KAPREALIAN ENGINEERING
INCORPORATED



KEI-P89-0111.R6
August 26, 1992

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



Attention: Mr. Tim Howard

RE: Continuing Ground Water Investigation
and Quarterly Report for
Unocal Service Station #5487
28250 Hesperian Boulevard
Hayward, California

Dear Mr. Howard:

This report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI), per KEI's proposal (KEI-P89-0111.P4) dated March 9, 1992. The wells are currently monitored on a quarterly basis. Wells MW1 through MW4 are sampled on an annual basis, and wells MW5 and MW6 are sampled on a quarterly basis. This report covers the work performed by KEI from June through August of 1992.

This report also presents the results of KEI's soil and ground water investigation for the referenced site, in accordance with KEI's proposal (KEI-P89-0111.P4) dated March 9, 1992. The purpose of the investigation was to further determine the degree and extent of ground water contamination at the site. The scope of the work performed by KEI consisted of the following:

Coordination with regulatory agencies

Geologic logging of one boring for the installation of one monitoring well

Soil sampling

Ground water monitoring, purging, and sampling

Laboratory analyses

Data analysis, interpretation, and report preparation

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Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

SITE DESCRIPTION AND BACKGROUND

The subject site contains a Unocal service station facility. The vicinity of the site is characterized by topography that slopes very gently to the south-southwest. The site is also located approximately 0.8 miles northwest of Alameda Creek and approximately four miles northeast of the present shoreline of San Francisco Bay. A Location Map and Site Plans are attached to this report.

KEI's initial work at the site began on January 30, 1989, when KEI was retained by Unocal to collect soil samples following the removal of two 10,000 gallon underground fuel storage tanks and one 280 gallon waste oil tank. The tanks were made of steel, and no apparent holes or cracks were observed in the fuel tanks; however, the waste oil tank was corroded. Water was encountered in the fuel storage tank pit excavation at a depth of 10.5 feet below grade, thus prohibiting the collection of any soil samples from beneath these tanks.

Ten soil samples, labeled SW1 through SW6, SW2A, SW3A, SW5A, and SW6A, were collected from the sidewalls of the fuel tank pit, each approximately six inches above the water table. Three of these soil samples (SW2, SW3, and SW6) were not analyzed. Samples SW2A, SW3A, SW5A, and SW6A were collected from the sidewalls after additional excavation (see the attached Site Plan, Figure 4). One soil sample, labeled WO1, was collected from beneath the waste oil tank at a depth of 9 feet below grade (see the attached Site Plan, Figure 4). After the soil sampling was completed, approximately 2,000 gallons of ground water were pumped from the fuel tank pit.

On February 1, 1989, the waste oil tank pit was excavated laterally on all sides. The side nearest the existing building was excavated approximately 1 foot laterally, while the other three sides were each excavated approximately 10 feet laterally. The pit was excavated to an area of approximately 21 feet x 29 feet. Four sidewall samples (labeled SWA, SWB, SWC, and SWD) were collected (see the attached Site Plan, Figure 5). In addition, three soil samples were collected from the pipe trenches (labeled P1, P2, and P3 on the attached Site Plan, Figure 5).

On February 14, 1989, in preparation for installation of the new fuel tanks, approximately 17,500 gallons of water were pumped from the fuel tank pit. On this date, after pumping, water samples W1A and W1B were collected.

On February 17, 1989, KEI returned to the site to observe additional excavation of the northeast sidewall of the waste oil tank pit (where sample SWC had previously been collected) for a distance

of approximately 3 lateral feet. Sample SWC2 was then collected. Also on this date, water sample WO-W1 was collected from the waste oil tank pit. The water sample was collected after 4,500 gallons were pumped from the waste oil excavation. Based on the analytical results for SWC2 (680 ppm of total oil and grease [TOG]), KEI returned to the site on February 24, 1989, to observe the lateral excavation of an additional 5 feet of soil. Sample SWC3 was then collected. Soil sample point locations are shown on the attached Site Plan, Figure 6.

On March 9, 1989, KEI collected four duplicate waste oil excavation sidewall soil samples. The samples, labeled SW-AX, SW-BX, SW-C3X, and SW-DX, were collected at sample point locations SWA, SWB, SWC3, and SWD, respectively. Sample point locations are as indicated on the attached Site Plan, Figure 7.

Soil and water samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California, for total petroleum hydrocarbons (TPH) as gasoline, and benzene, toluene, xylenes and ethylbenzene (BTX&E). The waste oil tank pit samples were analyzed for TPH as gasoline, BTX&E, TPH as diesel, and TOG (except samples SW-AX, SW-BX, SW-C3X, and SW-DX, which were analyzed for EPA method 8010 and 8270 constituents, and the metals cadmium, chromium, lead, and zinc). All pipe trench samples were analyzed for TPH as gasoline and BTX&E. After additional excavation, analytical results of soil samples from the fuel tank pit showed less than 1.4 ppm of TPH as gasoline for all samples representing the final pit excavation. After additional excavation in the waste oil pit, the final soil sample analytical results showed low residual levels of contamination. These final results indicated that the majority of contaminated soil had been removed from the site. The results of the soil sample analyses are summarized in Tables 5 and 6, and the results of the water sample analyses are summarized in Table 4 of this report.

Based on the results of the laboratory analyses, and in order to comply with the requirements of the regulatory agencies, KEI proposed the installation of five monitoring wells. Documentation of the tank and piping removal procedures, sample collection techniques, and the analytical results of the soil and ground water samples collected in January and February of 1989, are summarized in KEI's reports (KEI-J89-0111.R2) dated March 1, 1989, and (KEI-J89-0111.R3) dated March 29, 1989.

Five two-inch diameter monitoring wells (designated as MW1 through MW5 on the attached Site Plan, Figure 1) were installed at the site on April 20 and 21, 1989. The five wells were drilled and completed to total depths ranging from 24 to 28 feet below grade.

Ground water was encountered at depths ranging from 7 to 10 feet beneath the surface during drilling. The wells were developed on April 25, 1989, and were initially sampled on April 26, 1989.

Water and selected soil samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California, for TPH as gasoline and BTX&E. In addition, the soil samples collected from MW1 and MW2, and all the water samples, were analyzed for TPH as diesel, TOG, and EPA method 8010 compounds. Analytical results of soil samples collected from the borings for monitoring wells MW1 through MW4 showed non-detectable levels of TPH as gasoline and BTX&E in all samples, except for sample MW4(9), collected at a depth of 9 feet below grade, which showed 1.4 ppm of TPH as gasoline. The soil sample collected from MW5 at a depth of 5 feet below grade showed 900 ppm of TPH as gasoline, and 3.1 ppm of benzene. Analytical results of the water samples collected from MW1 and MW4 showed benzene levels of 2.1 ppb and 0.33 ppb, respectively. Analytical results for all other water samples indicated non-detectable levels for all constituents analyzed. The results of the soil analyses are summarized in Table 3, and the results of the water analyses are summarized in Table 2. Documentation of the well installation protocol, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P89-0111.R5) dated May 18, 1989.

Subsequently, KEI proposed a monthly monitoring and quarterly sampling program for all of the wells that was initiated in June of 1989. This program was modified to quarterly monitoring and sampling as of January 1991, as recommended in KEI's quarterly report (KEI-P89-0111.QR6) dated January 4, 1991. This program was further modified by reducing the sampling frequency for wells MW1 through MW4 from quarterly to annually, as recommended in KEI's quarterly report (KEI-P89-0111.QR10) dated January 3, 1992.

A review of the Regional Water Quality Control Board (RWQCB) files was conducted in June 1991, in order to locate and gain information on nearby underground tank sites. A review of ground water elevation data from three monitoring wells at the Rotten Robbie Service Station at 27814 Hesperian Boulevard, located approximately 1,800 feet northwest of Unocal, indicated a ground water flow direction to the southwest. The analytical results of the ground water samples collected from the three wells showed elevated levels of TPH as gasoline and BTX&E, and free product in one of the wells. No other underground fuel tank sites within a one-half mile radius of the subject site are known to KEI.

Monitoring well MW5 has continued to show variable levels of hydrocarbon contamination, while wells MW1 through MW4 have indicated generally non-detectable levels of hydrocarbons since

April of 1989. Well MW5 is the most downgradient of all of the existing wells and is located approximately 25 feet downgradient (southwest) of the pump islands. In KEI's report (KEI-P89-0111.P4) dated March 9, 1992, KEI recommended the installation of two additional downgradient monitoring wells in order to determine the lateral extent of contamination in the vicinity of the site.

RECENT FIELD ACTIVITIES - WELL INSTALLATION

On June 26, 1992, one additional two-inch diameter monitoring well (designated as MW6 on the attached Site Plan, Figure 1) was installed at the site. Initially, KEI had recommended the installation of two monitoring wells. However, the City of Hayward Department of Public Works would not allow well MW7 to be installed because of the presence of underground utilities beneath the median strip, and no other suitable location could be found nearby. Well MW6 was drilled, constructed, and completed in accordance with the guidelines of the Regional Water Quality Control Board (RWQCB), and California Well Standards, per Bulletin 74-90. The subsurface materials penetrated and details of the construction of the well are described in the attached Boring Log.

