

MPDS-UN5901-03
July 7, 1994

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Mr. Adadu Yemane

RE: Quarterly Data Report
Former Unocal Service Station #5901
11976 Dublin Boulevard
Dublin, California

Dear Mr. Yemane:

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 elevations during the most recent quarter are shown on the attached Figure 1.

Ground water samples were collected on June 3, 1994. Prior to sampling, the wells were each purged of between 2 and 5.5 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 Table 2. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline 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.

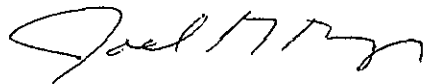
If you have any questions regarding this report, please do not hesitate to call at (510) 602-5120.

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

/dlh

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

cc: Mr. Timothy R. Ross, Kaprealian Engineering, Inc.

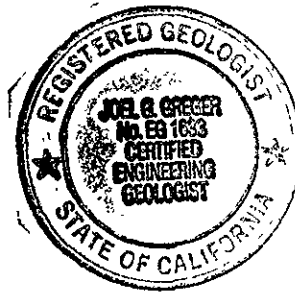


TABLE 1

SUMMARY OF MONITORING DATA

| <u>Well #</u> | <u>Ground Water Elevation (feet)</u> | <u>Depth to Water (feet)◆</u> | <u>Product Thickness (feet)</u> | <u>Sheen</u> | <u>Water Purged (gallons)</u> | <u>Total Well Depth (feet)◆</u> |
|---------------|--|---------------------------------------|---|--------------|---------------------------------------|---|
|---------------|--|---------------------------------------|---|--------------|---------------------------------------|---|

(Monitored and Sampled on June 3, 1994)

| | | | | | | |
|------|--------|-------|---|----|-----|-------|
| MW1* | 362.01 | 4.79 | 0 | -- | 0 | NM |
| MW3* | 351.94 | 14.92 | 0 | -- | 0 | NM |
| MW4* | 362.35 | 5.23 | 0 | -- | 0 | NM |
| MW5 | 351.25 | 14.30 | 0 | No | 5.5 | 25.02 |
| MW6 | 344.34 | 21.34 | 0 | No | 2 | 25.12 |

(Monitored and Sampled on March 3, 1994)

| | | | | | | |
|------|--------|-------|---|----|-----|-------|
| MW1* | 362.05 | 4.75 | 0 | -- | 0 | 19.81 |
| MW3* | 352.05 | 14.81 | 0 | -- | 0 | 19.71 |
| MW4* | 362.42 | 5.16 | 0 | -- | 0 | 19.74 |
| MW5 | 351.64 | 13.91 | 0 | No | 8 | 25.03 |
| MW6 | 346.47 | 19.21 | 0 | No | 4.5 | 25.11 |

(Monitored and Sampled on December 9, 1993)

| | | | | | | |
|------|--------|-------|---|----|------|-------|
| MW1 | 362.22 | 4.58 | 0 | No | 10.5 | 19.80 |
| MW3 | 352.26 | 14.60 | 0 | No | 3.5 | 19.65 |
| MW4* | 362.53 | 5.05 | 0 | -- | 0 | 19.76 |
| MW5 | 352.01 | 13.54 | 0 | No | 8 | 25.04 |
| MW6 | 344.03 | 21.65 | 0 | No | 2.5 | 25.12 |

(Monitored and Sampled on October 9, 1993)

| | | | | | | |
|------|--------|-------|---|----|------|--|
| MW1 | 361.96 | 4.84 | 0 | No | 10.5 | |
| MW3 | 351.59 | 15.27 | 0 | No | 3 | |
| MW4* | 362.29 | 5.29 | 0 | -- | 0 | |
| MW5 | 351.20 | 14.35 | 0 | No | 7.5 | |
| MW6 | 341.54 | 24.14 | 0 | No | 1 | |

TABLE 1 (Continued)
SUMMARY OF MONITORING DATA

| <u>Well #</u> | <u>Well Casing Elevation (feet)**</u> |
|---------------|---|
| MW1 | 366.80 |
| MW3 | 366.86 |
| MW4 | 367.58 |
| MW5 | 365.55 |
| MW6 | 365.68 |

◆ 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 National Geodetic Survey disk stamped "I-1257, reset 1975" (elevation = 439.93 MSL).

