



ENVIRONMENTAL
PROTECTION
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February 20, 1997

QUARTERLY GROUNDWATER MONITORING REPORT
FEBRUARY 6, 1997 GROUNDWATER 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 Engineers, Inc. (ASE)'s 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 February 6, 1997, 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 polyethylene bailer. The groundwater samples were decanted from the bailer into three (3) 40-ml volatile organic analysis (VOA) vials and two (2) 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 Chromalab, Inc. of Pleasanton, California (ELAP #1094) 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 A for a copy of the well sampling field log.

3.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Chromalab for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 5030/8015M, total petroleum hydrocarbons as diesel (TPH-D) by EPA Method 3510/8015M, benzene, toluene, ethylbenzene and total xylenes (BTEX) and MTBE by EPA Method 8020 and hydrocarbon oil and grease (O&G) by Standard Method 5520 B&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 B.

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

Sampling Date	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
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	---
11-13-95	17,000	<1,000	2,300	8	550	69	---
02-16-96	8,900	7,600	3,100	21	760	474	<40
05-17-96	9,900	1,400	2,100	6	560	23	120
08-01-96	11,000	5,100***	1,600	14	580	66	<50
11-12-96	13,000	6,000***	910	27	440	440	85
02-06-97	16,000	7,000*	1,200	170	660	410	<500
DTSC MCL	NE	NE	1.0	100**	680	1,750	NE
EPA METHOD	5030/ 8015M	3510/ 8015M	8020	8020	8020	8020	8020

--- = Not analyzed

NE = Not established

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

*** = Fuel pattern does not match diesel standard, concentration due to overlap of the gasoline fuel pattern into the diesel range

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
11-13-95	1,000	<1,000
02-16-96	---	<5,000
05-17-96	---	1,100
08-01-96	---	1,000
11-12-96	---	< 1,000
02-06-97	---	1,700
EPA METHOD	5520C	5520BF

4.0 CONCLUSIONS

High TPH-G and benzene concentrations (16,000 ppb and 1,200 ppb, respectively) continue to be detected in groundwater samples collected from monitoring well MW-1. The benzene concentration of 1,200 ppb exceeded the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water of 1 ppb. The toluene concentration of 170 ppb exceeded the DTSC recommended action level for drinking water of 100 ppb. Although high hydrocarbon concentrations continue to be detected in groundwater samples collected at the site, there does appear to be a decreasing trend in these concentrations, although there was a very slight increase in hydrocarbon concentrations from last quarter.

5.0 REPORT LIMITATIONS

The results of this investigation 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 analytical 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.



