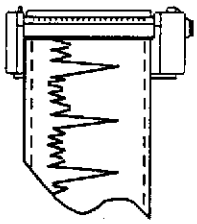
# FIRST QUARTER 1998
# QUARTERLY GROUNDWATER MONITORING PROGRAM REPORT

## GERMAN AUTOCRAFT
## 301 E. 14TH STREET, SAN LEANDRO, CALIFORNIA

Prepared by:



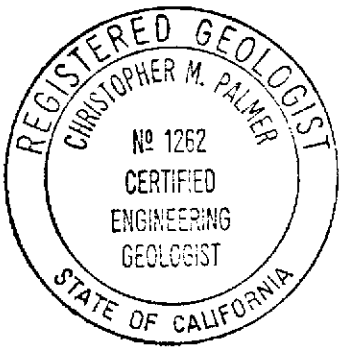
ENVIRONMENTAL TESTING & MGMT.
111 N. MARKET ST., 6th FLOOR
SAN JOSE, CALIFORNIA 95113
408.938.0939 FAX: 408.938.3929

Prepared For:

Mr. Seung Lee
301 E. 14th Street
San Leandro, California


Tom Price, REA, CHMM
Project Manager

Christopher M. Palmer, RG, CEG, HG
Project Geologist




Report issued May 21, 1998

## I. INTRODUCTION

Environmental Testing & Management (ETM) continued the quarterly groundwater monitoring program and related environmental activities completed during the calendar first quarter of 1998 at German Autocraft located at 301 East 14th Street in the City of San Leandro, Alameda County, California (**Figure 1**). This report is submitted to the Alameda County Department of Environmental Health (ACDEH) on behalf of Mr. Seung Lee, owner of German Autocraft.

The SWI (report dated June 7, 1995) involved an off-site soil and groundwater sampling program which defined the migration limit of the German Autocraft fuel release at approximately 240 feet northwest of the former tank pit in the shallow aquifer. The results of the SWI were presented in a technical report issued by ETM on July 12, 1996. The quarterly monitoring program is continued to meet the requirements of the ACDEH.

The purpose of this quarterly monitoring program is to evaluate groundwater quality in the area of five former underground fuel storage tanks (USTs) that were removed in 1990. Data accumulated from the program will be used to assess seasonal groundwater level fluctuations, changing groundwater quality conditions, and provide data which will support the development of corrective action plans at the site.

The quarterly monitoring program presents a description of the groundwater monitoring activities, a compilation of groundwater quality and elevation data, maintenance of the passive skimmer system in the former tank pit area, and a brief description of the progress of the development of corrective actions at the site.

## II. BACKGROUND

German Autocraft is located at 301 E. 14th Street in San Leandro (see Location Map, **Figure 1**). The approximate locations of buildings, property boundaries, and adjacent streets are presented on the Site Map, **Figure 2.** For detailed descriptions of prior environmental activities at the subject site, please refer to the references section of this report for a listing of reports which have been submitted to the ACDEH.

## III. WORK PERFORMED DURING FIRST QUARTER, 1998

Work included preparation of a workplan for continued soil and water investigation, groundwater level gauging and sampling, data analysis, and report preparation. Activity highlights during this period are as follows:

- **February 3, 1998** - ETM issued "Proposed Workplan for Continued Soil and Water Investigation, and Expanded Groundwater Monitoring" for the subject site.

- **February 11, 1998** - Scott O. Seery, of the ACDEH accepted the proposed workplan as submitted.

- **March 10, 1998** - ETM measured groundwater elevations and collected groundwater samples from monitoring wells MW-1, MW-2, and MW-3. The samples from MW-1, MW-2, and MW-3 were submitted to a Department of Health Services (DHS)-certified laboratory for analysis of Total Petroleum Hydrocarbons as Gasoline (TPHg), Methyl tert-Butyl Ether (MtBE) and Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX). The height of the passive skimmer system at MW-4 was adjusted. Approximately 20 gallons of groundwater was bailed out of MW-4 in an effort to redevelop the well.

## IV. GROUNDWATER ELEVATION AND GRADIENT

Static groundwater level elevation data collected from on-site groundwater wells on March 10, 1998, indicated that the elevation of the shallow groundwater surface beneath the site ranged from 34.13 to 34.35 feet above mean sea level. The estimated groundwater flow direction was to the west (approximate gradient = 0.003 ft/ft).

**Table 1** presents the recent groundwater elevation data and **Figure 3** shows estimated groundwater flow direction as interpreted from the groundwater potentiometric elevation data.

The potentiometric groundwater elevation at the site was observed to rise approximately eleven (11) feet compared to the gauging event of the fourth quarter 1997 on October 21, 1997.

The observed hydraulic gradient at the subject site is very flat. The gradient may change due to groundwater recharge or extraction, seasonal changes and natural aquifer outflow.

## V. GROUNDWATER SAMPLING AND ANALYTICAL RESULTS

On March 10, 1998, groundwater samples were collected from MW-1, MW-2, and MW-3 following the groundwater sampling procedures presented in **Appendix A.** The groundwater samples were analyzed for TPHg, BTEX and MtBE using EPA Methods 5030, modified 8015, and 8020, by Entech Analytical Labs, Inc. of Sunnyvale, California. The laboratory report and chain-of-custody documents are included in **Appendix B**. The field sampling data sheets are presented in **Appendix C.** The quality assurance/quality control description is included in **Appendix D.** Historic groundwater chemical test data is presented in **Table 4.**

Compared to the previous quarter, the results of the recent groundwater testing showed a general variation in TPHg and BTEX concentrations as some analyte concentrations increased while others decreased. Most of the chemical constituents continue to exceed their respective California Drinking Water Maximum Contaminant Levels (MCLs) or Federal Action Levels (AL) (**Table 3**).

