

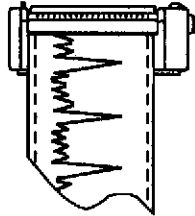
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# FIRST QUARTER 1996 ENVIRONMENTAL ACTIVITIES REPORT

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

Prepared by:



**ENVIRONMENTAL TESTING & MGMT.**  
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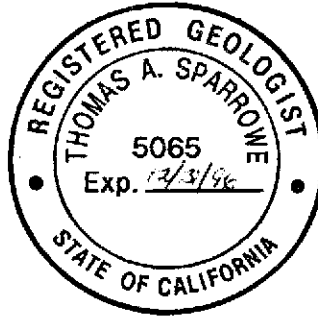
Prepared For:

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German Autocraft  
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Report issued May 20, 1996

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## I. INTRODUCTION

In accordance with recommendations set forth in the Soil and Groundwater Investigation (SWI) Workplan, dated June 7, 1995, Environmental Testing & Management (ETM) has continued the Quarterly Monitoring Program (QMP) and related environmental activities 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 also involves an off-site soil and groundwater sampling program to define the limits of the contamination plume. **The results of the SWI will be presented later in a separate technical report at the conclusion of the investigation.** Sixteen soil borings were drilled between November 28 and December 1, 1995. An additional 24 borings were drilled March 25-29, 1996.

The purpose of this QMP is to evaluate potential impacts from soil contamination on groundwater in the area of six former underground fuel storage tanks (USTs) that were removed in 1990. Data accumulated from the QMP will be used to assess seasonal groundwater level fluctuations, changing groundwater quality conditions, and to further determine groundwater sampling locations in the on-going SWI.

**This report presents a description of the groundwater monitoring activities, a compilation of groundwater quality and gradient data, maintenance of the passive sampler system in the former tank pit area, and a brief description of the progress of the on-going SWI activities completed during the 1st Quarter of 1996.**

## 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 following documents, all of which have been submitted to the ACDEH:

- *Fourth Quarter 1995 Environmental Activities Report*  
(Environmental Testing and Management, February 26, 1996)
- *Third Quarter 1995 Environmental Activities Report*  
(Environmental Testing and Management, October 2, 1995)
- *Soil and Water Investigation at German Autocraft*  
(Chemist Enterprises, April 12, 1995);
- *Preliminary Soil and Groundwater Contamination Assessment*  
(The Environmental Construction Company, February 1991);
- *Underground Storage Tank Removals*  
(The Environmental Construction Company, November 1990)

## III. WORK PERFORMED DURING FIRST QUARTER, 1996

Work has included groundwater level monitoring and sampling, maintenance of the passive skimmer system installed in MW-4, and five days of field sampling for the SWI, data analysis and report preparation. Activity highlights during this period are as follows:

- **January 12, 1996** - ETM measured groundwater elevations and collected groundwater samples from monitoring wells MW-1, MW-2, and MW-3. ETM inspected each well for the presence of floating product or sheen. **At** the water was observed in well MW-2. MW-1 and MW-3 did not exhibit sheen, however, detectable hydrocarbon odors were apparent. **A small volume** of **gasoline** was recovered from the passive skimmer system at MW-4. The color of the recovered gasoline product was brownish amber. 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), and Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX).

- **February 12, 1996** - ETM measured groundwater elevations in monitoring wells MW-1, MW-2, and MW-3. ETM inspected each well for the presence of floating product or sheen. ~~sheen~~ on the water was observed in well MW-2 and MW-4. MW-1 and MW-3 did not exhibit sheen, however, detectable hydrocarbon odors were apparent. **No floating product was recovered from the passive skimmer system in MW-4.** The skimmer elevation was adjusted to account for the rising groundwater elevation.
- **March 11, 1996** - Norcal Underground Locating cleared the locations of proposed soil borings for the pending off-site SWI.
- **March 12, 1996** - ETM measured groundwater elevations in monitoring wells MW-1, MW-2, and MW-3. ETM inspected each well for the presence of floating product or sheen. **An odor and ~~sheen~~ on the water was observed in wells MW-1, MW-2, and MW-4.** MW-3 did not exhibit sheen, however, a light hydrocarbon odor was apparent. **No floating product was recovered from the passive skimmer system in MW-4.** The passive skimmer elevation was adjusted again to account for the rising groundwater elevation.
- **March 25-30, 1996** - ETM conducted soil and groundwater sampling for the off-site SWI.

#### **IV. GROUNDWATER ELEVATION AND GRADIENT**

Static groundwater level elevation data collected from on-site groundwater wells on January 12, 1996, indicated that the elevation of the shallow groundwater surface beneath the Site ranged from 24.20 to 24.35 feet above mean sea level. The estimated groundwater flow direction was to the southwest ( gradient =0.001 ft/ft) which is consistent with the flow direction in December 1995.

Static groundwater level elevation data collected from on-site groundwater wells on February 12, 1996, indicated that the elevation of the shallow groundwater surface beneath the Site ranged from

29.00 to 29.04 feet above mean sea level. The estimated groundwater flow direction was to the northwest (gradient = 0.002 ft/ft).

Static groundwater level elevation data collected from on-site groundwater wells on March 12, 1996, indicated that the elevation of the shallow groundwater surface beneath the Site ranged from 31.60 to 31.75 feet above mean sea level. The estimated groundwater flow direction was to the south (gradient = 0.001 ft/ft).

Table 1 presents the recent groundwater elevation data and Figures 3a, 3b, and 3c show estimated groundwater flow direction as interpreted from the elevation data.

The groundwater elevation at the site was observed to have risen over seven (7) feet over the three month monitoring period. The depth to groundwater at the last gauging event of the first quarter of 1996 on March 12, 1996 was approximately 18 feet below the ground surface. The groundwater flow direction ranged from southwest in January, to northwest in February, to south in March. The change in groundwater flow direction coupled with an average elevation rise of over two feet per month during the First Quarter of 1996 demonstrates the dynamic nature of the shallow groundwater table at the subject site. The observed hydraulic gradient is at the subject site is very slight. The observed change in groundwater gradient direction may be due to groundwater recharge or extraction. It is also possible that a slight measuring error could explain the change in the flow direction. yes

#### V. GROUNDWATER SAMPLING AND ANALYTICAL RESULTS

On January 12, 1996, groundwater samples were collected from MW-1, MW-2, and MW-3 and generally followed the groundwater sampling procedures presented in the SWI work plan. Well sampling procedures are presented in Appendix A. The groundwater samples were analyzed for TPHg and BTEX using EPA Method 5030 and 8020 by Inchcape Testing Services of San Jose,

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 quality data is presented in **Table 4**.

