aqua science engineers inc.

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June 7, 1994

QUARTERLY GROUNDWATER MONITORING REPORT
MAY 25, 1994 SAMPLING
ASE JOB NO. 2659
at
Romak Iron Works
3250 Hollis Street
Oakland, California 94662

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp 9-97
CIVIL
STATE OF CALIFORNIA

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

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 May 25, 1994, 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 as well as a sticky, black, tar-like substance. The well was then purged of four well casing volumes of groundwater using a pre-cleaned PVC bailer. The pH, temperature and conductivity of the purged water was monitored during evacuation, and samples were not collected until these parameters stabilized. 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. 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 EPA Method 8015 and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8020. The analytical results are tabulated below in Table One, and the certified analytical report and chain of custody form are included in Appendix A.

TPH-G was detected in the groundwater sample at 24,000 parts per billion (ppb), and BTEX was detected between 27 and 6,200 ppb. The benzene concentration of 6,200 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 1,100 ppb exceeded the DTSC MCL of 680 ppb. The analytical results from this quarter are consistent with the previous quarters results.

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

Sampling Date	Analytical Laboratory	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes
08-04-93	PEL	12,000	7.6	9.7	9.9	29
11-18-93	GEL	10,270	3,169	38.3	661.2	659.4
02-09-94	SPA	17,000	6,200	64	770	420
05-25-94	**AEN**	**24,000**	**6,200**	**27**	**1,100**	**210**
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

PEL = Priority Analytical Labs of Milpitez, California
GEL = Geochem Environmental Laboratory of San Jose, California
SPA = Superior Precision Analytical of Martinez, California
AEN = American Environmental Network of Pleasant Hill, California
DTSC = California EPA Department of Toxic Substance Control
MCL = maximum contaminant level for drinking water
* = DTSC recommended action level for drinking water; MCL not established

4.0 CONCLUSIONS AND RECOMMENDATIONS

Relatively high TPH-G, benzene and ethylbenzene concentrations (24,000 ppb, 6,200 ppb and 1,100 ppb, respectively) were detected in groundwater samples collected from monitoring well MW-1. These concentrations are consistent with the previous quarters results.

Future plans for this site include determining the groundwater gradient and flow direction beneath the site utilizing wells at other surrounding sites, and installing one (1) 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

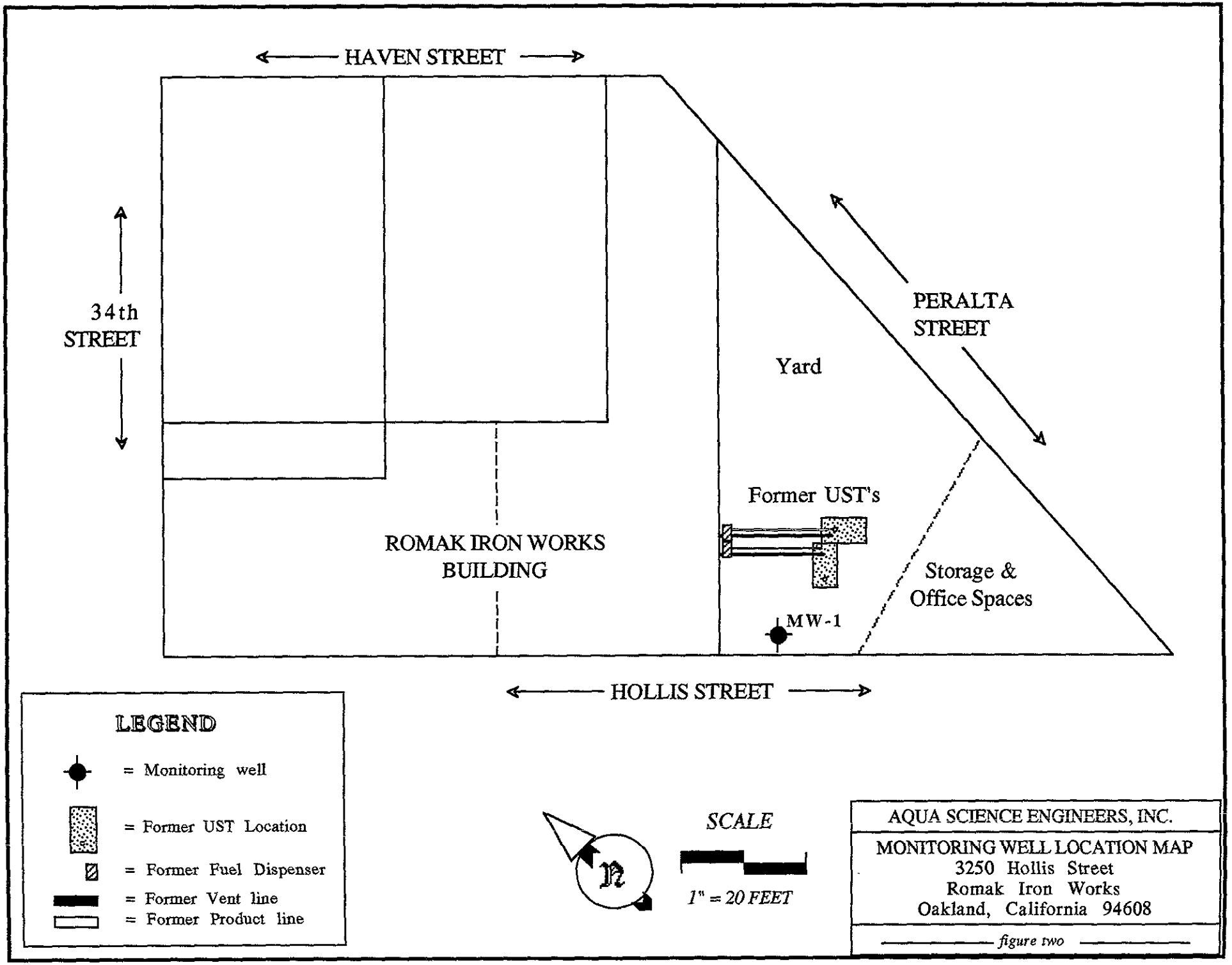
cc: Mr. Kevin Romak, Romak Iron Works
Ms. Susan Hugo, Alameda County Health Care Services Agency
Mr. Richard Hiett, California Regional Water Quality Control Board

BASE: USGS Oakland West 7.5 minute quadrangle topographic r
dated 1980, scale 1:24,000.

