R0276

aqua science engineers inc.

ENVIRONMENTAL PROTECTION

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May 24, 2000

REPORT
for
SOIL AND GROUNDWATER ASSESSMENT
at
Compare Prices Service Station
2844 Mountain Boulevard
Oakland, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
208 West El Pintado
Danville, CA 94526
(925) 820-9391

1.0 INTRODUCTION

This report presents the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment at the Compare Prices Service Station located at 2844 Mountain Boulevard in Oakland, California (Figure 1). This site was formally Desert Petroleum Station #796. The proposed site assessment activities were initiated by Mr. Shahram Shahnazi, property owner, as required by the Alameda County Health Care Services Agency (ACHCSA) in their letters dated June 10, 1999, October 29, 1999 and February 9, 2000 *(Appendix A)*.

2.0 SITE BACKGROUND

Soil contamination was initially identified at the site in March 1989, during the replacement of the product lines by Diablo Tank and Equipment. Up to 8,400 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G) were identified in soil samples collected from the southern edge of the underground storage tanks (USTs).

In July 1989, On-site Technologies excavated and disposed of contaminated soil from the southern end of the premium unleaded tank. Up to 3,300 ppm TPH-G were collected from the sidewalls of the excavation.

In May 1990, Remediation Service International (RSI) conducted a soil and groundwater assessment at the site which included the installation of four groundwater monitoring wells (RS-1 through RS-4). Hydrocarbons were detected in both soil and groundwater during this assessment.

In June 1991, soil remediation began at the site using soil vapor extraction (SVE). In October 1991, groundwater remediation began at the site using RSI's S.A.V.E. system. Remediation was suspended in 1992 apparently due to Desert Petroleum's financial problems.

The site has been monitored on a quarterly basis since May 1990. Beginning in 1995, hydrocarbon concentrations started to rise and free-floating hydrocarbons appeared in monitoring well MW-1. Between October and December 1996, 30.4 gallons of gasoline and 1,077 gallons of contaminated groundwater were removed from monitoring well RS-1 during interim free-product removal.

In March 1999, Western Geo-Engineers of Woodland, California prepared a quarterly groundwater monitoring report and subsurface conduit study

for the site. This subsurface conduit study identified a sewer line with its bottom below the typical depth to groundwater at the site. This sewer line could potentially act as a conduit for the migration of groundwater contamination.

3.0 SCOPE OF WORK (SOW)

ASE's scope of work was to further delineate the extent of soil and groundwater contamination off-site. To accomplish this task, ASE prepared the following scope of work:

1) Prepare a workplan and health and safety plan for approval by the ACHCSA.

2) Contract with an underground utility contractor to accurately mark the underground utility lines in Mountain Boulevard.

3) Obtain an excavation permit from the City of Oakland to drill in the street areas and prepare a traffic plan to allow for closing traffic lanes during drilling activities.

4) Obtain a drilling permit from the Alameda County Public Works Agency (ACPWA).

5) Drill thirteen (13) soil borings with a Geoprobe drill rig in the locations shown on Figure 2. Collect soil samples continuously and screen the soil samples for volatile compounds with an organic vapor meter (OVM). Groundwater samples will also be collected from each boring.

6) Analyze one soil sample from each boring, as well as the groundwater sample collected from each boring, at a CAL-EPA certified analytical laboratory for total petroleum hydrocarbons (TPH-G) by modified EPA Method 5030/8015 and benzene, toluene, ethyl benzene and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8020.

7) Backfill the borings with neat cement.

8) Prepare a report outlining the methods and findings of this assessment.

At the request of the ACHCSA, the borings on the west side of Mountain Boulevard were drilled as soon as they could be scheduled (January 2000). The other borings were drilled in the spring when groundwater was at its highest elevation. Two additional borings were added at the request of the ACHCSA to ASE's original scope of work which called for 11 borings. These two additional borings were added to further define the extent of contamination south of boring BH-A across Mountain Boulevard from the site.

4.0 UNDERGROUND UTILITY LOCATING

On January 7, 2000, Subtronics Corporation of Concord, California accurately located the public utilities around the proposed drilling locations (Figure 2). They also accurately located the lines that could potentially act as a conduit for groundwater contamination. Several lines were inaccurately located in the Western Geo-Engineers report. Underground Service Alert (USA) was also notified at least 48 hours prior to each drilling event. An updated map of the utility line locations is provided as Figure 2.

5.0 DRILL SOIL BORINGS AND COLLECT SAMPLES

5.1 Permits

Prior to drilling, ASE obtained a drilling permit from the Alameda County Public Works Agency (ACPWA). ASE also obtained excavation permits from the City of Oakland. Copies of these permits are presented in *Appendix B*.

5.2 Drilling and Soil Sampling

On January 7, 2000, Vironex, Inc. of Hayward, California drilled soil borings BH-A through BH-D at the site using a Geoprobe hydraulic sampling rig (Figure 2). Borings BH-E through BH-M were drilled by Vironex, Inc. on April 18 and 19, 2000. The drilling was directed by ASE associate geologist Ian Reed. Traffic safety for the lane closure was provided by Flash Safety of Oakland, California.

Undisturbed soil samples were collected continuously as drilling progressed for lithologic and hydrogeologic description and for possible analysis. The samples were collected by driving a sampler lined with acetate tubes using hydraulic direct push methods. Selective soil samples were immediately trimmed, sealed with Teflon tape, plastic end caps and

tape, labeled, sealed in plastic bags and stored on ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under chain of custody. Soil from the remaining tubes was described by the site geologist using the Unified Soil Classification System and was screened for volatile compounds using an Organic Vapor Meter (OVM). The soil was screened by emptying soil from one of the sample tubes into a plastic bag. The bag was then sealed and placed in the sun for approximately 10 minutes. After the volatile compounds were allowed to volatilize, the OVM measured the vapor in the bag through a small hole punched in the bag. OVM readings are used as a screening tool only, since the procedures are not as rigorous as those used in the laboratory. OVM readings can be found on the boring logs located in *Appendix C.*

5.3 Groundwater Sampling

Groundwater samples were removed from the borings with bailers. The groundwater samples were contained in 40-ml volatile organic analysis (VOA) vials (pre-preserved with hydrochloric acid) and sealed without headspace. The samples were then labeled and stored on ice for transport to Chromalab under chain of custody.

5.4 Backfilling and Decontamination

Upon completion of the soil and groundwater sampling, the borings were backfilled with neat cement to the ground surface.

Drilling equipment was cleaned with a TSP solution between sampling intervals and between borings to prevent potential cross-contamination.

5.5 Subsurface lithology

Sediments encountered during drilling generally consisted of sandy and clayey silts beneath the surface to the total depth explored of 40-feet below ground surface (bgs). Groundwater was encountered at approximately 20-feet bgs in the locations across Mountain Boulevard from the site and at approximately 12-feet bgs in the borings adjacent to the sewer lines along Mountain Boulevard and Werner Court. Sandy sediments were present in many of the borings near the sewer line, most likely indicating fill material. Boring logs are presented as *Appendix C.*

6.0 ANALYTICAL RESULTS FOR SOIL

Soil samples collected from 10-feet bgs in borings BH-J and BH-K, 11.5-feet bgs in borings BH-G, BH-H, BH-L and BH-M, 15.5-feet bgs in boring BH-I, 18.0-feet bgs in boring BH-E, 19.0-feet bgs in borings BH-A, BH-D and BH-F, 20-feet bgs in boring BH-C and 21-feet bgs in boring BH-B were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015, and BTEX and MTBE by EPA Method 8020. These samples represent either the capillary zone or the unsaturated soil sample that appeared the most contaminated based on odor, staining, and/or OVM readings. The analytical results are tabulated in Table One and the certified analytical report and chain of custody forms are included in *Appendix D.*

The soil samples collected from boring BH-A contained 620 ppm TPH-G, 3.4 ppm ethyl benzene and 14 ppm total xylenes. No MTBE was detected in this soil sample. The soil samples analyzed from borings BH-G, BH-J and BH-K, all located along the sewer line adjacent to the site, contained TPH-G concentrations ranging from 16 ppm to 730 ppm and MTBE concentrations ranging from 20 ppm to 35 ppm. The soil sample analyzed from boring BH-K also contained 14 ppm ethyl benzene and 79 ppm total xylenes. All of the other soil samples analyzed contained very low to non-detectable concentrations of hydrocarbons with TPH-G concentrations less than 10 ppm, and BTEX and MTBE concentrations below 0.5 ppm. None of the BTEX concentrations detected at the site exceeded United States Environmental Protection Agency (US EPA) Region IX preliminary remediation goals (PRGs) for residential soil.

7.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015, and BTEX and MTBE by EPA Method 8020. When detected, the presence of MTBE was confirmed using EPA Method 8260, although MTBE concentrations were not quantified. The analytical results are tabulated in Table Two, and the certified analytical report and chain of custody forms are included in *Appendix E.* TPH-G, benzene and MTBE isoconcentration contour maps are included as Figures 3, 4 and 5, respectively.

TPH-G was detected in groundwater samples collected from borings BH-A and BH-E at 15,000 parts per billion (ppb). TPH-G was also detected in groundwater samples collected from borings BH-H, BH-I and BH-L at 960 ppb, 130 ppb and 120 ppb, respectively, although the laboratory noted that the TPH-G concentrations in groundwater samples collected from

borings BH-I and BH-L did not have typical gasoline chromatogram patterns. Benzene was detected in groundwater samples collected from borings BH-A, BH-E, BH-H and BH-K at 370 ppb, 260 ppb, 12 ppb and 6,400 ppb, respectively. Toluene was detected in groundwater samples collected from borings BH-A, BH-B, BH-E and BH-H at concentrations ranging from 2.3 ppb to 780 ppb, and total xylenes were detected in these same borings at concentrations ranging from 23 ppb to 4,600 ppb. Ethyl benzene was detected in groundwater samples collected from borings BH-A, BH-E and BH-H at concentrations ranging from 40 ppb to 890 ppb. Very high MTBE concentrations of 130,000 ppb, 170,000 ppb and 410,000 ppb were detected in groundwater samples collected from borings BH-G, BH-J and BH-K, respectively. MTBE concentrations in groundwater samples collected from borings BH-A, BH-B, BH-C, BH-H, BH-I and BH-L ranged from 33 ppb to 660 ppb.

8.0 CONCLUSIONS

Very high MTBE concentrations (over 100,000 ppb) were detected in groundwater samples collected from borings BH-G, BH-J and BH-K, all of which are located close to the corner of Mountain Boulevard and Werner Court. Groundwater samples collected from boring BH-I along the Mountain Boulevard sidewalk north of Werner Court, BH-H east of boring BH-G in Werner Court, BH-L south of boring BH-K along the Mountain Boulevard sidewalk, and borings BH-C and BH-B across Mountain Boulevard, all contained MTBE concentrations ranging from 110 ppb to 660 ppb. Groundwater samples collected from boring BH-A, across Mountain Boulevard from the site and south of boring BH-B contained 33 ppb MTBE. No MTBE was detected in groundwater samples collected from borings BH-E and BH-F south of boring BH-A across Mountain Boulevard, and boring BH-M, south of boring MW-L along the Mountain Boulevard sidewalk. These borings define the extent of MTBE south of the site along both sides of Mountain Boulevard. In addition, no MTBE was detected in groundwater samples collected from boring BH-D north of boring BH-C across Mountain Boulevard. This boring defines the extent of MTBE contamination across Mountain Boulevard to the north.

The highest benzene concentration (6,400 ppb) was in boring BH-K, in the sidewalk adjacent to the site. The only other two borings which contained benzene concentrations over 100 ppb were borings BH-A and BH-E across Mountain Boulevard from the site. These two borings contained 370 ppb and 260 ppb, respectively. Groundwater samples collected from boring BH-H, the eastern most boring in Werner Court, contained a benzene concentration of 12 ppb, which exceeds the California Department of

Health Services (DHS) maximum contaminant level (MCL) for drinking water. Ethyl benzene, xylenes and/or toluene concentrations exceeded DHS MCLs for drinking water in the groundwater samples collected from borings BH-A and BH-E, across Mountain Boulevard to the west.

In summary, elevated hydrocarbon concentrations, including benzene and MTBE, were detected in groundwater samples collected from borings located near the intersection of Warner Court and Mountain Boulevard. As shown on Figures 3, 4 and 5, these elevated concentrations extend west across Mountain Boulevard to a retaining wall which separates Mountain Boulevard and Highway 13 below. This retaining wall acts as a barrier for groundwater movement to the west. The extent of hydrocarbons has been defined to both the north and south of the site on the western side of Mountain Boulevard, and to the south on the eastern side of Mountain Boulevard. The extent of contamination has not been defined to non-detectable to the east on Werner Court and to the north on the eastern side of Mountain Boulevard. However, groundwater samples collected from the borings furthest from the site in these directions have shown a significant decrease in concentrations, and the plume likely does not extend much further from these borings.

It does not appear, based on the distribution of hydrocarbons in groundwater, the depth to groundwater in the borings, and the lithology in the borings, that the subsurface utility lines act as a significant conduit for the movement of contaminants in groundwater at the site, particularly along Mountain Boulevard. It is possible the storm water line that crosses Mountain Boulevard and continues to the south across Highway 13 may act as a conduit since it is deeper on the west side of Mountain Boulevard than the other utility lines in the site vicinity, but it will be difficult to assess the impact of this line since it crosses Highway 13 immediately and drilling will not be possible in the highway area. In addition, the utility lines adjacent to the site may provide a recharge source for groundwater at the site since groundwater was at a shallower depth in borings near the sewer line.

9.0 RECOMMENDATION

ASE recommends that five additional groundwater monitoring wells be installed at the site to monitor the seasonal variations hydrocarbon concentrations in the areas of the site that have the highest dissolved hydrocarbon concentrations, and in downgradient off-site areas to monitor the seasonal variations in hydrocarbon concentrations across Mountain Boulevard. ASE recommends the following placement of these

new wells: One on-site near the corner of Werner Court and Mountain Boulevard, one on-site near boring BH-K, and three across Mountain Boulevard (near borings BH-C, BH-A and BH-F) which will allow the continued monitoring of the downgradient center of the plume as well as its lateral extent to the north and south along Mountain Boulevard.

