



KAPREALIAN ENGINEERING
INCORPORATED

KEI-P90-0606.P8
April 25, 1995

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

Attention: Mr. Adadu Yemane

RE: Work Plan/Proposal
for Three Exploratory Borings
Former Unocal Service Station #5901
11976 Dublin Boulevard
Dublin, California

Dear Mr. Yemane:

Pursuant to your request and the request of the Alameda County Health Care Services (ACHCS) Department, this work plan/proposal for the installation of three exploratory borings at the subject site is presented for your review and consideration. Site background information and a summary of our recent field activities are included in Kaprealian Engineering, Inc's. (KEI) Case Closure Report (KEI-P90-0606.R13) dated February 17, 1995.

PHASE II - DEFINING THE EXTENT OF SUBSURFACE CONTAMINATION

1. KEI proposes the drilling and sampling of three exploratory borings, designated as EB11 through EB13 on the attached Figure 1, by the use of hollow-stem auger equipment. Permits will be obtained from the Alameda County Flood Control and Water Conservation District (Zone 7) prior to beginning work. Also, an access agreement will be obtained from the affected property owner.

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.

Static ground water level is anticipated at approximately 20 to 21 feet below grade, based on the current ground water level found in monitoring well MW6.

2. Soil samples will be collected at a maximum spacing of 5 foot intervals, at significant changes in lithology, at any obvious area(s) 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 condi-

tions 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. The 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. Samples will be removed from the sampler and retained in the brass liners. The liners will then 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 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 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 Zone 7, to the Alameda County Health Care Services (ACHCS) Agency, and the Regional Water Quality Control Board (RWQCB), San Francisco Bay Region.
5. Ground Water Sampling:

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, 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.

6. Borehole Sealing:

After completion of ground water 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.

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

The 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 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.

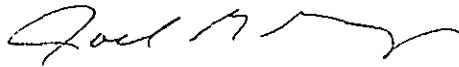
The results of this study will be based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We will analyze this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no 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.

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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

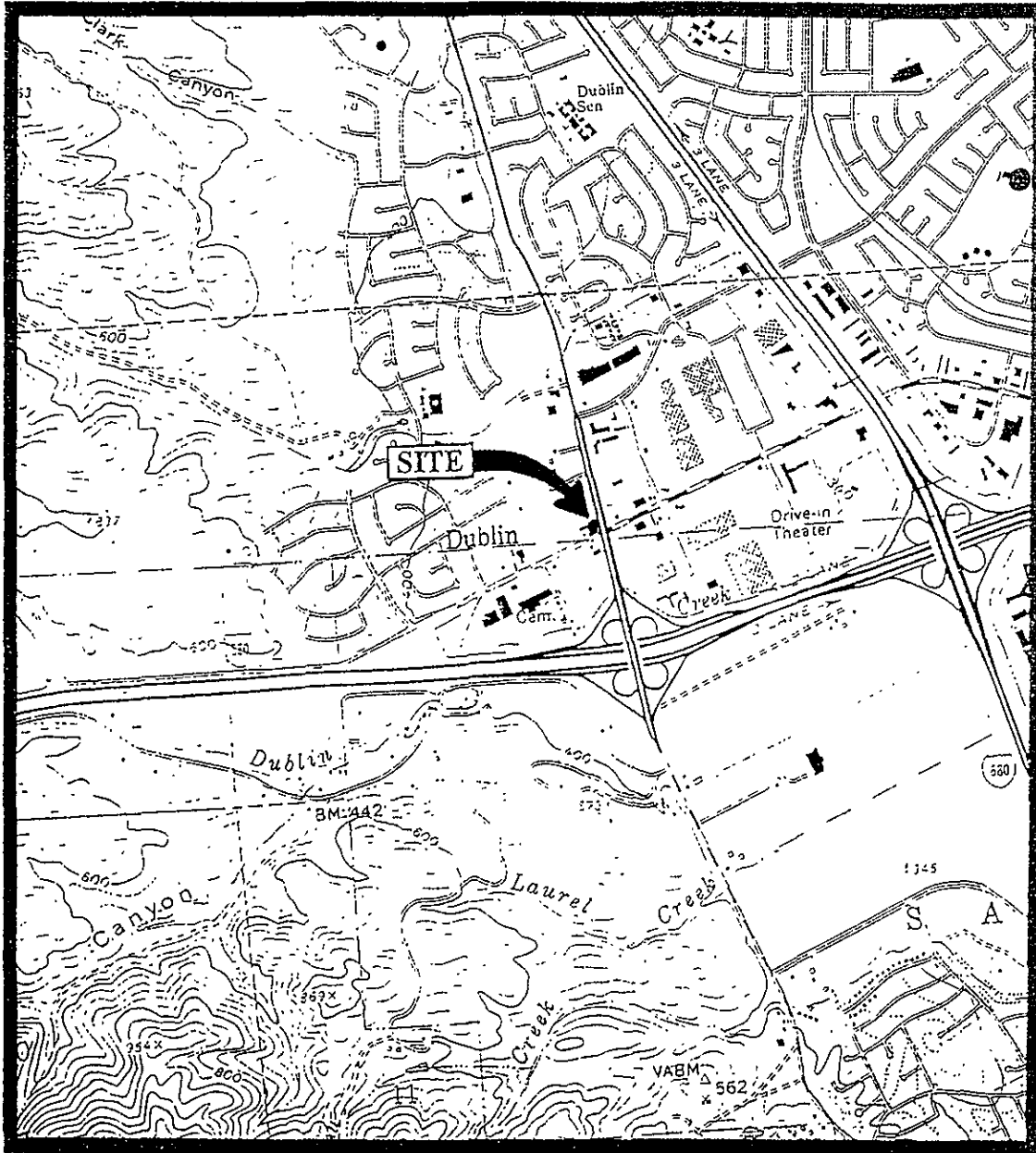
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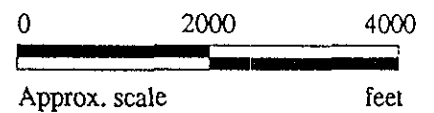
Timothy R. Ross
General Manager