The well was drilled and completed to a total depth of 19.5 feet below grade. Ground water was encountered at a depth of 10 feet below grade during drilling. Soil samples were collected for laboratory analysis and for lithologic logging purposes at a maximum spacing of 5 foot intervals, at significant changes in lithology, at obvious areas of contamination, and at or within the soil/ground water interface, beginning at a depth of approximately 5 feet below grade and continuing until ground water was encountered. Soil sampling conducted below the ground water table was for lithologic logging purposes only. The undisturbed soil samples were collected by driving a California-modified split-spoon sampler ahead of the drilling augers. The two-inch diameter brass liners holding the samples were sealed with aluminum foil, plastic caps and tape, and stored in a cooled ice chest for delivery to a certified laboratory. The well casing was installed with a watertight cap and padlock. A round, watertight, flush-mounted well cover was cemented in place over the well casing.

The surface of the well cover was surveyed by Kier & Wright of Pleasanton, California, to Mean Sea Level (MSL) and to a vertical accuracy of 0.01 feet.

Well MW6 was developed on July 6, 1992. Prior to development, the well was checked for depth to water table by the use of an electronic sounder, and the presence of free product (by the use of an interface probe). No free product was noted in the well. After

recording the monitoring data, the well was purged with a surface pump of 55 gallons until the evacuated water was clear and free of suspended sediment. Monitoring and well development data are summarized in Table 1.

RECENT FIELD ACTIVITIES - QUARTERLY MONITORING AND SAMPLING

The six wells (MW1 through MW6) were monitored and sampled once during the quarter. During monitoring, the wells were checked for depth to water and the presence of free product. Prior to sampling, the wells were also checked for the presence of a sheen. No free product or sheen was noted in any of the wells during the quarter. The monitoring data collected this quarter are summarized in Table 1.

Water samples were collected from the wells on August 4, 1992. Prior to sampling, the wells were each purged of between 7.5 and 14 gallons of water by the use of a surface pump. The samples were then collected by the use of 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 and stored in a cooler, on ice, until delivery to the state-certified laboratory.

ANALYTICAL RESULTS

Water samples from all wells, and selected soil samples from the boring of MW6, were analyzed at Sequoia Analytical Laboratory in Concord, California. All samples analyzed were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline by EPA method 5030/modified 8015, and BTX&E by EPA method 8020. The results of the soil analyses are summarized in Table 3, and the results of the water analyses are summarized in Table 2. Concentrations of TPH as gasoline and benzene detected in the ground water samples collected from the monitoring wells on August 4, 1992, are shown on the attached Site Plan, Figures 2 and 3. However, complete iso-concentration contours have not been illustrated on these figures because insufficient data points are available. Copies of the laboratory analyses and Chain of Custody documentation are attached to this report.

HYDROLOGY AND GEOLOGY

The measured depth to ground water at the site on August 4, 1992, ranged between 7.23 and 8.35 feet below grade. The water levels in all of the wells have shown net decreases ranging from 0.54 to 0.61 feet since May 5, 1992. Based on the water level data gathered on

August 4, 1992, the ground water flow direction appeared to be to the southwest, as shown on the attached Potentiometric Surface Map, Figure 1. The flow direction reported here is similar to the southwesterly flow direction reported on May 5, 1992. The average hydraulic gradient across the site on August 4, 1992, was approximately 0.006.

Based on review of regional geologic maps (U.S. Geological Survey Professional Paper 943 "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning" by E.J. Helley and K.R. Lajoie, 1979), the subject site is underlain by Holocene-age coarse-grained alluvium (Qhac). The coarse-grained alluvium typically consists of unconsolidated, moderately sorted sand and silt materials with local gravel lenses. In addition, the site is situated closely adjacent to a mapped geologic contact with Holocene-age medium-grained alluvium (Qham), which is described as typically consisting of unconsolidated fine sand, silt, and clayey silt, with a trace of coarse sand.

The results of our previous subsurface investigation (the borings for MW1 through MW5) indicate that the site is predominantly underlain by sandy to silty clay. However, in the vicinity of MW1 and MW4, the relatively thick sequence of clay materials are underlain by a clayey sand bed at a depth of about 23 to 24 feet below grade, and extending to the maximum depth explored (28 feet below grade). Clayey sand materials were not encountered in MW2, MW3, or MW5.

The results of our most recent subsurface investigations (the boring log for MW6) indicate that the vicinity of MW6 is also underlain by a sandy to silty clay sequence to the total depth explored of 19.5 feet below grade.

## DISCUSSION AND RECOMMENDATIONS

Based on the analytical results, KEI recommends the continuation of the current monitoring and sampling program of the existing wells, per KEI's proposal (KEI-P89-0111.P4) dated March 9, 1992. The results of the monitoring program will be documented and evaluated after each monitoring and sampling event. Recommendations for altering or terminating the program will be made as warranted.

## DISTRIBUTION

Copies of this report should be sent to the Alameda County Health Care Services Agency, to the City of Hayward, and to the RWQCB, San Francisco Bay Region.

LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in the extent and concentration of any contaminants. Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this study are based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We have analyzed this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

Should you have any questions regarding this report, please do not hesitate to call me at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Haig (Gary) Tejirian
Project Geologist

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

License No. 1633
Exp. Date 6/30/94

Robert H. Kezerian, P.E.
Project Engineer

/bp

Attachments: Tables 1 through 6
Location Map
Potentiometric Surface Map - Figure 1
Concentrations of Petroleum Hydrocarbons - Figures 2 & 3
Site Plans - 4, 5, 6 & 7
Boring Logs
Laboratory Analyses
Chain of Custody documentation

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TABLE 1

SUMMARY OF MONITORING DATA

| Well No. | Ground Water Elevation (feet) | Depth to Water (feet) | Product Thickness (feet) | Sheen | Water Purged (gallons) |
|---|---|---|---|---|---|
| **(Monitored and Sampled on August 4, 1992)** | | | | | |
| MW1 | 4.71 | 7.86 | 0 | No | 14 |
| MW2 | 4.54 | 8.35 | 0 | No | 11 |
| MW3 | 4.62 | 7.84 | 0 | No | 11.5 |
| MW4 | 4.49 | 7.60 | 0 | No | 12 |
| MW5 | 3.95 | 7.23 | 0 | No | 7.5 |
| MW6 | 4.16 | 7.31 | 0 | No | 12 |
| **(Developed and Monitored on July 6, 1992)** | | | | | |
| MW6 | 4.24 | 7.23 | 0 | -- | 55 |

| Well # | Surface Elevation* (feet) |
|---|---|
| MW1 | 12.57 |
| MW2 | 12.89 |
| MW3 | 12.46 |
| MW4 | 12.09 |
| MW5 | 11.18 |
| MW6 | 11.47 |

-- Sheen determination was not performed.

* The elevations of the tops of the well covers have been surveyed relative to MSL, per Standard City Brass Cap in monument box at the intersection of Hesperian and Catalpa (elevation = 10.97 MSL).

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TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Sample Well # | TPH as Diesel | TPH as Gasoline | Benzene | Toluene | Xylenes | Ethyl-benzene |
|---|---|---|---|---|---|---|---|
| 8/04/92 | MW1 | -- | ND | ND | ND | ND | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | 80 | 13 | ND | 6.9 | 4.5 |
| | MW6 | -- | 540 | 12 | 7.9 | 110 | 35 |
| 5/05/92 | MW5 | -- | 170 | 45 | 0.48 | 6.8 | 9.0 |
| 2/05/92 | MW5 | -- | 120 | 20 | ND | 4.7 | 4.4 |
| 11/07/91 | MW1 | -- | ND | ND | ND | ND | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | 700 | 43 | 1.7 | 24 | 29 |
| 8/02/91 | MW1 | -- | ND | ND | ND | ND | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | 100 | 43 | 0.33 | 5.2 | 12 |
| 5/10/91 | MW1 | -- | ND | ND | ND | ND | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | ND | ND | ND | ND | ND |
| | MWD+ | -- | ND | ND | ND | ND | ND |
| 2/11/91 | MW1* | ND | ND | ND | ND | ND | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | 58 | 23 | ND | 1.3 | 2.9 |
| 11/15/90 | MW1* | ND | ND | ND | ND | ND | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | ND | ND | ND | 0.47 | ND |

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TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Sample Well # | TPH as Diesel | TPH as Gasoline | Benzene | Toluene | Xylenes | Ethyl-benzene |
|---|---|---|---|---|---|---|---|
| 8/29/90 | MW1* | ND | ND | ND | ND | 0.74 | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | 0.52 | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | ND | 0.70 | ND | 1.1 | 0.57 |
| 5/16/90 | MW1* | ND | ND | ND | ND | ND | ND |
| | MW2* | ND | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | 1,100 | 310 | 2.8 | 110 | 70 |
| 2/16/90 | MW1* | ND | ND | ND | ND | ND | ND |
| | MW2 | -- | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | ND | ND | ND | ND | ND |
| 11/14/89 | MW1* | ND | ND | ND | ND | ND | ND |
| | MW2* | ND | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | 73 | 4.7 | 0.97 | 16 | 2.9 |
| 8/31/89 | MW5 | -- | 910 | 120 | 7.1 | 53 | 50 |
| 8/16/89 | MW1** | ND | ND | ND | ND | ND | ND |
| | MW2** | ND | ND | ND | ND | ND | ND |
| | MW3 | -- | ND | ND | ND | ND | ND |
| | MW4 | -- | ND | ND | ND | ND | ND |
| | MW5 | -- | 4,400 | 1,400 | 84 | 950 | 200 |
| 4/26/89 | MW1*** | ND | ND | 2.1 | ND | ND | ND |
| | MW2*** | ND | ND | ND | ND | ND | ND |
| | MW3*** | ND | ND | ND | ND | ND | ND |
| | MW4*** | ND | ND | 0.33 | ND | ND | ND |
| | MW5*** | ND | ND | ND | ND | ND | ND |

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

\+ MWD is a quality assurance duplicate water sample collected from well MW5.

