



February 28, 2000

QUARTERLY GROUNDWATER MONITORING REPORT
FEBRUARY 2000 GROUNDWATER SAMPLING
ASE JOB NO. 3515

at

The Former California
Brake and Clutch Property
2221 Union Street
Oakland, California

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

1.0 INTRODUCTION

The following is a report detailing the results of the February 2000 quarterly groundwater sampling at 2221 Union Street, Oakland, California (*Figures 1 and 2*).

2.0 GROUNDWATER ELEVATIONS

On February 7, 2000, ASE associate geologist Ian Reed measured the depth to water in all site groundwater monitoring wells using an electric water level sounder. The depth to water and groundwater elevations are presented in Table One and a groundwater elevation (potentiometric surface) contour map is presented as Figure 2. The groundwater flow direction is to the northeast at a gradient of 0.0166-feet/foot. The water table has risen an average of 1.45-feet since last quarter. The groundwater flow direction and gradient beneath the site has been highly variable and may be tidally influenced.

3.0 SAMPLE COLLECTION AND ANALYSIS

Prior to sampling, the monitoring wells were purged of four well casing volumes of groundwater using dedicated polyethylene bailers. The parameters pH, temperature and conductivity were monitored during the well purging. Samples were not collected until these parameters stabilized. The groundwater samples were collected using dedicated polyethylene bailers. The samples to be analyzed for volatile compounds were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid and capped without headspace. All of the samples were labeled and placed in a cooler with wet ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under appropriate chain-of-custody documentation. Well sampling field logs are presented in Appendix A. The groundwater samples were analyzed for halogenated volatile organic compounds (HVOCs) by EPA Method 8010. The analytical results for this and previous sampling periods are presented in Table Two.

Well sampling purge water was contained in sealed and labeled 55-gallon street drums and left on-site for temporary storage until off-site disposal can be arranged. The certified analytical report and chain-of-custody documentation are included as Appendix B.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The groundwater samples collected from monitoring well MW-1 contained 510 ppb tetrachloroethene (PCE), 160 ppb trichloroethene (TCE), and 8 ppb cis-1,2-dichloroethene (cis-1,2-DCE). Groundwater samples collected from monitoring well MW-2 contained 200 ppb PCE, 21 ppb TCE, and 6.6 ppb cis-1,2-DCE. The groundwater samples collected from monitoring well MW-3 contained 56 ppb PCE, 13 ppb TCE, 22 ppb cis-1,2-DCE, and 8.5 ppb 1,1-dichloroethane (1,1-DCA). The groundwater samples collected from monitoring well MW-4 contained 14 ppb PCE, 4.1 ppb TCE, 18 ppb cis-1,2-DCE, 8.1 ppb 1,1-DCA, 0.64 ppb 1,1-dichloroethene (1,1-DCE), 0.71 ppb chloroethene, and 6 ppb vinyl chloride.

The PCE, TCE, and cis-1,2-DCE concentrations in groundwater samples collected from monitoring wells MW-1, MW-2, and MW-4 generally increased, but still remain well below the Oakland Risk Based Corrective Action (RBCA) levels for vapor intrusion from groundwater to an indoor air scenario. There was a very slight decrease in VOC concentrations detected in groundwater samples collected from monitoring well MW-3.

ASE recommends this case be reviewed for "No Further Action/Closure" based on the following:

- The source of PCE laden soil beneath the outdoor drain has been delineated and removed from the subsurface.
- None of the concentrations of VOCs in soil samples collected from any of the six Geoprobe soil borings, four groundwater monitoring wells, or remediation confirmation samples exceeded the Oakland RBCA for vapor intrusion from soil to an indoor-air scenario in industrial setting.
- None of the concentrations of VOCs in groundwater samples collected from any of the six Geoprobe soil borings or four groundwater monitoring wells exceeded the Oakland RBCA for vapor intrusion from groundwater at 6-foot bgs to an indoor-air scenario in an industrial setting.

5.0 REPORT LIMITATIONS

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

It 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.

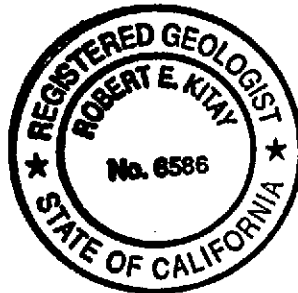
Aqua Science Engineers appreciates the opportunity to provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



Ian T. Reed
Associate Geologist



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

Attachments: Figures 1 and 2
Appendices A and B

TABLE ONE
Groundwater Elevation Data
2221 Union Street, Oakland, California

WELL ID	DATE OF MEASUREMENT	TOP OF CASING ELEVATION IN FEET (MSL)	DEPTH TO WATER (feet)	GROUNDWATER ELEVATION IN FEET (MSL)
MW-1	9/2/99	15.00	8.81	6.19
	11/2/99		5.94	9.06
	11/4/99		7.15	7.85
	11/9/99		4.72	10.28
	2/7/00		3.55	11.45
MW-2	9/2/99	15.29	6.29	9.00
	11/2/99		6.01	9.23
	11/4/99		5.94	9.30
	11/9/99		5.28	9.96
	2/7/00		4.12	11.12
MW-3	9/2/99	15.15	6.26	8.89
	11/2/99		5.74	9.43
	11/4/99		6.09	9.08
	11/9/99		5.64	9.53
	2/7/00		3.06	12.11
MW-4	11/2/99	15.21	5.86	9.35
	11/4/99		5.85	9.36
	11/9/99		4.56	10.65
	2/7/00		3.66	11.55
PCCMW-1	9/2/99	14.09	7.95	6.14

