MONITORING PURGING DISPOSING SAMPLING
MPDS SERVICES, INCORPORATED

ALCO HAZMAT
94 NOV -3 PM 4:15

November 2, 1994

Mr. Scott Seery
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, CA 94501

RE: Unocal Service Station #5367
500 Bancroft Avenue
San Leandro, California

Dear Mr. Seery:

Per the request of the Unocal Corporation Project Manager, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN5367-04) dated October 20, 1994 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) 277-2321.

Sincerely,

MPDS Services, Inc.

Jarrel F. Crider

/jfc

Enclosure

cc: Ms. Tina R. Berry

2401 Stanwell Drive, Suite 400, Concord, CA 94520
TEL: (510) 602-5120 FAX: (510) 689-1918

MPDS SERVICES, INCORPORATED

MPDS-UN5367-04
October 20, 1994

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

Attention: Ms. Tina R. Berry

RE: Quarterly Data Report
Unocal Service Station #5367
500 Bancroft Avenue
San Leandro, California

Dear Ms. Berry:

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.

low?

Ground water samples were collected on September 21, 1994. Prior to sampling, the wells were each purged of between 1.2 and 40 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. 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. The concentrations of Total Petroleum

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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 Mr. Scott Seery of the Alameda County Health Care Services Agency, and to Mr. Mike Bakaldin of the San Leandro Fire Department.

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

/bp

Attachments: Tables 1, 2 & 3
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Frank Poss, GeoResearch

## 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 September 21, 1994)** | | | | | | |
| MW-1 | 24.62 | 33.21 | 35.02 | 0 | No | 1.2 |
| MW-2 | 24.61 | 33.52 | 47.00 | 0 | No | 32 |
| MW-3 | 24.62 | 33.30 | 48.70 | 0 | No | 40 |
| MW-4 | 24.43 | 33.86 | 48.50 | 0 | No | 40 |
| MW-5 | 24.60 | 33.90 | 44.58 | 0 | No | 7.5 |
| MW-6 | 24.34 | 32.62 | 44.70 | 0 | No | 8.5 |
| MW-7 | 24.29 | 32.96 | 44.10 | 0 | No | 8 |
| MW-8 | 24.41 | 33.30 | 44.05 | 0 | No | 7.5 |
| **(Monitored and Sampled on June 23, 1994)** | | | | | | |
| MW-1 | 26.51 | 31.32 | 35.02 | 0 | No | 4 |
| MW-2 | 26.50 | 31.63 | 47.00 | 0 | No | 40 |
| MW-3 | 26.50 | 31.42 | 48.60 | 0 | No | 45 |
| MW-4 | 26.34 | 31.95 | 48.50 | 0 | -- | |
| MW-5 | 26.50 | 32.00 | 44.58 | 0 | -- | |
| MW-6 | 26.20 | 30.76 | 44.72 | 0 | -- | |
| MW-7 | 26.15 | 31.10 | 44.06 | 0 | -- | |
| MW-8 | 26.31 | 31.40 | 44.05 | 0 | No | 9 |
| **(Monitored and Sampled on March 18, 1994)** | | | | | | |
| MW-1 | 27.73 | 30.10 | 35.00 | 0 | No | 4 |
| MW-2 | 27.79 | 30.34 | 47.00 | 0 | No | 44 |
| MW-3 | 27.75 | 30.17 | 48.60 | 0 | No | 48 |
| MW-4 | 27.87 | 30.42 | 48.20 | 0 | No | 47 |
| MW-5 | 27.83 | 30.67 | 44.54 | 0 | No | 10 |
| MW-6 | 27.50 | 29.46 | 44.72 | 0 | No | 10.5 |
| MW-7 | 27.49 | 29.76 | 44.14 | 0 | No | 10 |
| MW-8 | 27.59 | 30.12 | 44.06 | 0 | No | 10 |

**TABLE 1 (Continued)**

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 December 13, 1993)** | | | | | | |
| MW-1 | 25.10 | 32.73 | 35.00 | 0 | No | 2 |
| MW-2 | 25.10 | 33.03 | 46.98 | 0 | No | 36.5 |
| MW-3 | 25.10 | 32.82 | 48.65 | 0 | No | 42 |
| MW-4* | 25.20 | 33.09 | 48.20 | 0 | -- | 0 |
| MW-5* | 25.11 | 33.39 | 44.54 | 0 | -- | 0 |
| MW-6* | 24.82 | 32.14 | 44.68 | 0 | -- | 0 |
| MW-7* | 24.80 | 32.45 | 44.15 | 0 | -- | 0 |
| MW-8 | 24.96 | 32.75 | 44.05 | 0 | No | 8 |

| Well # | Well Casing Elevation (feet)** |
|---|---|
| MW-1 | 57.83 |
| MW-2 | 58.13 |
| MW-3 | 57.92 |
| MW-4 | 58.29 |
| MW-5 | 58.50 |
| MW-6 | 56.96 |
| MW-7 | 57.25 |
| MW-8 | 57.71 |

◆ 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.

-- Sheen determination was not performed.

