

ENVIRONMENTAL
PROTECTION
96 AUG 23 PM 2:49

MPDS-UN5366-10
June 27, 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
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. The ground water flow direction in the vicinity of the Unocal site during the most recent quarter is shown on the attached Figure 1.

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

A ground water sample was collected from Unocal's well MW5 on May 23, 1996. Prior to sampling, well MW5 was purged of 8 gallons of water. In addition, 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. 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 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 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.

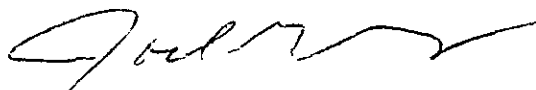
If you have any questions regarding this report, please do not hesitate to call Mr. Joel G. Greger at (510) 602-5120.

Sincerely,

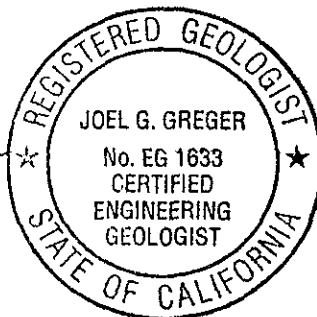
MPDS Services, Inc.



Thomas J. Berkins
Project Engineer



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



License No. EG 1633
Exp. Date 8/31/96

/jfc

Attachments: Tables 1 through 6
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) |
|--------|-------------------------------|------------------------|--------------------------|--------------------------|-------|------------------------|
|--------|-------------------------------|------------------------|--------------------------|--------------------------|-------|------------------------|

(Monitored and Sampled May 23, 1996)

| | | | | | | |
|-----|--------|------|-------|---|----|---|
| MW5 | 327.31 | 8.65 | 20.02 | 0 | No | 8 |
|-----|--------|------|-------|---|----|---|

(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 |

(Monitored and Sampled November 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 |

(Monitored and Sampled August 25, 1995)

| | | | | | | |
|------|--------|-------|-------|---|----|-----|
| MW1 | 326.39 | 9.68 | 19.50 | 0 | No | 7 |
| MW2* | 327.02 | 9.76 | 19.27 | 0 | -- | 0 |
| MW3* | 326.95 | 10.03 | 18.90 | 0 | -- | 0 |
| MW4* | 326.35 | 10.08 | 19.41 | 0 | -- | 0 |
| MW5 | 326.39 | 9.57 | 20.00 | 0 | No | 7.5 |

| Well # | Top of Casing Elevation (feet)** |
|--------|----------------------------------|
|--------|----------------------------------|

| | |
|-----|--------|
| MW1 | 336.07 |
| MW2 | 336.78 |
| MW3 | 336.98 |
| MW4 | 336.43 |
| MW5 | 335.96 |

Table 1
Summary of Monitoring Data
Unocal Service Station Wells

- ◆ 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 OF 1996. | | | | | | |

Table 2
 Summary of Laboratory Analyses
 Water

| Well # | Date | TPH as Gasoline | Benzene | Toluene | Ethyl- Benzene | Xylenes | MTBE | |
|--------|----------|------------------------------------|---------|---------|-------------------|---------|------|--|
| 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 | -- | |
| | 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 OF 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 OF 1996. | | | | | | |

Table 2
 Summary of Laboratory Analyses
 Water

| Well # | Date | TPH as Gasoline | Benzene | Toluene | Ethyl- Benzene | Xylenes | MTBE | |
|--------|----------|------------------------------------|---------|---------|-------------------|---------|------|--|
| 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 OF 1996. | | | | | | |
| 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 | |

† 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.

Table 2
Summary of Laboratory Analyses
Water

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* | -- | -- | |

* 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 |

-- Reading not taken.

mg/L = milligrams per liter.

