Re 22

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December 29, 2005

REPORT OF AREA WELL SURVEY, SITE CONCEPTUAL MODEL & WORKPLAN for ADDITIONAL SOIL AND GROUNDWATER ASSESSMENT at Alameda Gas Service Station 1310 Central Avenue Alameda, California

Submitted by:
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1.0 INTRODUCTION

This submittal presents Aqua Science Engineers, Inc. (ASE)'s subsurface conduit/area well survey, site conceptual model (SCM) and workplan for additional soil and groundwater assessment at the Alameda Gas Service Station located at 1310 Central Avenue in Alameda, California (Figure 1). The site assessment activities were initiated by Mr. Nissan Saidian, property owner, as required by the Alameda County Health Care Services Agency (ACHCSA) in their letter dated May 6, 2005.

2.0 BACKGROUND INFORMATION

The subject site is currently a small operating gasoline service station.

2.1 May 1996 Underground Storage Tank Removal

In May 1996, Petrotek removed one 10,000-gallon gasoline underground storage tank (UST), one 7,500-gallon gasoline UST, and one 5,000-gallon gasoline UST from the western corner of the site. All associated piping and dispensers were also removed. In addition, one 500-gallon waste-oil UST was removed from a location adjacent to the building. Soil samples collected during the UST removal contained elevated hydrocarbon concentrations, and free-product was observed on groundwater within the UST excavation. Apparently, 600 tons of contaminated soil were removed from the site and disposed of off-site, and approximately 15,000 gallons of water and product were pumped from the excavation, treated and discharged into the storm sewer. Two new USTs were installed in the former UST excavations. New dispensers and piping were also installed. It is ASE's understanding that Petrotek did not issue a report regarding these activities.

2.2 November 1998 Soil Boring Assessment

In November 1998, All Environmental, Inc. (AEI) drilled 14 soil borings at the site and collected soil and groundwater samples for analysis. Up to 5,900 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G) were detected in soil samples collected from the borings. Up to 120,000 parts per billion (ppb) TPH-G and 7,200 ppb benzene were detected in groundwater samples collected from the borings.

2.3 December 1999 Monitoring Well Installation

In December 1999, HerSchy Environmental of Bass Lake, California installed three groundwater monitoring wells at the site (Figure 2). Up to 43,000 ppb TPH-G, 8,700 ppb total petroleum hydrocarbons as diesel (TPH-D), 1,300 ppb benzene and 120,000 ppb methyl tertiary butyl ether (MTBE) were detected in groundwater samples collected from the monitoring wells. The groundwater flow direction was to the southwest at a gradient of 0.0085-feet/foot.

2.4 May 2000 Monitoring Well Sampling

On May 16, 2000, ASE collected groundwater samples from the three site monitoring wells. Groundwater samples collected from monitoring well MW-1 contained 2,000 ppb TPH-G, 38 ppb benzene, 6.3 ppb toluene, 740 ppb ethyl benzene, and 1,600 ppb total xylenes. No MTBE or other oxygenates were detected in this groundwater sample. The groundwater samples collected from monitoring well MW-3 contained 17,000 ppb TPH-G, 2,800 ppb benzene, 60 ppb toluene, 380 ppb ethyl benzene, 190 ppb total xylenes, 990 ppb MTBE, 9.1 ppb tert-amyl methyl ether (TAME) and 350 ppb tert-butanol (TBA). No hydrocarbons were detected in groundwater samples collected from monitoring well MW-2. These results are significantly different to the previous results, especially in respect to hydrocarbon concentrations in monitoring well MW-2, and the MTBE concentrations throughout the site. The radically different MTBE concentrations this sampling period are probably related to the use of EPA Method 8260 this period which is a much more reliable method for MTBE identification than EPA Method 8020, which was used during the December 1999 sampling. It appears that the very high MTBE concentrations detected in December 1999 were a false positive. The groundwater flow direction on May 16, 2000 was to the west-southwest.

2.5 July 2000 Soil Boring Assessment

On July 28, 2000, ASE drilled soil borings BH-A through BH-L at the site using a Geoprobe hydraulic sampling rig (Figure 2). The soil samples collected from 3.0-feet below ground surface (bgs) in boring BH-K contained 0.0061 ppm of MTBE. There were no hydrocarbons or oxygenates detected in soil samples from the remaining borings. The groundwater samples collected from boring BH-A contained 0.7 ppb toluene and 0.9 ppb total xylenes. The groundwater samples collected from boring BH-B contained 1,800 ppb TPH-G, 270 ppb benzene, 8.8 ppb toluene, 18 ppb ethyl benzene, 13 ppb total xylenes, 4,100 ppb MTBE, 5.6

ppb TAME, and 440 ppb TBA. The groundwater samples collected from boring BH-C contained 230 ppb TPH-G, 11 ppb benzene, 1.2 ppb toluene, 0.96 ppb total xylenes, 760 ppb MTBE, 6.6 ppb TAME, and 130 ppb TBA. The groundwater samples collected from boring BH-D contained 72 ppb TPH-D and 1.7 ppb MTBE. The groundwater samples collected from boring BH-I contained 0.55 ppb MTBE. The groundwater samples collected from boring BH-J contained 200 ppb TPH-D. The groundwater samples collected from boring BH-K contained 520 ppb TPH-D and 0.77 ppb MTBE. The groundwater samples collected from boring BH-L contained 2.5 ppb MTBE. The analytical results for the soil and groundwater samples collected during this assessment are tabulated in Tables One and Two.

2.6 Quarterly Groundwater Monitoring

Groundwater at the site continues to be sampled on a quarterly basis. Depth to water data and hydrocarbon concentrations in groundwater are tabulated in Tables Three and Four. There has been variation in the calculated groundwater flow direction during the period of the groundwater monitoring program. The predominant groundwater flow direction has been to the southwest. However, based on the hydrocarbon distribution off-site, the groundwater flow direction appears to be to the northwest.

2.7 December 2002 Subsurface Conduit Study

In December 2002, ASE performed a conduit study to determine whether subsurface utility lines could provide a conduit for the movement of groundwater. ASE contacted Underground Service Alert (USA) to mark underground utility lines in the site vicinity, reviewed sewer line maps at the Alameda City Department of Public Works office, and placed phone calls to agencies whose marks were not visible in the street areas to confirm that no lines were present in these areas. The locations of all lines are shown on Figure 2. The backfill material used throughout the City of Alameda is the same native sand that was removed to create the trenches. Since groundwater beneath the site ranges in depth from 1.9 to 5.6-feet bgs, and the typical depth to groundwater in the site vicinity ranges from 2.75 to 5.5-feet bgs, groundwater almost certainly exists in the backfill of the utility trenches near the site. Although it appears that groundwater is likely present in utility line trenches, it does not appear that the utility lines act as a conduit for the movement of groundwater since (a) the backfill of the utility trenches is the exact same sandy material as the native material, and (b) the Geoprobe borings containing

the highest hydrocarbon concentrations are located beyond the conduits and their associated trenches. Even though it does not appear that the utility lines are conduits for the movement of groundwater, the ACHCSA requested that water samples be collected from the sewer to determine whether contaminated groundwater may have entered the sewer line through seams or cracks.

