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May 10, 2000

QUARTERLY GROUNDWATER MONITORING REPORT
APRIL 2000 GROUNDWATER SAMPLING
ASE JOB NO. 3487

at

The Salvation Army
810 Clay Street
Oakland, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
208 West El Pintado Road
Danville, CA 94526
(925) 820-9391

1.0 INTRODUCTION

The following is a report detailing the results of the April 2000 quarterly groundwater sampling at the Salvation Army Property located at 810 Clay Street, Oakland, California (*Figures 1 and 2*).

2.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

On April 4, 2000, ASE associate geologist Ian Reed measured the depth to water in groundwater monitoring well MW-1 using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. No free-floating hydrocarbons or sheen were observed in the monitoring well.

Prior to sampling, the monitoring well was purged of four well casing volumes of groundwater using a dedicated polyethylene bailer. The parameters pH, temperature and conductivity were monitored during the well purging. Samples were not collected until these parameters stabilized. The groundwater samples were collected using a dedicated polyethylene bailer. The samples to be analyzed for volatile compounds were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid and capped without headspace. The samples to be analyzed for total petroleum hydrocarbons as diesel (TPH-D) were contained in 1-liter amber glass containers. All of the samples were labeled and placed in a cooler with wet ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under appropriate chain-of-custody documentation. Well sampling field logs are presented in Appendix A. The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 5030/8015M, TPH-D by EPA Method 3550/8015M, benzene, toluene, ethyl benzene and total xylenes (collectively known as BTEX) by EPA Method 8020 and methyl tertiary-butyl ether (MTBE) by EPA Method 8020. The analytical results for this and previous sampling periods are presented in Table Two. The certified analytical report and chain-of-custody documentation are included as Appendix B.

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

Boring	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MTBE
<u>MW-1</u>							
10/01/99	210	110	64	3.0	11	6.7	< 5.0
1/06/00	270	---	22	0.96	5.2	< 0.5	< 5.0
4/04/00	180*	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
DHS MCL	NE	NE	1.0	150	680	1,750	13

Notes:

Most recent sampling concentrations are in **bold**.

Non-detectable concentrations are noted by the less than sign (<) followed by the detection limit.

* = Hydrocarbon reported in the gasoline range does not match the laboratory standard.

DHS MCL is the California Department of Health Services maximum contaminant level for drinking water.

NE = DHS MCL has not been established.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The groundwater sample collected from monitoring well MW-1 contained 180 parts per billion (ppb) TPH-G. No other compounds were detected in groundwater samples analyzed above the laboratory reporting limits. The hydrocarbon concentrations decreased from the previous quarter's results.

ASE recommends that this site continue to be monitored for at least one additional quarter. At that time, ASE will evaluate whether additional work should be performed or whether the case is suitable for closure.

4.0 REPORT LIMITATIONS

The results of this assessment represent conditions at the time of the groundwater sampling, at the specific locations where the samples were collected, and for the specific parameters analyzed by the laboratory.

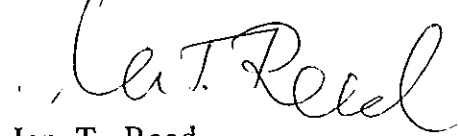
It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CAL-EPA certified laboratory. The independent

laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

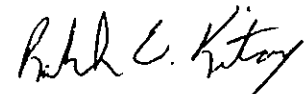
Aqua Science Engineers appreciates the opportunity to provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



Ian T. Reed
Associate Geologist



Robert E. Kitay, R.G., R.E.A.
Senior Geologist



Attachments: Figures 1 and 2
Appendices A and B

FIGURES



NORTH



SITE LOCATION MAP

THE SALVATION ARMY
810 CLAY STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

Figure 1



NORTH

SCALE
1" = 30'

J & M Meats Building

Parking

SB-3

Parking

Clay Street

Sidewalk

Basement #3

SALVATION ARMY BUILDING

Adjacent Building

Basement #4

Former Gasoline Station Area

Basement #2

BH-A

SB-1

MW-1

Basement #1

BH-B





SB-2

Sidewalk

Area of Attempted Borings

Eighth Street

LEGEND

-  Monitoring Well Location
-  Soil boring drilled 4/99
-  Hand augered soil boring drilled in basement area
-  Soil boring drilled 1/99

