



January 5, 2005

Alameda County
JAN 10 2005
Environmental Health

Rw 2537

WORKPLAN
for a
SOIL AND GROUNDWATER ASSESSMENT
at
1455 5th Street
Oakland, California

Submitted by:
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(925) 820-9391

1.0 INTRODUCTION

This submittal presents Aqua Science Engineers, Inc. (ASE)'s workplan for a soil and groundwater assessment at 1455 5th Street in Oakland, California (Figure 1). The proposed site assessment activities were initiated by Mr. Andy Hall and Ms. Jean Hall, owners of the property, as required by the Alameda County Health Care Services Agency (ACHCSA) in their letter dated August 27, 2004. The intent of the following scope of work is to satisfy the ACHCSA so that, assuming the analytical results are favorable, a no further action letter without restrictions will be written.

2.0 BACKGROUND INFORMATION

For complete background information on this property, please refer to the Phase I Environmental Site Assessment prepared by ASE dated July 20, 2004 and the Final Report of Environmental Remediation Activities prepared by ASE dated January 15, 2004.

3.0 PROPOSED SCOPE OF WORK (SOW)

In order to satisfy the ACHCSA, the scope of work for this project is as follows:

- 1) Obtain drilling permits from the Alameda County Public Works Agency.
- 2) Drill two (2) soil borings at the site using a Geoprobe direct-push drill rig and collect soil and groundwater samples for analysis.
- 3) Analyze one soil and one groundwater sample from each boring for volatile organic compounds (VOCs) by EPA Method 8260B and CAM 17 metals.
- 4) Following collection of the groundwater samples, backfill each boring with neat cement to the ground surface.
- 5) Prepare a report presenting results from this sampling. This report will be signed and stamped by a California Registered Geologist.

Details of the soil and groundwater assessment are presented below.

TASK 1 - OBTAIN DRILLING PERMIT

Prior to drilling, ASE will obtain a drilling permit from the Alameda County Public Works Agency. ASE will also notify Underground Service Alert (USA) to have underground utility lines marked in the site vicinity.

TASK 2 - DRILL TWO SOIL BORINGS AT THE SITE AND COLLECT SOIL AND GROUNDWATER SAMPLES FOR ANALYSIS

ASE will drill two soil borings at the site (Figure 2). The borings will be drilled using a Geoprobe or similar type drill rig. The drilling will be directed by a qualified ASE geologist. Undisturbed soil samples will be collected continuously for subsurface hydrogeologic description and possible chemical analysis. The samples will be described by the ASE geologist according to the Unified Soil Classification System (USCS). The samples will be collected in acetate tubes using a drive sampler advanced as the boring progresses. Each sample will be immediately removed from the sampler, cut at the appropriate interval, trimmed, sealed with Teflon tape and plastic caps, secured with duct tape, and labeled with the site location, sample designation, date and time the sample was collected, and the initials of the person collecting the sample. The samples will then be placed into an ice chest containing wet ice for delivery under chain of custody to a CAL-EPA certified analytical laboratory.

Soil from the remaining tubes not sealed for analysis will be removed for hydrogeologic description and will be screened for volatile compounds with a photoionization detector (PID). The soil will be screened by emptying soil from one of the tubes into a plastic bag. The bag will be sealed and placed in the sun for approximately 10 minutes. After the hydrocarbons have been allowed to volatilize, the PID will measure the vapor through a small hole punched in the bag. These PID readings will be used as a screening tool only since these procedures are not as rigorous as those used in an analytical laboratory.

After groundwater is encountered, ASE will collect groundwater samples from the borings using a bailer and peristaltic pump. The groundwater samples to be analyzed for VOCs will be slowly decanted from a bailer into 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid and sealed without headspace. The samples to be analyzed for metals will be collected using a peristaltic pump and dedicated polyethylene tubing. The water will be field filtered using a 0.45-micron filter and contained in poly containers pre-preserved with nitric acid. The samples will then be labeled and placed in an ice chest

with wet ice for transportation to the analytical laboratory under chain of custody documentation.

All sampling equipment will be cleaned in buckets with brushes and an Alconox solution, then rinsed twice with tap water. Rinsates will be contained on-site in 55-gallon steel drums until off-site disposal can be arranged.

TASK 3 - ANALYZE SOIL AND GROUNDWATER SAMPLES COLLECTED FROM THE BORINGS

One soil and one groundwater sample from each boring will be analyzed by a CAL-EPA certified analytical laboratory. The soil sample selected for analysis in each boring will be the sample that appears to be the most contaminated based on odors, staining, and/or PID readings. If there is no indication of possible contamination in any of the borings, the sample collected from the capillary zone will be analyzed. The samples will be analyzed for volatile organic compounds (VOCs) by EPA Method 8260B and CAM 17 metals.

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depth.

TASK 4 - BACKFILL THE BORINGS WITH NEAT CEMENT

Following collection of the soil and groundwater samples, the borings will be backfilled with neat cement placed by tremie pipe.

TASK 5 - PREPARE A SUBSURFACE ASSESSMENT REPORT

ASE will prepare a report outlining the methods and findings of this assessment. The report will be submitted under the seal of state registered civil engineer or geologist. This report will include a summary of all work completed during this assessment including tabulated soil and groundwater analytical results, conclusions and recommendations. Copies of the analytical report and chain of custody will be included as appendices.

