

12/89

QUARTERLY
GROUNDWATER MONITORING REPORT
5800 CHRISTIE STREET
EMERYVILLE, CALIFORNIA

Submitted to:

Mr. Dennis Byrne
Alameda County Health Care Services
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Prepared for:

Croley & Herring Investment Company
1311 63rd Street
Emeryville, CA 94608

Prepared by

AWD Technologies, Inc.

10 West Orange Avenue, South San Francisco, CA 94080
Telephone: (415) 876-1133 Telex: 383607 Telecopy: (415) 876-1235

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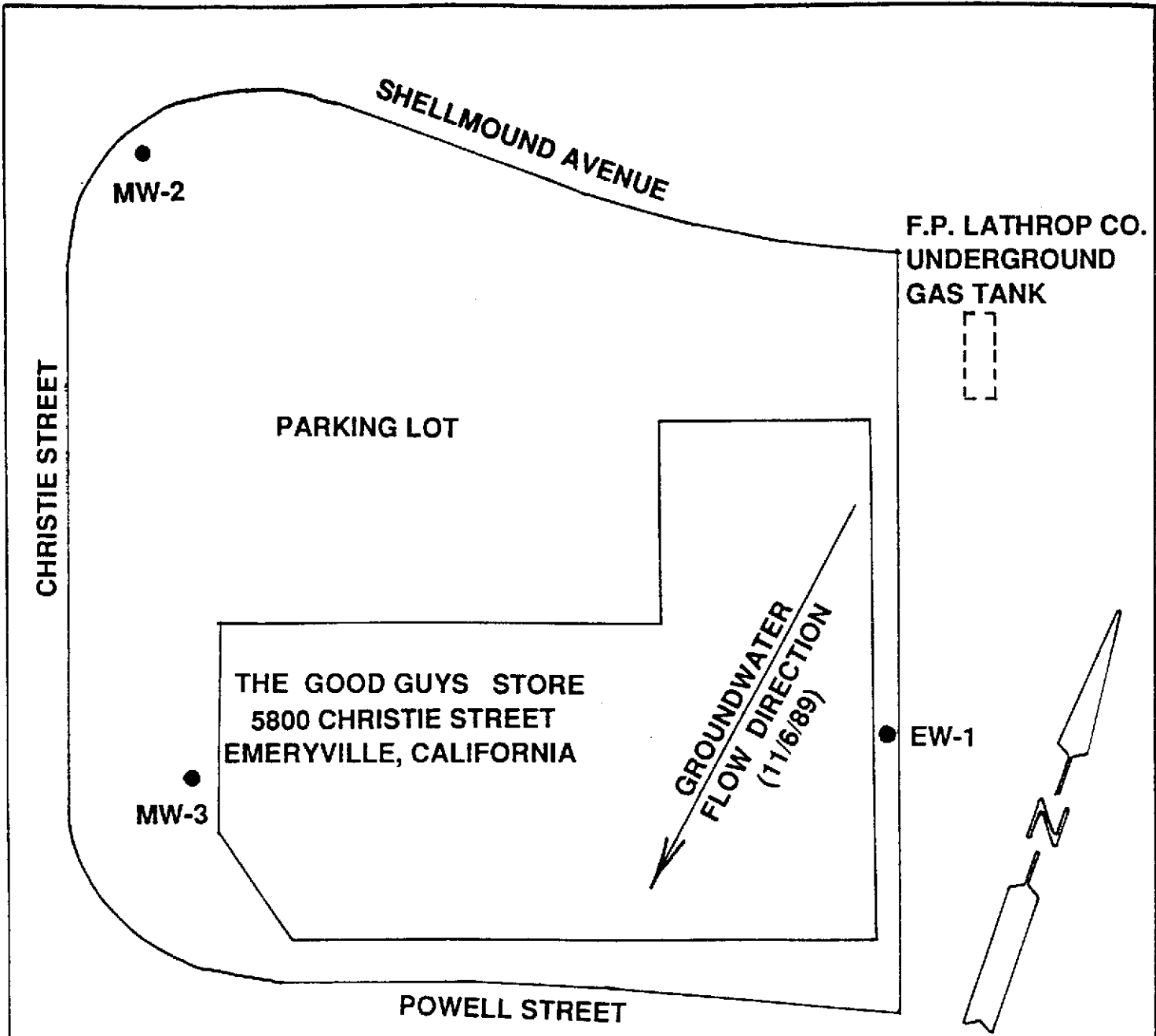
1.0	Introduction
2.0	Groundwater Level Survey
3.0	Groundwater Quality
4.0	Summary of Findings
Appendix A	- Groundwater Analysis Results