**TABLE 2**

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

**(Measured on September 21, 1994)**

| Well # | Gallons per Casing Volume | Time | Gallons Purged | Casing Volumes Purged | Temperature (°F) | Conductivity ([μmhos/cm] x100) | pH |
|---|---|---|---|---|---|---|---|
| MW-1 | 0.31 | 5:20 pm | 0 | 0 | 78.6 | 9.88 | 7.52 |
| | | | .30 | 0.97 | 75.2 | 8.69 | 7.09 |
| | | | .60 | 1.94 | 75.1 | 8.79 | 6.86 |
| | | | .90 | 2.90 | 76.1 | 9.03 | 6.90 |
| | | 5:35 pm | 1.20 | 3.87 | 76.0 | 8.99 | 6.89 |
| | | | | WELL DEWATERED | | | |
| MW-2 | 8.76 | 2:20 pm | 0 | 0 | 72.3 | 6.92 | 7.81 |
| | | | 8 | 0.91 | 72.1 | 6.21 | 7.49 |
| | | | 16 | 1.83 | 72.3 | 6.30 | 7.47 |
| | | | 24 | 2.74 | 70.9 | 6.30 | 7.04 |
| | | 2:45 pm | 32 | 3.65 | 70.2 | 6.24 | 6.90 |
| MW-3 | 10.01 | 4:20 pm | 0 | 0 | 70.2 | 6.84 | 7.65 |
| | | | 10 | 1.00 | 72.6 | 7.08 | 7.50 |
| | | | 20 | 2.00 | 71.4 | 6.69 | 7.36 |
| | | | 30 | 3.00 | 70.0 | 6.87 | 6.99 |
| | | 4:55 pm | 40 | 4.00 | 70.4 | 6.98 | 6.94 |
| MW-4 | 9.52 | 10:10 am | 0 | 0 | 64.2 | 4.84 | 7.89 |
| | | | 10 | 1.05 | 65.5 | 4.85 | 7.10 |
| | | | 20 | 2.10 | 65.9 | 4.90 | 7.49 |
| | | | 30 | 3.15 | 66.2 | 4.93 | 6.96 |
| | | 10:45 am | 40 | 4.20 | 65.8 | 4.92 | 6.98 |
| MW-5 | 1.82 | 11:30 am | 0 | 0 | 69.7 | 5.37 | 7.51 |
| | | | 2 | 1.10 | 67.7 | 5.36 | 7.21 |
| | | | 4 | 2.20 | 67.8 | 5.39 | 7.03 |
| | | | 6 | 3.30 | 67.5 | 5.38 | 7.08 |
| | | 11:37 am | 7.5 | 4.12 | 67.3 | 5.39 | 7.01 |

**TABLE 2 (Continued)**

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

**(Measured on September 21, 1994)**

| Well # | Gallons per Casing Volume | Time | Gallons Purged | Casing Volumes Purged | Temperature (°F) | Conductivity ([μmhos/cm] x100) | pH |
|---|---|---|---|---|---|---|---|
| MW-6 | 2.05 | 12:20 pm | 0 | 0 | 71.9 | 5.22 | 7.73 |
| | | | 2 | 0.98 | 69.6 | 5.24 | 7.37 |
| | | | 4 | 1.95 | 69.5 | 5.27 | 7.17 |
| | | | 6 | 2.93 | 69.5 | 5.23 | 7.03 |
| | | 12:30 pm | 8.5 | 4.15 | 69.3 | 5.28 | 7.06 |
| MW-7 | 1.89 | 1:15 pm | 0 | 0 | 70.8 | 6.29 | 7.86 |
| | | | 2 | 1.06 | 68.5 | 6.19 | 7.39 |
| | | | 4 | 2.12 | 68.0 | 6.21 | 7.15 |
| | | | 6 | 3.17 | 68.2 | 6.22 | 7.16 |
| | | 1:25 pm | 8 | 4.23 | 68.4 | 6.24 | 7.05 |
| MW-8 | 1.83 | 3:30 pm | 0 | 0 | 70.9 | 8.51 | 7.34 |
| | | | 2 | 1.09 | 68.1 | 8.50 | 6.90 |
| | | | 4 | 2.19 | 67.7 | 8.46 | 6.77 |
| | | | 6 | 3.28 | 67.7 | 8.40 | 6.75 |
| | | 3:38 pm | 7.5 | 4.10 | 67.6 | 8.37 | 6.75 |

## TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Well # | TPH as Gasoline | Benzene | Toluene | Ethyl-benzene | Xylenes |
|---|---|---|---|---|---|---|
| 9/21/94 | MW-1 | 110,000 | 2,500 | 23,000 | 4,500 | 25,000 |
| | MW-2 | ND | ND | ND | ND | ND |
| | MW-3 | 24,000 | | 110 | 2,200 | 8,800 |
| | MW-4 | ND | ND | 0.78 | ND | 0.81 |
| | MW-5 | ND | ND | 0.98 | ND | 1.6 |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | 0.50 | ND | ND | 0.89 |
| | MW-8 | 6,900 | 190 | ND | 460 | 510 |
| 6/23/94 | MW-1 | 150,000 | 2,500 | 33,000 | 6,400 | 37,000 |
| | MW-2 | 420 | 3.9 | 0.66 | 23 | 11 |
| | MW-3 | 37,000 | 1,300 | 670 | 3,100 | 14,000 |
| | MW-8 | 12,000 | 210 | ND | 610 | 860 |
| 3/18/94 | MW-1 | 99,000 | 3,800 | 37,000 | 6,800 | 36,000 |
| | MW-2 | 250 | 6.4 | 0.64 | 28 | 24 |
| | MW-3 | 22,000 | 1,200 | 430 | 2,200 | 9,700 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND | ND | 0.93 | ND | 1.4 |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 6,100 | 85 | ND | 260 | 260 |
| 12/13/93 | MW-1 | 140,000 | 3,600 | 37,000 | 7,100 | 40,000 |
| | MW-2 | 260 | 7.7 | 0.83 | 17 | 23 |
| | MW-3 | 49,000 | 1,300 | 360 | 2,300 | 9,200 |
| | MW-4 | SAMPLED SEMI-ANNUALLY | | | | |
| | MW-5 | SAMPLED SEMI-ANNUALLY | | | | |
| | MW-6 | SAMPLED SEMI-ANNUALLY | | | | |
| | MW-7 | SAMPLED SEMI-ANNUALLY | | | | |
| | MW-8 | 6,900 | 180 | ND | 240 | 550 |
| 9/03/93 | MW-1 | 160,000 | 3,900 | 41,000 | 6,800 | 38,000 |
| | MW-2 | 1,400 | 31 | 4.3 | 99 | 53 |
| | MW-3 | 82,000 | 2,400 | 3,400 | 4,200 | 21,000 |
| | MW-4 | 86 | 14 | 13 | 1.4 | 7.1 |
| | MW-5 | ND | ND | 1.5 | ND | 7.9 |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 9,800 | 180 | ND | 580 | 700 |

**TABLE 3 (Continued)**

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Well # | TPH as Gasoline | Benzene | Toluene | Ethyl-benzene | Xylenes |
|---|---|---|---|---|---|---|
| 6/25/93 | MW-1 | 160,000 | 4,300 | 36,000 | 5,800 | 34,000 |
| | MW-2 | 4,000 | 110 | ND | 320 | 280 |
| | MW-3 | 27,000 | 1,200 | 980 | 1,700 | 6,900 |
| | MW-4 | NOT SAMPLED | | | | |
| | MW-5 | WELL WAS INACCESSIBLE | | | | |
| | MW-6 | NOT SAMPLED | | | | |
| | MW-7 | NOT SAMPLED | | | | |
| | MW-8 | 8,100 | 160 | ND | 580 | 740 |
| 3/03/93 | MW-1 | 330,000 | 3,800 | 21,000 | 4,200 | 24,000 |
| | MW-2 | 4,200 | 62 | 2.9 | 97 | 120 |
| | MW-3 | 96,000* | 1,400 | 1,900 | 1,400 | 8,400 |
| | MW-4 | 68 | 0.9 | 0.6 | ND | 1.9 |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND* | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 13,000 | 33 | ND | 160 | 290 |
| 11/18/92 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | 65 | 1.2 | ND | 2.8 | 1.4 |
| | MW-3 | 24,000* | 430 | 160 | 640 | 2,800 |
| | MW-4 | NOT SAMPLED | | | | |
| | MW-5 | NOT SAMPLED | | | | |
| | MW-6 | NOT SAMPLED | | | | |
| | MW-7 | NOT SAMPLED | | | | |
| | MW-8 | 1,100 | 6.1 | ND | 13 | 5.6 |
| 10/16/92 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | -- | -- | -- | -- | -- |
| | MW-3 | -- | -- | -- | -- | -- |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 300 | 0.96 | ND | 4.0 | 3.5 |
| 9/30/92 | MW-2 | 820 | 21 | ND | 42 | 25 |
| | MW-3 | 36,000 | 730 | 200 | 1,000 | 4,400 |

**TABLE 3 (Continued)**

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Well # | TPH as Gasoline | Benzene | Toluene | Ethyl-benzene | Xylenes |
|---|---|---|---|---|---|---|
| 6/18/92 | MW-1 | 680,000 | 9,000 | 40,000 | 7,600 | 44,000 |
| | MW-2 | 1,200 | 35 | 1.6 | 56 | 26 |
| | MW-3 | 180,000 | 2,200 | 1,700 | 2,300 | 1,100 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | -- | -- | -- | -- | -- |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | -- | -- | -- | -- | -- |
| | MW-8 | WELL WAS INACCESSIBLE | | | | |
| 3/31/92 | MW-1 | 330,000 | 8,200 | 33,000 | 6,800 | 36,000 |
| | MW-2 | 4,200 | 110 | 3 | 190 | 250 |
| | MW-3 | 100,000 | 1,900 | 1,900 | 2,300 | 9,400 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | ND | ND | ND | ND | 1.1 |
| | MW-6 | ND | ND | 1.3 | ND | 2.0 |
| | MW-7 | ND | ND | ND | ND | 0.9 |
| | MW-8 | 15,000 | 120 | 1.0 | 430 | 530 |
| 12/27/91 | MW-2 | 170 | 3.9 | ND | 7.3 | 60 |
| | MW-3 | 31,000 | 240 | 280 | 400 | 1,600 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 1,600 | 15 | 2.9 | 40 | 49 |
| 9/27/91 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | 110 | 2.6 | ND | 5.6 | 5.1 |
| | MW-3 | 4,000 | 160 | 84 | 180 | 560 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 720 | 13 | 4.3 | 26 | 26 |