The sample from MW-1, located upgradient of the former gasoline tank area, contained: TPHg at 120,000 micrograms per liter (µg/L); **MtBE at <5 µg/L**; benzene at 11,000 µg/L which exceeds its MCL of 1 µg/L; toluene at 46,000 µg/L which exceeds its MCL of 150 µg/L; ethyl benzene at 3,700 µg/L which exceeds its MCL of 700 µg/L, and; total xylenes at 21,000 µg/L which exceeds its MCL of 1,750 µg/L.

The sample from MW-2, located down gradient of the former gasoline tank area, contained 19,000 µg/L of TPHg, **<5 µg/L of MtBE**, 730 µg/L of benzene, 44 µg/L of toluene, 820 µg/L of ethyl benzene, and 1,000 µg/L of total xylenes.

Monitoring well MW-3, also located down gradient of the former gasoline tank area, contained 25,000 µg/L of TPHg, **<5 µg/L of MtBE**, 3,000 µg/L of benzene, 1,300 µg/L of toluene, 1,100 µg/L of ethyl benzene, and 3,700 µg/L of total xylenes.

## VI. CONCLUSIONS

Available data, including data from the first quarter 1998 monitoring events, indicate that groundwater flow patterns beneath the site are consistent with previous monitoring events during 1995, 1996, and 1997. Groundwater flowed toward the west at the single gauging event of the first calendar quarter of 1998. Samples will be analyzed to Method 8260 for MtBE to confirm previous results.

The recent groundwater sampling event showed a general variation in concentrations of TPHg and BTEX from those concentrations measured in the previous quarter. Various chemical constituents continue to exceed their respective California Drinking Water Maximum Contaminant Levels (MCLs) or Federal Action Levels (AL) at MW-1, MW-2 and MW-3.

## VII. RECOMMENDATIONS

We recommend that the monitoring wells continue to be monitored and gauged on a quarterly basis to comply with the ACDEH requirements and to assess trends in constituent concentrations over time. The data will be used to support development of a corrective action plan at the site.

## VIII. LIMITATIONS

The data, information, interpretations and recommendations contained in this report are presented to meet current suggested regulatory requirements for determining groundwater quality on the site. Environmental Testing & Mgmt. is not responsible for laboratory errors or completeness of other consultants reports, and no warranty is made or implied therein.

The conclusions and professional opinions presented herein were developed by ETM in accordance with current regulatory guidance and the opinions expressed are subject to revisions in light of new information which may develop in the future.

## IX. REFERENCES


California Code of Regulations, Title 22, 66260.21, "Environmental Health Standards", 6/23/95.

Code of Federal Regulations, 40 CFR 260, "Hazardous Waste Management System: General, 7/1/94.

Chemist Enterprises, *Soil and Water Investigation at German Autocraft, 301 East 14th Street, San Leandro, California*, April 12, 1995

The Environmental Construction Company, *Preliminary Soil and Groundwater Contamination Assessment, German Autocraft, 301 East 14th Street, San Leandro, California,* February 1991.

The Environmental Construction Company, *Underground Storage Tank Removals, German Autocraft, 301 East 14th Street, San Leandro, California,* November 1990.

Environmental Testing and Management, *Fourth Quarter 1998 Quarterly Groundwater Monitoring Report, German Autocraft, 301 East 14th Street, San Leandro, California*, December 18, 1997.

Environmental Testing and Management, *Third Quarter 1997 Quarterly Groundwater Monitoring Report, German Autocraft, 301 East 14th Street, San Leandro, California*, August 4, 1997.

Environmental Testing and Management, *Second Quarter 1997 Quarterly Groundwater Monitoring Report, German Autocraft, 301 East 14th Street, San Leandro, California*, June 11, 1997.

Environmental Testing and Management, *First Quarter 1997 Quarterly Groundwater Monitoring Report, German Autocraft, 301 East 14th Street, San Leandro, California*, March 24, 1997.

Environmental Testing and Management, *Fourth Quarter 1996 Quarterly Groundwater Monitoring Report, German Autocraft, 301 East 14th Street, San Leandro, California*, January 21, 1997.

Environmental Testing and Management, *Third Quarter 1996 Quarterly Groundwater Monitoring Report, German Autocraft, 301 East 14th Street, San Leandro, California*, November 18, 1996.

Environmental Testing and Management, *Second Quarter 1996 Environmental Activities Report, German Autocraft, 301 East 14th Street, San Leandro, California*, August 8, 1996.

Environmental Testing and Management, *Continued Soil and Water and Offsite Investigation at*

*German Autocraft, 301 East 14th Street, San Leandro, California*, July 12, 1996.

Environmental Testing and Management, *First Quarter 1996 Environmental Activities Report, German Autocraft, 301 East 14th Street, San Leandro, California*, May 20, 1996.

Environmental Testing and Management, *Third Quarter 1995 Environmental Activities Report, German Autocraft, 301 East 14th Street, San Leandro, California*, October, 1995.

Environmental Testing and Management, *Fourth Quarter 1995 Environmental Activities Report, German Autocraft, 301 East 14th Street, San Leandro, California*, February, 1995.

Woodward-Clyde Consultants, *Hydrogeology of Central San Leandro and Remedial Investigation of Regional Groundwater Contamination, San Leandro Plume, San Leandro, California, Volume I*, December 23, 1993.

## TABLE 1. FIRST QUARTER 1998 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION DATA

| | | March 10 , 1998 | |
|---|---|---|---|
| WELL | CASING ELEVATION[1] | Depth to Groundwater | Groundwater Elevation |
| MW-1 | 49.61 | 15.26 | 34.35 |
| MW-2 | 50.14 | 15.94 | 34.20 |
| MW-3 | 49.44 | 15.31 | 34.13 |

[1]Elevations in feet above mean sea level.

