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April 6, 1995

Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94501

RE: Unocal Service Station #6419
6401 Dublin Boulevard
Dublin, California

Per the request of the Unocal Corporation Project Manager, Mr. Edward C. Ralston, enclosed please find our report (MPDS-UN6419-05) dated March 10, 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 Pegito

/bp

Enclosure

cc: Mr. Edward C. Ralston

MPDS-UN6419-03
March 10, 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 #6419
6401 Dublin 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. 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 directions during the most recent quarter are shown on the attached Figures 1, 2, and 3.

Ground water samples were collected on February 15, 1995. Prior to sampling, the wells were each purged of between 8.5 and 10 gallons of water. 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. 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 Tables 2 and 3. 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 4. 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 the Alameda County Health Care Services.

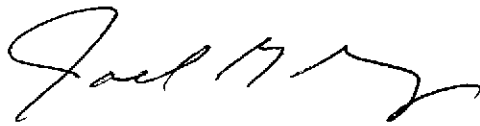
If you have any questions regarding this report, please do not hesitate to call Mr. Nubar Srabian at (510) 602-5120.

Sincerely,

MPDS Services, Inc.



Sarkis A. 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 & 3
Location Map
Figures 1 through 4
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Timothy R. Ross, 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)	Sheen	Water Purged (gallons)
--------	-------------------------------	------------------------	--------------------------	--------------------------	-------	------------------------

(Monitored and Sampled on February 15, 1995)

MW1	324.16	6.29	19.36	0	No	9
MW2	324.24	6.16	19.83	0	No	10
MW3	324.18	6.93	19.04	0	No	8.5

(Monitored on January 17, 1995)

MW1	324.42	6.03	*	0	--	0
MW2	324.40	6.00	*	0	--	0
MW3	324.39	6.72	*	0	--	0

(Monitored on December 20, 1994)

MW1	322.87	7.58	19.27	0	--	0
MW2	322.92	7.48	19.71	0	--	0
MW3	322.91	8.20	18.95	0	--	0

(Monitored and Sampled on November 18, 1994)

MW1	322.76	7.69	19.35	0	No	8
MW2	322.73	7.67	19.81	0	No	8.5
MW3	322.72	8.39	19.03	0	No	7.5

(Monitored and Sampled on August 25, 1994)

MW1	321.88	8.57	19.34	0	No	8
MW2	321.99	8.41	19.81	0	No	8
MW3	321.91	9.20	19.02	0	No	7

Well #	Well Casing Elevation (feet)*
MW1	330.45
MW2	330.40
MW3	331.11

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

- ◆ 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 have been surveyed relative to Mean Sea Level, per the benchmark on the northwest corner of Dougherty Road and Sierra Way (elevation = 331.728 feet MSL).
- ★ Total well depth not measured.

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
2/15/95▲	MW1	660♦	3,300	13	ND	180	5.2
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	130**	ND	ND	ND	ND
11/18/94	MW1	910♦♦	5,100	33	ND	560	38
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	130**	ND	ND	ND	ND
8/25/94	MW1	910♦♦	9,200*	48	ND	540	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	130**	ND	ND	ND	ND
3/14/94	MW1	810♦	1,800*	17	ND	ND	ND
	MW2	--	ND	ND	2.8	1.1	8.0
	MW3	--	150**	ND	ND	ND	ND

