KAPREALIAN ENGINEERING
INCORPORATED

June 12, 1996

Alameda County Health Care Services
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

STID 2422

RE: Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

To whom it may concern:

Per the request of Mr. David J. Camille of Unocal Corporation, enclosed please find our work plan/proposal dated June 7, 1996, for the above referenced site.

If you should have any questions, please feel free to call our office at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Judy A. Dewey
Executive Secretary

jad\82

Enclosure

cc: David J. Camille, Unocal Corporation

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

KAPREALIAN ENGINEERING
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KEI-P89-0301.P6
June 7, 1996

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

Attention: Mr. David J. Camille

RE: Work Plan/Proposal
Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

Dear Mr. Camille:

This work plan/proposal for additional subsurface exploration has been prepared at your request and is in response to a letter dated February 20, 1996, from Mr. Dale Klettke of the Alameda County Health Care Services (ACHCS) Agency. The purpose of this additional work is to further delineate the extent of hydrocarbon-impacted soil and ground water downgradient of monitoring well MW1.

Details of the site description, background information, and hydrogeologic conditions are included in KEI's report (KEI-P89-0301.R9) dated May 10, 1993. The most recent and historical ground water analytical results are presented in MPDS Services, Inc's. Quarterly Data Report (MPDS-UN6277-09) dated May 13, 1996.

PROPOSED FIELD WORK - EXPLORATORY BORINGS

1. KEI proposes the drilling and sampling of three exploratory borings, designated as EB1 through EB3 on the attached Figure 1, using Geoprobe® direct push soil sampling equipment. Permits will be obtained from the Alameda County Flood Control and Water Conservation District (ACFC&WCD) and the California Department of Transportation (Caltrans) as necessary prior to beginning work. KEI's field work will be scheduled to coincide with the next scheduled quarterly ground sampling event.

   The borings will be drilled approximately 2 feet into the saturated zone of the first encountered ground water, at which time drilling well be terminated.

   Static ground water level is anticipated at approximately 10 to 11 feet below grade, based on the current ground water level found in the existing monitoring wells at the site. However, ground water appears to exist beneath the site in a

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semi-confined condition, based upon depth-to-water encountered during monitoring well installation.

2. Soil samples will be collected 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 about 4 to 5 feet below grade in each of the borings. Sample intervals will be chosen so that an accurate profile of the subsurface conditions can be determined. Sampling for laboratory analyses and lithologic logging purposes will continue until the first water table is encountered. Classification of soils will be done using the Unified Soils Classification System (USCS) by KEI's field geologist. Samples will be collected in a Geoprobe core sampler lined with plastic liners. The sampler will be hydraulically advanced to the desired depths. Samples will be removed from the sampler and retained in plastic liners. The liners will be sealed with Teflon-lined plastic caps and placed in individually sealed plastic bags. They will then be labeled and stored in a cooler on crushed ice or "blue ice" for delivery to a state-certified laboratory. Properly executed Chain of Custody documentation will accompany all soil samples.

3. During drilling operations, all soil materials will be stored on-site in DOT-approved 5-gallon pails, or else covered by visqueen. Each pail (if used) will be properly labeled and will include, at a minimum, the date, the boring that the soil materials were obtained from, and the phone number at Unocal.

4. Finalized Boring Logs will be prepared from field logs and submitted to the ACFC&WCD, and the California Department of Water Resources.

5. <u>Ground Water Sampling</u>:

   Following soil sampling, ground water grab samples will be collected from each borehole by the use of a clean stainless steel or Teflon bailer. Clean PVC casings may be temporarily installed in boreholes to assist in the collection of water samples. The samples will be decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which will then be sealed with Teflon-lined screw caps and stored in a cooler, on ice, until delivery to the state-certified laboratory. The sampling bailer will be cleaned with non-phosphate soap and water rinses between uses. Properly executed Chain of Custody documentation will accompany all water samples.

In addition to sampling for laboratory analysis, water samples will be collected from each boring for analysis of dissolved oxygen (DO) levels. Samples for DO analysis will be collected as specified above and analyzed on-site using a portable DO meter. The results of the analysis will be presented in tabular form.

6. Borehole Sealing:

After completion of ground water sampling and the removal of temporary casings, all borings will be fully sealed by the use of neat cement grout (in accordance with the grout mixing guidelines presented in the California Well Standards, Bulletin 74-90, dated June 1991). Bentonite will be used to seal the borings within the saturated zone. Grout will be placed from the bentonite plug up to the surface in one continuous pour. The upper 1 to 2 feet of grout may contain a hardening agent to allow for a reduced curing time.

7. Laboratory Analyses:

Water and selected soil samples from all exploratory borings will be analyzed at Sequoia Analytical Laboratory, a state-certified laboratory. Water and selected soil samples from EB1 through EB3 will be analyzed for total petroleum hydrocarbons as gasoline by EPA method 5030/modified 8015, and benzene, toluene, ethylbenzene, xylenes, and methyl tert butyl ether by EPA method 8020.

