MONITORING
PURGING
DISPOSING
SAMPLING
MPDS SERVICES, INCORPORATED

MPDS-UN7176-01
November 13, 1995

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

FILE # 7176 SS ✓ BP ____
RPT ____ QM ✓ TRANSMITTAL ____
1 ____ 2 ____ 3 ____ 4 ____ 5 ____ 6 ____

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. 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 October 12, 1995. Prior to sampling, the wells were each purged of between 7.5 and 10 gallons of water. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four casing volumes had been removed from each well, samples were then 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. Trip blank and Field blank samples (denoted as ES1 and ES3 respectively) were also collected for quality assurance and control. 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 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 3. Dissolved oxygen

concentration readings in ground water samples collected from monitoring wells U-1 through U-3 and from sample point CC1 (Figure 1) are presented in Table 4. 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.

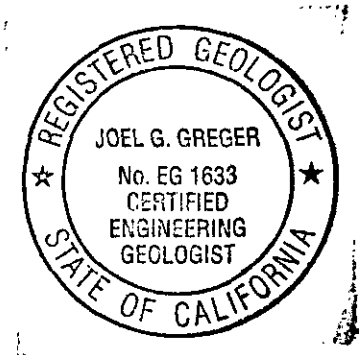
If you have any questions regarding this report, please do not hesitate to call at (510) 602-5120.

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

/bp

Attachments: Tables 1 through 4
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Clyde Galantine, Enviros, Inc.

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)
(Monitored and Sampled October 12, 1995)						
U-1	340.24	15.38	29.15	0	No	10
U-2	340.58	16.01	26.15	0	No	7.5
U-3	340.53	17.60	29.06	0	No	8.5
(Monitored and Sampled on July 8, 1995)						
U-1	343.03	12.59	30.00	0	--	NA
U-2	343.91	12.68	30.00	0	--	NA
U-3	343.55	14.58	30.00	0	--	NA

Well #	Well Casing Elevation (feet)*
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.

NA = Not available.

Note: Monitoring data prior to October 12, 1995, were provided by Enviros, Inc.

TABLE 2

RECORD OF THE TEMPERATURE, CONDUCTIVITY, AND pH VALUES
IN THE MONITORING WELLS DURING PURGING AND PRIOR TO SAMPLING

(Measured on October 12, 1995)

Well #	Gallons per Casing Volume	Time	Gallons Purged	Casing Volumes Purged	Temperature (°F)	Conductivity ([μmhos/cm] x100)	pH
U-1	2.34	12:10	0	0	79.9	14.27	6.91
			2.5	1.07	73.7	11.59	6.62
			5	2.14	71.5	12.16	6.53
			7.5	3.21	70.4	12.36	6.52
		12:20	10	4.27	69.8	12.26	6.51
U-2	1.72	11:20	0	0	74.6	10.12	7.00
			2	1.16	73.2	10.45	6.75
			4	2.33	72.6	12.83	6.66
			6	3.49	72.3	13.24	6.61
		11:30	7.5	4.36	72.3	13.98	6.56
U-3	2.04	09:30	0	0	57.7	8.75	6.94
			2	0.98	63.8	10.95	6.92
			4	1.96	66.7	13.01	6.84
			6	2.94	67.6	13.66	6.79
		09:40	8.5	4.17	68.1	13.87	6.79

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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	0.70	1.1
7/08/95	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

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

* = Unidentified Hydrocarbon C9-C24

** = Gas and Unidentified Hydrocarbons >C12

♦ 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.

