



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220. Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

May 2, 2008

RECEIVED

9:47 am, Jun 17, 2010

Alameda County
Environmental Health

WORKPLAN
for a
SOIL AND GROUNDWATER ASSESSMENT
at
Hutch's Carwash
17945 Hesperian Boulevard
San Lorenzo, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
55 Oak Court, Suite 220
Danville, CA 94526
(925) 820-9391



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

1.0 INTRODUCTION

This submittal presents Aqua Science Engineer's, Inc. (ASE) workplan for a soil and groundwater assessment at the Hutch's Carwash property located at 17945 Hesperian Boulevard in San Lorenzo, California (Figure 1). The proposed site assessment activities were initiated by Mr. Kirk Hutchison, owner of the property, as required by the Alameda County Health Care Services Agency (ACHCSA) in their letter dated November 28, 2006.

2.0 SITE HISTORY

2.1 Soil and Groundwater Assessment, December 1998

On December 1, 1998, eight soil borings were drilled at the site using a Geoprobe hydraulic sampling rig (Figure 2). Borings BH-A and BH-B were located near the former fuel dispensers. The remaining borings (BH-C through BH-H) were located in areas surrounding the underground storage tanks (USTs).

Soil samples were collected from each of the eight borings and were analyzed for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethyl benzene and total xylenes (collectively known as BTEX) and methyl tertiary butyl ether (MTBE), and total lead. None of the soil samples contained significant concentrations of any of the compounds analyzed. Groundwater samples collected from the six deeper borings were analyzed for TPH-G, BTEX and MTBE. The water samples contained up to 290 parts per billion (ppb) benzene, 620 ppb toluene, 3,000 ppb ethylbenzene, 7,100 ppb total xylenes, and 4,400 ppb MTBE. For complete details of the afore-mentioned assessment activities, see the ASE Assessment Report dated December 22, 1998.

2.2 UST Closure Activities

On January 21, 1999, ASE provided project management support for the closure-in-place of the two 5,000 gallon USTs and one 10,000 gallon UST at the subject site (Figure 2). Hutch's Carwash plan was to use the former fuel tanks for a water-reclamation system for their car washing operations. This proposed plan for the USTs' closure-in-place and subsequent re-use as water holding tanks was previously approved by the ACHCSA.

Clearwater Environmental Management, Inc. (Clearwater) mobilized to the site on January 21, 1999 with a pressure washing unit and a vacuum truck for UST evacuation. Using the pressure washer, the interior of the piping systems and each UST was rinsed. The rinsate and residual fuel was then removed from each UST using the vacuum truck. The liquid was transported by Clearwater from the site to the Alviso Independent Oil facility in Alviso, California where it was recycled.

Using a remote camera and television screen supplied by Rescue Rooter, the interior of each UST was inspected by ASE and Mr. Weston of the ACHCSA. It was visually obvious that the interior of the USTs had been coated with a sprayed-on coating that appeared shiny in most views. There did not appear to exist any obvious integrity failures, staining or scaling.



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

Hutch's personnel later filled each of the USTs to capacity with water then sealed all pipe and tank openings with caps and plugs as necessary. For complete details regarding the UST closure activities, see the ASE UST Closure Report dated February 8, 1999.

2.3 Monitoring Well Installation

In September 1999, ASE drilled three soil borings at the site and installed monitoring wells MW-1 through MW-3 in the borings. The only hydrocarbons detected in the soil samples collected during the assessment were 24 parts per million (ppm) TPH-G in the soil sample collected from 15.0-feet below ground surface (bgs) in boring MW-1, 200 ppm MTBE in the soil sample collected from 10.5-feet bgs in boring MW-1, 0.011 ppm MTBE in the soil sample collected from 11.0-feet bgs in boring MW-2 and 0.070 ppm in the soil sample collected from 15.0-feet bgs in boring MW-2. Lead was detected in the soil sample collected from 15.0-feet bgs in boring MW-1 at 5.0 ppm and in the soil sample collected from 15.0-feet bgs in boring MW-3 at 6.0 ppm. No other hydrocarbons or lead were detected in any of the soil samples analyzed.

