aqua science engineers inc.

July 9, 1999

WORKPLAN
for a
SOIL AND GROUNDWATER ASSESSMENT
at
Vacant Property
2221 Union Street
Oakland, California

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

INTRODUCTION

This submittal outlines Aqua Science Engineers, Inc. (ASE's) workplan for a soil and groundwater assessment at 2221 Union Street in Oakland, California (Figure 1). The proposed site assessment activities have been designed to delineate the area of volatile organic compound (VOC) contamination in soil previously identified in an hand auger drilled within an outdoor surface water drain located at the site (Figure 2).

BACKGROUND INFORMATION

The site is currently vacant and up for sale by a Trustee of the property. The site houses two buildings, a concrete surfaced yard and a dirt lot. Most recently, the site was the home of a brake pad manufacturer. A recent Phase I Environmental Site Assessment prepared for the site recently identified a surface water drain located in the exterior yard area (see Figure 2). The Phase I suggested drilling a soil boring for the collection of soil samples. On June 22, 1999 ASE removed the dirt and debris from the bottom of the drain, cored through the concrete bottom of the drain, and using a hand auger, drilled soil boring BH-A to a depth of 3-feet below the bottom of the drain. Soil samples BH-A @ 1' and BH-A @ 3' were collected from the boring. Soil sample BH-A @ 1' was analyzed by Chromalab, Inc. of Pleasanton, California (ELAP #1094) for total petroleum hydrocarbons as gasoline (TPH-G) and diesel (TPH-D) by EPA Method 8015, benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX) by EPA Method 8020, methyl tertiary butyl ether (MTBE) by EPA Method 8020, oil and grease by Standard Method 5520E, volatile organic compounds (VOCs) by EPA Method 8010, and the LUFT five metals by EPA Method 6010. A copy of the analytical report provided by Chromalab, Inc. is attached in Apppendix A. The only compound identified in the soil above action levels was tetrachloroethene (PCE) at 390 parts per million (ppm). Soil sample BH-A @ 3' was placed on hold at the laboratory. It was not subsequently analyzed because it was saturated, and had the same appearance and odor as the 1-foot sample.

PROPOSED SCOPE OF WORK (SOW)

ASE has prepared the following scope of work (SOW) to assess the subsurface soil and groundwater near the drain and inside the building where parts cleaning bins were used. The purpose of this proposed assessment is to quantify the area of soil and groundwater affected by the PCE, and in doing so, determine if costly remedial activities would be necessary. ASE's proposed SOW is as follows:

1) Prepare this workplan and site specific health and safety plan for approval by Ms. Eva Chu of the Alameda County Health Care Services Agency (ACHCSA).

2) Obtain a subsurface drilling permit from the Alameda County Public Works Agency (ACPWA). Call Underground Service Alert (USA) to have all public utilities in the area marked prior to drilling.

3) Using a Geoprobe hydraulic sampling rig, drill six (6) soil borings to a depth of 10-feet below ground surface (bgs) at the locations shown of Figure 2, attached.

4) Collect soil samples continuously from each boring as drilling progresses for chemical analysis and hydrogeologic description. Screen the soil samples with a hand-held organic vapor meter (OVM) to determine the depth of highest concentrations of VOCs in soil. Collect a grab groundwater sample from each boring.

5) Analyze one (1) soil and one (1) water sample from each soil boring at a CAL-EPA certified environmental laboratory for VOCs by EPA Method 8010.

6) Backfill the borings with neat cement.

7) Prepare a report detailing the methods and findings of the investigation. The report will be submitted under the seal of a registered geologist or professional engineer.

Details of the assessment are presented below.

TASK 1 - PREPARE A WORKPLAN AND HEALTH AND SAFETY PLAN

ASE has prepared a site-specific health and safety plan which will be on-site during assessment activities.

