



801-CO. 114

ENVIRONMENTAL  
PROTECTION  
00 DEC 15 PM 3: 14

December 13, 2000

Plume flows predominantly to NE.  
Plume has not been delineated.

Consider HP. NE of wells, and upgradient  
HP at SW corner of building + east of property  
to determine is contam. are widespread,

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

regional, and  
just localized at site

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 November 2000 quarterly groundwater sampling at 2221 Union Street, Oakland, California (*Figures 1 and 2*).

## 2.0 GROUNDWATER ELEVATIONS

On November 30, 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 0.007-feet/foot. 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 were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid and capped without headspace. The samples were then 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 steel 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 110 parts per billion (ppb) tetrachloroethene (PCE), 45 ppb trichloroethene (TCE), 9.0 ppb cis-1,2-dichloroethene (cis-1,2-DCE), and 4.2 vinyl chloride (VC). The groundwater samples collected from monitoring well MW-2 contained 660 ppb PCE, 360 ppb TCE, and 130 ppb cis-1,2-DCE. The groundwater samples collected from monitoring well MW-3 contained 63 ppb PCE, 14 ppb TCE, 25 ppb cis-1,2-DCE, and 14 ppb 1,1-dichloroethane (1,1-DCA). The groundwater samples collected from monitoring well MW-4 contained 30 ppb PCE, 6.9 ppb TCE, 2.8 ppb cis-1,2-DCE, 8.3 ppb 1,1-DCA, and 4.6 ppb 1,1,1-trichloroethane (1,1,1-TCA).

None of the HVOC concentrations detected exceeded City of Oakland Risk-based Corrective Action (RBCA) concentrations. However, concentrations of one or more compounds in groundwater samples collected from all four monitoring wells exceeded California Department of Health Services (DHS) maximum contaminant levels (MCLs) for drinking water.

Due to the ongoing elevated HVOC concentrations detected in groundwater samples collected at the site, ASE recommends that this site remain on a quarterly sampling schedule. The next sampling is scheduled for February 2001.

#### **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.

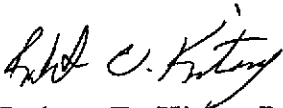
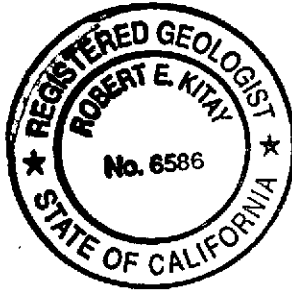
Aqua Science Engineers appreciates the opportunity to provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

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**

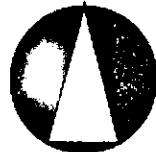
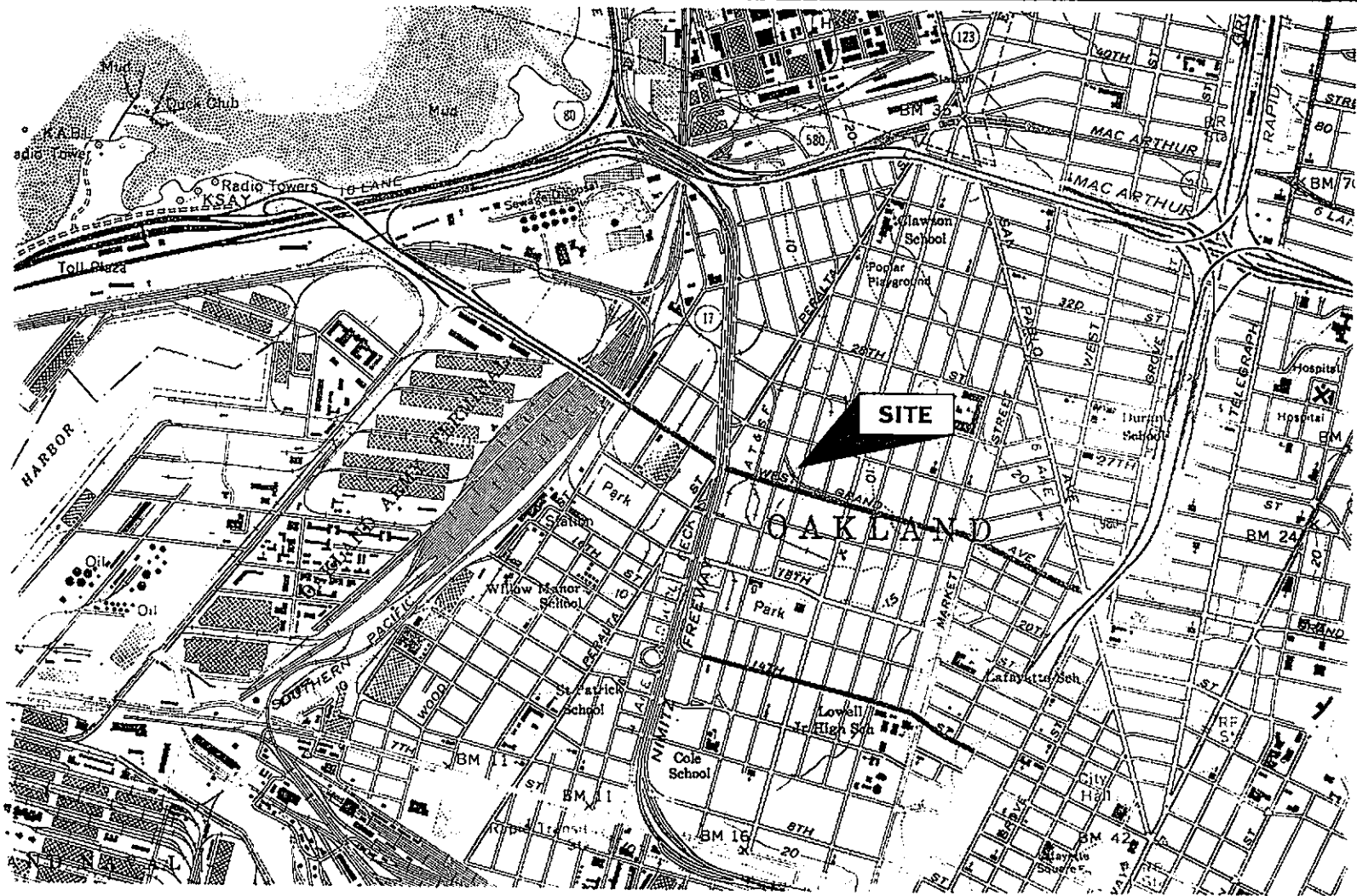
| WELL ID | DATE OF MEASUREMENT | TOP OF CASING ELEVATION IN FEET (MSL) | DEPTH TO WATER (feet) | GROUNDWATER ELEVATION IN FEET (MSL) |
|---------|---------------------|---------------------------------------|-----------------------|-------------------------------------|
| MW-1    | 9/2/99              | 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                               |
|         | 5/16/00             |                                       | 3.88                  | 11.12                               |
|         | 8/8/00              |                                       | 5.79                  | 9.21                                |
|         | 11/30/00            |                                       | 4.14                  | 10.86                               |
| MW-2    | 9/2/99              | 15.29                                 | 6.29                  | 9.00                                |
|         | 11/2/99             | 15.24                                 | 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                               |
|         | 5/16/00             |                                       | 4.24                  | 11.00                               |
|         | 8/8/00              |                                       | 5.68                  | 9.56                                |
|         | 11/30/00            |                                       | 4.78                  | 10.46                               |
| MW-3    | 9/2/99              | 15.15                                 | 6.26                  | 8.89                                |
|         | 11/2/99             | 15.17                                 | 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                               |
|         | 5/16/00             |                                       | 3.80                  | 11.37                               |
|         | 8/8/00              |                                       | 3.54                  | 11.63                               |
|         | 11/30/00            |                                       | 3.56                  | 11.61                               |
| 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                               |
|         | 5/16/00             |                                       | 3.89                  | 11.32                               |
|         | 8/8/00              |                                       | 5.77                  | 9.44                                |
|         | 11/30/00            |                                       | 4.15                  | 11.06                               |