## TABLE 2. HISTORIC GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION DATA

| | Groundwater Surface Elevation[2] | | |
|---|---|---|---|
| DATE | MW-1 | MW-2 | MW-3 |
| 12/31/90 | 19.15[3] | - | - |
| 2/10/95 | 29.59 | 29.62 | 29.57 |
| 7/7/95 | 26.63 | 26.47 | 26.50 |
| 8/10/95 | 25.58 | 25.40 | 25.44 |
| 9/11/95 | 24.68 | 24.49 | 24.54 |
| 10/2/95 | 24.12 | 23.94 | 24.00 |
| 11/7/95 | 23.36 | 23.13 | 23.21 |
| 12/8/95 | 22.77 | 22.55 | 22.62 |
| 1/12/96 | 24.35 | 24.20 | 24.25 |
| 2/12/96 | 29.04 | 29.03 | 29.00 |
| 3/12/96 | 31.75 | 31.60 | 31.67 |
| 4/13/96 | 29.43 | 29.25 | 29.26 |
| 5/14/96 | 27.89 | 27.68 | 27.71 |
| 6/20/96 | 27.19 | 26.97 | 27.00 |
| 7/26/96 | 25.95 | 25.74 | 25.76 |
| 8/19/96 | 25.16 | 24.97 | 25.01 |
| 9/17/96 | 24.44 | 24.22 | 24.27 |
| 10/21/96 | 23.63 | 23.43 | 23.48 |

[2]Elevations in feet above mean sea level.

[3]This elevation was determined by using the depth of 30.46' measured by The Environmental Construction Company shortly after installation of MW-1 on December 31, 1990 and the surveyed top of casing elevation of 49.61 at MW-1 on January 6, 1995.

| DATE | MW-1 | MW-2 | MW-3 |
|---|---|---|---|
| 11/27/96 | 24.28 | 24.09 | 24.13 |
| 12/27/96 | 28.23 | 28.03 | 28.11 |
| 1/28/97 | 33.02 | 32.71 | 32.78 |
| 4/25/97 | 27.14 | 26.88 | 26.94 |
| 7/17/97 | 24.55 | 24.31 | 24.37 |
| 10/21/97 | 22.85 | 22.69 | 22.73 |
| 3/10/98 | 34.35 | 34.20 | 34.13 |

**TABLE 3. GROUNDWATER CHEMICAL TEST RESULTS**

Locations: MW-1, MW-2, MW-3

Date Sampled: March 10, 1998 Units: µg/L

| WELL | TPHg | BENZENE | TOLUENE | ETHYL-BENZENE | XYLENES | MtBE[4] |
|---|---|---|---|---|---|---|
| MW-1 | 120,000 | 11,000 | 46,000 | 3,700 | 21,000 | <5 |
| MW-2 | 19,000 | 730 | 44 | 820 | 1,000 | <5 |
| MW-3 | 25,000 | 3,000 | 1,300 | 1,100 | 3,700 | <5 |
| MCL/AL[5] | - | 1 | 150 | 700 | 1,750 | 35 |

[4]MtBE = methyl-tert-butyl-ether. The California Regional Water Quality Control Board initiated the requirement of quantitation of MtBE as an additional analyte for EPA Method 8020 as of January 12, 1996.

[5]Maximum Contaminant Level or Action Level as established by the State of California, Division of Drinking Water and Environmental Management, Department of Health Services "Summary, Maximum Contaminant and Action Levels" November, 1994.

## TABLE 4. HISTORIC GROUNDWATER CHEMICAL TEST RESULTS

Locations: MW-1, MW-2, MW-3

Units: µg/L

| WELL | DATE | TPHg | BENZENE | TOLUENE | ETHYL-BENZENE | XYLENES | MtBE |
|---|---|---|---|---|---|---|---|
| MW-1 | 12/31/90 | 51,000 | 2,200 | 1,200 | <0.5 | 760 | N/A[6] |
| | 1/6/95 | 110,000 | 13,000 | 15,000 | 4,800 | 13,000 | N/A |
| | 1/6/95 | 580,000 | 29,000 | 41,000 | 17,000 | 43,000 | N/A |
| | 7/6/95 | 49,000 | 8,000 | 17,000 | 1,900 | 9,700 | N/A |
| | 7/6/95 | 47,000 | 4,800 | 9,500 | 930 | 5,000 | N/A |
| | 10/2/95 | 120,000 | 16,000 | 36,000 | 3,300 | 17,000 | N/A |
| | 10/2/95 | 160,000 | 20,000 | 47,000 | 5,000 | 23,000 | N/A |
| | 1/12/96 | 1,100,000 | 11,000 | 18,000 | 15,000 | 51,000 | *18,000*[7] |
| | 1/12/96 | 98,000 | 2,100 | 4,600 | 2,500 | 10,000 | <5,000 |
| | 4/13/96 | 53,000 | 1,300 | 2,900 | 2,100 | 10,000 | <5,000 |
| | 4/13/96 | 58,000 | 820 | 3,600 | 2,800 | 12,000 | <5,000 |
| | 7/26/96 | 91,000 | 2,900 | 7,200 | 2,900 | 14,000 | <5,000 |
| | 7/26/96 | 67,000 | 2,300 | 5,500 | 2,500 | 11,000 | <5,000 |
| | 10/21/96 | 210,000 | 4,800 | 17,000 | 2,300 | 15,000 | N/A |
| | 10/21/96 | 210,000 | 5,400 | 18,000 | 2,600 | 11,000 | N/A |
| | 1/28/97 | 120,000 | 5,600 | 15,000 | 2,100 | 11,000 | N/A |
| | 1/28/97 | 130,000 | 5,500 | 15,000 | 2,300 | 12,000 | N/A |

