



ENVIRONMENTAL  
PROTECTION

95 APR -6 PM 3:06

April 3, 1995

QUARTERLY GROUNDWATER MONITORING REPORT  
MARCH 16, 1995 GROUNDWATER SAMPLING  
ASE JOB NO. 2545

at  
Former Alameda Max's  
1357 High Street  
Alameda, California 94501

Prepared for:  
Mr. James A. Phillipsen  
3111 Marina Drive  
Alameda, CA 94501

Prepared by:  
AQUA SCIENCE ENGINEERS, INC.  
2411 Old Crow Canyon Road, #4  
San Ramon, CA 94583  
(510) 820-9391



## 1.0 INTRODUCTION

### Site Location (Site), See Figure 1

Former Alameda Max's  
1357 High Street  
Alameda, CA 94501

### Property Owner

Mr. James A. Phillipson  
3111 Marina Drive  
Alameda, CA 94501

### Environmental Consulting Firm

Aqua Science Engineers, Inc. (ASE)  
2411 Old Crow Canyon Road, #4  
San Ramon, CA 94583  
Contact: Robert Kitay, Project Manager  
(510) 820-9391

### Agency Review

Alameda County Health Care Services Agency (ACHCSA)  
1131 Harbor Bay Parkway  
Alameda, CA 94502  
Contact: Ms. Juliet Shin  
(510) 567-6700

California Regional Water Quality Control Board (RWQCB),  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, CA 94612  
Contact: Mr. Kevin Graves  
(510) 286-4359

The following is a report detailing the results of the March 16, 1995, quarterly groundwater sampling at the above referenced site.

## **2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT**

On March 16, 1995, ASE measured the depth to water in each site well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. An unknown thickness of what appeared to be free-floating, unused, motor oil was on the groundwater surface of monitoring well MW-2. No free-floating hydrocarbons or sheen was present on the surface of water from monitoring wells MW-1, MW-3 or MW-4. Depths to groundwater are presented in Table One.

Groundwater elevation contours are presented on Figure 3. On March 16, 1995, groundwater flowed to the southeast beneath the site at a gradient of 0.02-feet/foot, which is consistent with previous findings.

## **3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS**

Prior to sampling, monitoring wells MW-1 and MW-3 were purged of four well casing volumes of water using a 12 volt electric PVC pump. Monitoring well MW-4 was purged dry, and was allowed to recover to 91% of the wells static water level prior to sampling. Monitoring well MW-2 was not sampled because it contained free-floating hydrocarbons. Groundwater samples were then collected from monitoring wells MW-1, MW-3 and MW-4 using dedicated polyethylene bailers. The samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials and 1-liter amber glass bottles. The samples were preserved with hydrochloric acid, capped, labeled and placed into an ice chest containing wet ice for transport to American Environmental Network (AEN) of Pleasant Hill, California (DOHS #1172) under chain-of-custody.

The analytical results for this and previous quarters are presented below as Tables Two and Three, and the certified laboratory report and chain-of-custody form are included as Appendix A.

The well purge water was placed in 55-gallon steel 17H drums, labeled, and left on-site for temporary storage.

The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 8015/5030, total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 3510/8015, total and hydrocarbon oil and grease (O&G) by EPA Method 5520B&F, benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8020 and volatile organic compounds (VOCs) by EPA Method 8010.

## 4.0 CONCLUSIONS

An unknown thickness of what appeared to be free-floating unused motor oil was present on the groundwater surface in monitoring well MW-2. Hydrocarbon concentrations in groundwater samples collected from monitoring wells MW-1, MW-3 and MW-4 were generally consistent with previous findings. Benzene concentrations in the groundwater samples collected from monitoring wells MW-3 and MW-4 exceeded the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water. No VOCs were detected in groundwater samples from any monitoring well sampled.

## 5.0 RECOMMENDATIONS

Since free-floating hydrocarbons (likely unused motor oil) are still present in monitoring well MW-2, and hydrocarbon concentrations above DTSC MCLs have been detected in off-site monitoring well MW-4 downgradient of the site, groundwater remediation will likely be required at the site in the future. At this time, ASE recommends that groundwater sampling be continued on a quarterly basis.

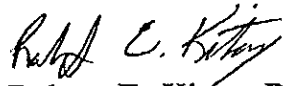
## 6.0 REPORT LIMITATIONS

The results of this report represent the conditions at the time of the groundwater sampling at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed for by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the former underground storage tanks and associated plumbing at the site, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CSDHS 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 to you, and trust that this report meets your needs. Please feel free to call us at (510) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