The groundwater sample collected from monitoring well MW-1 contained 1,500 ppb TPH-G, 3.3 ppb benzene, 2.3 ppb ethyl benzene, 27 ppb toluene, 72 ppb total xylenes and 120 ppb MTBE. The groundwater sample collected from monitoring well MW-2 contained 18 ppb MTBE. No TPH-G or BTEX were detected in groundwater samples collected from monitoring well MW-2. No hydrocarbons were detected in groundwater samples collected from monitoring well MW-3.

2.4 Groundwater Monitoring

The site has been on a quarterly, and then semi-annual sampling program since the well installation. In general, the hydrocarbon concentrations have decreased and currently only groundwater samples are collected from monitoring well MW-1 following periods of non-detectable concentrations in monitoring wells MW-2 and MW-3. During the most recent sampling in January 2008, the only compound detected was MTBE at 290 ppb.

3.0 PROPOSED SCOPE OF WORK

The ACHCSA requested that the horizontal and vertical extent of contamination be defined at the site, including off-site drilling. However, in researching drilling locations ASE determined that the alley west of the tune up bays is actually part of the property. ASE will perform the drilling in that area and, if necessary, will drill additional borings further to the west if significant contamination is detected during the initial drilling. The proposed SOW is as follows:

- 1) Obtain the necessary drilling permit from the Alameda County Public Works Agency (ACPWA).
- 2) Notify Underground Service Alert (USA) of the drilling and contract with a private underground utility locating service to clean the drilling locations of underground utility lines



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

- 3) Drill four soil borings on the downgradient (western edge) of the site to 40-feet below ground surface (bgs) using either a Geoprobe with a dual-walled sampler or an EP Sonic drill rig and collect soil samples for analysis.
- 4) Collect groundwater samples from the borings.
- 5) At a minimum, analyze two soil and one groundwater sample from each boring at a CAL-EPA certified analytical laboratory for total petroleum hydrocarbons as diesel (TPH-D), TPH-G, BTEX, five fuel oxygenates including MTBE, and lead scavengers by EPA Method 8260B.
- 6) Backfill each boring with neat cement.
- 7) Prepare a report presenting the methods and findings of this assessment.

Details of the assessment are presented below.

TASK 1 OBTAIN NECESSARY PERMITS

ASE will obtain a drilling permit from the Alameda County Public Works Agency (ACPWA). ASE will also file well completion reports with the ACPWA and California Department of Water Resources (DWR) on completion of the drilling.

TASK 2 NOTIFY USA AND CLEAR DRILLING LOCATIONS OF UNDERGROUND UTILITY LINES

ASE will mark the proposed boring locations with white paint and will notify Underground Service Alert (USA) to have underground utility lines marked in the site vicinity at least 48-hours prior to drilling. ASE will also contract with a subsurface utility locating company to clear the proposed drilling location of underground lines.

TASK 3 DRILL FOUR SOIL BORINGS AT THE SITE

ASE will drill four soil borings at the site to a depth of 40-feet bgs at the locations shown on Figure 2. The borings will be drilled using either a Geoprobe equipped with a dual-walled sampler or an EP Sonic drilling rig. Both of these methods will allow an outer conductor casing to remain in place while sampling equipment can be raised and lowered through the exterior conductor casing after each sampling run. A qualified ASE geologist will direct the drilling. Undisturbed soil samples will be collected continuously for subsurface hydrogeologic description and possible chemical analysis. The soil 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 tube will be immediately removed from the sampler, cut at the appropriate sample interval, trimmed, and sealed with Teflon tape and plastic caps. The samples will then be labeled with the site location, sample designation, date and time the sample was collected, and the initials of the person



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

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 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 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.

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

TASK 4 GROUNDWATER SAMPLE COLLECTION

Once groundwater is encountered, groundwater samples will be collected for analysis. Temporary PVC well casing will be lowered into place in the boring. Groundwater samples will be removed from the boring using a pre-cleaned bailer. The groundwater samples will be contained in 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, and sealed without headspace. All of the groundwater samples will be labeled and immediately chilled in an ice chest with wet ice for transport to the analytical laboratory under chain of custody.