TABLE TWO

Summary of Chemical Analysis of Water Samples Volatile Organic Compounds All results are in parts per billion

SAMPLE NAME	DATE	PCE	TCE	CIS 1,2-DCE	TRANS 1,2-DCE	1,1-DCA	1,1-DCE	1,2-DCA	CHLORO ETHANE	VC	REMAINING VOCs
MW-1	9/2/99	9.9	3.2	3.9	<1	58	<1	<1	<1	<1	<1-<10
	11/2/99	100	15	17	3.4	1.7	<1	<1	<1	<1	<1-<10
	2/7/00	510	160	8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0-<20
MW-2	9/2/99	48	4.5	1.7	<1	<1	<1	<1	<1	<1	<1-<10
	11/2/99	110	9.5	1.4	<1	<1	<1	<1	<1	<1	<1-<10
	2/7/00	200	21	6.6	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5-<10
MW-3	9/2/99	38	21	34	<0.5	22	<0.5	<0.5	<0.5	<0.5	<0.5-<5
	11/2/99	59	21	35	<0.5	22	<0.5	<0.5	<0.5	<0.5	<0.5-<5
	2/7/00	56	13	22	<0.5	8.5	<0.5	<0.5	<0.5	<0.5	<0.5-<5
MW-4	11/2/99	0.68	0.74	21	<0.5	14	2.7	2.1	12	6.3	<0.5-<5
	2/7/00	14	4.1	18	<0.5	8.1	0.64	<0.5	0.71	6	<0.5-<5
OAKLAND RBCA		200,000	460,000	2,100,000	3,000,000	940,000	16,000	170,000	NA	4,400	VARIES

NOTES:

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

The Oakland risk based corrective action (RBCA) number is the cleanup goal for vapor intrusion from groundwater to an INDOOR AIR Scenario modified for groundwater at depths of 6-feet below ground surface.