1.0 INTRODUCTION

The Croley and Herring Investment Company (CHIC) facility is located on the southeast corner of Christie Street and Shellmound Avenue in Emeryville, California (Figure 1). Currently CHIC leases this property to The Good Guys, an electronic merchandise retailer. According to the previous investigations, significant soil contamination was detected. The soil containing solvents was removed from the area of concern and treated onsite. After the contaminated soil was remediated it was disposed to a Class III landfill in July 1989 on approval from the regulatory agencies.

However, there were trace levels of volatile hydrocarbons remained in the soil in the close proximity of the excavated area. The facility has installed a vapor extraction system to abate the vapor trapped in the unsaturated soil after the Authority of Construct was received from Bay Area Air Quality Management District (BAAQMD). The system contains a blower connected to four venting wells and two 150-pound activated carbon canisters connected in series according to the specification provided by BAAQMD. The system is in test-run period and will be ready to operate when calibration of the equipment and air flow adjustment are completed.

As part of the groundwater monitoring program, samples were taken from the three monitoring wells at the facility.



LEGEND

- EXISTING WELL LOCATION

SCALE IN FEET



AWD TECHNOLOGIES, INC.



SITE LOCATION MAP
5800 CHRISTIE STREET
EMERYVILLE, CALIFORNIA

CUSTOMER: CHIC

JOB NUMBER:

DATE: 12/5/89

DRAWING NUMBER: FIGURE 1

REV

2.0 GROUNDWATER LEVEL SURVEY

A groundwater level survey was performed (11/6/89) on the three groundwater monitoring wells EW-1, MW-2, and MW-3. Table 1 presents the adjusted elevations of the water table of the wells.

Based on groundwater gradient analysis, the shallow groundwater movement was toward the south and the gradient was 0.012 feet per foot of horizontal distance.

TABLE 1

	<u>Elevation of Well Top FT. (MSL)</u>	<u>Depth to Water Feet</u>	<u>11/6/89 Static Water Level FT. (MSL)</u>
EW-1	8.62	6.15	2.47
MW-2	7.42	4.37	3.05
MW-3	6.42	5.10	1.32

3.0 GROUNDWATER QUALITY

Groundwater samples were collected from each of the three monitoring wells. The samples were analyzed using EPA Method 601 and 602 for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH) as gasoline.

None of the VOCs were detected in wells MW-2 and MW-3. The following compounds were detected in well EW-1:

TPH as gasoline	740 ppb
Benzene	180 ppb
Toluene	39 ppb
Xylenes	67 ppb
Ethylbenzene	0.8 ppb
TCE	720 ppb
1,1 DCE	2.3 ppb
1,2 DCE	350 ppb
1,1,1 TCA	26 ppb
1,1 DCA	34 ppb
1,2 DCA	4.8 ppb
Vinyl Chloride	29 ppb

4.0 SUMMARY OF FINDINGS

There was a change in groundwater flow direction and gradient across the site which are presented as follows:

	4/25/89	11/6/89
Groundwater Flow Direction	Southwest	South
Hydraulic Gradient	0.00145	0.012

The changes may be due to groundwater extraction activities downgradient which need to be confirmed.

The changes in water quality in well EW-1 are shown as follows:

	Concentrations in ppb	
	5/8/89	11/6/89
TPH as Gasoline	Not tested	740
Benzene	N.D.	180
Toluene	190	39
Xylenes	170	67
Ethylbenzene	N.D.	0.8
TCE	640	720
1,1 DCE	78	2.3
1,2 DCE	N.D.	350
1,1,1 TCA	N.D.	26
1,1 DCA	N.D.	34
1,2 DCA	N.D.	4.8
Vinyl Chloride	N.D.	29

There is little change in the chlorinated VOC concentrations with the exception of presence of breakdown products.