* TOG and all EPA method 8010 constituents were non-detectable.

** TOG for these samples were 23 ppm and 7.4 ppm, respectively. All EPA method 8010 constituents were non-detectable for both samples.

*** TPH as diesel, TOG, and all EPA method 8010 constituents were non-detectable.

-- Indicates analysis was not performed.

ND = Non-detectable.

Results in parts per billion (ppb), unless otherwise indicated.

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TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

| Date | Sample Number | Depth (feet) | TPH as Gasoline | Benzene | Toluene | Xylenes | Ethyl-benzene |
|---|---|---|---|---|---|---|---|
| 4/20/89 | MW1* | 5 | ND | ND | ND | ND | ND |
| | MW2* | 5 | ND | ND | ND | ND | ND |
| | MW3 | 5 | ND | ND | ND | ND | ND |
| | MW3 | 9 | ND | ND | ND | ND | ND |
| | MW4 | 5 | ND | ND | ND | ND | ND |
| | MW4 | 9 | 1.4 | ND | ND | ND | ND |
| | MW5 | 5 | 900 | 3.1 | 3.1 | 110 | 30 |
| | MW5 | 9 | ND | ND | ND | ND | ND |
| 6/26/92 | MW6(5) | 5 | 290 | 1.2 | 1.6 | 41 | 7.5 |
| | MW6(7.5) | 7.5 | 410 | 1.9 | 10 | 89 | 15 |
| | MW6(9.5) | 9.5 | ND | ND | 0.019 | 0.079 | 0.015 |

* TPH as diesel, TOG, and all EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

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TABLE 4

SUMMARY OF LABORATORY ANALYSES
WATER

| Date | Sample Well # | TPH as Diesel | TPH as Gasoline | Benzene | Toluene | Xylenes | Ethyl-benzene |
|---|---|---|---|---|---|---|---|
| 2/14/89 | W1A | 110 | -- | 2.2 | 0.55 | 12 | ND |
| | W1B* | -- | -- | -- | -- | -- | -- |
| 2/17/89 | WO-W1+ | 1,300 | 500 | 52 | 8.6 | 100 | 9.2 |

-- Indicates analysis was not performed.

ND = Non-detectable.

* All EPA method 601 constituents were non-detectable.

+ TOG and all EPA method 601 constituents were non-detectable.

Results in parts per billion (ppb), unless otherwise indicated.

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TABLE 5

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on January 30, and February 2, 14 & 17, 1989)

| Sample # | Depth (feet) | TPH as Gasoline | TPH as Diesel | Benzene | Toluene | Xylenes | Ethyl-benzene |
|---|---|---|---|---|---|---|---|
| SW1 | 10.0 | 1.4 | -- | 0.14 | ND | ND | ND |
| SW2A | 10.0 | 1.1 | -- | ND | ND | ND | ND |
| SW3A | 10.0 | ND | -- | ND | ND | ND | ND |
| SW4 | 10.0 | ND | -- | ND | ND | ND | ND |
| SW5 | 10.0 | 130 | -- | 1.1 | 4.6 | 18 | 3.7 |
| SW5A | 10.0 | ND | -- | ND | ND | ND | ND |
| SW6A | 10.0 | ND | -- | ND | ND | ND | ND |
| P1 | 3.5 | 7.8 | -- | 2.0 | ND | 2.4 | 0.53 |
| P2 | 3.5 | 12 | -- | 1.9 | 0.91 | 0.70 | 3.0 |
| P3 | 3.5 | 11 | -- | 0.37 | 0.36 | 0.29 | 1.7 |
| SWA* | 10.0 | ND | 1.0 | ND | ND | ND | ND |
| SWB* | 10.0 | 1.1 | 2.4 | ND | ND | ND | ND |
| SWC* | 10.0 | 110 | 180 | 0.68 | ND | 5.6 | 1.9 |
| SWC2* | 10.0 | 89 | 57 | ND | ND | 0.42 | 0.76 |
| SWC3* | 10.0 | ND | ND | ND | ND | ND | ND |
| SWD* | 10.0 | ND | ND | ND | ND | ND | ND |
| WO1** | 9.0 | 60 | 800 | 3.6 | 9.2 | 9.5 | 2.5 |
| Detection Limits | | 1.0 | 1.0 | 0.05 | 0.1 | 0.1 | 0.1 |

* TOG for SWA was 35 ppm, SWB was 44 ppm, SWC was 500 ppm, SWC2 was 680 ppm, SWC3 was Non-detectable, and SWD was 77 ppm.

** TOG for WO1 was 1,900 ppm; cadmium was 0.3 ppm; chromium was 39 ppm; lead was 10 ppm, and zinc was 42 ppm. Seventeen EPA method 8270 compounds and two EPA method 8010 compounds were detected at concentrations ranging from 100 ppb to 10,000 ppb.

-- Indicates analysis was not performed.

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

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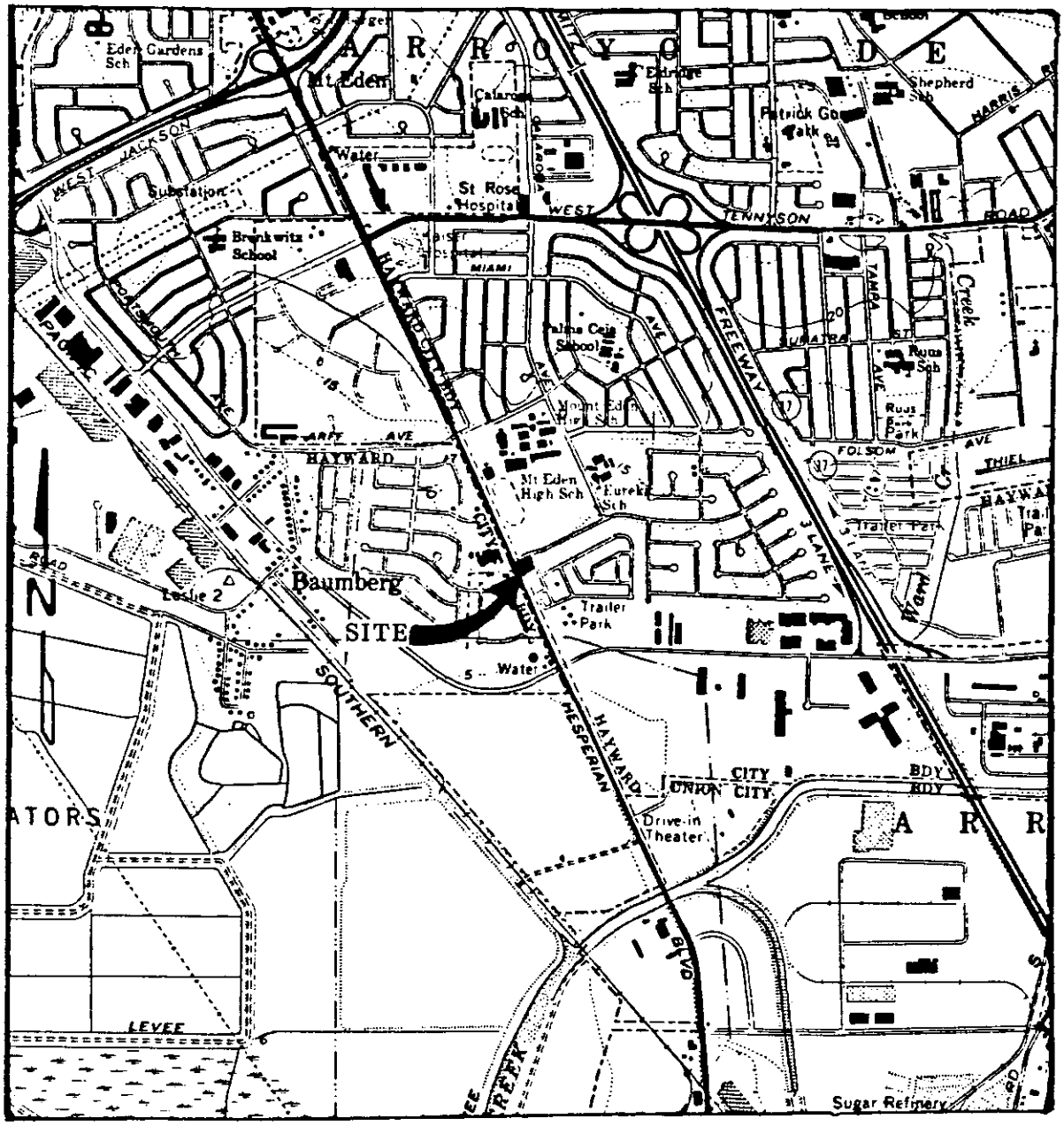
TABLE 6

SUMMARY OF LABORATORY ANALYSES
SOIL

| Date | Sample Number | Cadmium | Chromium | Lead | Zinc |
|---|---|---|---|---|---|
| 3/09/89 | SW-AX* | 0.2 | 96 | 4.7 | 35 |
| | SW-BX* | 0.16 | 91 | 5.1 | 29 |
| | SW-C3X* | 0.33 | 140 | 6.8 | 41 |
| | SW-DX* | 0.19 | 92 | 4.8 | 32 |
| Detection Limits | | 0.1 | 0.05 | 0.05 | 0.1 |