ASE anticipates that the ACHCSA will require further groundwater remediation at the site. Free-floating hydrocarbons should be removed from the existing site monitoring wells. This could be accomplished by bi-weekly bailing, and possibly a skimmer if the free-floating hydrocarbon thickness does not decrease using bailing alone.

In addition to the removal of free-floating hydrocarbons, ASE also anticipates that remediation will be required to reduce dissolved hydrocarbon concentrations in on-site areas. As the February 3, 1995 "Corrective Action Plan" prepared by Remediation Services International (RSI) eludes to, the low permeability nature of the sediments beneath the site will decrease the effectiveness of all of the available remediation technologies currently in widespread use. However, given the available options, ASE suggests that the injection of Oxygen Releasing Compound (ORC) into groundwater in closely spaced borings in the affected area might be a cost effective means of groundwater remediation at the site.

10.0 REPORT LIMITATIONS

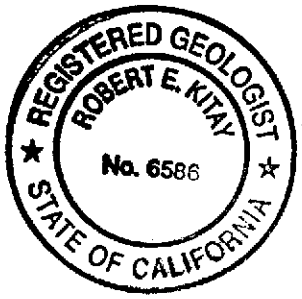
The results of this assessment represent conditions at the time of the soil and groundwater sampling, at the specific locations where the samples were collected, and for the specific parameters analyzed by the laboratory.

This report does not fully characterize the site for contamination resulting from unknown sources or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



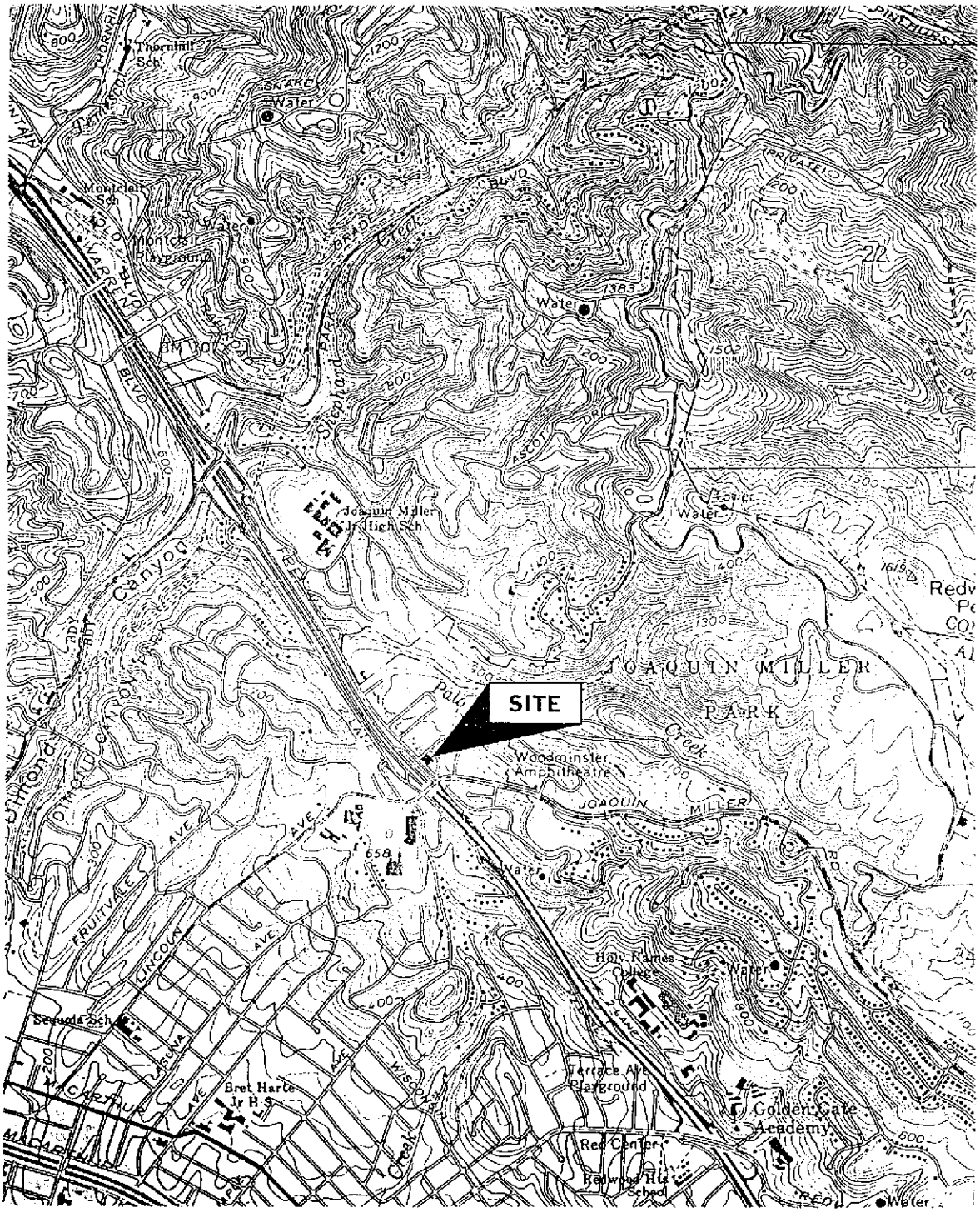
Robert E. Kitay, R.G., R.E.A.
Senior Geologist

Attachments: Figures 1 through 5
Appendices A through E

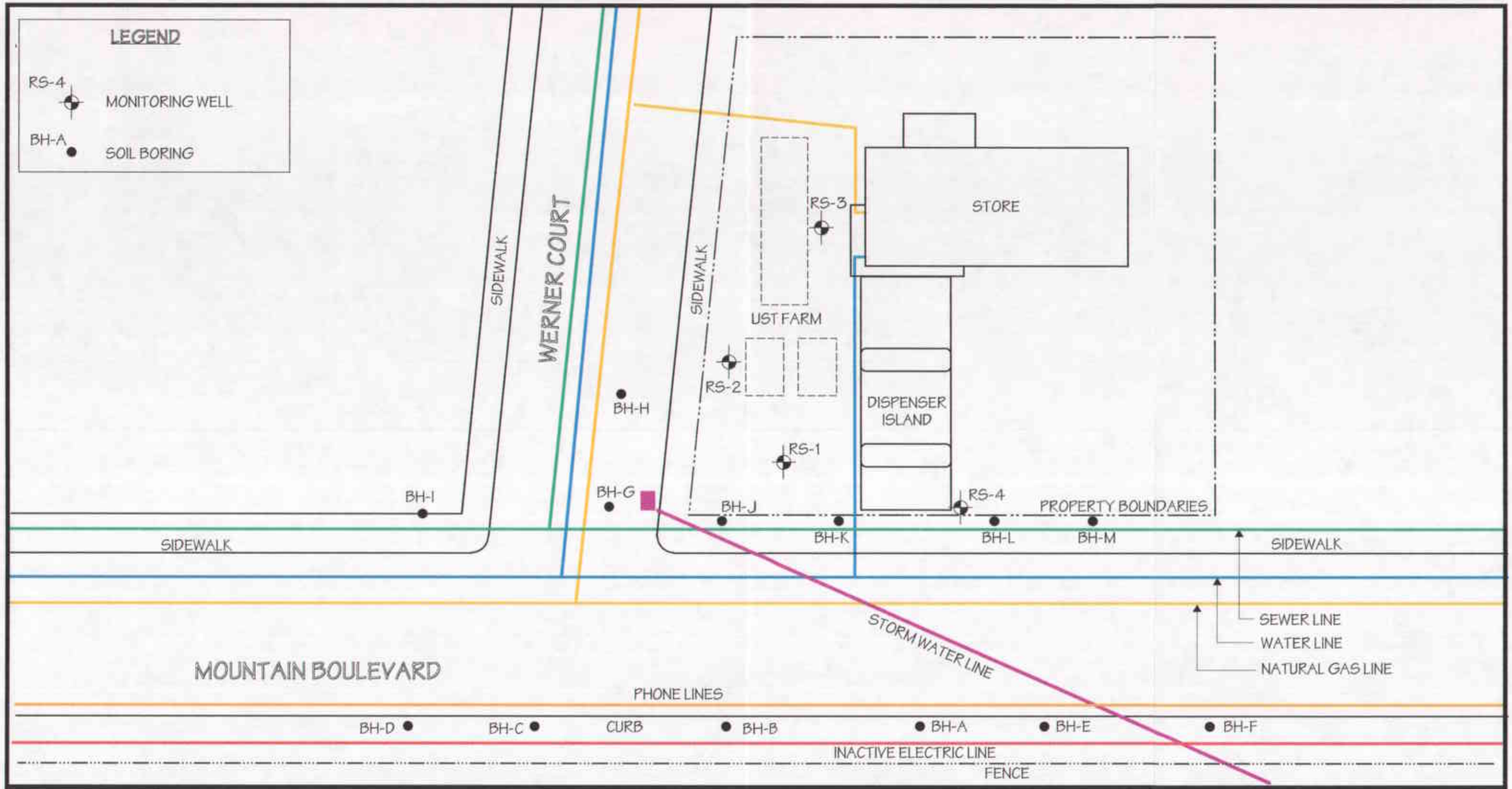
cc: Mr. Shahram Shahnazi

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

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



SITE LOCATION MAP	
2844 Mountain Boulevard Oakland, California	
Aqua Science Engineers	Figure 1



SOIL BORING LOCATION MAP
SITE PLAN

Shahnazi Property
2844 Mountain Boulevard
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

LEGEND

RS-4 — MONITORING WELL

BH-A (15,000) — SOIL BORING, WITH TPH-G CONCENTRATION IN PPB

100 — TPH-G ISOCONCENTRATION CONTOUR, IN PPB

WERNER COURT

SIDEWALK

SIDEWALK

UST FARM

STORE

RS-3

RS-2

FREE PRODUCT

RS-1

DISPENSER ISLAND

BH-H (960)

BH-G (<50,000)

BH-I (130)

BH-J (<25,000)

(<130,000)

BH-K

RS-4

PROPERTY BOUNDARIES

BH-L (120)

BH-M (<50)

SIDEWALK

SIDEWALK

1,000

10,000

100

STORM WATER LINE

SEWER LINE

WATER LINE

NATURAL GAS LINE

MOUNTAIN BOULEVARD

PHONE LINES

CURB

BH-D (<50)

BH-C (<100)

BH-B (<1,000)

BH-A (15,000)

BH-E (15,000)

BH-F (<50)

INACTIVE ELECTRIC LINE

FENCE

△ WATER SAMPLE COLLECTED FROM DRAIN IN RETAINING WALL

RETAINING WALL

HIGHWAY 13

NORTH

0 20 40 80

SCALE IN FEET

TPH-G ISOCONCENTRATION CONTOUR MAP

Shahnazi Property
2844 Mountain Boulevard
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 3

LEGEND

RS-4 — MONITORING WELL

BH-A (370) — SOIL BORING, WITH BENZNE CONCENTRATION IN PPB

100 — BENZENE ISOCONCENTRATION CONTOUR, IN PPB

UST FARM

STORE

RS-3

RS-2

RS-1

RS-4

FREE PRODUCT

DISPENSER ISLAND

WERNER COURT

SIDEWALK

SIDEWALK

(12) BH-H

(<500) BH-G

(<0.5) BH-I

BH-J (<1,300)

BH-K (6,400)

BH-L (<0.5)

BH-M (<0.5)

PROPERTY BOUNDARIES

SIDEWALK

SIDEWALK

1,000

100

10

1

100

10

1

STORM WATER LINE

SEWER LINE

WATER LINE

NATURAL GAS LINE

MOUNTAIN BOULEVARD

PHONE LINES

CURB

(<0.5) BH-D

BH-C (<1.0)

BH-B (<10)

BH-A (370)

BH-E (260)

BH-F (<0.5)

INACTIVE ELECTRIC LINE

FENCE

△ WATER SAMPLE COLLECTED FROM DRAIN IN RETAINING WALL

RETAINING WALL

HIGHWAY 13

NORTH

0 20 40 80

SCALE IN FEET

BENZENE ISOCONCENTRATION CONTOUR MAP

Shahnazi Property
2844 Mountain Boulevard
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 4

LEGEND

RS-4 — MONITORING WELL

BH-A (33) — SOIL BORING, WITH MTBE CONCENTRATION IN PPB

100 — MTBE ISOCONCENTRATION CONTOUR, IN PPB

WERNER COURT

SIDEWALK

SIDEWALK

UST FARM

RS-3

STORE

100

(250)
BH-H

RS-2

FREE PRODUCT

RS-1

DISPENSER ISLAND

BH-I (130)

BH-G
(130,000)

(170,000)
BH-J

(410,000)

RS-4

10

PROPERTY BOUNDARIES

SIDEWALK

BH-K

BH-L
(110)

BH-M
(<5.0)

SIDEWALK

100,000

10

10,000

STORM WATER LINE

SEWER LINE

WATER LINE

NATURAL GAS LINE

MOUNTAIN BOULEVARD

1,000

PHONE LINES

(<5.0) BH-D

BH-C (170)

BH-B (660)

BH-A (33)

BH-E (<250)

BH-F (<5.0)

INACTIVE ELECTRIC LINE

FENCE

△ WATER SAMPLE COLLECTED FROM DRAIN IN RETAINING WALL

RETAINING WALL

HIGHWAY 13

NORTH

0 20 40 80

SCALE IN FEET

MTBE - ISOCONCENTRATION CONTOUR MAP

Shahnazi Property
2844 Mountain Boulevard
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 5

TABLE ONE
Summary of Chemical Analysis of **SOIL** Samples
Petroleum Hydrocarbons
All results are in **parts per million**

Boring	Depth	TPH-Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-A	19.0'	**620***	< 0.62	< 0.62	**3.4**	**14**	< 0.62
BH-B	21.0'	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-C	20.0'	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	**0.2**
BH-D	19.0'	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-E	18.0'	< 10	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62
BH-F	19.0'	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-G	11.5'	**16***	< 0.62	< 0.62	< 0.62	< 0.62	**20**
BH-H	11.5'	**8.5**	**0.13**	< 0.005	**0.14**	**0.15**	**0.065**
BH-I	15.5'	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	**0.019**
BH-J	10.0'	**230***	< 1.2	< 1.2	< 1.2	< 1.2	**35**
BH-K	10.0'	**730**	< 3.1	< 3.1	**14**	**79**	**20**
BH-L	11.5'	**2.1***	< 0.005	< 0.005	< 0.005	< 0.005	**0.014**
BH-M	11.5'	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
PRG		NE	0.62	520	230	210	NE

Notes:
Detectable concentrations are in **bold**.
Non-detectable concentrations are noted by the less than sign (<) followed by the detection limit.