-- Sheen determination was not performed.

NM = Not Measured.

Note: - Wells MW1 and MW4, wells MW3 and MW5, and well MW6 are reportedly located in three separate hydrologic regions caused by fault splays.

- Monitoring data prior to December 9, 1993, were provided by Kaprealian Engineering, Inc.

TABLE 2

**SUMMARY OF LABORATORY ANALYSES
WATER**

| <u>Date</u> | <u>Well #</u> | <u>TPH as Gasoline</u> | <u>Benzene</u> | <u>Toluene</u> | <u>Ethylbenzene</u> | <u>Xylenes</u> |
|-------------|---------------|------------------------|----------------|----------------|---------------------|----------------|
| 6/03/94 | MW5 | ND | ND | ND | ND | ND |
| | MW6 | ND | ND | ND | ND | ND |
| 3/03/94 | MW5 | ND | ND | 0.84 | ND | 0.60 |
| | MW6 | 150 | 2.4 | 2.8 | ND | 1.2 |
| 12/09/93 | MW1♦ | -- | -- | -- | -- | -- |
| | MW3 | ND | ND | ND | ND | ND |
| | MW5 | ND | ND | ND | ND | ND |
| | MW6 | 790 | 0.64 | 1.0 | ND | ND |
| 10/09/93 | MW5 | ND | ND | ND | ND | ND |
| | MW6 | 480 | 1.8 | 0.63 | 0.81 | ND |
| 9/16/93 | MW1♦ | -- | -- | -- | -- | -- |
| | MW3 | ND | ND | ND | ND | ND |
| 6/18/93 | MW1♦ | -- | -- | -- | -- | -- |
| | MW3 | ND | ND | ND | ND | ND |
| 4/03/92 | MW1* | ND | ND | ND | ND | ND |
| | MW2 | ND | ND | ND | ND | ND |
| | MW3 | ND | ND | ND | ND | ND |
| | MW4 | ND | ND | ND | ND | ND |
| 1/02/92 | MW1* | ND | ND | ND | ND | ND |
| | MW2 | ND | ND | ND | ND | ND |
| | MW3** | 38 | ND | ND | ND | ND |
| | MW4 | ND | ND | ND | ND | ND |
| 10/03/91 | MW1* | ND | ND | ND | ND | ND |
| | MW2 | ND | ND | ND | ND | ND |
| | MW3 | 32 | ND | ND | ND | ND |
| | MW4 | ND | ND | ND | ND | ND |

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

| <u>Date</u> | <u>Well #</u> | <u>TPH as Gasoline</u> | <u>Benzene</u> | <u>Toluene</u> | <u>Ethyl-benzene</u> | <u>Xylenes</u> |
|-------------|---------------|------------------------|----------------|----------------|----------------------|----------------|
| 7/02/91 | MW1* | ND | ND | ND | ND | ND |
| | MW2 | ND | ND | ND | ND | ND |
| | MW3 | ND | ND | ND | ND | ND |
| | MW4 | ND | ND | ND | ND | ND |
| 4/01/91 | MW1* | ND | ND | ND | ND | ND |
| | MW2 | ND | ND | ND | ND | ND |
| | MW3 | ND | ND | ND | ND | ND |
| | MW4 | ND | ND | ND | ND | ND |
| 11/16/90 | MW1* | ND | ND | ND | ND | ND |
| | MW2 | ND | ND | ND | ND | ND |
| | MW3 | ND | ND | ND | ND | ND |
| | MW4 | ND | ND | ND | ND | ND |

◆ All EPA method 8100 constituents (polynuclear aromatic hydrocarbons) were non-detectable.