**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 | CHLOROETHANE | 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       |
|             | 5/16/00  | 260  | 73   | 10          | <5.0          | <5.0    | <5.0    | <5.0    | <5.0         | <5.0 | <5.0-<20       |
|             | 8/8/00   | 38   | 19   | 21          | 8.7           | 1.2     | <0.5    | <0.5    | <0.5         | 17   | <0.5-<5.0      |
|             | 11/30/00 | 110  | 45   | 9.0         | <2.5          | <2.5    | <2.5    | <2.5    | <2.5         | 4.2  | <2.5-<25       |
| 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       |
|             | 5/16/00  | 820  | 220  | 74          | <10           | <10     | <10     | <10     | <10          | <10  | <10-<40        |
|             | 8/8/00   | 280  | 82   | 33          | <5.0          | <5.0    | <5.0    | <5.0    | <5.0         | <5.0 | <5.0-<20       |
|             | 11/30/00 | 660  | 360  | 130         | <10           | <10     | <10     | <10     | <10          | <10  | <10-<100       |
| 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        |
|             | 5/16/00  | 54   | 8.7  | <1          | <1            | 5.3     | <1      | <1      | <1           | <1   | <1-<10         |
|             | 8/8/00   | 74   | 11   | 17          | <1.0          | 12      | <1.0    | <1.0    | <1.0         | <1.0 | <1.0-<4.0      |
|             | 11/30/00 | 63   | 14   | 25          | <1.0          | 14      | <1.0    | <1.0    | <1.0         | <1.0 | <1.0-<10       |
| 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        |
|             | 5/16/00  | 24   | 13   | 12          | <0.5          | 19      | <0.5    | <0.5    | <0.5         | 0.75 | <0.5-<5        |
|             | 8/8/00   | 2.1  | 7.4  | 17          | <0.5          | 8.3     | 1.8     | 1.9     | 3.1          | 9.6  | <0.5-<5.0      |
|             | 11/30/00 | 30   | 6.9  | 2.8         | <0.5          | 8.3     | <0.5    | <0.5    | <0.5         | <0.5 | 4.6*           |

|              |         |         |           |           |         |        |         |    |       |        |
|--------------|---------|---------|-----------|-----------|---------|--------|---------|----|-------|--------|
| OAKLAND RBCA | 200,000 | 460,000 | 2,100,000 | 3,000,000 | 940,000 | 16,000 | 170,000 | NA | 4,400 | VARIES |
| DHS MCLs     | 5       | 5       | 6         | 10        | 5       | 6      | 0.5     | NA | 0.5   | 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.  
 The DHS MCLs are the California Department of Health Services maximum contaminant levels for drinking water  
 PCE is Tetrachloroethene  
 TCE is Trichloroethene  
 DCE is Dichloroethene  
 DCA is Dichloroethane  
 VC is Vinyl Chloride  
 \* = 1,1,1-Trichloroethane



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

MW-1  
(10.86')

OUTDOOR DRAIN

MW-2  
(10.46')