PRG = United States Environmental Protection Agency Region IX Preliminary Remediation Goal for Residential Soil.

NE = PRG has not been established.

* = Hydrocarbons do not match the laboratory gasoline standard

TABLE TWO

Summary of Chemical Analysis of **GROUNDWATER** Samples

Petroleum Hydrocarbons

All results are in **parts per billion**

Boring	TPH-Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-A	**15,000**	**370**	**780**	**790**	**4,600**	**33**
BH-B	< 1,000	< 10	**11**	< 10	**23**	**660**
BH-C	< 100	< 1.0	< 1.0	< 1.0	< 1.0	**170**
BH-D	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
BH-E	**15,000**	**260**	**27**	**890**	**4,000**	< 250
BH-F	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
BH-G	< 50,000	< 500	< 500	< 500	< 500	**130,000**
BH-H	**960**	**12**	**2.3**	**40**	**45**	**250**
BH-I	**130***	< 0.5	< 0.5	< 0.5	< 0.5	**130**
BH-J	< 25,000	< 1,300	< 1,300	< 1,300	< 1,300	**170,000**
BH-K	< 130,000	**6,400**	< 1,300	< 1,300	< 1,300	**410,000**
BH-L	**120***	< 0.5	< 0.5	< 0.5	< 0.5	**110**
BH-M	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
MCL	NE	1.0	150	680	1,750	13

Notes:

Detectable concentrations are in **bold**.

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

MCL = California Department of Health Services maximum contaminant level for drinking water.

NE = DHS MCL has not been established.

NE = MCL has not been established.

* = Hydrocarbons do not match the laboratory gasoline standard

APPENDIX A

ACHCSA Letters

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

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

June 10, 1999

STID 851

Mr. Shahram Shahnazi
140 Geldert Drive
Tiburon, CA 94520

Mr. John Rutherford
Desert Petroleum
P.O. Box 1601
Oxnard, CA 93030

RE: 2844 Mountain Boulevard, Oakland - Request for Soil and Water Investigation

Dear Messrs. Shahnazi and Rutherford:

I have completed review of the Western Geo-Engineers (WEGE) quarterly sampling and monitoring report dated March 8, 1999. This report also presents the results of a *revised* version of WEGE's earlier subsurface conduit study, which evaluates the potential for utility conduits and fault-related features to affect contaminant dispersal from the site. The conduit study reveals the potential for sanitary sewer trenches to contribute to contaminant migration away from the site. The fault element of the study was less conclusive.

Cumulative sampling and monitoring data clearly demonstrate that the releases from the underground storage tanks at this site have not been fully defined. The conduit study adds an additional layer of uncertainty to the plume definition issue. Consequently, plume definition must be achieved through completion of a soil and water investigation (SWI). Ultimately, an appropriate corrective action plan (CAP) will also be required, the scope of which will be substantially based on what is discovered following completion of the SWI.

You directed to submit a SWI work plan for the continued investigation of this gasoline release. The SWI work plan is due within 60 days of the date of this letter.

This phase of the SWI will involve intrusive investigations of the sanitary sewer trenches, as well as other on- and off-site locations. Consequently, you are encouraged to employ the use of so-called "rapid site assessment tools" (e.g., Geoprobe, etc.) for the initial stage of this investigation. Final, permanent well locations may then be determined based on these initial results.

Please contact me at (510) 567-6783 should you have any questions or comments.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

cc: Chuck Headlee, RWQCB
Dave Deaner, SWRCB UST Fund
Leroy Griffin, Oakland Fire Department
Jill Duerig, Alameda County District Attorney's Office

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

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700

October 29, 1999

STID 851

Mr. Shahram Shahnazi
140 Geldert Drive
Tiburon, CA 94520

RE: 2844 Mountain Boulevard, Oakland - Soil and Water Investigation

Dear Mr. Shahnazi:

I have completed review of the August 6, 1999 Aqua Science Engineers Inc. (ASE) soil and water investigation (SWI) work plan for the subject site. This phase of work is intended to: 1) quickly assess potential off-site groundwater impacts using push-tool technology (e.g., Geoprobe®, etc.), and 2) determine whether or not sewer line trenches serve as preferential pathways for plume migration away from the site. This SWI work plan was submitted in response to correspondence from this office dated June 10, 1999.

I have been in contact with ASE's Robert Kitay over the last couple of weeks to discuss boring placement strategies and timing for initiation of this two-pronged phase of the pending SWI. We concluded that three (3) additional borings were necessary for proper coverage (revised map is attached). We also concluded that implementation of the proposed scope of work should be in two stages. Those borings proposed for the opposite side of Mountain Boulevard should be completed as soon as the drillers can be scheduled; however, the sewer line assessment should only begin once groundwater levels have recovered in the early Spring of 2000, and utilities have been more precisely located.

The cited ASE work plan has been accepted as currently amended.

Please have your consultant implement the first stage of the SWI, as articulated above, within 45 days of the date of this letter.

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

February 9, 2000

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

STID 851

Mr. Shahram Shahnazi
140 Geldert Drive
Tiburon, CA 94520

RE: 2844 Mountain Boulevard, Oakland - Request for modification to approved Soil and Water Investigation scope of work

Dear Mr. Shahnazi:

I have completed review of the January 27, 2000 Aqua Science Engineers, Inc. (ASE) "interim" report that documents the completion of four (4) Geoprobe® borings (BH-A through BH-D) emplaced on the opposite side of Mt. Boulevard from the subject site. This work is a portion of that proposed in the ASE workplan dated August 6, 1999. The remaining borings, to be emplaced along the sanitary sewer trenches, are slated to be completed in Spring 2000.

ASE's January 27th interim report presents data that demonstrates some degree of fuel hydrocarbon impact to groundwater in off-site locations. Of particular note are the laboratory results from water sampled from boring BH-A, where 15,000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline (TPH-G), 370 ug/l benzene, and 4600 ug/l total xylenes, among other compounds, have been identified.

At this time you are requested to augment the remaining scope of the August 6, 1999 ASE workplan with the addition of two (2) more borings in locations south of BH-A, emplaced along the same alignment and spacing as the current boring string of BH-A to BH-D. These two additional borings may be completed at the same time as those planned for completion this Spring.

Please contact me at (510) 567-6783 should you have any questions or comments.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

cc: Chuck Headlee, RWQCB
Dave Deaner, SWRCB UST Fund
Leroy Griffin, Oakland Fire Department
Jill Duerig, Alameda County District Attorney's Office
John Rutherford, Desert Petroleum, P.O. Box 1601, Oxnard, CA 93032
Robert Kitay, Aqua Science Engineers, Inc., 208 W. Pintado Rd., Danville, CA 94526

Please contact me at (510) 567-6783 should you have any questions or comments, and to inform me when field work will begin.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

Attachment

cc: Chuck Headlee, RWQCB
Dave Deaner, SWRCB UST Fund **(w/ attachment)**
Leroy Griffin, Oakland Fire Department
Jill Duerig, Alameda County District Attorney's Office
John Rutherford, Desert Petroleum Inc., **(w/ attachment)**
P.O. Box 1601, Oxnard, CA 93032
Robert Kitay, Aqua Science Engineers Inc.
208 West El Pintado, Danville, CA 94526

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) 567-6700
FAX (510) 337-9335

February 9, 2000

STID 851

Mr. Shahram Shahnazi
140 Geldert Drive
Tiburon, CA 94520

RE: 2844 Mountain Boulevard, Oakland - Request for modification to approved Soil and Water Investigation scope of work

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ASE's January 27th interim report presents data that demonstrates some degree of fuel hydrocarbon impact to groundwater in off-site locations. Of particular note are the laboratory results from water sampled from boring BH-A, where 15,000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline (TPH-G), 370 ug/l benzene, and 4600 ug/l total xylenes, among other compounds, have been identified.

At this time you are requested to augment the remaining scope of the August 6, 1999 ASE workplan with the addition of two (2) more borings in locations south of BH-A, emplaced along the same alignment and spacing as the current boring string of BH-A to BH-D. These two additional borings may be completed at the same time as those planned for completion this Spring.

Please contact me at (510) 567-6783 should you have any questions or comments.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

cc: Chuck Headlee, RWQCB
Dave Deaner, SWRCB UST Fund
Leroy Griffin, Oakland Fire Department
Jill Duerig, Alameda County District Attorney's Office
John Rutherford, Desert Petroleum, P.O. Box 1601, Oxnard, CA 93032
Robert Kitay, Aqua Science Engineers, Inc., 208 W. Pintado Rd., Danville, CA 94526

APPENDIX B

Permits

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PERMIT NUMBER	SITE ADDRESS/LOCATION
X0000013	2898 MOUNTAIN BL.
APPROX. START DATE / APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number)
CONTRACTOR'S LICENSE # AND CLASS: 487000	CITY BUSINESS TAX #

ATTENTION:

1) State law requires that the contractor/owner call *Underground Service Alert (USA)* two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: _____

2) **48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.**

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. _____, B&PC for this reason _____

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

R. M. C. Kitney — 1-5-00

Signature of Permittee ☐ Agent for ☒ Contractor ☐ Owner — Date

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☐ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☒ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☒ NO
ISSUED BY		DATE ISSUED 1-5-00	

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PERMIT NUMBER		SITE ADDRESS/LOCATION
X00 0340		2848 MOUNTAIN BL
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number)
CONTRACTOR'S LICENSE # AND CLASS		CITY BUSINESS TAX #

ATTENTION:

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2) 48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.

OWNER/BUILDER

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☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

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☐ I am exempt under Sec. _____, B&PC for this reason _____.

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I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

X (Signature) 4/12/00

Signature of Permittee ☐ Agent for ☒ Contractor ☐ Owner — Date

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☒ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☒ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☒ NO
ISSUED BY J. Curtis		DATE ISSUED 4-12-00	

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

ON WERNER

PERMIT NUMBER		SITE ADDRESS/LOCATION
X00 00339		2848 MOUNTAIN BL
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number)
CONTRACTOR'S LICENSE # AND CLASS		CITY BUSINESS TAX #

ATTENTION:

1) State law requires that the contractor/owner call *Underground Service Alert (USA)* two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: _____

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NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

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X. [signature] 4/12/00

Signature of Permittee ☐ Agent for ☑ Contractor ☐ Owner Date

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☒ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☒ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☒ NO
ISSUED BY J. Curtis		DATE ISSUED 4-12-00	

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544
510-670-5554
510-782-1939 FAX#

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2944 Mountain Blvd.
Oakland, CA

California Coordinates Source _____ ft. Accuracy ± ___ ft.
CCN _____ n. CCE _____ ft.
APN _____

CLIENT
Name Shahram Shahnaei
Address 1005 Northgate Drive Phone (415) 492-3958
City San Rafael, CA 94903 Zip 94903

APPLICANT
Name Aqua Science Engineers Inc. Fax (925) 837-4853
Address 208 W. El Pintado Phone (925) 820-9391
City Danville, CA Zip 94526

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☒
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other _____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☒ Geoprobe		

DRILLER'S LICENSE NO. C-57 487000

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

GEOTECHNICAL PROJECTS
Number of Borings 9 Maximum
Hole Diameter 2" in. Depth 30 ft.

ESTIMATED STARTING DATE 4/18/00
ESTIMATED COMPLETION DATE 4/19/00

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Lori Reed DATE 4-11-00

FOR OFFICE USE
PERMIT NUMBER W00-167
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources - Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(D) GEOTECHNICAL Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper 3 ft replace in kind or with compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED Frank A. Coli DATE 4/13/00

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2844 Mountain Blvd
Oakland

California Coordinates Source ____ Accuracy ± ____
CCN ____ ft. CCE ____ ft.
APN ____

CLIENT
Name Shahram Shahnazi
Address 140 Goddard Drive Phone (415) 902-3558
City Tiburon, CA Zip 94920

APPLICANT
Name Aqua Science Engineers, Inc.
Attn: Robert Kitay Fax (925) 939-4853
Address 208 West El Pintado Phone (925) 820-9391
City Danville, CA Zip 94526

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☒
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other ____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☐		

DRILLER'S LICENSE NO. C-57 487000

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth ____ ft.
Surface Seal Depth ____ ft. Number ____

GEOTECHNICAL PROJECTS
Number of Borings 4 Maximum
Hole Diameter 2 in. Depth 30 ft

ESTIMATED STARTING DATE 1-7-00
ESTIMATED COMPLETION DATE 1-7-00

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

APPLICANT'S SIGNATURE Robert E. Kitay DATE 1-5-00

FOR OFFICE USE

PERMIT NUMBER W00-014
WELL NUMBER ____
APN ____

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2) Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
(3) Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(D) GEOTECHNICAL cement grout
Backfill bore hole with ~~compacted cuttings~~ or heavy bentonite and upper two feet with compacted material. ~~In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings~~

