aqua science engineers inc.

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June 22, 1995

WORKPLAN
for
ADDITIONAL SITE ASSESSMENT
at
Former Alameda Max's Property
1357 High Street
Alameda, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
(510) 820-9391

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp. 4-97
CIVIL
STATE OF CALIFORNIA

INTRODUCTION

This submittal outlines Aqua Science Engineer's, Inc. (ASE) proposed workplan for additional environmental assessment activities at 1357 High Street in Alameda, California (Figure 1). This work is being conducted at the request of Mr. James A. Phillipsen, the property owner, to address the concerns of the Alameda County Health Care Services Agency as stated in their letter dated April 11, 1995 (attached). The work is being performed to determine whether contaminants that have been detected in soil and groundwater at the site have migrated along utility lines on High Street, and if so, to determine their extent in both soil and groundwater.

PROPOSED SCOPE OF WORK (SOW)

ASE's proposed SOW is as follows:

1) Obtain all necessary permits from the appropriate agencies including a drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7) and an encroachment permit from the City of Alameda;

2) Drill at least five soil borings at the locations shown on Figure 2 and collect soil samples for hydrogeologic description and analyses;

3) Analyze at least one soil sample from each boring for total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), oil and grease (O&G), benzene, toluene, ethylbenzene and total xylenes (BTEX), and volatile organic compounds (VOCs);

4) Collect groundwater samples from each boring and analyze the groundwater samples for TPH-G, TPH-D, O&G, BTEX and VOCs;

5) Backfill each boring with neat cement;

6) Report the methods and findings of this assessment.

Each of these tasks are described in detail below.

TASK 1 - OBTAIN ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES

ASE will obtain an encroachment permit from the City of Alameda to drill within their High Street right-of-way. ASE will also obtain a subsurface drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7). Underground Service Alert (USA) will be notified so that all known utilities in the immediate site vicinity will be marked.

TASK 2 - DRILL FIVE SOIL BORINGS

ASE will drill five soil borings at the site in the locations shown on Figure 2. The borings will be located along underground utility lines on High Street as well as across the lines opposite High Street to assess the extent of soil and groundwater contamination downgradient of the site. The borings will be drilled with a Geoprobe or similar type drill rig. The drilling will be directed by a qualified ASE geologist. Undisturbed soil samples will be collected at least every 5-feet, at lithographic changes, and from just above the water table for subsurface hydrogeologic description and possible chemical analysis. The samples will be described by the ASE geologist according to the Unified Soil Classification System. The samples will be collected in brass tubes using a drive sampler advanced ahead of the boring as the boring progresses. Each sample will be immediately removed from the sampler, trimmed, sealed with Teflon tape and plastic caps, secured with duct tape, 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 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 laboratory analysis will be removed for hydrogeologic description and will be screened for volatile compounds with an organic vapor meter (OVM). 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 OVM will measure the vapor through a small hole, punched in the bag. These OVM readings will be used as a screening tool only since these procedures are not as rigorous as those used in an analytical laboratory. Based on these OVM readings and other possible indicators of contamination such as hydrocarbon odors or soil staining, ASE may drill additional borings to further define the extent of contamination.

All sampling equipment will be cleaned in buckets with brushes and a TSP or Alconox solution, then rinsed twice with tap water. Rinsates will be contained on-site in 55-gallon DOT 17H drums for future disposal by the client.

TASK 3 - ANALYZE AT LEAST ONE SOIL SAMPLE FROM EACH BORING

At least one soil sample from each boring will be analyzed at a CAL-EPA certified analytical laboratory for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3550/8015, O&G by Standard Method 5520 B&F, BTEX by EPA Method 8020 and VOCs by EPA Method 8010.

TASK 4 - COLLECT AND ANALYZE GROUNDWATER SAMPLES FROM EACH BORING

Groundwater samples will be collected from each boring. The samples will be collected with a Hydropunch or similar type device. The samples will be contained in 40-ml volatile organic analysis (VOA) vials and 1-liter amber glass bottles. All samples will be preserved with hydrochloric acid 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 be placed into an ice chest containing wet ice for delivery under chain of custody to a CAL-EPA certified analytical laboratory.

The groundwater samples will be analyzed by a CAL-EPA certified analytical laboratory for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3510/8015, O&G by Standard Method 5520 C&F, BTEX by EPA Method 8020 and VOCs by EPA Method 8010.