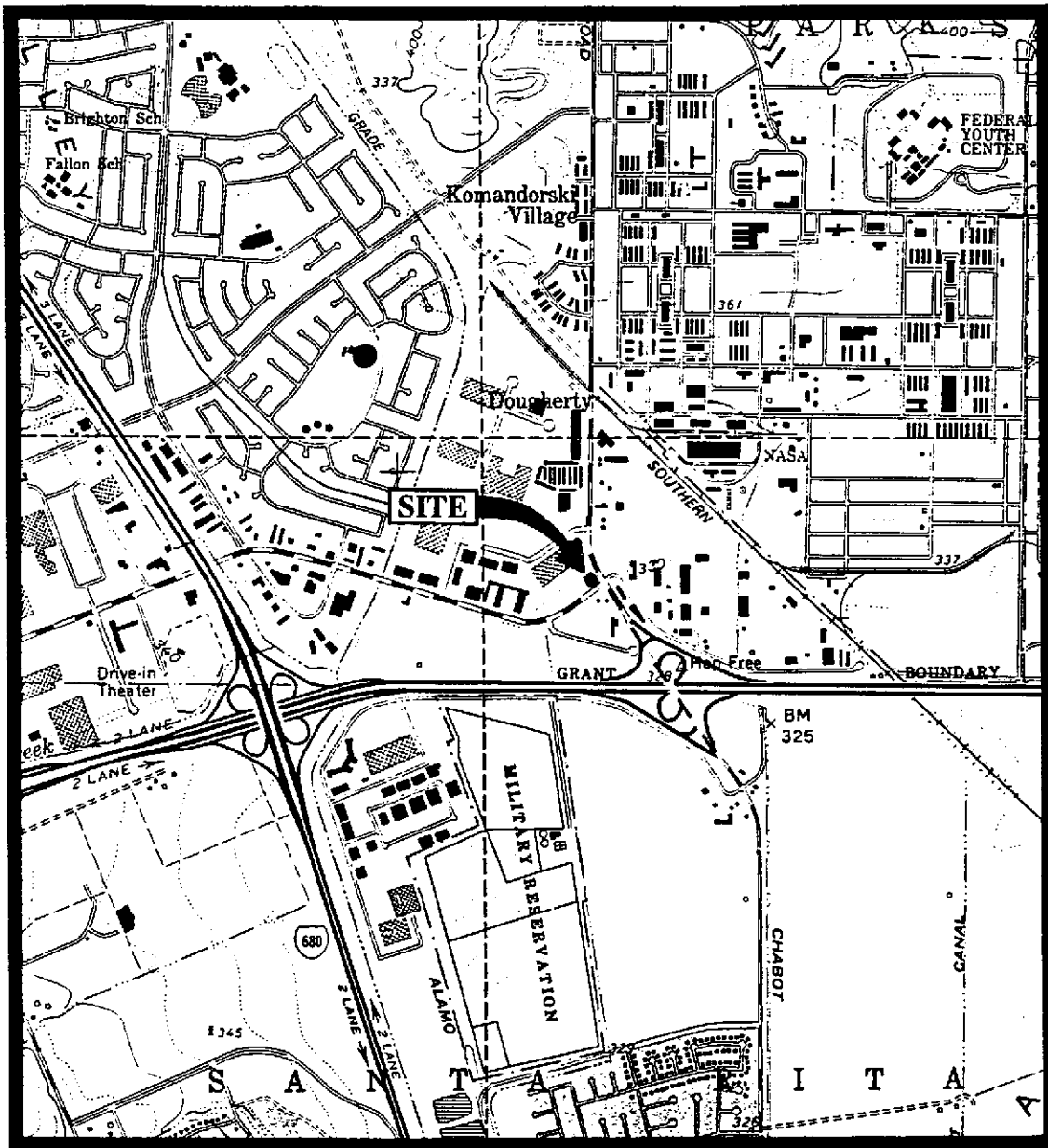
- ♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- ♦♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.
- * Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- ** Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.
- ▲ Dissolved oxygen was detected at a concentration of 4.3 mg/L, 1.9 mg/L, and 2.6 mg/L in wells MW1, MW2, and MW3, respectively.

ND = Non-detectable.

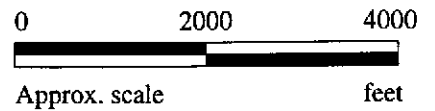
-- Indicates analysis was not performed.

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

Note: Laboratory analyses data prior to August 25, 1994, were provided by Kaprealian Engineering, Inc.