Compared to the previous quarter, the results of the recent groundwater sampling effort showed a general increase in TPHg and BTEX concentrations in MW-1 and MW-2 however, the concentrations in MW-3 decreased. All of the constituents continue to exceed their respective California Drinking Water Maximum Contaminant Levels (MCLs) or Federal Action Levels (AL) (**Table 3**). Estimated groundwater benzene and TPHg isoconcentration maps will be presented later in a technical report for the off-site SWI.

The sample from MW-1, located upgradient of the former gasoline tank area, contained: TPHg at 1,100,000 micrograms per liter ( $\mu\text{g/L}$ ) (blind duplicate: 98,000  $\mu\text{g/L}$ ); benzene at 11,000  $\mu\text{g/L}$  (blind duplicate: 2,100  $\mu\text{g/L}$ ) which exceeds its MCL of 1  $\mu\text{g/L}$ ; toluene at 18,000  $\mu\text{g/L}$  (blind duplicate: 4,600  $\mu\text{g/L}$ ) which exceeds its MCL of 150  $\mu\text{g/L}$ ; ethyl benzene at 15,000  $\mu\text{g/L}$  of (blind duplicate: 2,500  $\mu\text{g/L}$ ) which exceeds its MCL of 700  $\mu\text{g/L}$ , and ; total xylenes at 51,000  $\mu\text{g/L}$  (blind duplicate: 10,000  $\mu\text{g/L}$ ) which exceeds its MCL of 1,750  $\mu\text{g/L}$ . Methyl-tert-butyl-ether (MtBE) was reportedly detected at a concentration of 18,000  $\mu\text{g/L}$  (blind duplicate: not detected above its reporting limit of 5,000  $\mu\text{g/L}$ ), on the order of the detection limit of 12,500  $\mu\text{g/L}$ . The presence of MtBE at the German Autocraft property is unlikely for the following reasons: 1) the previous gasoline pumping operations of Arco gasoline at the site ceased in 1981 prior the Clean Air Act of 1990 which promulgated widespread use of MtBE in gasoline formulations. 2) In addition, according to Arco, MtBE was not used in Arco gasoline formulations prior to 1989. The reported concentration of MtBE in the sample may be due to a fugitive peak on the chromatogram or an inaccurate reporting limit. This topic will be evaluated in greater detail in the next quarterly monitoring report which will include mass spectroscopy analysis.

The sample from MW-2, located down gradient of the former gasoline tank area, contained 260,000 µg/L of TPHg, 2,600 µg/L of benzene, 2,200 µg/L of toluene, 6,300 µg/L of ethyl benzene, and 7,800 µg/L of total xylenes. MtBE was not detected above it's reporting limit of 12,500 µg/L.

Monitoring well MW-3, also located down gradient of the former gasoline tank area, contained 84,000 µg/L of TPHg, 6,500 µg/L of benzene, 4,100 µg/L of toluene, 3,200 µg/L of ethyl benzene, and 12,000 µg/L of total xylenes. MtBE was not detected above it's reporting limit of 5,000 µg/L.

A small volume (<5 ml) of floating gasoline product was recovered from the passive skimmer system at MW-4. The color of the recovered gasoline product was brownish amber.

## VI. CONCLUSIONS

Available data, including data from the first quarter 1996 monitoring events, suggest that groundwater flow patterns beneath the site are consistent with previous monitoring events during 1995. Groundwater flowed toward the northwest on the last gauging event of the quarter on March 12, 1996.

The recent groundwater sampling event showed an increase in concentrations of TPHg and BTEX in MW-1 and MW-2 and decrease in MW-3 from those concentrations measured in the previous quarter. The concentrations of the constituents of concern in all of the wells sampled remain above their respective MCL. ETM will continue the QMP and monthly groundwater level measuring activities during the next sampling quarter (April, May, and June).



## **VII. RECOMMENDATIONS**

ETM recommends that groundwater levels continue to be monitored on a monthly basis and water quality in the monitoring wells continue to be monitored quarterly basis to comply with the ACDEH requirements, and to assess trends in constituent concentrations over time.

## **VIII. LIMITATIONS**

The data, information, interpretations and recommendations contained in technical work or report are presented solely as beneficial in meeting minimum requirements for determining groundwater quality on the site and does not take into account omissions or errors on behalf of parties identified in this report.

The conclusions and professional opinions presented herein were developed by ETM in accordance with generally accepted environmental principles and practices. As with all work performed by ETM, the opinions expressed are subject to revisions in light of new information which may develop in the future; no warranties are expressed or implied.

This report has not been prepared for use by parties other than ACDEH and Mr. Seung Lee. It may not contain sufficient information for the purposes of other parties or other uses. If changes are made or new information is discovered, the conclusions and recommendations contained herein should not be considered valid, unless the changes are reviewed by ETM and the recommendations are modified in writing.

## **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, *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 1996 GROUNDWATER ELEVATION DATA**

WELL	CASING ELEVATION	January 12, 1996		February 12, 1996		March 12, 1996	
		Depth to	Groundwater <sup>1</sup>	Depth to	Groundwater	Depth to	Groundwater
		Groundwater	Elevation	Groundwater	Elevation	Groundwater	Elevation
MW-1	49.61	25.26	24.35	20.57	29.04	17.86	31.75
MW-2	50.14	25.94	24.20	21.11	29.03	18.54	31.60
MW-3	49.44	25.19	24.25	20.44	29.00	17.77	31.67

<sup>1</sup>Elevations in feet above mean sea level.

**TABLE 2. HISTORIC GROUNDWATER ELEVATION DATA**

DATE	Groundwater Surface Elevation <sup>1</sup>		
	MW-1	MW-2	MW-3
12/31/90	19.15 <sup>2</sup>	-	-
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

<sup>1</sup>Elevations in feet above mean sea level.

<sup>2</sup>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.

**TABLE 3. GROUNDWATER CHEMICAL TEST RESULTS**

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

Date Sampled: January 12, 1996 Units: µg/L

WELL	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MtBE <sup>3</sup>
MW-1	1,100,000	11,000	18,000	15,000	51,000	18,000 <sup>4</sup>
MW-1 <sup>5</sup>	98,000	2,100	4,600	2,500	10,000	<5,000
MW-2	260,000	2,600	2,200	6,300	7,800	<12,500
MW-3	84,000	6,500	4,100	3,200	12,000	<5,000
MCL/AL <sup>6</sup>	-	1	150	700	1,750	35

**TABLE 4. HISTORIC GROUNDWATER QUALITY 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 <sup>7</sup>
	1/6/95	110,000	13,000	15,000	4,800	13,000	N/A

<sup>3</sup>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.

<sup>4</sup>This value may be inaccurate. Please refer to the Groundwater Sampling and Analytical Results section of this report for an evaluation of MtBE.

<sup>5</sup>This sample was labeled 'MW-5' and submitted to the lab as a blind duplicate.