* All EPA method 8010 and 8270 constituents were non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

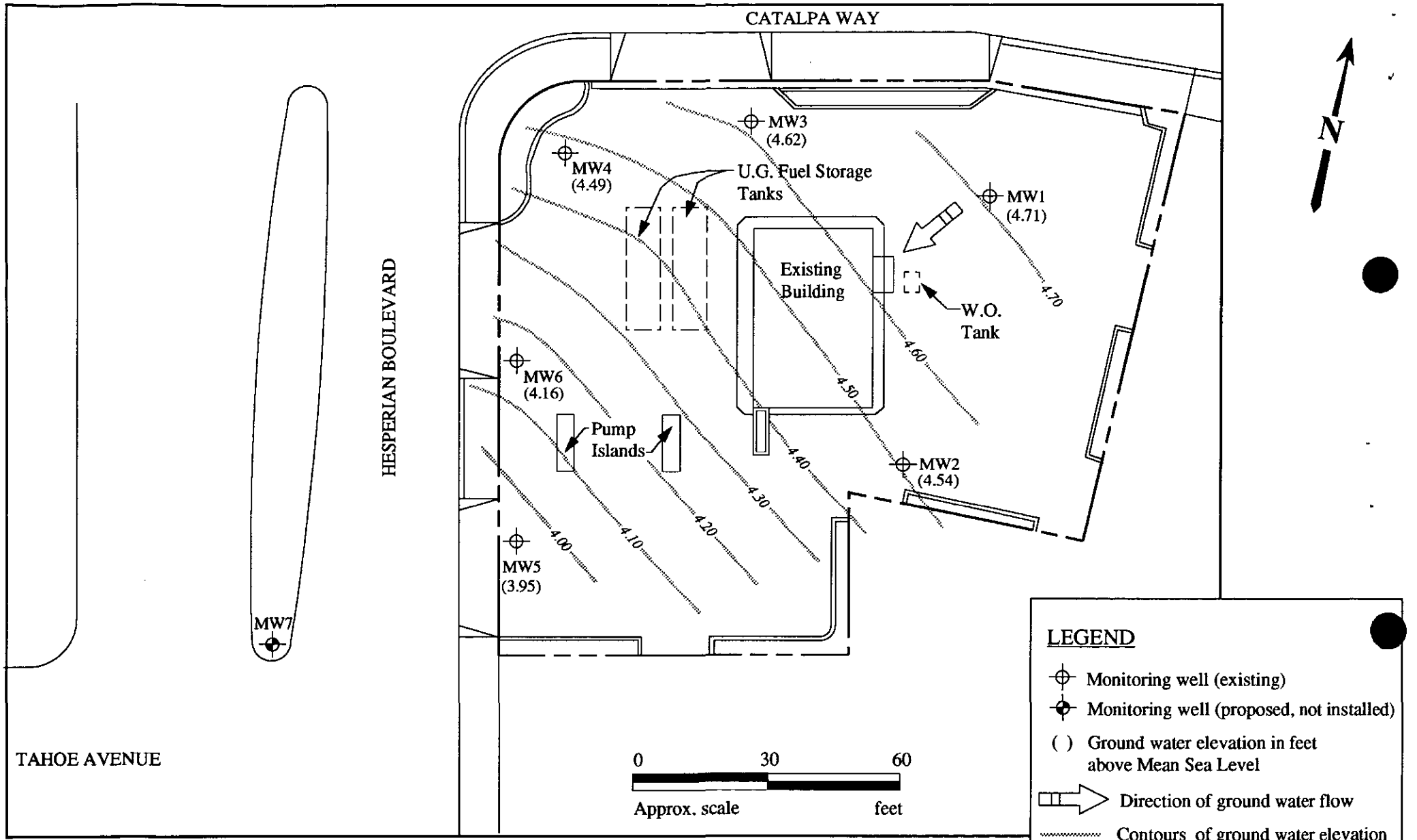



Base modified from 7.5 minute U.S.G.S. Hayward and Newark Quadrangles (both photorevised 1980)

0 2000 4000

Approx. scale feet

| | | |
|---|---|---|
| KAPREALIAN ENGINEERING INCORPORATED | **UNOCAL SERVICE STATION #5487**<br>**28250 HESPERIAN BOULEVARD**<br>**HAYWARD, CA** | **LOCATION MAP** |