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

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

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

(Monitored and Sampled May 23, 1996)

| | | | |
|-----|--------|------|--------|
| MW1 | 327.83 | 8.73 | 336.56 |
| MW2 | 327.90 | 6.90 | 334.80 |
| MW3 | 327.83 | 7.70 | 335.53 |
| MW4 | 327.75 | 6.47 | 334.22 |
| MW5 | 328.00 | 7.87 | 335.87 |
| MW6 | 327.79 | 8.05 | 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)

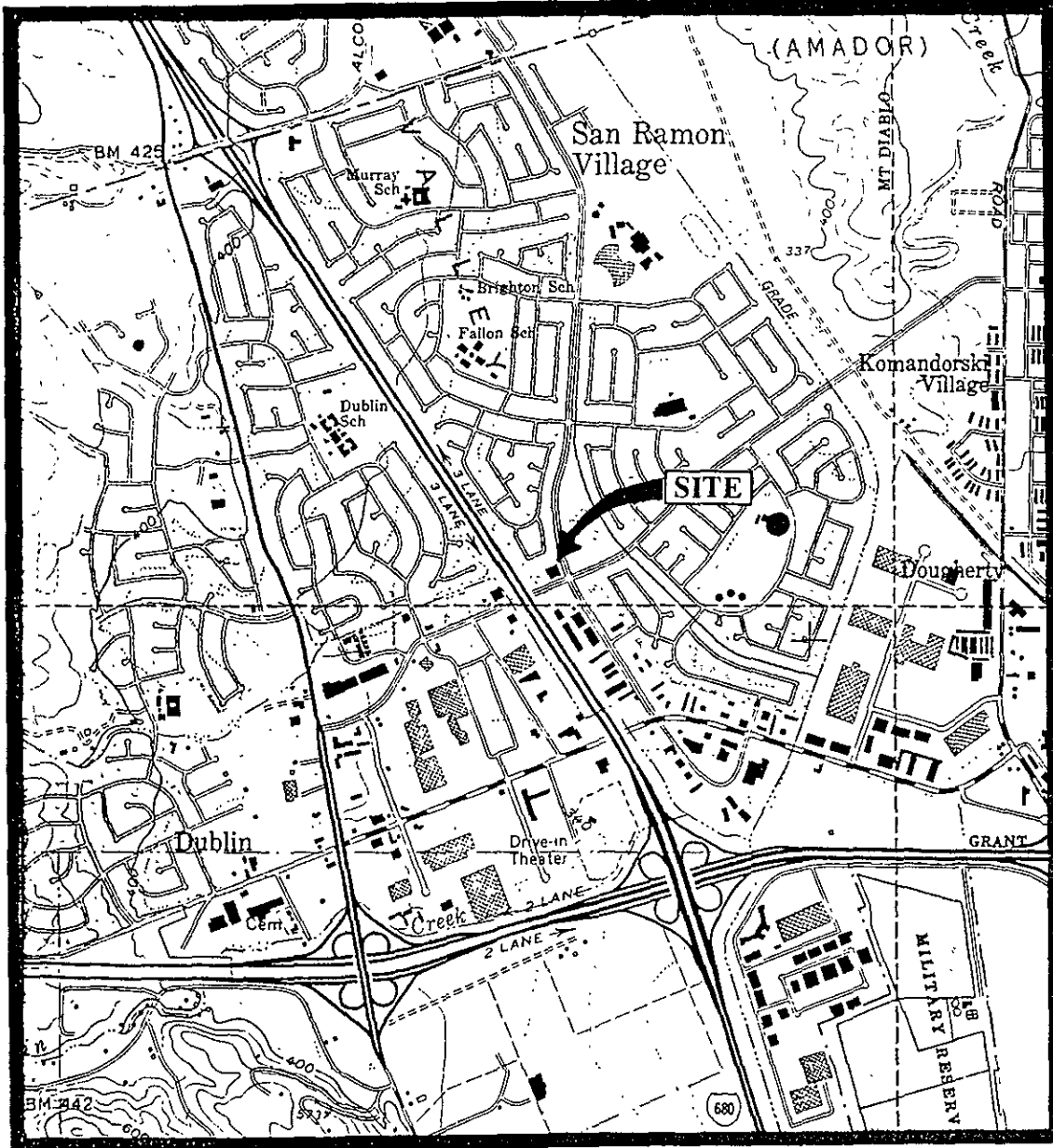
| Well # | Ground Water Elevation (feet) | Depth to Water (feet)♦ | Top of Casing Elevation (feet)* |
|--------|-------------------------------------|------------------------------|---------------------------------------|
|--------|-------------------------------------|------------------------------|---------------------------------------|