TASK 2 - OBTAIN NECESSARY PERMITS

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

TASKS 3 & 4- DRILL SOIL BORINGS AT THE SITE AND COLLECT SOIL AND GROUNDWATER SAMPLES FROM THE BORINGS

ASE will drill six (6) soil borings on-site at the locations shown on Figure 2. The borings will be drilled using a Geoprobe or similar type drill rig. The drilling will be directed by a qualified ASE geologist. Undisturbed soil samples will be collected continuously for subsurface hydrogeologic description and possible chemical analysis. The samples will be described by the ASE geologist according to the Unified Soil Classification System. The samples will be collected in brass or acetate tubes using a drive sampler advanced ahead of the boring as the boring progresses. Each sample will be immediately removed from the sampler, trimmed, sealed with Teflon tape and plastic caps, secured with duct tape, labeled with the site location, sample designation, date and time the sample was collected, and the initials of the person collecting the sample. The samples will be placed into an ice chest containing wet ice for delivery under chain of custody to a CAL-EPA certified analytical laboratory.

Soil from the remaining tubes not sealed for analysis will be removed for hydrogeologic description and will be screened for volatile compounds with an organic vapor meter (OVM). The soil will be screened by emptying soil from one of the tubes into a plastic bag. The bag will be sealed and placed in the sun for approximately 10 minutes. After the hydrocarbons have been allowed to volatilize, the OVM will measure the vapor through a small hole, punched in the bag. These OVM readings will be used as a screening tool only since these procedures are not as rigorous as those used in an analytical laboratory.

A groundwater sample will then be collected from all six borings. Drilling will be halted at the water table and a Powerpunch or similar type device will be utilized to collect groundwater samples from the borings. The groundwater samples will be contained in 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid and sealed without headspace. All samples will be labeled with the site location, sample designation, date and time the samples were collected, and the initials of the person collecting the samples. The samples will then be cooled in an ice chest with wet ice for transport to a state-certified analytical laboratory under chain-of-custody.

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

TASK 5 - ANALYZE THE SOIL AND GROUNDWATER SAMPLES

The grab groundwater samples and one soil sample from each boring will be analyzed at a CAL-EPA certified environmental laboratory for VOCs by EPA Method 8010.

TASK 6 - BACKFILL THE BORINGS WITH NEAT CEMENT

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

TASK 7 - PREPARE A SUBSURFACE ASSESSMENT REPORT

ASE will prepare a report outlining the methods and findings of this assessment. The report will be submitted under the seal of state registered civil engineer or geologist. This report will include a summary of all work completed during this assessment including tabulated soil and groundwater analytical results, conclusions and recommendations. Copies of the analytical report and chain of custody will be included as appendices.

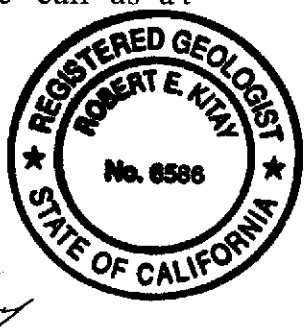
SCHEDULE

The property is currently in the process of being sold. Due to the impending property transfer, ASE has been asked to perform the assessment as quickly as possible. Drilling is scheduled for July 12, 1999.

We appreciate your time and effort in approving this workplan in such a short time. Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