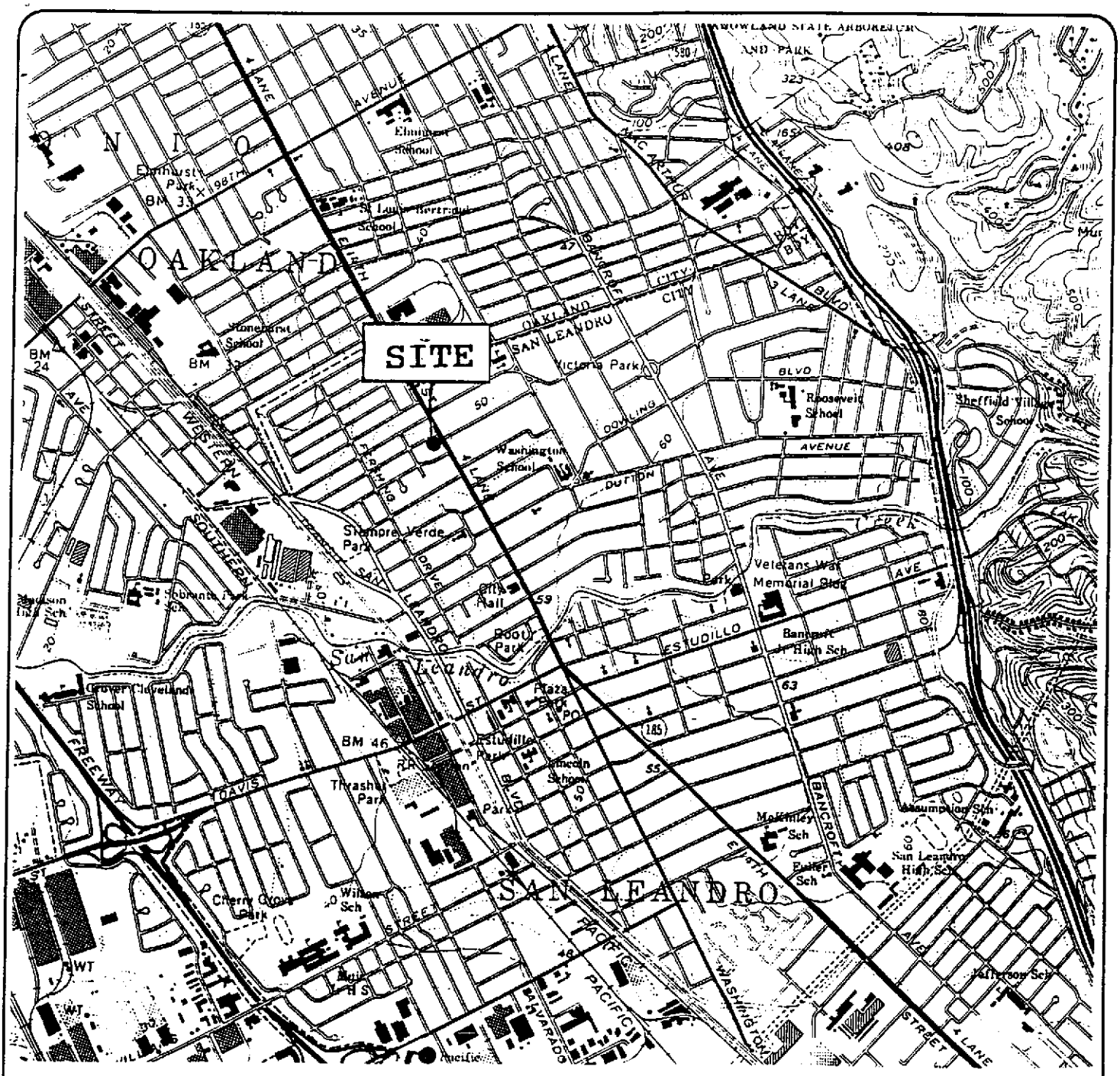
[6]N/A = Not Analyzed. The California Regional Water Quality Control Board initiated the requirement of quantitation of MtBE as an additional analyte for EPA Method 8020 as of January 12, 1996. The samples not analyzed for MtBE in this table pre-date the recent new requirement.

[7]This value may be inaccurate. Please refer to the second quarter 1996 report which includes an evaluation of MtBE which cast doubt on the validity of this laboratory test.

| WELL | DATE | TPHg | BENZENE | TOLUENE | ETHYL-BENZENE | XYLENES | MtBE |
|---|---|---|---|---|---|---|---|
| MW-1 | 4/25/97 | 180,000 | 6,900 | 20,000 | 2,600 | 13,000 | N/A |
| | 4/25/97 | 170,000 | 6,500 | 20,000 | 2,500 | 13,000 | N/A |
| | 7/17/97 | 220,000 | 8,300 | 41,000 | 2,700 | 16,000 | N/A |
| | 10/21/97 | 240,000 | 9,400 | 33,000 | 3,300 | 22,000 | <5 |
| | 3/10/98 | 120,000 | 11,000 | 46,000 | 3,700 | 21,000 | <5 |
| MW-2 | 1/6/95 | 980,000 | 9,400 | 5,600 | 19,000 | 42,000 | N/A |
| | 7/6/95 | 71,000 | 5,300 | 1,800 | 6,100 | 9,000 | N/A |
| | 10/2/95 | 40,000 | 2,900 | 200 | 2,800 | 3,600 | N/A |
| | 1/12/96 | 260,000 | 2,600 | 2,200 | 6,300 | 7,800 | <12,500 |
| | 4/13/96 | 30,000 | 1,900 | 370 | 2,300 | 2,400 | *520*[8] |
| | 7/26/96 | 180,000 | 1,400 | 640 | 2,100 | 5,000 | <5,000 |
| | 10/21/96 | 62,000 | 2,100 | <0.5 | 2,100 | 2,700 | N/A |
| | 1/28/97 | 46,000 | 1,500 | 94 | 1,800 | 2,000 | N/A |
| | 4/25/97 | 23,000 | 790 | 26 | 820 | 730 | N/A |
| | 7/17/97 | 95,000 | 2,200 | <0.5 | 3,100 | 4,300 | N/A |
| | 10/21/97 | 31,000 | 2,000 | <0.5 | 2,100 | 1,900 | <5 |
| | 3/10/98 | 19,000 | 730 | 44 | 820 | 1,000 | <5 |
| MW-3 | 1/6/95 | 740,000 | 11,000 | 2,300 | 8,300 | 28,000 | N/A |
| | 7/6/95 | 86,000 | 12,000 | 8,600 | 4,900 | 19,000 | N/A |
| | 10/2/95 | 100,000 | 15,000 | 11,000 | 6,000 | 20,000 | N/A |
| | 1/12/96 | 84,000 | 6,500 | 4,100 | 3,200 | 12,000 | <5,000 |
| | 4/13/96 | 48,000 | 7,600 | 3,600 | 2,800 | 9,400 | <2,500 |