10.5'

MW-4  
(11.06')

11.0'

MEZANINE

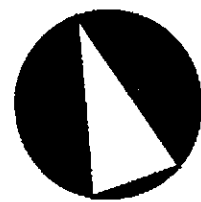
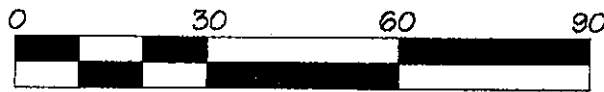
BUILDING

11.5'

MW-3  
(11.61')

PARTS CLEANING BINS

NEIGHBORING PROPERTY



NORTH

### LEGEND

MW-4  
(11.06')

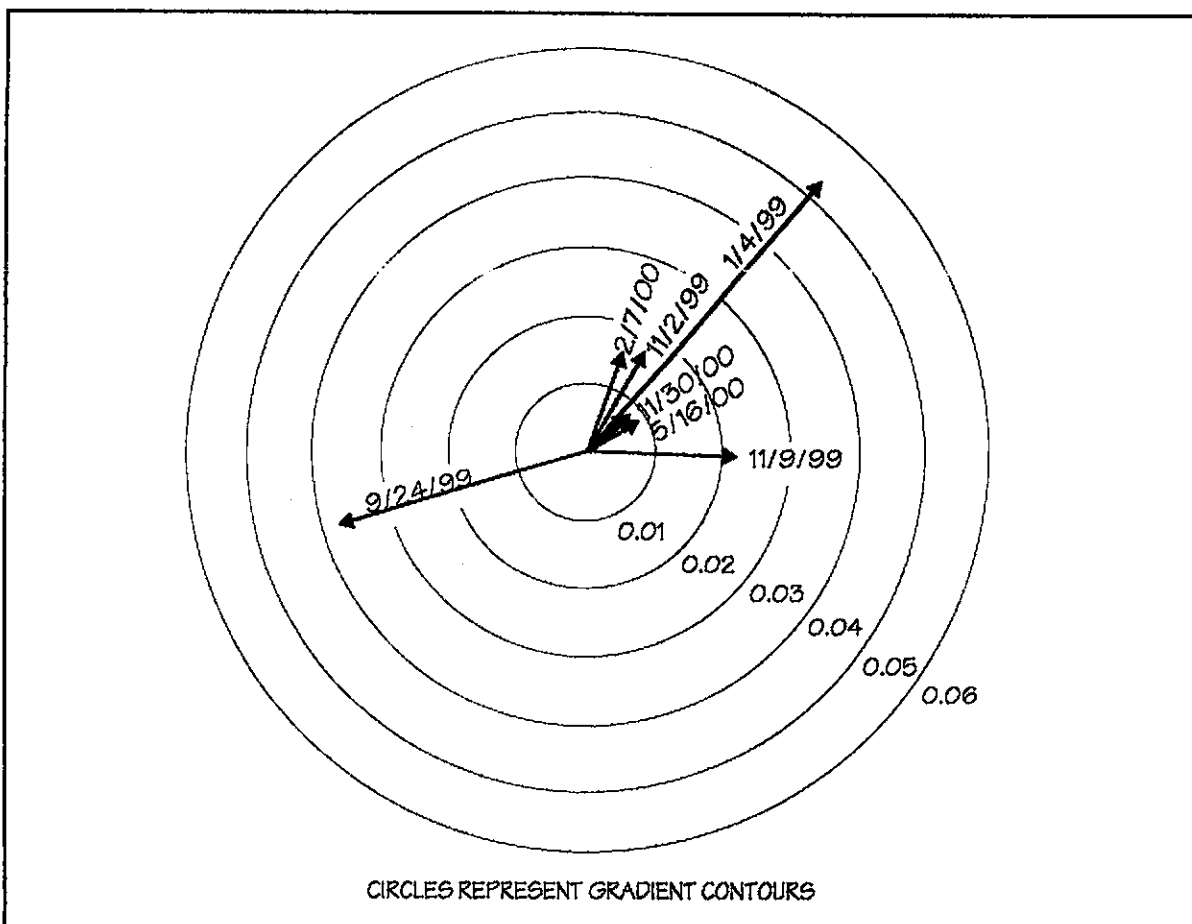
ASE Monitoring Well  
with groundwater elevation  
in feet based on site datum  
referenced to regional  
topographic map

11.5'

Potentiometric Surface  
Elevation of Groundwater



Groundwater Flow Direction



POTENTIOMETRIC SURFACE  
MAP - NOVEMBER 30, 2000

VACANT PROPERTY  
2221 UNION STREET  
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 2

UNION STREET

SIDEWALK

SIDEWALK

SIDEWALK

SIDEWALK

FENCE



# **APPENDIX A**

Well Sampling Field Logs



# WELL SAMPLING FIELD LOG

Project Name and Address: 2221 UNION ST  
 Job #: 3515 Date of sampling: 11/30/00  
 Well Name: MW-2 Sampled by: ITZ  
 Total depth of well (feet): 20.0' Well diameter (inches): 20  
 Depth to water before sampling (feet): 4.78'  
 Thickness of floating product if any: \_\_\_\_\_  
 Depth of well casing in water (feet): 15.22  
 Number of gallons per well casing volume (gallons): 2.6  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 10.4  
 Equipment used to purge the well: del. bailer  
 Time Evacuation Began: 1425 Time Evacuation Finished: 1435  
 Approximate volume of groundwater purged: 11  
 Did the well go dry?: NO After how many gallons: -  
 Time samples were collected: 1440  
 Depth to water at time of sampling: 5.51  
 Percent recovery at time of sampling: 90%  
 Samples collected with: del. bailer  
 Sample color: clear/gray Odor: none  
 Description of sediment in sample: none

