KAPREALIAN ENGINEERING
INCORPORATED

March 4, 1993

Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

RE: Former Unocal Service Station #2512
1300 Davis Street
San Leandro, California

Gentlemen: Borings

Per the request of Mr. Ed Ralston of Unocal Corporation, enclosed please find our work plan/proposal dated February 25, 1993, 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

jad\82

Enclosure

cc: Ed Ralston, Unocal Corporation

2691 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510/602-5100 Fax: 510/687-1602

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KEI-P88-1204.P9
February 25, 1993

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

Attention: Mr. Edward C. Ralston

RE: Work Plan/Proposal
Former Unocal Service Station #2512
1300 Davis Street
San Leandro, California

Dear Mr. Ralston:

Kaprealian Engineering, Inc. (KEI) previously recommended in KEI's proposal (KEI-P88-1204.P8) dated September 14, 1992, the installation of a series of exploratory borings to determine if the area beneath the former building at the subject site has been impacted by contamination. The borings are located so as to investigate previous tank locations and hoist locations from the most recent station building.

This work plan/proposal for the installation of four exploratory borings is presented for your review and consideration. The site background information and site hydrogeologic conditions are included in KEI's report (KEI-P88-1204.QR11) dated July 14, 1992.

PHASE II - DEFINING THE EXTENT OF SUBSURFACE CONTAMINATION

1. KEI proposes the drilling and sampling of four exploratory borings, designated as EB7, EB8, EB9, and EB10 on the attached Figure 1, by the use of hollow-stem auger equipment. Permits will be obtained from the Alameda County Water District (ACWD) (Zone 7) prior to beginning work.

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

   Ground water is anticipated at approximately 17 to 25 feet below grade, based on the historical ground water levels found in the existing monitoring wells and in previous exploratory borings.

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

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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. Sampling for lithologic logging purposes only will continue below the water table to the total depth explored. Classification of soils will be done using the Unified Soils Classification System (USCS) by KEI's field geologist. Samples will be collected in a California-modified split-spoon sampler lined with two-inch diameter brass liners. The sampler will be advanced ahead of the drilling augers at designated depths by dropping a 140 pound hammer 30 inches. Blow counts will be recorded. A 5-foot long continuous coring device may be used for sampling purposes in addition to the California-modified split-spoon sampler. Samples will be removed from the sampler and retained in the brass liners. The liners will then be sealed with aluminum foil, plastic caps, and tape. They will be labeled and stored on crushed ice or "blue ice" for subsequent 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, 55-gallon drums, or else covered by visqueen. Each drum (if used) will be properly labeled and will include, at a minimum, the date, the interval that soil materials were obtained from, a contact individual, and the phone number at KEI.

4. Finalized Boring Logs will be prepared from the field logs and submitted to the Alameda County Health Care Services (ACHCS) Agency, and to the Regional Water Quality Control Board (RWQCB), San Francisco Bay Region.

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

   During drilling operations, if ground water is encountered, ground water grab samples will be collected from each borehole by the use of a clean Teflon bailer. 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 crushed ice, until delivery to a 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.

6. Borehole Sealing:

After completion of ground water sampling (if ground water is encountered), all borings will be fully sealed by the use of either neat cement grout or 11-sack cement/sand slurry (in accordance with the grout mixing guidelines presented in the California Well Standards, Bulletin 74-90, dated June 1991). All grout will be placed through the hollow-stem augers, or by the use of a tremie pipe and grout pump. Grout will be placed from the bottom of the boring 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, for total petroleum hydrocarbons (TPH) as gasoline by EPA method 5030/modified 8015, benzene, toluene, xylenes, and ethylbenzene by EPA method 8020, TPH as diesel by EPA method 3510/modified 8015 (water) and 3550/modified 8015 (soil), total oil and grease (TOG) by Standard Methods 5520B&F (water) and 5520E&F (soil), and for EPA method 8010 constituents. The samples collected from the borings EB8 and EB9 (drilled in the area of the former service bay facility) will also be analyzed for TPH as hydraulic fluid by EPA method 3510/modified 8015 (water) and 3550/modified 8015 (soil).

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

8. Conclusions:

Conclusions and results of Phase II will be described in a technical report. The technical report will be submitted to the ACHCS, 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 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.