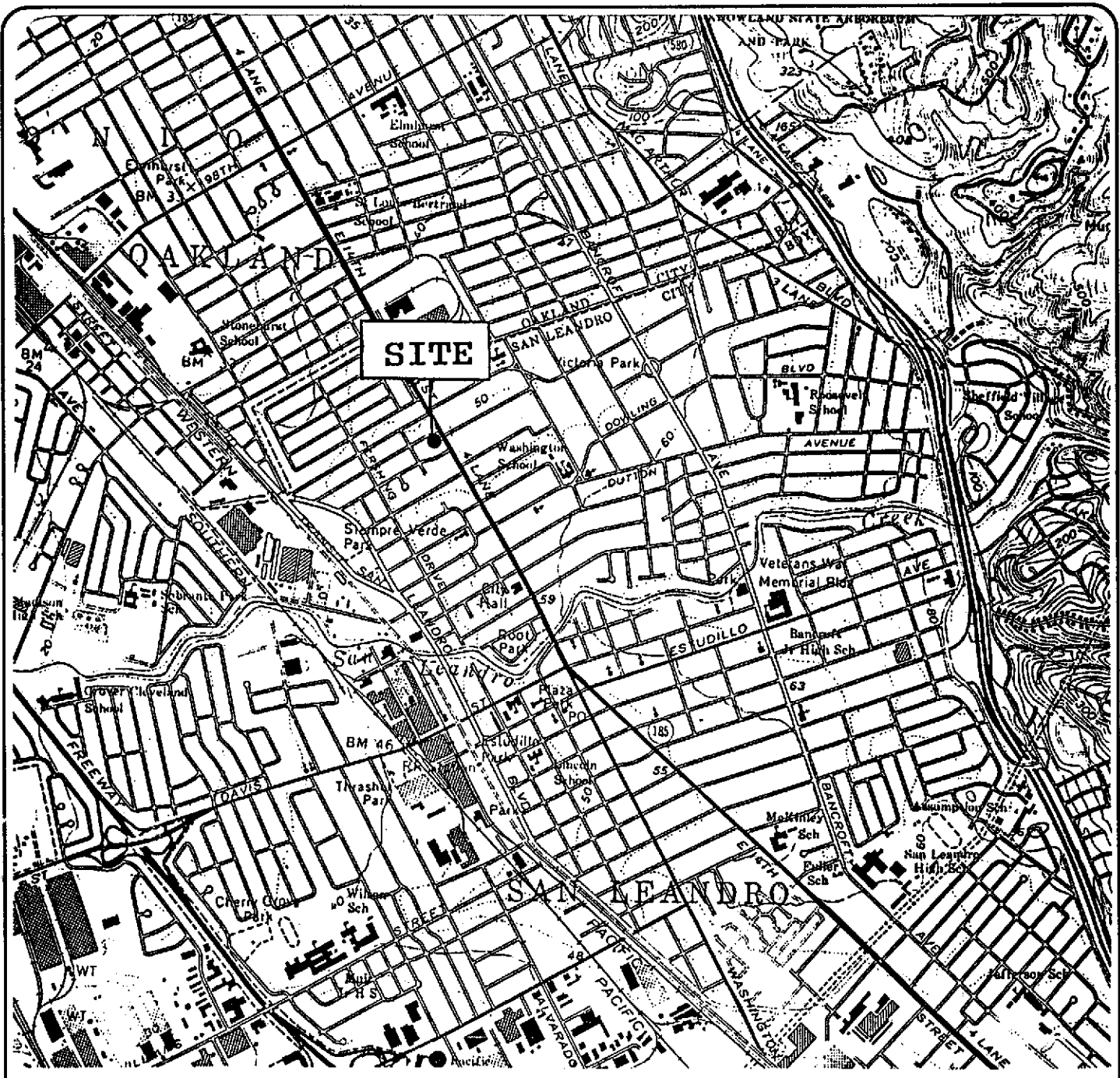
<sup>6</sup>Maximum Contaminant Level or Action Level as established by the State of California, Division of Drinking Water and Environmental Management, Department of Health Services "Summary, Maximum Contaminant and Action Levels" November, 1994.

<sup>7</sup>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.

B T E X

MW-1	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 <sup>8</sup>
	1/12/96	98,000	2,100	4,600	2,500	10,000	<5,000
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	500	2,200	6,300	7,800	<12,500
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	500	4,100	3,200	12,000	<5,000

<sup>8</sup>This value may be inaccurate. Please refer to the Groundwater Sampling and Analytical Results section of this report for an evaluation of MtBE.



**EXPLANATION:**

Scale: 1"=2000'

0 1000' 2000'



Base Map Reference:

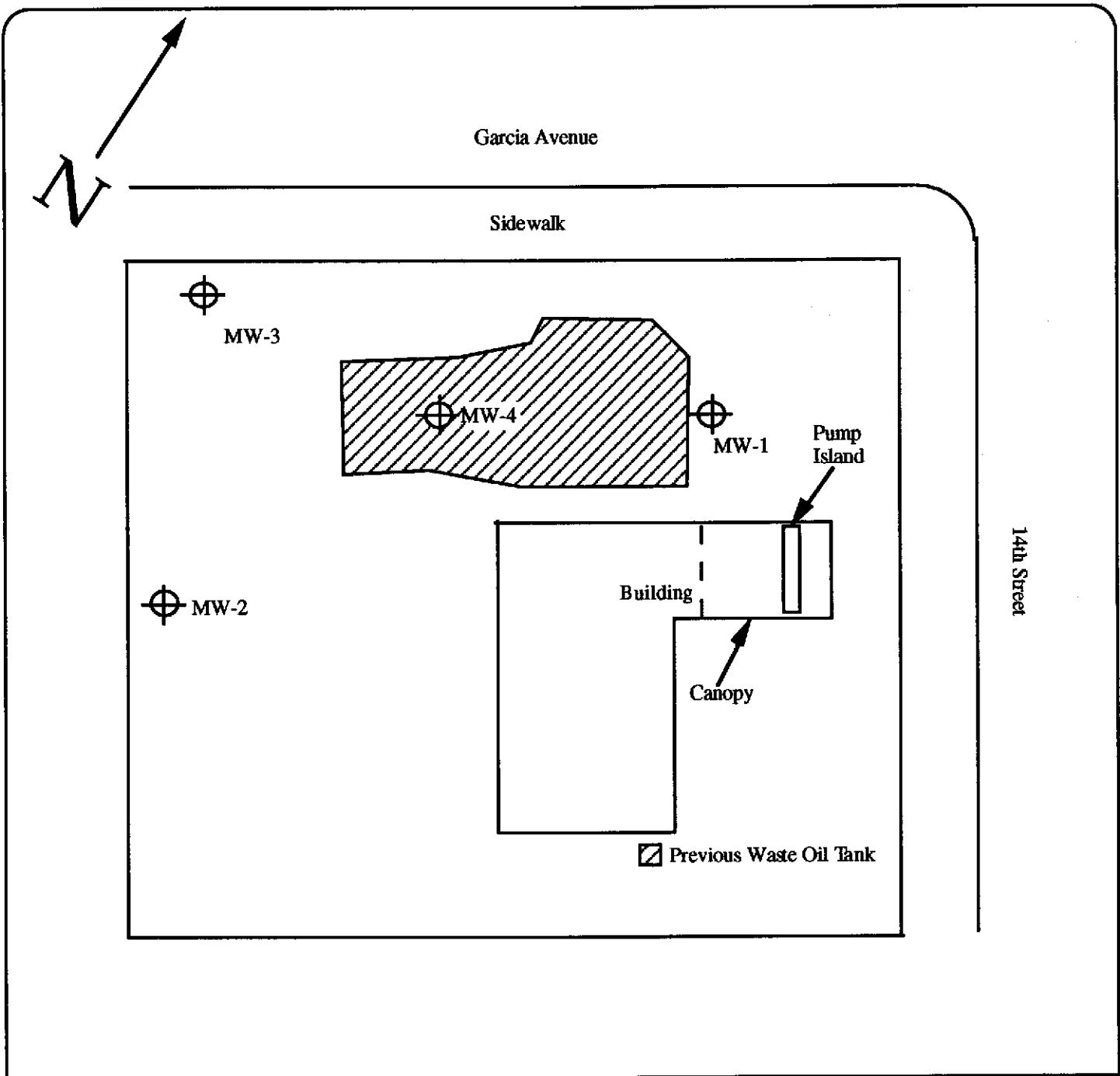
U.S.G.S. San Leandro 7.5 Minute  
Topographic, Quadrangle.