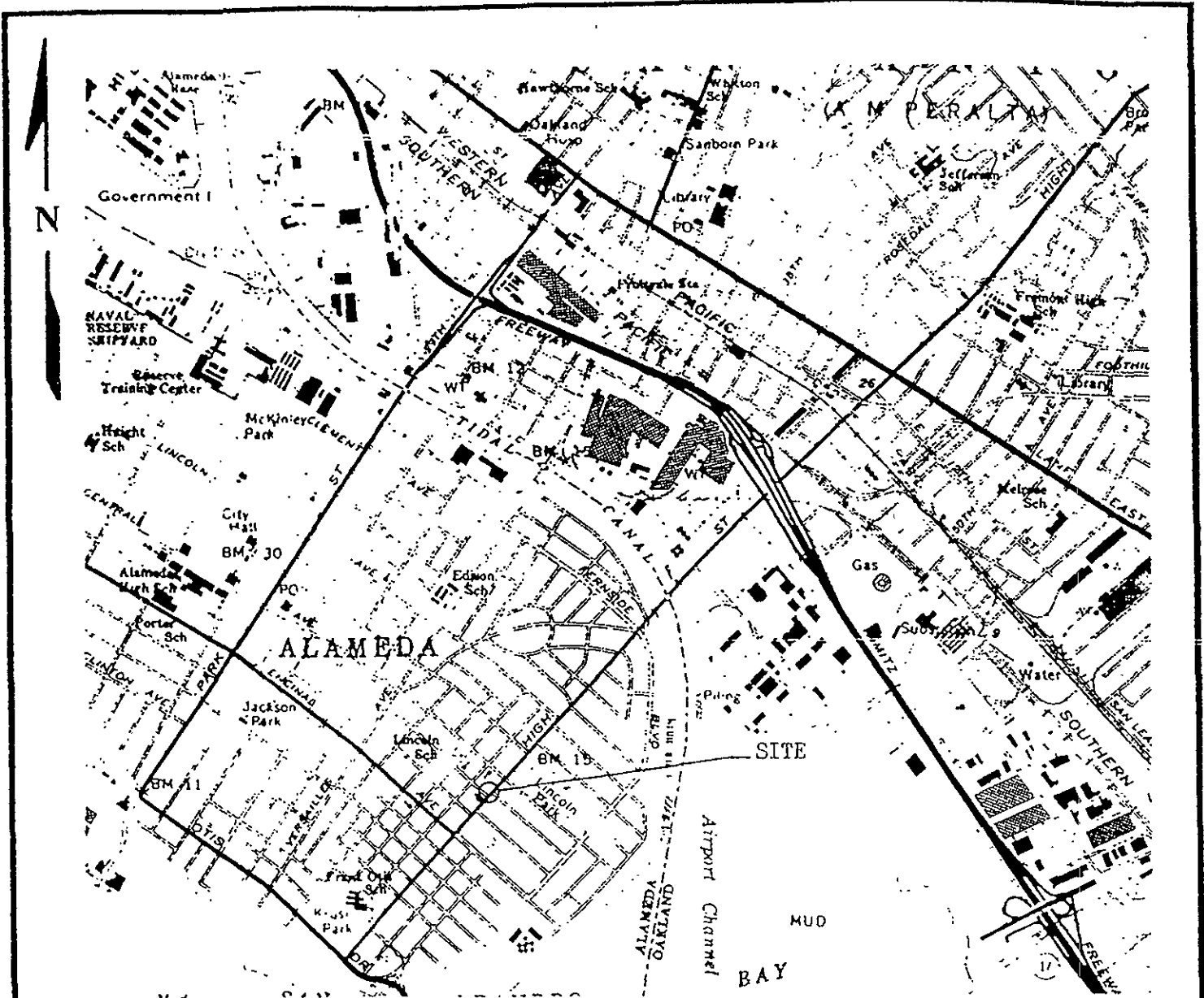
Robert E. Kitay, R.E.A.  
Project Geologist



Attachments: Figures 1, 2 and 3  
Tables 1, 2 and 3  
Appendices A and B

cc: Ms. Juliet Shin, Alameda County Health Care Services Agency  
Mr. Kevin Graves, RWQCB, San Francisco Bay Region

## **FIGURES**



**SITE LOCATION MAP**

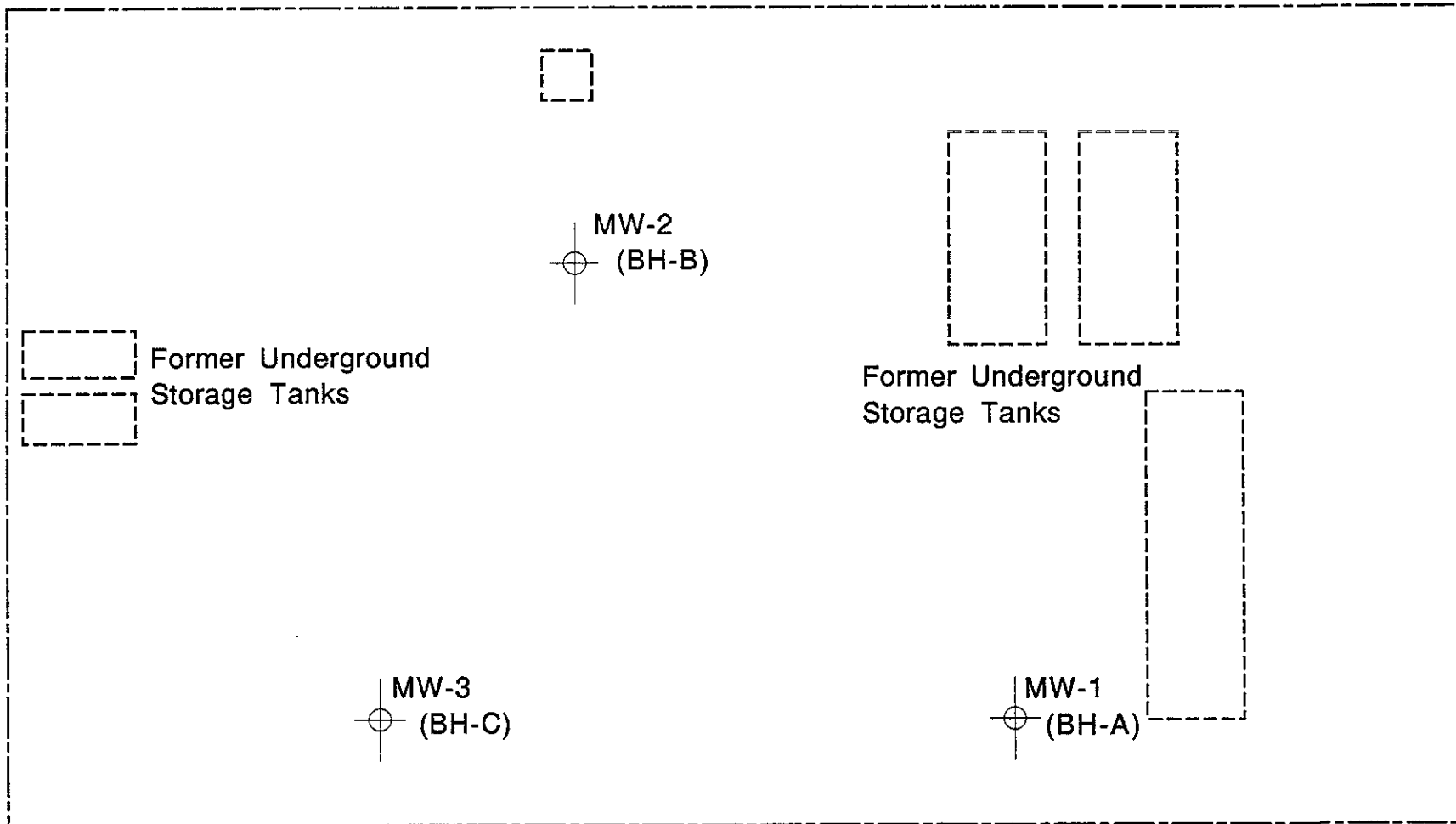
Alameda Max's  
 1357 High Street  
 Alameda, California

Aqua Science Engineers

Figure 1

BASE: Oakland East and Oakland West 7.5 minute quadrangle topographic map, dated 1980, scale 1"=24,000.