Additional water samples will be collected if deeper water-bearing zones are encountered. At least one groundwater sample will be collected from all water-bearing zones encountered. In addition, if water-bearing zones are thicker than 15 vertical feet, additional vertical water samples will be collected at a rate of one sample per 15 vertical feet. For the deeper water samples, a second boring will be drilled immediately adjacent to the first using a Hydropunch. The Hydropunch will be driven into the targeted zone. The rods will then be checked to verify that there was no leakage of groundwater into the rods prior to opening. Once the rods are shown to be dry, the Hydropunch screen will then be opened an appropriate interval and groundwater will be allowed to enter the rods. Groundwater samples will then be collected from within the rods using a bailer. Groundwater samples will be decanted from the bailer into 40-ml VOA vials, preserved with hydrochloric acid and sealed without headspace. The samples will then be labeled with the site location, sample designation, date and time the samples were collected, and the initials of the person collecting the samples. The samples will then be sealed in plastic bags and cooled in an ice chest with wet ice for transport to a state-certified analytical laboratory under chain-of-custody.

TASK 5 ANALYZE THE SOIL AND GROUNDWATER SAMPLES

At least two soil samples from each boring will be analyzed at a CAL-EPA certified analytical laboratory for TPH-D by modified EPA Method 8015 and TPH-G, BTEX, five oxygenates (ETBE, TAME, DIPE, TBA and MTBE) and lead scavengers (EDB and EDC) by EPA Method



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

8260B. If there is any indication of contamination based on odors, staining or PID readings, the sample that appears most contaminated will be selected for analysis, along with samples above and below the zone of contamination. If the zone of contamination is thicker than 5 vertical feet, then additional samples will be analyzed (at least 1 sample per 5-feet). If there is no indication of contamination from odors, staining or PID readings, the sample from the capillary zone (the sample immediately above the first encountered water) and the deepest soil sample collected will be analyzed. All water samples collected will also be analyzed for TPH-D by modified EPA Method 8015 and TPH-G, BTEX, five oxygenates and lead scavengers by EPA Method 8260B.

Although the ACHCSA requested that the samples be analyzed for total lead, the soil samples collected from previous borings BH-A through BH-F and MW-1 through MW-3 were analyzed for total lead. The highest lead concentration detected was 6.0 ppm, which is well below any levels of concern. Therefore, ASE does not recommend analyzing these samples for lead since they are even further from the potential UST sources.

TASK 6 BACKFILL THE BORINGS WITH NEAT CEMENT

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

TASK 7 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 begin field activities immediately upon approval of this workplan by the ACHCSA. Assuming a quick approval to this workplan by the ACHCSA, ASE anticipates conducting field activities at this site during the final week of May 2008.



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

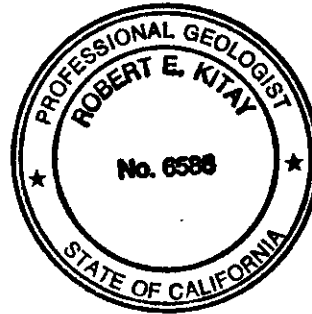
Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

A handwritten signature in black ink, appearing to read 'Robert E. Kitay'. The signature is fluid and cursive, written over the printed name.