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

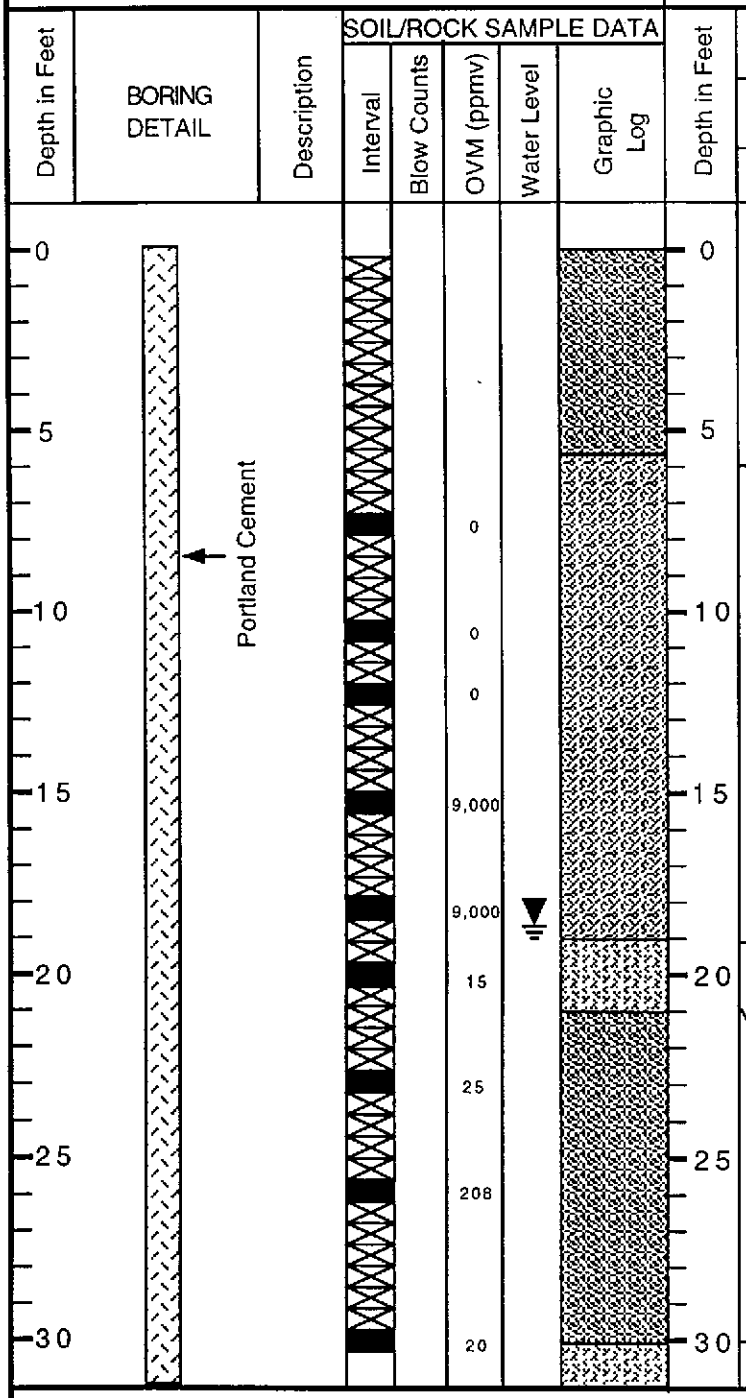
APPROVED Frank L Cook DATE 1-07-2000

APPENDIX C

Boring Logs

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-E
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 2
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 18, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA	
Depth of Water First Encountered: 19'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 36'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler



DESCRIPTION OF LITHOLOGY
standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
Clayey SILT (ML); brown to black; moist; very stiff; 60% silt; 30% clay; 10% fine sand; trace gravel; medium plasticity; low estimated K; no odor
Sandy SILT (ML); dark brown to light brown; damp; medium stiff; 70% silt; 30% fine to coarse sand; low estimated K; no odor
moderate hydrocarbon odor at 15'
moderate hydrocarbon odor at 18'
Silty SAND (SM); light brown to orange brown; damp; very stiff; 60% fine to coarse sand; 40% silt; non-plastic; low estimated K; no odor
Clayey SILT (ML); brown; damp; very stiff; 60% silt; 30% clay; 10% fine to coarse sand; low plasticity; very low estimated K; no odor
slight hydrocarbon odor

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS | BORING: BH-E

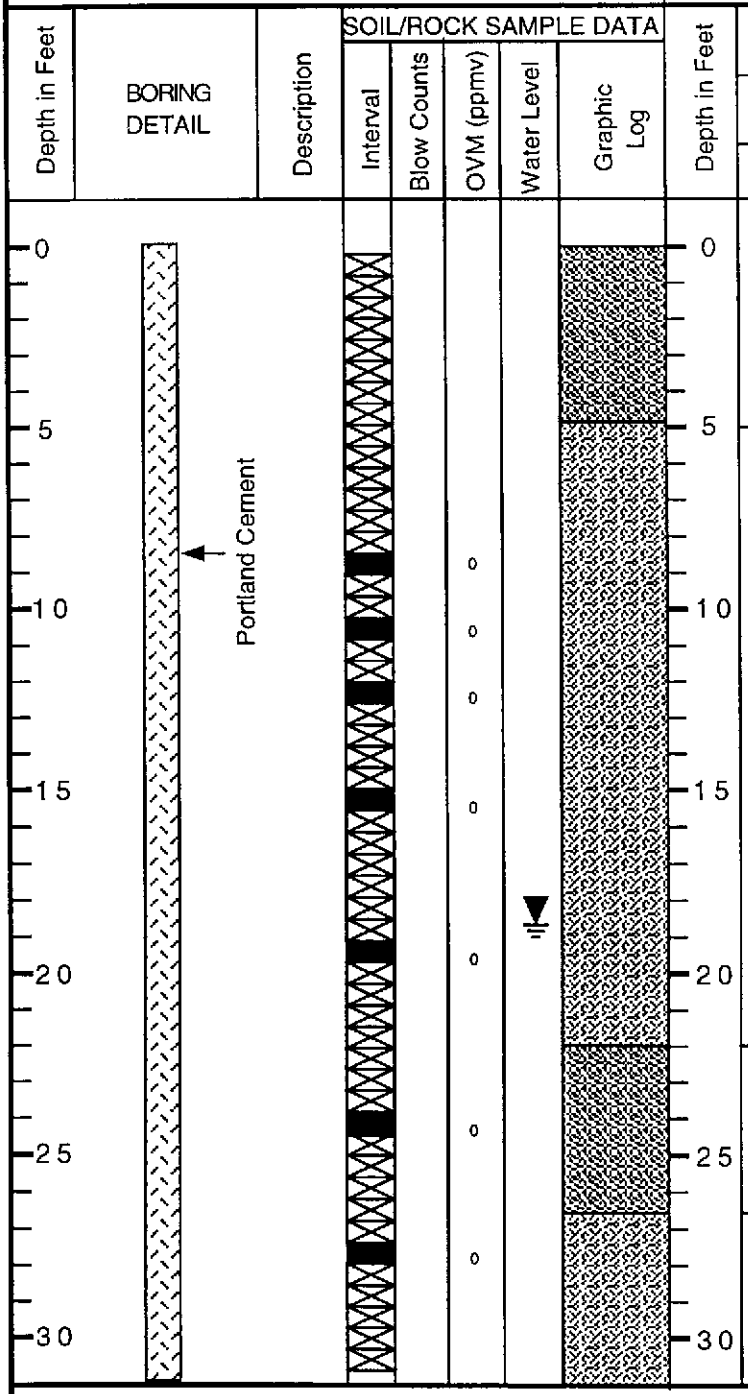
Project Name: Compare Prices | Project Location: 2844 Mountain Blvd., Oakland, CA | Page 2 of 2

Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA: Interval	Blow Counts	OVM (ppmv)	Water Level	Graphic Log	Depth in Feet	DESCRIPTION OF LITHOLOGY (standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.)
35					20			35	Sandy SILT (ML); gray; wet; very stiff; 60% silt; 30% fine to coarse sand; 5% clay; 5% gravel; trace organics; low plasticity; low estimated K; slight hydrocarbon odor
									End of Boring at 36'
40								40	
45								45	
50								50	
55								55	
60								60	
65								65	

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-F
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 2
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 18, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA	
Depth of Water First Encountered: 19'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 40'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

Clayey SILT (ML); black; damp to moist; medium stiff; 70% silt; 25% clay; 5% fine to coarse sand; low plasticity; low estimated K; no odor

Sandy SILT (ML); light brown; damp; medium stiff; 70% silt; 30% fine to medium sand; non-plastic; low estimated K; no odor

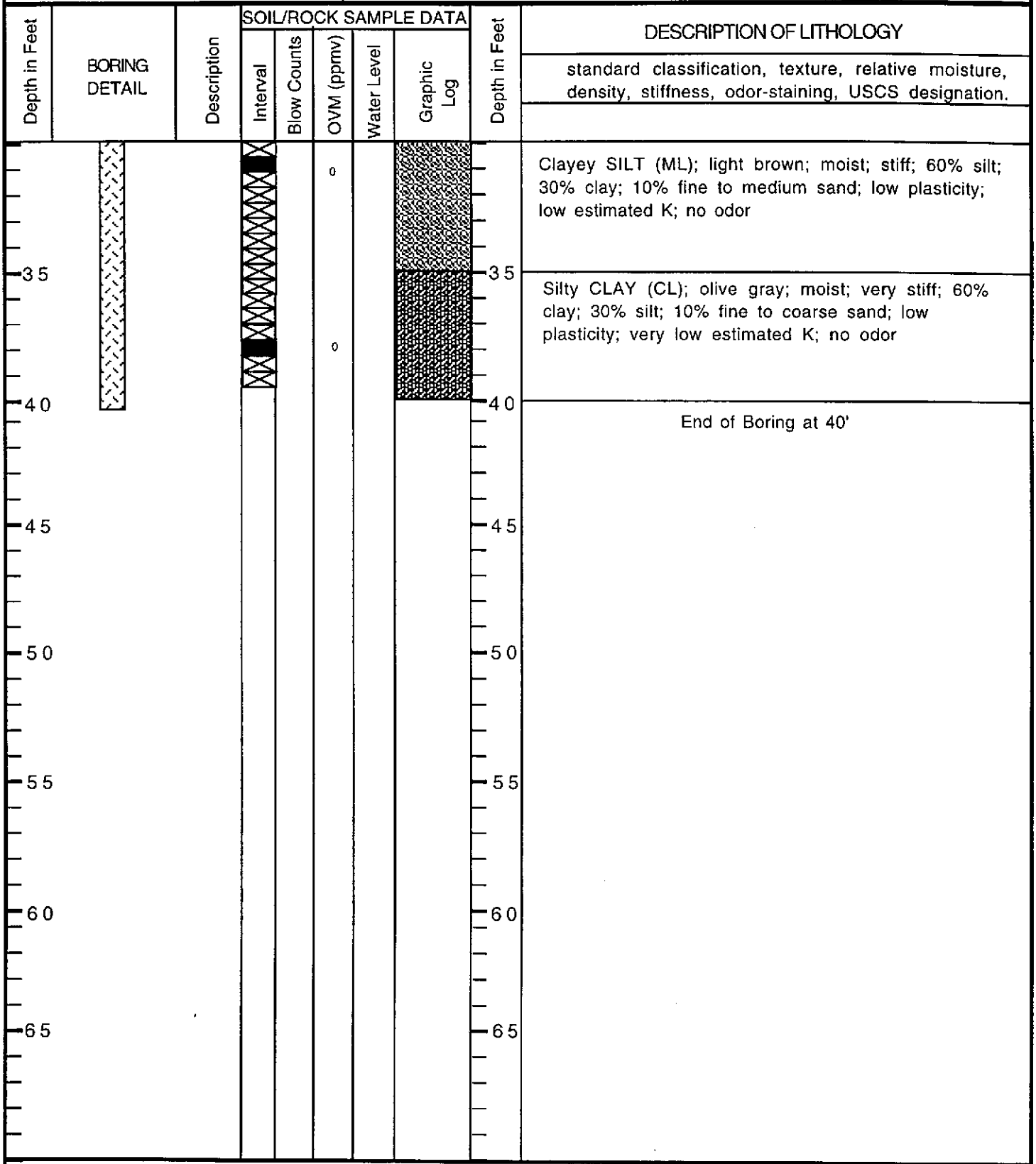
60% silt; 20% clay; 20% fine to coarse sand; moist; low estimated K; no odor

Clayey SILT (ML); light brown; moist; stiff; 60% silt; 30% clay; 10% fine to coarse sand; low plasticity; low estimated K; no odor

Sandy SILT (ML); light brown speckled gray; moist; stiff; 60% silt; 30% fine to coarse sand; 10% clay; low plasticity; low estimated K; no odor

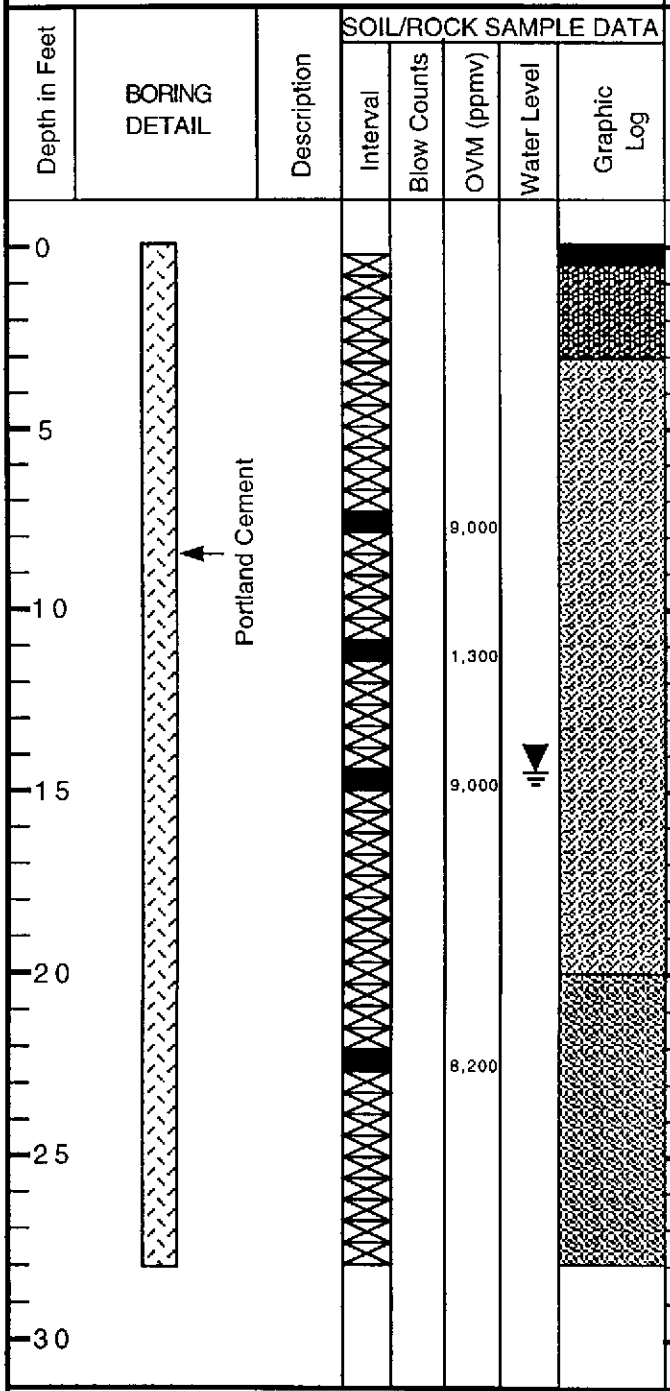
AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS	BORING: BH-F
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA



SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-G
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 18, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA	
Depth of Water First Encountered: 14.5'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 28'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler

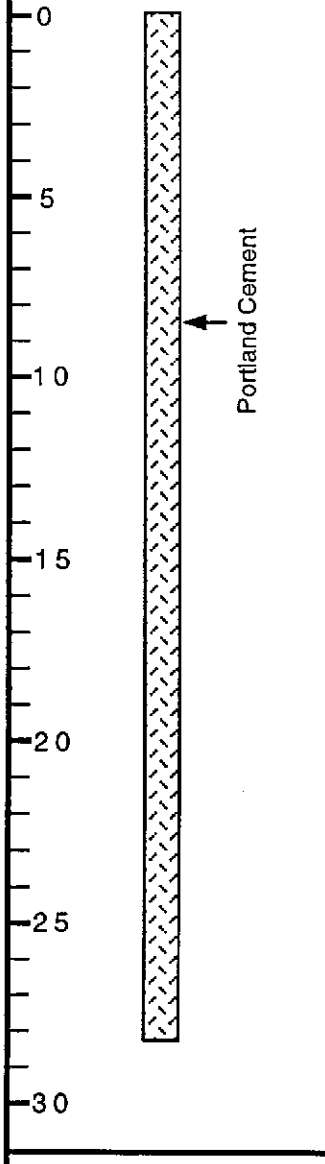


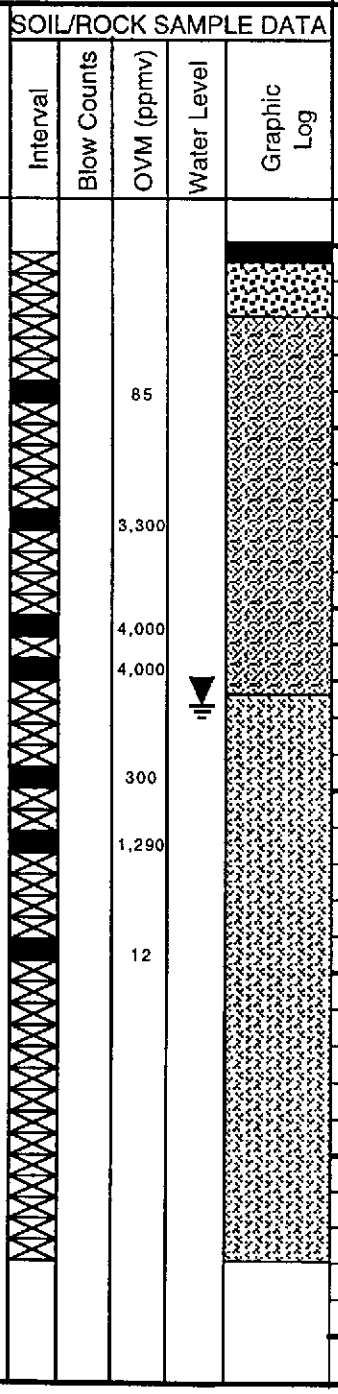
DESCRIPTION OF LITHOLOGY
standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
Asphalt
Silty CLAY (CL); black; moist; very stiff; 60% clay; 30% silt; 10% fine to coarse sand; low plastcity; low estimated K; no odor
Sandy SILT (ML); light brown to olive gray; damp; very stiff; 70% silt; 30% fine to coarse sand; non-plastic; low estimated K; moderate hydrocarbon odor
60% silt; 25% fine to coarse sand; 10% silt; 5% gravel to 0.5" diameter; low plastcity; very low estimated K; strong hydrocarbon odor
wet at 14.5'
Clayey SILT (ML); light brown; moist; very stiff; 60% silt; 30% clay; 10% fine to coarse sand; low plasticity; low estimated K; slight hydrocarbon odor
End of Boring at 28'

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-H
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 18, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA	
Depth of Water First Encountered: 12.5'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 28'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler





DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

Asphalt

Gravelly SAND (SW); brown; damp; very stiff; 60% fine to coarse sand; 30% gravel to 0.5" diameter; 10% silt; non-plastic; low estimated K; no odor

Sandy SILT (ML); brown to olive gray; damp; stiff; 60% silt; 40% fine to coarse sand; non-plastic; low estimated K; slight hydrocarbon odor

slight hydrocarbon odor at 7.5'

slight hydrocarbon odor a 10'

moderate hydrocarbon odor at 12'

Silty SAND (SM); olive gray; wet; stiff; 60% fine to medium sand; 40% silt; non-plastic; medium estimated K; slight hydrocarbon odor

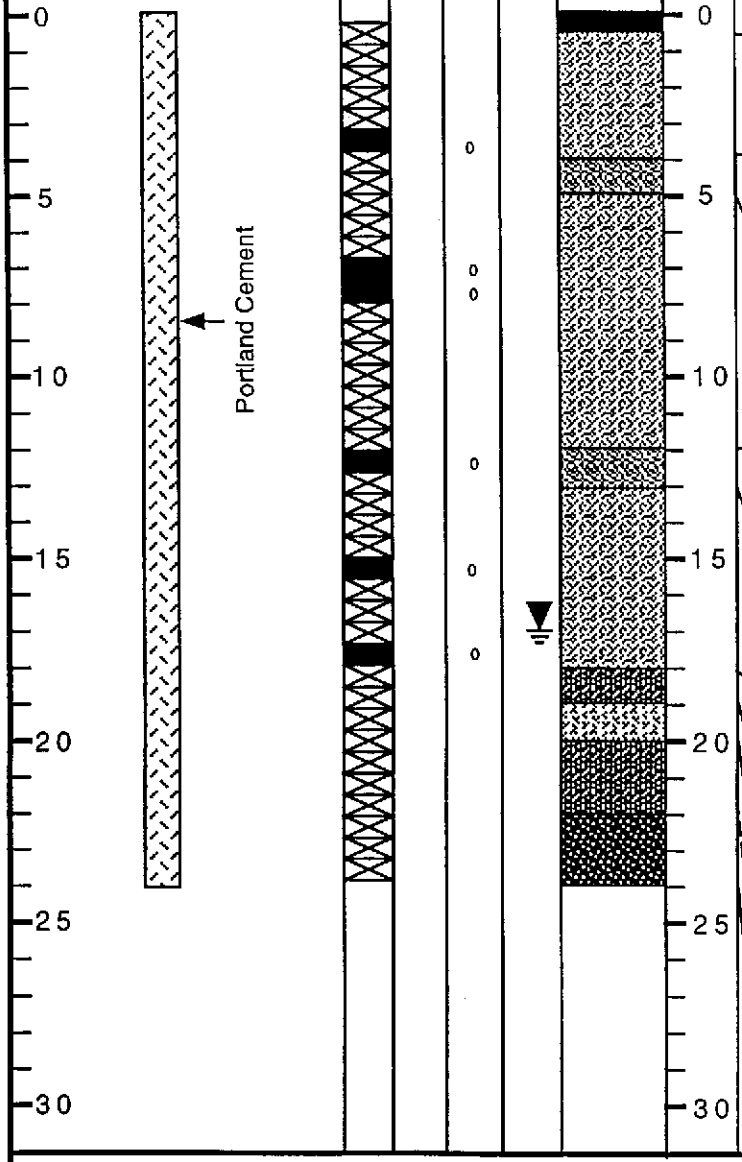
saturated; 60% fine to medium sand; 35% silt; 5% clay; non-plastic; high estimated K; no odor

End of Boring at 28'

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-I
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 19, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA	
Depth of Water First Encountered: 17'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 24'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

Concrete

Sandy SILT (ML); brown; damp; stiff; 70% silt; 30% fine to coarse sand; non-plastic; low estimated K; no odor

Clayey SILT (ML); dark brown; moist; stiff; 70% silt; 20% clay; 10% fine to coarse sand; low plasticity; low estimated K; no odor

Sandy SILT (ML); dark brown; moist; stiff; 60% silt; 30% fine to coarse sand; 10% clay; low plasticity; low estimated K; no odor

olive gray

Clayey SILT (ML); dark brown; moist; stiff; 60% silt; 40% clay; low plasticity; very low estimated K; no odor

Sandy SILT (ML); brown; moist; stiff; 60% silt; 30% fine to coarse sand; 5% clay; 5% gravel to 0.5" diameter; non-plastic; low estimated K; no odor
wet at 17'

Silty CLAY (CL); olive gray; moist; stiff; 60% clay; 40% silt; low plasticity; very low estimated K; no odor

Silty SAND (SM); brown; wet; stiff; 70% fine to coarse sand; 30% silt; non-plastic; medium estimated K; no odor

Silty CLAY (CL); olive to brown. very moist; stiff; 60% clay; 30% silt; 10% fine to coarse sand; medium plasticity; very low estimated K; no odor

Gravelly CLAY (CL); olive gray; very moist; stiff; 60% clay; 25% gravel to 1" diameter; 10% fine to coarse sand; 5% silt; low plasticity; very low estimated K; no odor

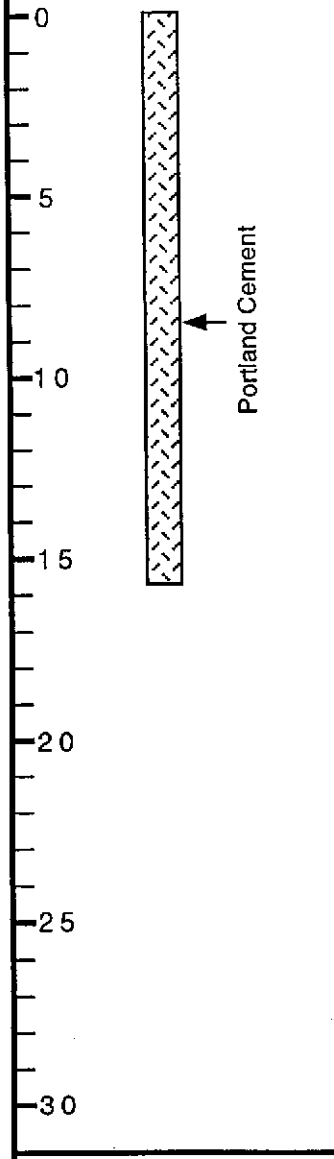
End of Boring at 24'

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-J
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 18, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA

Depth of Water First Encountered: 12'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 16'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler

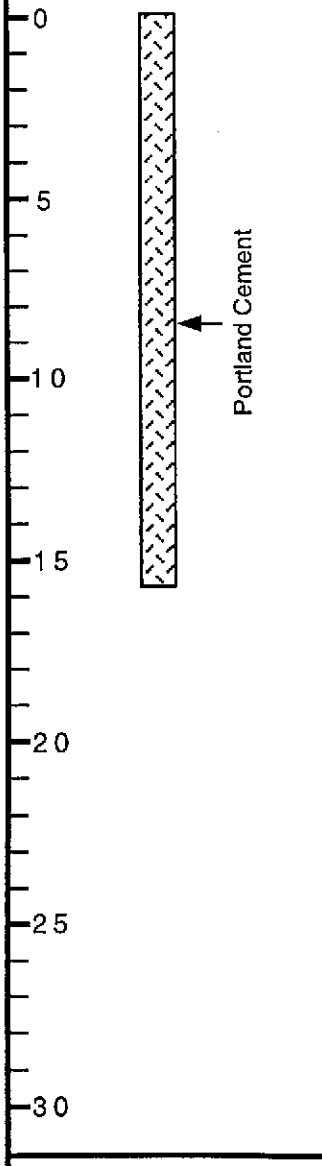


Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Concrete
	Sandy SILT (ML); brown; damp; stiff; 70% silt; 30% fine to medium sand; non-plastic; low estimated K; no odor
5	hydrocarbon odor at 6'
	Silty SAND (SM); green; very moist; stiff; 60% fine to coarse sand; 40% silt; non-plastic; medium estimated K; strong hydrocarbon odor
	wet at 12'
	very strong hydrocarbon odor at 13'
15	Sandy SILT (ML); olive to light brown; stiff; 70% silt; 30% fine to medium sand; non-plastic; low estimated K; hydrocarbon odor
	End of Boring at 16'
20	
25	
30	

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-K
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 19, 2000	Checked By: Robert E. Kitay, R.G.