TASK 5 - BACKFILL THE BORINGS

After collecting the soil and groundwater samples from each boring, the borings will be backfilled with neat cement to the ground surface.

TASK 6 - PREPARE A SUBSURFACE ASSESSMENT REPORT

ASE will submit a subsurface assessment report outlining the methods and findings of this assessment. The report will be submitted under the seal of a state registered civil engineer or geologist. This report will include a summary of the results, the site background and history, description of the soil and groundwater sampling, tabulated soil and groundwater analytical

results, conclusions and recommendations. Formal boring logs, analytical reports, and chain of custodies will be included as appendices.

SCHEDULE

ASE anticipates beginning work on this project immediately following approval of this workplan by the Alameda County Health Care Services Agency. In addition, a product-skimmer is also being designed for this site. A workplan describing this skimmer will be submitted during the next quarter. After the removal of the free-floating oil that has been prevalent in monitoring well MW-2, overexcavation to remove contaminated soil in the vicinity of monitoring well MW-2 is planned.

Should you have any questions or comments, please feel free to call us at (510) 820-9391.

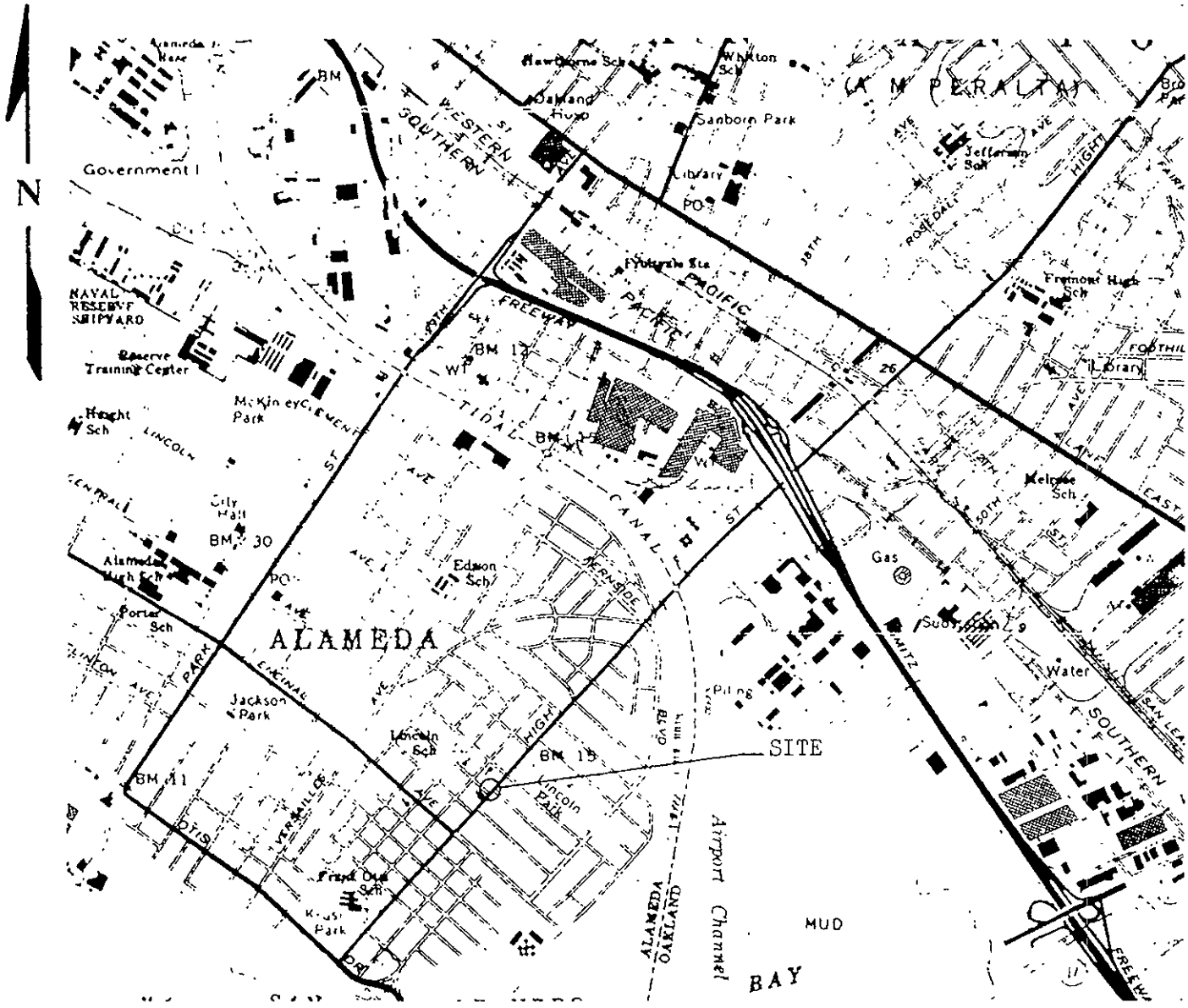
Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Robert E. Kitay, R.E.A.
Project Geologist