SITE PLAN

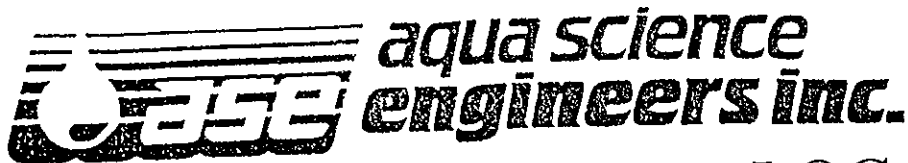
THE SALVATION ARMY
810 CLAY STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 2

APPENDIX A

Well Sampling Field Logs



WELL SAMPLING FIELD LOG

Project Name and Address: Salvation Army, 810 Clay Street Oakland CA
 Job #: 3487 Date of sampling: 4/4/00
 Well Name: MW-1 Sampled by: PR
 Total depth of well (feet): 32.6' Well diameter (inches): 2"
 Depth to water before sampling (feet): 19.42'
 Thickness of floating product if any: —
 Depth of well casing in water (feet): 13.18'
 Number of gallons per well casing volume (gallons): 2.2
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 8.8
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 1440 Time Evacuation Finished: 1455
 Approximate volume of groundwater purged: 8.8
 Did the well go dry?: NO After how many gallons: —
 Time samples were collected: 1500
 Depth to water at time of sampling: 19.47'
 Percent recovery at time of sampling: 99.7%
 Samples collected with: dedicated bailer
 Sample color: clear/brown Odor: slight HC odor
 Description of sediment in sample: little fine silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	71.4	5.79	476
2	71.9	5.78	532
3	72.0	5.79	574
4	72.1	5.76	621

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	3	40ml vials	✓	✓	TPH-G/BTEX/MGRE
	2	1-liter Ambo		✓	TPH-D

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

Date: April 12, 2000

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

Attn.: Mr. Ian T. Reed

Project: 3487
The Salvation Army

Dear Mr. Reed,

Attached is our report for your samples received on Wednesday April 5, 2000
This report has been reviewed and approved for release. Reproduction of this report
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after May 5, 2000
unless you have requested otherwise. We appreciate the opportunity to be of service to you.
If you have any questions, please call me at (925) 484-1919. You can also contact me via email.
My email address is: vvancil@chromalab.com

Sincerely,



Vincent Vancil

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

Printed on: 04/12/2000 14:55

Page 1 of 1

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

Diesel

Aqua Science Engineers, Inc.	☒ 208 West El Pintado Road Danville, CA 94526
Attn: Ian T. Reed	Phone: (925) 820-9391 Fax: (925) 837-4853
Project #: 3487	Project: The Salvation Army

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	04/04/2000 15:00	1

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

Printed on: 04/12/2000 12:40

Page 1 of 4

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

To: Aqua Science Engineers, Inc.

Attn.: Ian T. Reed

Test Method: 8015m

Prep Method: 3510/8015M

Diesel

Sample ID: MW-1	Lab Sample ID: 2000-04-0048-001
Project: 3487 The Salvation Army	Received: 04/05/2000 15:17
Sampled: 04/04/2000 15:00	Extracted: 04/06/2000 08:00
Matrix: Water	QC-Batch: 2000/04/06-01.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	ND	50	ug/L	1.00	04/07/2000 00:46	
Surrogate(s) o-Terphenyl	97.2	60-130	%	1.00	04/07/2000 00:46	

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Printed on: 04/12/2000 12:40

Page 2 of 4

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

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

Test Method: 8015m
Prep Method: 3510/8015M

Batch QC Report Diesel

Method Blank	Water	QC Batch # 2000/04/06-01.10
MB: 2000/04/06-01.10-001		Date Extracted: 04/06/2000 08:00

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Diesel	ND	50	ug/L	04/06/2000 10:27	
<i>Surrogate(s)</i> o-Terphenyl	96.5	60-130	%	04/06/2000 10:27	

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Printed on: 04/12/2000 12:40

Page 3 of 4

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

To: Aqua Science Engineers, Inc.