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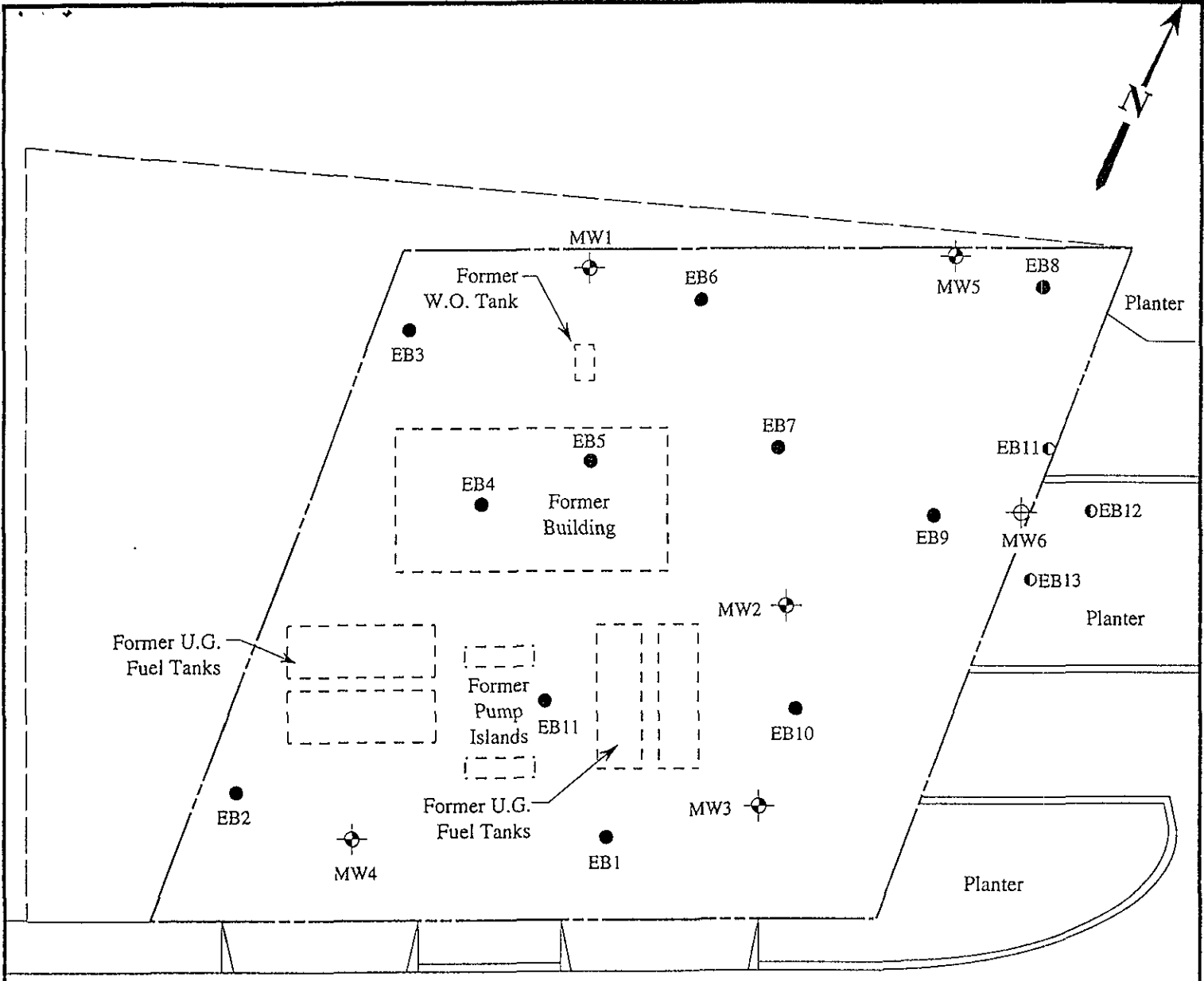
Attachments: Location Map
Figure 1



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

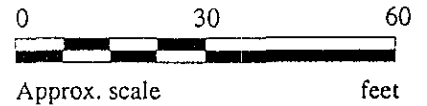


 <p>KAPREALIAN ENGINEERING INCORPORATED</p>	<p>UNOCAL SERVICE STATION #5901 11976 DUBLIN BOULEVARD DUBLIN, CALIFORNIA</p>	<p>LOCATION MAP</p>
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LEGEND

- ⊕ Monitoring well (existing)
- ⊗ Monitoring well (destroyed)
- Exploratory boring (existing)
- Exploratory boring (proposed)



EXPLORATORY BORING AND MONITORING WELL LOCATION MAP



**FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA**

**FIGURE
1**