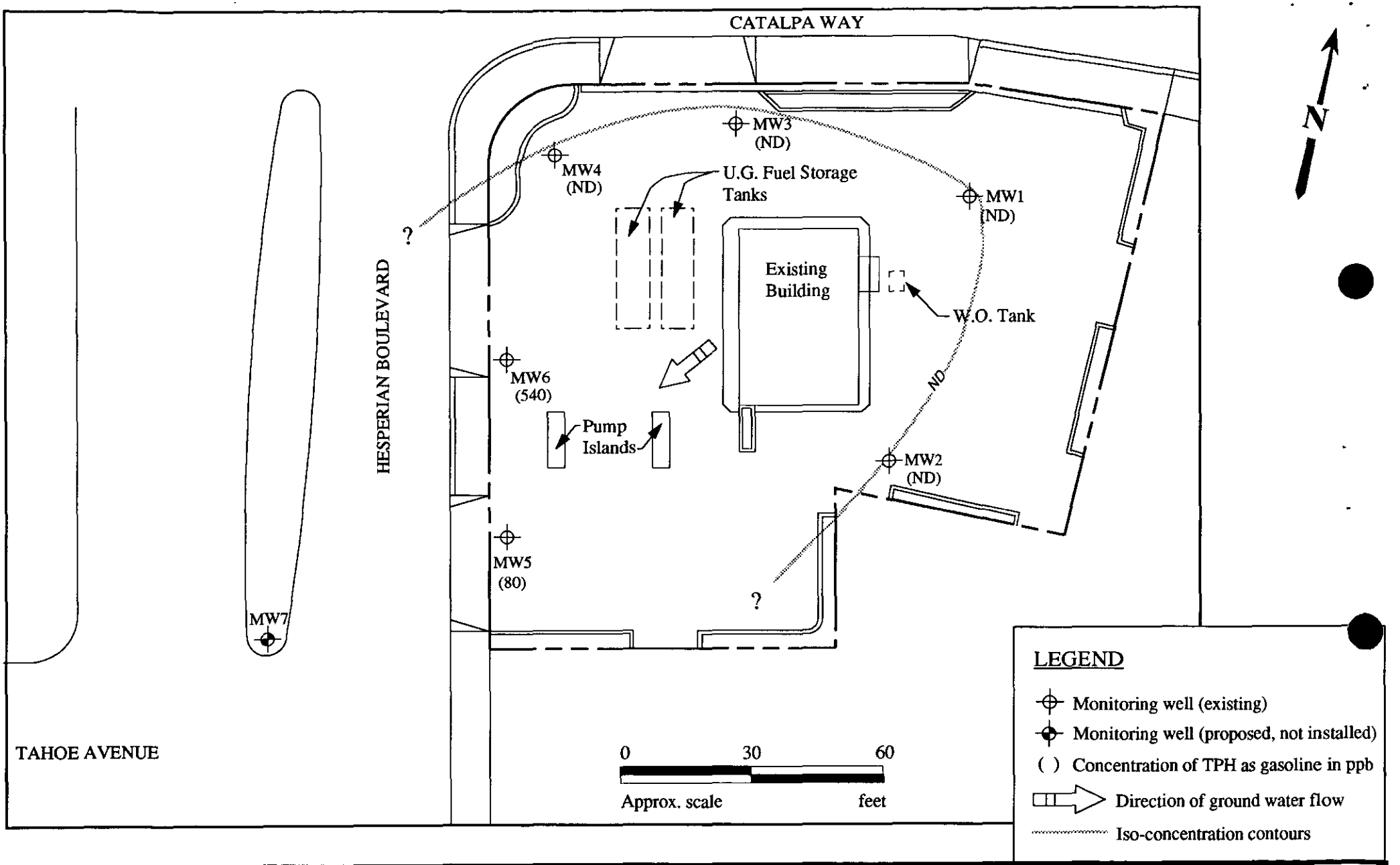



**POTENITOMETRIC SURFACE MAP FOR THE AUGUST 4, 1992 MONITORING EVENT**

KAPREALIAN ENGINEERING
INCORPORATED

**UNOCAL SERVICE STATION #5487**
**28250 HESPERIAN BOULEVARD**
**HAYWARD, CA**

FIGURE
**1**

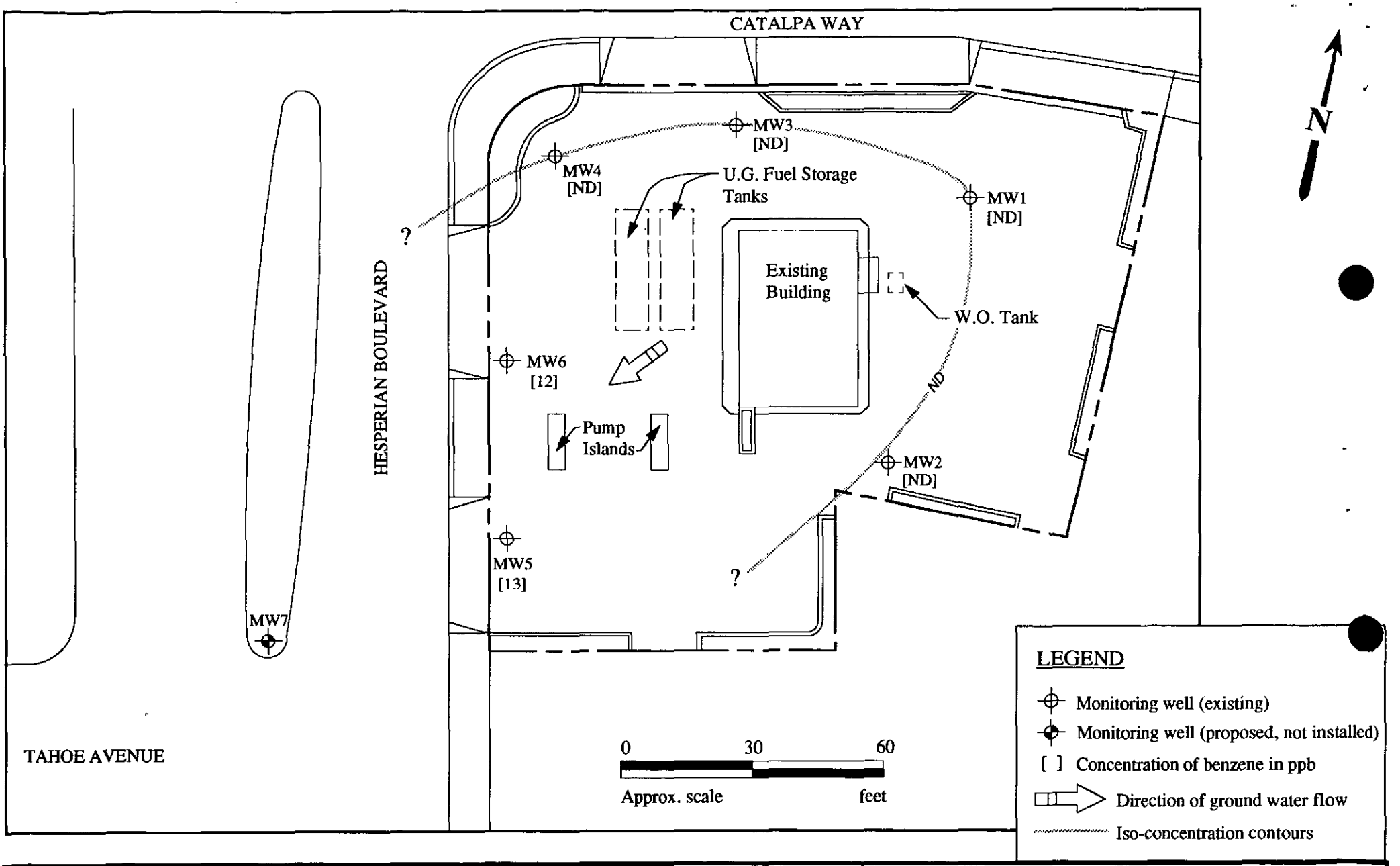



**PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON AUGUST 4, 1992**

KAPREALIAN ENGINEERING
INCORPORATED

**UNOCAL SERVICE STATION #5487**
**28250 HESPERIAN BOULEVARD**
**HAYWARD, CA**

FIGURE
**2**

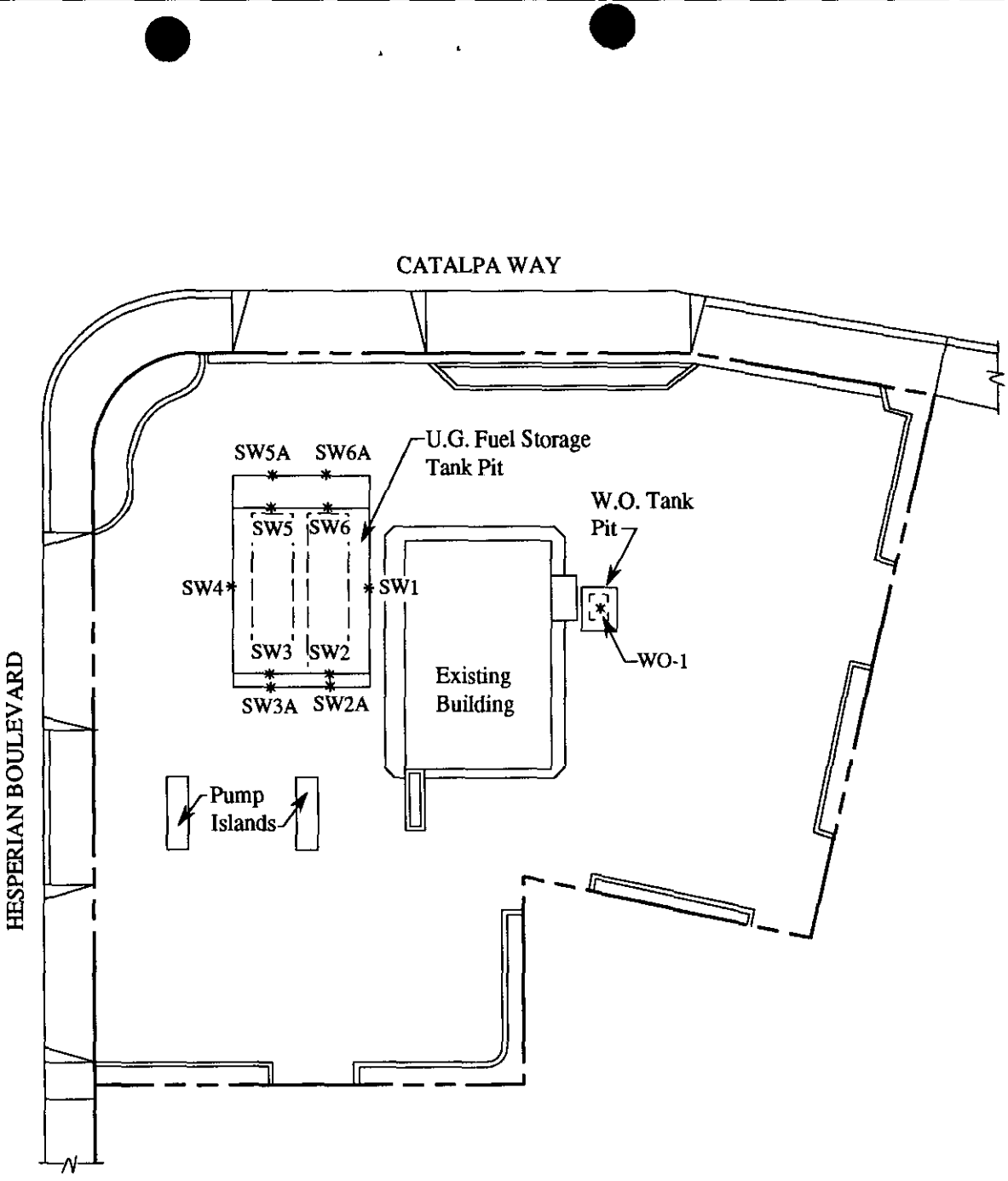



**PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON AUGUST 4, 1992**

KAPREALIAN ENGINEERING
INCORPORATED

**UNOCAL SERVICE STATION #5487**
**28250 HESPERIAN BOULEVARD**
**HAYWARD, CA**

FIGURE
**3**




SITE PLAN

LEGEND

* Sample Point Location

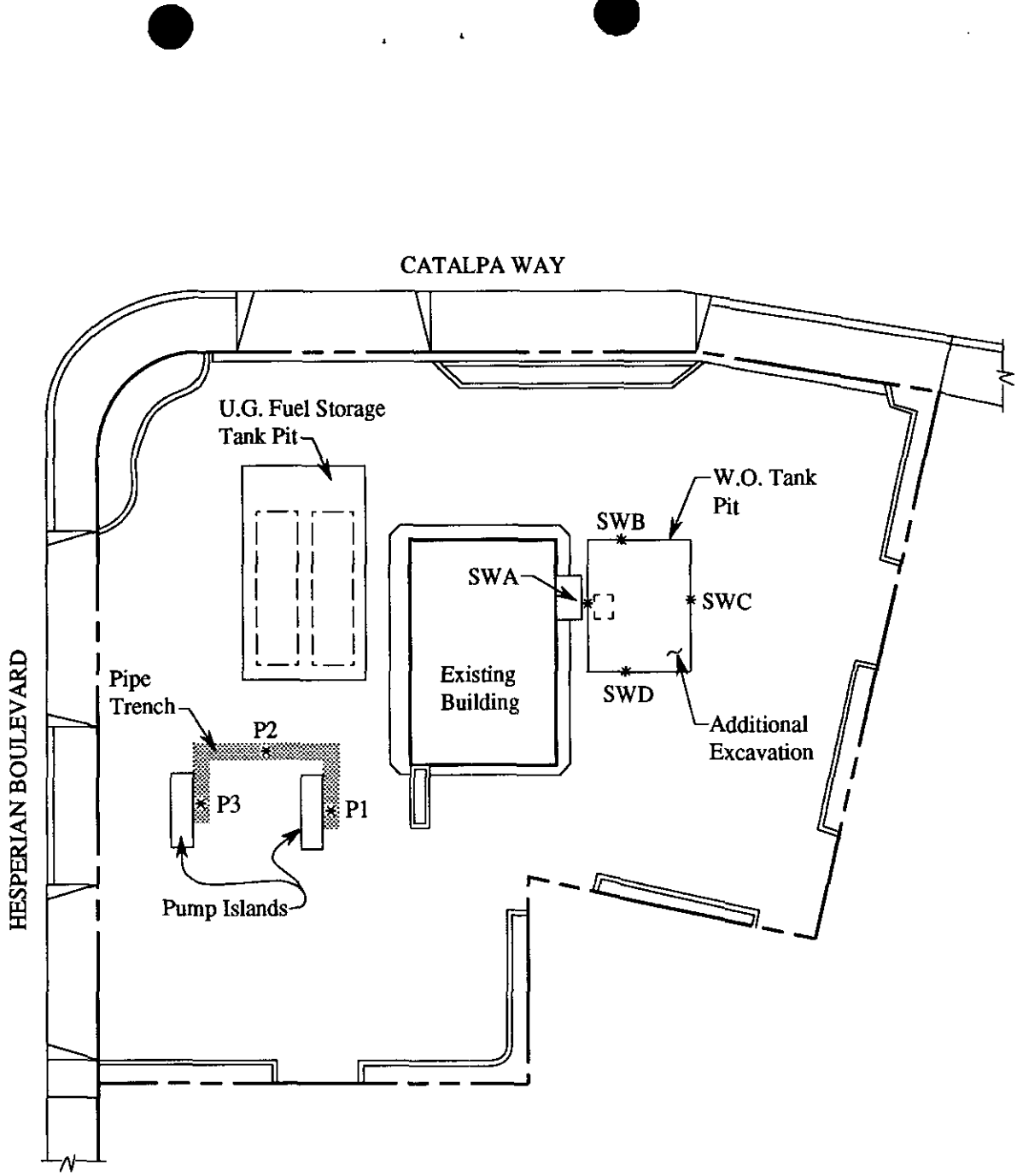
0 30 60

Approx. scale feet

KAPREALIAN ENGINEERING
INCORPORATED

**UNOCAL SERVICE STATION #5487**
***28250 HESPERIAN BOULEVARD***
**HAYWARD, CA**

FIGURE
**4**




SITE PLAN

LEGEND

* Sample Point Location

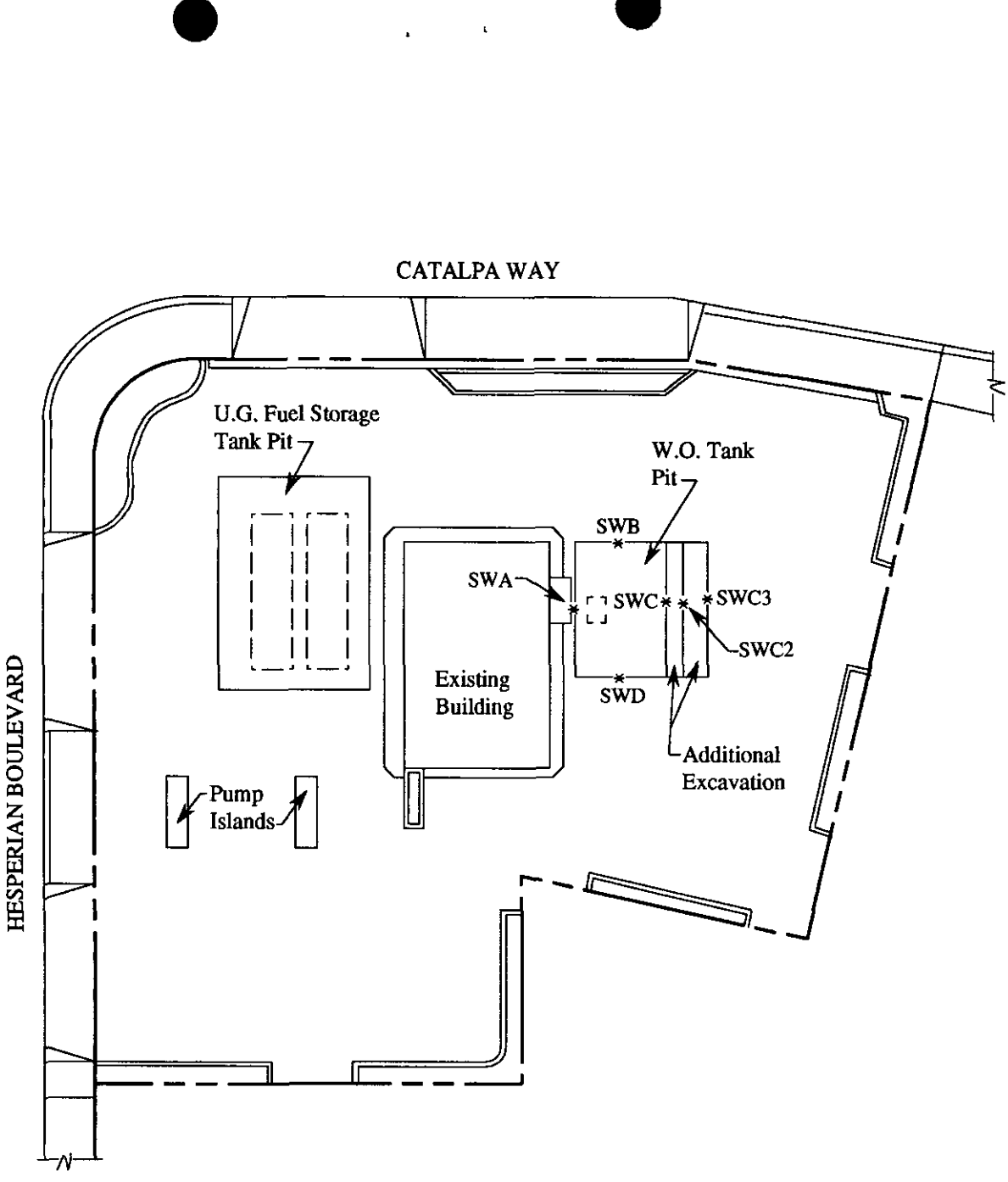
0 30 60

Approx. scale feet

KAPREALIAN ENGINEERING
INCORPORATED

**UNOCAL SERVICE STATION #5487**
**28250 HESPERIAN BOULEVARD**
**HAYWARD, CA**

FIGURE
**5**




SITE PLAN

LEGEND

* Sample point location

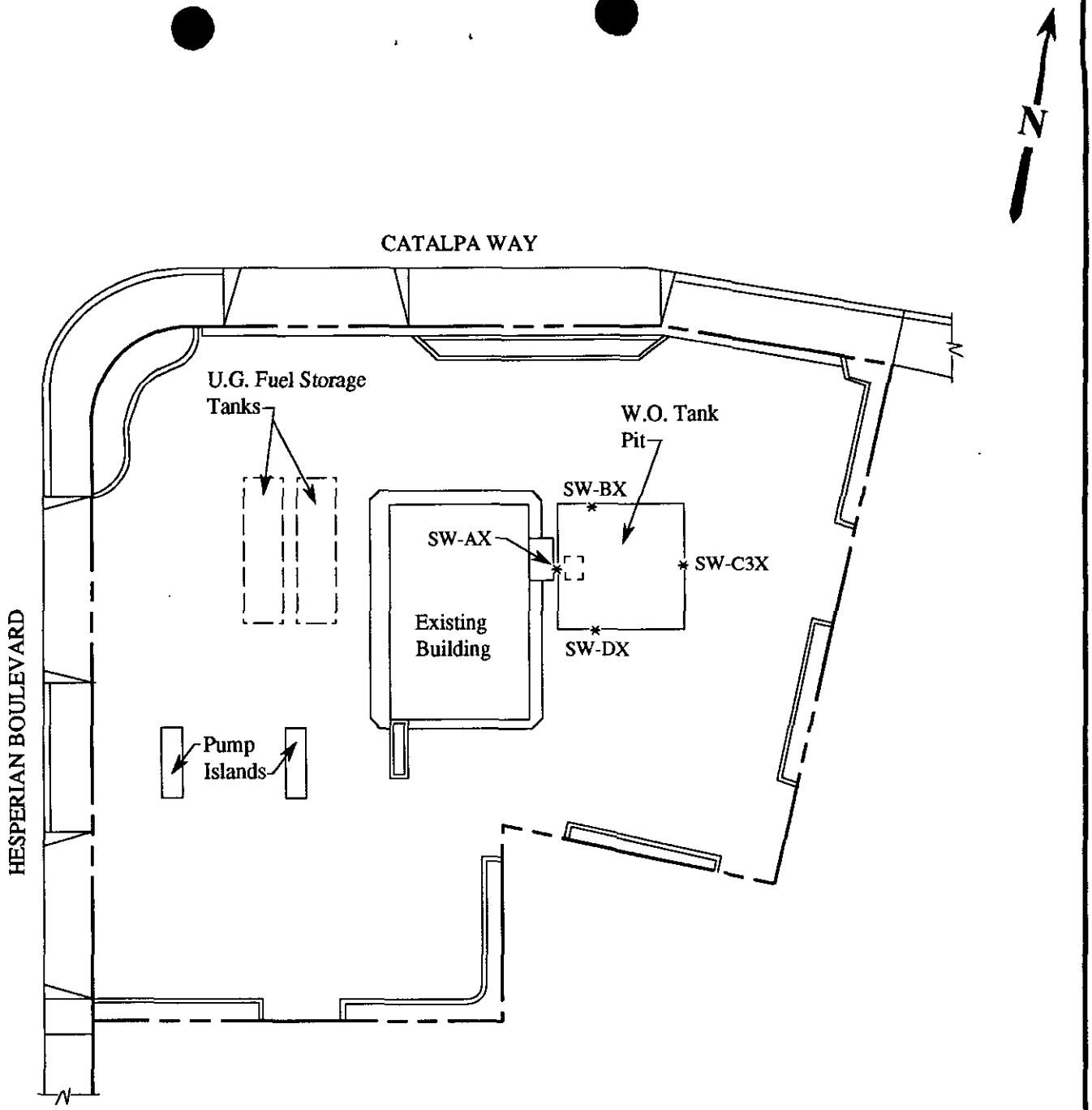
0 30 60

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED

UNOCAL SERVICE STATION #5487
28250 HESPERIAN BOULEVARD
HAYWARD, CA

FIGURE 6




SITE PLAN

LEGEND

* Sample point location

0 30 60

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED

**UNOCAL SERVICE STATION #5487**
**28250 HESPERIAN BOULEVARD**
**HAYWARD, CA**

FIGURE 7

KAPREALIAN ENGINEERING
INCORPORATED

| MAJOR DIVISIONS | SYMBOLS | TYPICAL SOIL DESCRIPTIONS |
|---|---|---|
| GRAVELS (More than 1/2 of coarse fraction > No. 4 sieve size) | GW | Well graded gravels or gravel - sand mixtures, little or no fines |
| | GP | Poorly graded gravels or gravel - sand mixtures, little or no fines |
| | GM | Silty gravels, gravel - sand - silt mixtures |
| | GC | Clayey gravels, gravel - sand - clay mixtures |
| SANDS (More than 1/2 of coarse fraction < No. 4 sieve size) | SW | Well graded sands or gravelly sands, little or no fines |
| | SP | Poorly graded sands or gravelly sands, little or no fines |
| | SM | Silty sands, sand - silt mixtures |
| | SC | Clayey sands, sand - clay mixtures |
