

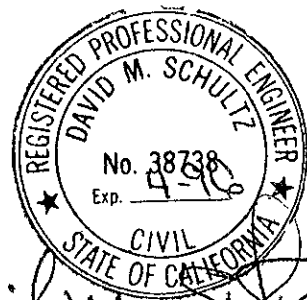


August 22, 1995

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ENVIRONMENTAL

QUARTERLY GROUNDWATER MONITORING REPORT  
AUGUST 8, 1995 SAMPLING  
ASE JOB NO. 2659  
at  
Romak Iron Works  
3250 Hollis Street  
Oakland, California 94662

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



*David M. Schultz*

## 1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineer's, Inc. (ASE) quarterly groundwater sampling at the Romak Iron Works property located at 3250 Hollis Street in Oakland, California (*Figures 1 and 2*).

## 2.0 GROUNDWATER SAMPLING

On August 8, 1995, ASE measured the depth to water in the site monitoring well using an electric water level sounder. The well was also checked for the presence of free-floating hydrocarbons. The well contained a hydrocarbon sheen. Prior to sampling, the well was purged of four well casing volumes of groundwater using a pre-cleaned PVC bailer. The samples were collected from the well with a dedicated polyethylene bailer. The groundwater samples were decanted from the bailer into three (3) 40-ml volatile organic analysis (VOA) vials and three (3) 1-liter amber glass bottles. The samples were preserved with hydrochloric acid, labeled, placed in protective foam sleeves, and placed into an ice chest containing wet ice for transport to American Environmental Network (AEN) of Pleasant Hill, California (DOHS #1172) under chain of custody.

Well sampling purge water was contained in DOT 17H drums and stored on-site for handling by the client at a later date. See Appendix B for a copy of the well sample field log.

## 3.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by AEN for total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 5030/8015, total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 3550/8015, benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8020 and total and hydrocarbon oil and grease (O&G) by Standard Method 5520 C&F. The analytical results are tabulated below in Tables One and Two, and the certified analytical report and chain of custody form are included in Appendix A.

**TABLE ONE**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**TPH-G, TPH-D and BTEX**  
**All results are in parts per billion**

Sampling Date	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes
08-04-93	12,000	---	7.6	9.7	9.9	29
11-18-93	10,270	---	3,169	38.3	661.2	659.4
02-09-94	17,000	---	6,200	64	770	420
05-25-94	24,000	---	6,200	27	1,100	210
08-18-94	22,000	---	5,000	10	740	150
11-14-94	20,000	4,200	4,200	25	860	450
02-03-95	20,000	4,600*	3,400	11	810	100
05-02-95	21,000	3,400	3,100	21	910	130
08-08-95	17,000	1,800	2,800	11	680	63
DTSC MCL		Not Established	1.0	100**	680	1,750
EPA METHOD		5030/ 8015	602 or 8020	602 or 8020	602 or 8020	602 or 8020

--- = Not analyzed

DTSC = California EPA Department of Toxic Substance Control

MCL = maximum contaminant level for drinking water

\* = motor oil detected

\*\* = DTSC recommended action level for drinking water; MCL not established

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

Sampling Date	Total Oil & Grease	Hydrocarbon Oil & Grease
11-14-94	4,000	<1,000
02-07-95	11,000	9,300
05-02-95	5,000	1,000
08-08-95	11,000	9,700
EPA METHOD	5520C	5520F

#### **4.0 CONCLUSIONS AND RECOMMENDATIONS**

High TPH-G, TPH-D, total oil and grease, hydrocarbon oil and grease, benzene and ethylbenzene concentrations (17,000 ppb, 1,800 ppb, 11,000 ppb, 9,700 ppb, 2,800 ppb and 680 ppb, respectively) were detected in groundwater samples collected from monitoring well MW-1. The benzene concentration of 2,800 ppb exceeded the California EPA Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water of 1 ppb, and the ethylbenzene concentration of 680 ppb was at the DTSC MCL of 680 ppb. These concentrations are consistent with previous quarter's results.