The detection of gasoline and benzene is alarming due to the fact that they were not detected previously. The origin of the gasoline and benzene may have migrated from the upgradient F.P. Lathrop underground storage tank location. This needs to be confirmed and if confirmed, we recommend Alameda County Health Services to impose groundwater extraction at the F.P. Lathrop property to reverse the groundwater flow and stop the migration of the gasoline and benzene plume.

APPENDIX A

Groundwater Quality Analysis Results



MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

AWD Technologies
10 West Orange Ave.
So. San Francisco, CA 94080
Attn: Walter Loo

Date Sampled: 11-06-89
Date Received: 11-06-89
Date Reported: 11-15-89

Sample Number

B119311

Sample Description

AWD Chic WATER

Shellmound & Christie

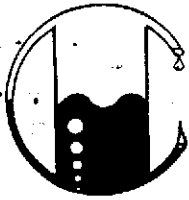
ANALYSIS

	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT
with method 8020 used for BTX distinction.

MOBILE CHEM LABS

Ronald G. Evans
Lab Director



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Date Received: 11-06-89
Date Reported: 11-15-89

Sample Number

B119312

Sample Description

AWD Chic WATER


Powell & Christie

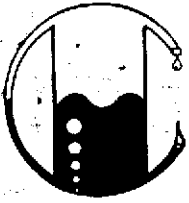
ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
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Sample Number

B119313

Sample Description

AWD Chic WATER

Extraction Well

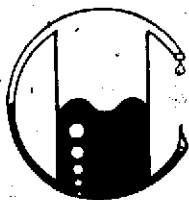
ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	740
Benzene	0.5	180
Toluene	0.5	39
Xylenes	0.5	67
Ethylbenzene	0.5	0.8

Note: Analysis was performed using EPA methods 5030 and TPH LUFT
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Date Sampled: 11-06-89
Date Received: 11-06-89
Date Reported: 11-28-89

Sample Number

B119311

Sample Description

AWD Chic WATER
Shellmound & Christie

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

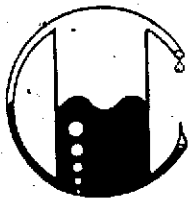
results in ppb

Benzene.....	<0.5	trans-1,2-Dichloroethene...	<0.5
Bromomethane.....	<1.0	1,2-Dichloropropane.....	<0.5
Bromodichloromethane.....	<0.5	1,3-Dichloropropene.....	<0.5
Bromoform.....	<0.5	Ethylbenzene.....	<0.5
Carbon tetrachloride.....	<0.5	Methylene chloride.....	<0.5
Chlorobenzene.....	<0.5	1,1,2,2-Tetrachloroethane..	<0.5
Chloroethane.....	<1.0	Tetrachloroethene.....	<0.5
2-Chloroethylvinyl ether..	<0.5	1,1,1-Trichloroethane.....	<0.5
Chloroform.....	<0.5	1,1,2-Trichloroethane.....	<0.5
Chloromethane.....	<1.0	Trichloroethene.....	<0.5
Dibromochloromethane.....	<0.5	Toluene.....	<0.5
1,1-Dichloroethane.....	<0.5	Vinyl chloride.....	<0.5
1,2-Dichloroethane.....	<0.5	1,2-Dichlorobenzene.....	<1.0
1,1-Dichloroethene.....	<0.5	1,3-Dichlorobenzene.....	<1.0
		1,4-Dichlorobenzene.....	<1.0
		Total Xylenes.....	<1.0

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NOTE: Analysis was performed using EPA
methods 601 and 602