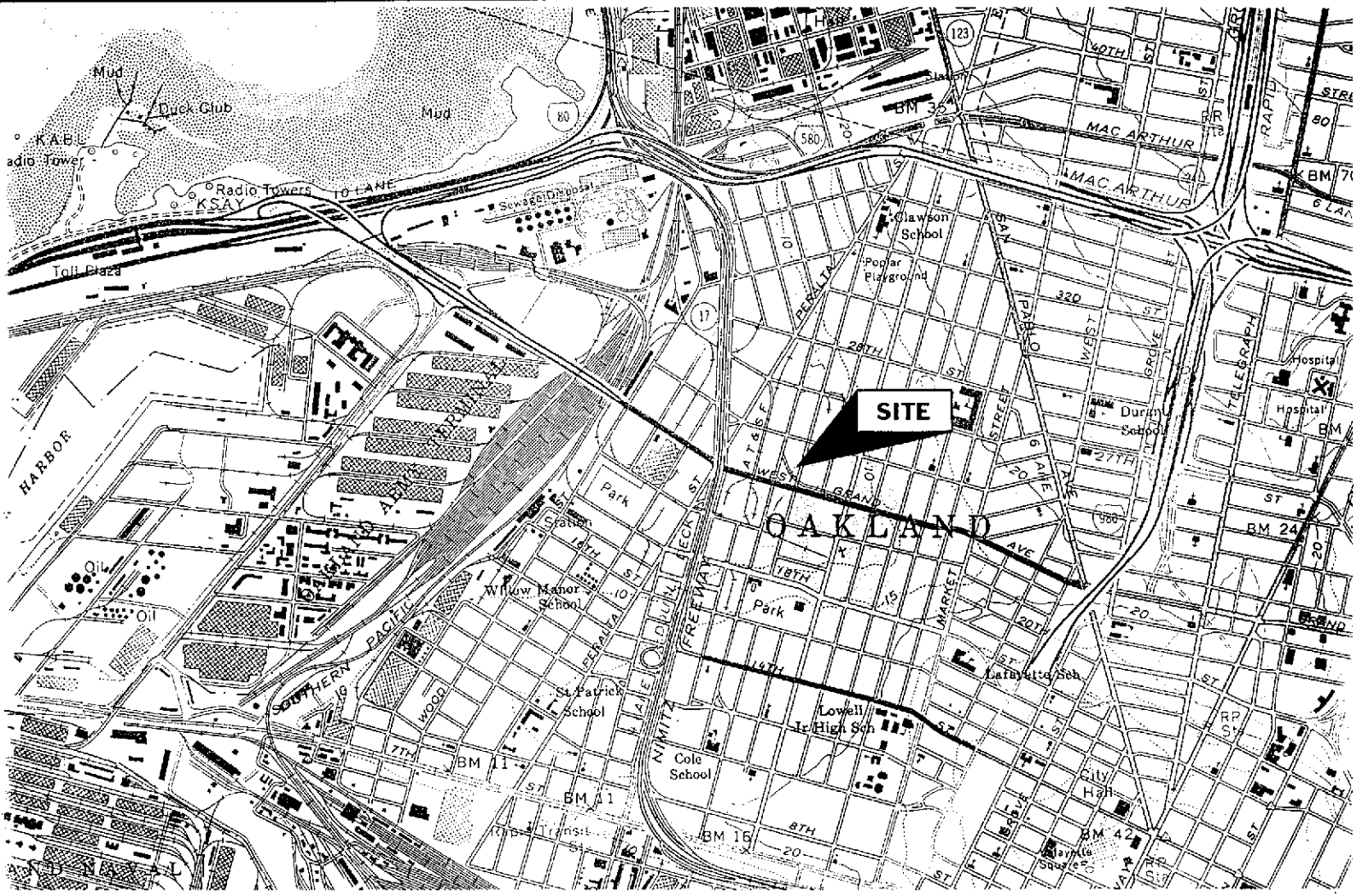
AQUA SCIENCE ENGINEERS, INC.