* TPH as diesel, Total Oil & Grease (TOG), and EPA method 8010 constituents were all non-detectable for MW1.

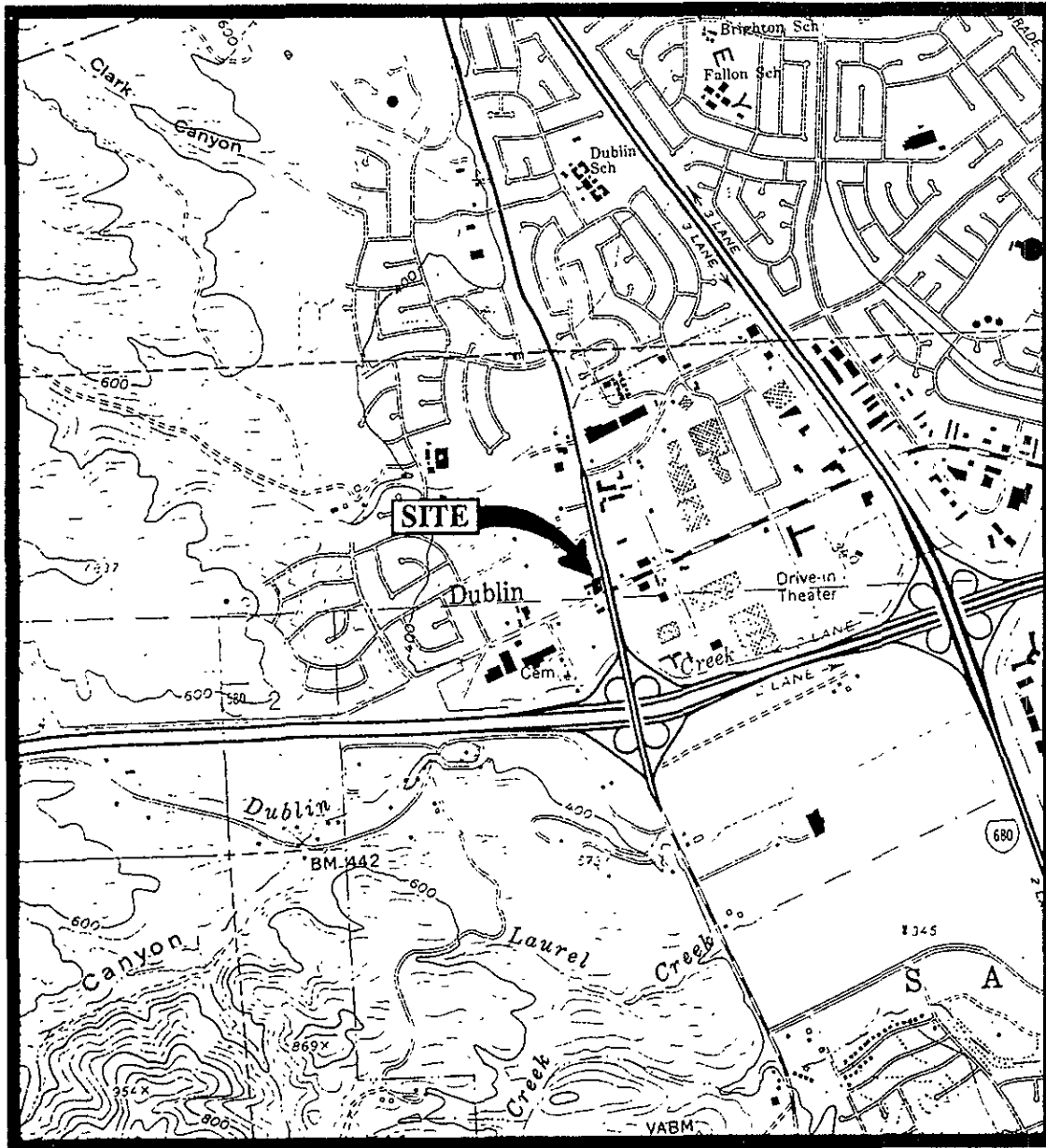
** All EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

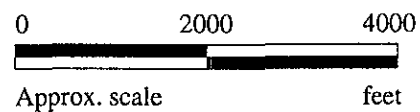
-- Indicates analysis was not performed.