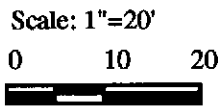
ENVIRONMENTAL TESTING  
AND MANAGEMENT  
2916 MAGLIOCO DRIVE #2  
SAN JOSE, CALIFORNIA 95128

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

Figure 1  
Project No.  
94-52  
Date: 8/95

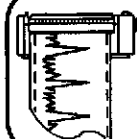


EXPLANATION:



 Monitoring Well

 Former Tank Pit/Removed Asphalt Areas

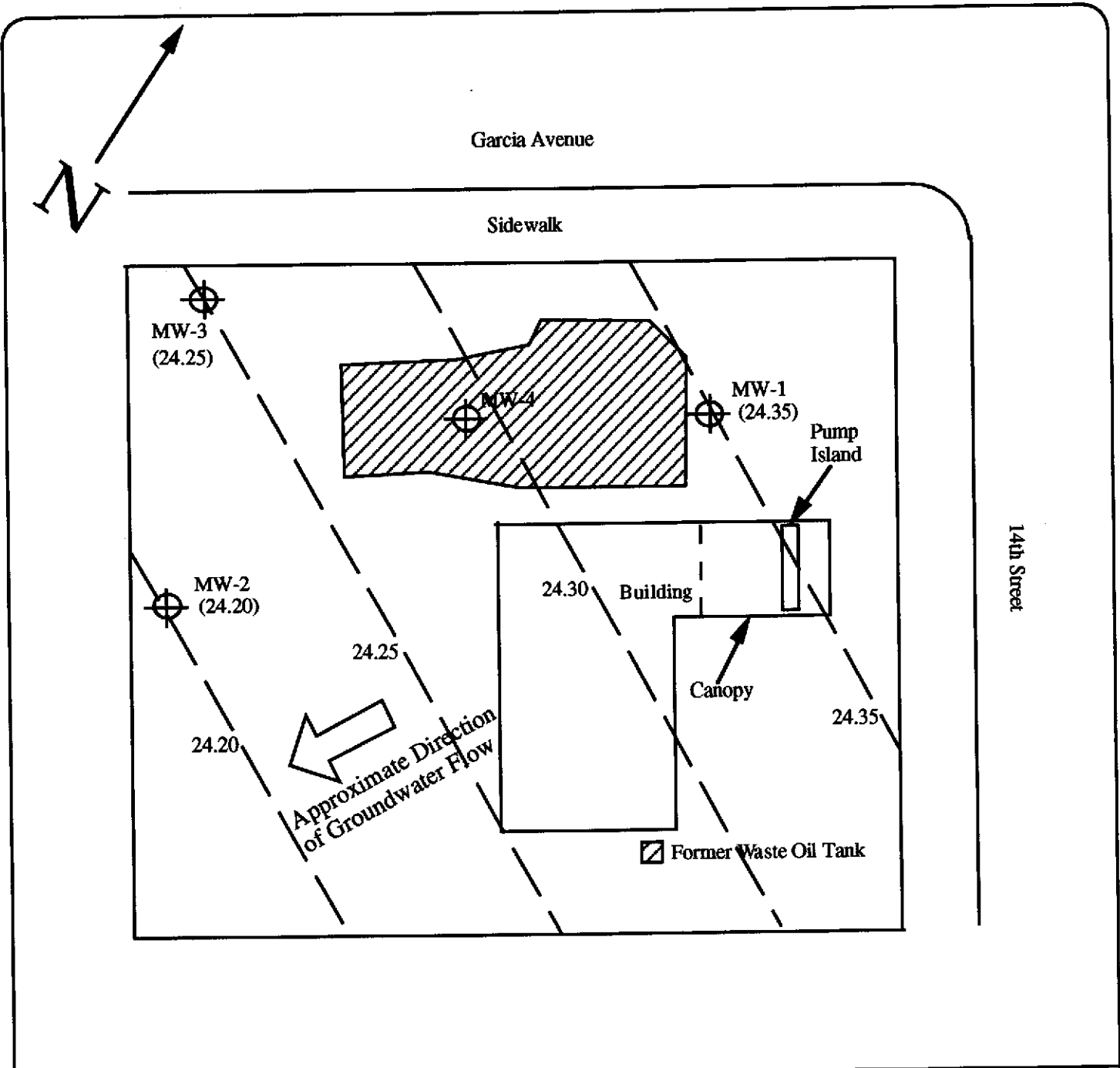


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408.248.5892

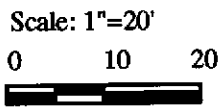
**SITE MAP**  
German Autocraft  
301 East 14th Street  
San Leandro, California

Figure 2  
Project No.  
94-52  
Date: 9/95





**EXPLANATION:**



MW-1 Monitoring Well

Former Tank Pit/Removed Asphalt Areas

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

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 SAN JOSE, CALIFORNIA 95128  
 408.248.5892