[8]This value may be inaccurate. Please refer to the second quarter 1996 report which includes an evaluation of MtBE which cast doubt on the validity of this laboratory test.

| WELL | DATE | TPHg | BENZENE | TOLUENE | ETHYL-BENZENE | XYLENES | MtBE |
|---|---|---|---|---|---|---|---|
| MW-3 | 7/26/96 | 62,000 | 6,400 | 3,100 | 3,000 | 11,000 | <2,500 |
| | 10/21/96 | 110,000 | 5,400 | 2,400 | 2,500 | 9,800 | N/A |
| | 1/28/97 | 130,000 | 5,500 | 15,000 | 2,300 | 12,000 | N/A |
| | 4/25/97 | 180,000 | 6,900 | 20,000 | 2,600 | 13,000 | N/A |
| | 7/17/97 | 69,000 | 5,100 | 1,100 | 1,800 | 8,600 | N/A |
| | 10/21/97 | 58,000 | 4,300 | 1,300 | 2,100 | 8,000 | <5 |
| | 3/10/98 | 25,000 | 3,000 | 1,300 | 1,100 | 3,700 | <5 |




EXPLANATION:

Scale: 1"=2000'

0 1000' 2000'

Base Map Reference: U.S.G.S. San Leandro 7.5 Minute Topographic, Quadrangle.

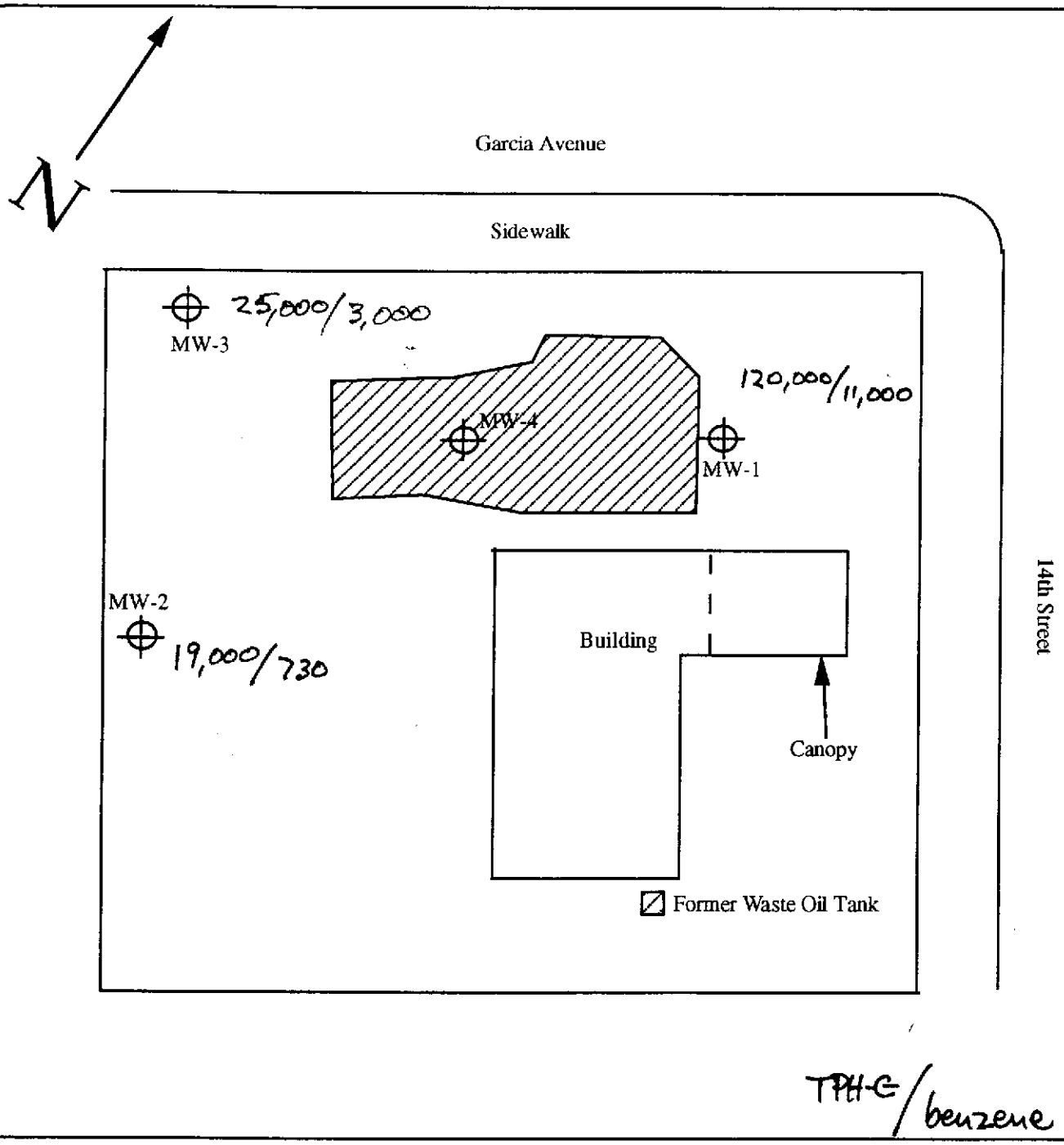
N

ENVIRONMENTAL TESTING & MGMT
111 N. MARKET ST. SUITE 600
SAN JOSE, CALIFORNIA 95113

LOCATION MAP
German Autocraft
301 East 14th Street
San Leandro, California

Figure 1

Project No. 94-52
Date: 3/97




EXPLANATION:

Scale: 1"=20'