VAN BUREN STREET



Former Underground Storage Tanks

Former Underground Storage Tanks

MW-2  
(BH-B)

MW-3  
(BH-C)

MW-1  
(BH-A)

MW-4  
(BH-D)

HIGH STREET

NORTH

SCALE: 1" = 10'

## MONITORING WELL LOCATION MAP

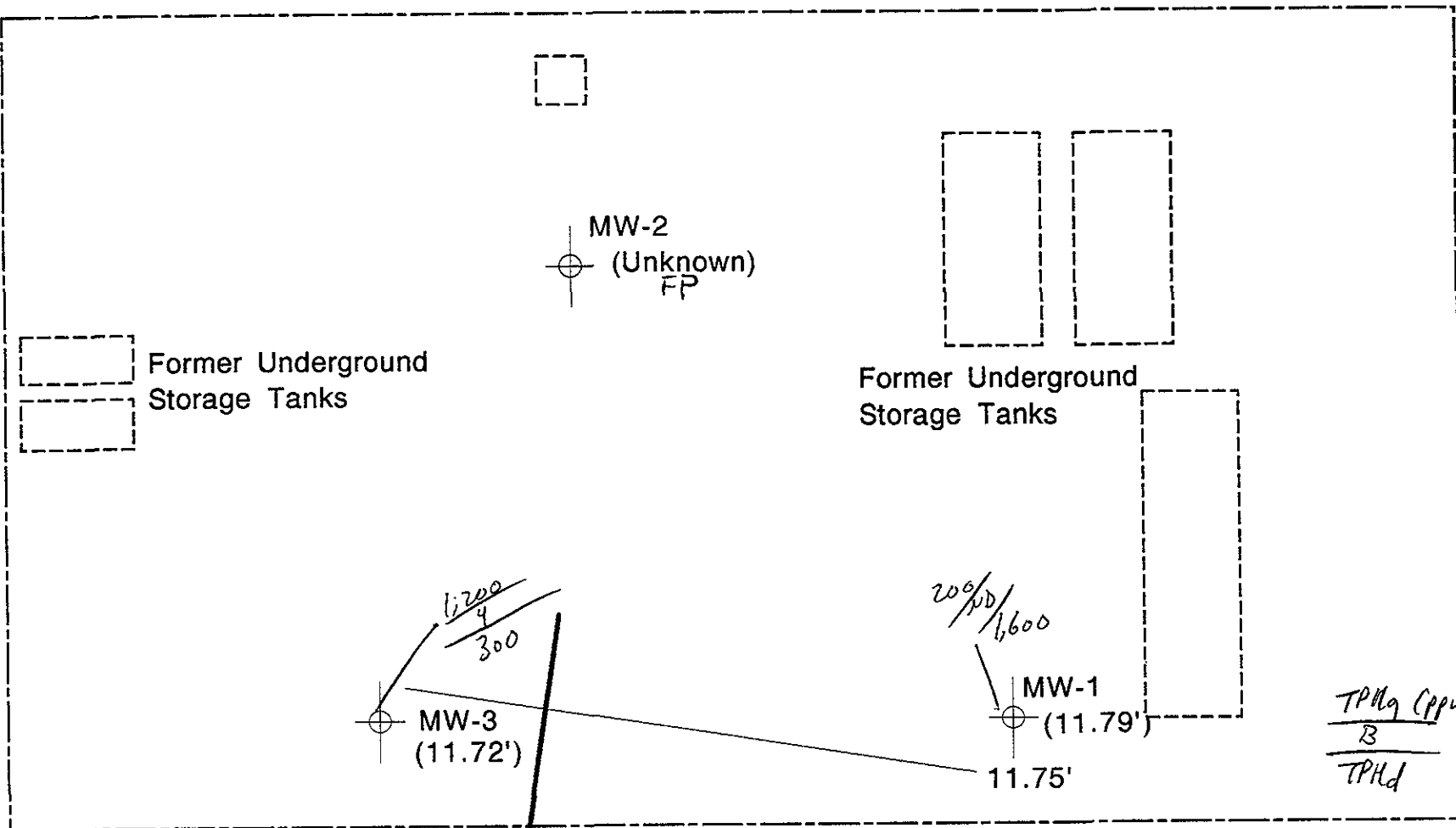
Former Alameda Max's  
1357 High Street  
Alameda, California

AQUA SCIENCE ENGINEERS, INC.

Figure 2



VAN BUREN STREET



$\frac{\text{TPMg (ppm)}}{3}$   
-----  
TPMg

HIGH STREET

GROUNDWATER  
FLOW DIRECTION

11.50'

NORTH

MW-4  
(11.22')

11.25'

$\frac{500}{3}$   
-----  
300

SCALE: 1" = 10'

# GROUNDWATER ELEVATION CONTOUR MAP - 3/16/95

Former Alameda Max's  
1357 High Street  
Alameda, California

AQUA SCIENCE ENGINEERS, INC.

Figure 3

# **TABLES**

**TABLE ONE**  
**Summary of Groundwater Well Survey Data**

| Well I.D. | Date of Measurement | Top of Casing Elevation (relative to project datum) | Depth to Water (feet) | Groundwater Elevation (project data) |
|-----------|---------------------|---|-----------------------|--------------------------------------|
| MW-1      | 04-06-94            | 15.00   | 3.92                  | 11.08                                |
|           | 08-02-94            |   | 4.10                  | 10.90                                |
|           | 10-04-94            |   | 4.42                  | 10.58                                |
|           | 12-14-94            |   | 3.42                  | 11.58                                |
|           | 03-16-95            |   | 3.21                  | 11.79                                |
| MW-2      | 04-06-94            | 14.37   | 3.02                  | 11.35                                |
|           | 08-02-94            |   | 3.32                  | 11.18*                               |
|           | 12-14-94            |   | 2.90                  | 11.52*                               |
|           | 03-16-95            |   | Unknown               | Unknown                              |
| MW-3      | 04-06-94            | 14.56   | 3.51                  | 11.05                                |
|           | 08-02-94            |   | 3.68                  | 10.88                                |
|           | 10-04-94            |   | 3.97                  | 10.59                                |
|           | 12-14-94            |   | 3.04                  | 11.52                                |
|           | 03-16-95            |   | 2.84                  | 11.72                                |
| MW-4      | 10-04-94            | 14.70   | 4.31                  | 10.39                                |
|           | 12-14-94            |   | 3.62                  | 11.08                                |
|           | 03-16-95            |   | 3.48                  | 11.22                                |