(Monitored and Sampled May 23, 1996)

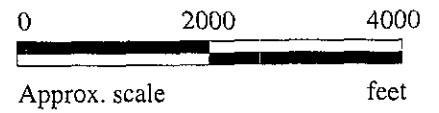
| | | | |
|-----|--------|------|--------|
| MW1 | 328.04 | 7.13 | 335.17 |
| MW2 | 327.63 | 6.95 | 334.58 |
| MW3 | 327.87 | 7.26 | 335.13 |
| AW4 | 328.24 | 5.17 | 333.41 |
| AW5 | 326.23 | 8.58 | 334.81 |
| AW6 | 327.96 | 6.94 | 334.90 |

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

* Relative to Mean Sea Level.



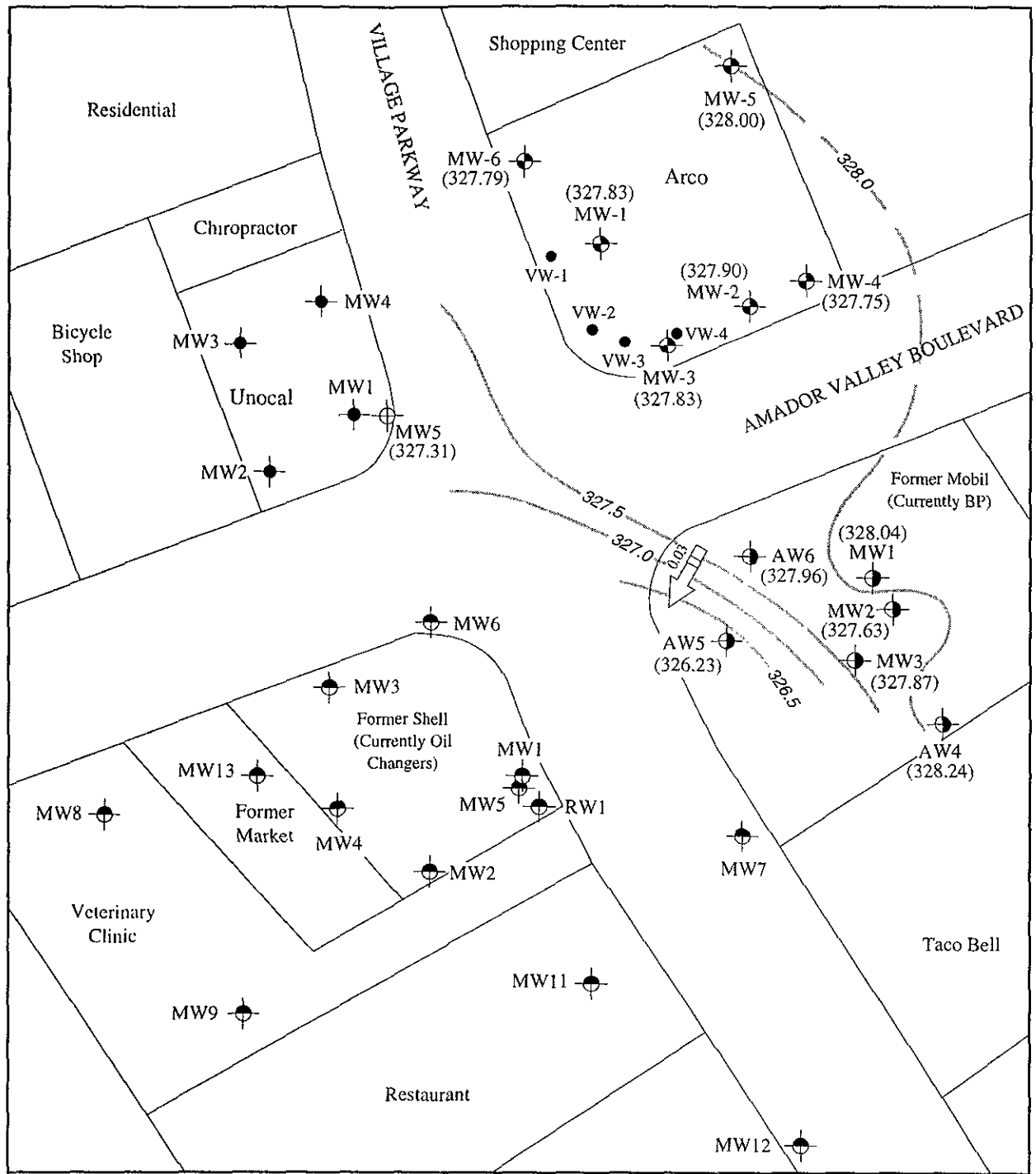
Base modified from 7.5 minute U.S.G.S. Dublin Quadrangle
(photorevised 1980)



