURE) _____										2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>Y</u>	
(SIGNATURE) _____					(SIGNATURE) _____										3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>N</u>	
(SIGNATURE) _____					(SIGNATURE) _____										4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>Y</u>	
(SIGNATURE) _____					(SIGNATURE) _____										SIGNATURE: <u>[Signature]</u> TITLE: <u>Analyst</u> DATE: <u>11/25/96</u>	