

August 22, 1994
SCI 886.001

Ms. Jennifer Eberle
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Work Plan
Supplemental Soil and Groundwater
Investigation
208 Jackson Street
Oakland, California

Dear Ms. Eberle:

Presented herein is a proposed work plan prepared by Subsurface Consultants, Inc. (SCI) to drill ~~two~~ borings and ~~collect soil and groundwater samples~~. The purpose of the borings will be to identify the lateral extent of the hydrocarbon contamination on site and determine if hydrocarbon contamination has impacted the groundwater at off-site locations.

Background

Four underground fuel storage tanks, the locations of which are shown on Plate 1 were removed from the site in 1990, and three (3) groundwater monitoring wells were subsequently installed by others following removal of the tanks.

In January of 1994, SCI sampled groundwater in MW-2 and MW-3 (MW-1 was not found) and from the Tank 1 excavation near the previous location of Well 1 and submitted the samples for analytical testing. Tests results indicated that gasoline, diesel and benzene, toluene, ethylbenzene and xylene (BTEX) were not present above detection limits in the wells; diesel and BTEX were identified in the groundwater from the excavation.

Two (2) additional groundwater monitoring wells (MW-4 and MW-5) were installed at the site on May 25, 1994. Analytical testing indicated that gasoline, diesel and BTEX has impacted the groundwater southwest corner of the site. The groundwater gradient and location of the wells on the property suggest that contamination may have migrated off-site. Because of the potential

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for existing soil and groundwater contamination at both on- and off-site locations, SCI proposes to conduct additional field investigations, as outlined below.

Field Investigation

Soil Contamination

To investigate the extent and magnitude of soil contamination on-site, 14 soil borings are proposed. The test borings will be drilled with portable drilling equipment. Proposed test boring locations are presented on the Site Plan, Plate 1. It is proposed to advance these borings to the groundwater level, about 5 feet deep.

Groundwater Sampling

Five test borings, located off-site at the proposed locations shown on Plate 1, will be used to assess the impact of the hydrocarbon releases to groundwater at downgradient locations. These borings will be drilled to a depth of approximately 10 feet. A grab groundwater sample will be obtained from each boring.

Our engineer will observe drilling operations and prepare detailed logs of the borings. Soil samples will be obtained from the borings using a California Drive sampler having an outside diameter of 2.5 inches and an inside diameter of 2.0 inches. Soil samples will be obtained at frequent intervals and at major lithologic changes. An organic vapor meter (OVM) will be used to screen all samples obtained from the test borings.

Soil samples will be retained in brass sample liners. Teflon sheeting will be placed on the ends of the liners prior to capping and sealing with tape. Upon sealing and labeling, the samples will be promptly refrigerated on-site in an ice chest. Samples will remain under refrigeration until delivery to the laboratory.

How? (Groundwater samples will be obtained using disposable, pre-cleaned samplers. Water samples will be placed in pre-cleaned containers and refrigerated until delivery to the analytical laboratory. The soil and water samples will be accompanied by Chain-of-Custody records.

All augers, drill rods, sampling equipment, etc., that will be placed in the test borings will be cleaned prior to their initial use and prior to each subsequent use to reduce the likelihood of cross-contamination between borings and/or samples.

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Soil cuttings and water generated during drilling and well development will be placed in steel drums and left on-site for later disposal. A level survey will be performed to determine the elevation of the ground surface at the boring locations in relation to the Oakland Datum. The elevations and groundwater depths will be used to evaluate groundwater flow direction and gradient. ✓

Following completion of the soil and groundwater sampling operations, the boreholes will be backfilled with cement grout in accordance with the Alameda County Health Care Services Agency (ACHCSA).

Analytical Testing

Selected soil samples and the groundwater samples will be analyzed by a California Department of Health Services (DHS) certified analytical laboratory. Soil and groundwater samples will be analyzed for:

1. Total volatile hydrocarbons, as gasoline - EPA 5030/8015, ✓
2. Benzene, toluene, ethylbenzene and xylenes, (BTEX) - EPA 8020, and ✓
3. Total extractable hydrocarbons, as diesel - EPA 3550/8015. ✓

Report

Based upon the results of the investigation, SCI will prepare a report recording our conclusions/recommendations regarding:

1. Soil and groundwater conditions;
2. The extent of soil and groundwater contamination;
3. The significance of contaminant levels with respect to local and state criteria;
4. Remediation alternatives; and
5. The scope of subsequent phases of investigation, if required.

The report will include boring logs, analytical test reports and Chain-of-Custody records.

