



September 9, 1999

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



Submitted by:  
AQUA SCIENCE ENGINEERS, INC.  
208 W. El Pintado Road

Danville, CA 94526  
(925) 820-9391

ENVIRONMENTAL PROTECTION

## 1.0 INTRODUCTION

This submittal outlines 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, in order to comply with the request made by Mr. Scott Seery of the Alameda County Health Care Services Agency (ACHCSA) in his letters dated May 10 and July 29, 1999 (Appendix A). The letters request the performance of a soil and groundwater assessment which would include the installation of groundwater monitoring wells.

## 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 USTs.

Soil samples were collected from each of the eight borings and were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 5030/8015, BTEX and MTBE by EPA Method 8020, and total lead by EPA Method 6010. None of the soil samples contained significant concentrations of any of the compounds tested. Groundwater samples were collected from the six deeper borings and were analyzed for TPH-G, BTEX and MTBE. Each water sample contained elevated concentrations of the compounds tested. 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 underground storage tanks (USTs) and one 10,000 gallon UST at the subject site (Figure 2). Hutch's Carwash plans on using 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.

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.

### 3.0 SCOPE OF WORK

The scope of work for this assessment is to further delineate the hydrocarbon plume previously identified in the Geoprobe borings drilled in 1998. The scope of work is as follows:

- 1) Prepare this workplan and site specific health and safety plan for approval by Mr. Scott Seery of the ACHCSA.
- 2) Obtain a subsurface drilling permit from the Alameda County Public Works Agency (ACPWA). Call Underground Service Alert (USA) to have all public utilities in the area marked prior to drilling.
- 3) Drill three (3) soil borings to 30-foot bgs at the site.
- 4) Analyze one soil sample collected from each soil boring at a CAL-EPA certified environmental laboratory TPH-G, BTEX, MTBE and total lead.
- 5) Install 2-inch diameter groundwater monitoring wells in each boring described in task 3.
- 6) Develop the monitoring wells.
- 7) Collect groundwater samples from each monitoring well for analyses.

- 8) Analyze the groundwater samples at a CAL-EPA certified analytical laboratory for TPH-G, BTEX and MTBE.
- 9) Survey the top of casing elevation of each well, and determine the groundwater flow direction and gradient beneath the site.
- 10) Prepare a report detailing the methods and findings of this assessment.

Details of the assessment are presented below.

#### *TASK 1 - PREPARE A WORKPLAN AND HEALTH AND SAFETY PLAN*

Based on the site history and the analytical results of the soil and groundwater samples collected during the previous assessment at the site, ASE has prepared this workplan as well as 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 present at the site at all times.

#### *TASK 2 - OBTAIN NECESSARY PERMITS*

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

#### *TASK 3 - DRILL THREE SOIL BORINGS AT THE SITE*

ASE will drill three soil borings at the locations shown on Figure 3. The borings will be drilled using a drill rig equipped with 8-inch diameter hollow-stem augers. 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 split-barrel drive sampler advanced ahead of the auger tip by successive blows from a 140-lb. hammer dropped 30-inches. 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 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.

All sampling equipment will be cleaned in buckets with brushes and a trisodium phosphate (TSP) or 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 4 - 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 environmental laboratory for TPH-G by modified EPA Method 8015, BTEX and MTBE by EPA Method 8020, and total lead by EPA Method 6010.

#### *TASK 5 - COMPLETE THE BORINGS AS MONITORING WELLS*

ASE will complete the borings described in task 3 as 2-inch diameter groundwater monitoring wells. The wells will be constructed with 2-inch diameter, flush-threaded, schedule 40, 0.020-inch slotted PVC well screen and blank casing. The well casing will be lowered through the augers and #3 Monterey sand will be placed in the annular space between the well casing and the borehole to approximately 1-foot above the screened interval. Approximately 0.5-foot of bentonite pellets will be placed on top of the sand pack and hydrated with deionized water. This bentonite layer will prevent the cement sanitary seal from infiltrating into the sand pack. Portland cement will be used to fill the annular space between the bentonite layer and the surface to prevent surface water from infiltrating into the well. The well head will be protected by a locking well plug and an at-grade, traffic-rated well box (See Figure 4 - Typical Monitoring Well).

The well will be screened to monitor the first water-bearing zone encountered. Wells are typically screened with 5-feet of screen above the water table and 10 to 15-feet of screen below the water table.

#### *TASK 6 - DEVELOP THE MONITORING WELLS*

The monitoring wells will be developed after waiting at least 72 hours after well construction. The wells will be developed using at least two episodes of surge block agitation and bailer or pump evacuation. At least ten well casing volumes of water will be removed during the development, and development will continue until the water appears to be reasonably clear. The well development purge water will be stored temporarily on-site in sealed and labeled 55-gallon steel drums until off-site disposal can be arranged.