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



MPDS SERVICES, INCORPORATED

UNOCAL SERVICE STATION #6419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

LOCATION
MAP

TABLE 3

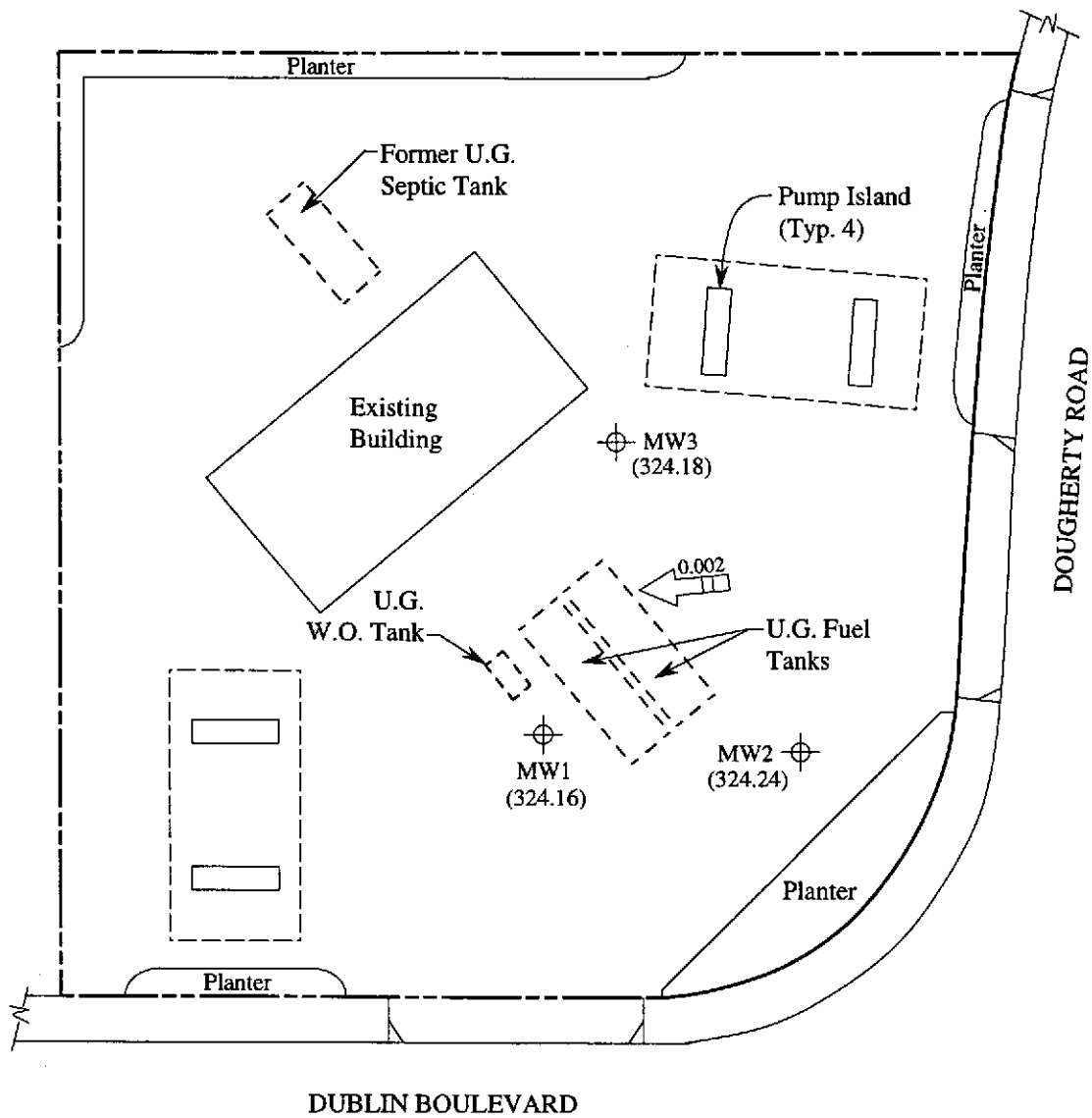
SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>Cadmium</u>	<u>Chromium</u>	<u>Lead</u>	<u>Nickel</u>	<u>Zinc</u>
2/15/95	MW1	ND	ND	ND	ND	ND
11/18/94	MW1	ND	0.076	ND	0.067	ND
8/25/94	MW1	ND	ND	0.024	ND	ND
3/14/94	MW1	ND	0.012	ND	0.030	0.039




ND = Non-detectable.