**GROUNDWATER ELEVATION CONTOUR MAP**

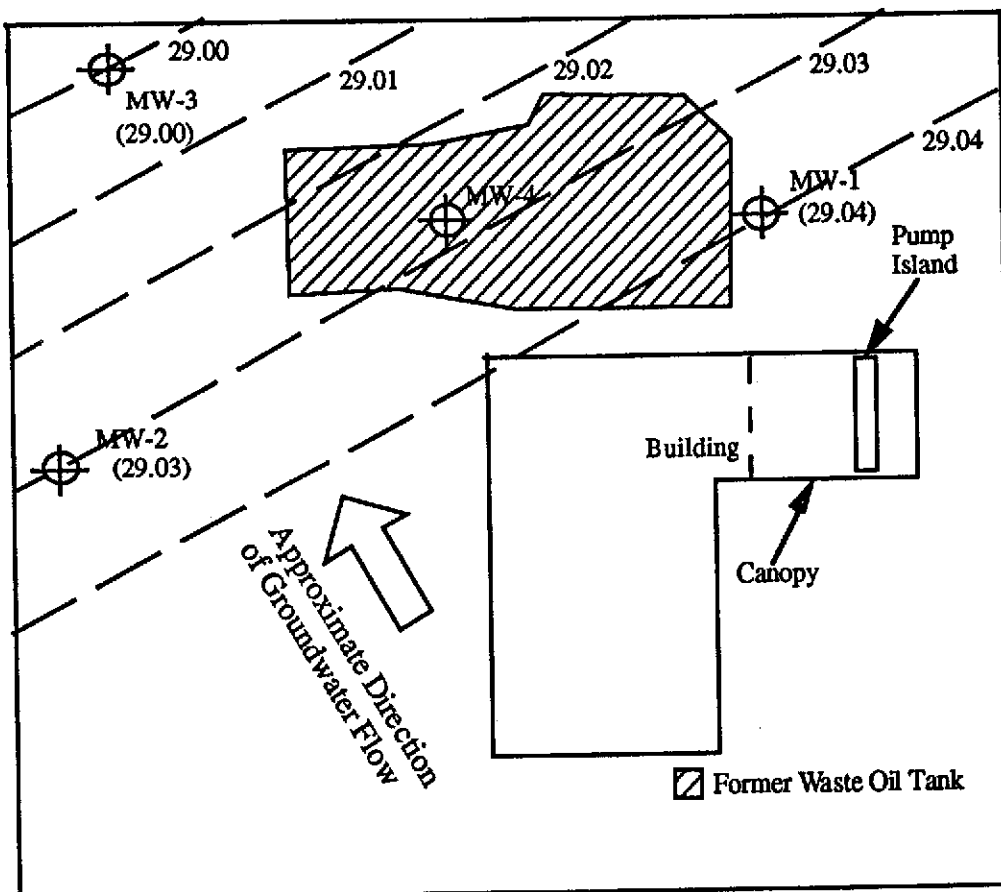
German Autocraft  
 301 East 14th Street  
 San Leandro, California

Figure 3a

Project No.  
 94-52  
 Date: 5/96

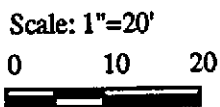
Garcia Avenue

Sidewalk



14th Street

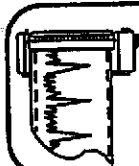
**EXPLANATION:**



⊕ MW-1 Monitoring Well

▨ Former Tank Pit/Removed Asphalt Areas

— 29.04 — Groundwater Elevation Contour Line (Feet above Mean Sea Level)



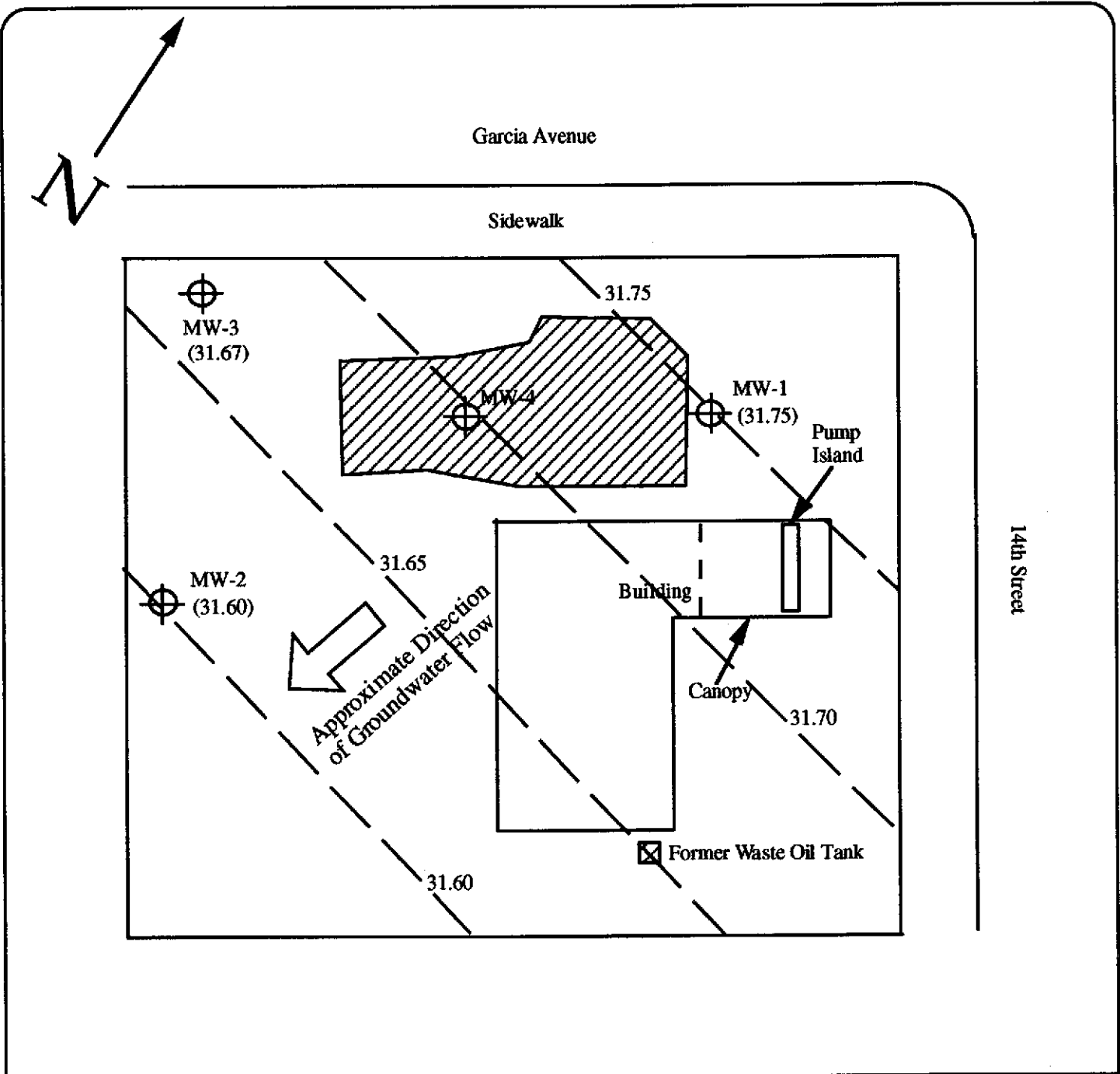
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**GROUNDWATER ELEVATION CONTOUR MAP 2/12/96**