#### *TASK 7 - SAMPLE THE MONITORING WELLS*

After waiting 72 hours after the well development, ASE will sample the monitoring wells. Prior to purging and sampling, the groundwater surface in each well will be checked for sheen or free-floating hydrocarbons. The thickness of any free-floating hydrocarbons will be measured with an acrylic bailer which will be lowered slowly to the groundwater surface and filled approximately half full for direct observation. ASE will also measure the depth to groundwater in all site wells prior to purging water from any well. Prior to sampling, each well will be purged of at least four well casing volumes of groundwater. The temperature, pH and electrical conductivity of evacuated water will be monitored during the well purging, and purging will continue beyond four well casing volumes if these parameters have not stabilized. Groundwater samples will be collected from each well using disposable polyethylene bailers. Groundwater will be decanted from the bailers into 40-ml glass volatile organic analysis (VOA) vials, preserved with hydrochloric acid, sealed without headspace and 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 placed into an ice chest with wet ice for transport to the analytical laboratory under chain of custody. Purged groundwater will be stored temporarily on-site in sealed and labeled 55-gallon steel drums until off-site disposal can be arranged.

**TASK 8 - ANALYZE THE GROUNDWATER SAMPLES**

The groundwater samples will be analyzed by a CAL-EPA certified analytical laboratory for TPH-G by modified EPA Method 8015, and BTEX and MTBE by EPA Method 8020.

**TASK 9 - SURVEY THE TOP OF CASING ELEVATION OF EACH WELL**

ASE will survey the top of casing elevation of each well relative to a site datum. These elevations will be used with the depth to groundwater measurements to determine the groundwater flow direction and gradient beneath the site.

**TASK 10 - PREPARE A SUBSURFACE ASSESSMENT REPORT**

ASE will prepare a subsurface assessment report outlining the methods and findings of this assessment. This report will include a summary of the results, the site background and history, description of the well construction, development and sampling, tabulated soil and groundwater analytical results, conclusions and recommendations. Formal boring logs, analytical reports, and chain of custody documents will be included as appendices. This report will be submitted under the seal of a California registered civil engineer or geologist.


**4.0 SCHEDULE**

ASE will schedule the drilling activities immediately upon receipt of approval of this workplan from the ACHCSA.