cc: Mr. James A. Phillipsen, 3111 Marina Drive, Alameda, CA 94501

Ms. Juliet Shin, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Alameda, CA 94502

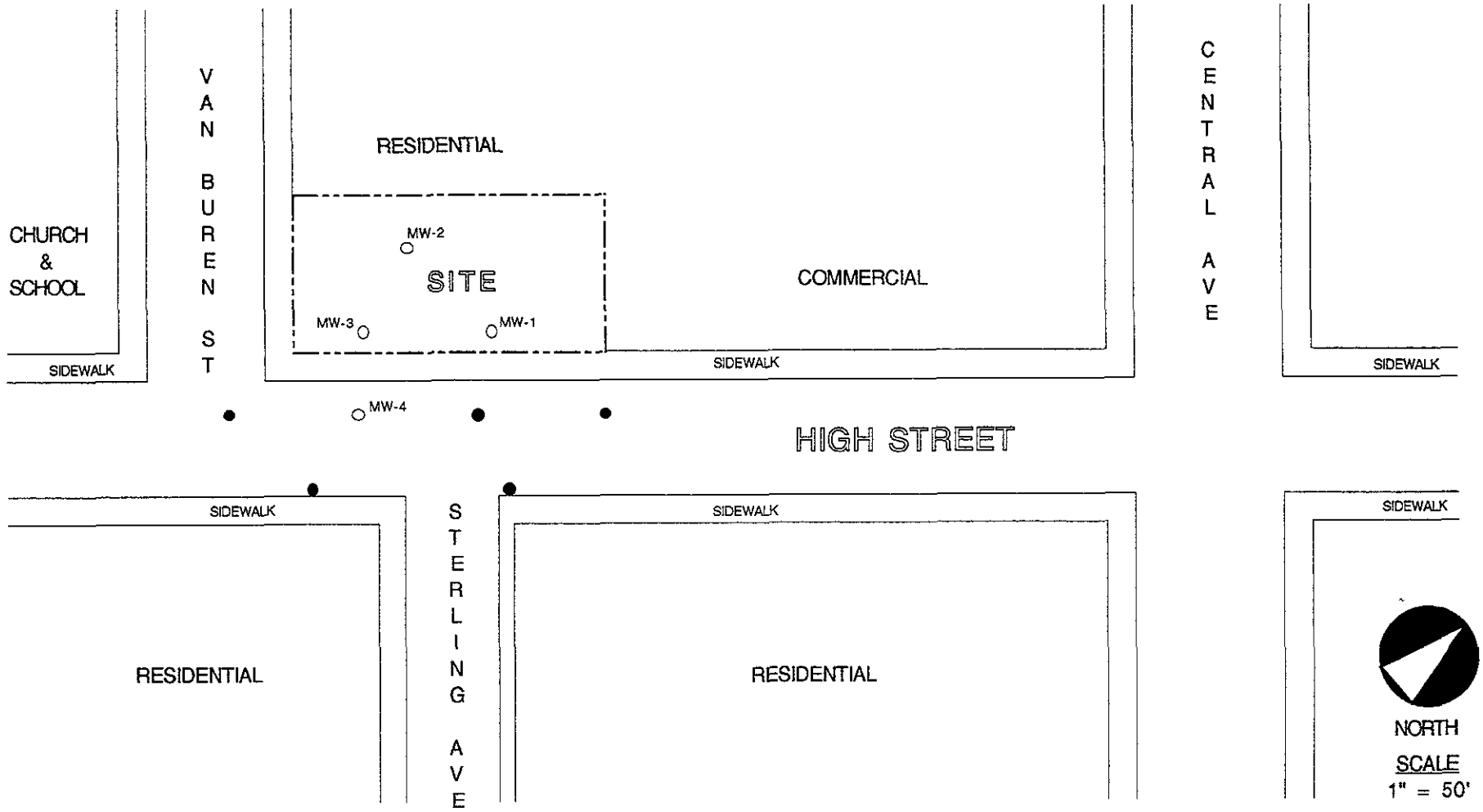


BASE Oakland East and Oakland West 7.5 minute quadrangle topographic map, dated 1980, scale 1:24,000.

SITE LOCATION MAP

Alameda Max's
1357 High Street
Alameda, California

Aqua Science Engineers | Figure 1



EXPLANATION

MW-4 ○ Monitoring Well

● Proposed Boring

PROPOSED BORING LOCATION MAP

Former Alameda Max's
1357 High Street
Alameda, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

APPENDIX A

Alameda County Health Care Services Agency
"Direction" Letter

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

ALAMEDA COUNTY CC 430-4510
DEPT. OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PKWY., RM.250
ALAMEDA, CAL. 94502-6577

April 11, 1995

Mr. James Phillipsen
3111 Marina Drive
Alameda, CA 94501

STID 1702

Re: Required investigations at 1357 High Street, Alameda, California

Dear Mr. Phillipsen,

This office has reviewed Aqua Science Engineer's (ASE) Quarterly Groundwater Monitoring Report, dated April 3, 1995, for the above site. During the last four quarters of on-site ground water monitoring, floating product, and elevated levels of Total Petroleum Hydrocarbons as gasoline (TPHg), Total Petroleum Hydrocarbons as diesel (TPHd), and benzene have been identified. Additionally, for the last three quarters of ground water monitoring in the off-site downgradient well, MW-4, TPHg, TPHd, and concentrations of benzene exceeding drinking water standards have consistently been identified.

Per Article 11 Title 23 California Code of Regulations, the extent of the contaminant plume should be delineated. Due to the shallow groundwater table, this office is concerned about the potential for any utility lines along High Street to be acting as a conduit for plume migration. As part of the next phase of work at the site, you are required to determine whether there are any utility lines along High Street and whether the plume is migrating along the utility trench.