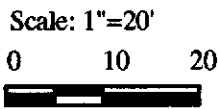
German Autocraft  
301 East 14th Street  
San Leandro, California

Figure 3b

Project No.  
94-52  
Date: 5/96



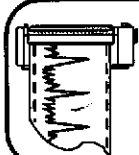
EXPLANATION:



⊕ MW-1 Monitoring Well

▨ Former Tank Pit/Removed Asphalt Areas

— 24.20 — Groundwater Elevation Contour Line (Feet above Mean Sea Level)



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GROUNDWATER ELEVATION CONTOUR MAP 2/12/96

German Autocraft  
301 East 14th Street  
San Leandro, California

Figure 3c

Project No.  
94-52  
Date: 5/96

## **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 followed by a distilled water rinse. 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 and/or until groundwater temperature, pH, and specific conductance 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.



# Inchcape Testing Services

## Anamatrix Laboratories

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 Fax: 408-452-8198

MR. TOM PRICE  
 ENVIRONMENTAL TESTING & MGMT.  
 2916 MAGLIOCCO DR. SUITE 2  
 SAN JOSE, CA 95128

Workorder # : 9601125  
 Date Received : 01/12/96  
 Project ID : GERMAN AUTOCRAFT  
 Purchase Order: N/A

The following samples were received at Anamatrix for analysis :

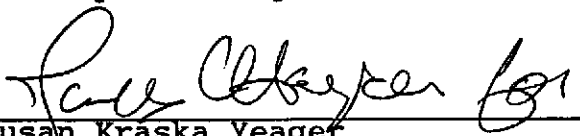
ANAMATRIX ID	CLIENT SAMPLE ID
9601125- 1	MW-1
9601125- 2	MW-2
9601125- 3	MW-3
9601125- 4	MW-5

This report is organized in sections according to the specific Anamatrix laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Anamatrix cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

If you have any further questions or comments on this report, please call your project manager as soon as possible. Thank you for using Inchcape Testing Services.

  
 \_\_\_\_\_  
 Susan Kraska Yeager  
 Laboratory Director

  
 \_\_\_\_\_  
 Project Manager

1-26-96  
 \_\_\_\_\_  
 Date

This report consists of 13 pages.

REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. TOM PRICE  
ENVIRONMENTAL TESTING & MGMT.  
2916 MAGLIOCCO DR. SUITE 2  
SAN JOSE, CA 95128

Workorder # : 9601125  
Date Received : 01/12/96  
Project ID : GERMAN AUTOCRAFT  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9601125- 1	MW-1	WATER	01/12/96	TPHgBTEX
9601125- 2	MW-2	WATER	01/12/96	TPHgBTEX
9601125- 3	MW-3	WATER	01/12/96	TPHgBTEX
9601125- 4	MW-5	WATER	01/12/96	TPHgBTEX

REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. TOM PRICE  
ENVIRONMENTAL TESTING & MGMT.  
2916 MAGLIOCCO DR. SUITE 2  
SAN JOSE, CA 95128

Workorder # : 9601125  
Date Received : 01/12/96  
Project ID : GERMAN AUTOCRAFT  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

QA/QC SUMMARY :

- All holding times have been met for the analyses reported in this section.

Cheryl Palmer 1/24/96  
Department Supervisor Date

Lucia Sher 1/24/96  
Chemist Date

**TOTAL PETROLEUM HYDROCARBONS AS GASOLINE WITH BTEX**  
**INCHCAPE TESTING SERVICES - ANAMETRIX**  
(408) 432-8192

**DATA SUMMARY FORM**

Anamatrix ID:	9601125-01	Client Project ID:	GERMAN AUTOCRAFT
Matrix:	WATER	Client Sample ID:	MW-1
Date Sampled:	1/12/96	Instrument ID:	HP6
Date Analyzed:	1/19/96	Surrogate Recovery:	90%
Date Released:	1/24/96	Concentration Units:	ug/L

<u>COMPOUND</u>	<u>Dilution</u> <u>Factor</u>	<u>Reporting</u> <u>Limit</u>	<u>Amount</u> <u>Found</u>
MtBE	2500	12500	18000
Benzene	2500	1250	11000
Toluene	2500	1250	18000
Ethylbenzene	2500	1250	15000
Total Xylenes	2500	1250	51000
Gasoline	2500	125000	1,100,000

ND: Not detected at or above the reporting limit for the method.

TPHg: Total Petroleum Hydrocarbons as gasoline is determined by GC/FID

(modified EPA Method 8015) following sample purge and trap by EPA Method 5030

BTEX: BTEX as Methyl tert-Butyl Ether, Benzene, Toluene, Ethylbenzene, and Total

Xylenes is determined by GC/PID (modified EPA Method 8020) following sample purge and trap by EPA Method 5030.

Surrogate recovery quality control limits for p-Bromofluorobenzene are 61-139%.

All testing procedures follow California Department of Health Services approved methods.

Lucas Sloan 1/24/96  
Analyst Date

Cheyl Baeman 1/24/96  
Supervisor Date







**TOTAL PETROLEUM HYDROCARBONS AS GASOLINE WITH BTEX**  
**INCHCAPE TESTING SERVICES - ANAMETRIX**  
(408) 432-8192

**DATA SUMMARY FORM**

Anametrix ID:	9601125-04	Client Project ID:	GERMAN AUTOCRAFT
Matrix:	WATER	Client Sample ID:	MW-5
Date Sampled:	1/12/96	Instrument ID:	HP6
Date Analyzed:	1/20/96	Surrogate Recovery:	100%
Date Released:	1/24/96	Concentration Units:	ug/L

<u>COMPOUND</u>	<u>Dilution</u> <u>Factor</u>	<u>Reporting</u> <u>Limit</u>	<u>Amount</u> <u>Found</u>
MtBE	1000	5000	ND
Benzene	1000	500	2100
Toluene	1000	500	4600
Ethylbenzene	1000	500	2500
Total Xylenes	1000	500	10000
Gasoline	1000	50000	98000

ND: Not detected at or above the reporting limit for the method.

TPHg: Total Petroleum Hydrocarbons as gasoline is determined by GC/FID (modified EPA Method 8015) following sample purge and trap by EPA Method 5030

BTEX: BTEX as Methyl tert-Butyl Ether, Benzene, Toluene, Ethylbenzene, and Total Xylenes is determined by GC/PID (modified EPA Method 8020) following sample purge and trap by EPA Method 5030.

Surrogate recovery quality control limits for p-Bromofluorobenzene are 61-139%.