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

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



David Allen, R.E.A.  
Senior Project Manager

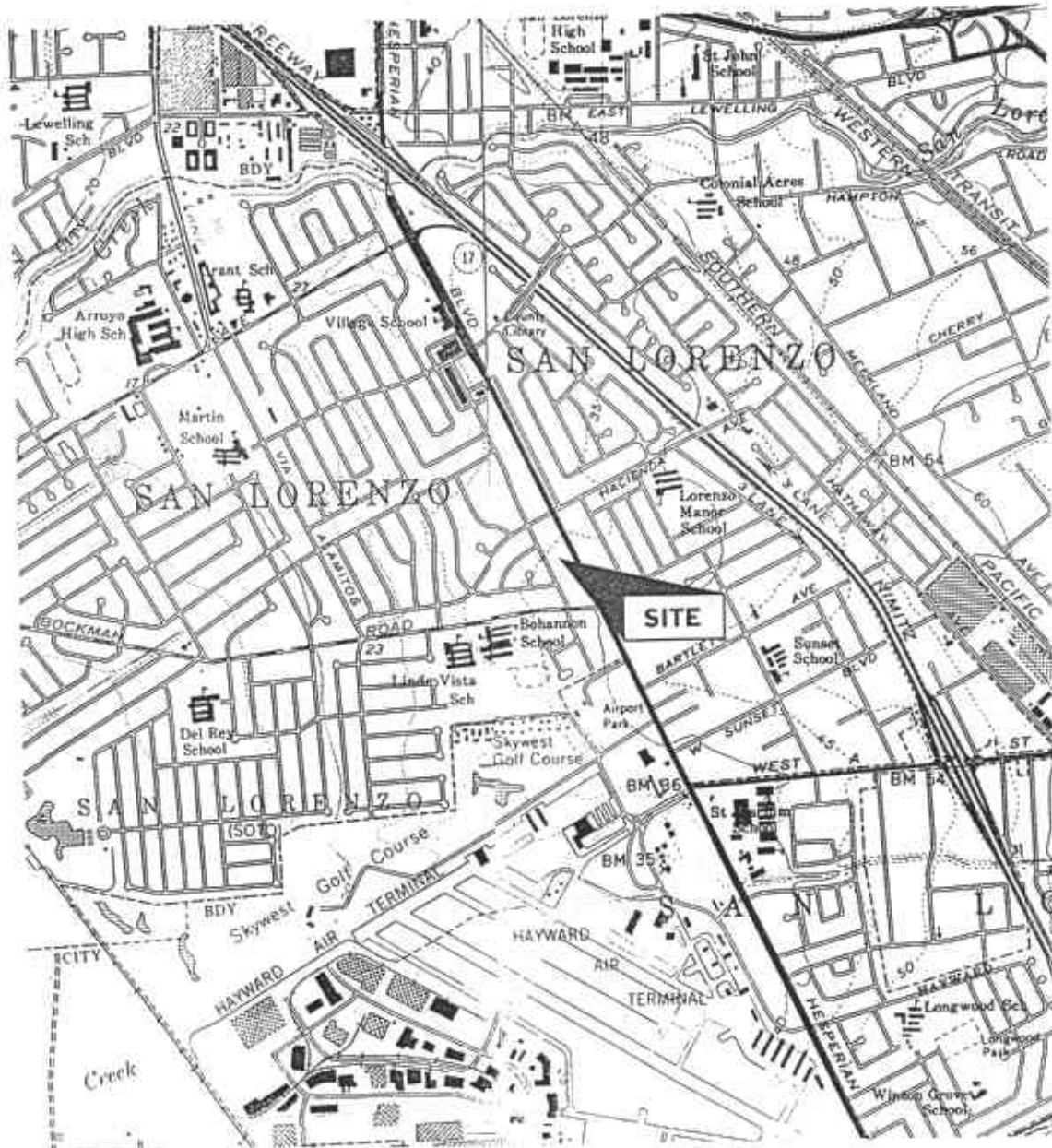


Copies to: Mr. Scott Seery, ACHCSA  
Mr. Kirk Hutchison, Hutch's Carwash



NORTH

NOT TO SCALE



## LOCATION MAP

Hutch's Carwash  
17945 Hesperian Boulevard  
San Lorenzo, California

AQUA SCIENCE ENGINEERS, INC.