WATER AND WELL DATA	
Depth of Water First Encountered: 12'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 16'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

Concrete

Sandy SILT (ML); dark brown; damp; medium stiff; 70% silt; 30% fine to medium sand; non-plastic; low estimated K; no odor

strong hydrocarbon odor at 6'

Clayey SILT (ML); black; moist; very stiff; 60% silt; 40% clay; very low plasticity; very low estimated K; stong hydrocarbon odor

Sandy SILT (ML); olive gray; very moist; stiff; 60% silt; 40% fine to coarse sand; non-plastic; medium estimated K; strong hydrocarbon odor; (FILL)
wet at 12'

Silty SAND (SM); olive gray; saturated; stiff; 70% fine to coarse sand; 20% silt; 10% gravel to 0.5" diameter; non-plastic; high estimated K; strong hydrocarbon odor; (FILL)

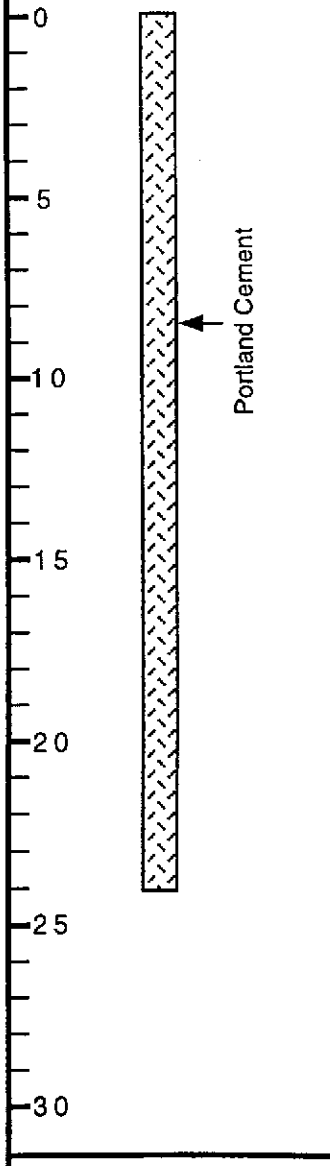
Sandy SILT (ML); brown; damp; 70% silt; 30% fine to medium sand; non-plastic; low estimated K; slight hydrocarbon odor

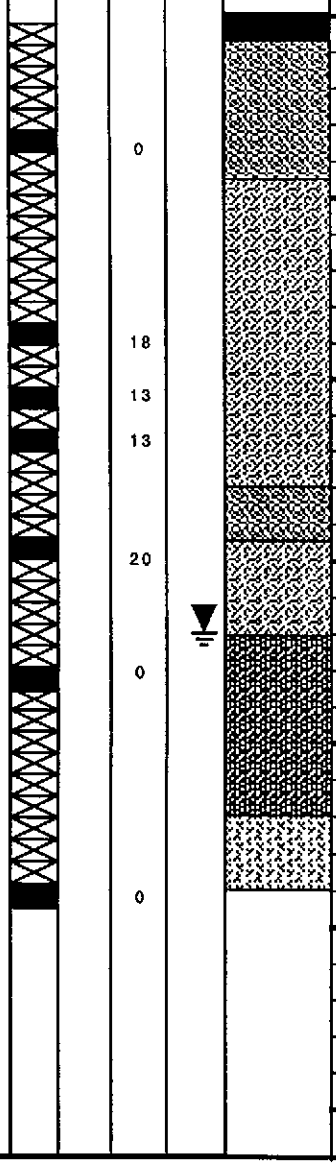
End of Boring at 16'

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-L
Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 19, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA	
Depth of Water First Encountered: 17'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 24'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler





Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Concrete
	Clayey SILT (ML); black; damp; stiff; 70% silt; 25% clay; 5% fine to medium sand; low plasticity; low estimated K; no odor
5	Sandy SILT (ML); light brown; damp; stiff; 70% silt; 30% fine to coarse sand; low estimated K; non-plastic; no odor
10	olive gray; mild hydrocarbon odor from 10' to 11'
15	Clayey SILT (ML); olive gray; moist; stiff; 60% silt; 40% clay; low plasticity; very low estimated K; slight hydrocarbon odor
	Sandy SILT (ML); dark brown; moist; stiff; 60% silt; 40% fine to coarse sand; non-plastic; low estimated K; slight hydrocarbon odor
20	Silty CLAY (CL); gray to light brown; moist; stiff; 70% clay; 30% silt; low plasticity; low estimated K; no odor
	Silty SAND (SM); dark brown; moist; stiff; 60% fine to coarse sand; 40% silt; non-plastic; medium estimated K; no odor
25	End of Boring at 24'
30	

AQUA SCIENCE ENGINEERS, INC.

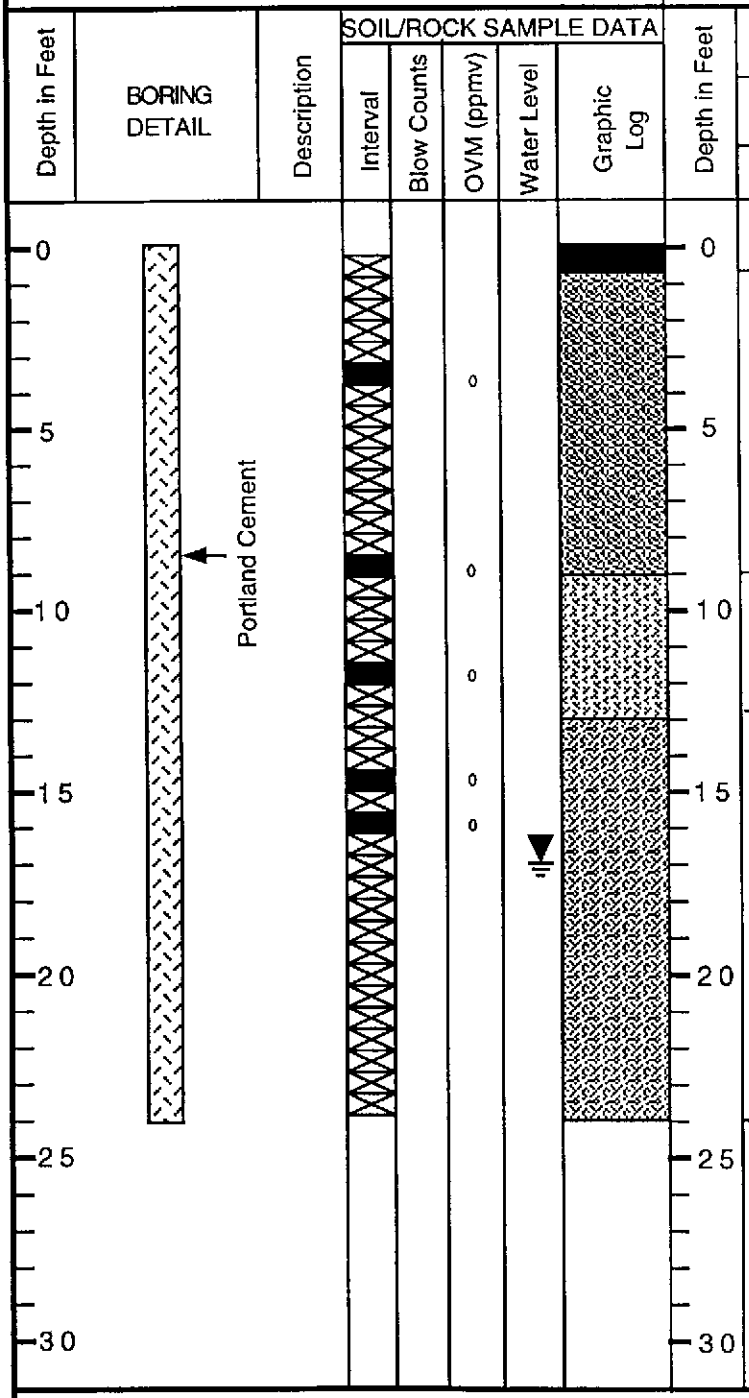
SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS

BORING: BH-M

Project Name: Compare Prices	Project Location: 2844 Mountain Blvd., Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Ian T. Reed	Date Drilled: April 19, 2000	Checked By: Robert E. Kitay, R.G. RK

WATER AND WELL DATA

Depth of Water First Encountered: 17'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 24'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

Concrete

Sandy SILT (ML); light brown to dark brown; damp; stiff; 70% silt; 30% fine to coarse sand; non-plastic; low estimated K; no odor

trace gravel to 0.5" diameter

Silty SAND (SM); light brown; moist; stiff; 60% fine to coarse sand; 40% silt; non-plastic; medium estimated K; no odor

Sandy SILT (ML); light brown; moist; stiff; 60% silt; 30% fine to coarse sand; 10% clay; low plasticity; low estimated K; no odor

wet at 17'

saturated at 20'

End of Boring at 24'

AQUA SCIENCE ENGINEERS, INC.

APPENDIX D

Certified Analytical Report
and
Chain of Custody Documentation
Soil Samples

Aqua Science Engineers, Inc.
208 West El Pintado Road
Danville, CA 94526

Attn.: Mr. Ian T. Reed

Project: 3538
Compare Prices-Shahnazi

Dear Mr. Reed,

Attached is our report for your samples received on Thursday April 20, 2000
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after May 20, 2000 unless you have requested otherwise. We appreciate the opportunity to be of service to you.
If you have any questions, please call me at (925) 484-1919. You can also contact me via email.
My email address is: vvancil@chromalab.com

Sincerely,

Vincent Vancil

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

Gas/BTEX and MTBE

Aqua Science Engineers, Inc.	✉ 208 West El Pintado Road Danville, CA 94526
Attn: Ian T. Reed	Phone: (925) 820-9391 Fax: (925) 837-4853
Project #: 3538	Project: Compare Prices-Shahnazi

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-F-19`	Soil	04/18/2000	2
BH-H-11.5`	Soil	04/18/2000	4
BH-I-15.5	Soil	04/19/2000	5
BH-L-11.5`	Soil	04/19/2000	8
BH-M-11.5	Soil	04/19/2000	9

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-F-19`**	Lab Sample ID:	**2000-04-0331-002**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 12:37
Sampled:	04/18/2000	QC-Batch:	2000/04/21-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/21/2000 12:37	
Benzene	ND	0.0050	mg/Kg	1.00	04/21/2000 12:37	
Toluene	ND	0.0050	mg/Kg	1.00	04/21/2000 12:37	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/21/2000 12:37	
Xylene(s)	ND	0.0050	mg/Kg	1.00	04/21/2000 12:37	
MTBE	ND	0.0050	mg/Kg	1.00	04/21/2000 12:37	
Surrogate(s)						
Trifluorotoluene	104.8	53-125	%	1.00	04/21/2000 12:37	
4-Bromofluorobenzene-FID	88.6	58-124	%	1.00	04/21/2000 12:37	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-H-11.5'**	Lab Sample ID:	**2000-04-0331-004**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 13:08
Sampled:	04/18/2000	QC-Batch:	2000/04/21-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	8.5	1.0	mg/Kg	1.00	04/21/2000 13:08	
Benzene	0.13	0.0050	mg/Kg	1.00	04/21/2000 13:08	
Toluene	ND	0.0050	mg/Kg	1.00	04/21/2000 13:08	
Ethyl benzene	0.14	0.0050	mg/Kg	1.00	04/21/2000 13:08	
Xylene(s)	0.15	0.0050	mg/Kg	1.00	04/21/2000 13:08	
MTBE	0.065	0.0050	mg/Kg	1.00	04/21/2000 13:08	
Surrogate(s)						
4-Bromofluorqbenzene	97.6	58-124	%	1.00	04/21/2000 13:08	
4-Bromofluorobenzene-FID	129.3	58-124	%	1.00	04/21/2000 13:08	sh

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-I-15.5**	Lab Sample ID:	**2000-04-0331-005**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 13:39
Sampled:	04/19/2000	QC-Batch:	2000/04/21-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/21/2000 13:39	
Benzene	ND	0.0050	mg/Kg	1.00	04/21/2000 13:39	
Toluene	ND	0.0050	mg/Kg	1.00	04/21/2000 13:39	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/21/2000 13:39	
Xylene(s)	ND	0.0050	mg/Kg	1.00	04/21/2000 13:39	
MTBE	0.019	0.0050	mg/Kg	1.00	04/21/2000 13:39	
Surrogate(s)						
Trifluorotoluene	70.3	53-125	%	1.00	04/21/2000 13:39	
Trifluorotoluene-FID	66.9	53-125	%	1.00	04/21/2000 13:39	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-L-11.5`**	Lab Sample ID:	**2000-04-0331-008**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/24/2000 10:27
Sampled:	04/19/2000	QC-Batch:	2000/04/24-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	2.1	1.0	mg/Kg	1.00	04/24/2000 10:27	g
Benzene	ND	0.0050	mg/Kg	1.00	04/24/2000 10:27	
Toluene	ND	0.0050	mg/Kg	1.00	04/24/2000 10:27	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/24/2000 10:27	
Xylene(s)	ND	0.0050	mg/Kg	1.00	04/24/2000 10:27	
MTBE	0.014	0.0050	mg/Kg	1.00	04/24/2000 10:27	
Surrogate(s)						
Trifluorotoluene	90.3	53-125	%	1.00	04/24/2000 10:27	
Trifluorotoluene-FID	68.5	53-125	%	1.00	04/24/2000 10:27	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-M-11.5**	Lab Sample ID:	**2000-04-0331-009**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 16:48
Sampled:	04/19/2000	QC-Batch:	2000/04/21-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	04/21/2000 16:48	
Benzene	ND	0.0050	mg/Kg	1.00	04/21/2000 16:48	
Toluene	ND	0.0050	mg/Kg	1.00	04/21/2000 16:48	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	04/21/2000 16:48	
Xylene(s)	ND	0.0050	mg/Kg	1.00	04/21/2000 16:48	
MTBE	ND	0.0050	mg/Kg	1.00	04/21/2000 16:48	
Surrogate(s)						
Trifluorotoluene	79.6	53-125	%	1.00	04/21/2000 16:48	
Trifluorotoluene-FID	60.1	53-125	%	1.00	04/21/2000 16:48	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank | **Soil** | **QC Batch # 2000/04/21-01.02**

MB: 2000/04/21-01.02-001

Date Extracted: 04/21/2000 06:41

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	04/21/2000 06:41	
Benzene	ND	0.0050	mg/Kg	04/21/2000 06:41	
Toluene	ND	0.0050	mg/Kg	04/21/2000 06:41	
Ethyl benzene	ND	0.0050	mg/Kg	04/21/2000 06:41	
Xylene(s)	ND	0.0050	mg/Kg	04/21/2000 06:41	
MTBE	ND	0.0050	mg/Kg	04/21/2000 06:41	
Surrogate(s)					
Trifluorotoluene	97.8	53-125	%	04/21/2000 06:41	
4-Bromofluorobenzene-FID	102.8	58-124	%	04/21/2000 06:41	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank | **Soil** | **QC Batch # 2000/04/24-01.02**

MB: 2000/04/24-01.02-001

Date Extracted: 04/24/2000 06:35

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	04/24/2000 06:35	
Benzene	ND	0.0050	mg/Kg	04/24/2000 06:35	
Toluene	ND	0.0050	mg/Kg	04/24/2000 06:35	
Ethyl benzene	ND	0.0050	mg/Kg	04/24/2000 06:35	
Xylene(s)	ND	0.0050	mg/Kg	04/24/2000 06:35	
MTBE	ND	0.0050	mg/Kg	04/24/2000 06:35	
Surrogate(s)					
Trifluorotoluene	108.0	53-125	%	04/24/2000 06:35	
4-Bromofluorobenzene-FID	100.2	58-124	%	04/24/2000 06:35	

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) Soil **QC Batch # 2000/04/24-01.02**

LCS: 2000/04/24-01.02-002 Extracted: 04/24/2000 07:06 Analyzed 04/24/2000 07:06

LCSD: 2000/04/24-01.02-003 Extracted: 04/24/2000 07:37 Analyzed 04/24/2000 07:37

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	0.466	0.463	0.500	0.500	93.2	92.6	0.6	75-125	35		
Benzene	0.0995	0.0929	0.1000	0.1000	99.5	92.9	6.9	77-123	35		
Toluene	0.0954	0.0925	0.1000	0.1000	95.4	92.5	3.1	78-122	35		
Ethyl benzene	0.0928	0.0924	0.1000	0.1000	92.8	92.4	0.4	70-130	35		
Xylene(s)	0.276	0.276	0.300	0.300	92.0	92.0	0.0	75-125	35		
Surrogate(s)											
Trifluorotoluene	481	446	500	500	96.2	89.2		53-125			
4-Bromofluorobenzene-FI	520	503	500	500	104.0	100.6		58-124			