## CHEMICAL DATA

| Volume Purged | Temp        | pH          | Conductivity |
|---------------|-------------|-------------|--------------|
| <u>1</u>      | <u>29.1</u> | <u>6.12</u> | <u>17</u>    |
| <u>2</u>      | <u>29.1</u> | <u>6.12</u> | <u>18</u>    |
| <u>3</u>      | <u>29.1</u> | <u>6.13</u> | <u>17</u>    |
| <u>4</u>      | <u>29.2</u> | <u>6.12</u> | <u>17</u>    |

## SAMPLES COLLECTED

| Sample      | # of containers | Volume & type container | Pres     | Iced?    | Analysis |
|-------------|-----------------|-------------------------|----------|----------|----------|
| <u>MW-2</u> | <u>3</u>        | <u>40 ml VOA</u>        | <u>✓</u> | <u>✓</u> | _____    |
| _____       | _____           | _____                   | _____    | _____    | _____    |
| _____       | _____           | _____                   | _____    | _____    | _____    |
| _____       | _____           | _____                   | _____    | _____    | _____    |



# WELL SAMPLING FIELD LOG

Project Name and Address: 2221 UNION ST  
 Job #: 3515 Date of sampling: 11/30/00  
 Well Name: MW-1 Sampled by: ITR  
 Total depth of well (feet): 26.0' Well diameter (inches): 2"  
 Depth to water before sampling (feet): 4.14  
 Thickness of floating product if any: \_\_\_\_\_  
 Depth of well casing in water (feet): 15.86  
 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: ded. bailer  
 Time Evacuation Began: 1355 Time Evacuation Finished: 1415  
 Approximate volume of groundwater purged: 11  
 Did the well go dry?: NO After how many gallons: —  
 Time samples were collected: 1420  
 Depth to water at time of sampling: 5.08  
 Percent recovery at time of sampling: 82%  
 Samples collected with: ded. bailer  
 Sample color: clear Odor: none  
 Description of sediment in sample: S. silt

## CHEMICAL DATA

| Volume Purged | Temp        | pH          | Conductivity |
|---------------|-------------|-------------|--------------|
| <u>1</u>      | <u>28.9</u> | <u>6.3</u>  | <u>10</u>    |
| <u>2</u>      | <u>29.1</u> | <u>6.50</u> | <u>11</u>    |
| <u>3</u>      | <u>29.0</u> | <u>6.30</u> | <u>10</u>    |
| <u>4</u>      | <u>29.1</u> | <u>6.20</u> | <u>11</u>    |

## SAMPLES COLLECTED

| Sample     | # of containers | Volume & type container | Pres                                | Iced?                               | Analysis |
|------------|-----------------|-------------------------|-------------------------------------|-------------------------------------|----------|
| <u>MW1</u> | <u>3</u>        | <u>4/16 ml VOA</u>      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |          |
|            |                 |                         |                                     |                                     |          |
|            |                 |                         |                                     |                                     |          |
|            |                 |                         |                                     |                                     |          |
|            |                 |                         |                                     |                                     |          |



# WELL SAMPLING FIELD LOG

Project Name and Address: 2221 UNION ST  
 Job #: 2515 Date of sampling: 11/30/00  
 Well Name: MW-3 Sampled by: ITR  
 Total depth of well (feet): 19.0 Well diameter (inches): 2"  
 Depth to water before sampling (feet): 3.56  
 Thickness of floating product if any: -  
 Depth of well casing in water (feet): 15.44  
 Number of gallons per well casing volume (gallons): 2.6  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 10.4  
 Equipment used to purge the well: dod. bailer  
 Time Evacuation Began: 1445 Time Evacuation Finished: 1500  
 Approximate volume of groundwater purged: 11  
 Did the well go dry?: NO After how many gallons: -  
 Time samples were collected: 1505  
 Depth to water at time of sampling: 4.37  
 Percent recovery at time of sampling: 83.1  
 Samples collected with: dod. bailer  
 Sample color: clear/brown Odor: None  
 Description of sediment in sample: silt

## CHEMICAL DATA

| Volume Purged | Temp        | pH          | Conductivity |
|---------------|-------------|-------------|--------------|
| <u>1</u>      | <u>28.9</u> | <u>5.81</u> | <u>13</u>    |
| <u>2</u>      | <u>28.9</u> | <u>5.80</u> | <u>13</u>    |
| <u>3</u>      | <u>28.8</u> | <u>5.80</u> | <u>13</u>    |
| <u>4</u>      | <u>28.8</u> | <u>5.80</u> | <u>12</u>    |

## SAMPLES COLLECTED

| Sample      | # of containers | Volume & type container | Pres                                | Iced?                               | Analysis |
|-------------|-----------------|-------------------------|-------------------------------------|-------------------------------------|----------|
| <u>MW-3</u> | <u>3</u>        | <u>60 ml VOA</u>        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |          |
|             |                 |                         |                                     |                                     |          |
|             |                 |                         |                                     |                                     |          |
|             |                 |                         |                                     |                                     |          |
|             |                 |                         |                                     |                                     |          |

## **APPENDIX B**

Certified Analytical Report  
and  
Chain of Custody Documentation

# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

Date: December 7, 2000

---

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

Attn.: Mr. Ian T. Reed

Project: 3515  
2221 Union St.