**TABLE 3 (Continued)**

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Well # | TPH as Gasoline | Benzene | Toluene | Ethyl-benzene | Xylenes |
|---|---|---|---|---|---|---|
| 5/06/91 | MW-1 | -- | -- | -- | -- | -- |
| | MW-2 | 2,300 | 150 | 10 | 52 | 110 |
| | MW-3 | 39,000 | 1,000 | 570 | 930 | 3,900 |
| | MW-4 | -- | -- | -- | -- | -- |
| | MW-5 | -- | -- | -- | -- | -- |
| | MW-6 | -- | -- | -- | -- | -- |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 14,000 | 80 | ND | 250 | 550 |
| 2/07/91 | MW-2 | 510 | 40 | ND | 29 | 44 |
| 2/06/91 | MW-1 | WELL WAS DRY | | | | |
| | MW-3 | 13,000 | 310 | 150 | 380 | 1,200 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 630 | 9.6 | ND | 35 | 36 |
| 11/30/90 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | 400 | 41 | ND | 39 | 37 |
| | MW-3 | 13,000 | 390 | 81 | 410 | 1,000 |
| | MW-4 | ND | ND | ND | ND | 1.2 |
| | MW-5 | ND | ND | 0.7 | ND | ND |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | 0.6 | 1.5 |
| | MW-8 | 570 | 13 | ND | 45 | 36 |
| 8/24/90 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | 330 | 17 | ND | 19 | 20 |
| | MW-3 | 19,000 | 480 | 160 | 510 | 1,500 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 990 | 13 | ND | 48 | 66 |

## TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Well # | TPH as Gasoline | Benzene | Toluene | Ethyl-benzene | Xylenes |
|---|---|---|---|---|---|---|
| 7/19/90 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | -- | -- | -- | -- | -- |
| | MW-3 | -- | -- | -- | -- | -- |
| | MW-4 | -- | -- | -- | -- | -- |
| | MW-5 | -- | -- | -- | -- | -- |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | -- | -- | -- | -- | |
| | MW-8 | -- | -- | -- | -- | -- |
| 5/90 | MW-2 | 1,000 | 39.0 | ND | 32.0 | 52.0 |
| | MW-3 | 19,000 | 330 | 170 | 310 | 1,500 |
| | MW-4 | ND | ND | ND | 0.68 | 1.4 |
| | MW-5 | ND | ND | ND | ND | ND |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | 24 | ND | ND | 0.74 | 1.7 |
| | MW-8 | 770 | 6.5 | ND | 20 | 32 |
| 2/16/90 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | 840 | 50.0 | 0.5 | 28.0 | 44.0 |
| | MW-3 | 22,000 | 710 | 4,100 | 6,900 | 33,000 |
| | MW-4 | ND | ND | ND | ND | ND |
| | MW-5 | 67 | 0.51 | 1.6 | 2.9 | 7.5 |
| | MW-6 | ND | ND | ND | ND | ND |
| | MW-7 | ND | ND | ND | ND | ND |
| | MW-8 | 1,900 | 11 | ND | 52 | 55 |
| 1/27/89 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | 510 | 58.0 | 8.7 | 22.6 | 20.3 |
| | MW-3 | 39,000 | 1,570 | 2,830 | 1,250 | 7,070 |
| | MW-4 | ND | ND | ND | ND | ND |
| 10/03/88 | MW-1 | WELL WAS DRY | | | | |
| | MW-2 | 1,760 | 47.8 | 7.4 | 20.9 | 81.6 |
| | MW-3 | 61,000 | 1,060 | 3,380 | 1,520 | 8,720 |
| | MW-4 | ND | ND | ND | ND | ND |

**TABLE 3 (Continued)**

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Well # | TPH as Gasoline | Benzene | Toluene | Ethyl-benzene | Xylenes |
|---|---|---|---|---|---|---|
| 9/07/88 | MW-1 | WELL WAS DRY | | | | |
| 4/27/88 | MW-1 | NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT | | | | |
| 11/19/87 | MW-1 | NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT | | | | |
| 11/13/87 | MW-1 | NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT | | | | |
| 11/05/87 | MW-1 | NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT | | | | |
| 10/06/87 | MW-1 | NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT | | | | |
| 9/24/87 | MW-1 | NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT | | | | |
| 9/23/87 | MW-1 | NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT | | | | |

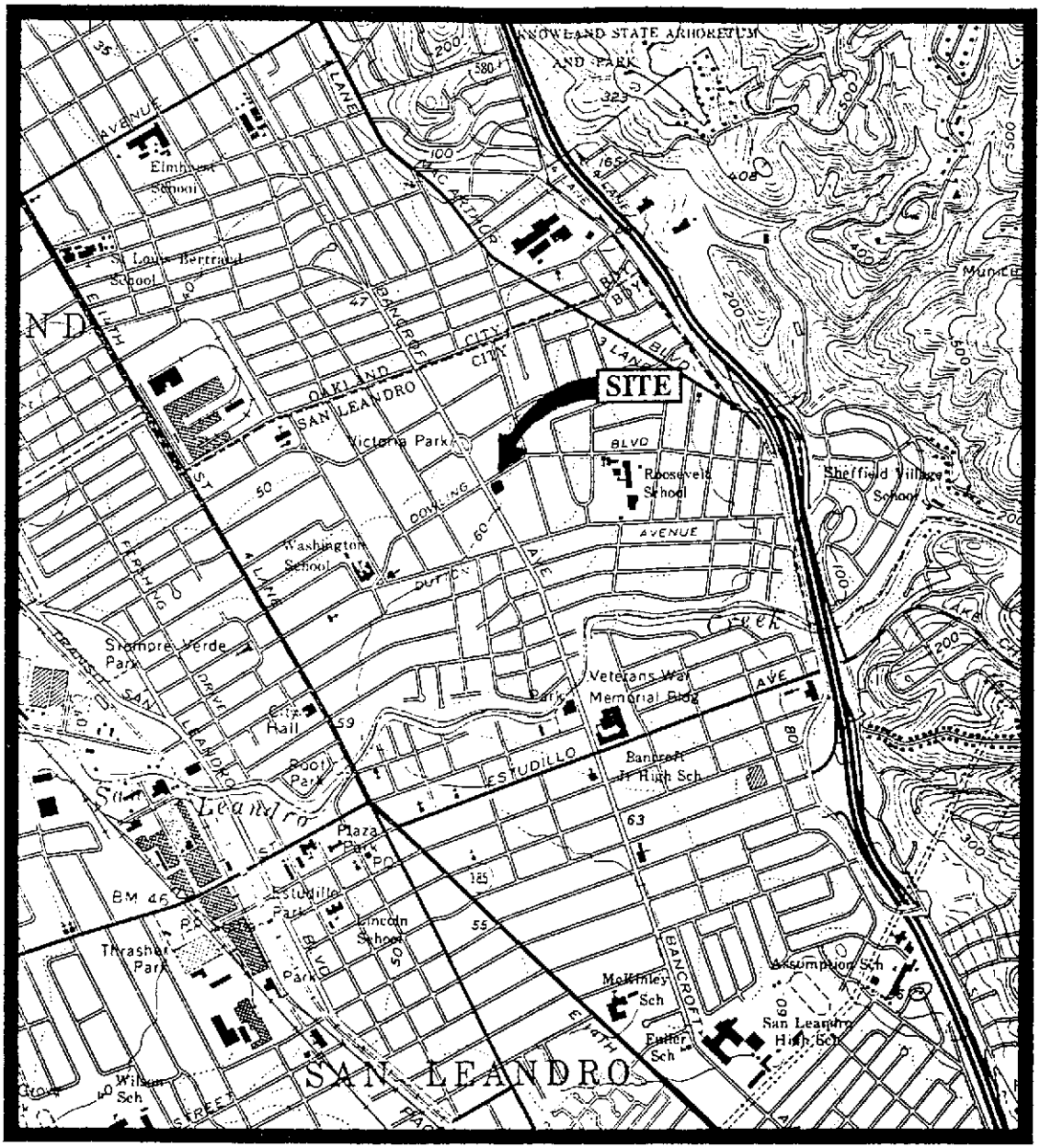
* Chromatogram contains early eluting peak.

ND = Non-detectable.

-- Indicates analysis was not performed.

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

Note: Laboratory analyses data prior to December 13, 1993, were provided by RESNA.