0 10 20

MW-1 Monitoring Well

Former Tank Pit/Removed Asphalt Areas

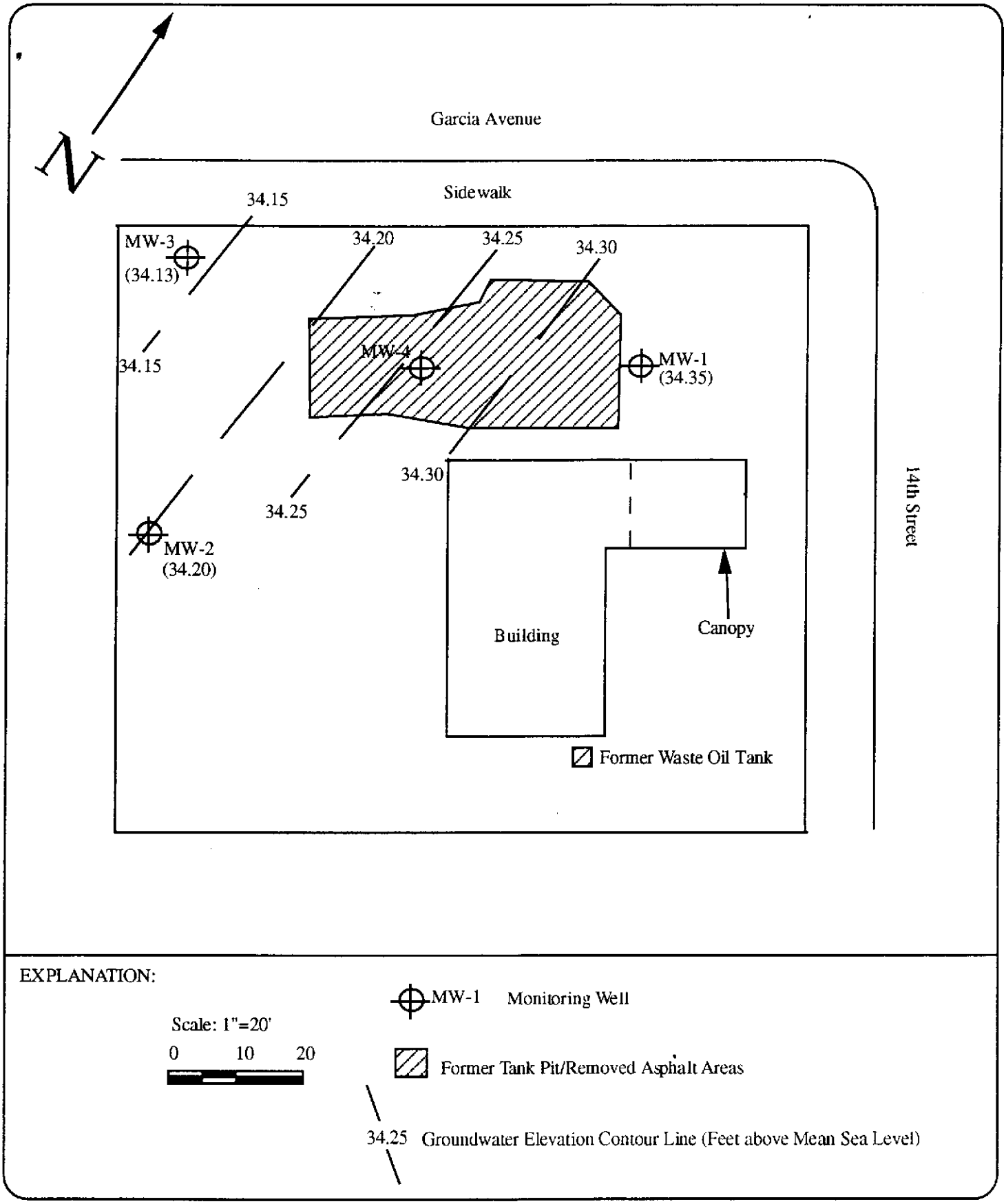
ENVIRONMENTAL TESTING & MGMT.
111 N. MARKET ST. SUITE 600
SAN JOSE, CALIFORNIA 95113

SITE MAP

German Autocraft
301 East 14th Street
San Leandro, California

Figure 2

Project No. 94-52
Date: 3/97




EXPLANATION:

MW-1 Monitoring Well

Scale: 1"=20'

0 10 20

Former Tank Pit/Removed Asphalt Areas

34.25 Groundwater Elevation Contour Line (Feet above Mean Sea Level)


ENVIRONMENTAL TESTING & MGMT.
111 N. MARKET ST. SUITE 600
SAN JOSE, CALIFORNIA 95113


GROUNDWATER POTENTIOMETRIC SURFACE
ELEVATION CONTOUR MAP 3/10/98
German Autocraft
301 East 14th Street
San Leandro, California

Figure 3

Date: 5/98

## APPENDIX A: FIELD SAMPLING AND GAUGING PROCEDURES

### GROUNDWATER LEVEL MEASURING AND SAMPLING:

Sampling procedures commenced with measuring static water levels in monitoring wells using an electronic water level indicator accurate to 0.01 inch. Groundwater samples were collected using Teflon™ or stainless steel bailers. The bailers were cleaned prior to lowering into the groundwater by washing with Liquinox or laboratory grade detergent, rinsing with tap water, and drying. Floating product thickness was measured by gently lowering a bailer or preferably an interface sampler into the well casing. The liquid level in the sampler was allowed to equilibrate with the liquid level in the well. After raising the sampler, the thickness of floating product, if present, was measured in the transparent sampler with a ruler or noting the presence of sheen and odor. The wells were then purged a minimum of four well volumes or until the parameters of temperature, conductance, and pH stabilized. Groundwater sampling field data sheets are presented in **Appendix C.**

Groundwater samples were collected by gently pouring from the bailer into a 40-milliliter vial until a positive meniscus formed at the top of the vial, each vial was capped, and visually inspected to make sure no bubbles were present. Sample containers are labeled for sampling point reference and chilled on ice immediately after collection. Chain-of-custody documentation was maintained until the samples were received by the laboratory.