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

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

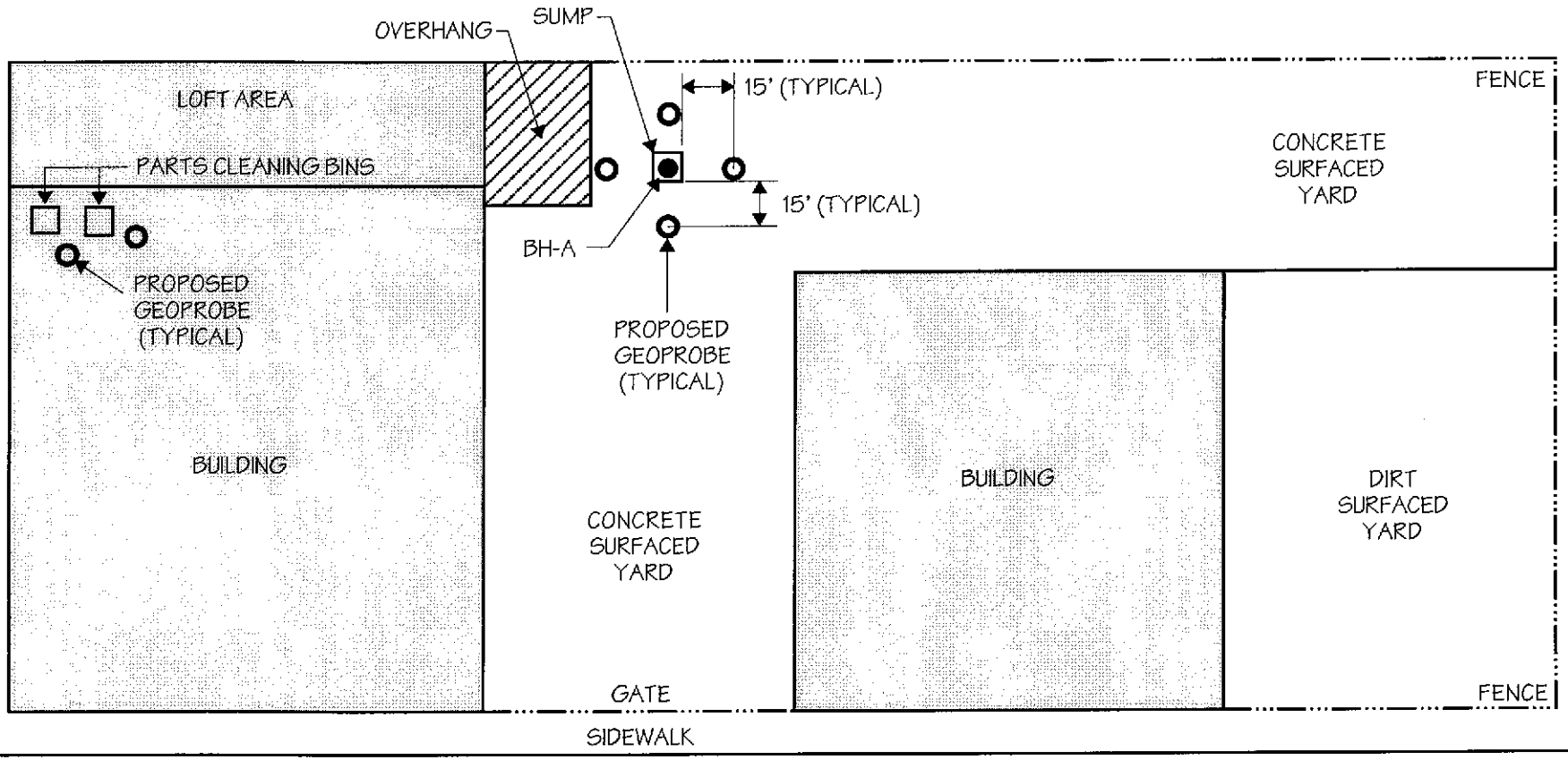
Copies to: Ms. Eva Chu, ACHCSA
Mr. John Kendall, Trustee
Ms. Anne Bruff, Wells & Bennett Realtors



LOCATION MAP

Vacant Property
2221 Union Street
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 1



NORTH

NOT TO SCALE

PROPOSED GEOPROBE LOCATION MAP

Vacant Property
2221 Union Street
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

APPENDIX A

Laboratory Analytical Report
For
Soil Boring BH-A

Aqua Science Engineers, Inc.
208 El Pintado
Danville, CA

Attn.: Mr. Dave Allen

Project: 3515
Kendall

Dear Mr. Allen,

Attached is our report for your samples received on Wednesday June 23, 1999.
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

The report contains a Case Narrative detailing sample receipt and analysis.

Please note that any unused portion of the samples will be discarded after July 23, 1999 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.

Sincerely,

Pierre Monette

To: Aqua Science Engineers, Inc.

Attn.: Dave Allen

CASE NARRATIVE

General and Sample Comments

We (ChromaLab, Inc.) received 2 Soil samples, on Jun 23 1999 7:42PM.

Per QC Batch Comments

Diesel	Soil	QC Batch#: 1999/06/24.01-10

BH-A.1.0 Lab#: 1999-06-0330-001

Compound Flag(s)

ed Hydrocarbon reported is in the early Diesel range, and does not match our Diesel standard

MISC metals - No Hg	Water	QC Batch#: 1999/06/24.01-15

Pond 3 >> MS Lab#: 1999/06/24.01-15-004

Analysis Flag(s)

MSL Analyte MS/MSD recoveries were out of QC limits due to Parent sample target analyte concentration exceeding the spiked amount by greater than 4X.