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Matrix Spike (MS / MSD) **Soil** **QC Batch # 2000/04/21-01.02**

Sample ID: **BH-M-11.5** Lab Sample ID: 2000-04-0331-009

MS: 2000/04/21-01.02-004 Extracted: 04/21/2000 17:19 Analyzed: 04/21/2000 17:19 Dilution: 1.0

MSD: 2000/04/21-01.02-005 Extracted: 04/21/2000 17:51 Analyzed: 04/21/2000 17:51 Dilution: 1.0

Compound	Conc. [mg/Kg]			Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	MS	MSD	Sample	MS	MSD	MS	MSD	[%]	Recovery	RPD	MS	MSD
Gasoline	0.277	0.323	ND	0.437	0.478	63.4	67.6	6.4	65-135	35	mso	
Benzene	0.0591	0.0660	ND	0.0874	0.0956	67.6	69.0	2.0	65-135	35		
Toluene	0.0586	0.0669	ND	0.0874	0.0956	67.0	70.0	4.4	65-135	35		
Ethyl benzene	0.0580	0.0686	ND	0.0874	0.0956	66.4	71.8	7.8	65-135	35		
Xylene(s)	0.170	0.202	ND	0.262	0.287	64.9	70.4	8.1	65-135	35	mso	
Surrogate(s)												
Trifluorotoluene	354	373		500	500	70.8	74.6		53-125			
Trifluorotoluene-FID	372	313		500	500	74.4	62.6		53-125			

To: **Aqua Science Engineers, Inc.**

Attn:Ian T. Reed

Test Method: 8015M
8020

Prep Method: 5030

Legend & Notes

Gas/BTEX and MTBE

QC Compound Flags

mso

MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

Analyte Flags

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

sh

Surrogate recoveries were higher than QC limits due to matrix interference.

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

Gas/BTEX (Methanol Extraction)

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #: 3538

Project: Compare Prices-Shahnazi

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-E-18`	Soil	04/18/2000	1
BH-G-11.5`	Soil	04/18/2000	3
BH-J-10`	Soil	04/19/2000	6
BH-K-10`	Soil	04/19/2000	7

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX (Methanol Extraction)

Sample ID:	**BH-E-18`**	Lab Sample ID:	**2000-04-0331-001**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 23:32
Sampled:	04/18/2000	QC-Batch:	2000/04/21-05.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	13	10	mg/Kg	1.00	04/21/2000 23:32	
Benzene	ND	0.62	mg/Kg	1.00	04/21/2000 23:32	
Toluene	ND	0.62	mg/Kg	1.00	04/21/2000 23:32	
Ethyl benzene	ND	0.62	mg/Kg	1.00	04/21/2000 23:32	
Xylene(s)	1.0	0.62	mg/Kg	1.00	04/21/2000 23:32	
MTBE	ND	0.62	mg/Kg	1.00	04/21/2000 23:32	
Surrogate(s)						
Trifluorotoluene	100.2	53-125	%	1.00	04/21/2000 23:32	
4-Bromofluorobenzene-FID	105.7	58-124	%	1.00	04/21/2000 23:32	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX (Methanol Extraction)

Sample ID:	**BH-G-11.5`**	Lab Sample ID:	**2000-04-0331-003**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 00:04
Sampled:	04/18/2000	QC-Batch:	2000/04/21-05.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	16	10	mg/Kg	1.00	04/22/2000 00:04	g
Benzene	ND	0.62	mg/Kg	1.00	04/22/2000 00:04	
Toluene	ND	0.62	mg/Kg	1.00	04/22/2000 00:04	
Ethyl benzene	ND	0.62	mg/Kg	1.00	04/22/2000 00:04	
Xylene(s)	ND	0.62	mg/Kg	1.00	04/22/2000 00:04	
MTBE	20	0.62	mg/Kg	1.00	04/22/2000 00:04	
Surrogate(s)						
Trifluorotoluene	99.6	53-125	%	1.00	04/22/2000 00:04	
4-Bromofluorobenzene-FID	104.4	58-124	%	1.00	04/22/2000 00:04	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX (Methanol Extraction)

Sample ID:	**BH-J-10`**	Lab Sample ID:	**2000-04-0331-006**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 11:23
Sampled:	04/19/2000	QC-Batch:	2000/04/21-05.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	230	20	mg/Kg	2.00	04/25/2000 11:23	g
Benzene	ND	1.2	mg/Kg	2.00	04/25/2000 11:23	
Toluene	ND	1.2	mg/Kg	2.00	04/25/2000 11:23	
Ethyl benzene	ND	1.2	mg/Kg	2.00	04/25/2000 11:23	
Xylene(s)	ND	1.2	mg/Kg	2.00	04/25/2000 11:23	
MTBE	35	1.2	mg/Kg	2.00	04/25/2000 11:23	
Surrogate(s)						
Trifluorotoluene	NA	53-125	%	1.00	04/25/2000 11:23	sh
4-Bromofluorobenzene-FID	NA	58-124	mg/Kg	1.00	04/25/2000 11:23	sh

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX (Methanol Extraction)

Sample ID:	**BH-K-10`**	Lab Sample ID:	**2000-04-0331-007**
Project:	3538 Compare Prices-Shahnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 11:54
Sampled:	04/19/2000	QC-Batch:	2000/04/21-05.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	730	50	mg/Kg	5.00	04/25/2000 11:54	
Benzene	ND	3.1	mg/Kg	5.00	04/25/2000 11:54	
Toluene	ND	3.1	mg/Kg	5.00	04/25/2000 11:54	
Ethyl benzene	14	3.1	mg/Kg	5.00	04/25/2000 11:54	
Xylene(s)	79	3.1	mg/Kg	5.00	04/25/2000 11:54	
MTBE	20	3.1	mg/Kg	5.00	04/25/2000 11:54	
Surrogate(s)						
Trifluorotoluene	NA	53-125	mg/Kg	1.00	04/25/2000 11:54	sh
4-Bromofluorobenzene-FID	NA	58-124	mg/Kg	1.00	04/25/2000 11:54	sh

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX (Methanol Extraction)

Method Blank | **Soil** | **QC Batch # 2000/04/21-05.02**

MB: 2000/04/21-05.02-001

Date Extracted: 04/21/2000 19:55

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	10	mg/Kg	04/21/2000 19:55	
Benzene	ND	0.62	mg/Kg	04/21/2000 19:55	
Toluene	ND	0.62	mg/Kg	04/21/2000 19:55	
Ethyl benzene	ND	0.62	mg/Kg	04/21/2000 19:55	
Xylene(s)	ND	0.62	mg/Kg	04/21/2000 19:55	
MTBE	ND	0.62	mg/Kg	04/21/2000 19:55	
Surrogate(s)					
Trifluorotoluene	64.6	53-125	%	04/21/2000 19:55	
4-Bromofluorobenzene-FID	98.2	58-124	%	04/21/2000 19:55	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0331

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX (Methanol Extraction)

Laboratory Control Spike (LCS/LCSD) **Soil** **QC Batch # 2000/04/21-05.02**

LCS: 2000/04/21-05.02-002 Extracted: 04/21/2000 20:26 Analyzed 04/21/2000 20:26

LCSD: 2000/04/21-05.02-003 Extracted: 04/21/2000 20:57 Analyzed 04/21/2000 20:57

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	0.700	0.781	0.625	0.625	112.0	125.0	11.0	75-125	35		
Benzene	0.127	0.116	0.125	0.125	101.6	92.8	9.1	77-123	35		
Toluene	0.137	0.126	0.125	0.125	109.6	100.8	8.4	78-122	35		
Ethyl benzene	0.148	0.141	0.125	0.125	118.4	112.8	4.8	70-130	35		
Xylene(s)	0.432	0.458	0.375	0.375	115.2	122.1	5.8	75-125	35		
Surrogate(s)											
Trifluorotoluene	580	515	500	500	116.0	103.0		53-125			
4-Bromofluorobenzene-FI	578	519	500	500	115.6	103.8		58-124			

To: **Aqua Science Engineers, Inc.**

Attn:Ian T. Reed

Test Method: 8015M
8020

Prep Method: 5030

Legend & Notes

Gas/BTEX (Methanol Extraction)

Analyte Flags

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

sh

Surrogate recoveries were higher than QC limits due to matrix interference.

51665.

Aqua Science Engineers, Inc.
208 W. El Pintado Road
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody

2000-04-0331

PAGE 1 OF 1

SAMPLER (SIGNATURE) Jon Reed (PHONE NO.) (925) 820-9391

PROJECT NAME Compare Prices - Shahnazi JOB NO. 3538

ADDRESS 2844 Mountain Blvd, Oakland CA DATE 4/20/00

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5-day TAT

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-GASOLINE (EPA 5030/8015)	TPH-DIESEL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	PURGEABLE AROMATICS (EPA 602/8020)	VOLATILE ORGANICS (EPA 624/8240)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140) (EPA 608/8080)	ORGANOCHLORINE HERBICIDES (EPA 8150)	FUEL OXYGENATES (EPA 8260)				COMPOSITE
BH-E-18'	4/18		Soil	1	X																	
BH-F-19'	4/18				X																	
BH-G-11.5'	4/19				X																	
BH-H-11.5'	4/19				X																	
BH-I-15.5'	4/19				X																	
BH-J-10'	4/19				X																	
BH-K-10'	4/19				X																	
BH-L-11.5'	4/19				X																	
BH-M-11.5	4/19				X																	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) Jon Reed (time) 10:03	(signature) (time) 1003	(signature) (time) 1812	(signature) Denise Harrington (time)	5-day TAT
(printed name) Jon Reed (date) 4/20/00	(printed name) (date) 4/20/00	(printed name) (date) 4/20/00	(printed name) D Harrington (date) 4/20/00	4.5°C
Company: ASE	Company:	Company:	Company: Chromalab	

APPENDIX E

Certified Analytical Report
and
Chain of Custody Documentation
Groundwater Samples

CHROMALAB, INC.
Environmental Services (SDB)

Submission #: 2000-04-0332
Date: April 26, 2000

Aqua Science Engineers, Inc.
208 West El Pintado Road
Danville, CA 94526

Attn.: Mr. Ian T. Reed

Project: 3538
Compare Prices-Shahnnazi

Dear Mr. Reed,

Attached is our report for your samples received on Thursday April 20, 2000
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after May 20, 2000 unless you have requested otherwise. We appreciate the opportunity to be of service to you.
If you have any questions, please call me at (925) 484-1919. You can also contact me via email.
My email address is: vvancil@chromalab.com

Sincerely,

Vincent Vancil

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

Gas/BTEX and MTBE

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #: 3538

Project: Compare Prices-Shahnnazi

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-E	Water	04/18/2000 10:30	1
BH-F	Water	04/18/2000 13:00	2
BH-G	Water	04/18/2000 15:00	3
BH-H	Water	04/18/2000 17:00	4
BH-I	Water	04/19/2000 10:30	5
BH-J	Water	04/19/2000 10:20	6
BH-K	Water	04/19/2000 11:30	7
BH-L	Water	04/19/2000 14:00	8
BH-M	Water	04/19/2000 13:30	9

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: **BH-E**

Project: 3538
Compare Prices-Shahnnazi

Sampled: 04/18/2000 10:30

Matrix: Water

Lab Sample ID: **2000-04-0332-001**

Received: 04/20/2000 18:12

Extracted: 04/24/2000 11:24

QC-Batch: 2000/04/24-01.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	15000	2500	ug/L	50.00	04/24/2000 11:24	
Benzene	260	25	ug/L	50.00	04/24/2000 11:24	
Toluene	27	25	ug/L	50.00	04/24/2000 11:24	
Ethyl benzene	890	25	ug/L	50.00	04/24/2000 11:24	
Xylene(s)	4000	25	ug/L	50.00	04/24/2000 11:24	
MTBE	ND	250	ug/L	50.00	04/24/2000 11:24	
Surrogate(s)						
Trifluorotoluene	65.8	58-124	%	1.00	04/24/2000 11:24	
4-Bromofluorobenzene-FID	73.5	50-150	%	1.00	04/24/2000 11:24	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-F**	Lab Sample ID:	**2000-04-0332-002**
Project:	3538 Compare Prices-Shahnnazi	Received:	04/20/2000 18:12
		Extracted:	04/21/2000 21:21
Sampled:	04/18/2000 13:00	QC-Batch:	2000/04/21-01.03
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	04/21/2000 21:21	
Benzene	ND	0.50	ug/L	1.00	04/21/2000 21:21	
Toluene	ND	0.50	ug/L	1.00	04/21/2000 21:21	
Ethyl benzene	ND	0.50	ug/L	1.00	04/21/2000 21:21	
Xylene(s)	ND	0.50	ug/L	1.00	04/21/2000 21:21	
MTBE	ND	5.0	ug/L	1.00	04/21/2000 21:21	
Surrogate(s)						
Trifluorotoluene	105.9	58-124	%	1.00	04/21/2000 21:21	
4-Bromofluorobenzene-FID	87.9	50-150	%	1.00	04/21/2000 21:21	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-G**	Lab Sample ID:	**2000-04-0332-003**
Project:	3538 Compare Prices-Shahnnazi	Received:	04/20/2000 18:12
		Extracted:	04/25/2000 14:37
Sampled:	04/18/2000 15:00	QC-Batch:	2000/04/25-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50000	ug/L	1000.00	04/25/2000 14:37	
Benzene	ND	500	ug/L	1000.00	04/25/2000 14:37	
Toluene	ND	500	ug/L	1000.00	04/25/2000 14:37	
Ethyl benzene	ND	500	ug/L	1000.00	04/25/2000 14:37	
Xylene(s)	ND	500	ug/L	1000.00	04/25/2000 14:37	
MTBE	130000	5000	ug/L	1000.00	04/25/2000 14:37	
Surrogate(s)						
Trifluorotoluene	74.2	58-124	%	1.00	04/25/2000 14:37	
4-Bromofluorobenzene-FID	80.3	50-150	%	1.00	04/25/2000 14:37	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-H**	Lab Sample ID:	**2000-04-0332-004**
Project:	3538 Compare Prices-Shahnnazi	Received:	04/20/2000 18:12
		Extracted:	04/24/2000 18:37
Sampled:	04/18/2000 17:00	QC-Batch:	2000/04/24-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	960	100	ug/L	2.00	04/24/2000 18:37	
Benzene	12	1.0	ug/L	2.00	04/24/2000 18:37	
Toluene	2.3	1.0	ug/L	2.00	04/24/2000 18:37	
Ethyl benzene	40	1.0	ug/L	2.00	04/24/2000 18:37	
Xylene(s)	45	1.0	ug/L	2.00	04/24/2000 18:37	
MTBE	250	10	ug/L	2.00	04/24/2000 18:37	
Surrogate(s)						
Trifluorotoluene	98.6	58-124	%	1.00	04/24/2000 18:37	
4-Bromofluorobenzene-FID	89.0	50-150	%	1.00	04/24/2000 18:37	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: **BH-I**