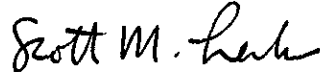
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We look forward to your favorable review of our work plan. If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

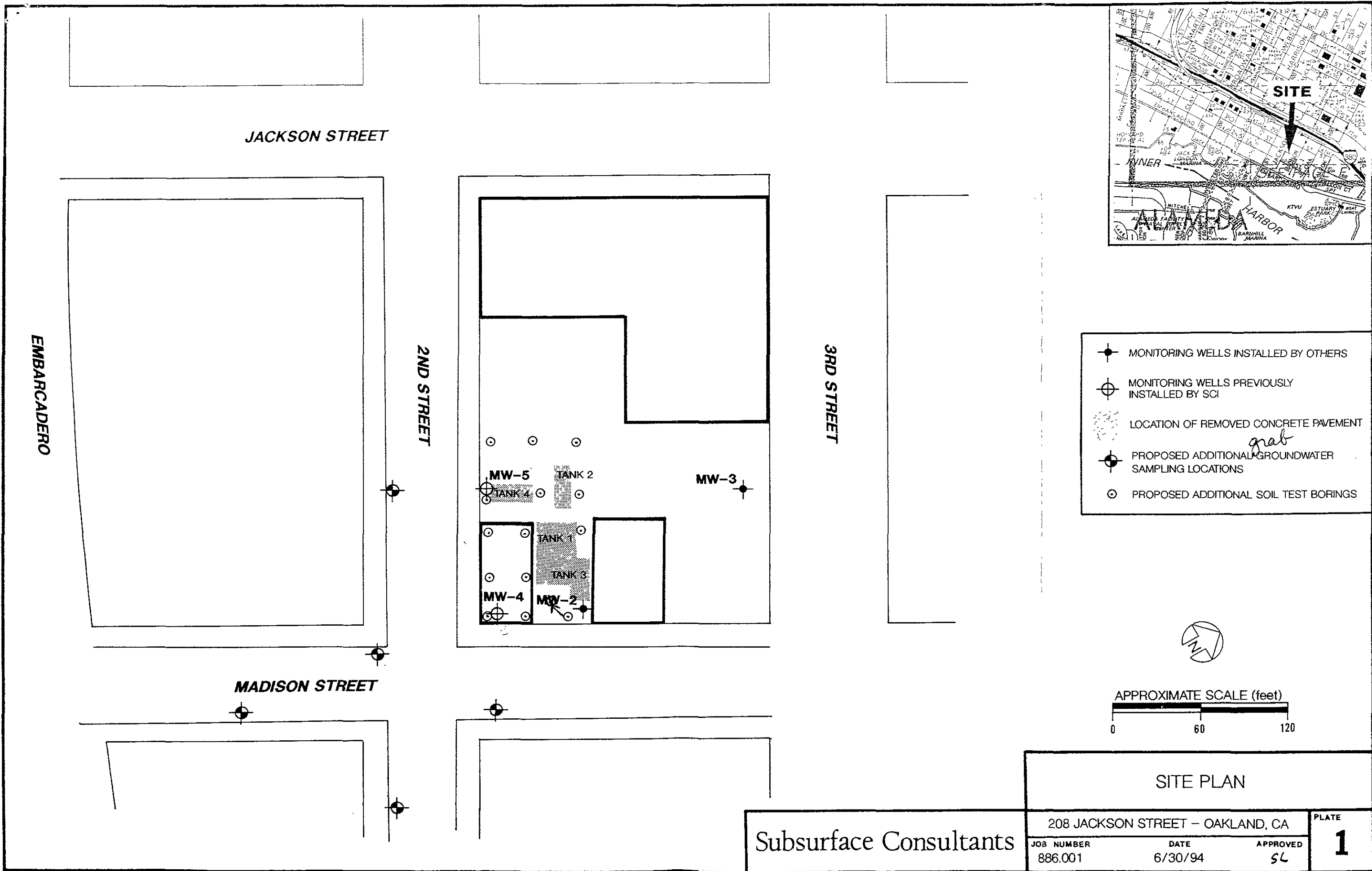







Scott M. Leck
Geotechnical Engineer 2067 (expires 6/30/96)

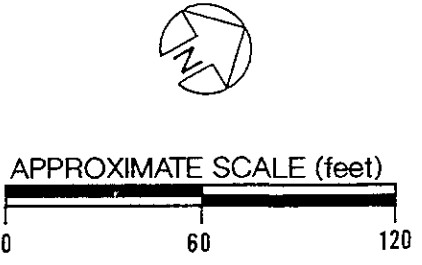
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copies: Mr. Tzu Ming Chen

Attachments: Plate 1 - Site Plan



-  MONITORING WELLS INSTALLED BY OTHERS
-  MONITORING WELLS PREVIOUSLY INSTALLED BY SCI
-  LOCATION OF REMOVED CONCRETE PAVEMENT
-  PROPOSED ADDITIONAL ^{grab} GROUNDWATER SAMPLING LOCATIONS
-  PROPOSED ADDITIONAL SOIL TEST BORINGS



SITE PLAN		
208 JACKSON STREET - OAKLAND, CA		
JOB NUMBER 886.001	DATE 6/30/94	APPROVED SL
		PLATE 1

Subsurface Consultants