| SILTS & CLAYS LL < 50 | ML | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity |
| | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays |
| | OL | Organic silts and organic silty clays of low plasticity |
| SILTS & CLAYS LL > 50 | MH | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts |
| | CH | Inorganic clays of high plasticity, fat clays |
| | OH | Organic clays of medium to high plasticity, organic silty clays, organic silts |
| HIGHLY ORGANIC SOILS | Pt | Peat and other highly organic soils |
| DUAL (TRANSITION) SOILS | | Soil characterisitics are transitional between the soil classifications listed above |

CLASSIFICATION CHART (Unified Soil Classification System)

# BORING LOG

| | | |
|---|---|---|
| **Project No.** KEI-P 89-0111 | **Boring & Casing Diameter** 9" 2" | **Logged By** D.L. JGG CEG 1633 |
| **Project Name** Unocal S/S #5487 28250 Hesperian Blvd., Hayward | **Well Cover Elevation** | **Date Drilled** 6/26/92 |
| **Boring No.** MW6 | **Drilling Method** Hollow-stem Auger | **Drilling Company** Woodward Drilling |

| Penetration blows/6" | G. W. level | Depth (feet) Samples | Strati-graphy USCS | Description |
|---|---|---|---|---|
| | | 0 | | Concrete slab. |
| | | | | Sand and gravel mixed with black clayey silt. |
| | | | MH | Clayey silt, trace sand and gravel to 1/4 inch in diameter, firm, moist, black. |
| 2/3/4 | | 5 | CH | Silty clay, firm, moist, dark olive gray with occasional root pores. |
| 2/2/4 | | | | Silty clay, trace sand and gravel to 3/4 inch in diameter, firm, moist, dark olive brown. |
| 2/6/9 | ▼ | 10 | | Clay with silt, firm to stiff, moist, wet in voids, dark olive gray and very dark gray mottled, occasional caliche nodules to 1/2 inch in diameter. |
| | | | | Clay with silt, as above. |
| 6/9/13 | | 15 | | Clay with silt, stiff to very stiff, moist, wet in voids, olive brown and dark olive gray mottled with caliche in voids. |
| 5/7/12 | | | | Clay with silt, stiff to very stiff, moist, olive brown with caliche-cemented root holes. |
| 7/8/7 | | | ML | Silt with clay, stiff, wet, olive brown. |
| | | 20 | | TOTAL DEPTH 19.5 FEET |

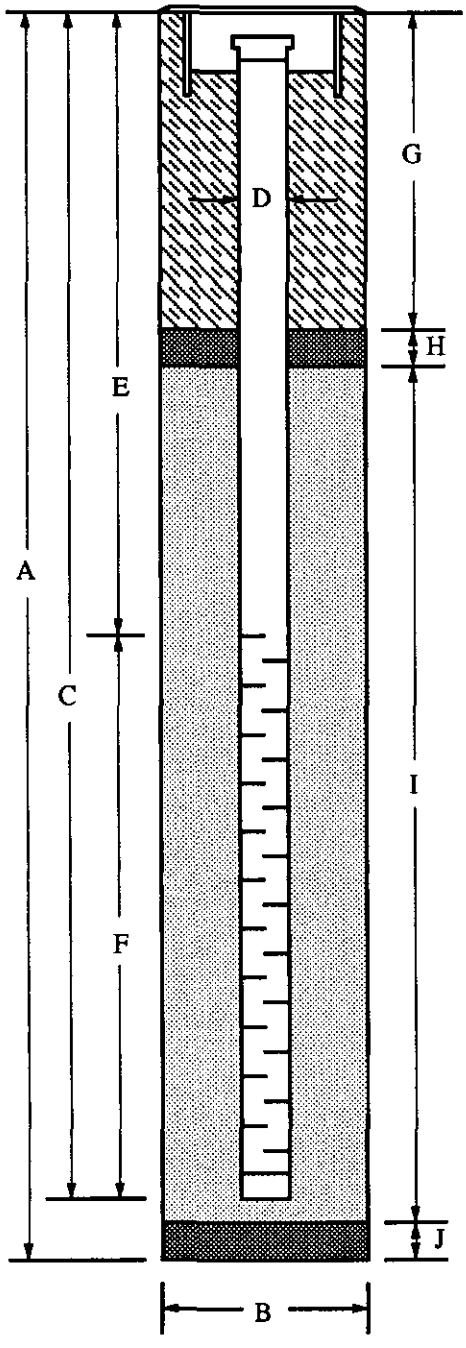
# WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal # 5487, 28250 Hesperian Blvd, Hayward WELL NO. MW6

PROJECT NUMBER: KEI-P89-0111

WELL PERMIT NO.:

Flush-mounted Well Cover




A. Total Depth : 19.5'

