KAPREALIAN ENGINEERING
INCORPORATED

KEI-P90-1103.P4
February 4, 1994

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

Attention: Ms. Tina Berry

RE: Work Plan/Proposal
Unocal Service Station #0752
800 Harrison Street
Oakland, California

Dear Ms. Berry:

This work plan/proposal for additional subsurface exploration has been prepared at your request, as per Unocal's policy for potential site divestment locations.

Details of the site description, background information, previous investigative work performed, and the site hydrogeologic conditions are presented in Kaprealian Engineering, Inc's. (KEI) report (KEI-P90-1103.QR8) dated November 8, 1993.

PHASE II - DEFINING THE EXTENT OF SUBSURFACE CONTAMINATION

1. KEI proposes to drill and sample ten exploratory borings, designated as EB3 through EB12 on the attached Figure 1. Exploratory borings EB11 and EB12 (located in the existing service facility building) will be hand augered to depths of 10 to 15 feet below grade. The remaining eight exploratory borings will be drilled by the use of hollow-stem auger equipment. Permits will be obtained from the Alameda County Health Care Services (ACHCS) Agency and the City of Oakland Public Works Department prior to beginning work.

   The borings will be drilled to the soil/ground water interface of the first encountered ground water, at which time drilling will be terminated.

   Static ground water level is anticipated at approximately 18 to 21 feet below grade, based on the ground water levels found in the existing monitoring wells in October of 1993.

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 4.5 to 5 feet below

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samples analyzed per SB?

grade in each of the borings. Sample intervals will be chosen so that an accurate profile of the subsurface conditions can be determined. 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 brass liners. The liners will be sealed with aluminum foil, plastic caps, and tape. 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 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.

follow up

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

5. Borehole Sealing:

   After completion of drilling and soil sampling, 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). 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.

6. Laboratory Analyses:

   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, and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8020. In

addition, selected soil samples from exploratory boring EB9 (located adjacent to the first generation hoist area, as shown in Unocal general arrangement diagram dated December 13 1990) and exploratory borings EB10 and EB11 (located inside of the existing service bay facility) will also be analyzed for TPH as diesel by EPA method 3550/modified 8015, TPH as hydraulic fluid by EPA method 3550/modified 8015, total oil and grease by Standard methods 5520E&F, and for EPA method 8010 constituents. ok

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 the soil.

7. Conclusions:

Conclusions and results of this study 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

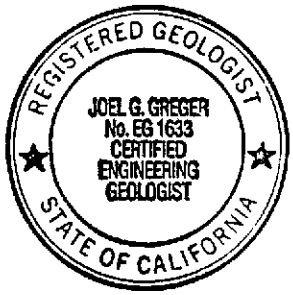
Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in the extent and concentration of any contaminants. Our studies assume 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 me at (510) 602-5100

Sincerely,

Kaprealian Engineering, Inc.



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

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

Robert H. Kezerian
Project Engineer

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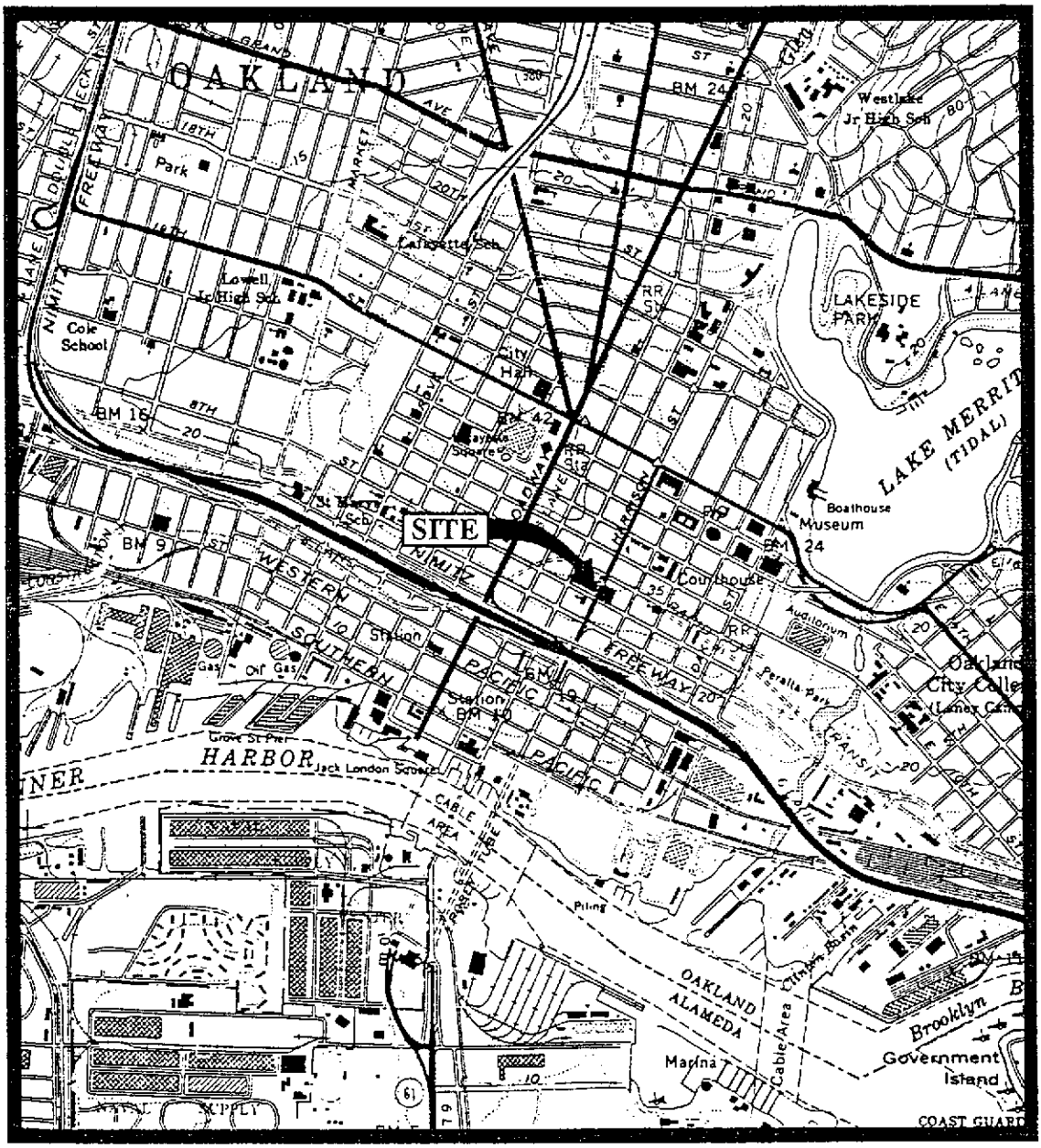
Attachments: Location Map
Figure 1