Test Method: 8015m

Attn: Ian T. Reed

Prep Method: 3510/8015M

Batch QC Report

Diesel

Laboratory Control Spike (LCS/LCSD)		Water	QC Batch # 2000/04/06-01.10	
LCS:	2000/04/06-01.10-002	Extracted: 04/06/2000 08:00	Analyzed	04/06/2000 18:13
LCSD:	2000/04/06-01.10-003	Extracted: 04/06/2000 08:00	Analyzed	04/06/2000 18:57

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Diesel	1120	1090	1250	1250	89.6	87.2	2.7	60-130	25		
<i>Surrogate(s)</i>											
o-Terphenyl	19.6	18.3	20.0	20.0	98.0	91.5		60-130			

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Page 4 of 4

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

Gas/BTEX and MTBE

Aqua Science Engineers, Inc.

☒ 208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #: 3487

Project: The Salvation Army

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	04/04/2000 15:00	1

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

Printed on: 04/12/2000 14:08

Page 1 of 5

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

To: Aqua Science Engineers, Inc.

Test Method: 8020
8015M

Attn.: Ian T. Reed

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-1	Lab Sample ID: 2000-04-0048-001
Project: 3487 The Salvation Army	Received: 04/05/2000 15:17
Sampled: 04/04/2000 15:00	Extracted: 04/11/2000 18:01
Matrix: Water	QC-Batch: 2000/04/11-01.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	180	50	ug/L	1.00	04/11/2000 18:01	
Benzene	ND	0.50	ug/L	1.00	04/11/2000 18:01	g
Toluene	ND	0.50	ug/L	1.00	04/11/2000 18:01	
Ethyl benzene	ND	0.50	ug/L	1.00	04/11/2000 18:01	
Xylene(s)	ND	0.50	ug/L	1.00	04/11/2000 18:01	
MTBE	ND	5.0	ug/L	1.00	04/11/2000 18:01	
<i>Surrogate(s)</i>						
Trifluorotoluene	97.2	58-124	%	1.00	04/11/2000 18:01	
4-Bromofluorobenzene-FID	99.3	50-150	%	1.00	04/11/2000 18:01	

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Printed on: 04/12/2000 14:08

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

To: Aqua Science Engineers, Inc.

Test Method: 8015M

Attn.: Ian T. Reed

8020

Prep Method: 5030

Batch QC Report Gas/BTEX and MTBE

Method Blank	Water	QC Batch # 2000/04/11-01.01
MB: 2000/04/11-01.01-001		Date Extracted: 04/11/2000 15:06

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	04/11/2000 15:06	
Benzene	ND	0.5	ug/L	04/11/2000 15:06	
Toluene	ND	0.5	ug/L	04/11/2000 15:06	
Ethyl benzene	ND	0.5	ug/L	04/11/2000 15:06	
Xylene(s)	ND	0.5	ug/L	04/11/2000 15:06	
MTBE	ND	5.0	ug/L	04/11/2000 15:06	
Surrogate(s)					
Trifluorotoluene	89.6	58-124	%	04/11/2000 15:06	
4-Bromofluorobenzene-FID	91.2	50-150	%	04/11/2000 15:06	

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Printed on: 04/12/2000 14:08

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-04-0048

To: Aqua Science Engineers, Inc.

Test Method: 8015M
8020

Attn: Ian T. Reed

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD)		Water		QC Batch # 2000/04/11-01.01	
LCS:	2000/04/11-01.01-002	Extracted:	04/11/2000 15:41	Analyzed	04/11/2000 15:41
LCSD:	2000/04/11-01.01-003	Extracted:	04/11/2000 16:16	Analyzed	04/11/2000 16:16

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Gasoline	527	519	500	500	105.4	103.8	1.5	75-125	20		
Benzene	99.0	101	100.0	100.0	99.0	101.0	2.0	77-123	20		
Toluene	94.0	98.6	100.0	100.0	94.0	98.6	4.8	78-122	20		
Ethyl benzene	94.6	99.1	100.0	100.0	94.6	99.1	4.6	70-130	20		
Xylene(s)	289	302	300	300	96.3	100.7	4.5	75-125	20		
Surrogate(s)											
Trifluorotoluene	420	429	500	500	84.0	85.8		58-124			
4-Bromofluorobenzene-FI	465	468	500	500	93.0	93.6		50-150			

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Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

Printed on: 04/12/2000 14:08

To: Aqua Science Engineers, Inc.

Test Method: 8020
8015M

Attn: Ian T. Reed

Prep Method: 5030

Legend & Notes

Gas/BTEX and MTBE

Analyte Flags

9

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