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

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

Timothy R. Ross
Project Manager

/bp

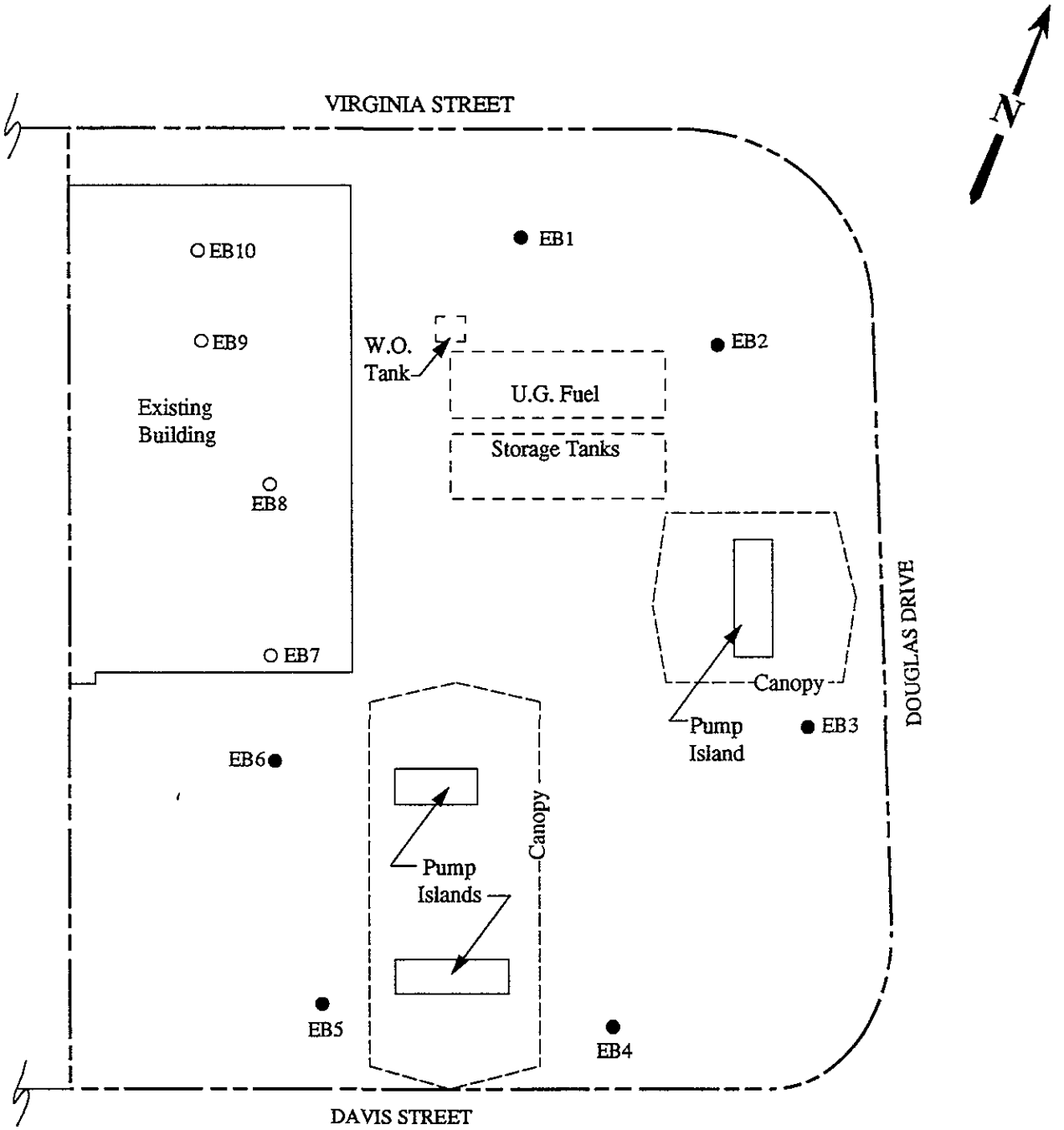
Attachments: Location Map
Figure 1

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

0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	UNOCAL SERVICE STATION #2512 1300 DAVIS STREET SAN LEANDRO, CA	LOCATION MAP



LEGEND

- ● Exploratory boring (existing)
- ○ Exploratory boring (proposed)

0 20 40

Approx. scale feet

EXPLORATORY BORING LOCATION MAP

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UNOCAL SERVICE STATION #2512
1300 DAVIS STREET
SAN LEANDRO, CA

FIGURE
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