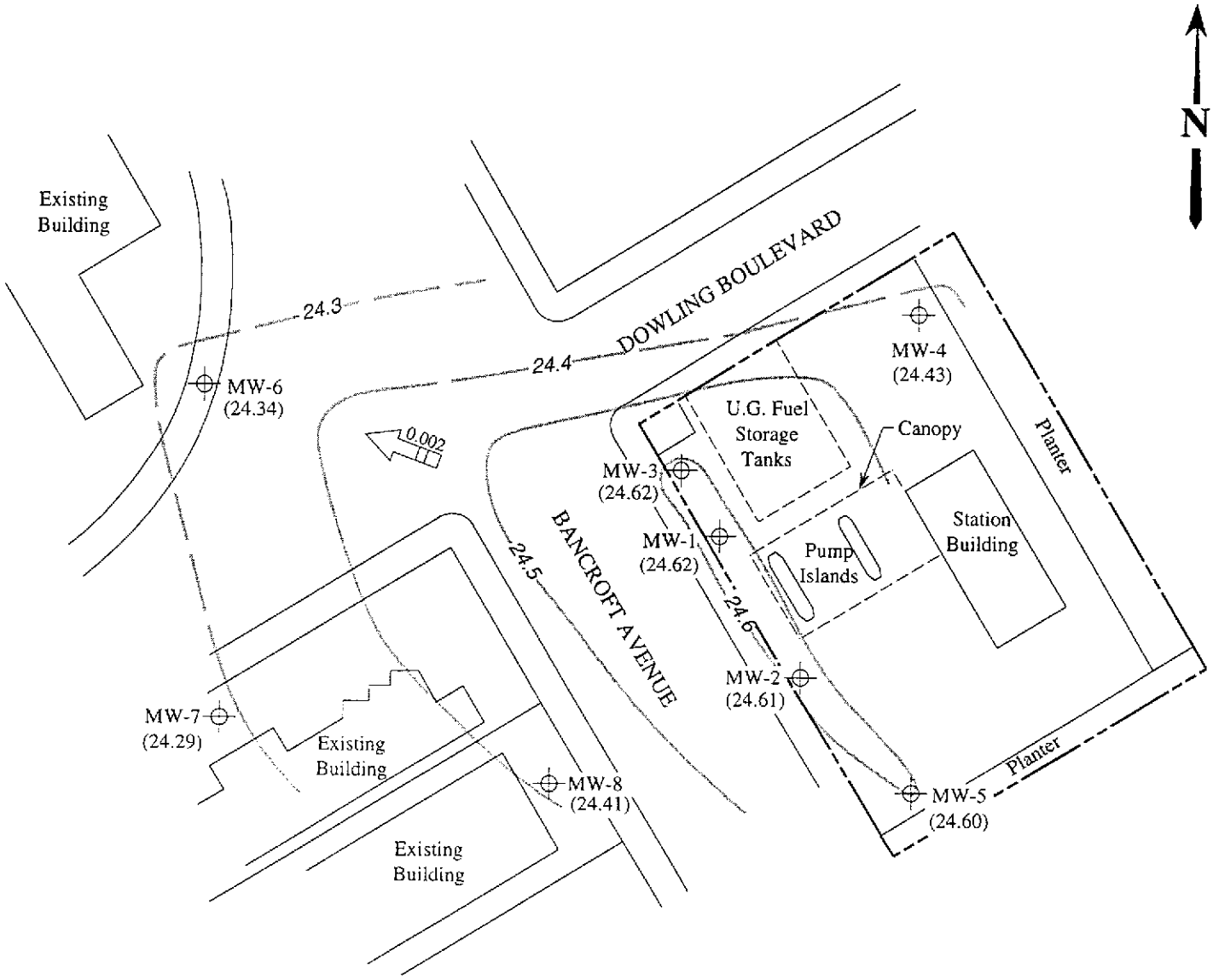



Base modified from 7.5 minute U.S.G.S. San Leandro Quadrangle
(photorevised 1980)

0 2000 4000

Approx. scale feet

| | | |
|---|---|---|
| mpds SERVICES, INCORPORATED | **UNOCAL SERVICE STATION #5367**<br>**500 BANCROFT AVENUE**<br>**SAN LEANDRO, CALIFORNIA** | **LOCATION MAP** |