Compound Flag(s)

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

Halogenated Volatile Organics by GC/MS 8010 by 8260 (soil only)	Soil	QC Batch#: 1999/06/29.01-06

BH-A.1.0 Lab#: 1999-06-0330-001

Analysis Flag(s)

o Reporting limits were raised due to high level of analyte present in the sample.

Halogenated Volatile Organics Compounds

Aqua Science Engineers, Inc.

208 El Pintado
Danville, CA

Attn: Dave Allen

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

Project #: 3515

Project: Kendall

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-A.1.0	Soil	06/22/1999 12:30	1

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

Attn.: Dave Allen

Test Method: 8010
8260A

Prep Method: 5030

Halogenated Volatile Organics Compounds

Sample ID:	**BH-A.1.0**	Lab Sample ID:	**1999-06-0330-001**
Project:	3515 Kendall	Received:	06/23/1999 19:42
		Extracted:	06/29/1999 14:24
Sampled:	06/22/1999 12:30	QC-Batch:	1999/06/29-01.06
Matrix:	Soil		

Sample/Analysis Flag: o (See Legend & Note section)

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	22000	ug/Kg	2197.80	06/29/1999 14:24	
Vinyl chloride	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Chloroethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Trichlorofluoromethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,1-Dichloroethene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Methylene chloride	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
trans-1,2-Dichloroethene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
cis-1,2-Dichloroethene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,1-Dichloroethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Chloroform	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,1,1-Trichloroethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Carbon tetrachloride	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,2-Dichloroethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Trichloroethene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,2-Dichloropropane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Bromodichloromethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
2-Chloroethylvinyl ether	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
trans-1,3-Dichloropropene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
cis-1,3-Dichloropropene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,1,2-Trichloroethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Tetrachloroethene	**390000**	11000	ug/Kg	2197.80	06/29/1999 14:24	
Dibromochloromethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Chlorobenzene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Bromoform	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,1,2,2-Tetrachloroethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,3-Dichlorobenzene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,4-Dichlorobenzene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
1,2-Dichlorobenzene	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Trichlorotrifluoroethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Chloromethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	
Bromomethane	ND	11000	ug/Kg	2197.80	06/29/1999 14:24	

Surrogate(s)

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

Attn.: Dave Allen

Test Method: 8010
8260A

Prep Method: 5030

Halogenated Volatile Organics Compounds

Sample ID:	**BH-A.1.0**	Lab Sample ID:	**1999-06-0330-001**
Project:	3515 Kendall	Received:	06/23/1999 19:42
		Extracted:	06/29/1999 14:24
Sampled:	06/22/1999 12:30	QC-Batch:	1999/06/29-01.06
Matrix:	Soil		

Sample/Analysis Flag: o (See Legend & Note section)

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
4-Bromofluorobenzene	97.9	74-121	%	1.00	06/29/1999 14:24	
1,2-Dichloroethane-d4	105.9	70-121	%	1.00	06/29/1999 14:24	
Toluene-d8	106.7	81-117	%	1.00	06/29/1999 14:24	