SITE LOCATION MAP

Romak Iron Works
3250 Hollis Street
Oakland, California

Aqua Science Engineers | Figure 1


HAVEN STREET
34th STREET
PERALTA STREET
Yard
Former UST's
ROMAK IRON WORKS BUILDING
Storage & Office Spaces
MW-1
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

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

ATTN: ROBERT KITAY
CLIENT PROJ. ID: 2656
CLIENT PROJ. NAME: ROMAK IRON

REPORT DATE: 06/06/94
DATE(S) SAMPLED: 05/25/94
DATE RECEIVED: 05/26/94
AEN WORK ORDER: 9405348

PROJECT SUMMARY:

On May 26, 1994, this laboratory received 1 water sample(s).

Client requested the sample be analyzed for organic parameters. Sample identification, methodologies, results and dates analyzed are summarized on the following page.

Please see quality control report for a summary of QC data pertaining to this project.

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

Larry Klein
General Manager

AQUA SCIENCE ENGINEERS, INC.

DATE SAMPLED: 05/25/94
DATE RECEIVED: 05/26/94
CLIENT PROJ. ID: 2656

REPORT DATE: 06/06/94

AEN JOB NO: 9405348

Client Sample Id.	AEN Lab Id.	Purgeable Hydrocarbons as Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
MW-1	01	24,000	6,200	27	1,100	210
Reporting Limit		50	0.5	0.5	0.5	2
EPA Method:		5030 GCFID	8020	8020	8020	8020
Instrument: F						
Date Analyzed:		05/31/94	05/31/94	05/31/94	05/31/94	05/31/94

ND = Not Detected

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9405348

CLIENT PROJECT ID: 2656

Quality Control Summary

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

Definitions

The following abbreviations are found throughout the QC report:

ND = Not Detected at or above the reporting limit
RPD = Relative Percent Difference
< = Less Than

QUALITY CONTROL DATA

CLIENT PROJ. ID: 2656

AEN JOB NO: 9405348

INSTRUMENT: F

SURROGATE STANDARD RECOVERY SUMMARY
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

Date Analyzed	SAMPLE IDENTIFICATION		SURROGATE RECOVERY (PERCENT)
	Sample Id.	Lab Id.	Fluorobenzene
05/31/94	MW-1	01	91

CURRENT QC LIMITS

ANALYTE	PERCENT RECOVERY
Fluorobenzene	(70-115)

QUALITY CONTROL DATA

DATE ANALYZED: 05/31/94
SAMPLE SPIKED: LCS
CLIENT PROJ. ID: 2656

AEN JOB NO: 9405348
INSTRUMENT: F

LABORATORY CONTROL SAMPLE
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

ANALYTE	Spike Added (ug/L)	Percent Recovery
Benzene	9.96	86
Toluene	34.7	97
Hydrocarbons as Gasoline	500	105

CURRENT QC LIMITS

Analyte	Percent Recovery
Benzene	(65-122)
Toluene	(67-124)
Gasoline	(60-125)

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

R3,5-1 9405348

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

Chain of Custody

DATE 5-25-94 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
Robt C. Kitay (510) 820-9391

PROJECT NAME Romak Iron Works NO. 2656
ADDRESS 3250 Hollis 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 602/8220)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY
MW-1	5/25	11:47	Water	3		X											

RELINQUISHED BY: 5-26-94 15:16
Robt C. Kitay
(signature) (time)
Robert Kitay
(printed name) (date)
Company- ASE

RECEIVED BY:
Michael McMillen 15:15
(signature) (time)
Michael McMillen 5/26
(printed name) (date)
Company- AEN

RELINQUISHED BY:
Michael McMillen 16:05
(signature) (time)
5/26
(printed name) (date)
Company-

RECEIVED BY LABORATORY:
Lori L Pruitt 1605
(signature) (time)
Lori L Pruitt 5/26
(printed name) (date)
Company- AEN

COMMENTS:
72 hour
T.A.T.

APPENDIX B

Well Sampling Field Log

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Romak Iron Works, 3250 Hollis Street, Oakland
Job #: 2659 Date of sampling: 5-25-94
Well Name: MW-1 Sampled by: DA/RK
Total depth of well (feet): 21.66 Well diameter (inches): 2
Depth to water before sampling (feet): 12.92
Thickness of floating product if any: sheen + sticky tar-like substance
Depth of well casing in water (feet): 8.74
Number of gallons per well casing volume (gallons): 1.5
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 6
Equipment used to purge the well: PVC Bailer
Time Evacuation Began: 11:15 Time Evacuation Finished: 11:25
Approximate volume of groundwater purged: 6 gallons
Did the well go dry?: No After how many gallons: —
Time samples were collected: 11:47
Depth to water at time of sampling: —
Percent recovery at time of sampling: —
Samples collected with: Dedicated polyethylene bailer
Sample color: None (clear) Odor: Strong
Description of sediment in sample: fine gray silt

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	3	40-ml VOAs	HCl	Yes	TPH-G/BTEX