Dear Mr. Reed,

Attached is our report for your samples received on Friday December 1, 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 January 15, 2001  
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](mailto:vvancil@chromalab.com)

Sincerely,



Vincent Vancil

---

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

# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

## Halogenated Volatile Organic Compounds

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 #: 3515

Project: 2221 Union St.

### Samples Reported

| Sample ID | Matrix | Date Sampled | Lab # |
|-----------|--------|--------------|-------|
| MW-1      | Water  | 11/30/2000   | 1     |
| MW-2      | Water  | 11/30/2000   | 2     |
| MW-3      | Water  | 11/30/2000   | 3     |
| MW-4      | Water  | 11/30/2000   | 4     |

# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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: 2000-12-0047-001 |
| Project: 3515<br>2221 Union St.                      | Received: 12/01/2000 18:20      |
| Sampled: 11/30/2000                                  | Extracted: 12/06/2000 20:11     |
| Matrix: Water  | QC-Batch: 2000/12/06-01.26      |
| Sample/Analysis Flag o ( See Legend & Note section ) |                                 |

| Compound                  | Result | Rep.Limit | Units | Dilution | Analyzed         | Flag |
|---------------------------|--------|-----------|-------|----------|------------------|------|
| Dichlorodifluoromethane   | ND     | 5.0       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Vinyl chloride            | 4.2    | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Chloroethane              | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Trichlorofluoromethane    | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,1-Dichloroethene        | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Methylene chloride        | ND     | 25        | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| trans-1,2-Dichloroethene  | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| cis-1,2-Dichloroethene    | 9.0    | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,1-Dichloroethane        | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Chloroform                | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,1,1-Trichloroethane     | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Carbon tetrachloride      | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,2-Dichloroethane        | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Trichloroethene           | 45     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,2-Dichloropropane       | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Bromodichloromethane      | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 2-Chloroethylvinyl ether  | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| trans-1,3-Dichloropropene | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| cis-1,3-Dichloropropene   | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,1,2-Trichloroethane     | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Tetrachloroethene         | 110    | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Dibromochloromethane      | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Chlorobenzene             | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Bromoform                 | ND     | 10        | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,1,2,2-Tetrachloroethane | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,3-Dichlorobenzene       | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,4-Dichlorobenzene       | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| 1,2-Dichlorobenzene       | ND     | 2.5       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Trichlorotrifluoroethane  | ND     | 10        | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Chloromethane             | ND     | 5.0       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| Bromomethane              | ND     | 5.0       | ug/L  | 5.00     | 12/06/2000 20:11 |      |
| <b>Surrogate(s)</b>       |        |           |       |          |                  |      |
| 1-Chloro-2-fluorobenzene  | 79.5   | 50-150    | %     | 1.00     | 12/06/2000 20:11 |      |

1220 Quarry Lane \* Pleasanton, CA 94566-4756

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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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

Test Method: 8010  
Prep Method: 5030

## Halogenated Volatile Organic Compounds

|  |                                 |
|--|---------------------------------|
| Sample ID: MW-2                                      | Lab Sample ID: 2000-12-0047-002 |
| Project: 3515<br>2221 Union St.                      | Received: 12/01/2000 18:20      |
| Sampled: 11/30/2000                                  | Extracted: 12/06/2000 20:53     |
| Matrix: Water  | QC-Batch: 2000/12/06-01.26      |
| Sample/Analysis Flag o ( See Legend & Note section ) |                                 |

| Compound                  | Result | Rep.Limit | Units | Dilution | Analyzed         | Flag |
|---------------------------|--------|-----------|-------|----------|------------------|------|
| Dichlorodifluoromethane   | ND     | 20        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Vinyl chloride            | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Chloroethane              | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Trichlorofluoromethane    | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,1-Dichloroethene        | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Methylene chloride        | ND     | 100       | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| trans-1,2-Dichloroethene  | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| cis-1,2-Dichloroethene    | 130    | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,1-Dichloroethane        | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Chloroform                | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,1,1-Trichloroethane     | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Carbon tetrachloride      | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,2-Dichloroethane        | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Trichloroethene           | 360    | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,2-Dichloropropane       | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Bromodichloromethane      | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 2-Chloroethylvinyl ether  | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| trans-1,3-Dichloropropene | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| cis-1,3-Dichloropropene   | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,1,2-Trichloroethane     | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Tetrachloroethene         | 660    | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Dibromochloromethane      | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Chlorobenzene             | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Bromoform                 | ND     | 40        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,1,2,2-Tetrachloroethane | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,3-Dichlorobenzene       | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,4-Dichlorobenzene       | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| 1,2-Dichlorobenzene       | ND     | 10        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Trichlorotrifluoroethane  | ND     | 40        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Chloromethane             | ND     | 20        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| Bromomethane              | ND     | 20        | ug/L  | 20.00    | 12/06/2000 20:53 |      |
| <b>Surrogate(s)</b>       |        |           |       |          |                  |      |
| 1-Chloro-2-fluorobenzene  | 78.0   | 50-150    | %     | 1.00     | 12/06/2000 20:53 |      |