MPDS
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5366
7375 AMADOR VALLEY BLVD.
DUBLIN, CALIFORNIA

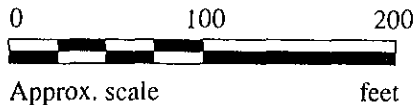
LOCATION
MAP



LEGEND

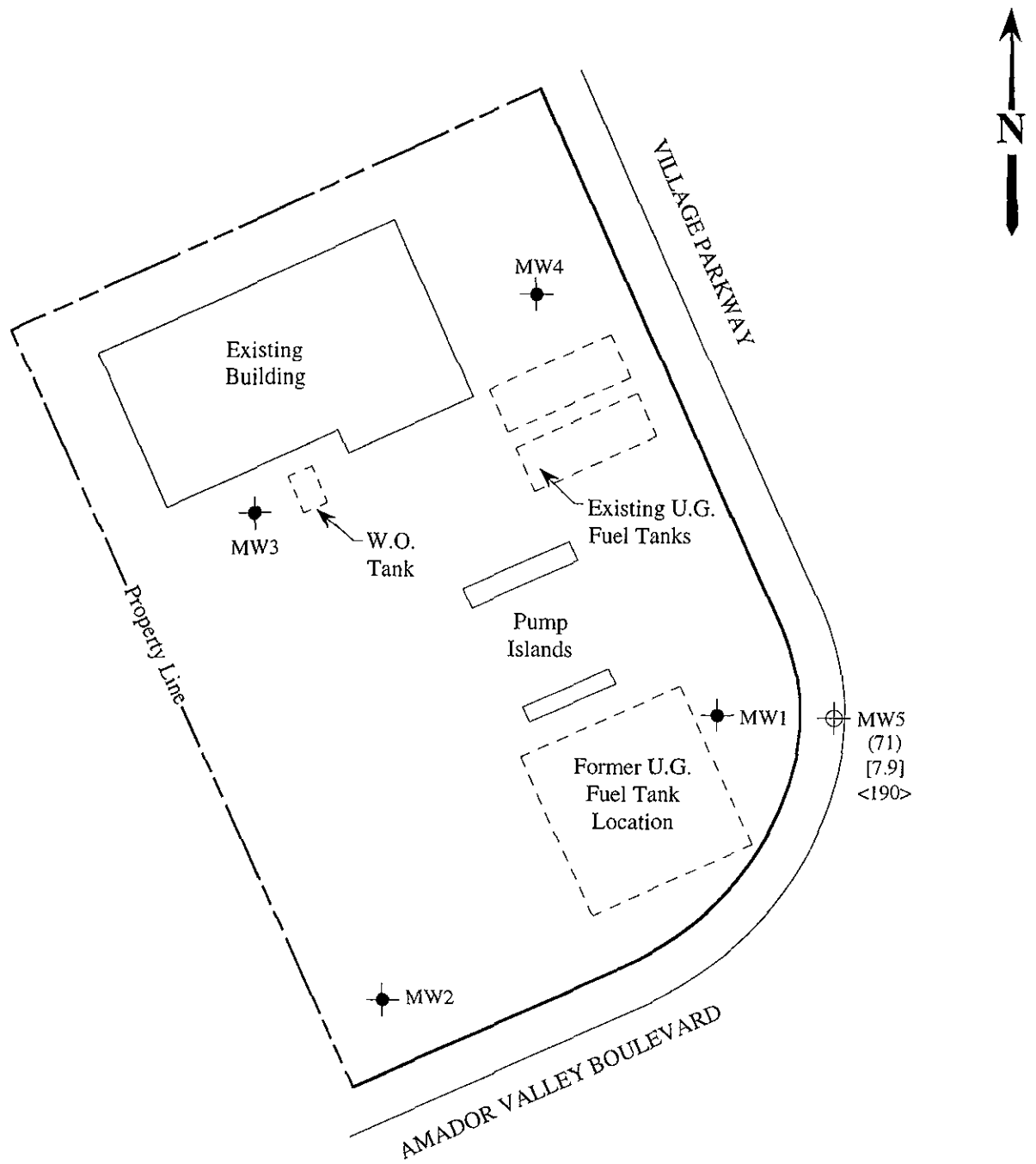
- ⊕ Monitoring well (Unocal)
- Monitoring well (Unocal, destroyed 5/96)
- ⊙ Monitoring well (BP)
- ⊗ Monitoring well (Shell)
- ⊙ Monitoring well (Arco)
- Vapor extraction well (Arco)
- () Ground water elevation in feet above Mean Sea Level
- ➔ Direction of ground water flow with approximate hydraulic gradient
- - - - Contours of ground water elevation