# Entech Analytical Labs, Inc.

CA ELAP# 2224

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

**Attn: Tom Price**
**Environmental Testing & Management**
**111 N. Market Street, Suite 600**
**San Jose, CA 95113**

| | |
|---|---|
| Date: | 3/18/98 |
| Date Received: | 3/11/98 |
| Date Analyzed: | 3/12-3/13/98 |
| Project: | GA |
| Sampled By: | Client |

## Certified Analytical Report

**Water Sample Analysis:**

| *Test* | *MW-1* | *MW-2* | *MW-3* | *Units* | *PQL* | *EPA Method #* |
|---|---|---|---|---|---|---|
| Sample Matrix | Water | Water | Water | | | |
| Sample Date | 3/10/98 | 3/10/98 | 3/10/98 | | | |
| Sample Time | | | | | | |
| Lab # | E5062 | E5063 | E5064 | | | |
| DF-Gas/BTEX | 100 | 50 | 100 | | | |
| **TPH-Gas** | **120,000** | **19,000** | **25,000** | µg/liter | 50.0 µg/l | 8015M |
| **MTBE** | **ND** | **ND** | **ND** | µg/liter | 5.0 µg/l | 8015M |
| **Benzene** | **11,000** | **730** | **3,000** | µg/liter | 0.5 µg/l | 8020 |
| **Toluene** | **46,000** | **44** | **1,300** | µg/liter | 0.5 µg/l | 8020 |
| **Ethyl Benzene** | **3,700** | **820** | **1,100** | µg/liter | 0.5 µg/l | 8020 |
| **Xylenes** | **21,000** | **1,000** | **3,700** | µg/liter | 0.5 µg/l | 8020 |

1. DLR=DF x PQL
2. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #2224)

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

## QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG2980312
Matrix: Water
Units: ug/L

Date Analyzed: 03/12/98
Quality Control Sample: E4885

| PARAMETER | Method # | MB ug/L | SA ug/L | SR ug/L | SP ug/L | SP % R | SPD ug/L | SPD %R | RPD | QC LIMITS (ADVISORY) RPD | QC LIMITS (ADVISORY) %R |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 8020 | <0.50 | 40 | ND | 40 | **100** | 37 | **93** | 7.4 | 25 | 50-150 |
| Toluene | 8020 | <0.50 | 40 | ND | 40 | **99** | 38 | **95** | 4.4 | 25 | 50-150 |
| Ethyl Benzene | 8020 | <0.50 | 40 | ND | 40 | **101** | 38 | **96** | 4.9 | 25 | 50-150 |
| Xylenes | 8020 | <0.50 | 120 | ND | 120 | **100** | 116 | **96** | 4.1 | 25 | 50-150 |
| Gasoline | 8015 | <50.0 | 1000 | ND | 960 | **96** | 1040 | **104** | 8.0 | 25 | 50-150 |

*Note: LCS and LCSD results reported for the following Parameters:*
*Gasoline*

*Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.*

Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike % Recovery
- NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

## QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG2980313
Matrix: Water
Units: ug/L

Date Analyzed: 03/13/98
Quality Control Sample: E5073

| PARAMETER | Method # | MB ug/L | SA ug/L | SR ug/L | SP ug/L | SP % R | SPD ug/L | SPD %R | RPD | QC LIMITS (ADVISORY) RPD | QC LIMITS (ADVISORY) %R |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 8020 | <0.50 | 80 | ND | 76 | **95** | 76 | **95** | 0.9 | 25 | 50-150 |
| Toluene | 8020 | <0.50 | 80 | ND | 74 | **92** | 74 | **93** | 0.6 | 25 | 50-150 |
| Ethyl Benzene | 8020 | <0.50 | 80 | ND | 74 | **92** | 74 | **92** | 0.1 | 25 | 50-150 |
| Xylenes | 8020 | <0.50 | 240 | ND | 214 | **89** | 218 | **91** | 2.1 | 25 | 50-150 |
| Gasoline | 8015 | <50.0 | 1000 | ND | 900 | **90** | 920 | **92** | 2.2 | 25 | 50-150 |

*Note: LCS and LCSD results reported for the following Parameters:*
*None*

*Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.*

Definition of Terms:

na: Not Analyzed in QC batch
MB: Method Blank
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike % Recovery
NC: Not Calculated

# Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • Telephone: (408) 735-1550 (800) 287-1799 • Fax: (408) 735-1554

## Chain of Custody/Analysis Work Order

Client: GA.
Address: 301 E 14 ST.
San Leandro CA.
Contact:
Telephone #:
Date Received:
Turn Around: Normal

Project ID:
Purchase Order #:

Sampler/Company: Tom Price/Env. Testing & Mgmt
Telephone #:

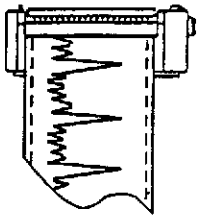
Special Instructions/Comments

**LAB USE ONLY**

Samples arrived chilled and intact:
Yes No
Notes:

| Lab # | Sample ID | Grab/ Composite | Matrix | Date Collected | Time Collected | Pres. | Sample Container | Requested Analysis: TPH g/ BTEX/ MTBE |
|---|---|---|---|---|---|---|---|---|
| 35064 | mw-1 | G | W | 3/10/98 | — | chill | 40 ml VOA | ✓ |
| 35063 | mw-2 | ↓ | ↓ | ↓ | — | ↓ | ↓ | ✓ |
| 35064 | mw-3 | ↓ | ↓ | ↓ | — | ↓ | ↓ | ✓ |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| | | | |
|---|---|---|---|
| Relinq. By: Tom Price | Received By: J. Singh | Date 3/11/98 1210 PM. | Time 1210 PM |
| Relinq. By: J Singh | Received By: | Date 3/11/98 1250 | Time 12:50p |
| Relinq/ By: | Received By: | Date | Time |



ENVIRONMENTAL TESTING & MGMT.
111 N. MARKET ST., SUITE 600
SAN JOSE, CALIFORNIA 95113
408.938.0939 FAX: 408.938.3929

Date: 3/10/98 Project Name: GA.

