Versar INC.

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February 28, 1994

Scott Seery
Hazardous Materials Specialist
Alameda County Health Care Services Agency
UST Local Oversight Program
80 Swan Way, Room 200
Oakland, California 94621

SUBJECT: WORKPLAN TO CONDUCT A SUBSURFACE INVESTIGATION AT THE FAIRMONT HOSPITAL 15400 FOOTHILL BOULEVARD, SAN LEANDRO, CALIFORNIA
Versar Project Number 2241-016

Dear Mr. Seery:

This workplan has been prepared to present the scope of work for a subsurface investigation to be conducted at the Fairmont Hospital (site) located at 15400 Foothill Boulevard in San Leandro, California (Figure 1). The scope of work was prepared by Versar, Inc. (Versar) on behalf of the County of Alameda General Services Agency (GSA) under the direction of Mr. Peter Kinney to further characterize the extent of soil impacted by petroleum hydrocarbons released at the site. Information used to develop this workplan was based on information and reports supplied to Versar by the GSA.

**Background**

In July 1993, Environmental Science & Engineering, Inc. (ESE) removed a 1,000 gallon underground storage tank (UST) from the site. The UST had previously been used to store diesel fuel for operation of an emergency generator at the hospital. Upon removal of the UST, a small perforation in the tank wall near the bottom of the southwest end of the UST was observed. In addition, the fuel distribution lines were reported to have been in poor condition and suspected of leaking. Hydrocarbon odors were noted during excavation of the soils as well. The resultant excavation was approximately fifteen feet long, ten feet wide and fourteen feet deep. At the direction of an Alameda County Health Care Services Agency (ACHCSA) representative, three soil samples were collected from native soils within the UST excavation.

The soil samples were analyzed for total petroleum hydrocarbons as diesel (TPH/D), and for benzene, toluene, ethylbenzene and xylenes (BTEX). Results of the laboratory analytical reports indicated that TPH/D was present in the soil sample collected from the bottom of southwest end of the excavation, at a concentration of 12,000 milligrams per kilogram (mg/kg). The second sample, collected from the bottom of the northeast end of the excavation, was reported to contain

TPH/D at a concentration of 1,100 mg/kg. BTEX constituents were not reported in either of these two samples. The third sample was collected from the sidewall of the excavation, beneath the product supply lines, and was reported to contain toluene at a concentration of 0.005 mg/kg; TPH/D was not detected. Following completion of the tank removal, the excavation was backfilled with imported pea gravel and the surface paved with asphalt. Soils removed during the excavation process were temporarily stockpiled on-site and subsequently transported to a Class III landfill in Livermore, California.

**Objective/Approach**

The objective of the work described in this workplan is to characterize the extent of petroleum hydrocarbons in the soils surrounding the former UST location.

The approach that will be used to meet the objective will consist of 1) preparation of a Health and Safety Plan, 2) drilling soil borings and collecting soil samples, 3) performing laboratory analysis of the samples, and 4) preparation of a report to present the findings.

**Scope of Work**

The scope of work will consist of the following tasks:

**Task 1. Preparation of a Health and Safety Plan**

Prior to initiation of the field investigation, a site specific Health and Safety Plan will be prepared to set forth procedures for safe conduct during completion of the field investigation. The Health and Safety Plan is designed to minimize risks to Versar personnel and their subcontractors caused by potential exposure to hazardous materials or unsafe work conditions.

**Task 2. Field Investigation**

Prior to initiation of the drilling activities, an underground utilities survey will be performed to assess the presence of underground facilities in the anticipated drilling locations. In addition, Underground Service Alert will be notified a minimum of 48 hours prior to the investigation.

It is anticipated that four (4) soil borings will be drilled at preselected locations in the vicinity of the previous excavation (Figure 2). A minimum of one boring will be located within ten feet of the former excavation. It is estimated that each boring will be drilled to approximately 40

feet bgs or until groundwater is encountered. However, it is not anticipated that groundwater will be encountered at depths less than 40 feet bgs. Additionally, if the observed subsurface conditions indicate that hydrocarbons have migrated beyond the initial area of investigation, at the discretion of the GSA personnel, borings may be advanced to greater depths, or additional borings may be drilled in the vicinity of the former excavation. Drilling of the soil borings will be accomplished using a truck-mounted drill rig equipped with hollow stem augers.