2.8 January 2004 Soil Boring Assessment and Sewer Sampling

In January 2004, ASE drilled soil borings BH-M through BH-P at the site using a Geoprobe hydraulic sampling rig (Figure 2). The soil samples analyzed from all four borings contained very low concentrations of TPH-D at a maximum concentration of 68 ppm TPH-D. No TPH-G, BTEX or oxygenates were detected in any of the soil samples analyzed. The groundwater samples collected from all four borings contained TPH-D at concentrations up to 170 ppb TPH-D. The groundwater samples collected from boring BH-O contained 19 ppb MTBE. None of the other samples contained detectable concentrations of TPH-G, BTEX or oxygenates.

In addition to the soil and groundwater sampling, liquid samples were also collected from the sewer line beneath Central Avenue both upgradient and downgradient of the site. Only very low concentrations of TPH-G were detected in liquid samples collected from the sewer in both directions. No BTEX or oxygenates were detected in either of these samples.

3.0 CONDUIT, AREA WELL SURVEY AND POTENTIAL PREFERENTIAL PATHWAY STUDY

3.1 Area Conduit Study

Although the ACHCSA requested a subsurface conduit study in their May 6, 2005 letter, a detailed conduit study was previously conducted in December 2002. ASE does not believe there have been any significant changes in subsurface conduits since the completion of the previous conduit study.

3.2 Area Well Survey

ASE searched records from the Alameda County Public Works Agency and the California Department of Water Resources (DWR) to identify water wells within 1/2-mile radius of the site. A total of 25 wells were located in this area. Of these wells, three are domestic wells, ten are irrigation wells, one is industrial, two are cathodic protection wells, four are

monitoring wells and five are vapor extraction wells. Information on the wells is tabulated in Table Seven. The well locations are shown on Figure 3.

The closest well is located over 1,000-feet east of the site. The closest potentially downgradient well is located approximately 1,260-feet northwest of the site.

3.3 Other Potential Conduits

Other than the utility lines and wells listed above, ASE is not aware of any other potential preferential pathways for the migration of hydrocarbons in the site vicinity.

4.0 CONCEPTUAL SITE MODEL

The site has had a previous release of gasoline. There is no evidence of a current or on-going release at the site.

The lithology beneath the site consists generally of relatively high permeability silty sand. Groundwater is generally shallower than 6-feet bgs. There is evidence that groundwater beneath the site is under hydraulic head. This appears, based on boring logs, to be due to a lower percentage of silt in soil deeper than 4-feet bgs.

Although the potentiometric surface maps have generally indicated that the groundwater flow should be to the southwest, the distribution of hydrocarbons has generally shown that the flow is actually to the northwest. The reason for the difference in calculated groundwater flow direction (based on potentiometric surface) and actual groundwater flow (based on hydrocarbon distribution) is not well understood. However, it is likely related to inaccuracy in poteniometric surface calculations due to some wells (particularly in wells MW-1 and MW-3) being under head. Based on the distribution of hydrocarbons in groundwater, ASE has high confidence that the actual groundwater flow is to the northwest.

Based on the depth of underground utility lines and the depth to groundwater, it appears that groundwater is present in underground utility line trenches in Central Avenue. However, based on the distribution of hydrocarbons, hydrocarbons have apparently crossed the utility trenches, and based on sampling water in the sewer lines, groundwater has not entered the sewers. These results suggest that the sewer line is not a potential conduit for the movement of groundwater. In

addition, there has not been evidence that the utility trench backfill has been a conduit for the preferential movement of hydrocarbons in the site vicinity. This is likely due to the fact that the trenches were backfilled with the same native sand that is present in surrounding soil.

It appears that groundwater moves to the northwest across Central Avenue and crosses Sherman Street approximately 100-feet north of Central Avenue. The MTBE concentration at this point is only 19 ppb.

It appears that the extent of contamination is defined in each direction except to the northwest. Although the downgradient extent of MTBE is not completely defined, the furthest downgradient boring contains only 19 ppb MTBE. ASE recommends the installation of one downgradient groundwater monitoring well near boring BH-O as well as additional borings further to the northwest on Sherman Street to completely define the extent of groundwater contamination in this direction.

Since local water supplies are provided by EBMUD, and since EBMUD does not use local groundwater for its water supplies, it is unlikely that groundwater will be used for drinking water in the foreseeable future.

The primary risk related to groundwater contamination at the site appears to be vapor intrusion from soil and groundwater to indoor air. Based on the surrounding residential property usage, a residential standard should be used even though the site itself is commercial. Environmental Screening Levels (ESLs) for residential soil where groundwater is not a current or potential source of drinking water will be used to evaluate the risk related to the hydrocarbon release at the site. These ESLs are presented in the "Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated February 2005.

5.0 OUTLINE OF PROPOSED SCOPE OF WORK (SOW)

The purpose of this assessment is to further define the extent of soil and groundwater contamination at the site. The scope of work for this project is to:

1) Obtain a drilling permit from the Alameda County Public Works Agency and an encroachment permit from the City of Alameda to drill in city right of way areas.

2) Contract with a subsurface utility locating service to clear drilling locations of underground utility lines.

3) Using a Geoprobe, drill two additional borings further to the northwest on Sherman Street to completely define the extent of groundwater contamination in this direction. Based on the results from these borings, additional borings will be drilled as necessary to complete the assessment.

4) Following collection of the soil and groundwater samples, backfill the boring described in task 3 with neat cement.

5) Using a hollow-stem auger drill rig, drill one additional soil boring near boring BH-O and construct a groundwater monitoring well in the boring.

6) Develop the new monitoring well using surge block agitation and pump and/or bailer evacuation.

7) Collect groundwater samples from all site monitoring wells.

8) Analyze soil and groundwater samples collected from each boring described in tasks 3, 5 and 7 at a CAL-DHS certified analytical laboratory for TPH-D by EPA Method 8015 and TPH-G, BTEX, and fuel oxygenates by EPA Method 8260B.

9) Survey the top of casing elevation of each new well relative to the mean sea level (msl), and determine the groundwater flow direction and gradient beneath the site.

10) Prepare a report presenting results from this assessment. This report will present tabulated analytical results, boring logs, potentiometric surface maps, an updated SCM, a corrective action plan, and recommendations for appropriate feasibility tests, as necessary.

6.0 DETAILS OF PROPOSED SOW

Details of the assessment are presented below.

TASK 1 - *OBTAIN A DRILLING PERMIT FROM THE ALAMEDA COUNTY PUBLIC WORKS AGANCY AND AN ENCROACHMENT PERMIT FROM THE CITY OF ALAMEDA TO DRILL IN THE CITY STREETS*

Prior to drilling, ASE will obtain a drilling permit from the Alameda County Public Works Agency. ASE will also obtain an encroachment permit from the City of Alameda to drill in city streets.