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

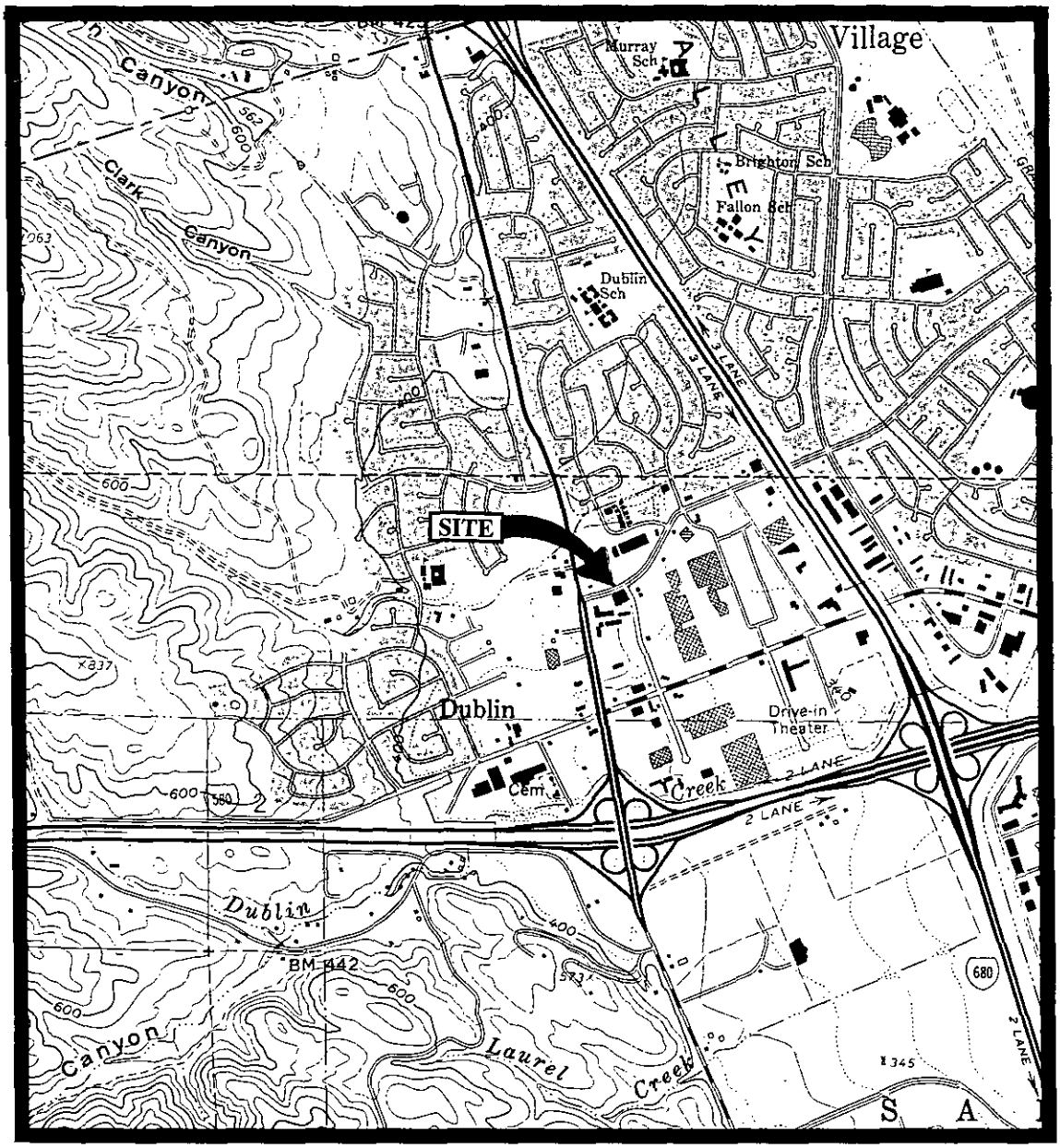
Note: Laboratory analyses data prior to October 12, 1995, were provided by Enviros, Inc.