LEGEND

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

0 50 100

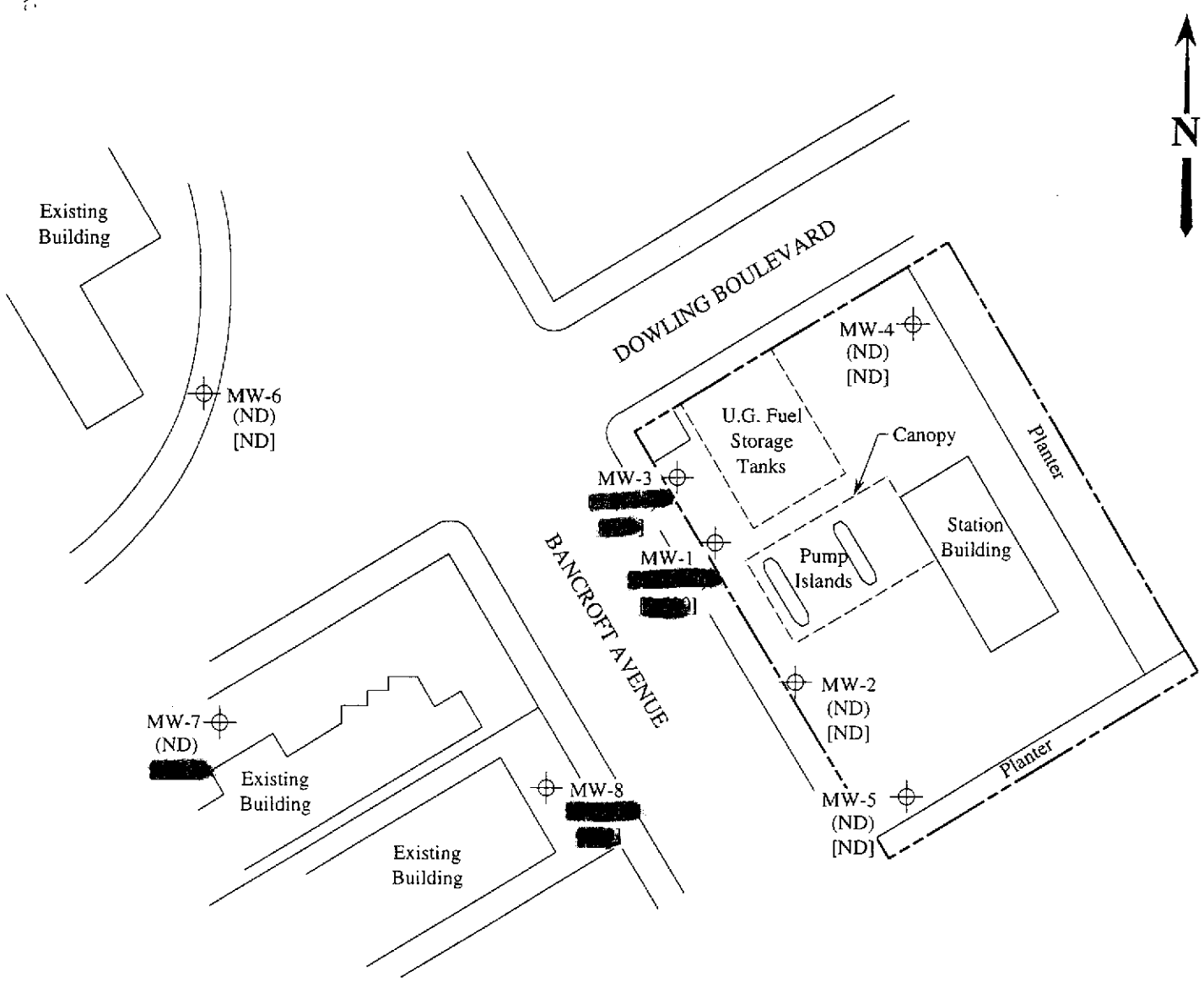
Approx. scale feet

**POTENTIOMETRIC SURFACE MAP FOR THE SEPTEMBER 21, 1994 MONITORING EVENT**

mpds SERVICES, INCORPORATED

**UNOCAL SERVICE STATION #5367**
**500 BANCROFT AVENUE**
**SAN LEANDRO, CALIFORNIA**

FIGURE
**1**




LEGEND

- Monitoring well
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] Concentration of benzene in µg/L
- ND = Non-detectable

0 50 100

Approx. scale feet

**PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON SEPTEMBER 21, 1994**

mpds SERVICES, INCORPORATED

**UNOCAL SERVICE STATION #5367**
**500 BANCROFT AVENUE**
**SAN LEANDRO, CALIFORNIA**

FIGURE
**2**

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

| | | | | |
|---|---|---|---|---|
| MPDS Services | Client Project ID: | Unocal #5367, 500 Bancroft Avenue, San Leandro | Sampled: | Sep 21, 1994 |
| 2401 Stanwell Dr., Ste. 400 | Matrix Descript: | Water | Received: | Sep 22, 1994 |
| Concord, CA 94520 | Analysis Method: | EPA 5030/8015/8020 | Reported: | Oct 11, 1994 |
| Attention: Avo Avedessian | First Sample #: | 409-1826 | | |

## 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 |
|---|---|---|---|---|---|---|
| 409-1826 | MW1 | 110,000 | 2,500 | 23,000 | 4,500 | 25,000 |
| 409-1827 | MW2 | N.D. | N.D. | N.D. | N.D. | N.D. |
| 409-1828 | MW3 | 24,000 | 890 | 110 | 2,200 | 8,800 |
| 409-1829 | MW4 | N.D. | N.D. | 0.78 | N.D. | 0.81 |
| 409-1830 | MW5 | N.D. | N.D. | 0.98 | N.D. | 1.6 |
| 409-1831 | MW6 | N.D. | N.D. | N.D. | N.D. | N.D. |
| 409-1832 | MW7 | N.D. | 0.50 | N.D. | N.D. | 0.89 |
| 409-1833 | MW8 | 6,900 | 190 | N.D. | 460 | 510 |
| **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 N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL, #1271**

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

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| | | | | | |
|---|---|---|---|---|---|
| MPDS Services | Client Project ID: | Unocal #5367, 500 Bancroft Avenue, | | Sampled: | Sep 21, 1994 |
| 2401 Stanwell Dr., Ste. 400 | Matrix Descript: | Water | San Leandro | Received: | Sep 22, 1994 |
| Concord, CA 94520 | Analysis Method: | EPA 5030/8015/8020 | | Reported: | Oct 11, 1994 |
| Attention: Avo Avedessian | First Sample #: | 409-1826 | | | |

## 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 |
|---|---|---|---|---|---|---|
| 409-1826 | MW1 | Gasoline | 400 | 10/4/94 | HP-4 | 88 |
| 409-1827 | MW2 | -- | 1.0 | 10/4/94 | HP-2 | 106 |
| 409-1828 | MW3 | Gasoline | 200 | 10/4/94 | HP-2 | 102 |
| 409-1829 | MW4 | -- | 1.0 | 10/4/94 | HP-2 | 102 |
| 409-1830 | MW5 | -- | 1.0 | 10/4/94 | HP-2 | 102 |
| 409-1831 | MW6 | -- | 1.0 | 10/4/94 | HP-2 | 103 |
| 409-1832 | MW7 | -- | 1.0 | 10/4/94 | HP-2 | 105 |
| 409-1833 | MW8 | Gasoline | 100 | 10/4/94 | HP-2 | 104 |

