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HAZMAT

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February 18, 1993⁴

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

SUBJECT: Revisions to Workplan for Drilling Investigation to be Conducted at the Nike Missile Site.

Dear Mr. Seery,

Enclosed you will find a revised copy of our workplan for the Nike Missile Site investigation. The proposal has been revised to comply with regulatory requirements cited in your letter to Peter Kinney of the Alameda County General Services Agency, dated February 1, 1994.

As requested, the workplan has been reviewed and signed by our state-registered geologist. We had also planned to use an OVM to screen all soil samples collected for the presence of organic vapors. Additionally, at least one boring will be advanced within the limits of the present excavation. That boring will be drilled to a minimum depth of 50 feet below ground surface or until groundwater is encountered, whichever is first. All soil samples collected from below 10 feet in this boring will be analyzed for TPH/D and BTEX, along with an estimated two soil samples collected from each of the additional borings.

It should also be noted that Peter Kinney has decided not to re-use the stockpiled soils at the site for backfill material. These soils will be moved to an on-site location away from the area of investigation and native surface soils surrounding the excavation will be used for backfill material. In an effort to document to the condition to the backfill material, samples of the native soil will be collected and submitted for TPH/D and BTEX analysis prior to backfilling of the excavation.

Sincerely,
Versar, Inc.

Terrence Kinn
Project Manager

WESTERN REGIONAL OFFICE • TECHNICAL SERVICES GROUP

1255 HARBOR BAY PARKWAY, SUITE 100 • ALAMEDA, CALIFORNIA 94501 • TELEPHONE: (510) 748-6444 FAX (510) 748-6441



February 18, 1994

Mr. 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
NIKE MILITARY SITE AT 2892 FAIRMONT DRIVE, SAN LEANDRO,
CALIFORNIA; Versar Project Number 2241-010, Revision A

Dear Mr. Seery:

This workplan has been prepared on behalf of the County of Alameda General Services Agency (hereinafter referred to as the County) to present the scope of work to conduct a subsurface investigation at the former Nike Military Site (hereinafter referred to as the site) at 2892 Fairmont Drive in San Leandro, California (see Figure 1). The information presented in this workplan is based on available information obtained from the County. The scope of work was developed to further characterize the lateral and vertical extent of petroleum hydrocarbon constituents in the subsurface surrounding the former location of an underground storage tank (UST) recently removed from the site. All field work will be conducted in general accordance with applicable guidelines set forth in the Tri-Regional Board Staff Recommendations for the Preliminary Evaluation and Investigation of Underground Storage Tank Sites.

INTRODUCTION/BACKGROUND

The site, presently owned by the County, is an abandoned military property situated atop Mount Chabot at an approximate elevation of 800 feet above mean sea level. On October 27, 1993, Environmental Science & Engineering, Inc. removed a 6,000-gallon UST, and associated piping from the property. The UST was formerly used to store and dispense diesel fuel to an on-site generator. Upon exposure of the UST it was discovered that the tank was strapped to a concrete footing located at the base of the excavation. The concrete footing was left in the open excavation following the tank removal. Laboratory analysis of soil samples collected from each end of the footing indicated that total petroleum hydrocarbons as diesel (TPH/D) were present in the soil at the eastern end of the UST excavation at a concentration of 3,300 milligrams per kilogram (mg/kg). In addition, laboratory analysis of one of the samples collected from the excavated soils stockpiled on the site indicated that TPH/D was present at a concentration of 140 mg/kg.

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Groundwater was not reported to be encountered during the previous tank removal. Based on the elevation of the site relative to the surrounding topography of the region, it is not anticipated that groundwater will be encountered during this investigation.

OBJECTIVE

The objective of the work summarized in this workplan is to assess the extent of petroleum hydrocarbons in the subsurface surrounding the former UST location in order to delineate the limits of additional soil excavation to be conducted by the County.

APPROACH

The approach that will be used to meet the stated objective will consist of removing the concrete footing from the excavation, backfilling the excavation, drilling soil borings and collecting soil samples for chemical analysis.