Future plans for this site include installing one (1) additional well downgradient of the site.

#### **5.0 REPORT LIMITATIONS**

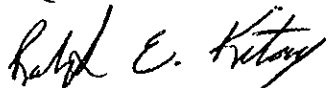
The results of this investigation represent conditions at the time of the groundwater sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed for by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CSDHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

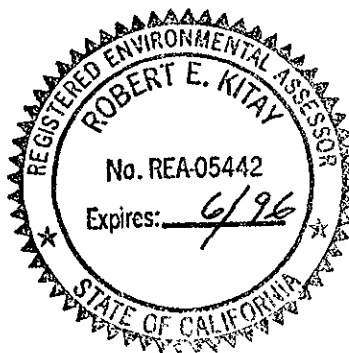
Aqua Science Engineers appreciates the opportunity to assist Romak Iron Works with its environmental needs. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



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



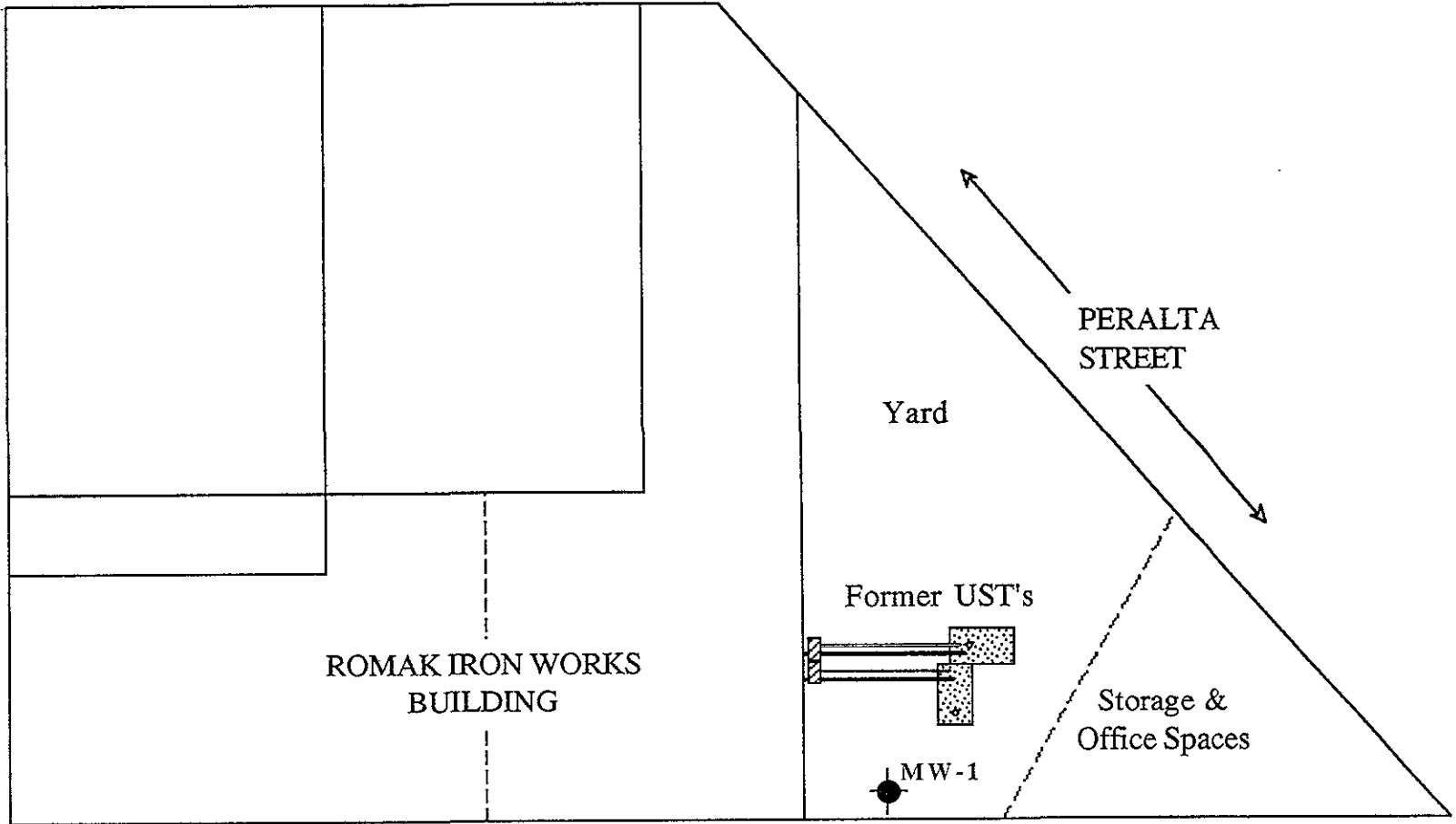
Attachments: Figures 1 and 2  
Appendices A and B