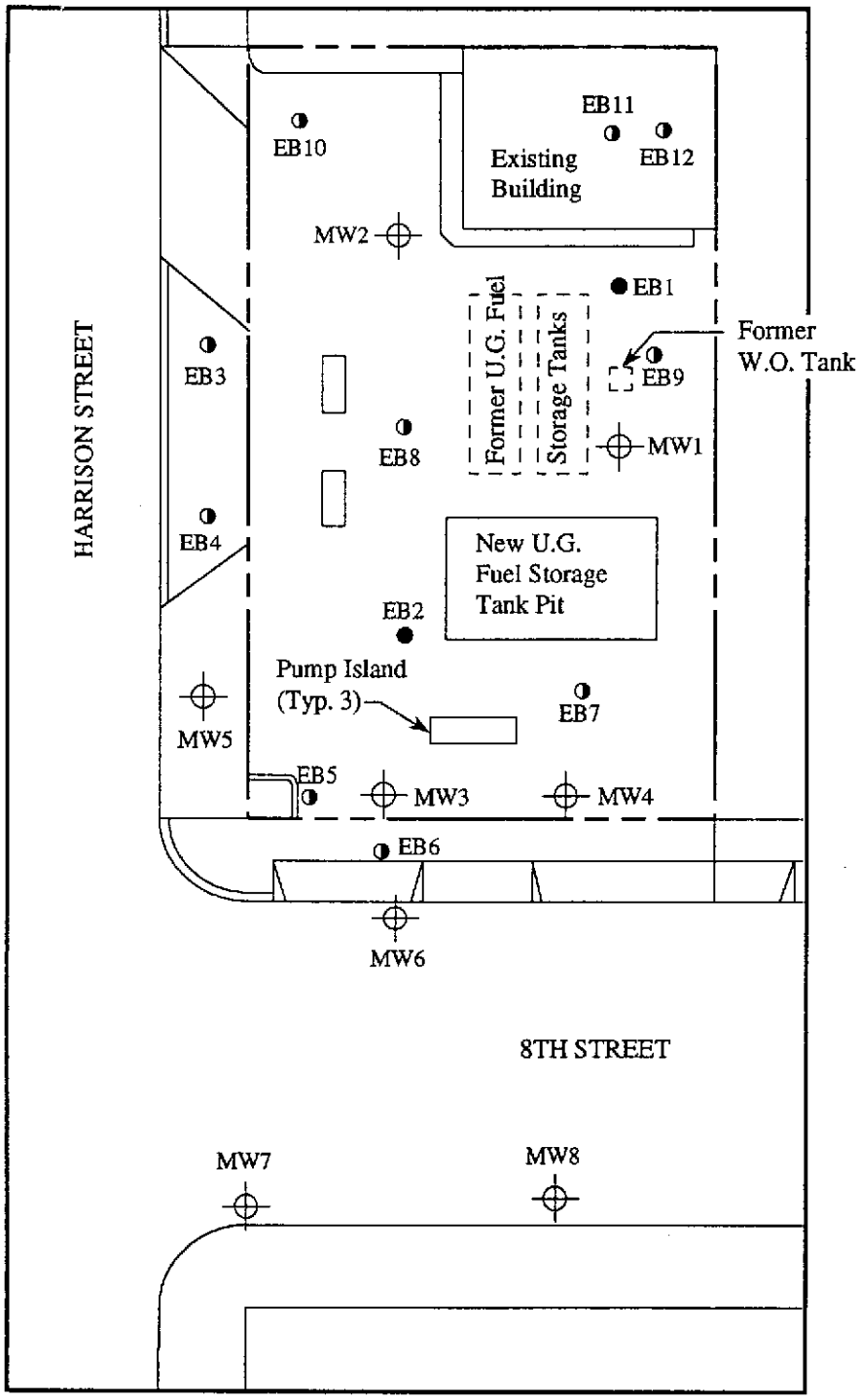


Base modified from 7.5 minute U.S.G.S. Oakland West Quadrangle
(photorevised 1980)

0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	**UNOCAL SERVICE STATION #0752** **800 HARRISON STREET** **OAKLAND, CALIFORNIA**	**LOCATION MAP**



LEGEND

- Monitoring well
- Exploratory boring (existing)
- Exploratory boring (proposed)

0 30 60

Approx. scale feet

EXPLORATORY BORING AND MONITORING WELL LOCATION MAP

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UNOCAL SERVICE STATION #0752
800 HARRISON STREET
OAKLAND, CA

FIGURE
1