



FAX BEING SENT BY:

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DATE: 2-16-00

TO: Don Hwang

FROM: Robert Kitay

NUMBER OF PAGES TO FOLLOW: 5

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MESSAGE:



February 15, 2000

WORKPLAN
for a
CREEK SAMPLING
at
5725 Thornhill Drive
Oakland, CA 94611

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
208 West El Pintado
Danville, CA 94526
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INTRODUCTION

This submittal presents Aqua Science Engineers, Inc. (ASE)'s workplan to collect water samples from Temescal Creek just west (downstream) of 5725 Thornhill Drive in Oakland, California. The proposed site assessment activities were initiated by Mr. Mo Mashhoon, owner of the site, to meet the requirements of the Alameda County Health Care Services Agency (ACHCSA) for case closure as discussed between ASE senior geologist and Mr. Don Hwang and Ms. Eva Chu of the ACHCSA. The ACHCSA has stated that they need assurance that the extractable range hydrocarbon groundwater contamination beneath the site does not affect the creek that runs near the site. The creek, at its nearest point to the site, flows underground in concrete lined culverts across Thornhill Drive from the site. This stream daylights on the northern side of the property two buildings west of the site.

BACKGROUND INFORMATION

The subject has been a gasoline service station since the 1950s. The site dispenses gasoline and has conducted auto repair at the site. A 550-gallon steel underground storage tank (UST) for the storage of waste oil was removed from the site by Penn Environmental in November 1998. Soil samples collected from the excavation contained up to 1,100 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G), 2,700 ppm total petroleum hydrocarbons as diesel (TPH-D) and 4,200 ppm total petroleum hydrocarbons as motor oil (TPH-MO).

On February 4, 1999, Penn Environmental overexcavated contaminated soil surrounding the former waste oil tank. This soil was previously removed but was placed back into the excavation temporarily. This soil was once again removed from the excavation to be transported for disposal. ASE collected confirmation soil samples from two sidewalls of the excavation at that time. Sidewall samples were collected since the bottom of the excavation was saturated. These samples were collected from a backhoe bucket from a depth of approximately 5.5-feet below ground surface (the capillary zone). The soil samples were analyzed for TPH-G, TPH-D, TPH-MO, benzene, toluene, ethylbenzene and total xylenes (collectively known as BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8020. These analyses were requested by Mr. Hernan Gomez of the Oakland Fire Department in a telephone conversation on February 4, 1999. The only compound detected in these two soil samples was 0.040 ppm MTBE in one of the two samples.

In July 1999, ASE drilled boring BH-A in the vicinity of the former waste oil UST using a Geoprobe hydraulic sampling rig in order to collect groundwater samples for analysis and to collect samples to analyze for additional parameters not previously requested by the City of Oakland. No halogenated volatile organic compounds (HVOCs), semi-volatile organic compounds (SVOCs) or polychlorinated biphenols (PCBs) were detected in either soil or groundwater samples collected from the boring. None of the metal concentrations detected in the soil sample exceeded United States Environmental Protection Agency (US EPA) Region IX preliminary remediation goals (PRGs) for residential soil. Total petroleum hydrocarbons were detected in groundwater samples collected from the boring at 1,700 parts per billion (ppb) in the gasoline range, 10,000 ppb in the diesel range and 4,700 ppb in the motor oil range. The only compounds that were detected at concentrations above California Department of Health Services (DHS) maximum contaminant levels (MCLs) for drinking water were MTBE and cadmium. Although these compounds were detected above drinking water standards, they still represent relatively low concentrations which would not present a threat to human health in non-drinking water scenarios.

PROPOSED SCOPE OF WORK (SOW)

Based on the requirements of the ACHCSA, ASE's proposed scope of work is to:

- 1) Prepare a workplan for approval by the ACHCSA.
- 2) Collect water samples from the stream west of the site where the stream exits the concrete lining.
- 3) Analyze the water sample at a CAL-EPA certified environmental laboratory for TPH-G by EPA Method 5030/8015, TPH-D and TPH-MO by EPA Method 5510/8015, and BTEX and MTBE by EPA Method 8020
- 4) Prepare a report detailing the methods and findings of the sampling.

Details of the assessment are presented below.

TASK 1 - PREPARE A WORKPLAN AND HEALTH AND SAFETY PLAN

Based on the site history and requirements of the ACHCSA, ASE has prepared this workplan. ASE has previously prepared a site-specific health and safety plan. A nearby hospital is designated in the site safety

plan as the emergency medical facility of first choice. A copy of the site specific health and safety plan will be available on-site at all times.

TASK 2 - COLLECT WATER SAMPLES FROM THE CREEK

ASE will contain the groundwater samples to be analyzed for TPH-G, BTEX, and MTBE in 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid, and sealed without headspace. The samples to be analyzed for TPH-D and TPH-MO will be contained in 1-liter amber glass containers. All of the samples will be labeled with the site location, sample designation, date and time the samples were collected, and the initials of the person collecting the samples, placed in protective foam sleeves, and cooled in an ice chest with wet ice for transport to a state-certified analytical laboratory under chain-of-custody. This sampling will not take place within 3 days of heavy rain to avoid interference of hydrocarbons which may have been brought into heavy steam runoff from streets.

TASK 3 - ANALYZE THE WATER SAMPLE

The water sample will be analyzed by a CAL-EPA certified analytical laboratory for TPH-G by modified EPA Method 5030/8015, TPH-D and TPH-MO by modified EPA Method 3550/8015, and BTEX and MTBE by EPA Method 8020.

TASK 4 - 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 analytical results, conclusions and recommendations. Copies of the analytical report and chain of custody will be included as appendices.

SCHEDULE

ASE plans to begin field activities at this site immediately upon approval of this workplan by the ACHCSA. As previously noted in this workplan, ASE will wait a minimum of three days following heavy rainfall to collect these samples to minimize the possibility that hydrocarbons related to street runoff would be detected.

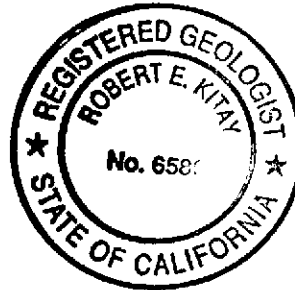
Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



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



cc: Mr. Mo Mashhoon, Mash Petroleum, 1721 Jefferson Street, Oakland, CA 94612

Mr. Don Hwang, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

Mr. Hernan Gomez, City of Oakland Fire Department, Office of Emergency Services Division, 505 14th Street, 7th Floor, Oakland, CA 94612

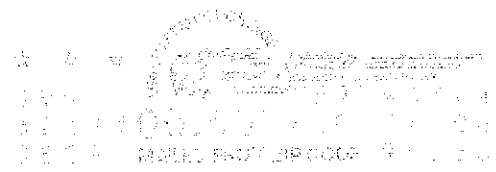
Mr. Chuck Headlee, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 94612

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PROTECTION

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