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

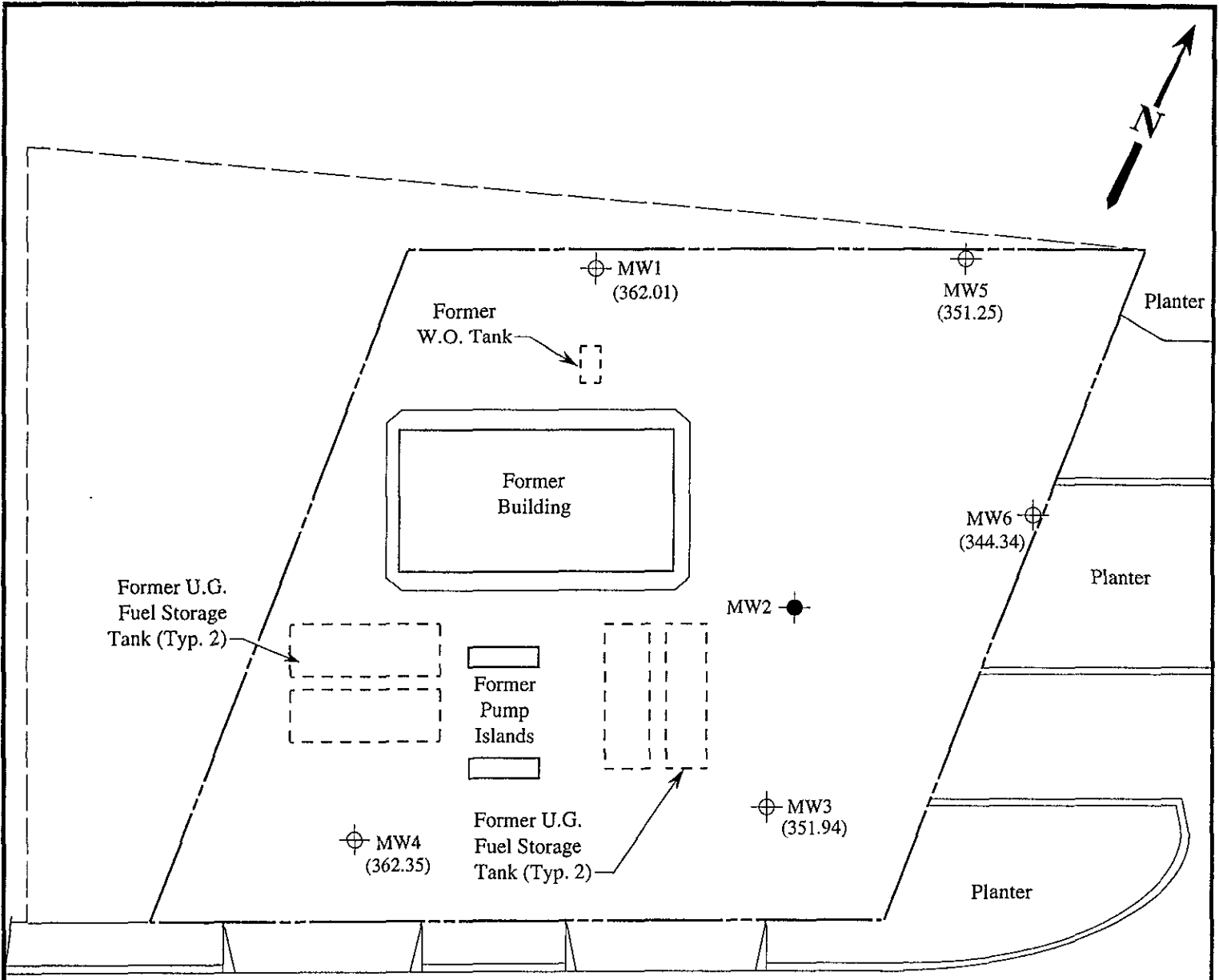
Note: Laboratory analyses data prior to December 9, 1993, were provided by Kaprealian Engineering, Inc.