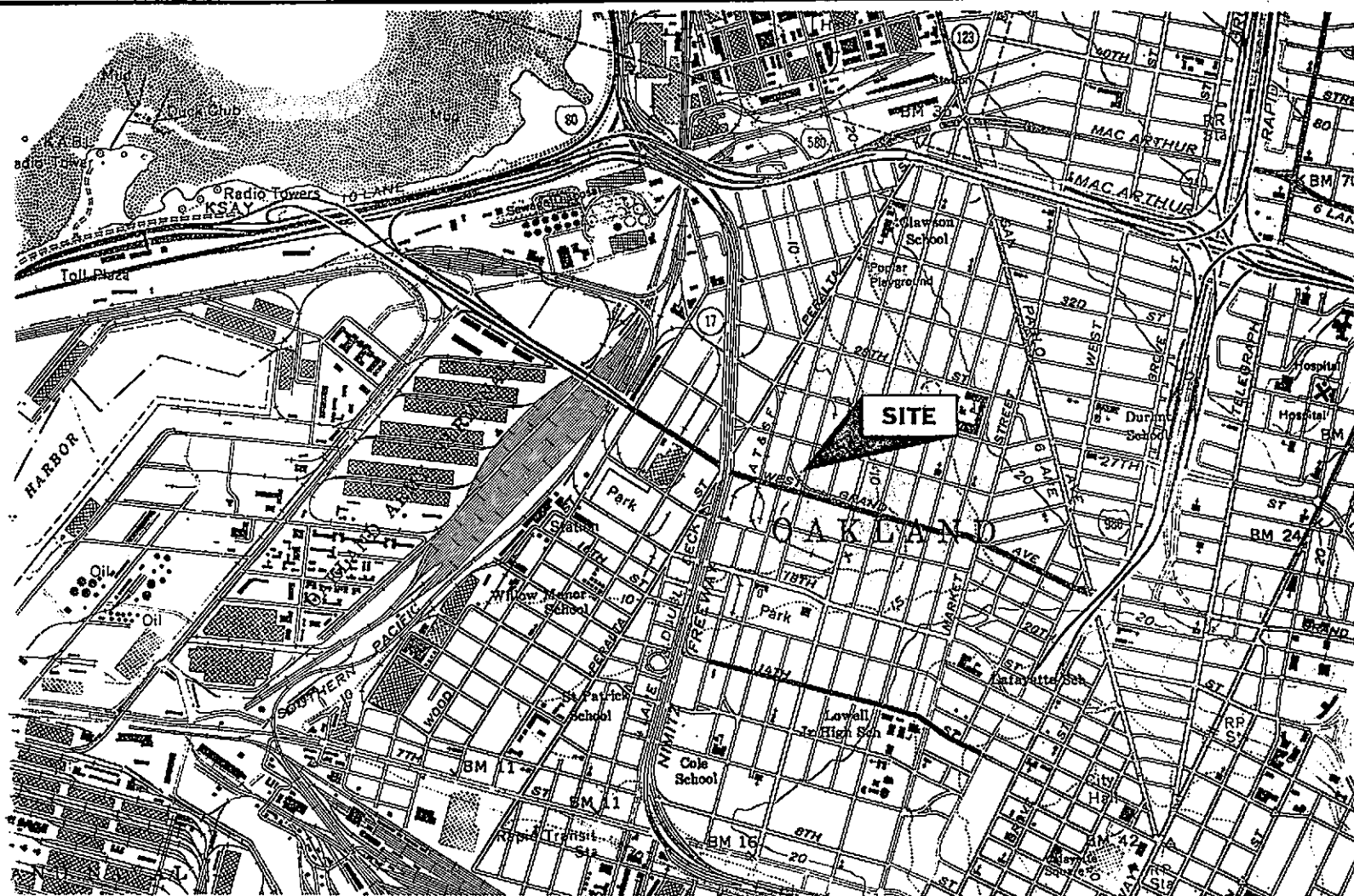
PCE is Tetrachloroethene

TCE is Trichloroethene

DCE is Dichloroethene

DCA is Dichloroethane

VC is Vinyl Chloride



NORTH

LOCATION MAP

2221 Union Street
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 1

NEIGHBORING PROPERTY

FENCED-IN,
DIRT SURFACE
YARD

FENCE

OIL / WATER SEPARATOR

510/160/8
MW-1
(11.45')

OUTDOOR DRAIN

MW-2 200/21/6.6
(11.12')

14/4.1/18
MW-4
(11.55')

11.2'

MEZANINE

11.4'

11.0'

11.8'

12.0'

BUILDING

MW-3
(12.11') 56/13/22

PARTS CLEANING BINS

SIDEWALK

UNION STREET

SIDEWALK

SIDEWALK

NEIGHBORING PROPERTY

SIDEWALK

(Ppb, PCE, TCE, cis 1,2-DCE in groundwater)

LEGEND

MW-4
(11.55')

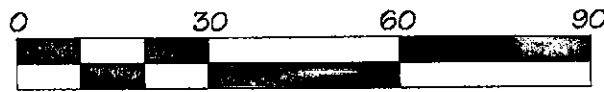
ASE Monitoring Well
with groundwater elevation
in feet based on site datum
referenced to regional
topographic map

12.0'

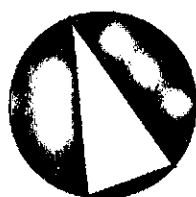
Potentiometric Surface
Elevation of Groundwater



Groundwater Flow Direction



SCALE IN FEET



NORTH

**POTENTIOMETRIC SURFACE
MAP - FEBRUARY 7, 2000**

VACANT PROPERTY
2221 UNION STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 2

APPENDIX A

Well Sampling Field Logs



WELL SAMPLING FIELD LOG

Project Name and Address: Kendall - Union St.
 Job #: 3515 Date of sampling: 2/7/00
 Well Name: MW-1 Sampled by: ITZ
 Total depth of well (feet): 26.0 Well diameter (inches): 2"
 Depth to water before sampling (feet): 3.55
 Thickness of floating product if any: —
 Depth of well casing in water (feet): 16.45
 Number of gallons per well casing volume (gallons): 2.8
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 11.2
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 1455 Time Evacuation Finished: 1510
 Approximate volume of groundwater purged: 11.2
 Did the well go dry?: NO After how many gallons: —
 Time samples were collected: 1515
 Depth to water at time of sampling: 3.58
 Percent recovery at time of sampling: 99%
 Samples collected with: dedicated bailer
 Sample color: clear/white Odor: None
 Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>71.3</u>	<u>5.67</u>	<u>773</u>
<u>2</u>	<u>72.4</u>	<u>5.81</u>	<u>771</u>
<u>3</u>	<u>73.7</u>	<u>5.74</u>	<u>784</u>
<u>4</u>	<u>73.7</u>	<u>5.69</u>	<u>771</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres Iced?	Analysis
<u>MW-1</u>	<u>3</u>	<u>40ml VEA</u>	<u>✓✓</u>	<u>840</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____