TABLE 4

DISSOLVED OXYGEN CONCENTRATIONS (02)
WATER

Date	Well #	O2 (ppm)
11/07/95	U-1	12.32
	U-2	14.85
	U-3	17.67
10/02/95	CC1*	2.83

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

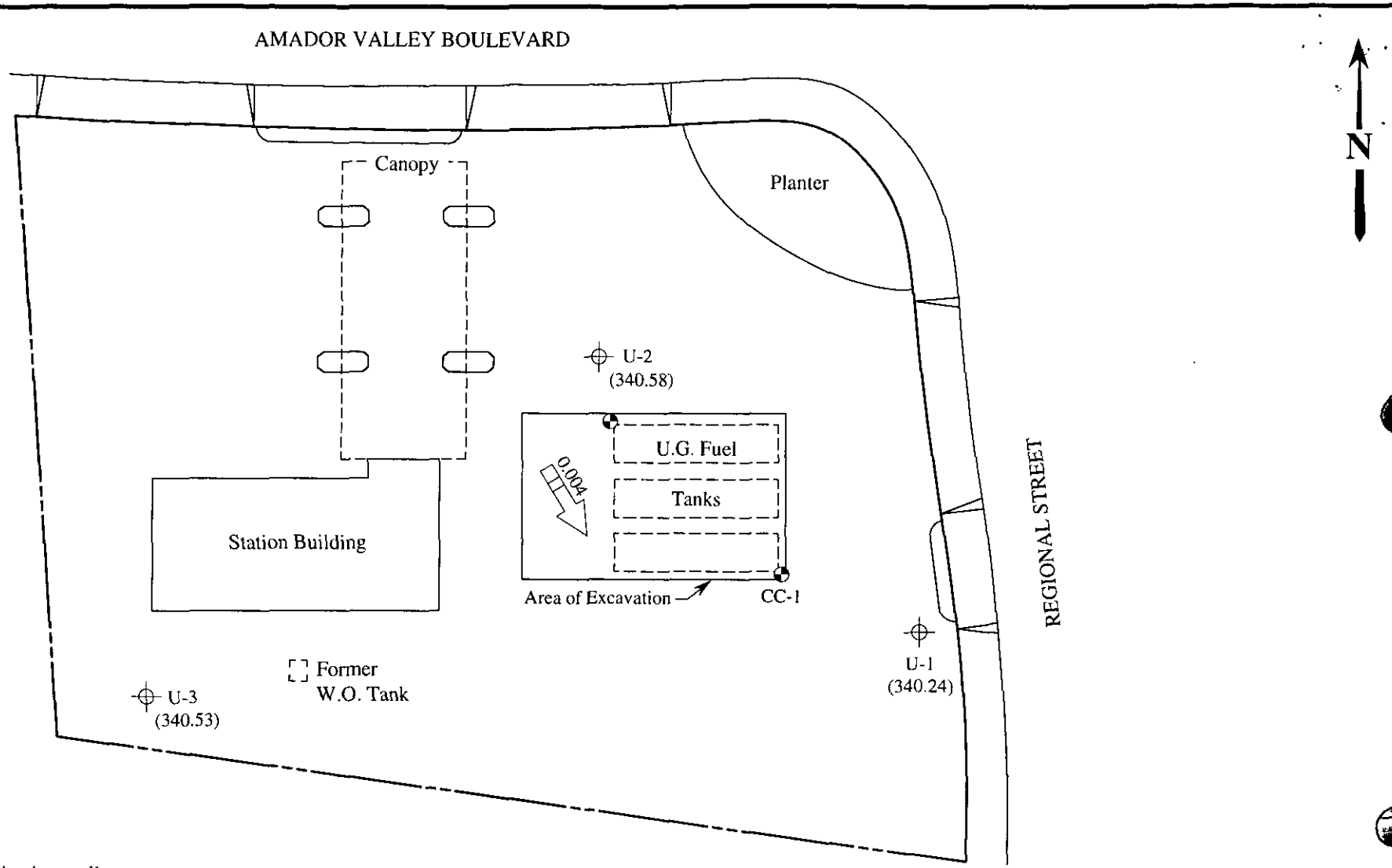


Base modified from 7.5 minute U.S.G.S. Dublin Quadrangle
(photorevised 1980)