TASK 2 - *CONTRACT WITH AN UNDERGROUND UTILITY LINE LOCATING SERVICE TO ACCURATELY LOCATE UNDERGROUND UTILITY LINES IN STREET AREAS*

ASE will contact Underground Service Alert (USA) at least 48 hours prior to drilling. ASE will also contract with a private underground utility locating service to pinpoint the location of utility lines in the drilling locations.

TASK 3 - *DRILL TWO ADDITIONAL SOIL BORINGS OFF-SITE USING A GEOPROBE AND COLLECT SOIL AND GROUNDWATER SAMPLES FROM THE BORINGS FOR ANALYSIS*

ASE will drill two additional soil borings in Sherman Street northwest of the site (Figure 4) and will collect soil and groundwater samples for analysis. The borings will be drilled using a Geoprobe or similar type drill rig. A qualified ASE geologist will direct the drilling.

Undisturbed soil samples will be collected continuously for subsurface hydrogeologic description and possible chemical analysis. The geologist will describe the soil according to the Unified Soil Classification System (USCS). Samples to be retained for analysis will be immediately removed from the sampler, trimmed, sealed with Teflon tape and plastic caps, 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-DHS certified analytical laboratory. Samples will be retained for analysis at the capillary zone, in areas of obvious soil contamination and at each lithologic contact.

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.

Once groundwater is encountered, groundwater samples will be collected using a Hydropunch sampler. Groundwater samples will be collected using a bailer. Groundwater samples will be decanted from the bailer into 40-ml volatile organic analysis (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.

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

If the extent of groundwater contamination is not defined based on these samples, then additional borings will be drilled to complete the definitions.

TASK 4 - BACKFILL THE BORING WITH NEAT CEMENT

Following collection of the soil and groundwater samples, the boreholes described in Task 3 will be backfilled with neat cement.

TASK 5 - INSTALL AN ADDITIONAL GROUNDWATER MONITORING WELL

ASE will install an additional boring near previous boring BH-O using a drill rig equipped with 8-inch diameter hollow-stem augers (Figure 4). This 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 ASE geologist will describe the samples according to the USCS. The samples will be collected in brass or stainless steel tubes using a split-barrel drive sampler advanced by repeated blows from a 140-lb. hammer dropped 18-inches. Samples to be retained for analysis will be immediately removed

from the sampler, trimmed, sealed with Teflon tape and plastic caps, 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-DHS 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.

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 and stored on-site until off-site disposal can be arranged.

ASE will complete the boring as a groundwater monitoring well. The monitoring well will be constructed with 2-inch diameter, flush-threaded, schedule 40, 0.020-inch factory slotted PVC well screen and blank casing. The well casing in each well 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 0.5-feet above the screened interval. Approximately 0.5-feet of bentonite pellets will be placed on top of the sand pack and hydrated with water. This bentonite layer will prevent the cement sanitary seal from infiltrating into the sand pack. Cement mixed with 3 to 5 percent bentonite powder by volume 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 5 - Typical Monitoring Well).

The well will be screened to monitor the first water-bearing zone encountered. ASE anticipates that the wells will be screened between 2-feet below ground surface (bgs) and 15-feet bgs.

TASK 6 - DEVELOP THE MONITORING WELL

The new monitoring well will be developed after waiting at least 72 hours after well construction. The well will be developed using at least two episodes of surge block agitation and bailer and/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 of the new well, ASE will collect groundwater samples from all site 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 oil/water interface probe and an acrylic bailer 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 three 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 samples will be decanted from the bailers into 40-ml glass volatile organic analysis (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 be placed into an ice chest with 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-DHS certified analytical laboratory for TPH-D by modified EPA Method 3510/8015M, and TPH-G, BTEX, and five oxygenates by EPA Method 8260B.

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

ASE will contract with a California licensed surveyor to survey the top of casing elevation of each well and boring relative to mean sea level (msl). These elevations will be used with the depth to groundwater measurements to determine the groundwater flow direction and gradient beneath the site. The longitude and latitude of each well location will also be surveyed to Geotracker standards.

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, potentiometric surface maps, an updated conceptual site model, a corrective action plan, conclusions and recommendations for appropriate additional assessment and feasibility tests for remediation, as necessary. 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 professional civil engineer or geologist.

5.0 SCHEDULE

ASE will proceed with this project immediately upon approval of this workplan by the ACHCSA.

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

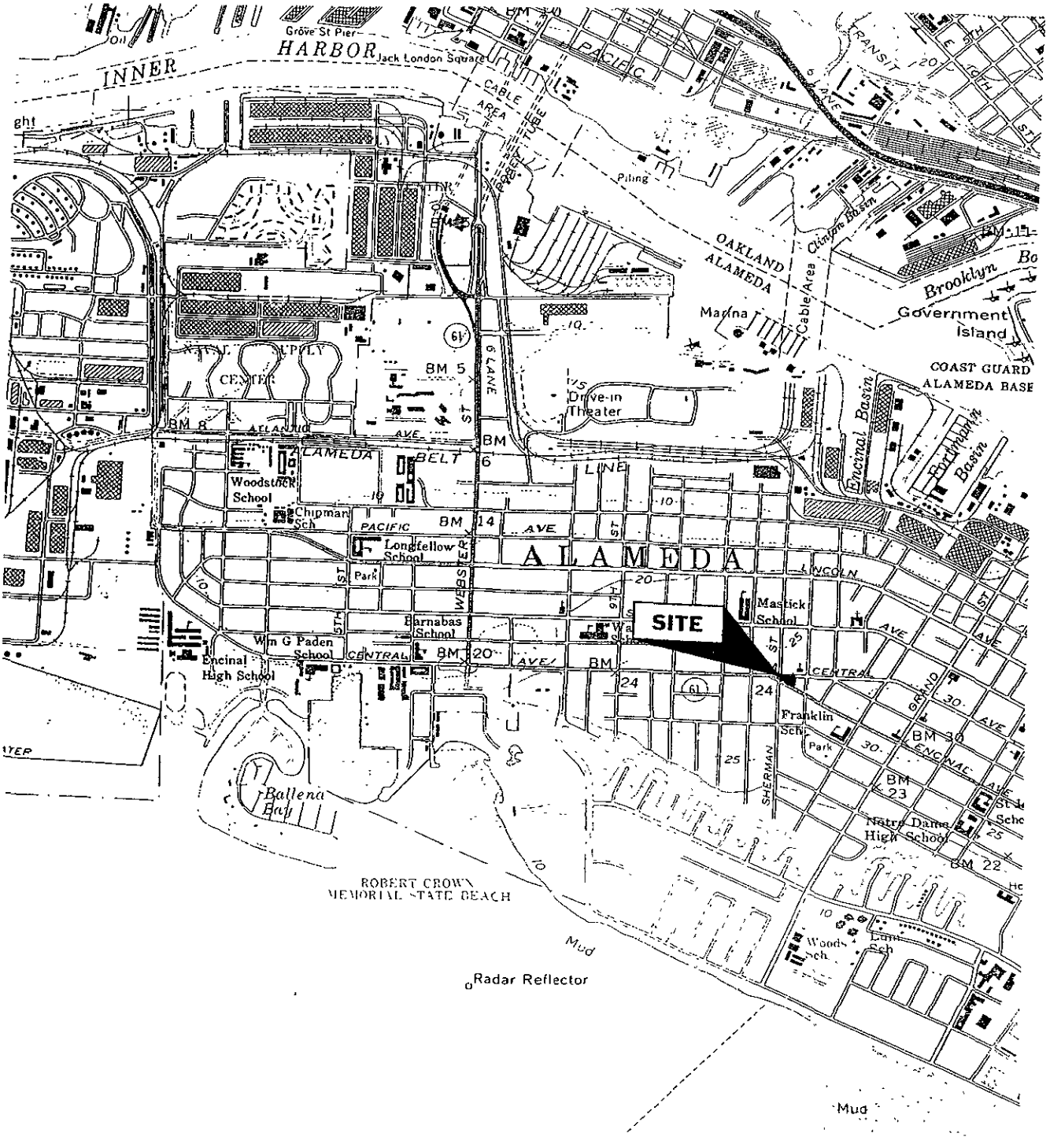
Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