\* = Adjusted for the presence of free-floating oil by the equation: Adjusted Groundwater Elevation = Top of Casing Elevation - Depth to Groundwater + (0.8 x Floating Hydrocarbon Thickness)

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**All results are in parts per billion**

| Sample I.D. | TPH Gasoline                                  | TPH Diesel    | Oil & Grease | Benzene | Toluene | Ethyl Benzene | Total Xylenes |
|-------------|---|---------------|--------------|---------|---------|---------------|---------------|
| <u>MW-1</u> |   |               |              |         |         |               |               |
| 04/04/94    | 80  | <50           | <500         | <0.5    | <0.5    | 0.5           | 2             |
| 08/02/94    | 60  | 500           | <1,000       | <0.5    | <0.5    | <0.5          | <2            |
| 12/14/94    | 200   | 1,500         | <1,000       | <0.5    | <0.5    | 6             | <2            |
| 03/16/95    | 200   | 1,600         | <500         | <0.5    | <0.5    | 3             | <2            |
| <u>MW-2</u> |   |               |              |         |         |               |               |
| 04/04/94    | 150   | <50           | 6,200        | 0.6     | 1       | 2             | 6             |
| 08/02/94    | NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS |               |              |         |         |               |               |
| 12/14/94    | NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS |               |              |         |         |               |               |
| 03/16/95    | NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS |               |              |         |         |               |               |
| <u>MW-3</u> |   |               |              |         |         |               |               |
| 04/04/94    | 1,200   | 180           | <500         | 3       | 27      | 44            | 230           |
| 08/02/94    | 2,700   | <50           | <1,000       | 6       | 16      | 70            | 470           |
| 12/14/94    | 2,600   | 80            | <1,000       | 9       | 30      | 78            | 430           |
| 03/16/95    | 1,200   | 300           | <500         | 4       | 16      | 38            | 270           |
| <u>MW-4</u> |   |               |              |         |         |               |               |
| 10/04/94    | 500   | 200           | <1,000       | 2       | 19      | 14            | 70            |
| 12/14/94    | 1,500   | 200           | <1,000       | 8       | 37      | 68            | 190           |
| 03/16/95    | 500   | 300           | <500         | 3       | 5       | 23            | 41            |
| EPA METHOD  | 5030/<br>8015                                 | 3510/<br>8015 | 5520<br>B&F  | 8020    | 8020    | 8020          | 8020          |

**TABLE THREE**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Volatile Organic Compounds**  
**All results in parts per billion**

| Sample<br>I.D. | Date of<br>Sampling | TCE                                      | Other<br>VOCs |
|----------------|---------------------|--|---------------|
| -----          | -----               | -----                                    | -----         |
| MW-1           | 08-02-94            | <0.5                                     | <0.5          |
|                | 12-14-94            | <0.5                                     | <0.5          |
|                | 03-16-95            | <0.5                                     | <0.5          |
| MW-2           | 04-04-94            | 0.7                                      | <0.5          |
|                | 08-02-94            | NOT SAMPLED DUE TO FLOATING HYDROCARBONS |               |
|                | 12-14-94            | NOT SAMPLED DUE TO FLOATING HYDROCARBONS |               |
|                | 03-16-95            | NOT SAMPLED DUE TO FLOATING HYDROCARBONS |               |
| MW-3           | 08-02-94            | <0.5                                     | <0.5          |
|                | 12-14-94            | <0.5                                     | <0.5          |
|                | 03-16-95            | <0.5                                     | <0.5          |
| MW-4           | 10-04-94            | <0.5                                     | <0.5          |
|                | 12-14-94            | <0.5                                     | <0.5          |
|                | 03-16-95            | <0.5                                     | <0.5          |
| EPA<br>METHOD  |                     | 8010                                     | 8010          |

TCE = Trichloroethene  
VOCs = volatile organic compounds

# **APPENDIX A**

**California EPA Certified Laboratory  
Report of Groundwater Samples**

# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

AQUA SCIENCE ENGINEERS, INC  
2411 OLD CROW CANYON RD. #4  
SAN RAMON, CA 94583

ATTN: ROBERT KITAY  
CLIENT PROJ. ID: 2607  
CLIENT PROJ. NAME: ALAMEDA MAX'S

REPORT DATE: 04/03/95

DATE(S) SAMPLED: 03/16/95

DATE RECEIVED: 03/17/95

AEN WORK ORDER: 9503295

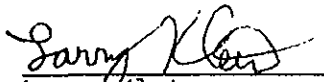
### PROJECT SUMMARY:

On March 17, 1995, this laboratory received 3 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

  
Larry Klein  
Laboratory Director

## AQUA SCIENCE ENGINEERS, INC.

AEN JOB NO: 9503295  
 DATE SAMPLED: 03/16/95  
 DATE RECEIVED: 03/17/95  
 CLIENT PROJ. ID: 2607

| Client Sample Id | AEN Lab Id | Purgeable Hydrocarbons as Gasoline (ug/L) | Extractable Hydrocarbons as Diesel (ug/L) | Oil & Grease (ug/L) | Hydrocarbons (ug/L) | Benzene (ug/L)       | Toluene (ug/L)       | Ethylbenzene (ug/L)  | Total Xylenes (ug/L) |
|------------------|------------|---|---|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| MW-1             | 01         | 200                                       | 1600                                      | ND                  | ND                  | ND                   | ND                   | 3                    | ND                   |
| MW-3             | 02         | 1200                                      | 300                                       | ND                  | ND                  | 4                    | 16                   | 38                   | 270                  |
| MW-4             | 03         | 500                                       | 300                                       | ND                  | ND                  | 3                    | 5                    | 23                   | 41                   |
| Reporting Limit  |            | 50  | 50  | 500                 | 500                 | 0.5                  | 0.5                  | 0.5                  | 2                    |
| EPA Method:      |            | 5030 GCFID                                | 3510 GCFID                                | 5520C               | 5520F               | 8020                 | 8020                 | 8020                 | 8020                 |
| Date Extracted:  |            | NA  | 03/27/95                                  | 03/27/95            | 03/27/95            | NA                   | NA                   | NA                   | NA                   |
| Date Analyzed:   |            | 03/25/95<br>03/27/95                      | 03/28/95                                  | 03/27/95            | 03/27/95            | 03/25/95<br>03/27/95 | 03/25/95<br>03/27/95 | 03/25/95<br>03/27/95 | 03/25/95<br>03/27/95 |