0 2000 4000

Approx. scale feet

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #7176** **7850 AMADOR VALLEY BOULEVARD** **DUBLIN, CALIFORNIA**	**LOCATION MAP**

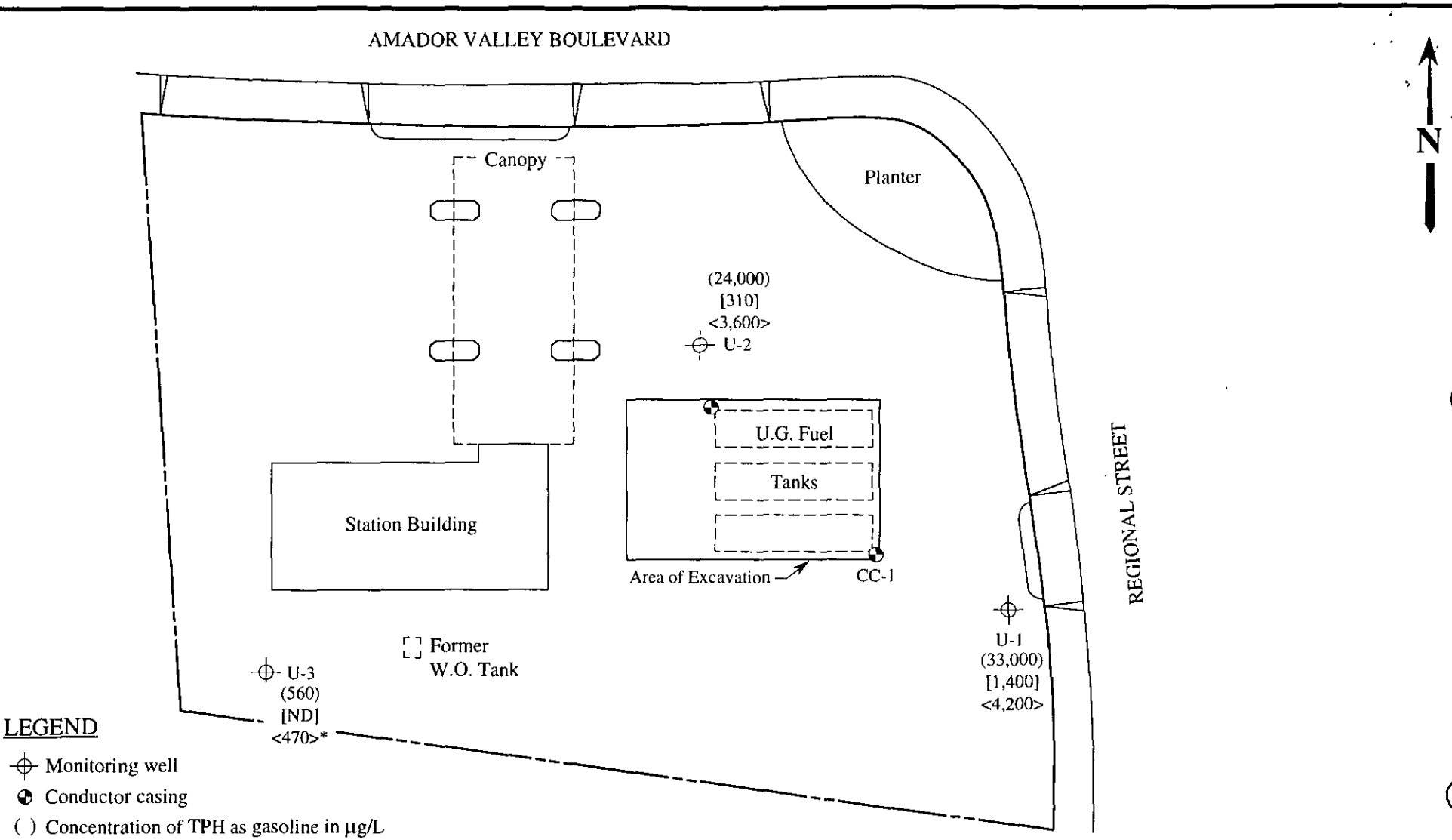


GROUND WATER FLOW DIRECTION MAP FOR THE OCTOBER 12, 1995 MONITORING EVENT

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

MPDS SERVICES, INCORPORATED

FIGURE
1



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON OCTOBER 12, 1995

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

mpds SERVICES, INCORPORATED

FIGURE
2

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 #7176, 7850 Amador Valley Rd.		Sampled:	Oct 12, 1995
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Dublin	Received:	Oct 12, 1995
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020		Reported:	Oct 27, 1995
Attention: Sarkis Karkarian	First Sample #:	510-0892			

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
510-0892	U1	33,000	1,400	ND	1,400	3,100
510-0893	U2	24,000	310	60	1,900	190
510-0894	U3	560	ND	0.87	0.70	1.1
510-0895	ES1	ND	ND	ND	ND	ND
510-0896	ES3	ND	ND	ND	ND	ND
Detection Limits:		**50**	**0.50**	**0.50**	**0.50**	**0.50**

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, #2000

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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MPDS Services	Client Project ID:	Unocal #7176, 7850 Amador Valley Rd.		Sampled:	Oct 12, 1995
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Dublin	Received:	Oct 12, 1995
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020		Reported:	Oct 27, 1995
Attention: Sarkis Karkarian	First Sample #:	510-0892			

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
510-0892	U1	Gasoline	100	10/26/95	HP-1	107
510-0893	U2	Gasoline	1.0	10/26/95	HP-1	95
510-0894	U3	Gasoline	1.0	10/26/95	HP-1	95
510-0895	ES1	--	1.0	10/26/95	HP-1	100
510-0896	ES3	--	1.0	10/26/95	HP-1	102

SEQUOIA ANALYTICAL, #2000