Soil samples will be collected at five-foot intervals, and at any observed changes in lithology, using a California-modified split-spoon sampler lined with stainless steel or brass sample tubes. Soil sample collection will be accomplished by driving the sampler approximately 18 inches into undisturbed soils below the lead auger. Upon retrieval of the sampler at each sample interval, the lowest sample tube will be removed, the ends of the sample tube will be covered with aluminum foil or teflon wrap, capped with plastic end-caps, labeled for identification purposes and immediately placed in an insulated chest with ice, pending shipment to the laboratory for analysis. Chain-of-custody procedures will be used, including the use of chain-of-custody forms, to document sample collection, handling and transport to the laboratory. A second sample tube from the sampler will be retained for head-space screening of organic vapors using an organic vapor analyzer (OVA).

beginning @ depth of piping

The soil borings will be logged by a Versar geologist working under the direction of a California State-registered geologist. A log of each boring will be generated in the field to record descriptions of the soil types, sample depths and designations, and any observed significant features related to the presence of petroleum hydrocarbons or other hazardous materials.

In order to reduce the potential for cross-contamination, the downhole sampling equipment will be washed between sampling events in a laboratory-grade detergent solution, rinsed in a two-tapwater bath, and final rinsed with deionized water. Additionally, the augers and associated drilling equipment will be pressure-washed with a hot pressure washer between boreholes. Each boring will be backfilled to surface grade with a cement-bentonite grout. As necessary, placement of the grout material will be accomplished by pumping the grout through tremmie pipe to the bottom of the borehole. Soil cuttings and equipment rinseate generated during this investigation will be deposited and sealed in 55-gallon DOT-approved drums, then labeled and stored on-site pending receipt of laboratory analytical results and evaluation of disposal alternatives.

**Task 3. Analytical Program**

Samples collected during the course of the field investigation will be submitted to a California-certified hazardous waste laboratory. It is anticipated that a minimum of two soil samples from each boring will be selected for chemical analysis. Additional samples may be analyzed based on field screening criteria. Criteria used to select soil samples for analysis will be based on the results of the field screening of the soil samples with the OVA, physical observations made during the course of the field investigation and, if encountered, the observed depth to groundwater. The selected soil samples will be analyzed for TPH/D and BTEX in accordance with Environmental Protection Agency Method Nos. 8015 (modified) and 8020, respectively.

**Task 4. Data Evaluation and Report Preparation**

Upon completion of Tasks 1 through 3, the data collected will be evaluated and a report will be prepared in accordance with the Tri-Regional Board Staff Recommendations for the Preliminary Investigation of Underground Storage Tank Sites. The report will include a discussion of the background review and field investigation activities, logs of borings, figures of the site with sample locations identified, laboratory analytical reports, and, based on appropriate regulatory guidelines, conclusions and recommendations for appropriate remedial alternatives, as necessary.

If you have any questions or concerns regarding this workplan, or would like to arrange a meeting to discuss this project please contact either of the undersigned at (510) 748-6444.

Sincerely,
Versar, Inc.