NA = Not Applicable  
 ND = Not Detected



## AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-1  
 AEN LAB NO: 9503295-01  
 AEN WORK ORDER: 9503295  
 CLIENT PROJ. ID: 2607

DATE SAMPLED: 03/16/95  
 DATE RECEIVED: 03/17/95  
 REPORT DATE: 04/03/95

| ANALYTE                       | METHOD/<br>CAS# | RESULT | REPORTING<br>LIMIT | UNITS | DATE<br>ANALYZED |
|-------------------------------|-----------------|--------|--------------------|-------|------------------|
| EPA 8010 - Water matrix       | EPA 8010        |        |                    |       |                  |
| Bromodichloromethane          | 75-27-4         | ND     | 0.5                | ug/L  | 03/24/95         |
| Bromoform                     | 75-25-2         | ND     | 0.5                | ug/L  | 03/24/95         |
| Bromomethane                  | 74-83-9         | ND     | 2                  | ug/L  | 03/24/95         |
| Carbon Tetrachloride          | 56-23-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Chlorobenzene                 | 108-90-7        | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloroethane                  | 75-00-3         | ND     | 2                  | ug/L  | 03/24/95         |
| 2-Chloroethyl Vinyl Ether     | 110-75-8        | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloroform                    | 67-66-3         | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloromethane                 | 74-87-3         | ND     | 2                  | ug/L  | 03/24/95         |
| Dibromochloromethane          | 124-48-1        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichlorobenzene           | 95-50-1         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,3-Dichlorobenzene           | 541-73-1        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,4-Dichlorobenzene           | 106-46-7        | ND     | 0.5                | ug/L  | 03/24/95         |
| Dichlorodifluoromethane       | 75-71-8         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1-Dichloroethane            | 75-34-3         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichloroethane            | 107-06-2        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1-Dichloroethene            | 75-35-4         | ND     | 0.5                | ug/L  | 03/24/95         |
| cis-1,2-Dichloroethene        | 156-59-2        | ND     | 0.5                | ug/L  | 03/24/95         |
| trans-1,2-Dichloroethene      | 156-60-5        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichloropropane           | 78-87-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| cis-1,3-Dichloropropene       | 10061-01-5      | ND     | 0.5                | ug/L  | 03/24/95         |
| trans-1,3-Dichloropropene     | 10061-02-6      | ND     | 0.5                | ug/L  | 03/24/95         |
| Methylene Chloride            | 75-09-2         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1,2,2-Tetrachloroethane     | 79-34-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Tetrachloroethene             | 127-18-4        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1,1-Trichloroethane         | 71-55-6         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1,2-Trichloroethane         | 79-00-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Trichloroethene               | 79-01-6         | ND     | 0.5                | ug/L  | 03/24/95         |
| Trichlorofluoromethane        | 75-69-4         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1,2Trichlorotrifluoroethane | 76-13-1         | ND     | 0.5                | ug/L  | 03/24/95         |
| Vinyl Chloride                | 75-01-4         | ND     | 2                  | ug/L  | 03/24/95         |

ND = Not detected at or above the reporting limit

\* = Value at or above reporting limit

## AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-3  
 AEN LAB NO: 9503295-02  
 AEN WORK ORDER: 9503295  
 CLIENT PROJ. ID: 2607

DATE SAMPLED: 03/16/95  
 DATE RECEIVED: 03/17/95  
 REPORT DATE: 04/03/95

| ANALYTE                       | METHOD/<br>CAS# | RESULT | REPORTING<br>LIMIT | UNITS | DATE<br>ANALYZED |
|-------------------------------|-----------------|--------|--------------------|-------|------------------|
| EPA 8010 - Water matrix       | EPA 8010        |        |                    |       |                  |
| Bromodichloromethane          | 75-27-4         | ND     | 0.5                | ug/L  | 03/24/95         |
| Bromoform                     | 75-25-2         | ND     | 0.5                | ug/L  | 03/24/95         |
| Bromomethane                  | 74-83-9         | ND     | 2                  | ug/L  | 03/24/95         |
| Carbon Tetrachloride          | 56-23-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Chlorobenzene                 | 108-90-7        | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloroethane                  | 75-00-3         | ND     | 2                  | ug/L  | 03/24/95         |
| 2-Chloroethyl Vinyl Ether     | 110-75-8        | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloroform                    | 67-66-3         | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloromethane                 | 74-87-3         | ND     | 2                  | ug/L  | 03/24/95         |
| Dibromochloromethane          | 124-48-1        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichlorobenzene           | 95-50-1         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,3-Dichlorobenzene           | 541-73-1        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,4-Dichlorobenzene           | 106-46-7        | ND     | 0.5                | ug/L  | 03/24/95         |
| Dichlorodifluoromethane       | 75-71-8         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1-Dichloroethane            | 75-34-3         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichloroethane            | 107-06-2        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1-Dichloroethene            | 75-35-4         | ND     | 0.5                | ug/L  | 03/24/95         |
| cis-1,2-Dichloroethene        | 156-59-2        | ND     | 0.5                | ug/L  | 03/24/95         |
| trans-1,2-Dichloroethene      | 156-60-5        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichloropropane           | 78-87-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| cis-1,3-Dichloropropene       | 10061-01-5      | ND     | 0.5                | ug/L  | 03/24/95         |
| trans-1,3-Dichloropropene     | 10061-02-6      | ND     | 0.5                | ug/L  | 03/24/95         |
| Methylene Chloride            | 75-09-2         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1,2,2-Tetrachloroethane     | 79-34-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Tetrachloroethene             | 127-18-4        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1,1-Trichloroethane         | 71-55-6         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1,2-Trichloroethane         | 79-00-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Trichloroethene               | 79-01-6         | ND     | 0.5                | ug/L  | 03/24/95         |
| Trichlorofluoromethane        | 75-69-4         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1,2Trichlorotrifluoroethane | 76-13-1         | ND     | 0.5                | ug/L  | 03/24/95         |
| Vinyl Chloride                | 75-01-4         | ND     | 2                  | ug/L  | 03/24/95         |