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #7176, 7850 Amador Valley Rd.		Sampled: Oct 12, 1995
2401 Stanwell Dr., Ste. 300	Sample Matrix:	Water	Dublin	Received: Oct 12, 1995
Concord, CA 94520	Analysis Method:	EPA 3510/8015 Mod.		Reported: Oct 27, 1995
Attention: Sarkis Karkarian	First Sample #:	510-0892		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 510-0892 U1^	Sample I.D. 510-0893 U2^	Sample I.D. 510-0894 U3*
Extractable Hydrocarbons	50	4200	3600	470
Chromatogram Pattern:		Diesel & Unidentified Hydrocarbons <C15; >C16	Diesel & Unidentified Hydrocarbons <C15	Unidentified Hydrocarbons <C15; >C16

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Extracted:	10/17/95	10/17/95	10/17/95
Date Analyzed:	10/17/95	10/17/95	10/17/95
Instrument Identification:	HP-3A	HP-3A	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; >C16 refers to unidentified peaks in the total oil and grease range.
* This sample does not appear to contain diesel . "Unidentified Hydrocarbons <C15" are probably gasoline; >C16 refers to unidentified peaks in the total oil and grease range.

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Sarkis Karkarian

Client Project ID: Unocal #7176, 7850 Amador Valley Rd., Dublin
Matrix: Liquid
QC Sample Group: 5100892-896
Reported: Oct 27, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	N.Zahedl	N.Zahedl	N.Zahedl	N.Zahedl
MS/MSD Batch#:	5100561	5100561	5100561	5100561
Date Prepared:	10/26/95	10/26/95	10/26/95	10/26/95
Date Analyzed:	10/26/95	10/26/95	10/26/95	10/26/95
Instrument I.D.#:	HP-1	HP-1	HP-1	HP-1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	91	91	92	94
Matrix Spike Duplicate % Recovery:	90	90	90	92
Relative % Difference:	1.1	1.1	2.2	2.2
LCS Batch#:	-	-	-	-
Date Prepared:	-	-	-	-
Date Analyzed:	-	-	-	-
Instrument I.D.#:	-	-	-	-
LCS % Recovery:	-	-	-	-
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #2000

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.