cc: Mr. Kevin Romak, Romak Iron Works  
Ms. Susan Hugo, Alameda County Health Care Services Agency  
Mr. Kevin Graves, California Regional Water Quality Control Board








← HAVEN STREET →

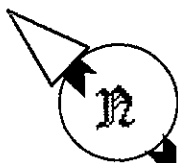
↑  
34th  
STREET  
↓



← HOLLIS STREET →

**LEGEND**

-  = Monitoring well
-  = Former UST Location
-  = Former Fuel Dispenser
-  = Former Vent line
-  = Former Product line



**SCALE**



1" = 20 FEET

AQUA SCIENCE ENGINEERS, INC.
MONITORING WELL LOCATION MAP
3250 Hollis Street
Romak Iron Works
Oakland, California 94608
————— figure two —————

# **APPENDIX A**

Analytical Report and Chain of Custody Form



# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

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

REPORT DATE: 08/18/95

DATE(S) SAMPLED: 08/08/95

DATE RECEIVED: 08/09/95

ATTN: ROBERT KITAY  
CLIENT PROJ. ID: 2659  
CLIENT PROJ. NAME: ROMAK IRON WKS

AEN WORK ORDER: 9508109

### PROJECT SUMMARY:

On August 9, 1995, this laboratory received 1 water sample(s).

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

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

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

  
Larry Klein  
Laboratory Director

AQUA SCIENCE ENGINEERS, INC.

AEN JOB NO: 9508109  
 DATE SAMPLED: 08/08/95  
 DATE RECEIVED: 08/09/95  
 CLIENT PROJ. ID: 2659

Client Sample Id	AEN Lab Id	Purgeable Hydrocarbons as Gasoline (ug/L)	Extractable Hydrocarbons as Diesel (ug/L)	Oil & Grease (ug/L)	Hydrocarbons (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
MW-1	01	17,000	1,800	11,000	9,700	2,800	11	680	63
Reporting Limit		500	500	500	500	5	5	5	5
EPA Method:		5030 GCFID	3510 GCFID	5520C	5520F	8020	8020	8020	8020
Date Extracted:		NA	08/14/95	08/13/95	08/13/95	NA	NA	NA	NA
Date Analyzed:		08/16/95	08/16/95	08/15/95	08/15/95	08/16/95	08/16/95	08/16/95	08/16/95
NA = Not Applicable									
ND = Not Detected									

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9508109

CLIENT PROJECT ID: 2659

Quality Control and Project Summary

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

Definitions

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

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

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

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

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

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

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

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

## QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9508109  
 DATE(S) EXTRACTED: 08/14/95  
 INSTRUMENT: C  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
08/16/95	MW-1	01	115
QC Limits:			59-118

DATE EXTRACTED: 08/13/95  
 DATE ANALYZED: 08/13/95  
 SAMPLE SPIKED: WATER  
 INSTRUMENT: C

## Laboratory Control Sample Recovery

Analyte	Spike Added (mg/L)	Average Percent Recovery	QC Limits Percent Recovery
Diesel	1.82	96	65-103