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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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: 2000-12-0047-003 |
| Project: 3515<br>2221 Union St.                      | Received: 12/01/2000 18:20      |
| Sampled: 11/30/2000                                  | Extracted: 12/05/2000 20:03     |
| Matrix: Water  | QC-Batch: 2000/12/05-01.25      |
| Sample/Analysis Flag o ( See Legend & Note section ) |                                 |

| Compound                  | Result | Rep.Limit | Units | Dilution | Analyzed         | Flag |
|---------------------------|--------|-----------|-------|----------|------------------|------|
| Dichlorodifluoromethane   | ND     | 2.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Vinyl chloride            | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Chloroethane              | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Trichlorofluoromethane    | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,1-Dichloroethene        | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Methylene chloride        | ND     | 10        | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| trans-1,2-Dichloroethene  | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| cis-1,2-Dichloroethene    | 25     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,1-Dichloroethane        | 14     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Chloroform                | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,1,1-Trichloroethane     | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Carbon tetrachloride      | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,2-Dichloroethane        | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Trichloroethene           | 14     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,2-Dichloropropane       | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Bromodichloromethane      | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 2-Chloroethylvinyl ether  | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| trans-1,3-Dichloropropene | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| cis-1,3-Dichloropropene   | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,1,2-Trichloroethane     | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Tetrachloroethene         | 63     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Dibromochloromethane      | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Chlorobenzene             | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Bromoform                 | ND     | 4.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,1,2,2-Tetrachloroethane | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,3-Dichlorobenzene       | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,4-Dichlorobenzene       | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| 1,2-Dichlorobenzene       | ND     | 1.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Trichlorotrifluoroethane  | ND     | 4.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Chloromethane             | ND     | 2.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| Bromomethane              | ND     | 2.0       | ug/L  | 2.00     | 12/05/2000 20:03 |      |
| <b>Surrogate(s)</b>       |        |           |       |          |                  |      |
| 1-Chloro-2-fluorobenzene  | 99.8   | 50-150    | %     | 1.00     | 12/05/2000 20:03 |      |

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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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

Test Method: 8010  
Prep Method: 5030

## Halogenated Volatile Organic Compounds

|                                 |                                 |
|---------------------------------|---------------------------------|
| Sample ID: MW-4                 | Lab Sample ID: 2000-12-0047-004 |
| Project: 3515<br>2221 Union St. | Received: 12/01/2000 18:20      |
| Sampled: 11/30/2000             | Extracted: 12/05/2000 15:45     |
| Matrix: Water                   | QC-Batch: 2000/12/05-01.25      |

| Compound                  | Result | Rep.Limit | Units | Dilution | Analyzed         | Flag |
|---------------------------|--------|-----------|-------|----------|------------------|------|
| Dichlorodifluoromethane   | ND     | 1.0       | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Vinyl chloride            | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Chloroethane              | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Trichlorofluoromethane    | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,1-Dichloroethene        | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Methylene chloride        | ND     | 5.0       | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| trans-1,2-Dichloroethene  | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| cis-1,2-Dichloroethene    | 2.8    | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,1-Dichloroethane        | 8.3    | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Chloroform                | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,1,1-Trichloroethane     | 4.6    | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Carbon tetrachloride      | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,2-Dichloroethane        | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Trichloroethene           | 6.9    | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,2-Dichloropropane       | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Bromodichloromethane      | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 2-Chloroethylvinyl ether  | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| trans-1,3-Dichloropropene | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| cis-1,3-Dichloropropene   | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,1,2-Trichloroethane     | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Tetrachloroethene         | 30     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Dibromochloromethane      | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Chlorobenzene             | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Bromoform                 | ND     | 2.0       | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,1,2,2-Tetrachloroethane | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,3-Dichlorobenzene       | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,4-Dichlorobenzene       | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| 1,2-Dichlorobenzene       | ND     | 0.50      | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Trichlorotrifluoroethane  | ND     | 2.0       | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Chloromethane             | ND     | 1.0       | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| Bromomethane              | ND     | 1.0       | ug/L  | 1.00     | 12/05/2000 15:45 |      |
| <b>Surrogate(s)</b>       |        |           |       |          |                  |      |
| 1-Chloro-2-fluorobenzene  | 114.2  | 50-150    | %     | 1.00     | 12/05/2000 15:45 |      |

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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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

Test Method: 8010  
Prep Method: 5030

## Batch QC Report Halogenated Volatile Organic Compounds

|                          |       |                                  |
|--------------------------|-------|----------------------------------|
| Method Blank             | Water | QC Batch # 2000/12/05-01.25      |
| MB: 2000/12/05-01.25-001 |       | Date Extracted: 12/05/2000 10:33 |

| Compound                  | Result | Rep.Limit | Units | Analyzed         | Flag |
|---------------------------|--------|-----------|-------|------------------|------|
| Dichlorodifluoromethane   | ND     | 1.0       | ug/L  | 12/05/2000 10:33 |      |
| Vinyl chloride            | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Chloroethane              | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Trichlorofluoromethane    | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,1-Dichloroethene        | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Methylene chloride        | ND     | 5.0       | ug/L  | 12/05/2000 10:33 |      |
| trans-1,2-Dichloroethene  | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| cis-1,2-Dichloroethene    | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,1-Dichloroethane        | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Chloroform                | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,1,1-Trichloroethane     | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Carbon tetrachloride      | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,2-Dichloroethane        | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Trichloroethene           | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,2-Dichloropropane       | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Bromodichloromethane      | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 2-Chloroethylvinyl ether  | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| trans-1,3-Dichloropropene | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| cis-1,3-Dichloropropene   | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,1,2-Trichloroethane     | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Tetrachloroethene         | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Dibromochloromethane      | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Chlorobenzene             | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Bromoform                 | ND     | 2.0       | ug/L  | 12/05/2000 10:33 |      |
| 1,1,2,2-Tetrachloroethane | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,3-Dichlorobenzene       | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,4-Dichlorobenzene       | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| 1,2-Dichlorobenzene       | ND     | 0.5       | ug/L  | 12/05/2000 10:33 |      |
| Trichlorotrifluoroethane  | ND     | 2.0       | ug/L  | 12/05/2000 10:33 |      |
| Chloromethane             | ND     | 1.0       | ug/L  | 12/05/2000 10:33 |      |
| Bromomethane              | ND     | 1.0       | ug/L  | 12/05/2000 10:33 |      |
| <b>Surrogate(s)</b>       |        |           |       |                  |      |
| 1-Chloro-2-fluorobenzene  | 93.5   | 50-150    | %     | 12/05/2000 10:33 |      |