Analytical results will be presented in tabular form, showing sample depths and results. The analytical results will be used to delineate the vertical and lateral extent of the contaminants (if any) in soil and ground water.

8. Conclusions:

Conclusions and results of this work will be described in a technical report. The technical report will be submitted to the ACHCS, and to the Regional Water Quality Control Board, 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.

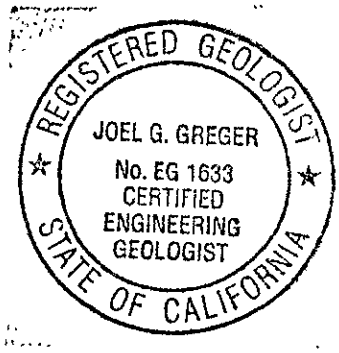
The results of this study will be based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We will analyze this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no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

If you have any questions regarding this work plan/proposal, please do not hesitate to call at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Doug Lee
Senior Geologist



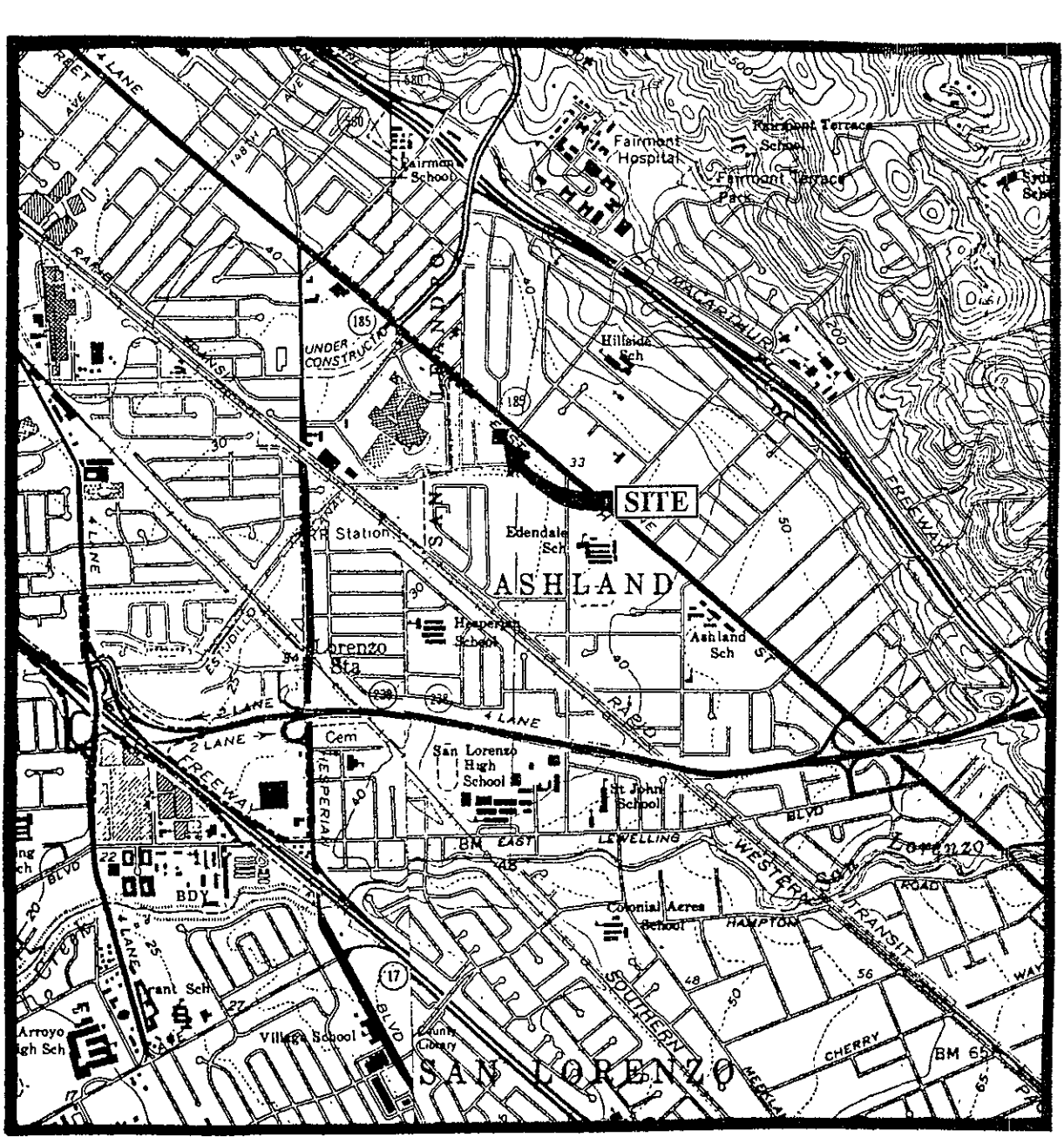
Joel G. Greger, C.E.G.
Senior Engineering Geologist

