



R. William Rudolph, Jr., PE  
Thomas E. Cundey, PE  
Jeriann N. Alexander, PE

ENVIRONMENTAL  
PROTECTION

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March 27, 1995  
SCI 955.001

*STIP 4575*

Ms. Susan Hugo  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, California 94501

**Work Plan**  
**Soil and Groundwater Contamination Investigation**  
**Blazic Industrial Balancing**  
**1016 West MacArthur Boulevard**  
**Oakland, California**

Dear Ms. Hugo:

Subsurface Consultants, Inc. (SCI) is pleased to submit this work plan to perform a soil and groundwater contamination investigation at the referenced site.

**Introduction**

The site is approximately 40 feet above mean sea level. A soil boring drilled about 1 block west of the site indicates that fill is present from the surface to about 4 feet deep. Sandy to gravelly clay (Temescal Formation) underlies the fill to a depth of about 11 feet deep (USGS Map I-239, 1957).

SCI understands that three 550-gallon underground gasoline storage tanks were removed from the site on August 23, 1993. Reportedly, the tanks were filled with sand in the early 1970's with the approval of the Oakland Fire Department and had been out of service for about 35 years. Soil samples collected from the bottom of the tank excavations, at approximately 10 feet below ground surface (bgs), contained petroleum hydrocarbon contamination as high as 250 ppm TPH gasoline, 0.052 ppm benzene, 0.330 ppm toluene, 1.4 ppm ethylbenzene, and 3.3 ppm xylenes. Limited overexcavation was conducted on December 20, 1993 and confirmation bottom soil samples collected from the two excavations at 14.5 feet to 15.5 feet bgs indicated levels of the following

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171 12th Street • Suite 201 • Oakland, California 94607 • Telephone 510-268-0461 • FAX 510-268-0137

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contaminants: 230-1900 ppm TPH gasoline, non-detectable (nd)-1.6 ppm benzene, 0.18-5.2 ppm toluene, 0.62-31 ppm ethylbenzene, and 1.2-120 ppm xylene. Confirmation sidewall samples were also collected from the two excavation pits at 12 feet bgs and showed nd-45 ppm TPH gasoline, nd benzene, 0.005-0.18 ppm toluene, nd-0.12 ppm ethyl benzene, and nd-0.24 ppm xylene. No other descriptions of the soil or groundwater conditions were available.

### **Proposed Work**

#### **A. Test Borings and Groundwater Sampling**

To evaluate the extent of soil and groundwater contamination, 4 test borings will be drilled at the locations shown on the attached Site Plan. Two test borings will be extended to the groundwater surface (estimated about 20 feet deep) within the previous tank excavations to evaluate potential soil contamination beneath the former tanks. Following sampling these borings will be backfilled with grout.

The other two borings will be located within 10 feet of the two former tank pits in the estimated downgradient direction. These two borings will extend about 10 feet below groundwater. Grab groundwater samples will be collected from the borings using temporary screened casing, and following sampling these borings will be backfilled with grout. Plate 1 shows the approximate locations of the proposed borings relative to existing and former site features.

The test borings will be advanced using a hydraulically-driven sampling system (EnviroCore®) to reduce the quantity of soil cuttings requiring disposal. Soil samples will be retained in 1.5-inch-diameter stainless steel tubes. SCI's field engineer/geologist will observe drilling operations and prepare logs of the soils encountered. An organic vapor meter will be used to check soil at each sampling interval for volatile organic vapors. Teflon sheeting will be placed over the ends of the soil samples and the liners will be capped and sealed. Soil samples will be labeled and placed in an ice chest and will remain under refrigeration until delivery to the analytical laboratory. Sample handling will be reported using Chain-of-Custody documents.

Soil samples will be collected at frequent intervals, including at lithologic changes and just above groundwater, using a hydraulically-driven sampling device. Drilling and sampling equipment will be steam cleaned prior to each use. Decontamination water, soil cuttings, and development and purge water generated during drilling will be left on site in 55-gallon drums for later disposal by others.