ND = Not detected at or above the reporting limit

\* = Value at or above reporting limit

## AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-4  
 AEN LAB NO: 9503295-03  
 AEN WORK ORDER: 9503295  
 CLIENT PROJ. ID: 2607

DATE SAMPLED: 03/16/95  
 DATE RECEIVED: 03/17/95  
 REPORT DATE: 04/03/95

| ANALYTE                       | METHOD/<br>CAS# | RESULT | REPORTING<br>LIMIT | UNITS | DATE<br>ANALYZED |
|-------------------------------|-----------------|--------|--------------------|-------|------------------|
| EPA 8010 - Water matrix       | EPA 8010        |        |                    |       |                  |
| Bromodichloromethane          | 75-27-4         | ND     | 0.5                | ug/L  | 03/24/95         |
| Bromoform                     | 75-25-2         | ND     | 0.5                | ug/L  | 03/24/95         |
| Bromomethane                  | 74-83-9         | ND     | 2                  | ug/L  | 03/24/95         |
| Carbon Tetrachloride          | 56-23-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Chlorobenzene                 | 108-90-7        | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloroethane                  | 75-00-3         | ND     | 2                  | ug/L  | 03/24/95         |
| 2-Chloroethyl Vinyl Ether     | 110-75-8        | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloroform                    | 67-66-3         | ND     | 0.5                | ug/L  | 03/24/95         |
| Chloromethane                 | 74-87-3         | ND     | 2                  | ug/L  | 03/24/95         |
| Dibromochloromethane          | 124-48-1        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichlorobenzene           | 95-50-1         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,3-Dichlorobenzene           | 541-73-1        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,4-Dichlorobenzene           | 106-46-7        | ND     | 0.5                | ug/L  | 03/24/95         |
| Dichlorodifluoromethane       | 75-71-8         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1-Dichloroethane            | 75-34-3         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichloroethane            | 107-06-2        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1-Dichloroethene            | 75-35-4         | ND     | 0.5                | ug/L  | 03/24/95         |
| cis-1,2-Dichloroethene        | 156-59-2        | ND     | 0.5                | ug/L  | 03/24/95         |
| trans-1,2-Dichloroethene      | 156-60-5        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,2-Dichloropropane           | 78-87-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| cis-1,3-Dichloropropene       | 10061-01-5      | ND     | 0.5                | ug/L  | 03/24/95         |
| trans-1,3-Dichloropropene     | 10061-02-6      | ND     | 0.5                | ug/L  | 03/24/95         |
| Methylene Chloride            | 75-09-2         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1,2,2-Tetrachloroethane     | 79-34-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Tetrachloroethene             | 127-18-4        | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1,1-Trichloroethane         | 71-55-6         | ND     | 0.5                | ug/L  | 03/24/95         |
| 1,1,2-Trichloroethane         | 79-00-5         | ND     | 0.5                | ug/L  | 03/24/95         |
| Trichloroethene               | 79-01-6         | ND     | 0.5                | ug/L  | 03/24/95         |
| Trichlorofluoromethane        | 75-69-4         | ND     | 2                  | ug/L  | 03/24/95         |
| 1,1,2Trichlorotrifluoroethane | 76-13-1         | ND     | 0.5                | ug/L  | 03/24/95         |
| Vinyl Chloride                | 75-01-4         | ND     | 2                  | ug/L  | 03/24/95         |

ND = Not detected at or above the reporting limit

\* = Value at or above reporting limit

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9503295

CLIENT PROJECT ID: 2607

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9503295  
 DATE(S) EXTRACTED: 03/27/95  
 INSTRUMENT: C  
 MATRIX: WATER

Surrogate Standard Recovery Summary

| Date Analyzed | Client Id. | Lab Id. | Percent Recovery |  |
|---------------|------------|---------|------------------|--|
|               |            |         | n-Pentacosane    |  |
| 03/28/95      | MW-1       | 01      | 100              |  |
| 03/28/95      | MW-3       | 02      | 100              |  |
| 03/28/95      | MW-4       | 03      | 92               |  |
| QC Limits:    |            |         | 73-129           |  |

DATE EXTRACTED: 03/28/95  
 DATE ANALYZED: 03/29/95  
 SAMPLE SPIKED: DI WATER  
 INSTRUMENT: C

Method Spike Recovery Summary

| Analyte | Spike Added (mg/L) | Average Percent Recovery | RPD | QC Limits        |     |
|---------|--------------------|--------------------------|-----|------------------|-----|
|         |                    |                          |     | Percent Recovery | RPD |
| Diesel  | 1.94               | 87                       | 8   | 65-103           | 12  |

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

## QUALITY CONTROL DATA

METHOD: SM 5520

AEN JOB NO: 9503295  
DATE EXTRACTED: 03/22/95  
DATE ANALYZED: 03/22/95  
SAMPLE SPIKED: DI WATER  
INSTRUMENT: IR  
MATRIX: WATER

## Method Spike Recovery Summary

| Analyte | Spike Added (mg/L) | Average Percent Recovery | RPD | QC Limits        |     |
|---------|--------------------|--------------------------|-----|------------------|-----|
|         |                    |                          |     | Percent Recovery | RPD |
| Oil     | 7.5                | 96                       | 3   | 80-109           | 5   |

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

## QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9503295  
 INSTRUMENT: G  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

| Date Analyzed | Client Id. | Lab Id. | Percent Recovery    |                          |
|---------------|------------|---------|---------------------|--------------------------|
|               |            |         | Bromochloro-methane | 1-Bromo-3-chloro-propane |
| 03/24/95      | MW-1       | 01      | 93                  | 92                       |
| 03/24/95      | MW-3       | 02      | 99                  | 96                       |
| 03/24/95      | MW-4       | 03      | 94                  | 92                       |
| QC Limits:    |            |         | 78-153              | 74-143                   |