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



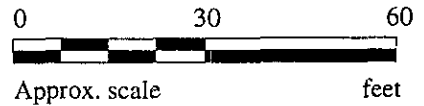
| | | |
|---|---|--|
|  | <p>FORMER UNOCAL S/S #5901 11976 DUBLIN BOULEVARD DUBLIN, CALIFORNIA</p> | <p>LOCATION MAP</p> |
|---|---|--|



DUBLIN BOULEVARD

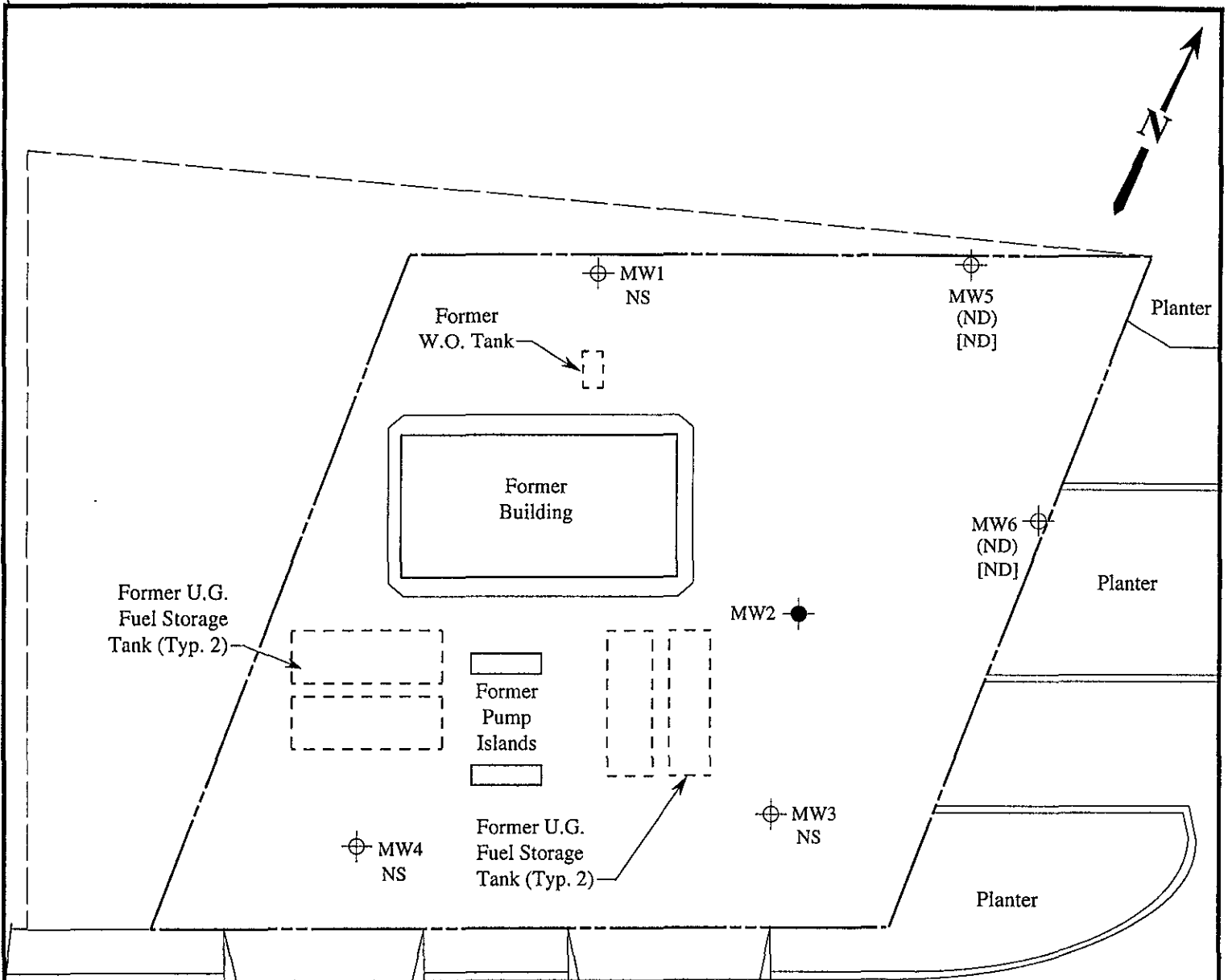
LEGEND

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



Note: The monitoring wells are reportedly located in separate hydrologic regimes caused by fault splays; therefore, ground water elevation contours are not shown.

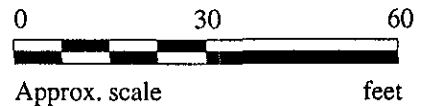
GROUND WATER ELEVATION MAP FOR THE JUNE 3, 1994 MONITORING EVENT



DUBLIN BOULEVARD

LEGEND

- ⊕ Monitoring well (existing)
 - Monitoring well (destroyed)
 - () Concentration of TPH as gasoline in $\mu\text{g/L}$
 - [] Concentration of benzene in $\mu\text{g/L}$
- ND = Non-detectable, NS = Not sampled



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JUNE 3, 1994



MPDS Services
 2401 Stanwell Dr., Ste. 400
 Concord, CA 94520
 Attention: Avo Avedessian

Client Project ID: Unocal #5901, 11976 Dublin Blvd, Dublin
 Matrix: Liquid

QC Sample Group: 4060300-01

Reported: Jun 17, 1994

QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl Benzene | Xylenes |
|----------|-------------|-------------|---------------|-------------|