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Sample Description

AWD Chic WATER
Powell & Christie

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

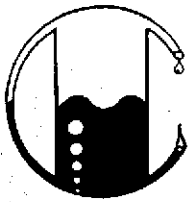
results in ppb

Benzene.....	<0.5	trans-1,2-Dichloroethene...	<0.5
Bromomethane.....	<1.0	1,2-Dichloropropane.....	<0.5
Bromodichloromethane.....	<0.5	1,3-Dichloropropene.....	<0.5
Bromoform.....	<0.5	Ethylbenzene.....	<0.5
Carbon tetrachloride.....	<0.5	Methylene chloride.....	<0.5
Chlorobenzene.....	<0.5	1,1,2,2-Tetrachloroethane..	<0.5
Chloroethane.....	<1.0	Tetrachloroethene.....	<0.5
2-Chloroethylvinyl ether..	<0.5	1,1,1-Trichloroethane.....	<0.5
Chloroform.....	<0.5	1,1,2-Trichloroethane.....	<0.5
Chloromethane.....	<1.0	Trichloroethene.....	<0.5
Dibromochloromethane.....	<0.5	Toluene.....	<0.5
1,1-Dichloroethane.....	<0.5	Vinyl chloride.....	<0.5
1,2-Dichloroethane.....	<0.5	1,2-Dichlorobenzene.....	<1.0
1,1-Dichloroethene.....	<0.5	1,3-Dichlorobenzene.....	<1.0
		1,4-Dichlorobenzene.....	<1.0
		Total Xylenes.....	<1.0

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NOTE: Analysis was performed using EPA
methods 601 and 602



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Sample Number

B119313

Sample Description

AWD Chic WATER
Extraction Well

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

results in ppb

Benzene.....	180	trans-1,2-Dichloroethene..	350
Bromomethane.....	<1.0	1,2-Dichloropropane.....	<0.5
Bromodichloromethane.....	<0.5	1,3-Dichloropropene.....	<0.5
Bromoform.....	<0.5	Ethylbenzene.....	0.8
Carbon tetrachloride.....	<0.5	Methylene chloride.....	<0.5
Chlorobenzene.....	<0.5	1,1,2,2-Tetrachloroethane..	<0.5
Chloroethane.....	<1.0	Tetrachloroethene.....	1.4
2-Chloroethylvinyl ether..	<0.5	1,1,1-Trichloroethane.....	26
Chloroform.....	<0.5	1,1,2-Trichloroethane.....	<0.5
Chloromethane.....	<1.0	Trichloroethene.....	720
Dibromochloromethane.....	<0.5	Toluene.....	39
1,1-Dichloroethane.....	34	Vinyl chloride.....	29
1,2-Dichloroethane.....	4.8	1,2-Dichlorobenzene.....	<1.0
1,1-Dichloroethene.....	2.3	1,3-Dichlorobenzene.....	<1.0
		1,4-Dichlorobenzene.....	<1.0
		Total Xylenes.....	67

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Lab Director

NOTE: Analysis was performed using EPA
methods 601 and 602

Keep 35119311

Edward-Clyde Consultants

12th Street, Suite 100, Oakland, CA 94607-4041
(415) 893-3600

Chain of Custody Record

PROJECT NO.

AWD CHIC

SAMPLERS: (Signature)

K. Tougan

ANALYSES

Number of Containers

REMARKS
(Sample preservation, handling procedures, etc.)

DATE TIME SAMPLE NUMBER

Sample Matrix (Soil, Water, Air)

EPA Method 601

EPA Method 602

EPA Method

EPA Method

EXTRA BOTTLE IF NEEDED

3

3

3

1220 11/6/89 Shellmound: Christic W X X

1230 11/6/89 Powell: Christic X X

1400 11/6/89 Extraction Well X X

311
312
313

RESULTS TO
WALTER LOO
AWD TECHNOLOG
10 WEST ORANGE
SO. SAN FRANCISCO

940
415-876-1133
Please invoice
AWD Directly
Thank you.

NORMAL 2-week RESULTS

TOTAL NUMBER OF CONTAINERS

9

RELINQUISHED BY: (Signature)

Kelly Tougan

DATE/TIME

11/7/89 10:00

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

METHOD OF SHIPMENT:

MOBILE CHEM LAB
COURIER

SHIPPED BY: (Signature)

COURIER: (Signature)

RECEIVED FOR LAB BY: (Signature)

Dickens

DATE/TIME

11/7/89