Figure 1

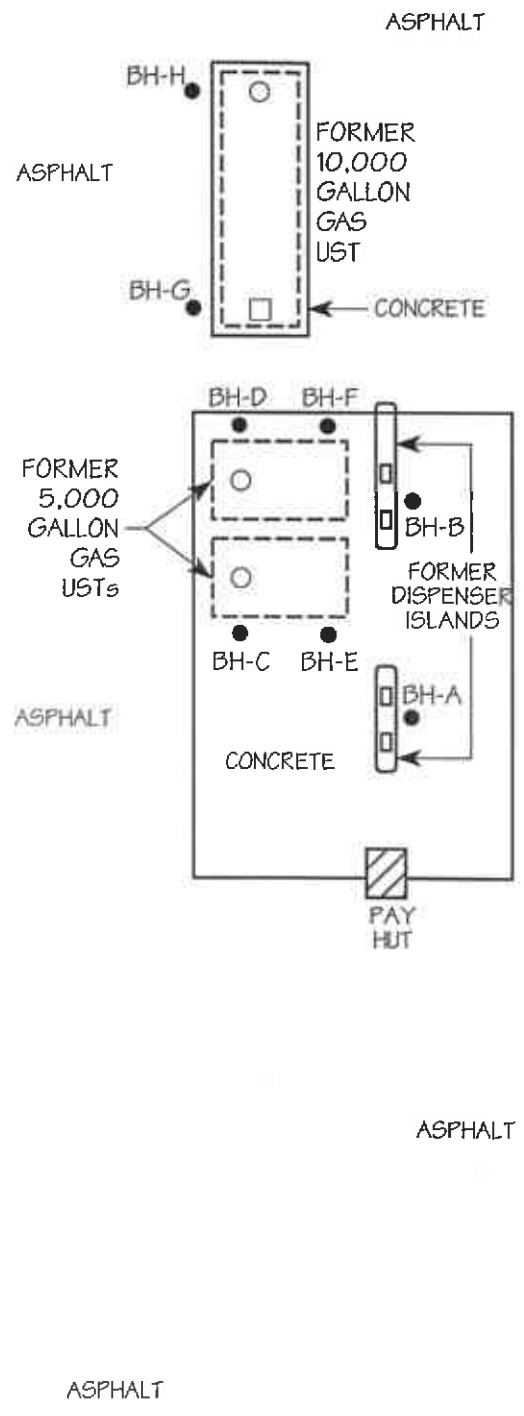




NORTH

SCALE  
1-INCH = 20 - FEET

TUNE-UP BAYS



### LEGEND

BH-H



SOIL BORING

## SOIL BORING LOCATION MAP

HUTCH'S CARWASH  
17945 HESPERIAN BOULEVARD  
SAN LORENZO, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 2



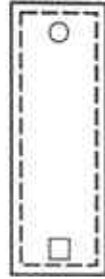
NORTH

SCALE  
1 - INCH = 20 - FEET

TUNE-UP BAYS



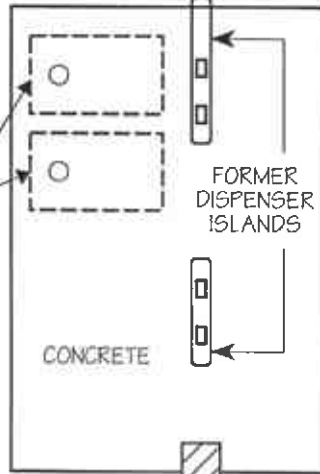
ASPHALT



FORMER  
10,000  
GALLON  
GAS  
UST



FORMER  
5,000  
GALLON  
GAS  
USTs



FORMER  
DISPENSER  
ISLANDS

CONCRETE

PAY  
HUT

ASPHALT

CARWASH  
BUILDING  
AND  
STORE

ASPHALT

ASPHALT

LEGEND



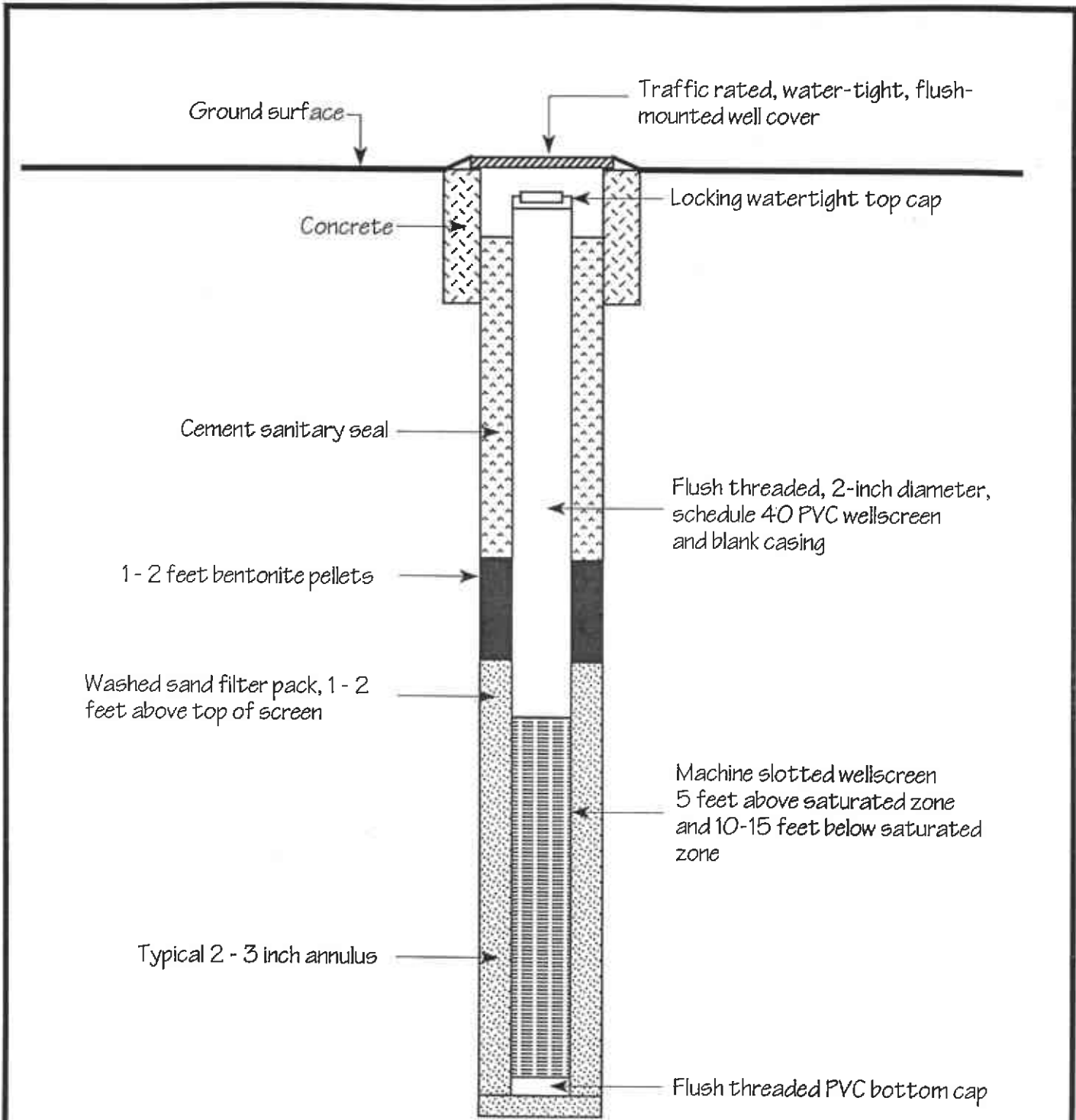
PROPOSED MONITORING  
WELL

PROPOSED WELL  
LOCATION MAP

HUTCH'S CARWASH  
17945 HESPERIAN BOULEVARD  
SAN LORENZO, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 3



**TYPICAL  
MONITORING WELL CONSTRUCTION  
IN CROSS SECTION**

Aqua Science Engineers

Figure 4

# **APPENDIX A**

Agency Correspondence

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION (LOP)  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-8700  
FAX (510) 337-9335

May 10, 1999

STID 730

Mr. Kirk Hutchinson  
Hutch's Car Wash,  
17945 Hesperian Boulevard  
San Lorenzo, CA 94501

RE: Hutch's Car Wash, 17945 Hesperian, San Lorenzo – Request for Soil and Water Investigation Work Plan

Dear Mr. Hutchinson:

We are in receipt and have completed review of the December 11, 1998 Aqua Science Engineers Inc. (ASE) report documenting the installation of eight (8) soil borings, and the analysis of soil and groundwater samples collected from each. This work was performed in preparation for the in-place closure of three fuel underground storage tanks (UST) at the subject site.

Evidence of an unauthorized release was identified during the course of this preliminary investigation. Such evidence included the presence in water samples of up to 260 micrograms per liter (ug/l) of benzene, 4400-ug/l methyl-tert butyl ether (MtBE), and 200,000 ug/l total petroleum hydrocarbons in the gasoline range (TPH-G).

Consistent with provisions of Article 11, *Corrective Action Requirements*, Section 2720 et seq., Title 23, California Code of Regulations (CCR), a Soil and Water Investigation (SWI) must be conducted to assess the extent of the release at the site. The SWI work plan will present the scope of work necessary to complete this phase of the site assessment. This task will typically involve the installation of several more soil borings and construction of an array of monitoring wells strategically located to track contaminant location.