B. Boring Diameter*: 8"

Drilling Method: Hollow Stem Auger

C. Casing Length: 18'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 13'

Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: 1'

Seal Material: Bentonite

I. Filter Pack: 15'

Pack Material: RMC Lonestar Sand

Size: #2/12

J. Bottom Seal: None

Seal Material: N/A

# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689


| | | | | |
|---|---|---|---|---|
| Kaprealian Engineering, Inc. | Client Project ID: | Unocal, 28250 Hesperian Blvd., Hayward | Sampled: | Aug 4, 1992 |
| 2401 Stanwell Drive, Suite 400 | Sample Matrix: | Water | Received: | Aug 4, 1992 |
| Concord, CA 94520 | Analysis Method: | EPA 5030/8015/8020 | Reported: | Aug 13, 1992 |
| Attention: Mardo Kaprealian, P.E. | First Sample #: | 208-0157 | | |

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte | Reporting Limit µg/L | Sample I.D. 208-0157 MW-1 | Sample I.D. 208-0158 MW-2 | Sample I.D. 208-0159 MW-3 | Sample I.D. 208-0160 MW-4 | Sample I.D. 208-0161 MW-5 | Sample I.D. 208-0162 MW-6 |
|---|---|---|---|---|---|---|---|
| Purgeable Hydrocarbons | 50 | N.D. | N.D. | N.D. | N.D. | 80 | 540 |
| Benzene | 0.5 | N.D. | N.D. | N.D. | N.D. | 13 | 12 |
| Toluene | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | 7.9 |
| Ethyl Benzene | 0.5 | N.D. | N.D. | N.D. | N.D. | 4.5 | 35 |
| Total Xylenes | 0.5 | N.D. | N.D. | N.D. | N.D. | 6.9 | 110 |
| Chromatogram Pattern: | | -- | -- | -- | -- | Gasoline | Gasoline |

**Quality Control Data**

| | | | | | | |
|---|---|---|---|---|---|---|
| Report Limit Multiplication Factor: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Date Analyzed: | 8/7/92 | 8/7/92 | 8/7/92 | 8/7/92 | 8/7/92 | 8/7/92 |
| Instrument Identification: | HP-2 | HP-2 | HP-2 | HP-2 | HP-2 | HP-2 |
| Surrogate Recovery, %: (QC Limits = 70-130%) | 103 | 103 | 104 | 102 | 105 | 121 |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

**SEQUOIA ANALYTICAL**
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

| | | | | |
|---|---|---|---|---|
| Kaprealian Engineering, Inc. | Client Project ID: | Unocal, 28250 Hesperian Blvd., Hayward | Sampled: | Aug 4, 1992 |
| 2401 Stanwell Drive, Suite 400 | Sample Matrix: | Water | Received: | Aug 4, 1992 |
| Concord, CA 94520 | Analysis Method: | EPA 5030/8015/8020 | Reported: | Aug 13, 1992 |
| Attention: Mardo Kaprealian, P.E. | First Sample #: | Matrix Blank | | |