Project No.: _____ Well No./Description: mw-1

Depth of Well: 39.36 1 Well Volume: 3.8

Depth to Water: 15.26 4 Well Volumes: _____

Casing Diameter: ✓ 2" __ 4" Actual Volume Purged: _____

Calculations:

~24
0.16
144
24
384

2" - * 0.1632
4" - * 0.653

Purge Method: ✓ Bailer ___ Displacement Pump ___ Impinger/Vacuum ___

Sample Method: ✓ Bailer ___ Other Specify: _____

Sheen: ___ No ✓ Yes, Describe slight.

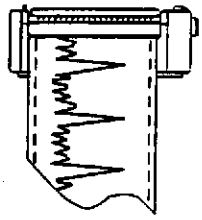
Odor: ___ No ✓ Yes, Describe HC

Field Measurements:

| Time | Volume | pH | Temp. | E.C. | Color |
|---|---|---|---|---|---|
| 1201 | 4.0 | 7.1 | 73 | 1.8E3 | lt gray |
| 1214 | 8.0 | 6.8 | 68 | 2.6E3 | " " |
| ~~1227~~ | 12.0 | 6.8 | 73 | 2.0E3 | " " |
| | | | | | |
| | | | | | |

Remarks: _____

Sampler: Tom Price



ENVIRONMENTAL TESTING & MGMT.
111 N. MARKET ST., SUITE 600
SAN JOSE, CALIFORNIA 95113
408.938.0939 FAX: 408.938.3929

Date: 3/10/98 Project Name: GA-

Project No.: _____ Well No./Description: mw-2

Depth of Well: 33.95 1 Well Volume: 2.9

Depth to Water: 15.94 4 Well Volumes: _____

Casing Diameter: ✓ 2" __ 4" Actual Volume Purged: _____

Calculations:

418
16
108
18
288

2" - * 0.1632
4" - * 0.653

Purge Method: ✓ Bailer ___ Displacement Pump ___ Impinger/Vacuum ___

Sample Method: ✓ Bailer ___ Other Specify: _____

Sheen: ___ No ✓ Yes, Describe medium - stronger than mw-1

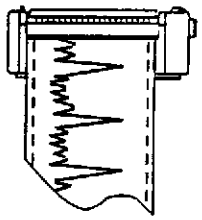
Odor: ___ No ✓ Yes, Describe mild - stronger than mw-1

Field Measurements:

| Time | Volume | pH | Temp. | E.C. | Color |
|---|---|---|---|---|---|
| 1240 | 3.0 | 6.6 | 73 | 2.0E3 | gray |
| 1243 | 6.0 | 6.6 | 67 | 1.8E3 | " |
| 1256 | 9.0 | 6.8 | 65 | 1.7E3 | " |
| | | | | | |
| | | | | | |

Remarks: _____

Sampler: Tom Price



ENVIRONMENTAL TESTING & MGMT.
111 N. MARKET ST., SUITE 600
SAN JOSE, CALIFORNIA 95113
408.938.0939 FAX: 408.938.3929

Date: 3/10/98 Project Name: GA

Project No.: _____ Well No./Description: mw-3

Depth of Well: 34.90 1 Well Volume: 3.2

Depth to Water: 15.31 4 Well Volumes: _____

Casing Diameter: ✓2" __4" Actual Volume Purged: _____

Calculations: ~20 / 0.16 = 3.2

2" - * 0.1632
4" - * 0.653

Purge Method: ✓Bailer ___Displacement Pump ___Impinger/Vacuum ___

Sample Method: ✓Bailer ___ Other Specify: _____

Sheen: ___ No ___ Yes, Describe _____

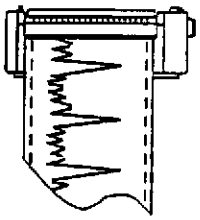
Odor: ___ No ___ Yes, Describe _____

Field Measurements:

| Time | Volume | pH | Temp. | E.C. | Color |
|---|---|---|---|---|---|
| 1301 | 3.0 | 7.0 | 65 | 1.0E3 | gray |
| 1307 | 6.0 | 7.0 | 65 | 0.9E3 | " |
| 1314 | 9.0 | 7.0 | 65 | 0.9E3 | " |
| | | | | | |
| | | | | | |

Remarks: _____

Sampler: Tom Price



ENVIRONMENTAL TESTING & MGMT.
111 N. MARKET ST., SUITE 600
SAN JOSE, CALIFORNIA 95113
408.938.0939 FAX: 408.938.3929

Date: 3/10/98 Project Name: GA.

Project No.: _____ Well No./Description: MW-4.

Depth of Well: 34.40 1 Well Volume: 3.0

Depth to Water: 15.49 4 Well Volumes: _____

Casing Diameter: ✓ 2" __ 4" Actual Volume Purged: _____

Calculations:

5 19 16 11 4

19 3 0 4

2" - * 0.1632
4" - * 0.653

Purge Method: ✓ Bailer ___Displacement Pump ___Impinger/Vacuum ___

Sample Method: ✓ Bailer ___ Other Specify: _____

Sheen: ___ No ___ Yes, Describe _____

Odor: ___ No ___ Yes, Describe _____

Field Measurements:

| Time | Volume | pH | Temp. | E.C. | Color |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Remarks: No product recovered from skimmer. Interface bailer retrieved floating droplets of dk. brown HC product. Bailed/surged ~ 20 gallons of water. Adjusted skimmer height, cleaned screen.

Sampler: Tom Price

## APPENDIX D: QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

The quality assurance/quality control measures used for groundwater sampling conducted on March 10, 1998 included the following:

- Groundwater samples were collected in duplicate 40 milliliter vials.

## APPENDIX E: REPORT DISTRIBUTION LIST

Copies of this report have been mailed to the attention of the following parties:

Seung Lee
German Autocraft
301 E. 14th Street
San Leandro, California 94577

Scott O. Seery
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

Kevin Graves
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Mike Bakaldin
City of San Leandro Fire Department
835 E. 14th Street, Suite 200
San Leandro, California 94577