SCOPE OF WORK

The scope of work developed within the approach includes the following tasks:

Task 1 - Preparation of a Site-Specific Health and Safety Plan

A site-specific health and safety plan (HSP) has been prepared in compliance with federal, California OSHA, and Alameda County Department of Environmental Health requirements (see Attachment 1). The HSP was developed for the specific conditions at the site to ensure that safe work practices are followed by all personnel and to minimize the risk of exposure to potentially hazardous materials at the site.

Task 2 - Field Investigation

The field investigation will consist of two subtasks. The initial subtask will involve the breakup and removal of a concrete footing, presently located at the bottom of the open excavation. In order to safely and adequately position the drill rig which will be used to collect soil samples, the excavation will be backfilled following removal of the concrete footing. The second subtask will involve advancing soil borings through the backfilled excavation, as well as adjacent to the excavation, to collect soil samples from native soils surrounding the former UST location.

2.1 - Excavation Backfilling

In order to obtain soil samples from native soils beneath the excavation, the existing concrete footing will be broken apart using a hydraulic hammer attached to a backhoe tractor. The broken pieces of concrete will be removed and stockpiled on-site. The excavation will then be backfilled using the surrounding native surface soils. Compaction of the backfill material will only be conducted to the degree necessary to allow locating a drill rig over the excavation. Stockpiled soils originally excavated during the tank removal will not be used as fill material.

2.2 - Soil Borings

Following completion of backfilling procedures, it is estimated that up to six soil borings will be drilled to depths ranging from 35 to 50 feet below ground surface (bgs), depending on their location relative to the excavation. Drilling will be accomplished using a truck-mounted drill rig equipped with hollow-stem augers. It is anticipated that at least one of the soil borings will be located over the backfilled excavation and will be advanced to a minimum depth of 50 feet bgs, or to groundwater whichever is encountered first. Two additional borings will be located directly adjacent to the excavation, while the remaining borings will be located approximately 15 to 25 feet from the perimeter of the eastern and southern portions of the excavation (Figure 2). Actual location and placement of the soil borings will be adjusted in the field based on the observed conditions encountered in the field. Soil samples will be collected at 5 foot intervals beginning at 5 feet bgs and at observed lithologic changes. Collection of soil samples will be accomplished using a California-modified split-spoon sampler lined with stainless steel or brass sample tubes.

Upon retrieval of the sampler at each sample depth, the lowest sample tube will be removed and covered with foil, capped, labeled for identification purposes, and placed in an insulated chest with ice pending shipment to a California-certified hazardous waste laboratory for chemical analysis. The second sample tube at each sample depth will be retained to screen for the presence of organic vapors using an organic vapor monitor (OVM). In order to minimize the potential for cross-contamination, all downhole sampling equipment will be washed between each sampling event in a laboratory-grade detergent solution, followed by two tapwater rinses and a final rinse with deionized water. In addition, the augers and associated drilling equipment will be washed with a hot-pressure washer between boreholes.

The soil borings will be logged under the direction of a California-state registered geologist. A log of each boring will be generated by the on-site geologist to record the types of soils observed

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and conditions encountered during drilling. Upon completion, the soil borings will be backfilled to surface grade with a cement-bentonite grout. All excess soil cuttings will be stockpiled on plastic and equipment rinsate water stored in labeled 55-gallon DOT-approved drums.

Task 3.0 - Laboratory Analytical Program

Soil samples collected during the field investigation will be submitted for analysis to a state-certified hazardous waste laboratory. The collection, handling and transport of the samples will be documented using chain-of-custody procedures, including the use of chain-of-custody forms.

It is anticipated that a minimum of two soil samples from each soil boring will be selected for laboratory analysis based on the observed field conditions and the OVM screening. For the boring located within the limits of the existing excavation, all samples collected beyond ten feet bgs will be designated for analysis. As such, an estimated 18 soil samples collected from the six soil borings will be analyzed for TPH/D in accordance with Environmental Protection Agency (EPA) Method 8015, modified and for benzene, toluene, ethylbenzene, and xylenes (BTEX) in accordance with EPA Method No. 8020.

Task 4.0 - Reporting


A draft report, including a description of the conditions encountered during field activities, logs of borings, laboratory results and a discussion of the results with recommendations for any remedial alternatives, and site figures will be submitted to the County for review and comment. Upon receipt of comments, the report will be finalized for submittal to the Alameda County Health Care Services Agency, UST Local Oversight Program.