Project: 3538
Compare Prices-Shahnnazi

Sampled: 04/19/2000 10:30

Matrix: Water

Lab Sample ID: **2000-04-0332-005**

Received: 04/20/2000 18:12

Extracted: 04/21/2000 22:54

QC-Batch: 2000/04/21-01.03

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	130	50	ug/L	1.00	04/21/2000 22:54	g
Benzene	ND	0.50	ug/L	1.00	04/21/2000 22:54	
Toluene	ND	0.50	ug/L	1.00	04/21/2000 22:54	
Ethyl benzene	ND	0.50	ug/L	1.00	04/21/2000 22:54	
Xylene(s)	ND	0.50	ug/L	1.00	04/21/2000 22:54	
MTBE	130	5.0	ug/L	1.00	04/21/2000 22:54	
Surrogate(s)						
Trifluorotoluene	110.1	58-124	%	1.00	04/21/2000 22:54	
4-Bromofluorobenzene-FID	101.4	50-150	%	1.00	04/21/2000 22:54	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-J**	Lab Sample ID:	**2000-04-0332-006**
Project:	3538 Compare Prices-Shahnnazi	Received:	04/20/2000 18:12
		Extracted:	04/24/2000 11:59
Sampled:	04/19/2000 10:20	QC-Batch:	2000/04/24-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	25000	ug/L	500.00	04/24/2000 11:59	
Benzene	ND	1300	ug/L	2500.00	04/25/2000 01:04	
Toluene	ND	1300	ug/L	2500.00	04/25/2000 01:04	
Ethyl benzene	ND	1300	ug/L	2500.00	04/25/2000 01:04	
Xylene(s)	ND	1300	ug/L	2500.00	04/25/2000 01:04	
MTBE	170000	13000	ug/L	2500.00	04/25/2000 01:04	
Surrogate(s)						
Trifluorotoluene	72.3	58-124	%	1.00	04/25/2000 01:04	
4-Bromofluorobenzene-FID	85.6	50-150	%	1.00	04/24/2000 11:59	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-K**	Lab Sample ID:	**2000-04-0332-007**
Project:	3538 Compare Prices-Shahnnazi	Received:	04/20/2000 18:12
		Extracted:	04/25/2000 15:12
Sampled:	04/19/2000 11:30	QC-Batch:	2000/04/25-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	130000	ug/L	2500.00	04/25/2000 15:12	
Benzene	6400	1300	ug/L	2500.00	04/25/2000 15:12	
Toluene	ND	1300	ug/L	2500.00	04/25/2000 15:12	
Ethyl benzene	ND	1300	ug/L	2500.00	04/25/2000 15:12	
Xylene(s)	7900	1300	ug/L	2500.00	04/25/2000 15:12	
MTBE	410000	13000	ug/L	2500.00	04/25/2000 15:12	
Surrogate(s)						
Trifluorotoluene	76.4	58-124	%	1.00	04/25/2000 15:12	
4-Bromofluorobenzene-FID	88.0	50-150	%	1.00	04/25/2000 15:12	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: **BH-L**

Project: 3538
Compare Prices-Shahnnazi

Sampled: 04/19/2000 14:00

Matrix: Water

Lab Sample ID: **2000-04-0332-008**

Received: 04/20/2000 18:12

Extracted: 04/21/2000 22:23

QC-Batch: 2000/04/21-01.03

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	120	50	ug/L	1.00	04/21/2000 22:23	g
Benzene	ND	0.50	ug/L	1.00	04/21/2000 22:23	
Toluene	ND	0.50	ug/L	1.00	04/21/2000 22:23	
Ethyl benzene	ND	0.50	ug/L	1.00	04/21/2000 22:23	
Xylene(s)	ND	0.50	ug/L	1.00	04/21/2000 22:23	
MTBE	110	5.0	ug/L	1.00	04/21/2000 22:23	
Surrogate(s)						
Trifluorotoluene	101.6	58-124	%	1.00	04/21/2000 22:23	
4-Bromofluorobenzene-FID	95.2	50-150	%	1.00	04/21/2000 22:23	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**BH-M**	Lab Sample ID:	**2000-04-0332-009**
Project:	3538 Compare Prices-Shahnnazi	Received:	04/20/2000 18:12
		Extracted:	04/24/2000 15:43
Sampled:	04/19/2000 13:30	QC-Batch:	2000/04/24-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	04/24/2000 15:43	
Benzene	ND	0.50	ug/L	1.00	04/24/2000 15:43	
Toluene	ND	0.50	ug/L	1.00	04/24/2000 15:43	
Ethyl benzene	ND	0.50	ug/L	1.00	04/24/2000 15:43	
Xylene(s)	ND	0.50	ug/L	1.00	04/24/2000 15:43	
MTBE	ND	5.0	ug/L	1.00	04/24/2000 15:43	
Surrogate(s)						
Trifluorotoluene	75.5	58-124	%	1.00	04/24/2000 15:43	
4-Bromofluorobenzene-FID	86.7	50-150	%	1.00	04/24/2000 15:43	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank | **Water** | **QC Batch # 2000/04/21-01.03**

MB: 2000/04/21-01.03-001

Date Extracted: 04/21/2000 12:22

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	04/21/2000 12:22	
Benzene	ND	0.5	ug/L	04/21/2000 12:22	
Toluene	ND	0.5	ug/L	04/21/2000 12:22	
Ethyl benzene	ND	0.5	ug/L	04/21/2000 12:22	
Xylene(s)	ND	0.5	ug/L	04/21/2000 12:22	
MTBE	ND	5.0	ug/L	04/21/2000 12:22	
Surrogate(s)					
Trifluorotoluene	70.2	58-124	%	04/21/2000 12:22	
4-Bromofluorobenzene-FID	60.6	50-150	%	04/21/2000 12:22	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank | **Water** | **QC Batch # 2000/04/24-01.01**

MB: 2000/04/24-01.01-001

Date Extracted: 04/24/2000 06:11

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	04/24/2000 06:11	
Benzene	ND	0.5	ug/L	04/24/2000 06:11	
Toluene	ND	0.5	ug/L	04/24/2000 06:11	
Ethyl benzene	ND	0.5	ug/L	04/24/2000 06:11	
Xylene(s)	ND	0.5	ug/L	04/24/2000 06:11	
MTBE	ND	5.0	ug/L	04/24/2000 06:11	
Surrogate(s)					
Trifluorotoluene	83.4	58-124	%	04/24/2000 06:11	
4-Bromofluorobenzene-FID	89.6	50-150	%	04/24/2000 06:11	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank | **Water** | **QC Batch # 2000/04/25-01.01**

MB: 2000/04/25-01.01-001

Date Extracted: 04/25/2000 06:23

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	04/25/2000 06:23	
Benzene	ND	0.5	ug/L	04/25/2000 06:23	
Toluene	ND	0.5	ug/L	04/25/2000 06:23	
Ethyl benzene	ND	0.5	ug/L	04/25/2000 06:23	
Xylene(s)	ND	0.5	ug/L	04/25/2000 06:23	
MTBE	ND	5.0	ug/L	04/25/2000 06:23	
Surrogate(s)					
Trifluorotoluene	74.8	58-124	%	04/25/2000 06:23	
4-Bromofluorobenzene-FID	83.0	50-150	%	04/25/2000 06:23	

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2000/04/21-01.03**

LCS: 2000/04/21-01.03-002 Extracted: 04/21/2000 12:53 Analyzed 04/21/2000 12:53

LCSD: 2000/04/21-01.03-003 Extracted: 04/21/2000 13:25 Analyzed 04/21/2000 13:25

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	544	530	500	500	108.8	106.0	2.6	75-125	20		
Benzene	46.6	45.3	50	50	93.2	90.6	2.8	77-123	20		
Toluene	47.2	46.1	50	50	94.4	92.2	2.4	78-122	20		
Ethyl benzene	47.8	46.6	50	50	95.6	93.2	2.5	70-130	20		
Xylene(s)	151	146	150	150	100.7	97.3	3.4	75-125	20		
Surrogate(s)											
Trifluorotoluene	236	256	250	250	94.4	102.4		58-124			
4-Bromofluorobenzene-FI	484	477	500	500	96.8	95.4		50-150			

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2000/04/24-01.01**

LCS: 2000/04/24-01.01-002 Extracted: 04/24/2000 06:46 Analyzed 04/24/2000 06:46

LCSD: 2000/04/24-01.01-003 Extracted: 04/24/2000 07:21 Analyzed 04/24/2000 07:21

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	494	480	500	500	98.8	96.0	2.9	75-125	20		
Benzene	86.1	85.5	100.0	100.0	86.1	85.5	0.7	77-123	20		
Toluene	82.2	81.6	100.0	100.0	82.2	81.6	0.7	78-122	20		
Ethyl benzene	83.6	83.8	100.0	100.0	83.6	83.8	0.2	70-130	20		
Xylene(s)	254	255	300	300	84.7	85.0	0.4	75-125	20		
Surrogate(s)											
Trifluorotoluene	387	382	500	500	77.4	76.4		58-124			
4-Bromofluorobenzene-FI	432	428	500	500	86.4	85.6		50-150			

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Test Method: 8020
8015M

Attn: Ian T. Reed

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2000/04/25-01.01**

LCS: 2000/04/25-01.01-002 Extracted: 04/25/2000 06:58 Analyzed 04/25/2000 06:58

LCSD: 2000/04/25-01.01-003 Extracted: 04/25/2000 07:33 Analyzed 04/25/2000 07:33

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	511	464	500	500	102.2	92.8	9.6	75-125	20		
Benzene	85.8	86.0	100.0	100.0	85.8	86.0	0.2	77-123	20		
Toluene	81.6	81.8	100.0	100.0	81.6	81.8	0.2	78-122	20		
Ethyl benzene	83.0	83.6	100.0	100.0	83.0	83.6	0.7	70-130	20		
Xylene(s)	255	255	300	300	85.0	85.0	0.0	75-125	20		
Surrogate(s)											
Trifluorotoluene	374	376	500	500	74.8	75.2		58-124			
4-Bromofluorobenzene-FI	443	408	500	500	88.6	81.6		50-150			

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0332

To: **Aqua Science Engineers, Inc.**

Test Method: 8020
8015M

Attn.: Ian T. Reed

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Matrix Spike (MS / MSD) **Water** **QC Batch # 2000/04/24-01.01**

Sample ID: **BH-M** Lab Sample ID: 2000-04-0332-009

MS: 2000/04/24-01.01-004 Extracted: 04/24/2000 16:18 Analyzed: 04/24/2000 16:18 Dilution: 1.0

MSD: 2000/04/24-01.01-005 Extracted: 04/24/2000 16:53 Analyzed: 04/24/2000 16:53 Dilution: 1.0

Compound	Conc. [ug/L]			Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	MS	MSD	Sample	MS	MSD	MS	MSD	[%]	Recovery	RPD	MS	MSD
Gasoline	483	467	ND	500	500	96.6	93.4	3.4	65-135	20		
Benzene	85.2	85.9	ND	100.0	100.0	85.2	85.9	0.8	65-135	20		
Toluene	79.3	79.7	ND	100.0	100.0	79.3	79.7	0.5	65-135	20		
Ethyl benzene	78.6	79.6	ND	100.0	100.0	78.6	79.6	1.3	65-135	20		
Xylene(s)	222	223	ND	300	300	74.0	74.3	0.4	65-135	20		
Surrogate(s)												
Trifluorotoluene	362	374		500	500	72.4	74.8		58-124			
4-Bromofluorobenzene-F	439	434		500	500	87.8	86.8		50-150			

To: **Aqua Science Engineers, Inc.**

Attn:Ian T. Reed

Test Method: 8015M
8020

Prep Method: 5030

Legend & Notes

Gas/BTEX and MTBE

Analyte Flags

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

516616

Aqua Science Engineers, Inc.
208 W. El Pintado Road
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody

2000.04.0332

PAGE 1 OF 1

SAMPLER (SIGNATURE) Ian R. Reed (PHONE NO.) (925) 820-9391

PROJECT NAME Compare Power - Shahmaei JOB NO. 3538

ADDRESS 2844 Mountain Blvd, Oakland, CA DATE 4/20/00

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5-day TAT

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-GASOLINE (EPA 5030/8015)	TPH-DIESEL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	PURGEABLE AROMATICS (EPA 602/8020)	VOLATILE ORGANICS (EPA 624/8240)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140) (EPA 608/8080)	ORGANOCHLORINE HERBICIDES (EPA 8150)	FUEL OXYGENATES (EPA 8260)				COMPOSITE
BH-E	4/18/00	1030	water	3	X																	
BH-F	4/19/00	1300			X																	
BH-G	4/19/00	1500			X																	
BH-H	4/19/00	1700			X																	
BH-I	4/19/00	1030			X																	
BH-J	4/19/00	1020			X																	
BH-K	4/19/00	1130			X																	
BH-L	4/19/00	1400			X																	
BH-M	4/19/00	1330		4	X																	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) Ian Reed (time) 10:03	(signature) (time) 1003	(signature) (time) 1852	(signature) Denise Harrington (time)	5-day TAT.
(printed name) Ian T. Reed (date) 4/20/00	(printed name) (date) 4/20/00	(printed name) (date) 4/20/00	(printed name) D Harrington (date)	
Company- AJE	Company-	Company-	Company- Chromalab 4/20/00 1812	4.5°C