| Method: | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 |
| Analyst: | J. Fontecha | J. Fontecha | J. Fontecha | J. Fontecha |

| | | | | |
|------------------------------------|---------|---------|---------|---------|
| MS/MSD Batch#: | 4061513 | 4061513 | 4061513 | 4061513 |
| Date Prepared: | 6/14/94 | 6/14/94 | 6/14/94 | 6/14/94 |
| Date Analyzed: | 6/14/94 | 6/14/94 | 6/14/94 | 6/14/94 |
| Instrument I.D.#: | HP-2 | HP-2 | HP-2 | HP-2 |
| Conc. Spiked: | 20 µg/L | 20 µg/L | 20 µg/L | 60 µg/L |
| Matrix Spike % Recovery: | 130 | 105 | 105 | 115 |
| Matrix Spike Duplicate % Recovery: | 100 | 100 | 100 | 102 |
| Relative % Difference: | 26 | 4.9 | 4.9 | 12 |

| | | | | |
|-------------------|------------|------------|------------|------------|
| LCS Batch#: | 1LCS061494 | 1LCS061494 | 1LCS061494 | 1LCS061494 |
| Date Prepared: | 6/14/94 | 6/14/94 | 6/14/94 | 6/14/94 |
| Date Analyzed: | 6/14/94 | 6/14/94 | 6/14/94 | 6/14/94 |
| Instrument I.D.#: | HP-2 | HP-2 | HP-2 | HP-2 |
| LCS % Recovery: | 110 | 107 | 107 | 108 |

| | | | | |
|----------------------------|--------|--------|--------|--------|
| % Recovery Control Limits: | 71-133 | 72-128 | 72-130 | 71-120 |
|----------------------------|--------|--------|--------|--------|

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

Alan B. Kemp
 Project Manager