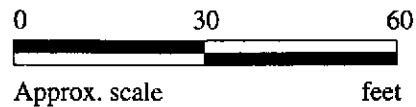
Results are in milligrams per liter (mg/L), unless otherwise indicated.

Note: Laboratory analyses data prior to August 25, 1994, were provided by Kaprealian Engineering, Inc.

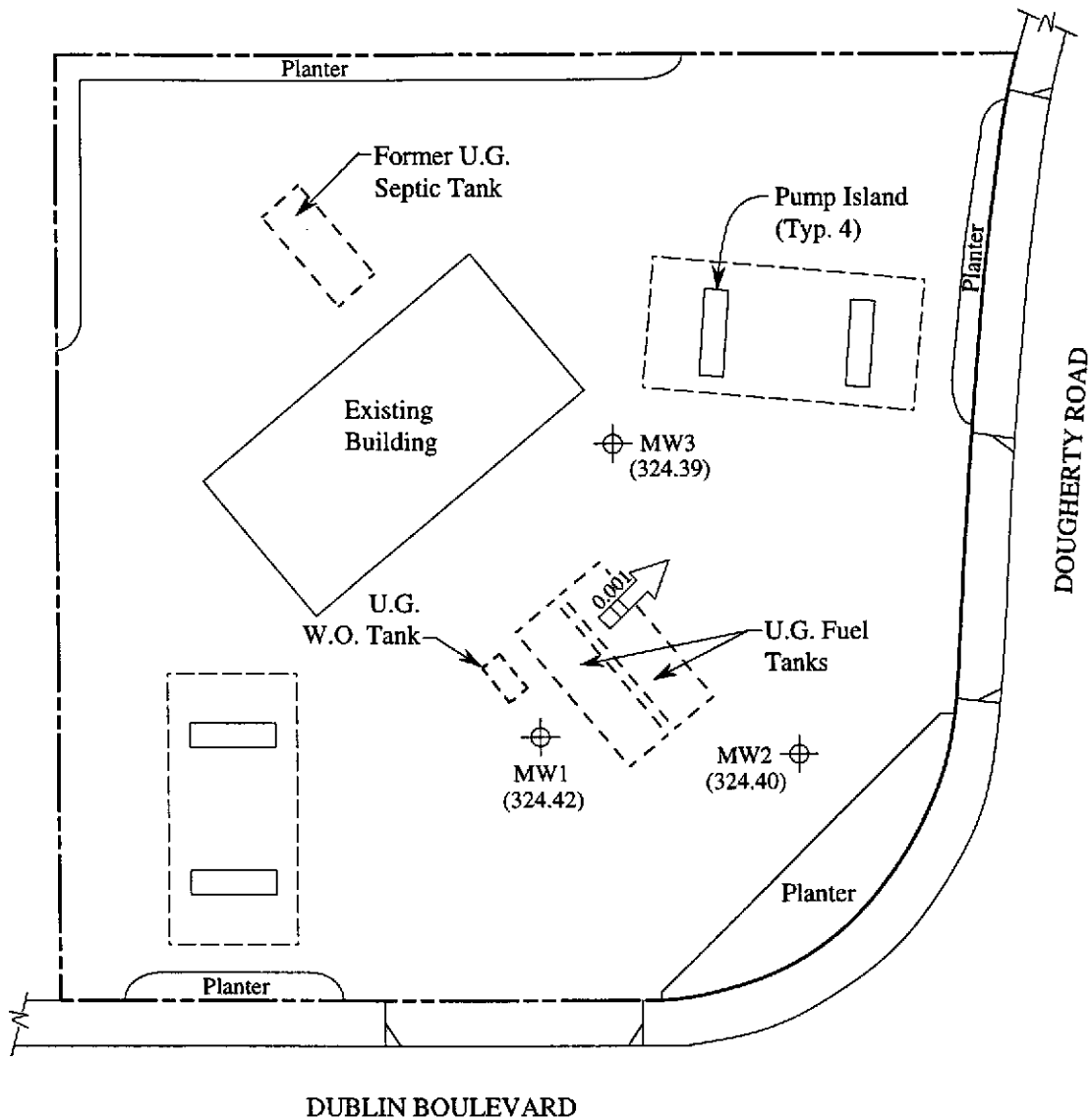


LEGEND

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