WELL SAMPLING FIELD LOG

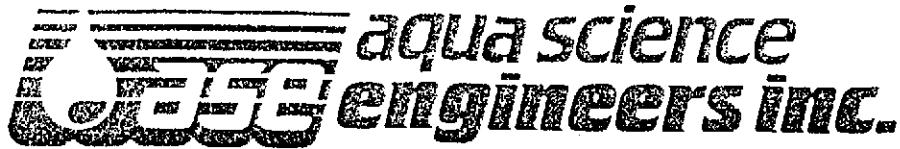
Project Name and Address: Kendall - Union ST
 Job #: 3515 Date of sampling: 2/7/00
 Well Name: MW-2 Sampled by: CTR
 Total depth of well (feet): 26.0' Well diameter (inches): 2"
 Depth to water before sampling (feet): 4.12
 Thickness of floating product if any: -
 Depth of well casing in water (feet): 15.88'
 Number of gallons per well casing volume (gallons): 2.7
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 10.8
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 1520 Time Evacuation Finished: 1540
 Approximate volume of groundwater purged: 11
 Did the well go dry?: NO After how many gallons: -
 Time samples were collected: 1545
 Depth to water at time of sampling: 4.17'
 Percent recovery at time of sampling: 99%
 Samples collected with: dedicated bailer
 Sample color: clear Odor: None
 Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>72.4</u>	<u>5.74</u>	<u>613</u>
<u>2</u>	<u>71.7</u>	<u>5.94</u>	<u>724</u>
<u>3</u>	<u>72.9</u>	<u>5.63</u>	<u>713</u>
<u>4</u>	<u>71.6</u>	<u>5.32</u>	<u>743</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-2</u>	<u>3</u>	<u>10ml</u>	<u>✓</u>	<u>✓</u>	<u>8210</u>



WELL SAMPLING FIELD LOG

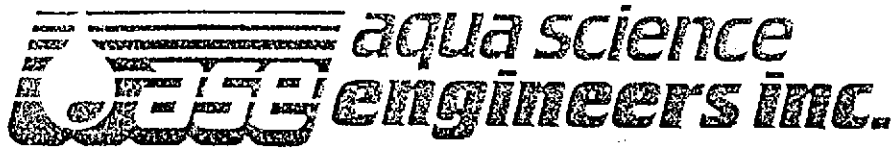
Project Name and Address: Kendall - Union St
 Job #: 3575 Date of sampling: 2/7/00
 Well Name: Mw-3 Sampled by: ITR
 Total depth of well (feet): 26 Well diameter (inches): 2"
 Depth to water before sampling (feet): 3.06
 Thickness of floating product if any: —
 Depth of well casing in water (feet): 16.94
 Number of gallons per well casing volume (gallons): 2.8
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 11.6
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 15 50 Time Evacuation Finished: 16 10
 Approximate volume of groundwater purged: 12
 Did the well go dry?: NO After how many gallons: —
 Time samples were collected: 16 15
 Depth to water at time of sampling: 3.10'
 Percent recovery at time of sampling: 99%
 Samples collected with: dedicated bailer
 Sample color: clear Odor: none
 Description of sediment in sample: L. silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	71.4	6.71	173
2	72.3	7.43	284
3	73.0	6.91	310
4	73.1	6.73	311

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
Mw-3	5	40 ml VOA	✓	✓	



WELL SAMPLING FIELD LOG

Project Name and Address: Kendall - 2221 Union St
 Job #: 3515 Date of sampling: 2/7/00
 Well Name: MW-4 Sampled by: TR
 Total depth of well (feet): 19.5 Well diameter (inches): 2"
 Depth to water before sampling (feet): 3.66'
 Thickness of floating product if any: —
 Depth of well casing in water (feet): 15.84
 Number of gallons per well casing volume (gallons): 2.7
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 16.8
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 1420 Time Evacuation Finished: 1445
 Approximate volume of groundwater purged: 11
 Did the well go dry?: NO After how many gallons: —
 Time samples were collected: 1450
 Depth to water at time of sampling: 3.76'
 Percent recovery at time of sampling: 92%
 Samples collected with: dedicated bailer
 Sample color: clear Odor: none
 Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>71.7</u>	<u>6.67</u>	<u>671</u>
<u>2</u>	<u>71.3</u>	<u>5.94</u>	<u>742</u>
<u>3</u>	<u>71.6</u>	<u>5.87</u>	<u>594</u>
<u>4</u>	<u>71.4</u>	<u>5.67</u>	<u>583</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-4</u>	<u>3</u>	<u>10ml VOA</u>	<u>✓</u>	<u>✓</u>	<u>pld</u>

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

Date: February 15, 2000

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

Attn.: Mr. Ian T. Reed

Project: 3515
Kendall

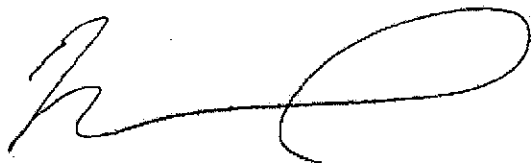
Site: 2221 Union Street
Oakland, CA

Dear Mr. Reed,

Attached is our report for your samples received on Wednesday February 9, 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 March 10, 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

Halogenated Volatile Organic Compounds

Aqua Science Engineers, Inc.	<input checked="" type="checkbox"/> 208 West El Pintado Road Danville, CA 94526
Attn: Ian T. Reed	Phone: (925) 820-9391 Fax: (925) 837-4853
Project #: 3515	Project: Kendall
Site: 2221 Union Street Oakland, CA	