If you have any questions, or desire any clarification of this workplan, or wish to arrange a meeting to discuss this project, please contact me at (510) 748-6459.

Sincerely,
Versar, Inc.

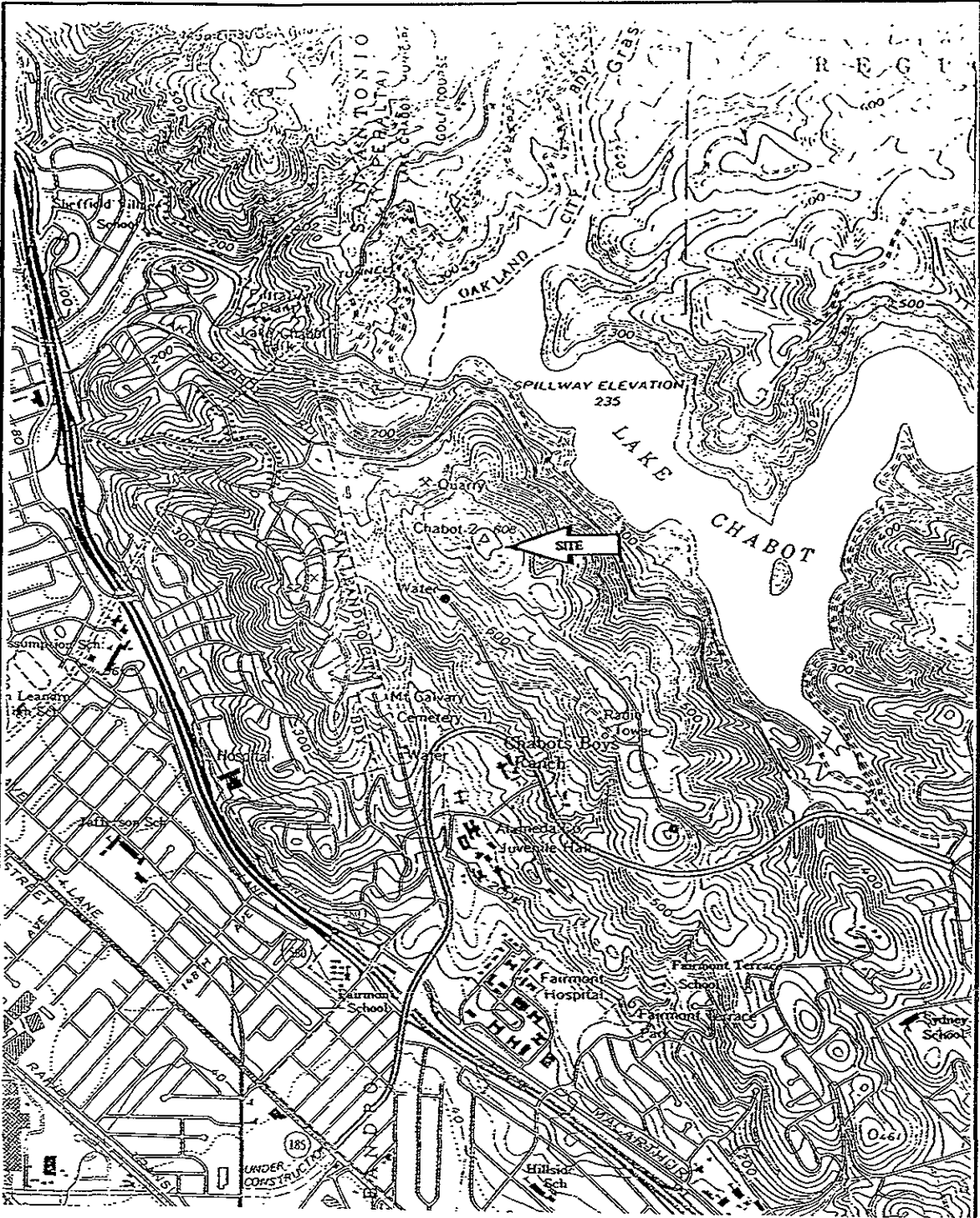


Douglas C. Bleakly, R.G. #5346
Senior Program Manager



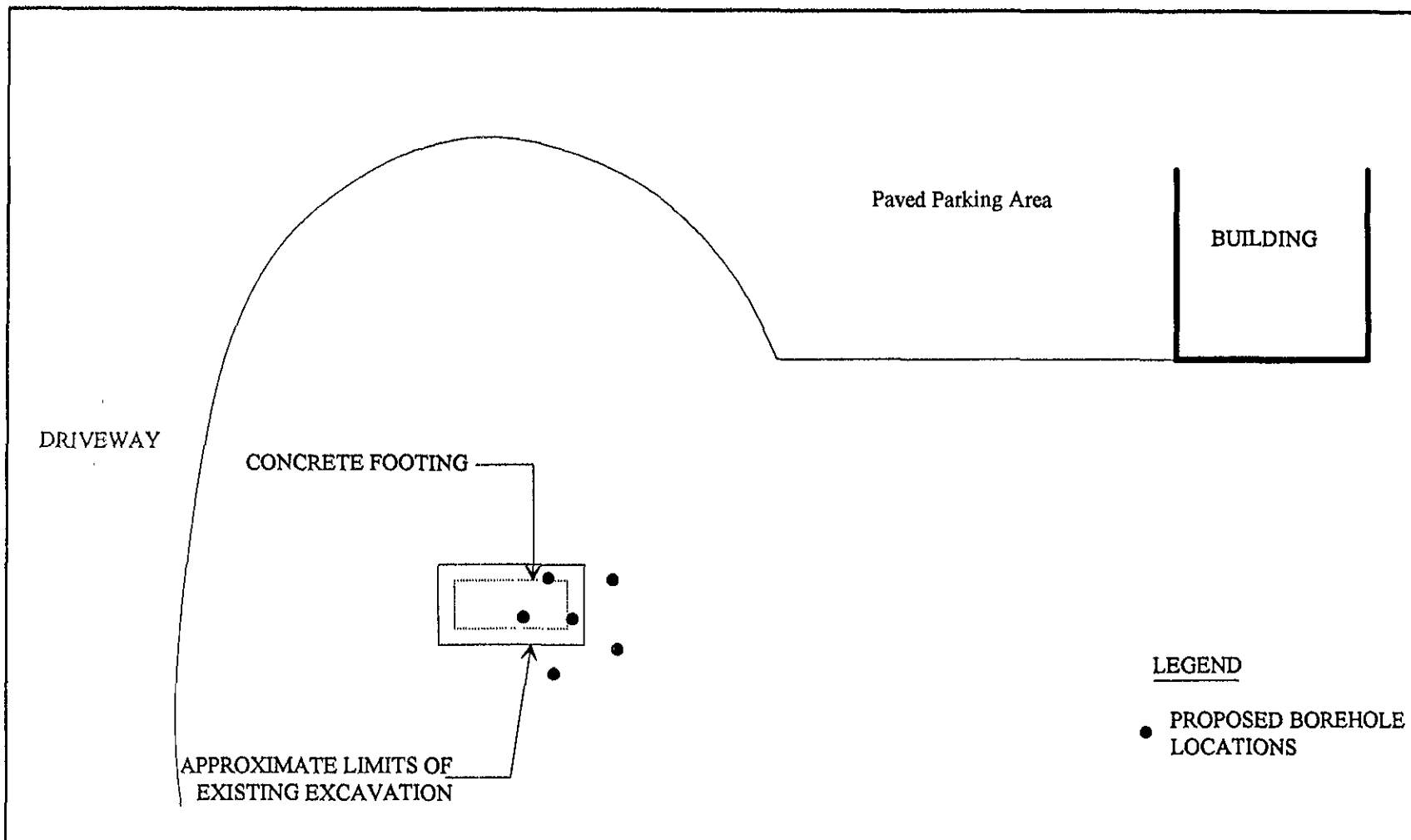
Terrence Kinn
Project Manager

FIGURES



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

	<p align="center">AREA MAP Site Location Nike Military Site San Leandro, California</p>	<p>Versar Project: 2241-008</p>	<p align="center">FIGURE 1 Not To Scale</p>
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LEGEND
 ● PROPOSED BOREHOLE LOCATIONS



Site Plan

Alameda Co., GSA - Nike Site
 2892 Fairmont Drive
 San Leandro, CA

Versar Project No.
 2241-008
 December 1993
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FIGURE
 2
 Not To Scale