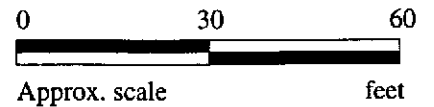


GROUND WATER FLOW DIRECTION MAP FOR THE FEBRUARY 15, 1995 MONITORING EVENT



LEGEND

- ⊕ Monitoring well
- () Ground water elevation in feet above Mean Sea Level
- ### → Direction of ground water flow with approximate hydraulic gradient

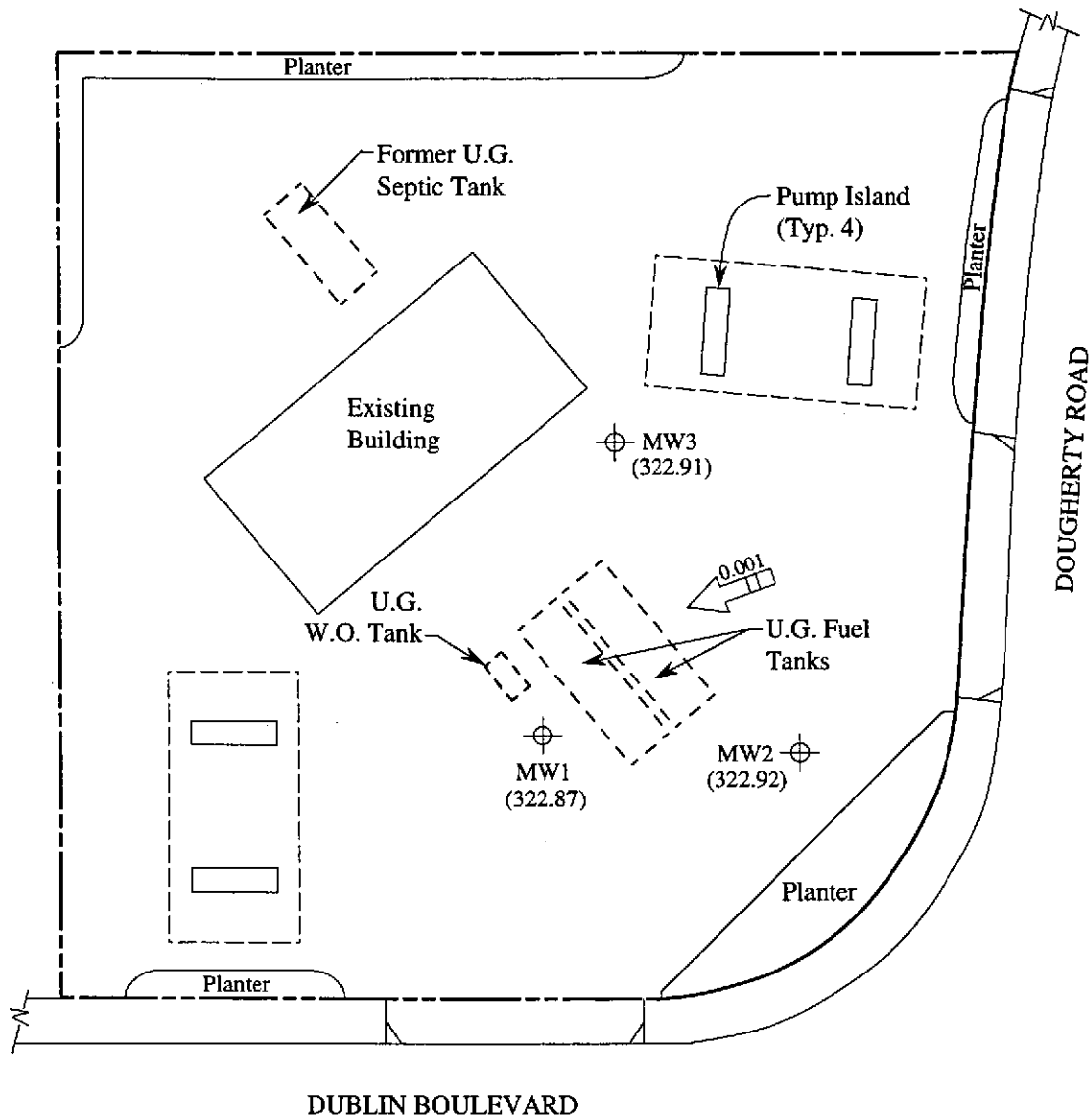
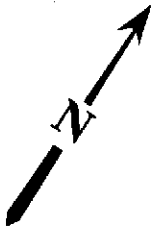