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

cc: Mr. Nissan Saidian
Mr. Barney Chan, Alameda County Health Care Services Agency

FIGURES

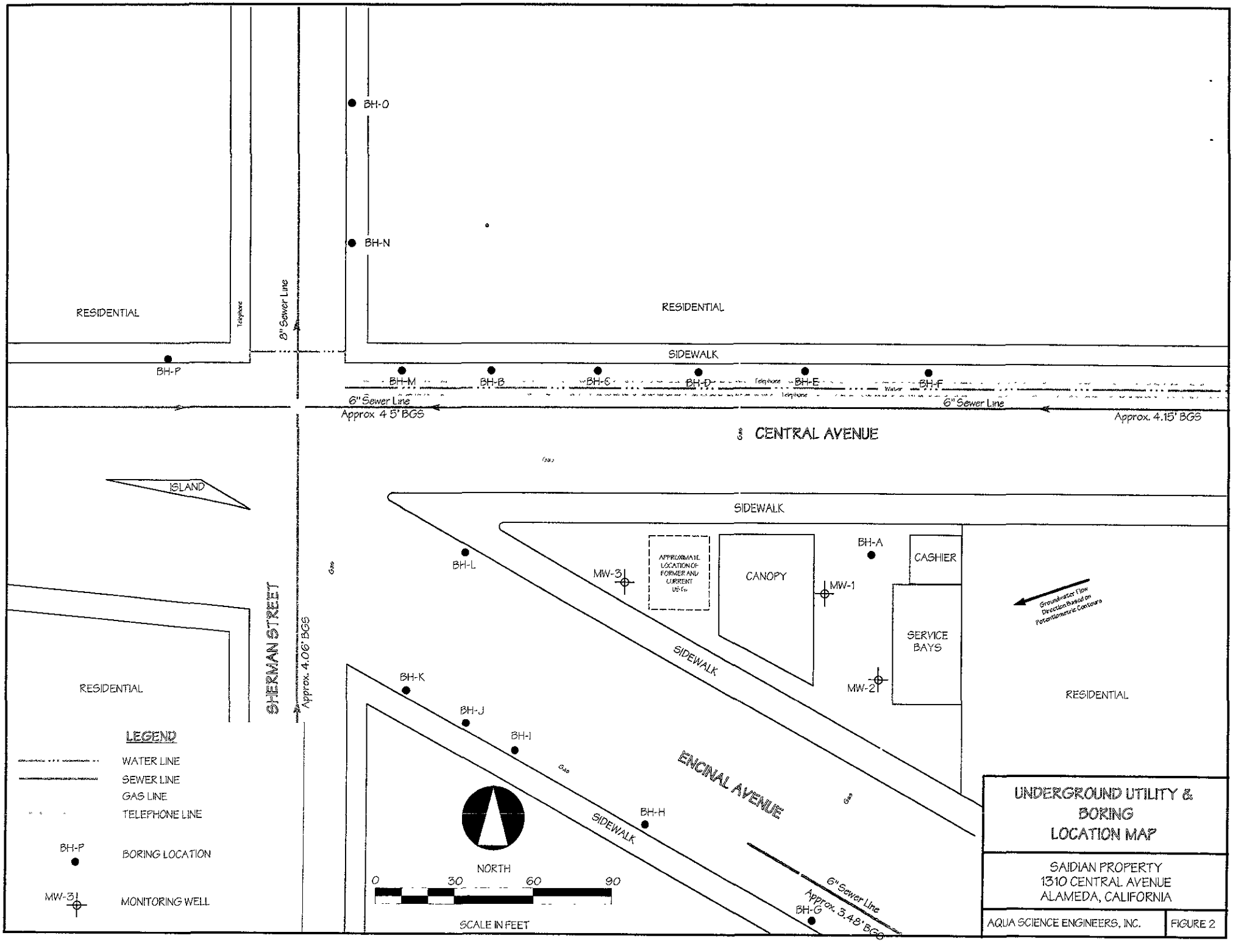


NORTH

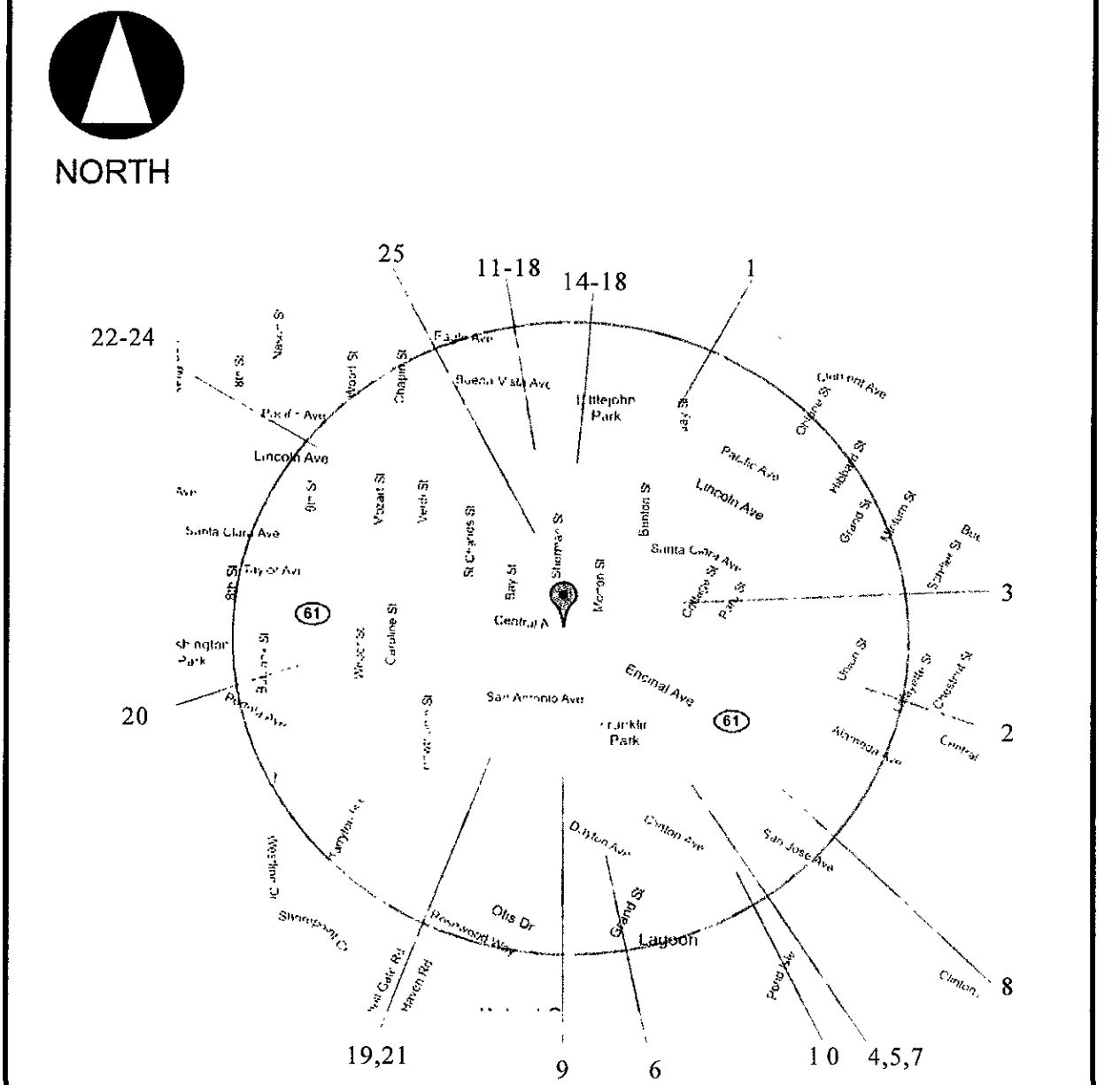
LOCATION MAP

SAIDIAN PROPERTY
1310 CENTRAL AVENUE
ALAMEDA, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | Figure 1


BH-O
BH-N
RESIDENTIAL
RESIDENTIAL
Telephone
8" Sewer Line
SIDEWALK
BH-P
BH-M
BH-B
BH-C
BH-D
Telephone
BH-E
Water
BH-F
Telephone
6" Sewer Line
Approx 4 5' BGS
6" Sewer Line
Approx. 4.15' BGS
Gas
CENTRAL AVENUE
ISLAND
SIDEWALK
BH-L
MW-3
APPROXIMATE LOCATION OF FORMER AND CURRENT USTs