DATE ANALYZED: 03/23/95  
 SAMPLE SPIKED: 9503264-01  
 INSTRUMENT: G

## Matrix Spike Recovery Summary

| Analyte            | Spike Added (ug/L) | Average Percent Recovery | RPD | QC Limits        |     |
|--------------------|--------------------|--------------------------|-----|------------------|-----|
|                    |                    |                          |     | Percent Recovery | RPD |
| 1,1-Dichloroethene | 50                 | 83                       | 2   | 40-130           | 18  |
| Trichloroethene    | 50                 | 97                       | 2   | 67-136           | 17  |
| Chlorobenzene      | 50                 | 81                       | 3   | 59-123           | 15  |

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

## QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9503295  
 INSTRUMENT: H  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

| Date Analyzed | Client Id. | Lab Id. | Percent Recovery |  |
|---------------|------------|---------|------------------|--|
|               |            |         | Fluorobenzene    |  |
| 03/25/95      | MW-1       | 01      | 99               |  |
| 03/27/95      | MW-3       | 02      | 99               |  |
| 03/27/95      | MW-4       | 03      | 98               |  |
| QC Limits:    |            |         | 92-109           |  |

DATE ANALYZED: 03/27/95  
 SAMPLE SPIKED: 9503305-02  
 INSTRUMENT: H

## Matrix Spike Recovery Summary

| Analyte                  | Spike Added (ug/L) | Average Percent Recovery | RPD | QC Limits        |     |
|--------------------------|--------------------|--------------------------|-----|------------------|-----|
|                          |                    |                          |     | Percent Recovery | RPD |
| Benzene                  | 18.2               | 99                       | 6   | 85-109           | 17  |
| Toluene                  | 52.8               | 100                      | 8   | 87-111           | 16  |
| Hydrocarbons as Gasoline | 500                | 93                       | 6   | 66-117           | 19  |

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

\*\*\* END OF REPORT \*\*\*



R-351  
R-413-5

9503295

Aqua Science Engineers, Inc.  
2411 Old Crow Canyon Road, #4,  
San Ramon, CA 94583  
(510) 820-9391 - FAX (510) 837-4853

# Chain of Custody

DATE 3-16-95 PAGE 1 OF 1

SAMPLERS (SIGNATURE) Robert E. Kistay  
(PHONE NO.) (510) 820-9391

PROJECT NAME Alameda Max's NO. 2607  
ADDRESS 1357 High Street, Alameda, CA

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

| SAMPLE ID. | DATE | TIME  | MATRIX | NO. OF SAMPLES |
|------------|------|-------|--------|----------------|
| A-G MW-1   | 3/16 | 16:00 | Water  | 7              |
| A-G MW-3   | ↓    | 14:30 | ↓      | 7              |
| SA-G MW-4  | ↓    | 13:10 | ↓      | 7              |

| TPH-GASOLINE<br>(EPA 5030/8015) | TPH-GASOLINE/BTEX<br>(EPA 5030/8015-8020) | TPH-DIESEL<br>(EPA 3510/8015) | PURGABLE AROMATICS<br>(EPA 602/8020) | PURGABLE HALOCARBONS<br>(EPA 601/6010) | VOLATILE ORGANICS<br>(EPA 624/8240) | BASE/NEUTRALS, ACIDS<br>(EPA 625/8270) | OIL & GREASE<br>(EPA 5520 E&F or B&F) | LUFT METALS (5)<br>(EPA 6010+7000) | TITLE 22 (CAM 17)<br>(EPA 6010+7000) | TCLP<br>(EPA 1311/1310) | STLC-CAM WET<br>(EPA 1311/1310) | REACTIVITY<br>CORROSIVITY<br>IGNITABILITY |
|---------------------------------|---|-------------------------------|--------------------------------------|--|-------------------------------------|--|---------------------------------------|------------------------------------|--------------------------------------|-------------------------|---------------------------------|---|
|                                 | X   | X                             |                                      | X                                      |                                     |  | X                                     |                                    |                                      |                         |                                 |   |
|                                 | X   | X                             |                                      | X                                      |                                     |  | X                                     |                                    |                                      |                         |                                 |   |
|                                 | X   | X                             |                                      | X                                      |                                     |  | X                                     |                                    |                                      |                         |                                 |   |

RELINQUISHED BY:  
Robert E. Kistay 13:00  
(signature) (time)  
Robert E. Kistay 3-17-95  
(printed name) (date)  
Company- ASE

RECEIVED BY:  
Michael McKeller 13:00  
(signature) (time)  
Michael McKeller 3/17/95  
(printed name) (date)  
Company- AEN

RELINQUISHED BY:  
Michael McKeller 13:25  
(signature) (time)  
Michael McKeller 3/17/95  
(printed name) (date)  
Company-

RECEIVED BY LABORATORY:  
Gina Gillespie 13:25  
(signature) (time)  
Gina Gillespie 3/17/95  
(printed name) (date)  
Company- AEN

COMMENTS:

# **APPENDIX B**

## **Well Sampling Field Logs**

# WELL SAMPLING FIELD LOG

Project Name and Address: Alameda Max 3, 1357 High St, Alameda  
 Job #: 2607 Date of sampling: 3-16-95  
 Well Name: MW-1 Sampled by: PK  
 Total depth of well (feet): 18.14 Well diameter (inches): 4  
 Depth to water before sampling (feet): 3.21  
 Thickness of floating product if any: None  
 Depth of well casing in water (feet): 14.93  
 Number of gallons per well casing volume (gallons): 9.9  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 39.6  
 Equipment used to purge the well: 12 volt PVC pump  
 Time Evacuation Began: 15:10 Time Evacuation Finished: 15:50  
 Approximate volume of groundwater purged: 40 gallons  
 Did the well go dry?: No After how many gallons: ✓  
 Time samples were collected: 16:00  
 Depth to water at time of sampling: 3.60  
 Percent recovery at time of sampling: 97%  
 Samples collected with: Dedicated polyethylene bailer  
 Sample color: None Odor: slight inc odor  
 Description of sediment in sample: none

## CHEMICAL DATA

| Volume Purged  | Temp        | pH          | Conductivity |
|----------------|-------------|-------------|--------------|
| <u>Initial</u> | <u>64.8</u> | <u>8.48</u> | <u>360</u>   |
| <u>10 gal</u>  | <u>65.4</u> | <u>8.36</u> | <u>342</u>   |
| <u>20 gal</u>  | <u>64.6</u> | <u>8.25</u> | <u>332</u>   |
| <u>30 gal</u>  | <u>64.3</u> | <u>8.28</u> | <u>328</u>   |
| <u>40 gal</u>  | <u>64.2</u> | <u>8.26</u> | <u>326</u>   |