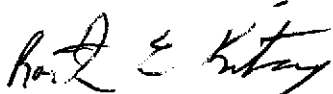
4.0 SCHEDULE

ASE plans to conduct this assessment immediately upon approval of this workplan.

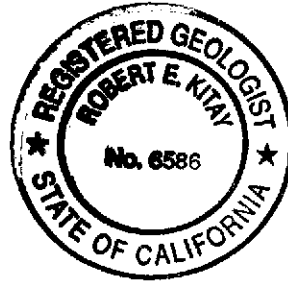
Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



Robert E. Kitay, R.G., R.E.A.
Senior Geologist

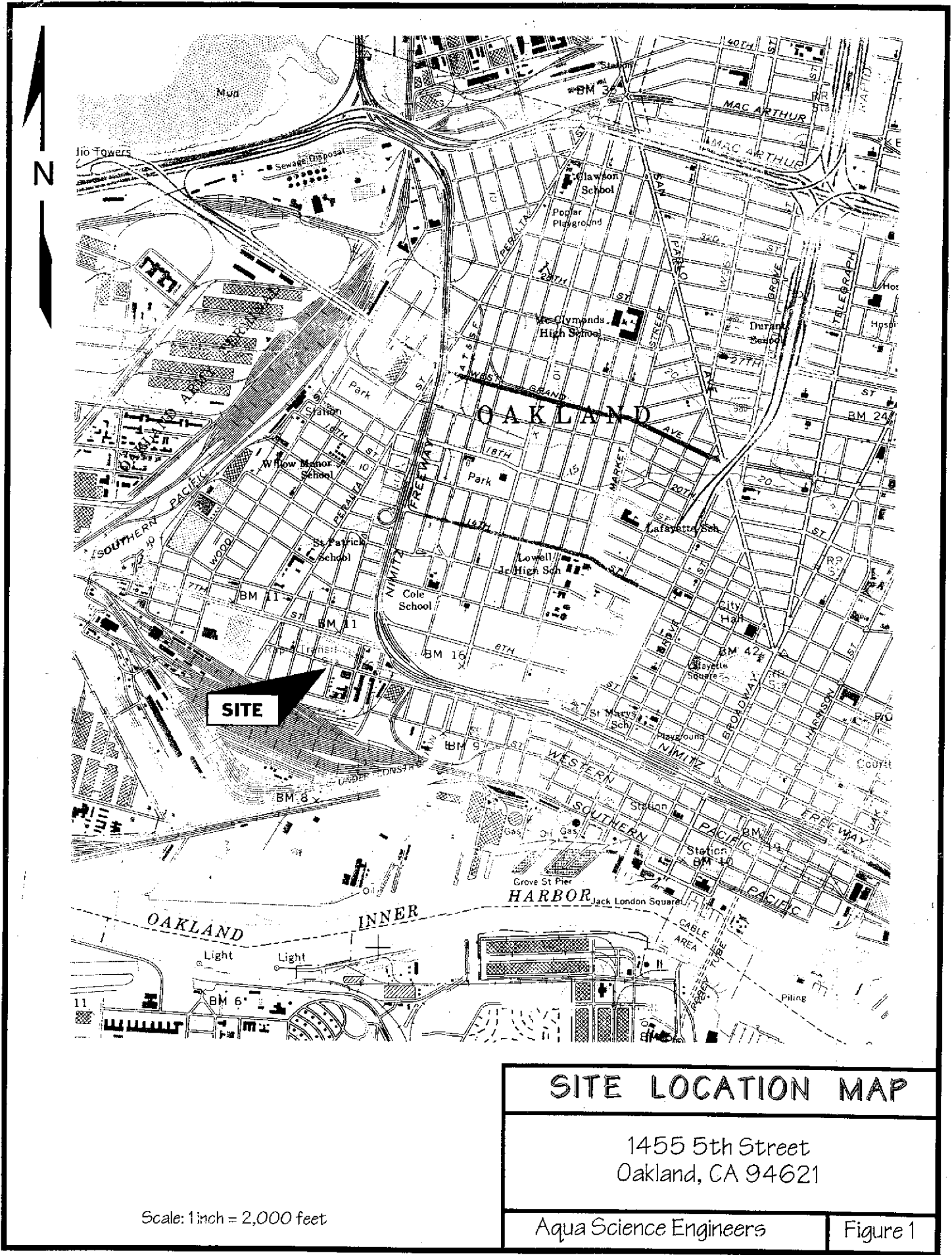


cc: Mr. Barney Chan, Alameda County Health Care Services Agency,
1131 Harbor Bay Parkway, Alameda, CA 94502-6577

Mr. Andy Hall, Chemical Compounding Company, 791 66th Avenue,
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Ms. Jean Hall, 277 Castle Hill Ranch Road, Walnut Creek, CA 94595

Ms. Betty Graham, California Regional Water Quality Control Board,
San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA
94612



SITE LOCATION MAP

1455 5th Street
Oakland, CA 94621

Aqua Science Engineers

Figure 1



NORTH

Approx. Scale
1" = 20'

BUILDING

BUILDING

RESIDENTIAL
BUILDING

RESIDENTIAL
BUILDING

FORMER
EXCAVATION
BOUNDARIES

GATE
ASPHALT

SIDEWALK

5TH STREET

LEGEND



PROPOSED GEOPROBE BORING

PROPOSED SOIL
BORING LOCATION MAP

VACANT PROPERTY
1455 5TH STREET
OAKLAND, CA

AQUA SCIENCE ENGINEERS | FIGURE 2