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

Robert H. Kezerian
Project Manager

/jad

Attachments: Location Map
Figure 1



Base modified from 7.5 minute U.S.G.S. San Leandro and Hayward Quadrangles
(Both photorevised 1980)

0 2000 4000

Approx. scale feet

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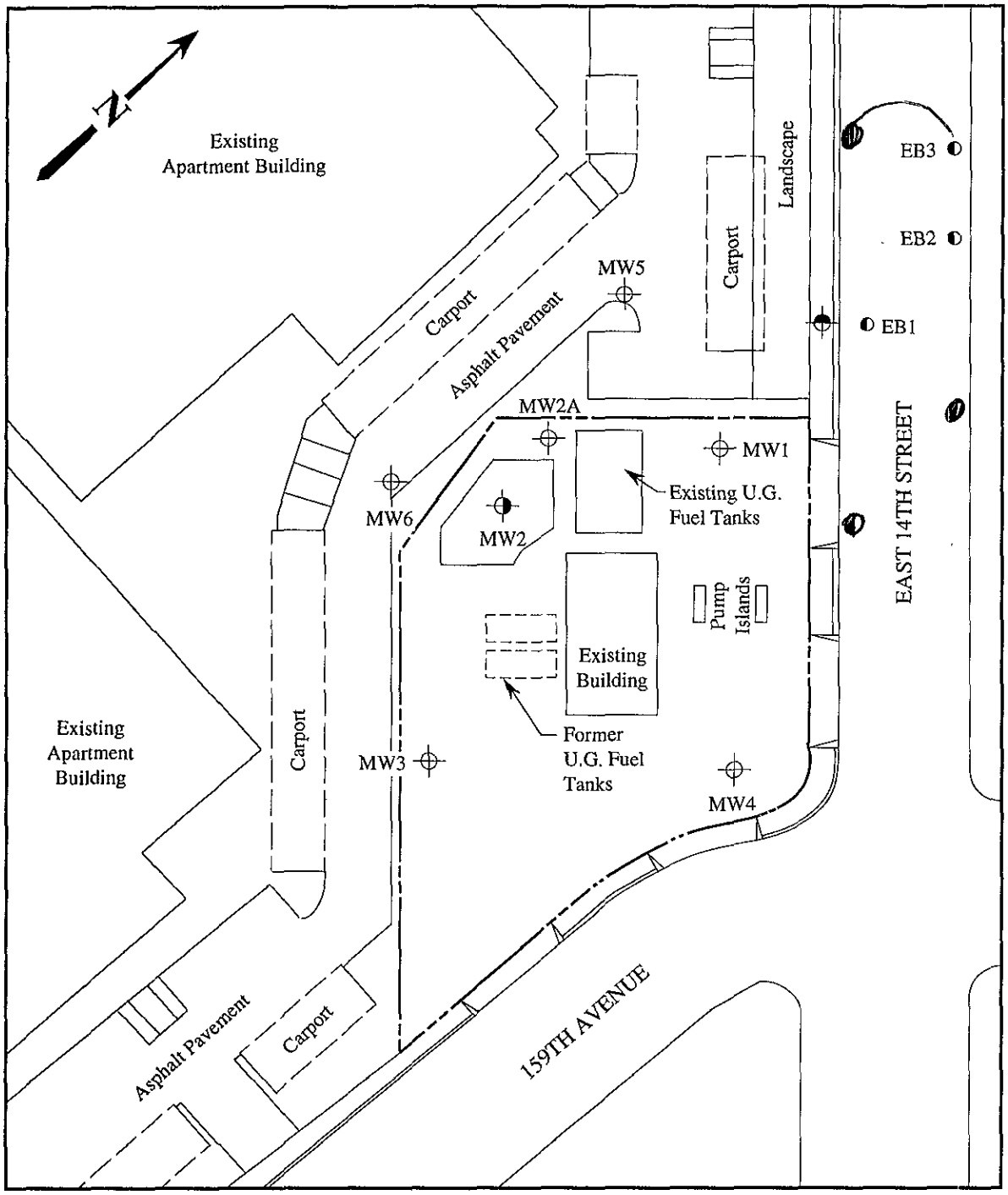
UNOCAL SERVICE STATION #6277
15803 E. 14TH STREET
SAN LEANDRO, CA

LOCATION MAP



LEGEND

- Monitoring well (existing)
- Monitoring well (previously attempted)
- Monitoring well (destroyed February 1, 1990)
- Exploratory boring (proposed)

0 60 120

Approx. scale feet

MY THOUGHTS

SITE VICINITY MAP

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UNOCAL SERVICE STATION #6277
15803 E. 14TH STREET
SAN LEANDRO, CALIFORNIA

FIGURE
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