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

Attn.: Dave Allen

Test Method: 8010
8260A

Prep Method: 5030

Batch QC Report

Halogenated Volatile Organics Compounds

Method Blank | **Soil** | **QC Batch # 1999/06/29-01.06**

MB: 1999/06/29-01.06-001

Date Extracted: 06/29/1999 13:09

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Bromodichloromethane	ND	1250	ug/Kg	06/29/1999 13:09	
Bromoform	ND	1250	ug/Kg	06/29/1999 13:09	
Bromomethane	ND	2500	ug/Kg	06/29/1999 13:09	
Carbon tetrachloride	ND	1250	ug/Kg	06/29/1999 13:09	
Chlorobenzene	ND	1250	ug/Kg	06/29/1999 13:09	
Chloroethane	ND	2500	ug/Kg	06/29/1999 13:09	
2-Chloroethylvinyl ether	ND	12500	ug/Kg	06/29/1999 13:09	
Chloroform	ND	1250	ug/Kg	06/29/1999 13:09	
Chloromethane	ND	2500	ug/Kg	06/29/1999 13:09	
Dibromochloromethane	ND	1250	ug/Kg	06/29/1999 13:09	
1,2-Dichlorobenzene	ND	1250	ug/Kg	06/29/1999 13:09	
1,3-Dichlorobenzene	ND	1250	ug/Kg	06/29/1999 13:09	
1,4-Dichlorobenzene	ND	1250	ug/Kg	06/29/1999 13:09	
Dichlorodifluoromethane	ND	2500	ug/Kg	06/29/1999 13:09	
1,1-Dichloroethane	ND	1250	ug/Kg	06/29/1999 13:09	
1,2-Dichloroethane	ND	1250	ug/Kg	06/29/1999 13:09	
1,1-Dichloroethene	ND	1250	ug/Kg	06/29/1999 13:09	
1,2-Dichloroethene (cis)	ND	1250	ug/Kg	06/29/1999 13:09	
1,2-Dichloroethene (trans)	ND	1250	ug/Kg	06/29/1999 13:09	
1,2-Dichloropropane	ND	1250	ug/Kg	06/29/1999 13:09	
cis-1,3-Dichloropropene	ND	1250	ug/Kg	06/29/1999 13:09	
trans-1,3-Dichloropropene	ND	1250	ug/Kg	06/29/1999 13:09	
Methylene chloride	ND	2500	ug/Kg	06/29/1999 13:09	
1,1,2,2-Tetrachloroethane	ND	1250	ug/Kg	06/29/1999 13:09	
Tetrachloroethene	ND	1250	ug/Kg	06/29/1999 13:09	
1,1,1-Trichloroethane	ND	1250	ug/Kg	06/29/1999 13:09	
1,1,2-Trichloroethane	ND	1250	ug/Kg	06/29/1999 13:09	
Trichloroethene	ND	1250	ug/Kg	06/29/1999 13:09	
Vinyl chloride	ND	1250	ug/Kg	06/29/1999 13:09	
Trichlorotrifluoroethane	ND	1250	ug/Kg	06/29/1999 13:09	
Trichlorofluoromethane	ND	1250	ug/Kg	06/29/1999 13:09	
Surrogate(s)					
4-Bromofluorobenzene	99.8	74-121	%	06/29/1999 13:09	

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

Attn.: Dave Allen

Test Method: 8010
8260A

Prep Method: 5030

Batch QC Report

Halogenated Volatile Organics Compounds

Method Blank | **Soil** | **QC Batch # 1999/06/29-01.06**

MB: 1999/06/29-01.06-001

Date Extracted: 06/29/1999 13:09

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Surrogate(s)					
1,2-Dichloroethane-d4	111.6	70-121	%	06/29/1999 13:09	
Toluene-d8	116.0	81-117	%	06/29/1999 13:09	

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

Attn: Dave Allen

Test Method: 8010
8260A

Prep Method: 5030

Batch QC Report

Halogenated Volatile Organics Compounds

Laboratory Control Spike (LCS/LCSD) **Soil** **QC Batch # 1999/06/29-01.06**

LCS: 1999/06/29-01.06-002 Extracted: 06/29/1999 11:49 Analyzed: 06/29/1999 11:49

LCSD: 1999/06/29-01.06-003 Extracted: 06/29/1999 12:29 Analyzed: 06/29/1999 12:29

Compound	Conc. [ug/Kg]		Exp.Conc. [ug/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Chlorobenzene	124	131	125	125	99.2	104.8	5.5	61-121	20		
1,1-Dichloroethene	107	108	125	125	85.6	86.4	0.9	65-125	20		
Trichloroethene	161	159	125	125	128.8	127.2	1.3	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	478	488	500	500	95.6	97.6		74-121			
1,2-Dichloroethane-d4	525	552	500	500	105.0	110.4		70-121			
Toluene-d8	564	570	500	500	112.8	114.0		81-117			

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

Test Method: 8010
8260A

Attn:Dave Allen

Prep Method: 5030

Legend & Notes

Halogenated Volatile Organics Compounds

Analysis Flags

o

Reporting limits were raised due to high level of analyte present in the sample.