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	02/08/2000 15:15	1
MW-2	Water	02/08/2000 15:45	2
MW-3	Water	02/08/2000 16:15	3
MW-4	Water	02/08/2000 14:50	4

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn.: Ian T. Reed

Prep Method: 5030

Halogenated Volatile Organic Compounds

Sample ID: MW-1	Lab Sample ID: 2000-02-0182-001
Project: 3515 Kendall	Received: 02/09/2000 17:04
Site: 2221 Union Street Oakland, CA	Extracted: 02/14/2000 14:53
Sampled: 02/08/2000 15:15	QC-Batch: 2000/02/14-01.25
Matrix: Water	
Sample/Analysis Flag: o (See Legend & Note section)	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	10	ug/L	10.00	02/14/2000 14:53	
Vinyl chloride	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Chloroethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Trichlorofluoromethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
1,1-Dichloroethene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Methylene chloride	ND	50	ug/L	10.00	02/14/2000 14:53	
trans-1,2-Dichloroethene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
cis-1,2-Dichloroethene	8.0	5.0	ug/L	10.00	02/14/2000 14:53	
1,1-Dichloroethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Chloroform	ND	5.0	ug/L	10.00	02/14/2000 14:53	
1,1,1-Trichloroethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Carbon tetrachloride	ND	5.0	ug/L	10.00	02/14/2000 14:53	
1,2-Dichloroethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Trichloroethene	160	5.0	ug/L	10.00	02/14/2000 14:53	
1,2-Dichloropropane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Bromodichloromethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
2-Chloroethylvinyl ether	ND	5.0	ug/L	10.00	02/14/2000 14:53	
trans-1,3-Dichloropropene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
cis-1,3-Dichloropropene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
1,1,2-Trichloroethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Tetrachloroethene	510	5.0	ug/L	10.00	02/14/2000 14:53	
Dibromochloromethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Chlorobenzene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Bromoform	ND	20	ug/L	10.00	02/14/2000 14:53	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	10.00	02/14/2000 14:53	
1,3-Dichlorobenzene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
1,4-Dichlorobenzene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
1,2-Dichlorobenzene	ND	5.0	ug/L	10.00	02/14/2000 14:53	
Trichlorotrifluoroethane	ND	20	ug/L	10.00	02/14/2000 14:53	
Chloromethane	ND	10	ug/L	10.00	02/14/2000 14:53	
Bromomethane	ND	10	ug/L	10.00	02/14/2000 14:53	
Surrogate(s)						
1-Chloro-2-fluorobenzene	94.4	50-150	%	1.00	02/14/2000 14:53	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn.: Ian T. Reed

Prep Method: 5030

Halogenated Volatile Organic Compounds

Sample ID: MW-2	Lab Sample ID: 2000-02-0182-002
Project: 3515 Kendall	Received: 02/09/2000 17:04
Site: 2221 Union Street Oakland, CA	Extracted: 02/14/2000 15:51
Sampled: 02/08/2000 15:45	QC-Batch: 2000/02/14-01.25
Matrix: Water	
Sample/Analysis Flag: o (See Legend & Note section)	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	5.0	ug/L	5.00	02/14/2000 15:51	
Vinyl chloride	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Chloroethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Trichlorofluoromethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
1,1-Dichloroethene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Methylene chloride	ND	25	ug/L	5.00	02/14/2000 15:51	
trans-1,2-Dichloroethene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
cis-1,2-Dichloroethene	6.6	2.5	ug/L	5.00	02/14/2000 15:51	
1,1-Dichloroethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Chloroform	ND	2.5	ug/L	5.00	02/14/2000 15:51	
1,1,1-Trichloroethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Carbon tetrachloride	ND	2.5	ug/L	5.00	02/14/2000 15:51	
1,2-Dichloroethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Trichloroethene	21	2.5	ug/L	5.00	02/14/2000 15:51	
1,2-Dichloropropane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Bromodichloromethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
2-Chloroethylvinyl ether	ND	2.5	ug/L	5.00	02/14/2000 15:51	
trans-1,3-Dichloropropene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
cis-1,3-Dichloropropene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
1,1,2-Trichloroethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Tetrachloroethene	200	2.5	ug/L	5.00	02/14/2000 15:51	
Dibromochloromethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Chlorobenzene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Bromoform	ND	10	ug/L	5.00	02/14/2000 15:51	
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5.00	02/14/2000 15:51	
1,3-Dichlorobenzene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
1,4-Dichlorobenzene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
1,2-Dichlorobenzene	ND	2.5	ug/L	5.00	02/14/2000 15:51	
Trichlorotrifluoroethane	ND	10	ug/L	5.00	02/14/2000 15:51	
Chloromethane	ND	5.0	ug/L	5.00	02/14/2000 15:51	
Bromomethane	ND	5.0	ug/L	5.00	02/14/2000 15:51	
Surrogate(s)						
1-Chloro-2-fluorobenzene	97.0	50-150	%	1.00	02/14/2000 15:51	