CANOPY
BH-A
CASHIER
MW-1
SERVICE BAYS
Groundwater Flow Direction Based on Potentiometric Contours
SHERMAN STREET
Approx. 4.06' BGS
Gas
SIDEWALK
MW-2
RESIDENTIAL
RESIDENTIAL
BH-K
BH-J
BH-I
Gas
ENCINAL AVENUE
Gas
BH-H
SIDEWALK
6" Sewer Line
Approx. 3.48' BGS
BH-G
LEGEND
WATER LINE
SEWER LINE
GAS LINE
TELEPHONE LINE
BH-P
BORING LOCATION
MW-3
MONITORING WELL
NORTH
0
30
60
90
SCALE IN FEET
UNDERGROUND UTILITY & BORING LOCATION MAP
SAIDIAN PROPERTY
1310 CENTRAL AVENUE
ALAMEDA, CALIFORNIA
AQUA SCIENCE ENGINEERS, INC.
FIGURE 2

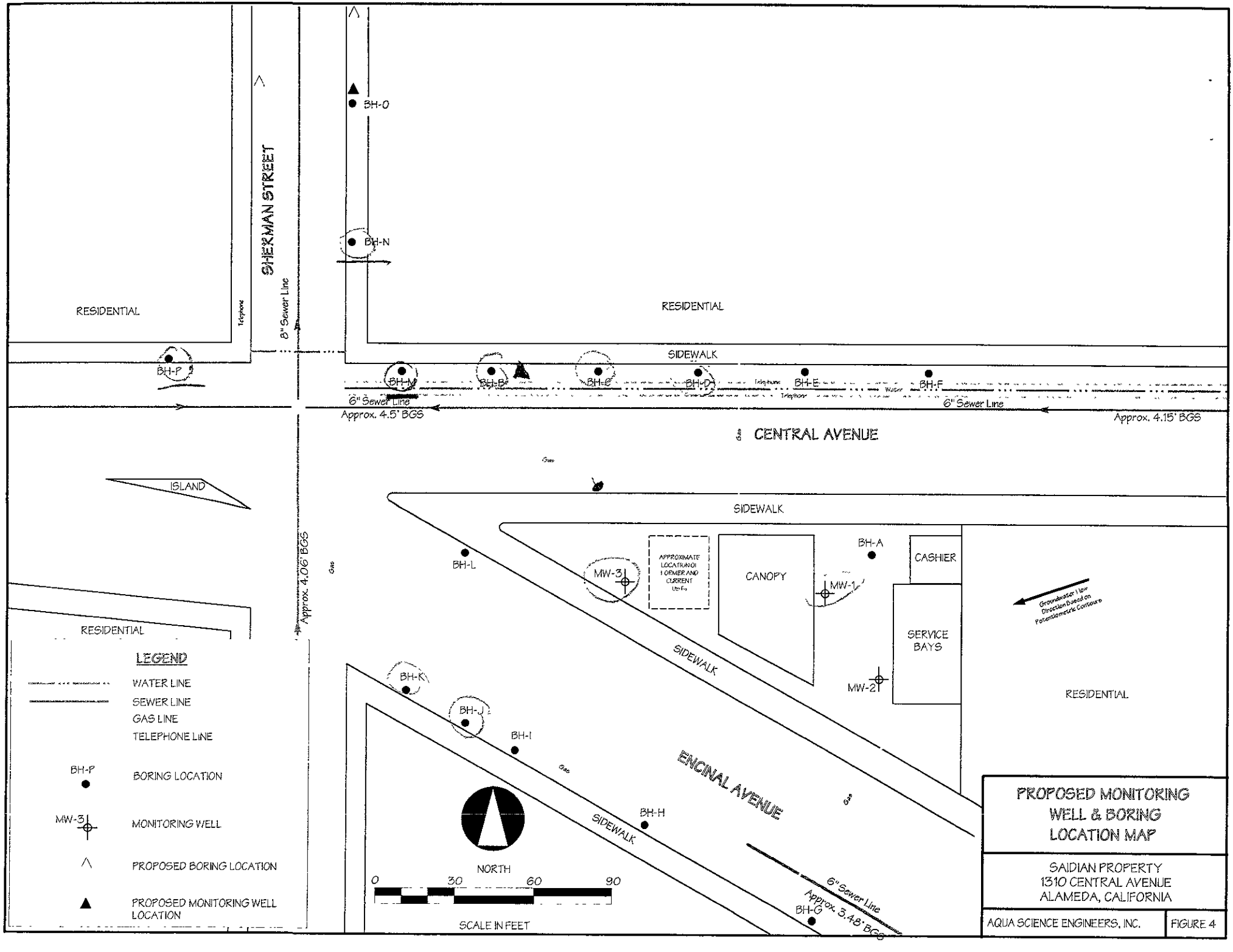
Wells within One-Half Mile Radius of Site