GROUND WATER FLOW DIRECTION MAP FOR THE JANUARY 17, 1995 MONITORING EVENT






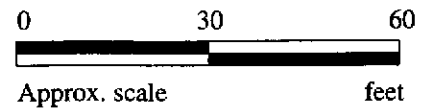
**UNOCAL SERVICE STATION #6419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA**

**FIGURE
2**



LEGEND

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

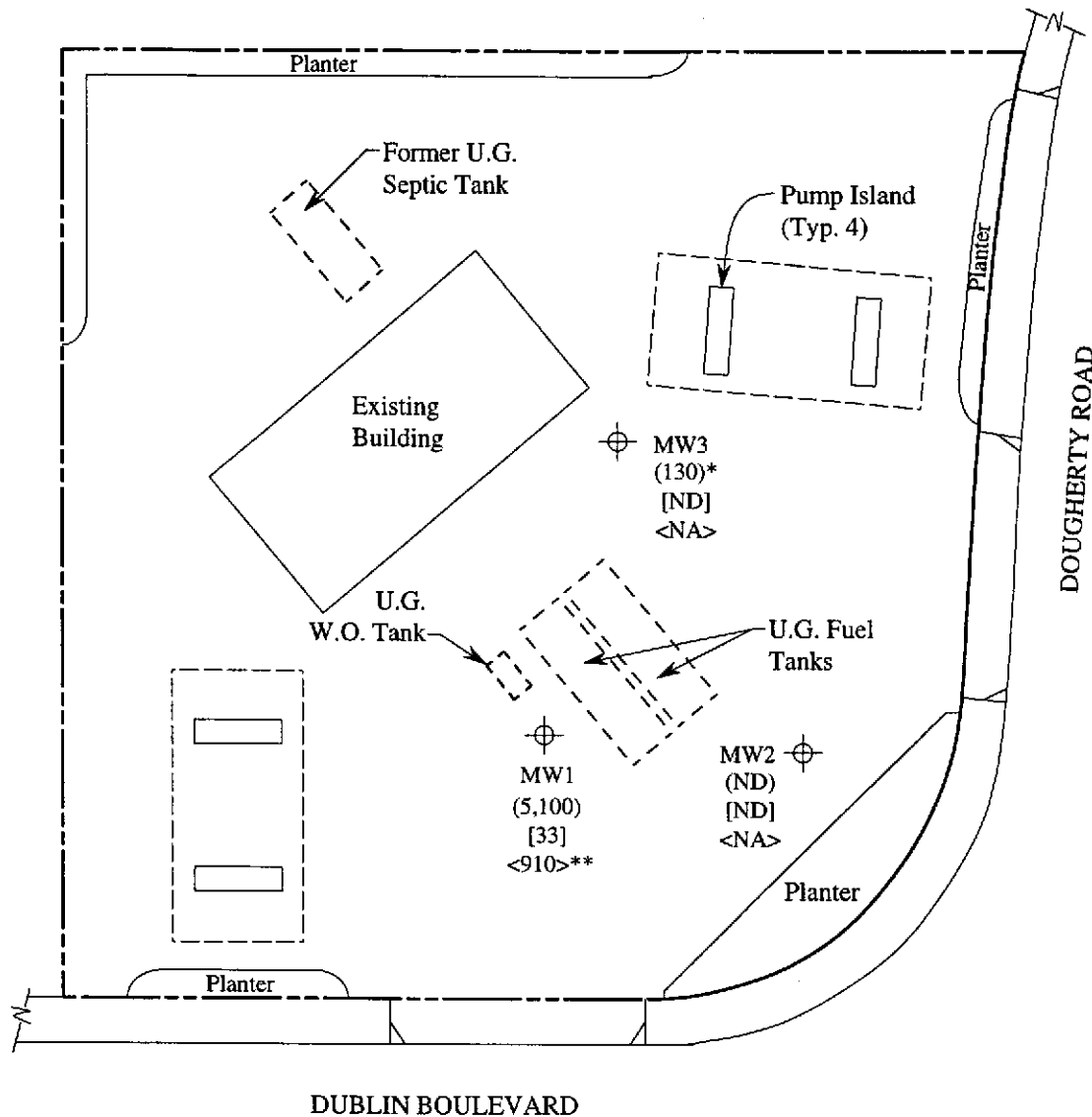
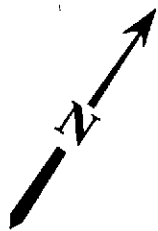