1220 Quarry Lane * Pleasanton, CA 94566-4756

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn.: Ian T. Reed

Prep Method: 5030

Halogenated Volatile Organic Compounds

Sample ID: MW-3	Lab Sample ID: 2000-02-0182-003
Project: 3515 Kendall	Received: 02/09/2000 17:04
Site: 2221 Union Street Oakland, CA	Extracted: 02/11/2000 20:20
Sampled: 02/08/2000 16:15	QC-Batch: 2000/02/11-01.25
Matrix: Water	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	02/11/2000 20:20	
Vinyl chloride	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Chloroethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Trichlorofluoromethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Methylene chloride	ND	5.0	ug/L	1.00	02/11/2000 20:20	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
cis-1,2-Dichloroethene	22	0.50	ug/L	1.00	02/11/2000 20:20	
1,1-Dichloroethane	8.5	0.50	ug/L	1.00	02/11/2000 20:20	
Chloroform	ND	0.50	ug/L	1.00	02/11/2000 20:20	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Carbon tetrachloride	ND	0.50	ug/L	1.00	02/11/2000 20:20	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Trichloroethene	13	0.50	ug/L	1.00	02/11/2000 20:20	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Bromodichloromethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
2-Chloroethylvinyl ether	ND	0.50	ug/L	1.00	02/11/2000 20:20	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Tetrachloroethene	56	0.50	ug/L	1.00	02/11/2000 20:20	
Dibromochloromethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Chlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Bromoform	ND	2.0	ug/L	1.00	02/11/2000 20:20	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	02/11/2000 20:20	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 20:20	
Trichlorotrifluoroethane	ND	2.0	ug/L	1.00	02/11/2000 20:20	
Chloromethane	ND	1.0	ug/L	1.00	02/11/2000 20:20	
Bromomethane	ND	1.0	ug/L	1.00	02/11/2000 20:20	
Surrogate(s)						
1-Chloro-2-fluorobenzene	90.5	50-150	%	1.00	02/11/2000 20:20	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn.: Ian T. Reed

Prep Method: 5030

Halogenated Volatile Organic Compounds

Sample ID: MW-4	Lab Sample ID: 2000-02-0182-004
Project: 3515 Kendall	Received: 02/09/2000 17:04
Site: 2221 Union Street Oakland, CA	Extracted: 02/11/2000 22:46
Sampled: 02/08/2000 14:50	QC-Batch: 2000/02/11-01.25
Matrix: Water	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	02/11/2000 22:46	
Vinyl chloride	6.0	0.50	ug/L	1.00	02/11/2000 22:46	
Chloroethane	0.71	0.50	ug/L	1.00	02/11/2000 22:46	
Trichlorofluoromethane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
1,1-Dichloroethene	0.64	0.50	ug/L	1.00	02/11/2000 22:46	
Methylene chloride	ND	5.0	ug/L	1.00	02/11/2000 22:46	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	02/11/2000 22:46	
cis-1,2-Dichloroethene	18	0.50	ug/L	1.00	02/11/2000 22:46	
1,1-Dichloroethane	8.1	0.50	ug/L	1.00	02/11/2000 22:46	
Chloroform	ND	0.50	ug/L	1.00	02/11/2000 22:46	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
Carbon tetrachloride	ND	0.50	ug/L	1.00	02/11/2000 22:46	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
Trichloroethene	4.1	0.50	ug/L	1.00	02/11/2000 22:46	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
Bromodichloromethane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
2-Chloroethylvinyl ether	ND	0.50	ug/L	1.00	02/11/2000 22:46	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	02/11/2000 22:46	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	02/11/2000 22:46	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
Tetrachloroethene	14	0.50	ug/L	1.00	02/11/2000 22:46	
Dibromochloromethane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
Chlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 22:46	
Bromoform	ND	2.0	ug/L	1.00	02/11/2000 22:46	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	02/11/2000 22:46	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 22:46	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 22:46	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	02/11/2000 22:46	
Trichlorotrifluoroethane	ND	2.0	ug/L	1.00	02/11/2000 22:46	
Chloromethane	ND	1.0	ug/L	1.00	02/11/2000 22:46	
Bromomethane	ND	1.0	ug/L	1.00	02/11/2000 22:46	
Surrogate(s)						
1-Chloro-2-fluorobenzene	88.4	50-150	%	1.00	02/11/2000 22:46	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn.: Ian T. Reed

Prep Method: 5030

Batch QC Report Halogenated Volatile Organic Compounds

Method Blank	Water	QC Batch # 2000/02/11-01.25
MB: 2000/02/11-01.25-001		Date Extracted: 02/11/2000 09:03