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte | Reporting Limit µg/L | Sample I.D. Matrix Blank |
|---|---|---|
| Purgeable Hydrocarbons | 50 | |
| Benzene | 0.5 | |
| Toluene | 0.5 | |
| Ethyl Benzene | 0.5 | |
| Total Xylenes | 0.5 | |

Chromatogram Pattern:

**Quality Control Data**

| | |
|---|---|
| Report Limit Multiplication Factor: | 1.0 |
| Date Analyzed: | 8/7/92 |
| Instrument Identification: | HP-2 |
| Surrogate Recovery, %: (QC Limits = 70-130%) | 107 |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

**SEQUOIA ANALYTICAL**

Scott A. Chieffo
Project Manager

**SEQUOIA ANALYTICAL**
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 28250 Hesperian Blvd., Hayward
QC Sample Group: 2080157-162
Reported: Aug 13, 1992

## QUALITY CONTROL DATA REPORT

| ANALYTE | *Benzene* | *Toluene* | Ethyl-*Benzene* | *Xylenes* |
|---|---|---|---|---|
| Method: | EPA 8015/8020 | EPA 8015/8020 | EPA 8015/8020 | EPA 8015/8020 |
| Analyst: | A.T. | A.T. | A.T. | A.T. |
| Reporting Units: | µg/L | µg/L | µg/L | µg/L |
| Date Analyzed: | Aug 7, 1992 | Aug 7, 1992 | Aug 7, 1992 | Aug 7, 1992 |
| QC Sample #: | Matrix Blank | Matrix Blank | Matrix Blank | Matrix Blank |
| **Sample Conc.:** | N.D. | N.D. | N.D. | N.D. |
| **Spike Conc. Added:** | 20 | 20 | 20 | 60 |
| **Conc. Matrix Spike:** | 20 | 20 | 20 | 63 |
| **Matrix Spike % Recovery:** | 100 | 100 | 100 | 105 |
| **Conc. Matrix Spike Dup.:** | 21 | 20 | 21 | 64 |
| **Matrix Spike Duplicate % Recovery:** | 105 | 100 | 105 | 107 |
| **Relative % Difference:** | 4.9 | 0.0 | 4.9 | 1.6 |

*Laboratory blank contained the following analytes: None Detected*

**SEQUOIA ANALYTICAL**

Scott A. Chieffo
Project Manager

| | | |
|---|---|---|
| % Recovery: | Conc. of M.S. - Conc. of Sample / Spike Conc. Added | x 100 |
| Relative % Difference: | Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2 | x 100 |

2080157.KEI <3>

# KAPREALIAN ENGINEERING, INC.

## CHAIN OF CUSTODY

SAMPLER: Vartkes

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal / Hayward
28250 Hesperian Blvd.

TURN AROUND TIME: Regular

| SAMPLE ID NO. | DATE | TIME | SOIL | WATER | GRAB | COMP | NO. OF CONT. | SAMPLING LOCATION | TPHG; BTXE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| MW 1 | 8/4/92 | 12:30 PM. | | ✓ | ✓ | | 2 | Monitoring Well | ✓ | 20601 57AB |
| MW 2 | " | | | ✓ | ✓ | | 2 | " " | ✓ | 158AB |
| MW 3 | " | | | ✓ | ✓ | | 2 | " " | ✓ | 159AB |
| MW 4 | " | | | ✓ | ✓ | | 2 | " " | ✓ | 160AB |
| MW 5 | " | | | ✓ | ✓ | | 2 | " " | ✓ | 161AB |
| MW 6 | " | 3:55 PM. | | ✓ | ✓ | | 2 | " " | ✓ | 162AB |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|
| W. Tuckfield | 8/4/92 5:00 | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | 8-5-92 1412 | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | 8-5-92 1541 | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in ice? Y
2. Will samples remain refrigerated until analyzed? Y
3. Did any samples received for analysis have head space? N
4. Were samples in appropriate containers and properly packaged? Y

| Signature | Title | Date |
|---|---|---|
| S.C. | Analyst | 8.4.92 |

# SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689


| | | | | |
|---|---|---|---|---|
| Kaprealian Engineering, Inc. | Client Project ID: | Unocal #5487, 28250 Hesperian Blvd., | Sampled: | Jun 26, 1992 |
| 2401 Stanwell Drive, Suite 400 | Matrix Descript: | Soil Hayward | Received: | Jun 26, 1992 |
| Concord, CA 94520 | Analysis Method: | EPA 5030/8015/8020 | Analyzed: | Jun 30, 1992 |
| Attention: Mardo Kaprealian, P.E. | First Sample #: | 206-1264 | Reported: | Jul 8, 1992 |

## TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

| Sample Number | Sample Description | Low/Medium B.P. Hydrocarbons mg/kg (ppm) | Benzene mg/kg (ppm) | Toluene mg/kg (ppm) | Ethyl Benzene mg/kg (ppm) | Xylenes mg/kg (ppm) |
|---|---|---|---|---|---|---|
| 206-1264 | MW6 (5) | 290 | 1.2 | 1.6 | 7.5 | 41 |
| 206-1265 | MW6 (7.5) | 410 | 1.9 | 10 | 15 | 89 |
| 206-1266 | MW6 (9.5) | N.D. | N.D. | 0.019 | 0.015 | 0.079 |
| **Method Detection Limits:** | | **1.0** | **0.0050** | **0.0050** | **0.0050** | **0.0050** |

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.

**SEQUOIA ANALYTICAL**

Scott A. Chieffo
Project Manager

**SEQUOIA ANALYTICAL**
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal #5487, 28250 Hesperian Blvd., Hayward
QC Sample Group: 2061264-66
Reported: Jul 8, 1992

## QUALITY CONTROL DATA REPORT

| ANALYTE | Benzene | Toluene | Ethyl-Benzene | Xylenes |
|---|---|---|---|---|
| Method: | EPA 8015/8020 | EPA 8015/8020 | EPA 8015/8020 | EPA 8015/8020 |
| Analyst: | J.F. | J.F. | J.F. | J.F. |
| Reporting Units: | mg/kg | mg/kg | mg/kg | mg/kg |
| Date Analyzed: | Jun 30, 1992 | Jun 30, 1992 | Jun 30, 1992 | Jun 30, 1992 |
| QC Sample #: | Matrix Blank | Matrix Blank | Matrix Blank | Matrix Blank |
| **Sample Conc.:** | N.D. | N.D. | N.D. | N.D. |
| **Spike Conc. Added:** | 0.40 | 0.40 | 0.40 | 1.2 |
| **Conc. Matrix Spike:** | 0.46 | 0.46 | 0.43 | 1.4 |
| **Matrix Spike % Recovery:** | 115 | 115 | 107 | 116 |
| **Conc. Matrix Spike Dup.:** | 0.45 | 0.46 | 0.46 | 1.4 |
| **Matrix Spike Duplicate % Recovery:** | 112 | 115 | 115 | 116 |
| **Relative % Difference:** | 2.2 | 0.0 | 6.7 | 0.0 |

Laboratory Blank contained the following analytes: None detected.

**SEQUOIA ANALYTICAL**

Scott A. Chieffo
*Project Manager*

| | | |
|---|---|---|
| % Recovery: | Conc. of M.S. - Conc. of Sample / Spike Conc. Added | x 100 |
| Relative % Difference: | Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2 | x 100 |

**SEQUOIA ANALYTICAL**
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(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal #5487, 28250 Hesperian Blvd., Hayward
QC Sample Group: 2061264-66
Reported: Jul 8, 1992

## QUALITY CONTROL DATA REPORT

**SURROGATE**

| | EPA | EPA | EPA | EPA |
|---|---|---|---|---|
| Method: | 8015/8020 | 8015/8020 | 8015/8020 | 8015/8020 |
| Analyst: | J.F. | J.F. | J.F. | J.F. |
| Reporting Units: | mg/kg | mg/kg | mg/kg | mg/kg |
| Date Analyzed: | Jun 30, 1992 | Jun 30, 1992 | Jun 30, 1992 | Jun 30, 1992 |
| Sample #: | 206-1264 | 206-1265 | 206-1266 | Matrix Blank |
| **Surrogate % Recovery:** | 100 | 100 | 102 | 100 |

**SEQUOIA ANALYTICAL**

Scott A. Chieffo
Project Manager

| | | |
|---|---|---|
| % Recovery: | Conc. of M.S. - Conc. of Sample / Spike Conc. Added | x 100 |
| Relative % Difference: | Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2 | x 100 |

KAPREALIAN ENGINEERING
INCORPORATED

# CHAIN OF CUSTODY

SAMPLER: [redacted]

WITNESSING AGENCY

SITE NAME & ADDRESS: UNOCAL #5487 / HAYWARD, 28250 HESPERIAN BLVD.

ANALYSES REQUESTED: TPH-D; TPH-G

TURN AROUND TIME: REGULAR

| SAMPLE ID NO. | DATE | TIME | SOIL | WATER | GRAB | COMP | NO. OF CONT. | SAMPLING LOCATION | TPH-D | TPH-G | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW6(5) | 6-26-92 | | X | | X | | 1 | SEE SAMPLE ID NO. | X | X | 2061264 |
| MW6(7.5) | 6-26-92 | | X | | X | | 1 | | X | X | 1265 |
| MW6(9.5) | 6-26-92 | | X | | X | | 1 | | X | X | 1266 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | | |
|---|---|---|
| Relinquished by: (Signature) | Date/Time 6/26/92 2090 | Received by: (Signature) |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in 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: [redacted] Title: analyst Date: 6/26/92

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602