POTENTIOMETRIC SURFACE MAP FOR THE MAY 23 1996 JOINT MONITORING EVENT



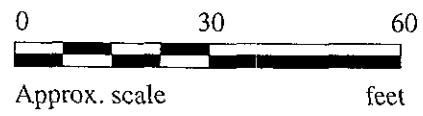
**UNOCAL SERVICE STATION #5366
7375 AMADOR VALLEY BLVD.
DUBLIN, CALIFORNIA**

**FIGURE
1**



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 MAY 23, 1996



**UNOCAL SERVICE STATION #5366
7375 AMADOR VALLEY BLVD.
DUBLIN, CALIFORNIA**

**FIGURE
2**



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

Client Project ID: Unocal #5366, 7375 Amador Valley Rd.,
Matrix Descript: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 605-2169

Sampled: May 23, 1996
Received: May 24, 1996
Reported: Jun 7, 1996

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 |
|---------------|--------------------|--------------------------------|-----------------|-----------------|-----------------------|-----------------------|--------------|
| 605-2169 | MW-5 | 71 | 7.9 | ND | 3.4 | ND | 43 |
| 605-2170 | ES-1 | ND | ND | ND | ND | ND | - |
| 605-2171 | ES-3 | ND | ND | 0.79 | ND | ND | - |

| | | | | | | |
|--------------------------|-----------|-------------|-------------|-------------|-------------|-----------|
| Detection Limits: | 50 | 0.50 | 0.50 | 0.50 | 0.50 | 40 |
|--------------------------|-----------|-------------|-------------|-------------|-------------|-----------|

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.,
Matrix Descript: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 605-2169

Sampled: May 23, 1996
Received: May 24, 1996
Reported: Jun 7, 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 |
|---------------|--------------------|----------------------|-----------------|---------------|---------------|---|
| 605-2169 | MW-5 | Gasoline | 1.0 | 5/31/96 | HP-5 | 86 |
| 605-2170 | ES-1 | -- | 1.0 | 5/31/96 | HP-4 | 103 |
| 605-2171 | ES-3 | -- | 1.0 | 5/31/96 | HP-4 | 102 |