**SEQUOIA ANALYTICAL, #1271**

Signature on File

Alan B. Kemp
Project Manager

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

Client Project ID: Unocal #5367, 500 Bancroft Avenue, San Leandro
Matrix: Liquid
QC Sample Group: 4091826-833
Reported: Oct 12, 1994

# QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl Benzene | Xylenes |
|---|---|---|---|---|
| **Method:** | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 |
| **Analyst:** | A. Tuzon | A. Tuzon | A. Tuzon | A. Tuzon |
| **MS/MSD Batch#:** | 4091865 | 4091865 | 4091865 | 4091865 |
| **Date Prepared:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **Date Analyzed:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **Instrument I.D.#:** | HP-4 | HP-4 | HP-4 | HP-4 |
| **Conc. Spiked:** | 20 µg/L | 20 µg/L | 20 µg/L | 60 µg/L |
| **Matrix Spike % Recovery:** | 90 | 100 | 100 | 102 |
| **Matrix Spike Duplicate % Recovery:** | 95 | 100 | 100 | 102 |
| **Relative % Difference:** | 5.4 | 0.0 | 0.0 | 0.0 |
| **LCS Batch#:** | 2LCS100494 | 2LCS100494 | 2LCS100494 | 2LCS100494 |
| **Date Prepared:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **Date Analyzed:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **Instrument I.D.#:** | HP-4 | HP-4 | HP-4 | HP-4 |
| **LCS % Recovery:** | 92 | 99 | 98 | 99 |
| **% Recovery Control Limits:** | 71-133 | 72-128 | 72-130 | 71-120 |

**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.

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

Client Project ID: Unocal #5367, 500 Bancroft Avenue, San Leandro
Matrix: Liquid
QC Sample Group: 4091826-833

Reported: Oct 12, 1994

# QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl Benzene | Xylenes |
|---|---|---|---|---|
| **Method:** | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 |
| **Analyst:** | A. Tuzon | A. Tuzon | A. Tuzon | A. Tuzon |
| **MS/MSD Batch#:** | 4091829 | 4091829 | 4091829 | 4091829 |
| **Date Prepared:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **Date Analyzed:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **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:** | 120 | 115 | 115 | 117 |
| **Matrix Spike Duplicate % Recovery:** | 118 | 115 | 115 | 115 |
| **Relative % Difference:** | 4.2 | 0.0 | 0.0 | 1.7 |
| **LCS Batch#:** | 1LCS100494 | 1LCS100494 | 1LCS100494 | 1LCS100494 |
| **Date Prepared:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **Date Analyzed:** | 10/4/94 | 10/4/94 | 10/4/94 | 10/4/94 |
| **Instrument I.D.#:** | HP-2 | HP-2 | HP-2 | HP-2 |
| **LCS % Recovery:** | 119 | 114 | 117 | 117 |
| **% Recovery Control Limits:** | 71-133 | 72-128 | 72-130 | 71-120 |

**SEQUOIA ANALYTICAL, #1271**

Signature on File

Alan B. Kemp
Project Manager

Please Note:
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**M P D S Services, Inc.**
2401 Stanwell Drive, Suite 400, Concord, CA 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

# CHAIN OF CUSTODY

SAMPLER: RAY MARANGOSIAN
WITNESSING AGENCY:
UNOCAL S/S # 5367 CITY: SAN LEANDRO
ADDRESS: 500 BANCROFT AVE
TURN AROUND TIME: REGULAR

| SAMPLE ID NO. | DATE | TIME | WATER | GRAB | COMP | NO. OF CONT. | SAMPLING LOCATION | ANALYSES REQUESTED: TPH-GAS BTEX | TPH-DIESEL | TOG | 8010 | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW1 | 9.21.94 | | x | x | | 2 | well | x | | | | | | | | 4091826 |
| MW2 | " | | x | x | | | " | x | | | | | | | | 4091827 |
| MW3 | " | | x | x | | | " | x | | | | | | | | 4091828 |
| MW4 | " | | x | x | | | " | x | | | | | | | | 4091829 |
| MW5 | " | | x | x | | | " | x | | | | | | | | 4091830 |
| MW6 | " | | x | x | | | " | x | | | | | | | | 4091831 |
| MW7 | " | | x | x | | | " | x | | | | | | | | 4091832 |
| MW8 | " | | x | x | | | " | x | | | | | | | | 4091833 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

RELINQUISHED BY: Ray Marangosian — DATE/TIME: 9.21.94 14:30
(SIGNATURE) — 9/22/94 1300
(SIGNATURE) — 9-22-94 0900
(SIGNATURE) — 1:15pm
(SIGNATURE)

RECEIVED BY: Dan Z — 9/21/94 1930
(SIGNATURE)
(SIGNATURE) Melissa Cruse
(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: Dan Z TITLE: Analyst DATE: 9/21/94