GROUND WATER FLOW DIRECTION MAP FOR THE DECEMBER 20, 1994 MONITORING EVENT



**UNOCAL SERVICE STATION #6419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA**

**FIGURE
3**



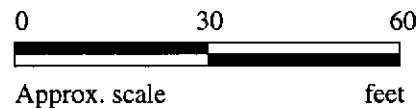
LEGEND

- ⊕ 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, NA = Not analyzed

* The lab reported that the hydrocarbons detected did not appear to be gasoline.

** The lab reported that the hydrocarbons detected did not appear to be diesel.



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON NOVEMBER 18, 1994



**UNOCAL SERVICE STATION #6419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA**

**FIGURE
4**



MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #6419, 6401 Dublin Blvd., Dublin Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 502-0995	Sampled: Feb 15, 1995 Received: Feb 15, 1995 Reported: Mar 3, 1995
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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
502-0995	MW 1	3,300	13	ND	180	5.2
502-0996	MW3	130*	ND	ND	ND	ND
502-0997	MW2	ND	ND	ND	ND	ND

* Hydrocarbons detected did not appear to be gasoline.

Detection Limits:	50	0.50	0.50	0.50	0.50
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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

Please Note:
Revised Report, 3/22/95





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

Client Project ID: Unocal #6419, 6401 Dublin Blvd., Dublin
Matrix Descript: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 502-0995

Sampled: Feb 15, 1995
Received: Feb 15, 1995
Reported: Mar 3, 1995

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
502-0995	MW 1	Gasoline	10	2/27/95	HP-2	106
502-0996	MW3	Discrete Peak*	1.0	2/27/95	HP-2	99
502-0997	MW2	--	1.0	2/27/95	HP-2	103

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

Please Note:

* "Discrete Peak" refers to an unidentified peak in the MTBE range.





MPDS Services	Client Project ID: Unocal #6419, 6401 Dublin Blvd., Dublin	Sampled: Feb 15, 1995
2401 Stanwell Dr., Ste. 300	Sample Matrix: Water	Received: Feb 15, 1995
Concord, CA 94520	Analysis Method: EPA 3510/3520/8015	Reported: Mar 3, 1995
Attention: Sarkis Karkarian	First Sample #: 502-0995	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 502-0995 MW 1*
Extractable Hydrocarbons	50	660

Chromatogram Pattern: Diesel and Unidentified Hydrocarbons <C14

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	2/21/95
Date Analyzed:	2/24/95
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

Please Note:
* This sample appears to contain diesel and non-diesel mixtures. "Unidentified Hydrocarbons <C14" are probably gasoline.





MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #6419, 6401 Dublin Blvd., Dublin Sample Descript: Water, MW 1 Lab Number: 502-0995	Sampled: Feb 15, 1995 Received: Feb 15, 1995 Analyzed: Feb 24, 1995 Reported: Mar 3, 1995
--	--	--

LABORATORY ANALYSIS

Analyte	Detection Limit mg/L	Sample Results mg/L
Cadmium.....	0.010	N.D.
Chromium.....	0.010	N.D.
Lead.....	0.020	N.D.
Nickel.....	0.020	N.D.
Zinc.....	0.020	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 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #6419, 6401 Dublin Blvd., Dublin Sample Descript: Water Analysis for: Dissolved Oxygen First Sample #: 502-0995	Sampled: Feb 15, 1995 Received: Feb 15, 1995 Analyzed: Feb 15, 1995 Reported: Mar 3, 1995
--	--	--

LABORATORY ANALYSIS FOR: Dissolved Oxygen

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
502-0995	MW 1	1.0	4.3
502-0996	MW 2	1.0	1.9
502-0997	MW 3	1.0	2.6

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1210

Signature on File

Alan B. Kemp
Project Manager





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

Client Project ID: Unocal #6419, 6401 Dublin Blvd., Dublin
 Matrix: Liquid

QC Sample Group: 5020995-97

Reported: Mar 13, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 Mod.
Analyst:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon	K. Wimer

MS/MSD Batch#:	5020993	5020993	5020993	5020993	BLK022195
Date Prepared:	2/27/95	2/27/95	2/27/95	2/27/95	2/21/95
Date Analyzed:	2/27/95	2/27/95	2/27/95	2/27/95	2/27/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	100	95	100	100	72
Matrix Spike Duplicate % Recovery:	100	100	105	100	96
Relative % Difference:	0.0	0.0	4.9	0.0	29

LCS Batch#:	1LCS022795	1LCS022795	1LCS022795	1LCS022795	BLK022195
Date Prepared:	2/27/95	2/27/95	2/27/95	2/27/95	2/21/95
Date Analyzed:	2/27/95	2/27/95	2/27/95	2/27/95	2/27/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
LCS % Recovery:	108	105	110	107	72

% Recovery Control Limits:	71-133	72-128	72-130	71-120	28-122
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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. 300
Concord, CA 94520
Attention: Sarkis Karkarian

Client Project ID: Unocal #6419, 6401 Dublin Blvd., Dublin
Matrix: Liquid

QC Sample Group: 5020995-97

Reported: Mar 13, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Cadmium	Chromium	Lead	Nickel	Zinc
Method:	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Analyst:	J. Dinsay	J. Dinsay	J. Dinsay	J. Dinsay	J. Dinsay

MS/MSD					
Batch#:	5020995	5020995	5020995	5020995	5020995
Date Prepared:	2/23/95	2/23/95	2/23/95	2/23/95	2/23/95
Date Analyzed:	2/24/95	2/24/95	2/24/95	2/24/95	2/24/95
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Matrix Spike					
% Recovery:	104	100	102	99	103
Matrix Spike Duplicate %					
Recovery:	105	103	105	93	104
Relative % Difference:	0.96	3.0	2.9	6.3	0.97

LCS Batch#:	BLK022395	BLK022395	BLK022395	BLK022395	BLK022395
Date Prepared:	2/23/95	2/23/95	2/23/95	2/23/95	2/23/95
Date Analyzed:	2/24/95	2/24/95	2/24/95	2/24/95	2/24/95
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100
LCS % Recovery:	104	103	107	106	103

% Recovery Control Limits:	75-125	75-125	75-125	75-125	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