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



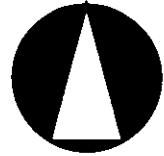
cc: Mr. Steven Plunkett, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

Mr. Kirk Hutchison, Hutch's Carwash, 1367 A Street, Hayward, CA 94541



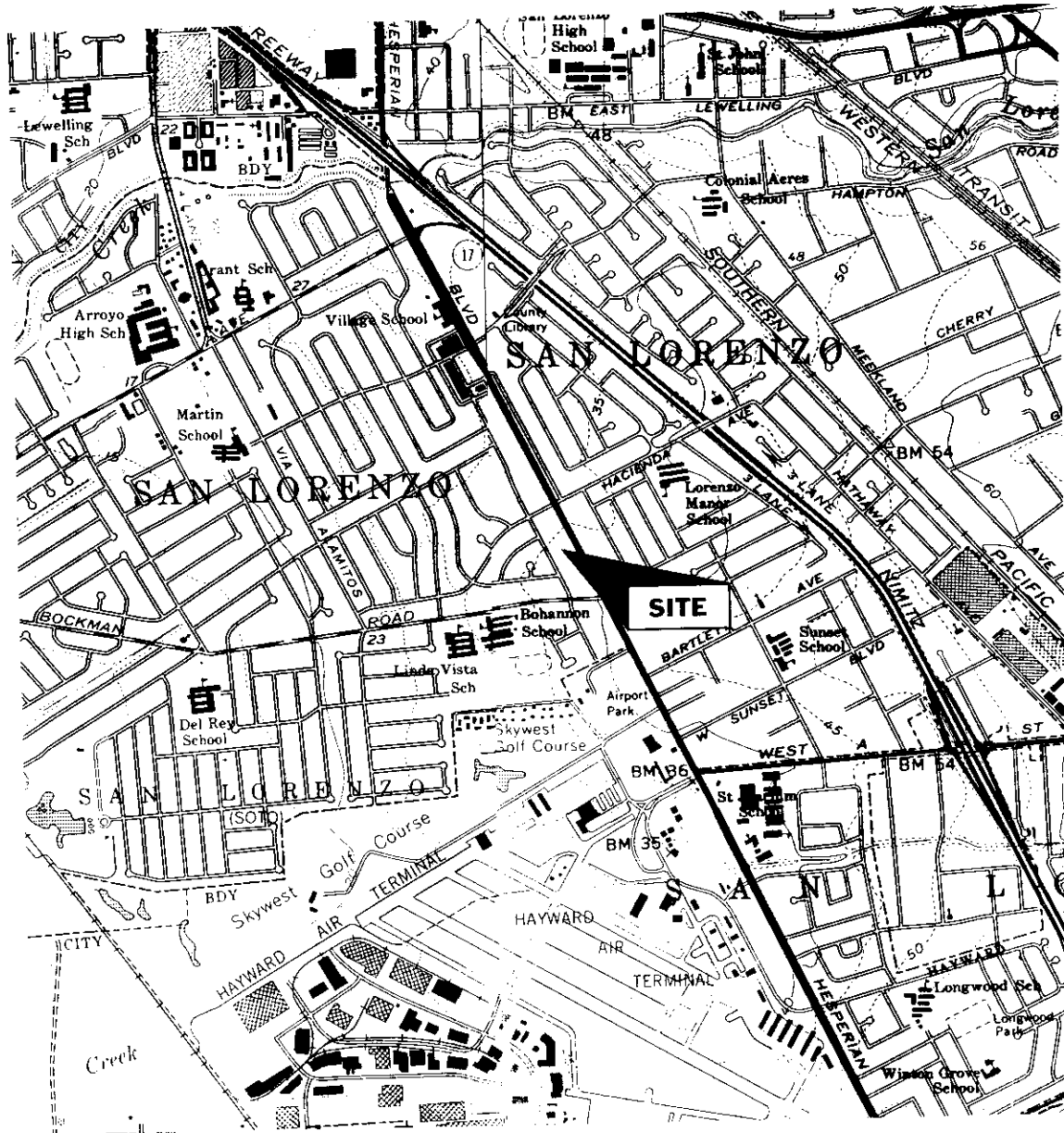
Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

FIGURES



NORTH

NOT TO SCALE



LOCATION MAP

Hutch's Carwash
17945 Hesperian Boulevard
San Lorenzo, California

AQUA SCIENCE ENGINEERS, INC.