All testing procedures follow California Department of Health Services approved methods.

Deena Shor 1/24/96  
Analyst Date

Cheryl Bulman 1/24/96  
Supervisor Date

**TOTAL PETROLEUM HYDROCARBONS AS GASOLINE WITH BTEX  
INCHCAPE TESTING SERVICES - ANAMETRIX  
(408) 432-8192**

**DATA SUMMARY FORM**

Anametrix ID:	BJ1901E1	Client Project ID:	GERMAN AUTOCRAFT
Matrix:	WATER	Client Sample ID:	Method Blank
Date Sampled:	N/A	Instrument ID:	HP6
Date Analyzed:	1/19/96	Surrogate Recovery:	101%
Date Released:	1/24/96	Concentration Units:	ug/L

<u>COMPOUND</u>	<u>Dilution Factor</u>	<u>Reporting Limit</u>	<u>Amount Found</u>
MtBE	1	5.0	ND
Benzene	1	0.5	ND
Toluene	1	0.5	ND
Ethylbenzene	1	0.5	ND
Total Xylenes	1	0.5	ND
Gasoline	1	50	ND

ND: Not detected at or above the reporting limit for the method.

TPHg: Total Petroleum Hydrocarbons as gasoline is determined by GC/FID

(modified EPA Method 8015) following sample purge and trap by EPA Method 5030

BTEX: BTEX as Methyl tert-Butyl Ether, Benzene, Toluene, Ethylbenzene, and Total Xylenes is determined by GC/PID (modified EPA Method 8020) following sample purge and trap by EPA Method 5030.

Surrogate recovery quality control limits for p-Bromofluorobenzene are 61-139%.

All testing procedures follow California Department of Health Services approved methods.

Lucia Shor 1/24/96  
Analyst Date

Cheryl Bauman 1/24/96  
Supervisor Date

**TOTAL PETROLEUM HYDROCARBONS AS GASOLINE WITH BTEX  
INCHCAPE TESTING SERVICES - ANAMETRIX  
(408) 432-8192**

**DATA SUMMARY FORM**

Anametrix ID:	BJ1801E1	Client Project ID:	GERMAN AUTOCRAFT
Matrix:	WATER	Client Sample ID:	Method Blank
Date Sampled:	N/A	Instrument ID:	HP6
Date Analyzed:	1/18/96	Surrogate Recovery:	100%
Date Released:	1/24/96	Concentration Units:	ug/L

<u>COMPOUND</u>	<u>Dilution Factor</u>	<u>Reporting Limit</u>	<u>Amount Found</u>
MtBE	1	5.0	ND
Benzene	1	0.5	ND
Toluene	1	0.5	ND
Ethylbenzene	1	0.5	ND
Total Xylenes	1	0.5	ND
Gasoline	1	50	ND

ND: Not detected at or above the reporting limit for the method.

TPHg: Total Petroleum Hydrocarbons as gasoline is determined by GC/FID (modified EPA Method 8015) following sample purge and trap by EPA Method 5030

BTEX: BTEX as Methyl tert-Butyl Ether, Benzene, Toluene, Ethylbenzene, and Total Xylenes is determined by GC/PID (modified EPA Method 8020) following sample purge and trap by EPA Method 5030.

Surrogate recovery quality control limits for p-Bromofluorobenzene are 61-139%.

All testing procedures follow California Department of Health Services approved methods.

Lucia Shor 1/24/96  
Analyst Date

Cheryl Balmer 1/24/96  
Supervisor Date

**TOTAL PETROLEUM HYDROCARBONS AS BTEX**  
**INCHCAPE TESTING SERVICES - ANAMETRIX**  
(408) 432-8192

**LABORATORY CONTROL SAMPLE REPORT**

Client Project ID:	GERMAN AUTOCRAFT	Anametrix ID:	MJ1901E1
Matrix:	WATER	Date Released:	1/24/96
Date Analyzed:	1/19/96	Instrument ID:	HP6
		Concentration Units:	ug/L

<u>COMPOUND</u> <u>NAME</u>	<u>SPIKE</u> <u>AMT</u>	<u>LCS</u> <u>CONC</u>	<u>%REC</u> <u>LCS</u>
MtBE	10.0	10.5	105%
Benzene	10.0	10.0	100%
Toluene	10.0	10.1	101%
Ethylbenzene	10.0	10.5	105%
Total Xylenes	10.0	9.8	98%
 p-Bromofluorobenzene			 104%

Quality control limits for LCS recovery are 50-150% for MTBE, 52-133% for benzene, 57-136% for toluene, 56-139% for ethylbenzene, and 56-141% for total xylenes.

Quality control limits for p-Bromofluorobenzene recovery are 61-139%.

**TOTAL PETROLEUM HYDROCARBONS AS BTEX**  
**INCHCAPE TESTING SERVICES - ANAMETRIX**  
(408) 432-8192

**LABORATORY CONTROL SAMPLE REPORT**

Client Project ID:	GERMAN AUTOCRAFT	Anamatrix ID:	MJ1801E3
Matrix:	WATER	Date Released:	1/24/96
Date Analyzed:	1/18/96	Instrument ID:	HP6
		Concentration Units:	ug/L

<u>COMPOUND</u> <u>NAME</u>	<u>SPIKE</u> <u>AMT</u>	<u>LCS</u> <u>CONC</u>	<u>%REC</u> <u>LCS</u>
MtBE	10.0	10.8	108%
Benzene	10.0	10.5	105%
Toluene	10.0	11.6	116%
Ethylbenzene	10.0	12.4	124%
Total Xylenes	10.0	12.1	121%
 p-Bromofluorobenzene			 104%

Quality control limits for LCS recovery are 50-150% for MTBE, 52-133% for benzene, 57-136% for toluene, 56-139% for ethylbenzene, and 56-141% for total xylenes.

Quality control limits for p-Bromofluorobenzene recovery are 61-139%.