Metals

Aqua Science Engineers, Inc.

208 El Pintado
Danville, CA

Attn: Dave Allen

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

Project #: 3515 Project: Kendall

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-A.1.0	Soil	06/22/1999 12:30	1

To: **Aqua Science Engineers, Inc.**
Attn.: Dave Allen

Test Method: 6010A
Prep Method: 3050A

Metals

Sample ID:	**BH-A.1.0**	Lab Sample ID:	**1999-06-0330-001**
Project:	3515 Kendall	Received:	06/23/1999 19:42
		Extracted:	06/24/1999
Sampled:	06/22/1999 12:30	QC-Batch:	1999/06/24-01.15
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Cadmium	5.0	0.50	mg/Kg	1.00	06/24/1999	
Chromium	28	1.0	mg/Kg	1.00	06/24/1999	
Lead	7.3	1.0	mg/Kg	1.00	06/24/1999	
Nickel	42	1.0	mg/Kg	1.00	06/24/1999	
Zinc	130	1.0	mg/Kg	1.00	06/24/1999	

To: **Aqua Science Engineers, Inc.**
Attn.: Dave Allen

Test Method: 6010A
Prep Method: 3050A

Batch QC Report
Metals

Method Blank | **Water** | **QC Batch # 1999/06/24-01.15**

MB: 1999/06/24-01.15-001

Date Extracted: 06/24/1999

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Cadmium	ND	0.0020	mg/L	06/24/1999	
Chromium	ND	0.0050	mg/L	06/24/1999	
Lead	ND	0.0050	mg/L	06/24/1999	
Nickel	ND	0.0050	mg/L	06/24/1999	
Zinc	ND	0.010	mg/L	06/24/1999	

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

Attn: Dave Allen

Test Method: 6010A

Prep Method: 3050A

Batch QC Report

Metals

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/06/24-01.15**

LCS: 1999/06/24-01.15-002 Extracted: 06/24/1999 Analyzed: 06/24/1999

LCSD: 1999/06/24-01.15-003 Extracted: 06/24/1999 Analyzed: 06/24/1999

Compound	Conc. [mg/L]		Exp.Conc. [mg/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Cadmium	0.480	0.480	0.500	0.500	96.0	96.0	0.0	80-120	20		
Chromium	0.470	0.470	0.500	0.500	94.0	94.0	0.0	80-120	20		
Lead	0.480	0.470	0.500	0.500	96.0	94.0	2.1	80-120	20		
Nickel	0.480	0.480	0.500	0.500	96.0	96.0	0.0	80-120	20		
Zinc	0.470	0.470	0.500	0.500	94.0	94.0	0.0	80-120	20		

Total Oil & Grease

Aqua Science Engineers, Inc.

208 El Pintado
Danville, CA

Attn: Dave Allen

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

Project #: 3515

Project: Kendall

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-A.1.0	Soil	06/22/1999 12:30	1

To: **Aqua Science Engineers, Inc.**
Attn.: Dave Allen

Test Method: 5520 E
Prep Method: 5520 E

Total Oil & Grease

Sample ID:	**BH-A.1.0**	Lab Sample ID:	**1999-06-0330-001**
Project:	3515 Kendall	Received:	06/23/1999 19:42
		Extracted:	06/24/1999
Sampled:	06/22/1999 12:30	QC-Batch:	1999/06/24-01.23
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Oil & Grease (total)	ND	50	mg/Kg	1.00	06/25/1999	

To: **Aqua Science Engineers, Inc.**
Attn.: Dave Allen

Test Method: 5520 E
Prep Method: 5520 E

Batch QC Report
Total Oil & Grease

Method Blank | **Soil** | **QC Batch # 1999/06/24-01.23**

MB: 1999/06/24-01.23-001

Date Extracted: 06/24/1999

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Oil & Grease (total)	ND	50	mg/Kg	06/25/1999	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-06-0330