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Sarkis Karkarian

Client Project ID: Unocal #7176, 7850 Amador Valley Rd., Dublin
Matrix: Liquid
QC Sample Group: 5100892-895

Reported: Oct 27, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel
Method:	EPA 8015
Analyst:	J. Dinsay
MS/MSD Batch#:	BLK101795
Date Prepared:	10/17/95
Date Analyzed:	10/17/95
Instrument I.D.#:	GCHP-3A
Conc. Spiked:	300 µg/L
Matrix Spike % Recovery:	93
Matrix Spike Duplicate % Recovery:	83
Relative % Difference:	11

LCS Batch#:	LCS101795
Date Prepared:	10/17/95
Date Analyzed:	10/17/95
Instrument I.D.#:	GCHP-3A
LCS % Recovery:	87
% Recovery Control Limits:	38-122

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.

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord CA 94520
Attention: Sarkis Karkarian

Date: 10/30/95

Sequoia Analytical has potentially identified the presence of MTBE at reportable levels for the following site(s):

Client Project I.D. - **Unocal #7176, Dublin**

Sequoia Work Order # - **9510234**

Sample Number:	Sample Description:
5100892	U1
5100893	U2

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

mpds SERVICES, INCORPORATED
2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: (510) 602-5100, Fax: (510) 689-1918

CHAIN OF CUSTODY

9510234

SAMPLER: RAY MARANGOSIAN

WITNESSING AGENCY:

UNOCAL S/S # 7176 CITY: DUBLIN

ADDRESS: 7850 Amador Valley Blvd

ANALYSES REQUESTED

TURN AROUND TIME: RUSH

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-GAS BTEX	TPH-DIESEL	TOG	8010				REMARKS
U1	10.12.95	12:30	X	X		3	Well	X	X					5100892	1-C
U2	4	11.40	X	X		4	4	X	X					5100893	
U3	4	9:50	X	X		4	4	X	X					5100894	

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
Ray Marangosian	10.12.95 12:15		10/12 1215
(SIGNATURE)		(SIGNATURE)	
(SIGNATURE)		(SIGNATURE)	
(SIGNATURE)		(SIGNATURE)	
(SIGNATURE)		(SIGNATURE)	

THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:

1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? Yes
2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? Yes
3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? No
4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? Yes

SIGNATURE: TITLE: Analyst DATE: 10/12/95

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 HNO3. All other containers are unpreserved.

mpds SERVICES, INCORPORATED
2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: (510) 602-5100, Fax: (510) 689-1918

CHAIN OF CUSTODY

9510234

SAMPLER: RAY MARANGOSIAN

WITNESSING AGENCY:

UNOCAL S/S # 7176 CITY: DUBLIN

ADDRESS: 7850 Amador Valley Rd

ANALYSES REQUESTED

TURN AROUND TIME:

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-GAS BTEX	TPH-DIESEL	TOG	8010				REMARKS
ES1	10.12.95		X	X		1		X						5100895	
ES3	"		X	X		1		X						5100896	

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
Ray Marangosian (SIGNATURE)	10.12.95 12:15	(SIGNATURE)	10/12
(SIGNATURE)		(SIGNATURE)	
(SIGNATURE)		(SIGNATURE)	
(SIGNATURE)		(SIGNATURE)	

THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:

1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? Yes
2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? Yes
3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? No
4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? Yes

SIGNATURE: TITLE: Analyst DATE: 10/12/95

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.