Groundwater samples will be obtained from within 1-inch-diameter Schedule 40 PVC well casing temporarily placed in two of the borings. The lower portion of the casing will consist of machine-slotted well screen. The upper portion will consist of blank casing. Water samples will be obtained using a disposable, precleaned bailer. The water samples will be placed in appropriate containers supplied by the laboratory and will be kept refrigerated until delivery to the laboratory.

**B. Analytical Testing**

Selected soil and groundwater samples will be submitted to a State of California Department of Health Services certified analytical laboratory for testing. Sample handling will be recorded using Chain-of-Custody documents.

Studies to date have indicated the presence of light petroleum hydrocarbons. Therefore, 8 selected soil, 2 groundwater samples and a trip blank will be analyzed for the following:

1. Total volatile hydrocarbons, TVH (EPA 5030/8015),
2. Total lead (EPA 7240), and
3. Benzene, Toluene, Ethylbenzene & Xylenes (BTEX) (EPA Method 8020).

**C. Report of Field Activities**

SCI will develop conclusions and recommendations regarding:

1. Subsurface conditions;
2. The presence of contaminants in the samples tested;
3. The significance of contaminant levels with respect to local and state criteria; and
4. The extent of contamination.

Findings, conclusions and recommendations will be presented in a written report, complete with site plans, boring and well logs, analytical test data, and Chain-of-Custody documents.

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If you have questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

*Thomas J. Echols by hand*

Thomas J. Echols  
Registered Geologist No. 4564 (Expires 8/31/96)  
Environmental Assessor No.04713 (Expires 6/30/95)

*R. William Rudolph*

R. William Rudolph  
Geotechnical Engineer 741 (expires 12/31/96)  
Registered Environmental Assessor 03291 (expires 6/30/95)

TJE:RWR:sld

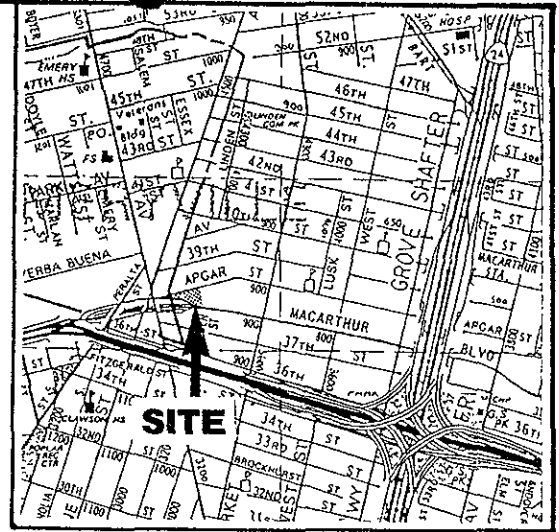
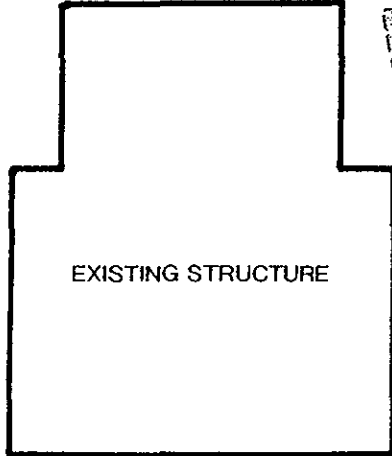
Attachments: Site Plan

cc: Mr. Albert Blazick  
12 Altamonte Drive  
Orinda, California 94563

Mr. Eugene M. Blazick  
3394 Stage Coach Drive  
Lafayette, California 94545

WEST MACARTHUR BOULEVARD

APGAR STREET



VICINITY MAP

ESTIMATED DIRECTION OF GROUNDWATER FLOW

	PROPOSED TEST BORING
	PROPOSED MONITORING WELL
	PROPERTY LINE
	PREVIOUS EXCAVATION LIMIT



NOT TO SCALE

<b>SITE PLAN</b>			PLATE <b>1</b>
1016 WEST MACARTHUR BLVD. – OAKLAND			
JOB NUMBER 955.001	DATE 2/16/95	APPROVED	

Subsurface Consultants