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 #5386, 7375 Amador Valley Rd.,
Sample Matrix: Water
Analysis Method: EPA 3510/8015 Mod.
First Sample #: 605-2169

Sampled: May 23, 1996
Received: May 24, 1996
Reported: Jun 7, 1996

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

| Analyte | Reporting Limit µg/L | Sample I.D. 605-2169 MW-5 [^] |
|--------------------------|-------------------------|--|
| Extractable Hydrocarbons | 50 | 190 |

Chromatogram Pattern:

Diesel &
Unidentified
Hydrocarbons
<C15

Quality Control Data

| | |
|-------------------------------------|---------|
| Report Limit Multiplication Factor: | 1.0 |
| Date Extracted: | 5/30/96 |
| Date Analyzed: | 5/30/96 |
| 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: 6052169-171

Reported: Jun 7, 1996

QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl Benzene | Xylenes | Diesel |
|-----------------|---------------|---------------|---------------|---------------|-----------|
| Method: | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8015 |
| Analyst: | S. Chullakorn | S. Chullakorn | S. Chullakorn | S. Chullakorn | J. Dinsay |

| | | | | | |
|---|---------|---------|---------|---------|-----------|
| MS/MSD Batch#: | 6052223 | 6052223 | 6052223 | 6052223 | BLK053096 |
| Date Prepared: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 | 5/30/96 |
| Date Analyzed: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 | 5/30/96 |
| 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: | 87 | 92 | 95 | 92 | 90 |
| Matrix Spike Duplicate % Recovery: | 82 | 82 | 85 | 82 | 90 |
| Relative % Difference: | 5.9 | 11 | 11 | 12 | 0.0 |

| | | | | | |
|--------------------------|------------|------------|------------|------------|-----------|
| LCS Batch#: | 4LCS053196 | 4LCS053196 | 4LCS053196 | 4LCS053196 | LCS053096 |
| Date Prepared: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 | 5/30/96 |
| Date Analyzed: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 | 5/30/96 |
| Instrument I.D.#: | HP-4 | HP-4 | HP-4 | HP-4 | HP-3A |
| LCS % Recovery: | 85 | 90 | 90 | 93 | 107 |

| | | | | | |
|-----------------------------------|--------|--------|--------|--------|--------|
| % Recovery Control Limits: | 60-140 | 60-140 | 60-140 | 60-140 | 11-148 |
|-----------------------------------|--------|--------|--------|--------|--------|

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: Jarrel Crider

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

QC Sample Group: 6052169-171

Reported: Jun 7, 1996

QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl Benzene | Xylenes |
|-----------------|---------------|---------------|------------------|---------------|
| Method: | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 |
| Analyst: | S. Chullakorn | S. Chullakorn | S. Chullakorn | S. Chullakorn |

| | | | | |
|---|---------|---------|---------|---------|
| MS/MSD Batch#: | 6052345 | 6052345 | 6052345 | 6052345 |
| Date Prepared: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 |
| Date Analyzed: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 |
| Instrument I.D.#: | HP-5 | HP-5 | HP-5 | HP-5 |
| Conc. Spiked: | 20 µg/L | 20 µg/L | 20 µg/L | 60 µg/L |
| Matrix Spike % Recovery: | 105 | 105 | 110 | 112 |
| Matrix Spike Duplicate % Recovery: | 105 | 105 | 110 | 112 |
| Relative % Difference: | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | |
|----------------------------|------------|------------|------------|------------|
| LCS Batch#: | 5LCS053196 | 5LCS053196 | 5LCS053196 | 5LCS053196 |
| Date Prepared: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 |
| Date Analyzed: | 5/31/96 | 5/31/96 | 5/31/96 | 5/31/96 |
| Instrument I.D.#: | HP-5 | HP-5 | HP-5 | HP-5 |
| LCS % Recovery: | 85 | 85 | 90 | 92 |

| | | | | |
|---------------------------------------|--------|--------|--------|--------|
| % Recovery Control Limits: | 60-140 | 60-140 | 60-140 | 60-140 |
|---------------------------------------|--------|--------|--------|--------|