To: **Aqua Science Engineers, Inc.**
Attn: Dave Allen

Test Method: 5520 E
Prep Method: 5520 E

Batch QC Report

Total Oil & Grease

Laboratory Control Spike (LCS/LCSD) **Soil** **QC Batch # 1999/06/24-01.23**

LCS: 1999/06/24-01.23-002 Extracted: 06/24/1999 Analyzed: 06/25/1999
LCSD: 1999/06/24-01.23-003 Extracted: 06/24/1999 Analyzed: 06/25/1999

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Oil & Grease (total)	363	355	400	400	90.8	88.8	2.2	80-120	20		

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-06-0330

Diesel

Aqua Science Engineers, Inc.	208 El Pintado Danville, CA
Attn: Dave Allen	Phone: (925) 820-9391 Fax: (925) 837-4853
Project #: 3515	Project: Kendall

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-A.1.0	Soil	06/22/1999 12:30	1

To: **Aqua Science Engineers, Inc.**
Attn.: Dave Allen

Test Method: 8015m
Prep Method: 3550/8015M

Diesel

Sample ID:	**BH-A.1.0**	Lab Sample ID:	**1999-06-0330-001**
Project:	3515 Kendall	Received:	06/23/1999 19:42
		Extracted:	06/24/1999 10:06
Sampled:	06/22/1999 12:30	QC-Batch:	1999/06/24-01.10
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	49	1.0	mg/Kg	1.00	06/26/1999 08:38	ed
Surrogate(s)						
o-Terphenyl	75.9	60-130	%	1.00	06/26/1999 08:38	

To: **Aqua Science Engineers, Inc.**
Attn.: Dave Allen

Test Method: 8015m
Prep Method: 3550/8015M

Batch QC Report
Diesel

Method Blank | **Soil** | **QC Batch # 1999/06/24-01.10**

MB: 1999/06/24-01.10-001 | Date Extracted: 06/24/1999 10:06

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Diesel	ND	1	mg/Kg	06/24/1999 22:17	
Surrogate(s)					
o-Terphenyl	82.5	60-130	%	06/24/1999 22:17	

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

Attn: Dave Allen

Test Method: 8015m

Prep Method: 3550/8015M

Batch QC Report

Diesel

Laboratory Control Spike (LCS/LCSD) **Soil** **QC Batch # 1999/06/24-01.10**

LCS: 1999/06/24-01.10-002 Extracted: 06/24/1999 10:06 Analyzed: 06/24/1999 22:53

LCSD: 1999/06/24-01.10-003 Extracted: 06/24/1999 10:06 Analyzed: 06/24/1999 23:29

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Diesel	69.1	68.0	83.3	83.3	83.0	81.6	1.7	60-130	25		
Surrogate(s)											
o-Terphenyl	17.1	16.6	20.0	20.0	85.5	83.0		60-130			

To: **Aqua Science Engineers, Inc.**
Attn:Dave Allen

Test Method: 8015m
Prep Method: 3550/8015M

Legend & Notes

Diesel

Analyte Flags

ed

Hydrocarbon reported is in the early Diesel range, and does not match our Diesel standard

99.06.0330

46608

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

Chain of Custody

PAGE 1 OF 1

SAMPLER (SIGNATURE) D. Allen (PHONE NO.) 820-9391

PROJECT NAME KENDALL JOB NO. 3515

ADDRESS 2221 Union St., Oak. DATE 6-22-99

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

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)			HOLD	COMPOSITE
BH-A, 1.0'	6/22	12:30	SOIL	1	X		X	X				X	X									
BH-A, 3.0'	6/22	12:45	SOIL	1																	X	

RELINQUISHED BY: (signature) (time)	RECEIVED BY: (signature) (time)	RELINQUISHED BY: (signature) (time)	RECEIVED BY LABORATORY: (signature) (time)	COMMENTS:
D. Allen 6/23/99	B Morrow 1031	B Morrow 1942	Denise Harrington	
(printed name) (date)	(printed name) (date) 6/23/99	(printed name) (date) 6/23/99	(printed name) 1942	
Company- ASE, Inc.	Company-	Company-	Company- Chromalab 6/23/99	4.2°C