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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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

Test Method: 8021B  
Prep Method: 5030B

## Batch QC Report Halogenated Volatile Organic Compounds

|                          |       |                                  |
|--------------------------|-------|----------------------------------|
| Method Blank             | Water | QC Batch # 2000/12/06-01.26      |
| MB: 2000/12/06-01.26-001 |       | Date Extracted: 12/06/2000 09:00 |

| Compound                  | Result | Rep.Limit | Units | Analyzed         | Flag |
|---------------------------|--------|-----------|-------|------------------|------|
| Dichlorodifluoromethane   | ND     | 1.0       | ug/L  | 12/06/2000 09:00 |      |
| Vinyl chloride            | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Chloroethane              | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Trichlorofluoromethane    | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,1-Dichloroethene        | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Methylene chloride        | ND     | 5.0       | ug/L  | 12/06/2000 09:00 |      |
| trans-1,2-Dichloroethene  | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| cis-1,2-Dichloroethene    | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,1-Dichloroethane        | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Chloroform                | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,1,1-Trichloroethane     | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Carbon tetrachloride      | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,2-Dichloroethane        | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Trichloroethene           | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,2-Dichloropropane       | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Bromodichloromethane      | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 2-Chloroethylvinyl ether  | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| trans-1,3-Dichloropropene | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| cis-1,3-Dichloropropene   | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,1,2-Trichloroethane     | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Tetrachloroethene         | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Dibromochloromethane      | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Chlorobenzene             | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Bromoform                 | ND     | 2.0       | ug/L  | 12/06/2000 09:00 |      |
| 1,1,2,2-Tetrachloroethane | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,3-Dichlorobenzene       | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,4-Dichlorobenzene       | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| 1,2-Dichlorobenzene       | ND     | 0.5       | ug/L  | 12/06/2000 09:00 |      |
| Trichlorotrifluoroethane  | ND     | 2.0       | ug/L  | 12/06/2000 09:00 |      |
| Chloromethane             | ND     | 1.0       | ug/L  | 12/06/2000 09:00 |      |
| Bromomethane              | ND     | 1.0       | ug/L  | 12/06/2000 09:00 |      |
| <b>Surrogate(s)</b>       |        |           |       |                  |      |
| 1-Chloro-2-fluorobenzene  | 83.5   | 70-130    | %     | 12/06/2000 09:00 |      |

1220 Quarry Lane \* Pleasanton, CA 94566-4756  
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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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

Test Method: 8010  
Prep Method: 5030

## Batch QC Report

### Halogenated Volatile Organic Compounds

| Laboratory Control Spike (LCS/LCSD) |                      | Water      |                  | QC Batch # 2000/12/05-01.25 |                  |
|-------------------------------------|----------------------|------------|------------------|-----------------------------|------------------|
| LCS:                                | 2000/12/05-01.25-002 | Extracted: | 12/05/2000 11:17 | Analyzed                    | 12/05/2000 11:17 |
| LCSD:                               | 2000/12/05-01.25-003 | Extracted: | 12/05/2000 12:01 | Analyzed                    | 12/05/2000 12:01 |

| 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         | 23.0 | 20                | 20   | 114.0        | 115.0 | 0.9     | 50-140           | 20  |       |      |
| Trichloroethene          | 22.3         | 22.3 | 20                | 20   | 111.5        | 111.5 | 0.0     | 50-150           | 20  |       |      |
| Chlorobenzene            | 19.9         | 19.6 | 20                | 20   | 99.5         | 98.0  | 1.5     | 50-150           | 20  |       |      |
| <b>Surrogate(s)</b>      |              |      |                   |      |              |       |         |                  |     |       |      |
| 1-Chloro-2-fluorobenzene | 22.8         | 22.7 | 20                | 20   | 114.0        | 113.5 |         | 50-150           |     |       |      |

# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

To: Aqua Science Engineers, Inc.

Test Method: 8021B

Attn: Ian T. Reed

Prep Method: 5030B

## Batch QC Report

### Halogenated Volatile Organic Compounds

| Laboratory Control Spike (LCS/LCSD) |                      | Water      |                  | QC Batch # 2000/12/06-01.26 |                  |
|-------------------------------------|----------------------|------------|------------------|-----------------------------|------------------|
| LCS:                                | 2000/12/06-01.26-002 | Extracted: | 12/06/2000 09:41 | Analyzed                    | 12/06/2000 09:41 |
| LCSD:                               | 2000/12/06-01.26-003 | Extracted: | 12/06/2000 10:21 | Analyzed                    | 12/06/2000 10:21 |

| 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       | 20.9         | 20.4 | 20.0              | 20.0 | 104.5        | 102.0 | 2.4     | 70-130           | 20  |       |      |
| Trichloroethene          | 22.0         | 21.4 | 20.0              | 20.0 | 110.0        | 107.0 | 2.8     | 70-130           | 20  |       |      |
| Chlorobenzene            | 20.4         | 20.5 | 20.0              | 20.0 | 102.0        | 102.5 | 0.5     | 70-130           | 20  |       |      |
| <b>Surrogate(s)</b>      |              |      |                   |      |              |       |         |                  |     |       |      |
| 1-Chloro-2-fluorobenzene | 19.8         | 19.5 | 20                | 20   | 99.0         | 97.5  |         | 70-130           |     |       |      |