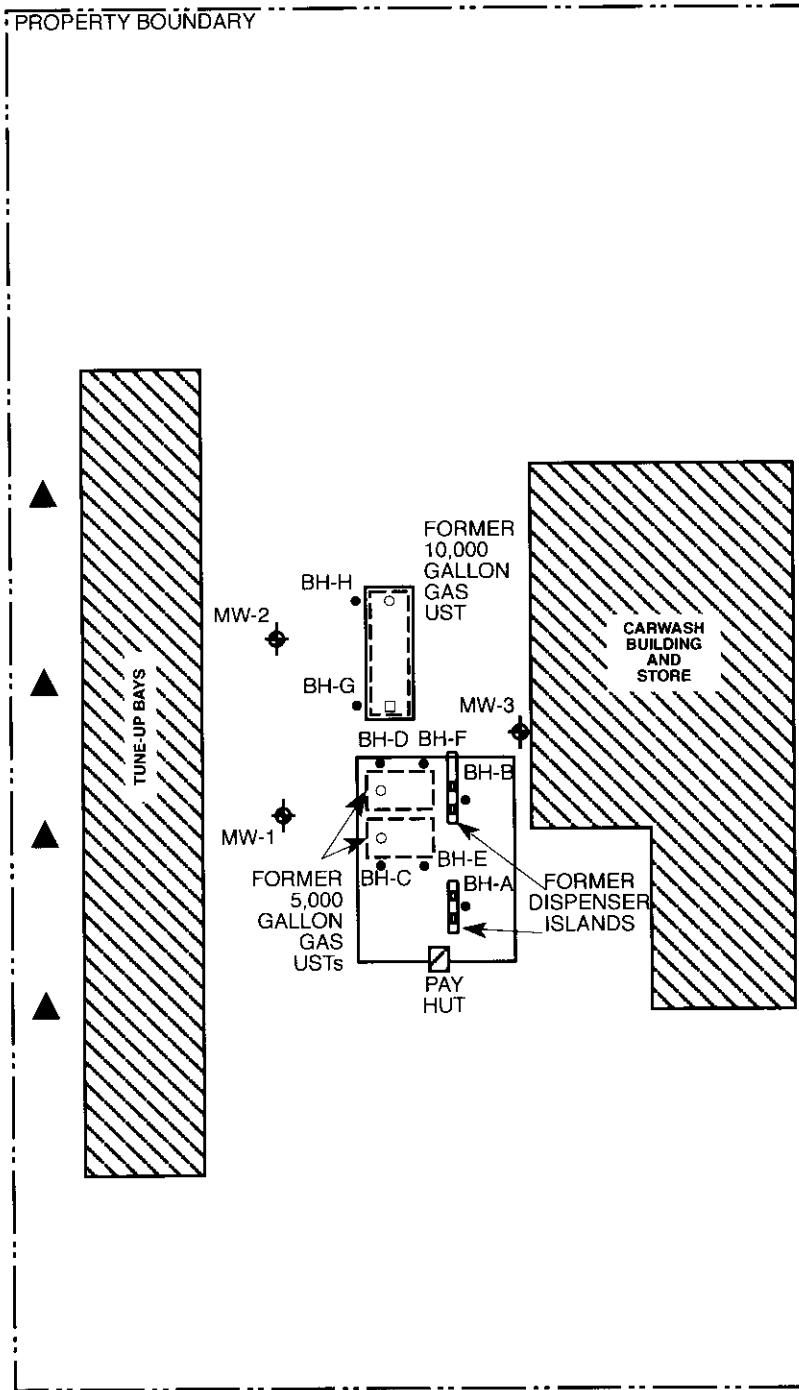
Figure 1



NORTH

SCALE

1 - INCH = 40 - FEET



LEGEND

- BH-H ● SOIL BORING, DRILLED BY ASE IN 12/98
- MW-3 ◆ MONITORING WELL, INSTALLED BY ASE IN 9/99
- ▲ PROPOSED SOIL BORING

PROPOSED SOIL BORING LOCATION MAP

HUTCH'S CARWASH
17945 HESPERIAN BOULEVARD
SAN LORENZO, CALIFORNIA

AQUA SCIENCE ENGINEERS

FIGURE 2