Based on the free product observed in Well MW-2, and the analysis results for soil samples collected from this location in March 1994 (1,400 parts per million (ppm) TPHd and 7,500 ppm Total Oil & Grease (TOG) at 3-feet below ground surface), there still appears to be an ongoing source of contaminants in this area. Per Article 11 Title 23 California Code of Regulations, you are required to implement interim remedial measures to periodically remove the observed floating product. Based on the amount of floating product present, passive product skimmers may be one acceptable option for product removal. According to the April 1995 Quarterly Report, the contents of the floating product was not characterized. This office is requesting that you identify the type of product identified in Well MW-2, so that we can better determine the source of this product.

Please submit a work plan within 45 days of the date of this letter, addressing the above concerns.

Throughout the last year of ground water monitoring, the levels of TPHg, TPHd, and benzene observed in all the monitoring wells have remained fairly consistent, even with the overexcavation work conducted at the site. This indicates that there may still be an ongoing source for these contaminants. For example, soil sample #6, which was collected from the sidewall of the former gasoline tank pit, identified 140ppm TPHg and 120 parts per billion (ppb) benzene. Although initial recommendations proposed to overexcavate this area, no overexcavation was ever conducted in this location.

If after the next quarterly monitoring event, commensurate contaminant concentrations are still being identified in the wells, you will be required to submit an additional work plan addressing measures to contain the plume from migrating further off site. Additionally, if it appears that any remaining contaminant sources continue to significantly impact ground water, remedial measures shall be taken.

If you have any questions or comments, please contact me at (510) 567-6763.

Sincerely,

Juliet Shin
Senior Hazardous Materials Specialist

cc: Robert E. Kitay
Aqua Science Engineers, Inc.
2411 Old Crow Canyon Rd., #4
San Ramon, CA 94583

Cheryl Gordon
Division of Clean Water Programs
P.O. Box 944212
Sacramento, CA 94224-2120

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