The SWI work plan requires that you hire a California-licensed or registered engineer or geologist with the appropriate experience in conducting such environmental projects. Such licensing and registration is by provision of the California Business and Professions Code.

The SWI work plan is due within 60 days of the date of this letter.

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



Certified Mailer #

July 29, 1999

STID 730

Mr. Kirk Hutchinson  
Hutch's Car Wash,  
17945 Hesperian Boulevard  
San Lorenzo, CA 94501

ENVIRONMENTAL HEALTH SERVICES

1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
(510) 337-9335 (FAX)

**NOTICE OF VIOLATION**

RE: Hutch's Car Wash, 17945 Hesperian, San Lorenzo – Request for Soil and Water  
Investigation Work Plan

Dear Mr. Hutchinson:

In correspondence from this office dated May 10, 1999, you were requested to submit a soil and water investigation (SWI) work plan for the continued assessment of the fuel release that occurred at this site. The requested work plan was due within 60 days of the date of the May 10<sup>th</sup> letter. To date, this work plan has not been submitted.

You are currently in violation of provisions of Article 11, *Corrective Action Requirements*, Section 2720 et seq., Title 23, California Code of Regulations (CCR). Please be advised that civil penalties of up to \$5000 per day per tank per violation can be assessed upon conviction.

**At this time you are directed to submit the requested work plan within 20 days of the date of this letter.** Failure to comply with this request will result in your case being referred to the Alameda County District Attorney's Office for enforcement action.

Please call me at (510) 567-6783 should you have any questions.

Sincerely,

Scott O. Seery, CHMM  
Hazardous Materials Specialist

cc: Chuck Headlee, RWQCB  
Bob Chambers, Alameda County District Attorney's Office

Mr. Kirk Hutchinson  
RE: 17945 Hesperian Blvd., San Lorenzo  
May 10, 1999  
Page 2 of 2

Please call me at (510) 567-6783 should you have any questions.

Sincerely,



Scott O. Seery, CHMM  
Hazardous Materials Specialist

cc: Chuck Headlee, RWQCB  
Robert Weston, ACDEH