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



CHAIN OF CUSTODY

9605466

| SAMPLER | | | UNOCAL | | | | | ANALYSES REQUESTED | | | | | | | TURN AROUND TIME: | | | |
|-------------------|---------|-----------|---------------------------------------|------|-----------------|--|-------------------|--------------------|--------|----------------|-----|-------|------|--|-------------------|--|---------|---------|
| RAY MARANGOSIAN | | | S/S # <u>5366</u> CITY: <u>Dublin</u> | | | | | TPH GRAB | BTEX | TPH- DIESEL | TOG | 8010 | MTBE | | | | | REQUIRE |
| WITNESSING AGENCY | | | ADDRESS: <u>7375 Amador Valley Rd</u> | | | | | | | | | | | | | | | |
| SAMPLE ID NO. | DATE | TIME | WATER | GRAB | COMP | NO. OF CONT. | SAMPLING LOCATION | TPH GRAB | BTEX | TPH- DIESEL | TOG | 8010 | MTBE | | | | | |
| MW5 | 5.23.96 | 9:10 | x | x | | 3 1 ^{1/2} | well | x | x | | | | x | | | | 6052169 | |
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| RELINQUISHED BY: | | DATE/TIME | RECEIVED BY: | | DATE/TIME | THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES: | | | | | | | | | | | | |
| Rey Marangosian | | 5.24.96 | Jimmi Biedem | | 5-24-96 | 1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>Y</u> | | | | | | | | | | | | |
| (SIGNATURE) | | May 16:10 | (SIGNATURE) | | 1618 | 2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>Y</u> | | | | | | | | | | | | |
| (SIGNATURE) | | | (SIGNATURE) | | 5-28 | 3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>N</u> | | | | | | | | | | | | |
| (SIGNATURE) | | 5-28 | (SIGNATURE) | | | 4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>Y</u> | | | | | | | | | | | | |
| (SIGNATURE) | | | (SIGNATURE) | | | SIGNATURE: | | | TITLE: | | | DATE: | | | | | | |
| (SIGNATURE) | | | (SIGNATURE) | | 1330 5/28/96 | | | | | | | | | | | | | |

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.

CHAIN OF CUSTODY

9605466

| SAMPLER RAY MARANGOSIAN | | | UNOCAL S/S.# <u>5366</u> CITY: <u>DUBLIN</u> | | | | | ANALYSES REQUESTED | | | | | | TURN AROUND TIME: <u>REGULAR</u> | | |
|---|----------------|-------------------------------------|--|--|------|-------------------------------------|-------------------|---|-------------|-------------------|------------|-------------|--|--|--|----------------|
| WITNESSING AGENCY | | | ADDRESS: <u>7375 Amador Valley</u> | | | | | TPH-GAS | BTEX | TPH-DIESEL | TOG | 8010 | | | | REMARKS |
| SAMPLE ID NO. | DATE | TIME | WATER | GRAB | COMP | NO. OF CONT. | SAMPLING LOCATION | TPH-GAS | BTEX | TPH-DIESEL | TOG | 8010 | | | | |
| <u>ES1</u> | <u>5.23.96</u> | <u>1</u> | <u>X</u> | <u>X</u> | | <u>1</u> | | <u>X</u> | | <u>6052170</u> | | | | | | |
| <u>ES3</u> | <u>u</u> | | <u>X</u> | <u>X</u> | | <u>1</u> | | <u>X</u> | | <u>6052171</u> | | | | | | |
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| RELINQUISHED BY: <u>Ray Marangosian</u> | | DATE/TIME: <u>5.24.96</u> | | RECEIVED BY: <u>Janet Pinn</u> | | DATE/TIME: <u>5-24-96</u> | | THE FOLLOWING <u>MUST</u> BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES: | | | | | | | | |
| (SIGNATURE) | | | | (SIGNATURE) | | | | 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: | | | | TITLE: | | DATE: | | |

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.