LOCATION MAP

ALAMEDA GAS
1310 CENTRAL AVENUE
ALAMEDA, CALIFORNIA

AQUA SCIENCE ENGINEERS | FIGURE 3



PROPOSED MONITORING WELL & BORING LOCATION MAP

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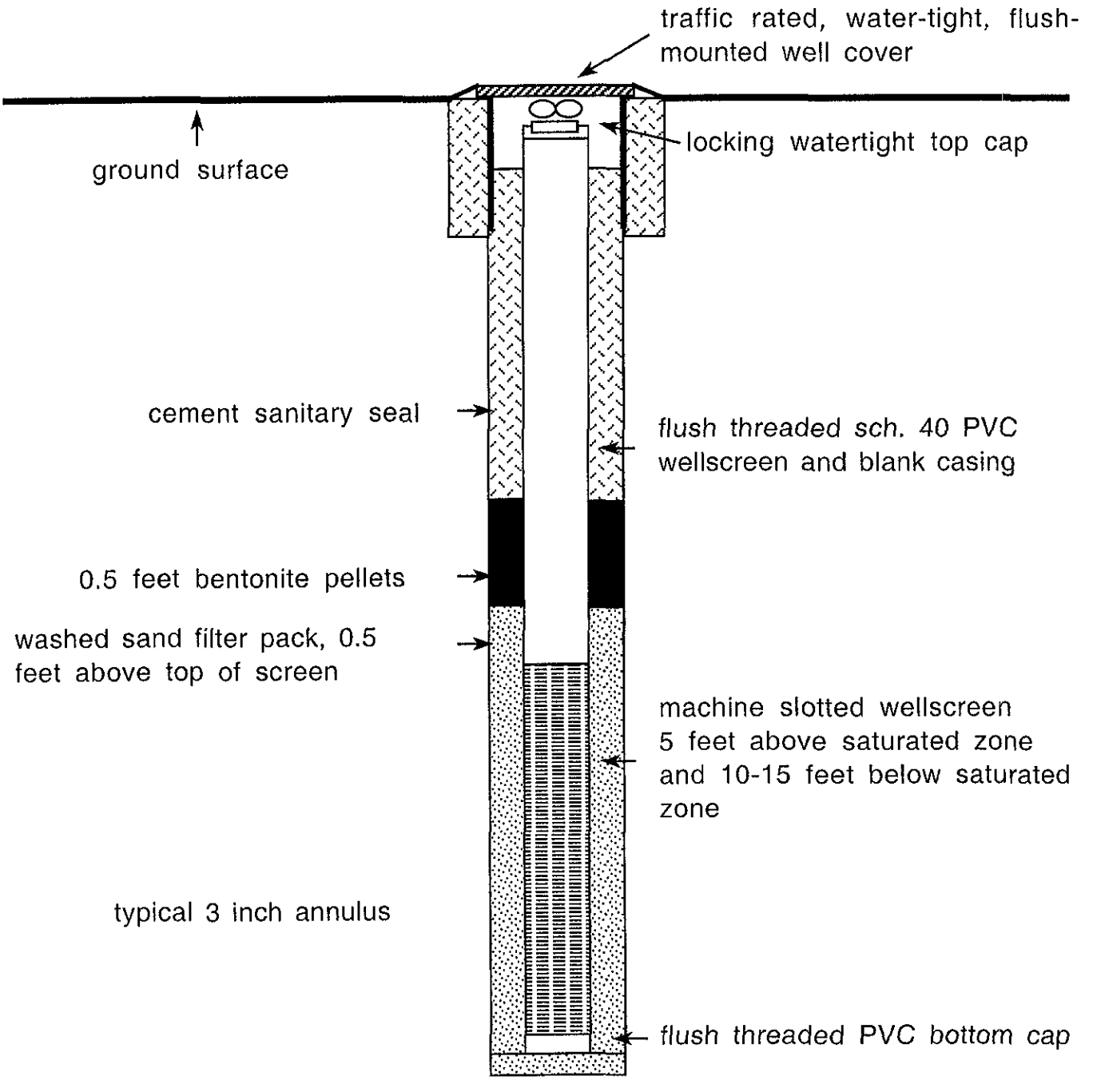
1310 CENTRAL AVENUE
ALAMEDA, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | FIGURE 4



TYPICAL
MONITORING WELL CONSTRUCTION
IN CROSS SECTION

Aqua Science Engineers | Figure 5

TABLES

TABLE ONE

Summary of Chemical Analysis of SOIL Samples

Alameda Gas - Collected on July 29, 2000

Petroleum Hydrocarbons

All results are in parts per million

Boring - Depth	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
BH-A-3.5'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-B-2.5'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-C-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-D-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-E-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-F-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-G-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-H-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-I-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
ESL	100	100	0.044	2.9	3.3	1.5	0.023	NE	NE	NE

table continued on next page

TABLE ONE

Summary of Chemical Analysis of SOIL Samples

Alameda Gas - Collected on July 29, 2000

Petroleum Hydrocarbons

All results are in parts per million

Boring	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
BH-J-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-K-3.0'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	**0.0061**	< 0.005	< 0.005	< 0.005
BH-L-3.5'	< 1.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
ESL	100	100	0.044	2.9	3.3	1.5	0.023	NE	NE	NE

Notes:

MTBE = Methyl-t-butyl ether

TAME = Tert-amyl methyl ether

TBA = Tert-Butanol

ESL = Environmental Screening Level established by the RWQCB for shallow residential soil where groundwater is a current or potential source of drinking water.

NE = ESL has not been established.

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in bold.

TABLE TWO

Summary of Chemical Analysis of GROUNDWATER Samples

Alameda Gas - Collected on July 29, 2000

Petroleum Hydrocarbons

All results are in parts per billion

Boring	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
BH-A	< 50	< 50	< 0.5	0.7	< 0.5	0.9	< 0.5	< 0.5	< 5.0	< 0.5
BH-B	1,800	< 2,000	270	8.8	18	13	4,100	5.6	440	< 3.0
BH-C	230	< 100	11	1.2	< 0.5	0.96	760	6.6	130	< 0.5
BH-D	< 50	72	< 0.5	< 0.5	< 0.5	< 0.5	1.7	< 0.5	< 5.0	< 0.5
BH-E	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
BH-F	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
BH-G	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
BH-H	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
BH-I	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	0.55	< 0.5	< 5.0	< 0.5
ESL	100	100	1	2.9	3.3	1.5	5	NE	NE	VARIES

table continued on next page

TABLE TWO

Summary of Chemical Analysis of GROUNDWATER Samples

Alameda Gas - Collected on July 29, 2000

Petroleum Hydrocarbons

All results are in parts per billion

Boring	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
BH-J	< 50	**200**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
BH-K	< 50	**520**	< 0.5	< 0.5	< 0.5	< 0.5	**0.77**	< 0.5	< 5.0	< 0.5
BH-L	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	**2.5**	< 0.5	< 5.0	< 0.5
ESL	100	100	1	2.9	3.3	1.5	5	NE	NE	VARIES

Notes:

MTBE = Methyl-t-butyl ether

TAME = Tert-amyl methyl ether

TBA = Tert-Butanol

ESL is the Environmental Screening Level established by the RWQCB for sites where groundwater is a current or potential source of drinking water.