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	02/11/2000 09:03	
Vinyl chloride	ND	0.5	ug/L	02/11/2000 09:03	
Chloroethane	ND	0.5	ug/L	02/11/2000 09:03	
Trichlorofluoromethane	ND	0.5	ug/L	02/11/2000 09:03	
1,1-Dichloroethene	ND	0.5	ug/L	02/11/2000 09:03	
Methylene chloride	ND	5.0	ug/L	02/11/2000 09:03	
trans-1,2-Dichloroethene	ND	0.5	ug/L	02/11/2000 09:03	
cis-1,2-Dichloroethene	ND	0.5	ug/L	02/11/2000 09:03	
1,1-Dichloroethane	ND	0.5	ug/L	02/11/2000 09:03	
Chloroform	ND	0.5	ug/L	02/11/2000 09:03	
1,1,1-Trichloroethane	ND	0.5	ug/L	02/11/2000 09:03	
Carbon tetrachloride	ND	0.5	ug/L	02/11/2000 09:03	
1,2-Dichloroethane	ND	0.5	ug/L	02/11/2000 09:03	
Trichloroethene	ND	0.5	ug/L	02/11/2000 09:03	
1,2-Dichloropropane	ND	0.5	ug/L	02/11/2000 09:03	
Bromodichloromethane	ND	0.5	ug/L	02/11/2000 09:03	
2-Chloroethylvinyl ether	ND	0.5	ug/L	02/11/2000 09:03	
trans-1,3-Dichloropropene	ND	0.5	ug/L	02/11/2000 09:03	
cis-1,3-Dichloropropene	ND	0.5	ug/L	02/11/2000 09:03	
1,1,2-Trichloroethane	ND	0.5	ug/L	02/11/2000 09:03	
Tetrachloroethene	ND	0.5	ug/L	02/11/2000 09:03	
Dibromochloromethane	ND	0.5	ug/L	02/11/2000 09:03	
Chlorobenzene	ND	0.5	ug/L	02/11/2000 09:03	
Bromoform	ND	2.0	ug/L	02/11/2000 09:03	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	02/11/2000 09:03	
1,3-Dichlorobenzene	ND	0.5	ug/L	02/11/2000 09:03	
1,4-Dichlorobenzene	ND	0.5	ug/L	02/11/2000 09:03	
1,2-Dichlorobenzene	ND	0.5	ug/L	02/11/2000 09:03	
Trichlorotrifluoroethane	ND	2.0	ug/L	02/11/2000 09:03	
Chloromethane	ND	1.0	ug/L	02/11/2000 09:03	
Bromomethane	ND	1.0	ug/L	02/11/2000 09:03	
Surrogate(s)					
1-Chloro-2-fluorobenzene	91.5	50-150	%	02/11/2000 09:03	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn.: Ian T. Reed

Prep Method: 5030

Batch QC Report

Halogenated Volatile Organic Compounds

Method Blank	Water	QC Batch # 2000/02/14-01.25
MB: 2000/02/14-01.25-001		Date Extracted: 02/14/2000 10:11

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	02/14/2000 10:11	
Vinyl chloride	ND	0.5	ug/L	02/14/2000 10:11	
Chloroethane	ND	0.5	ug/L	02/14/2000 10:11	
Trichlorofluoromethane	ND	0.5	ug/L	02/14/2000 10:11	
1,1-Dichloroethene	ND	0.5	ug/L	02/14/2000 10:11	
Methylene chloride	ND	5.0	ug/L	02/14/2000 10:11	
trans-1,2-Dichloroethene	ND	0.5	ug/L	02/14/2000 10:11	
cis-1,2-Dichloroethene	ND	0.5	ug/L	02/14/2000 10:11	
1,1-Dichloroethane	ND	0.5	ug/L	02/14/2000 10:11	
Chloroform	ND	0.5	ug/L	02/14/2000 10:11	
1,1,1-Trichloroethane	ND	0.5	ug/L	02/14/2000 10:11	
Carbon tetrachloride	ND	0.5	ug/L	02/14/2000 10:11	
1,2-Dichloroethane	ND	0.5	ug/L	02/14/2000 10:11	
Trichloroethene	ND	0.5	ug/L	02/14/2000 10:11	
1,2-Dichloropropane	ND	0.5	ug/L	02/14/2000 10:11	
Bromodichloromethane	ND	0.5	ug/L	02/14/2000 10:11	
2-Chloroethylvinyl ether	ND	0.5	ug/L	02/14/2000 10:11	
trans-1,3-Dichloropropene	ND	0.5	ug/L	02/14/2000 10:11	
cis-1,3-Dichloropropene	ND	0.5	ug/L	02/14/2000 10:11	
1,1,2-Trichloroethane	ND	0.5	ug/L	02/14/2000 10:11	
Tetrachloroethene	ND	0.5	ug/L	02/14/2000 10:11	
Dibromochloromethane	ND	0.5	ug/L	02/14/2000 10:11	
Chlorobenzene	ND	0.5	ug/L	02/14/2000 10:11	
Bromoform	ND	2.0	ug/L	02/14/2000 10:11	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	02/14/2000 10:11	
1,3-Dichlorobenzene	ND	0.5	ug/L	02/14/2000 10:11	
1,4-Dichlorobenzene	ND	0.5	ug/L	02/14/2000 10:11	
1,2-Dichlorobenzene	ND	0.5	ug/L	02/14/2000 10:11	
Trichlorotrifluoroethane	ND	2.0	ug/L	02/14/2000 10:11	
Chloromethane	ND	1.0	ug/L	02/14/2000 10:11	
Bromomethane	ND	1.0	ug/L	02/14/2000 10:11	
Surrogate(s)					
1-Chloro-2-fluorobenzene	94.5	50-150	%	02/14/2000 10:11	