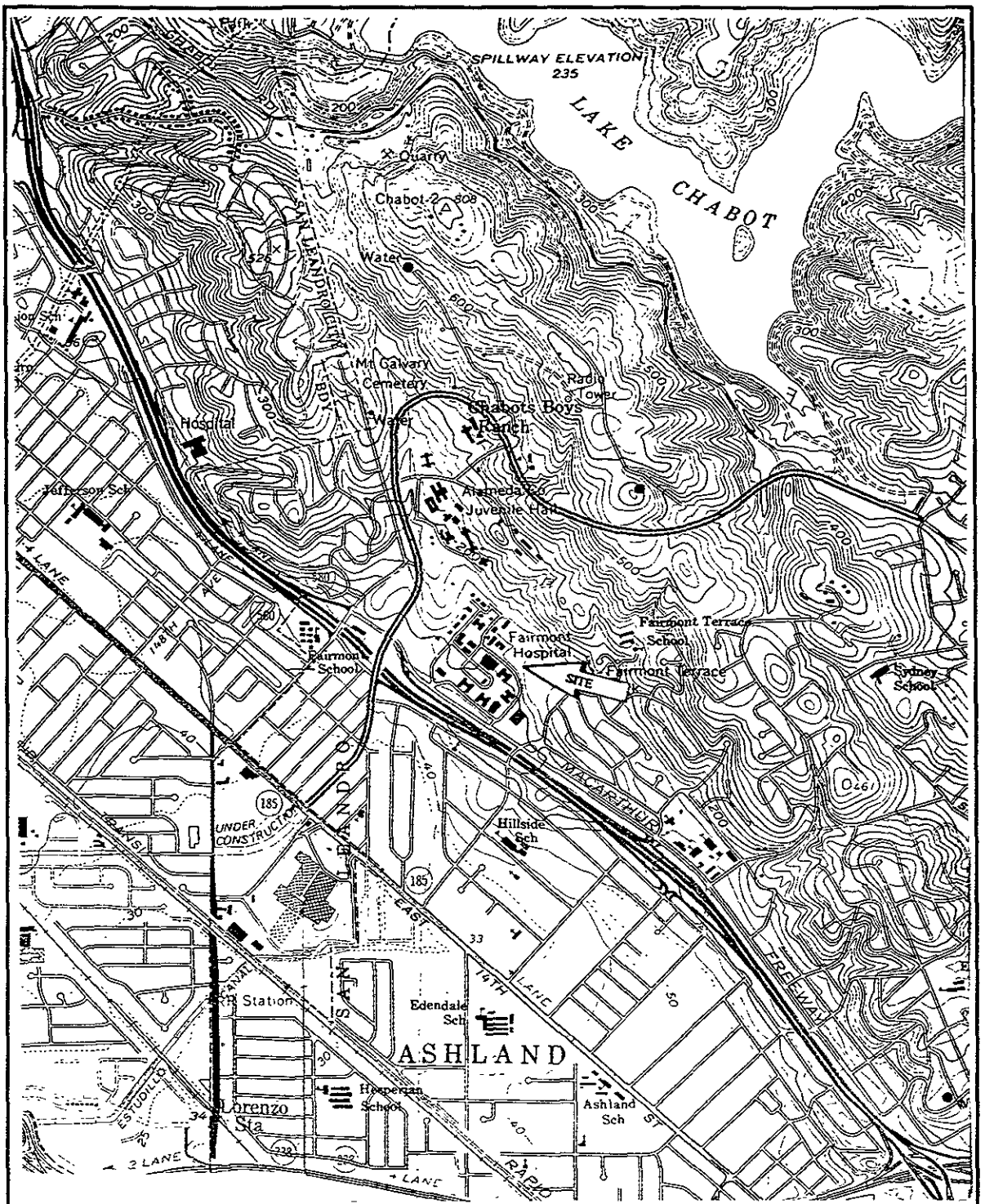
Douglas C. Bleakly, R.G. #5346
Senior Program Manager

Douglas C. Bleakly
No. 5346
State of California

for
Terrence Kinn
Project Manager

cc: Peter Kinney
Alameda County General Services Agency

# FIGURES




Note: base map from USGS Hayward and San Leandro, CA quadrangles,7.5 minute series.