## SAMPLE RECEIVING CHECKLIST

WORKORDER NUMBER: 9601125

CLIENT PROJECT ID: German Autocraft

### COOLER

Shipping slip (airbill, etc.) present?	YES	NO	<u>N/A</u>
If YES, enter carrier name and airbill # : _____			
Custody Seal on the outside of cooler?	YES	NO	<u>N/A</u>
Condition: INTACT _____ BROKEN _____			
Temperature of sample (s) within range?	<u>YES</u>	NO	N/A
List temperature of cooler (s): <u>2°C</u>			

### SAMPLES

Chain of custody seal present for each container?	YES	NO	<u>N/A</u>
Condition: INTACT _____ BROKEN _____			
Samples arrived within holding time?	<u>YES</u>	NO	N/A
Samples in proper containers for methods requested?	<u>YES</u>	NO	
Condition of containers: INTACT <u>✓</u> BROKEN _____			
If NO, were samples transferred to proper container? _____			
Were VOA containers received with zero headspace?	YES	<u>NO</u>	N/A
If NO, was it noted on the chain of custody? <u>YES</u>			
Were container labels complete? (ID, date, time preservative, etc.)	<u>YES</u>	NO	
Were samples preserved with the proper preservative?	<u>YES</u>	NO	N/A
If NO, was the proper preservative added at time of receipt? _____			
pH check of samples required at time of receipt?	YES	<u>NO</u>	
If YES, pH checked and recorded by: _____			
Sufficient amount of sample received for methods requested?	<u>YES</u>	NO	
If NO, has the client or lab project manager been notified? _____			
Field blanks received with sample batch? # of Sets: _____	YES	NO	<u>N/A</u>
Trip blanks received with sample batch? # of Sets: _____	YES	NO	<u>N/A</u>

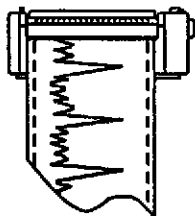
### CHAIN OF CUSTODY

Chain of custody received with samples?	<u>YES</u>	NO	
Has it been filled out completely and in ink?	<u>YES</u>	<u>NO</u>	
Sample ID's on chain of custody agree with container labels?	<u>YES</u>	NO	
Number of containers indicated on chain of custody agree with number received?	<u>YES</u>	NO	
Analysis methods clearly specified?	<u>YES</u>	NO	
Sampling date and time indicated?	<u>YES</u>	NO	
Proper signatures of sampler, courier, sample custodian in appropriate place? with time and date?	<u>YES</u>	NO	
Turnaround time? REGULAR <u>✓</u> RUSH _____			

Any NO response and/or any "BROKEN" that was checked must be detailed in the Corrective Action Form.

Sample Custodian: JP Date: 1/12/96

Project Manager: SNIT Date: 1-17-96



ENVIRONMENTAL TESTING & MGMT.  
 2916 MAGLIOCCO DRIVE #2  
 SAN JOSE, CALIFORNIA 95128  
 408.248.5892

Date: 1/12/96

Project Name: German Autocraft

Project No.: \_\_\_\_\_

Well No./Description: MW-1

Depth of Well: 46.50

1 Well Volume: 3.1

Depth to Water: 25.26

4 Well Volumes: 12.4

Casing Diameter:  2"  4"

Actual Volume Purged: \_\_\_\_\_

Calculations:

19 x .16 = 3.1

2" - \* 0.1632

4" - \* 0.653

Purge Method:  Bailer

Displacement Pump

- Impinger/Vacuum

Sample Method:  Bailer

Other

Sheen:  No  Yes, Describe \_\_\_\_\_

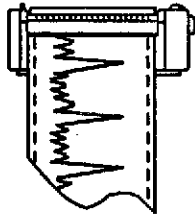
Odor:  No  Yes, Describe aged hydrocarbon

Field Measurements:

Time	Volume	pH	Temp.	E.C.	Color
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Sampler: Tom Price



ENVIRONMENTAL TESTING & MGMT.  
 2916 MAGLIOCCO DRIVE #2  
 SAN JOSE, CALIFORNIA 95128  
 408.248.5892

Date: 1/12/96

Project Name: German Auto craft

Project No.: \_\_\_\_\_

Well No./Description: MW-2

Depth of Well: 34.16

1 Well Volume: 1.4

Depth to Water: 25.94

4 Well Volumes: 5.6

Casing Diameter: 2" 4"

Actual Volume Purged: \_\_\_\_\_

Calculations:

2" - \* 0.1632  
 4" - \* 0.653

9 x .16 = 1.4

Purge Method:  Bailer  Displacement Pump  Impinger/Vacuum

Sample Method:  Bailer  Other

Sheen:  No  Yes, Describe \_\_\_\_\_

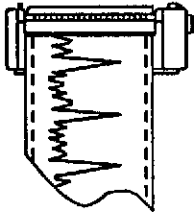
Odor:  No  Yes, Describe HC

Field Measurements:

Time	Volume	pH	Temp.	E.C.	Color
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Sampler: \_\_\_\_\_



ENVIRONMENTAL TESTING & MGMT.  
 2916 MAGLIOCCO DRIVE #2  
 SAN JOSE, CALIFORNIA 95128  
 408.248.5892

Date: 1/12/96

Project Name: German Autocraft

Project No.: \_\_\_\_\_

Well No./Description: MW-3

Depth of Well: 35.50

1 Well Volume: 1.6

Depth to Water: 25.19

4 Well Volumes: 6.4

Casing Diameter: 2" 4"

Actual Volume Purged: \_\_\_\_\_

Calculations:

2" - \* 0.1632

4" - \* 0.653

10 x .16 = 1.6

Purge Method:  Bailer

Displacement Pump

Impinger/Vacuum

Sample Method:  Bailer

Other

Sheen:  No  Yes, Describe \_\_\_\_\_

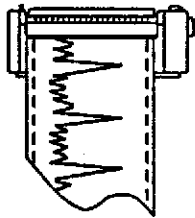
Odor:  No  Yes, Describe H/C

Field Measurements:

Time	Volume	pH	Temp.	E.C.	Color
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Sampler: Tom Price



ENVIRONMENTAL TESTING & MGMT.  
 2916 MAGLIOCCO DRIVE #2  
 SAN JOSE, CALIFORNIA 95128  
 408.248.5892

Date: 1/12/96 Project Name: German Autocraft

Project No.: \_\_\_\_\_ Well No./Description: MW-4

Depth of Well: \_\_\_\_\_ 1 Well Volume: \_\_\_\_\_

Depth to Water: 25.45 4 Well Volumes: \_\_\_\_\_

Casing Diameter: 2" 4" Actual Volume Purged: \_\_\_\_\_

Calculations: \_\_\_\_\_

2" - \* 0.1632  
 4" - \* 0.653

Purge Method: \_\_\_\_\_ Bailer \_\_\_\_\_ Displacement Pump \_\_\_\_\_ Impinger/Vacuum

Sample Method: \_\_\_\_\_ Bailer \_\_\_\_\_ Other

Sheen: \_\_\_\_\_ No \_\_\_\_\_ Yes, Describe \_\_\_\_\_

Odor: \_\_\_\_\_ No \_\_\_\_\_ Yes, Describe \_\_\_\_\_

Field Measurements:

Time	Volume	pH	Temp.	E.C.	Color
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Remarks: Passive skimmer recovered floating product  
1/8" in mason jar (1/2 size) Product color  
is amber.

Sampler: Tom Jue

## APPENDIX D: QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

The quality assurance/quality control measures used for groundwater sampling conducted on January 12, 1996 included the following:

- Groundwater samples were collected in triplicate.
- One duplicate groundwater sample was collected from MW-1. This sample was labeled "MW-5" and submitted for TPHg and BTEX analysis with the other samples.