NE = ESL is not established.

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in bold.

TABLE THREE
Groundwater Elevation Data
Saidian Property-Alameda
1310 Central Avenue, Alameda, CA

Well	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation (msl)
MW-1	9/6/99	26.85	5.16	21.69
	5/16/00		3.24	23.61
	8/3/00		4.15	22.70
	12/5/00		4.90	21.95
	3/5/01		3.04	23.81
	6/4/01		4.01	22.84
	6/5/02		3.73	23.12
	9/9/02		5.06	21.79
	12/19/02		4.09	22.76
	3/10/03		3.50	23.35
	6/3/03		3.66	23.19
	9/18/03		4.91	21.94
	12/22/03		4.30	22.55
	3/12/04		2.93	23.92
	6/11/04		4.23	22.62
	9/13/04		5.02	21.83
	12/16/04		3.76	23.09
	3/21/05		2.81	24.04
	6/23/05		3 66	23.19
	9/30/05		4.55	22.30
	12/8/05		**4.21**	**22.64**
MW-2	9/6/99	27.18	5.56	21.62
	5/16/00		3.52	23.66
	8/3/00		4.44	22.74
	12/5/00		5.24	21.94
	3/5/01		3.28	23.90
	6/4/01		4.33	22.85
	6/5/02		3 98	23.20
	9/9/02		5.34	21.84
	12/19/02		4 33	22.85
	3/10/03		3.58	23.60
	6/3/03		3.87	23 31
	9/18/03		5.24	21.94
	12/22/03		4.47	22 71
	3/12/04		3.10	24.08
	6/11/04		4.51	22.67
	9/13/04		5.35	21.83
	12/16/04		4.09	23.09
	3/21/05		3.01	24.17
	6/23/05		3.91	23.27
	9/30/05		4.86	22.32
	12/8/05		**4.49**	**22.69**
MW-3	9/6/00	25.30	4.02	21 28
	5/16/00		2.06	23.24
	8/3/00		3.20	22.10
	12/5/00		3.71	21.59
	3/5/01		1.90	23.40
	6/4/01		2.72	22.58
	6/5/02		2.75	22.55
	9/9/02		3.88	21.42
	12/19/02		2.79	22 51
	3/10/03		2.36	22.94
	6/3/03		2.65	22.65
	9/19/03		3.15	22 15
	12/22/03		2.83	22.47
	3/12/04		2.00	23.30
	6/11/04		3.11	22.19
	9/13/04		3 90	21.40
	12/16/04		2.89	22.41
	3/21/05		1.93	23.37
	6/23/05		2.69	22.61
	9/30/05		4.54	20 76
	12/8/05		**3.05**	**22.25**