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

## QUALITY CONTROL DATA

METHOD: SM 5520

AEN JOB NO: 9508109  
DATE EXTRACTED: 08/10/95  
DATE ANALYZED: 08/11/95  
SAMPLE SPIKED: DI WATER  
INSTRUMENT: GRAVIMETRIC  
MATRIX: WATER

## Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Duplicate Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
					Percent Recovery	RPD
Oil	7.53	ND	94	4	80-109	5

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

## QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9508109  
 INSTRUMENT: H  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Fluorobenzene	
08/16/95	MW-1	01	101	
QC Limits:			92-109	

DATE ANALYZED: 08/16/95  
 SAMPLE SPIKED: 9508096-03  
 INSTRUMENT: H

## Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	36.1	102	6	85-109	17
Toluene	99.3	101	13	87-111	16
Hydrocarbons as Gasoline	1000	102	5	66-117	19

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

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

# Chain of Custody

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

DATE 8-8-95 PAGE 1 OF 1

SAMPLERS (SIGNATURE) Robert E. Kitzner (PHONE NO.) (510) 820-9391  
PROJECT NAME Ramak Iron Works NO. 2659  
ADDRESS 3250 Heil's Street, Oakland, CA

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH GASOLINE (EPA 5030/8015)	TPH GASOLINE/BTEX (EPA 5030/8015-8020)	TPH DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/6020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/6270)	OIL & GREASE (I.R.) (EPA 5520 REF OR B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STC- CAN MET (EPA 1311/1310)	REACTIVITY	CORROSIVITY	ICUTABILITY

RELINQUISHED BY: <u>Robert E. Kitzner</u> 11:05 (signature) (time)	RECEIVED BY: <u>Michael Schiller</u> 11:00 (signature) (time)	RELINQUISHED BY: <u>Michael Schiller</u> 11:30 (signature) (time)	RECEIVED BY LABORATORY: <u>Gina Gillespie</u> 11:30 (signature) (time)	COMMENTS:
<u>Robert E. Kitzner</u> 8-9-95 (printed name) (date)	<u>Michael Schiller</u> 8/9/95 (printed name) (date)	<u>Michael Schiller</u> 8/9/95 (printed name) (date)	<u>Gina Gillespie</u> 8/9/95 (printed name) (date)	
Company- <u>ASE</u>	Company- <u>AEN</u>	Company- <u>AEN</u>	Company- <u>AEN</u>	

# **APPENDIX B**

## **Well Sampling Field Log**





## WELL SAMPLING FIELD LOG

Project Name and Address: Ramak Iron Works, Oakland, CA  
 Job #: 2659 Date of sampling: 8-8-95  
 Well Name: MW-1 Sampled by: RE  
 Total depth of well (feet): 21.65 Well diameter (inches): 2  
 Depth to water before sampling (feet): 7.65  
 Thickness of floating product if any: sheen  
 Depth of well casing in water (feet): 14.00  
 Number of gallons per well casing volume (gallons): 2.4  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 9.6  
 Equipment used to purge the well: Dedicated PVC bailer  
 Time Evacuation Began: 15:40 Time Evacuation Finished: 16:15  
 Approximate volume of groundwater purged: 10 gallons  
 Did the well go dry?: no After how many gallons: —  
 Time samples were collected: 16:20  
 Depth to water at time of sampling: —  
 Percent recovery at time of sampling: —  
 Samples collected with: Dedicated PVC bailer  
 Sample color: None Odor: Strong h<sub>2</sub>  
 Description of sediment in sample: Small amount of fine brown silt

### SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-1</u>	<u>3</u>	<u>40-ml VOA vial</u>	<u>H<sub>2</sub></u>	<u>Yes</u>	<u>TPH-G/BTEX</u>
<u>↓</u>	<u>2</u>	<u>1-liter amber glass</u>	<u>↓</u>	<u>↓</u>	<u>TPH-D</u>
<u>↓</u>	<u>1</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>ODG</u>