## SAMPLES COLLECTED

| Sample      | # of containers | Volume & type container    | Pres       | Iced?      | Analysis          |
|-------------|-----------------|----------------------------|------------|------------|-------------------|
| <u>MW-1</u> | <u>2</u>        | <u>40 ml 10A vials</u>     | <u>HCl</u> | <u>Yes</u> | <u>TPH-C/BTEX</u> |
| <u>↓</u>    | <u>2</u>        | <u>↓</u>                   | <u>↓</u>   | <u>↓</u>   | <u>EA 8010</u>    |
| <u>↓</u>    | <u>2</u>        | <u>1-liter amber glass</u> | <u>↓</u>   | <u>↓</u>   | <u>TPH-D</u>      |
| <u>↓</u>    | <u>1</u>        | <u>↓</u>                   | <u>↓</u>   | <u>↓</u>   | <u>O &amp; G</u>  |



# WELL SAMPLING FIELD LOG

Project Name and Address: Alameda Mall, 1357 Haight St, Alameda  
 Job #: 2607 Date of sampling: 3-16-95  
 Well Name: MW-3 Sampled by: PK  
 Total depth of well (feet): 16.84 Well diameter (inches): 4  
 Depth to water before sampling (feet): 2.84  
 Thickness of floating product if any: None  
 Depth of well casing in water (feet): 14.00  
 Number of gallons per well casing volume (gallons): 9.3  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 37.2  
 Equipment used to purge the well: 12 volt PVC pump  
 Time Evacuation Began: 13:41 Time Evacuation Finished: 14:20  
 Approximate volume of groundwater purged: 38 gal  
 Did the well go dry?: No After how many gallons: ✓  
 Time samples were collected: 14:30  
 Depth to water at time of sampling: 3.01  
 Percent recovery at time of sampling: 99%  
 Samples collected with: Dedicated polyethylene bottles  
 Sample color: None Odor: slight hc odor  
 Description of sediment in sample: None

## CHEMICAL DATA

| Volume Purged    | Temp        | pH          | Conductivity |
|------------------|-------------|-------------|--------------|
| <u>Initial</u>   | <u>64.7</u> | <u>8.24</u> | <u>388</u>   |
| <u>9.3 gals</u>  | <u>64.2</u> | <u>8.80</u> | <u>352</u>   |
| <u>18.6 gals</u> | <u>63.8</u> | <u>8.15</u> | <u>325</u>   |
| <u>28 gals</u>   | <u>64.2</u> | <u>8.22</u> | <u>330</u>   |
| <u>37.2 gal</u>  | <u>63.9</u> | <u>8.19</u> | <u>328</u>   |

## SAMPLES COLLECTED

| Sample      | # of containers | Volume & type container    | Pres       | Iced?      | Analysis          |
|-------------|-----------------|----------------------------|------------|------------|-------------------|
| <u>MW-3</u> | <u>2</u>        | <u>40-ml VOA vials</u>     | <u>Hcl</u> | <u>Yes</u> | <u>TPH-G/BTEX</u> |
| <u>↓</u>    | <u>2</u>        | <u>↓</u>                   | <u>↓</u>   | <u>↓</u>   | <u>EPA 8010</u>   |
| <u>↓</u>    | <u>2</u>        | <u>1-liter amber glass</u> | <u>↓</u>   | <u>↓</u>   | <u>PH-D</u>       |
| <u>↓</u>    | <u>1</u>        | <u>↓</u>                   | <u>↓</u>   | <u>↓</u>   | <u>040</u>        |



# WELL SAMPLING FIELD LOG

Project Name and Address: Alameda Mall, 1357 Hartz St, Alameda  
 Job #: 2607 Date of sampling: 3-16-95  
 Well Name: MW-4 Sampled by: PK  
 Total depth of well (feet): 13.12 Well diameter (inches): 2  
 Depth to water before sampling (feet): 3.48  
 Thickness of floating product if any: None  
 Depth of well casing in water (feet): 9.64  
 Number of gallons per well casing volume (gallons): 1.6  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 6.4  
 Equipment used to purge the well: 12 volt PVC pump  
 Time Evacuation Began: 12:45 Time Evacuation Finished: 12:54  
 Approximate volume of groundwater purged: 6.5 gal  
 Did the well go dry?: Yes After how many gallons: 6.5  
 Time samples were collected: 13:10  
 Depth to water at time of sampling: 4.34  
 Percent recovery at time of sampling: 91%  
 Samples collected with: Dedicated polyethylene bailer  
 Sample color: None Odor: None PK slight hv odor  
 Description of sediment in sample: small amount of fine brown silt

## CHEMICAL DATA

| Volume Purged  | Temp        | pH          | Conductivity |
|----------------|-------------|-------------|--------------|
| <u>Initial</u> | <u>68.7</u> | <u>8.45</u> | <u>311</u>   |
| <u>1-6 gal</u> | <u>66.8</u> | <u>8.62</u> | <u>320</u>   |
| <u>3-2 gal</u> | <u>66.1</u> | <u>8.82</u> | <u>325</u>   |
| <u>4-8 gal</u> | <u>66.2</u> | <u>8.42</u> | <u>326</u>   |
| <u>6-5 gal</u> | <u>66.4</u> | <u>8.26</u> | <u>326</u>   |

## SAMPLES COLLECTED

| Sample      | # of containers | Volume & type container    | Pres      | iced?      | Analysis          |
|-------------|-----------------|----------------------------|-----------|------------|-------------------|
| <u>MW-4</u> | <u>2</u>        | <u>40-ml VOA vials</u>     | <u>HC</u> | <u>Yes</u> | <u>TPH-G/BTEX</u> |
| <u>↓</u>    | <u>2</u>        | <u>↓</u>                   | <u>↓</u>  | <u>↓</u>   | <u>OPA 8010</u>   |
| <u>↓</u>    | <u>2</u>        | <u>1-liter amber glass</u> | <u>↓</u>  | <u>↓</u>   | <u>TPH-D</u>      |
| <u>↓</u>    | <u>1</u>        | <u>↓</u>                   | <u>↓</u>  | <u>↓</u>   | <u>0.46</u>       |