TABLE FOUR

Summary of Chemical Analysis of GROUNDWATER Samples

Saldian Property-Alameda

Petroleum Hydrocarbons

All results in **parts per billion (ppb)**

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
MW-1										
9/6/99	5,700	8,700	170	59	22	85	20,000	NA	NA	NA
5/16/00	20,000	< 7,500	38	6 3	740	1,600	< 5.0	< 5.0	< 50	< 5.0
8/3/00	20,000	< 6,000	56	9.7	920	1,600	< 0.5	< 0.5	< 50	< 0.5
12/5/00	31,000	< 4,000	64	27	820	2,200	< 10	< 5.0	< 50	< 5 0
3/5/01	20,000	<4,000	19	<5.0	480	870	<5.0	<5.0	<50	<5 0
6/4/01	23,000	<7,000	58	50	710	2,100	5.1	<5.0	<50	<5.0
6/5/02	7,400	<1,500	9.3	6.7	180	230	<1.0	<1.0	<10	<1.0
9/9/02	8,300	< 3,500	32	20	390	670	< 2.0	< 2.0	< 20	< 2.0
12/19/02	5,100	--	7.9	2.5	56	93	< 1.0	< 1.0	< 10	< 1.0
3/10/03	2,000	< 2,000	3.4	2.9	80	98	< 0.5	< 0 5	< 5.0	< 0.5
6/3/03	7,300	< 4,000	6.8	9.9	300	1,000	2.3	< 0 5	< 5.0	< 0.5
9/18/03	9,000	< 3,000	26	22	420	1,200	4.5	< 1.5	< 20	< 1.5
12/22/03	4,300	< 2,000	12	6.7	200	290	9.1	< 1.0	< 10	< 1.0
3/12/04	7,000	< 3,000	8.3	8.2	250	760	3.9	< 2.0	< 20	< 2.0
6/11/04	13,000	< 4,000	26	27	530	1,700	< 2.5	< 2.5	< 15	< 2.5
9/13/04	17,000	< 4,000	37	42	840	2,000	< 5.0	< 5.0	< 50	< 5.0
12/16/04	1,800	< 1,000	5.9	1.9	100	35	16	< 0.5	< 5.0	< 0.5
3/21/05	7,500	< 3,000	3.4	4.2	290	760	< 1.5	< 1.5	< 20	< 1.5
6/23/05	11,000	< 8,000	15	11	370	910	2.4	< 1.5	< 7	< 1 5
9/30/05	9,800	< 4000	32	25	540	680	1.6	< 1.5	< 7.0	< 1.5
12/8/05	**9,200**	**< 4,000**	**27**	**21**	**500**	**490**	**2.2**	**< 1.5**	**< 7.0**	**< 1.5**
MW-2										
9/6/99	6,000	70	1,300	92	50	400	6,800	NA	NA	NA
5/16/00	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 50	< 5.0
8/3/00	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
12/5/00	< 50	1,400	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
3/5/01	<50	<50	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0 5
6/4/01	<50	<50	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
6/5/02	< 50	2,300	<0.5	< 0.5	< 0.5	< 0.5	< 0 5	< 0.5	< 5.0	< 0 5
9/9/02	< 50	1,300	< 0.5	< 0.5	< 0.5	< 0.5	1.4	< 0.5	< 5.0	< 0.5
12/19/02	< 50	--	< 0.5	< 0.5	< 0.5	< 0.5	16	< 0.5	< 5.0	< 0.5
3/10/03	< 50	3,000	< 0 5	< 0.5	< 0.5	< 0.5	1.0	< 0.5	< 5.0	< 0.5
6/3/03	< 50	700	< 0 5	< 0.5	< 0.5	< 0.5	2.0	< 0.5	< 5.0	< 0.5
9/18/03	< 50	1,400	< 0.5	< 0.5	< 0.5	< 0.5	4.7	< 0.5	< 5.0	< 0 5
12/22/03	< 50	1,000	< 0.5	< 0.5	< 0.5	< 0.5	39	< 0.5	< 5.0	< 0.5
3/12/04	< 50	250	< 0.5	< 0 5	< 0.5	< 0.5	2.1	< 0.5	< 5.0	< 0.5
6/11/04	< 50	920	< 0.5	< 0.5	< 0.5	< 0.5	0.75	< 0.5	< 5.0	< 0 5
9/13/04	< 50	140	< 0.5	< 0.5	< 0.5	< 0.5	1.5	< 0.5	< 5.0	< 0 5
12/16/04	< 50	150	< 0.5	< 0.5	< 0.5	< 0.5	12	< 0.5	< 5.0	< 0.5
3/21/05	< 50	130	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
6/23/05	< 50	1,100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
9/30/05	< 50	300	< 0.5	< 0.5	< 0 5	< 0.5	1.6	< 0 5	< 5 0	< 0.5
12/8/05	**< 50**	**600**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**1.9**	**< 0.5**	**< 5.0**	**< 0.5**
MW-3										
9/6/99	43,000	870	860	70	< 0.5	65	120,000	NA	NA	NA
5/16/00	17,000	< 5,000	2,800	60	380	190	990	9.1	350	< 5 0
8/3/00	16,000	< 2,000	1,600	29	210	53	1,200	21	260	< 2 0
12/5/00	17,000	5,800	1,700	45	460	240	1,100	21	230	< 5.0
3/5/01	29,000	<1300	2,100	68	280	100	180	<8.0	<80	<8.0
6/4/01	17,000	<6,000	2,000	56	340	230	300	<10	130	<10
6/5/02	11,000	<2,000	1,600	46	210	47	790	<10	220	<10
9/9/02	12,000	< 800	1,400	44	130	27	760	< 10	160	< 10
12/19/02	10,000	--	740	32	180	38	86	< 5.0	< 50	< 5.0
3/10/03	13,000	< 6,000	1,200	42	240	35	470	5.3	140	< 5.0
6/3/03	6,500	< 3,000	750	21	46	15	1,300	< 50	280	< 2.5
9/18/03	9,800	< 3,000	1,500	38	170	32	420	< 10	150	< 10
12/22/03	8,800	< 2,000	1,100	32	82	20	330	5.8	52	< 5.0
3/12/04	7,600	< 3,000	590	23	69	17	470	9.2	63	< 2.5
6/11/04	7,800	< 2,000	840	19	58	15	710	12	140	< 1.5
9/13/04	7,500	< 1,500	840	17	23	7.8	730	15	93	< 2.5
12/16/04	9,300	< 2,000	1,100	26	76	13	600	12	130	< 2.5
3/21/05	11,000	< 3,000	1,200	37	190	24	460	9 3	100	< 2.5
6/23/05	9,600	< 4,000	1,100	28	93	23	370	8 2	67	< 2.5
9/30/05	9,000	< 3,000	690	18	32	14	380	8 4	72	< 1.5
12/8/05	***8,700***	***< 3,000***	***560***	***23***	***38***	***12***	***350***	***6.9***	***82***	***< 1.5***
ESL	500	640	46	130	290	100	1,800	NE	NE	VARIES

Notes

MTBE = Methyl-t-butyl ether

TAME = Tert-amyl methyl ether

TBA = Tert-Butanol

ESL = Environmental screening levels presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (February 2005)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region

NA = Samples Not Analyzed for this compound

NE = ESLs are not established

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit

Most recent data in bold

TABLE FIVE

Summary of Chemical Analysis of SOIL Samples

Alameda Gas - Collected on January 14, 2004

Petroleum Hydrocarbons

All results are in parts per million

Boring	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
BH-M-2.5'	< 1.0	**68***	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-N-2.5'	< 1.0	**7.2***	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-O-2.0'	< 1.0	**2.2***	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-P-2.0'	< 1.0	**4.9***	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
ESL	100	100	0.044	2.9	3.3	1.5	0.023	NE	NE	NE

Notes:

MTBE = Methyl-t-butyl ether

TAME = Tert-amyl methyl ether

TBA = Tert-Butanol

ESL = Environmental Screening Level established by the RWQCB for shallow residential soil where groundwater is a current or potential source of drinking water.

NE = ESL has not been established.

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in bold.

* = Laboratory noted that the hydrocarbons reported as TPH-D exhibited a non-typical diesel pattern.

TABLE SIX

Summary of Chemical Analysis of GROUNDWATER Samples

Alameda Gas - Collected on January 11, 2004

Petroleum Hydrocarbons

All results are in parts per billion

Boring	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
BH-M	< 50	**170***	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
BH-N	< 50	**68**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
BH-O	< 50	**100**	< 0.5	< 0.5	< 0.5	< 0.5	**19**	< 0.5	< 5.0	< 0.5
BH-P	< 50	**72**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
ESL	100	100	1	2.9	3.3	1.5	5	NE	NE	VARIES

Notes:

MTBE = Methyl-t-butyl ether

TAME = Tert-amyl methyl ether

TBA = Tert-Butanol

ESL is the Environmental Screening Level established by the RWQCB for sites where groundwater is a current or potential source of drinking water.

NE = ESL is not established.

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in bold.

* = Laboratory noted that the hydrocarbons reported as TPH-D exhibited a non-typical diesel pattern.

TABLE SEVEN

Wells within 1/2 Mile Radius of

1310 Central Avenue, Alameda, CA

Well	Owner		Type
1	Alameda Liquid Bulk Terminal	1521 Buena Vista Ave	Industrial
2	Seymore Homeowner Association	1810 Central Ave	Irrigation
3	Central West Homeowners	1401 F Cottage St	Irrigation
4	Arthur and Jane Nelson	1012 Grand St	Irrigation
5	Jerome B. Healy	1016 Grand St	Irrigation
6	Barrett J. Parker	1622 Dayton Ave	Irrigation
7	Jeptha and Valerie Boone	1000 Grand St	Irrigation
8	Joseph B Chambers	1820 San Antonio Ave	Irrigation
9	PG&E	Clinton and Sherman	Cathodic Protection
10	Decon Environmental	891 Union St	Monitoring
11-13	Bay Street Texaco Station	1127 Lincoln Ave	Monitoring
14-18	Bay Street Texaco Station	1127 Lincoln Ave	Vapor Extraction
19	Mr. (unreadable) James	1251 Bay St	Irrigation
20	Lawrence Picetti	920 Centennial Ave	Irrigation
21	W. C. Lyons	1205 Bay St	Irrigation
22-24	Steve Chissanthos	901 Lincoln Ave	Domestic
25	PG&E	Santa Clara & Lincoln Ave	Cathodic Protection