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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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

Test Method: 8010  
Prep Method: 5030

## Batch QC Report

Halogenated Volatile Organic Compounds

|                                  |                             |  |
|----------------------------------|-----------------------------|--|
| <b>Matrix Spike ( MS / MSD )</b> | <b>Water</b>                | <b>QC Batch # 2000/12/05-01.25</b>       |
| Sample ID: MW-4                  |                             | Lab Sample ID: 2000-12-0047-004          |
| MS: 2000/12/05-01.25-004         | Extracted: 12/05/2000 16:25 | Analyzed: 12/05/2000 16:25 Dilution: 1.0 |
| MSD: 2000/12/05-01.25-005        | Extracted: 12/05/2000 17:07 | Analyzed: 12/05/2000 17:07 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      | 23.7           | 23.3 | ND     | 20                  | 20  | 118.5        | 116.5 | 1.7     | 50-140           | 20  |       |     |
| Trichloroethene         | 30.7           | 29.0 | 6.91   | 20                  | 20  | 119.0        | 110.5 | 7.4     | 50-150           | 20  |       |     |
| Chlorobenzene           | 23.3           | 21.6 | 0.722  | 20                  | 20  | 112.9        | 104.4 | 7.8     | 50-150           | 20  |       |     |
| <b>Surrogate(s)</b>     |                |      |        |                     |     |              |       |         |                  |     |       |     |
| 1-Chloro-2-fluorobenzen | 26.7           | 25.0 |        | 20                  | 20  | 133.5        | 125.0 |         | 50-150           |     |       |     |

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# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-12-0047

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

Test Method: 8010  
Prep Method: 5030

## Legend & Notes

∴ Halogenated Volatile Organic Compounds

## Analysis Flags

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

2000-12-0047

56152

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) Jan T. Reed (PHONE NO.) (925) 820-9301

PROJECT NAME 2221 UNION ST. JOB NO. 3515  
ADDRESS 2221 UNION ST, OAKLAND CA

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5-day TAT

| SAMPLE ID. | DATE  | TIME | MATRIX | NO. OF SAMPLES | TPH-GAS / MTBE & BTEX<br>(EPA 5030/8015-8020) | TPH-DIESEL<br>(EPA 3510/8015) | TPH-DIESEL & MOTOR OIL<br>(EPA 3510/8015) | PURGEABLE HALOCARBONS<br>(EPA 601/8010) | VOLATILE ORGANICS<br>(EPA 624/8240/8260) | SEMI-VOLATILE ORGANICS<br>(EPA 625/8270) | OIL & GREASE<br>(EPA 5520) | LUFT METALS (5)<br>(EPA 6010+7000) | CAM 17 METALS<br>(EPA 6010+7000) | PCBs & PESTICIDES<br>(EPA 608/8080) | ORGANOPHOSPHORUS<br>PESTICIDES (EPA 8140<br>EPA 608/8080) | FUEL OXYGENATES<br>(EPA 8260) | Pb (TOTAL or DISSOLVED)<br>(EPA 6010) | TPH-G/BTEX/5 OXY'S<br>(EPA 8260) | TPH-G/BTEX/7 OXY'S /<br>HYOCS (EPA 8260) | COMPOSITE |      |
|------------|-------|------|--------|----------------|---|-------------------------------|---|---|--|--|----------------------------|------------------------------------|----------------------------------|-------------------------------------|---|-------------------------------|---------------------------------------|----------------------------------|--|-----------|------|
|            |       |      |        |                |   |                               |   |   |  |  |                            |                                    |                                  |                                     |   |                               |                                       |                                  |  |           | MW-1 |
| MW-2       | 11/30 |      | water  | 3              |   |                               |   | X                                       |  |  |                            |                                    |                                  |                                     |   |                               |                                       |                                  |  |           |      |
| MW-3       | 11/30 |      | water  | 3              |   |                               |   | X                                       |  |  |                            |                                    |                                  |                                     |   |                               |                                       |                                  |  |           |      |
| MW-4       | 11/30 |      | water  | 3              |   |                               |   | X                                       |  |  |                            |                                    |                                  |                                     |   |                               |                                       |                                  |  |           |      |

|  |  |  |   |   |
|--|--|--|---|---|
| RELINQUISHED BY:<br><u>Jan T. Reed</u><br>(signature) (time) | RECEIVED BY:<br><u>B Morrow</u><br>(signature) (time) 1035 | RELINQUISHED BY:<br><u>B Morrow</u><br>(signature) (time) 1035 | RECEIVED BY LABORATORY:<br><u>Denise Harrington</u><br>(signature) (time) | COMMENTS:<br><br>TURN AROUND TIME<br>STANDARD 24H 48H 72H<br>OTHER: |
| <u>Jan T. Reed</u><br>(printed name) (date)                  | <u>B Morrow</u><br>(printed name) (date) 12-1-00           | <u>B Morrow</u><br>(printed name) (date) 12-1-00               | <u>D. Harrington 1820</u><br>(printed name) (date)                        |   |
| Company-<br><u>ASE</u>                                       | Company-<br><u>Chronalab</u>                               | Company-<br><u>Chronalab</u>                                   | Company-<br><u>Chronalab</u> 12/1/00                                      |   |