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| Versar INC. ENVIRONMENTAL RISK MANAGEMENT | **SITE LOCATION MAP**<br>Fairmont Hospital<br>15400 Foothill Blvd.<br>San Leandro, California | February 1994<br>Versar Project:<br>2241-016 | N | **FIGURE**<br>**1**<br>Not To Scale |

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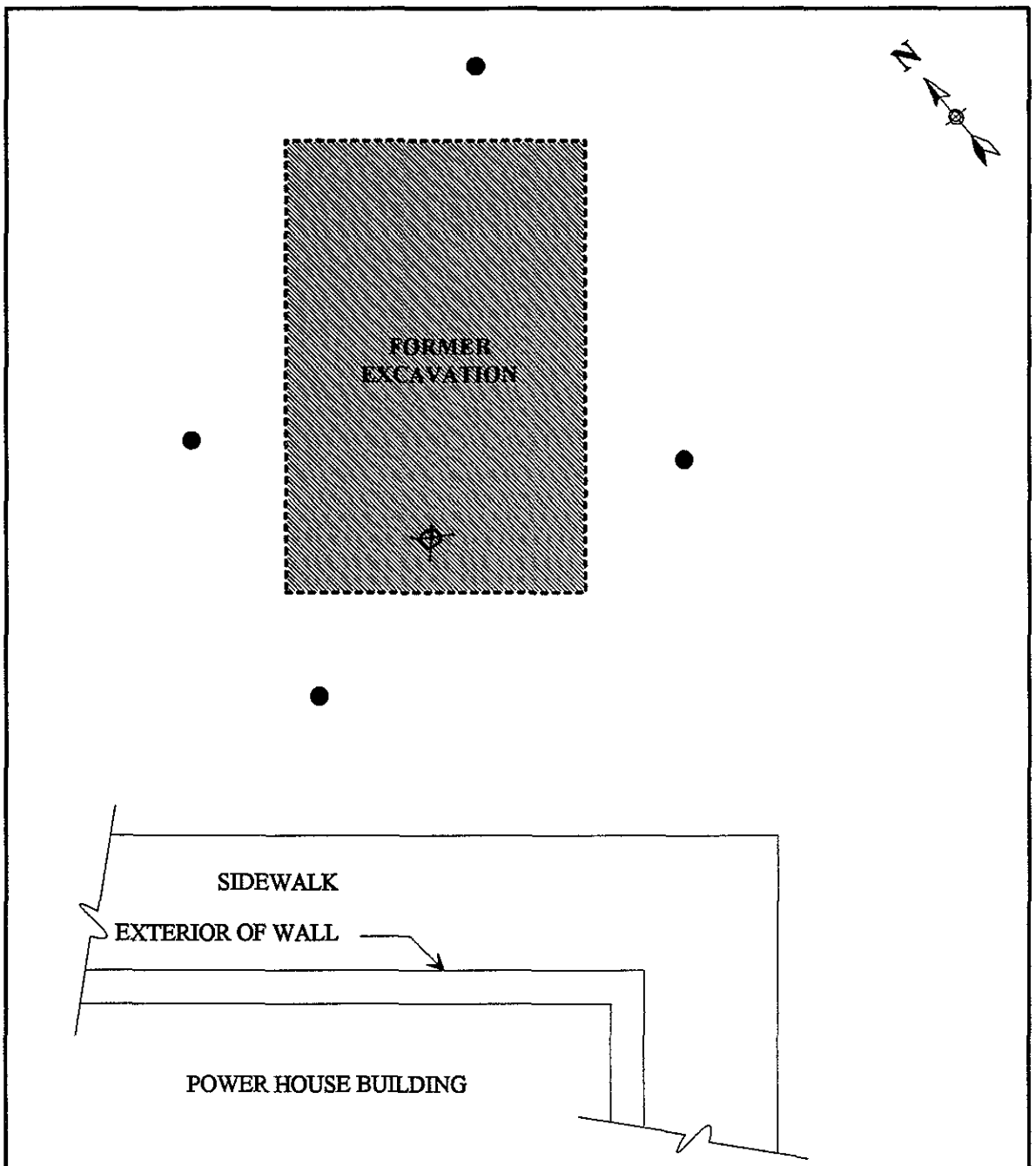


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| Versar INC. ENVIRONMENTAL RISK MANAGEMENT | **PROPOSED BORING MAP**<br>Fairmont Hospital<br>15400 Foothill Blvd.<br>San Leandro, California | February 1994<br>Versar Project:<br>2241-016 | **FIGURE**<br>**2** |

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