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To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn: Ian T. Reed

Prep Method: 5030

Batch QC Report

Halogenated Volatile Organic Compounds

Laboratory Control Spike (LCS/LCSD)		Water		QC Batch # 2000/02/11-01.25	
LCS:	2000/02/11-01.25-002	Extracted:	02/11/2000 09:51	Analyzed:	02/11/2000 09:51
LCSD:	2000/02/11-01.25-003	Extracted:	02/11/2000 10:38	Analyzed:	02/11/2000 10:38

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
1,1-Dichloroethene	22.8	21.4	20.0	20.0	114.0	107.0	6.3	50-140	20		
Trichloroethene	22.4	21.2	20.0	20.0	112.0	106.0	5.5	50-150	20		
Chlorobenzene	22.6	21.7	20.0	20.0	113.0	108.5	4.1	50-150	20		
Surrogate(s)											
1-Chloro-2-fluorobenzen	24.4	23.1	20	20	122.0	115.5		50-150			

Environmental Services (SDB)

To: Aqua Science Engineers, Inc.

Test Method: 8010

Attn: Ian T. Reed

Prep Method: 5030

Batch QC Report

Halogenated Volatile Organic Compounds

Laboratory Control Spike (LCS/LCSD)		Water		QC Batch # 2000/02/14-01.25	
LCS:	2000/02/14-01.25-002	Extracted:	02/14/2000 11:12	Analyzed:	02/14/2000 11:12
LCSD:	2000/02/14-01.25-003	Extracted:	02/14/2000 12:06	Analyzed:	02/14/2000 12:06

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]			Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	RPD [%]	Recovery	RPD	LCS	LCSD
1,1-Dichloroethene	21.0	19.5	20.0	20.0	105.0	97.5	7.4	50-140	20		
Trichloroethene	20.1	19.2	20.0	20.0	100.5	96.0	4.6	50-150	20		
Chlorobenzene	20.3	19.4	20.0	20.0	101.5	97.0	4.5	50-150	20		
Surrogate(s)											
1-Chloro-2-fluorobenzen	19.0	18.0	20	20	95.0	90.0		50-150			

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-02-0182

To: Aqua Science Engineers, Inc.
Attn.: Ian T. Reed

Test Method: 8010
Prep Method: 5030

Batch QC Report

Halogenated Volatile Organic Compounds

Matrix Spike (MS / MSD)	Water	QC Batch # 2000/02/11-01.25
Sample ID: MW-3		Lab Sample ID: 2000-02-0182-003
MS: 2000/02/11-01.25-004	Extracted: 02/11/2000 21:08	Analyzed: 02/11/2000 21:08 Dilution: 1.0
MSD: 2000/02/11-01.25-005	Extracted: 02/11/2000 21:57	Analyzed: 02/11/2000 21:57 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
1,1-Dichloroethene	20.8	20.8	ND	20.0	20.0	104.0	104.0	0.0	50-140	20		
Trichloroethene	33.4	31.5	13.4	20.0	20.0	100.0	90.5	10.0	50-150	20		
Chlorobenzene	21.1	20.0	ND	20.0	20.0	105.5	100.0	5.4	50-150	20		
Surrogate(s)												
1-Chloro-2-fluorobenzene	18.9	18.4		20	20	94.5	92.0		50-150			

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Printed on: 02/15/2000 15:34

Page 10 of 11

To: Aqua Science Engineers, Inc.
Attn: Ian T. Reed

Test Method: 8010
Prep Method: 5030

Legend & Notes

Halogenated Volatile Organic Compounds

Analysis Flags

0

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

2000-02-0182

50416

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) Ian T Reed (PHONE NO.) (925) 820-9391

PROJECT NAME Kendall
ADDRESS 2221 Union ST, Oakland, CA

JOB NO. 3515
DATE 2/8/00

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5-day T.A.T.

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
MW-1	2/8/00	1515	water	3				X											
MW-2		1545						X											
MW-3		1615						X											
MW-4		1450						X											

RELINQUISHED BY: Ian T Reed
(signature) (time)

RECEIVED BY: [Signature]
(signature) (time) 330

RELINQUISHED BY: [Signature]
(signature) (time) 1704

RECEIVED BY LABORATORY: Dennis Harrington
(signature) (time)

COMMENTS:
5-day T.A.T.

Ian T Reed
(printed name) (date)

[Signature]
(printed name) (date) 2/9/00

[Signature]
(printed name) (date) 2/9/00

D. HARRINGTON
(printed name) (date)

Company: AQE

Company: [Signature]

Company: [Signature]

Company: Chromalab 2/9/00
1704