Scott Ferriman
Environmental Specialist

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



SITE LOCATION MAP

Romak Iron Works
 3250 Hollis Street
 Oakland, California

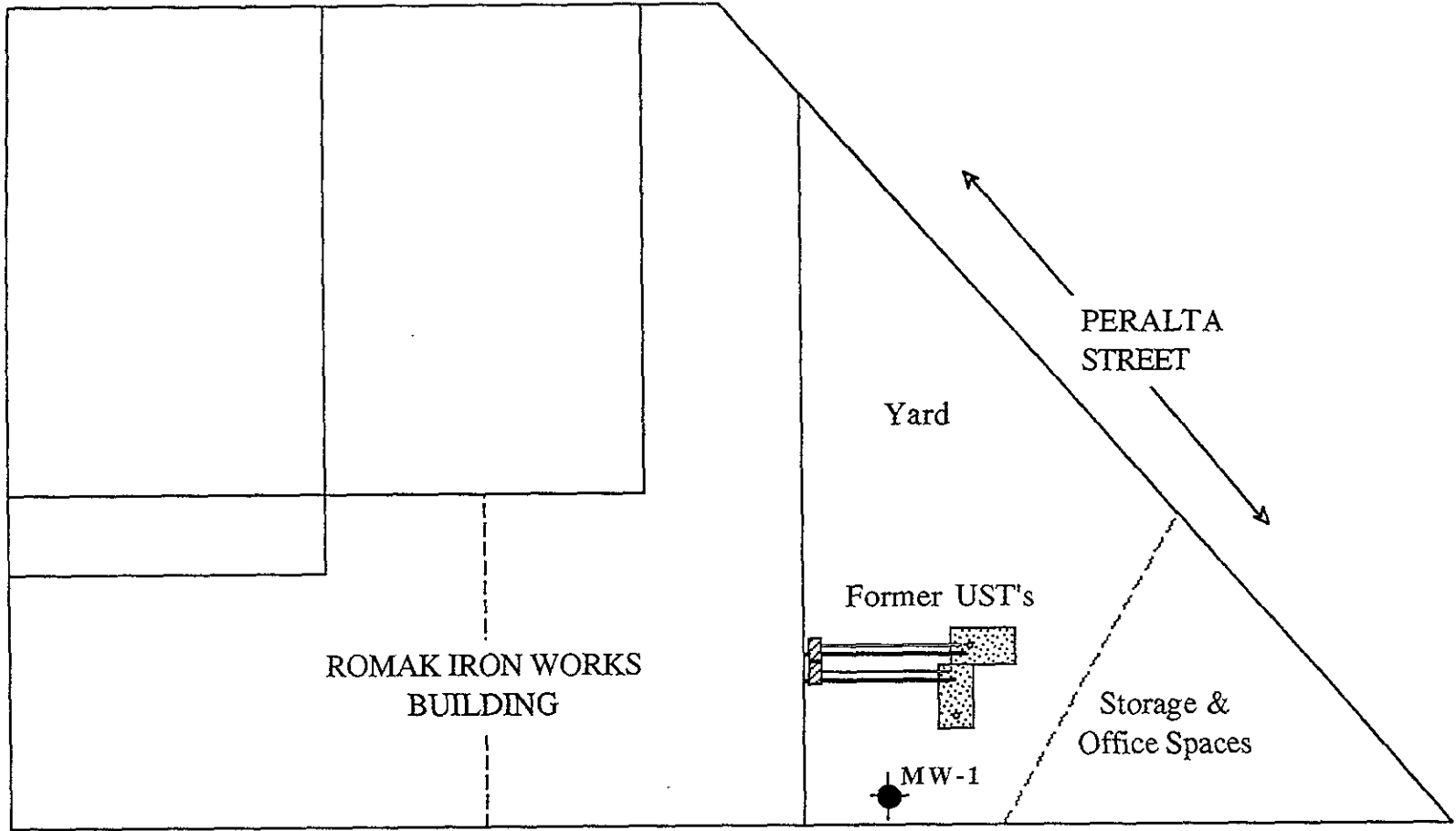
Aqua Science Engineers

Figure 1

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






← HAVEN STREET →

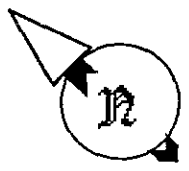
↑
34th
STREET
↓



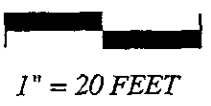
← HOLLIS STREET →

LEGEND

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



SCALE



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

————— figure two —————

APPENDIX A

Well Sampling Field Log



WELL SAMPLING FIELD LOG

Project Name and Address: Romax Iron Works, Oakland, CA
 Job #: 2657 Date of sampling: 2-6-97
 Well Name: MW-1 Sampled by: SK
 Total depth of well (feet): 21.65 Well diameter (inches): 2'
 Depth to water before sampling (feet): 5.68
 Thickness of floating product if any: Sheer
 Depth of well casing in water (feet): 15.97
 Number of gallons per well casing volume (gallons): 2.7
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 11
 Equipment used to purge the well: Dedicated Poly Barrel
 Time Evacuation Began: 14:05 Time Evacuation Finished: 14:35
 Approximate volume of groundwater purged: 11
 Did the well go dry?: No After how many gallons: -
 Time samples were collected: 14:55
 Depth to water at time of sampling: 6.82
 Percent recovery at time of sampling: 93%
 Samples collected with: Dedicated Poly Barrel
 Sample color: Cloudy Odor: Strong HC odor
 Description of sediment in sample: None

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	3	40 ml VOA	Hel	YES	TPH ₂ /BTEX/MTSE
↓	1	1 e Amber	↓	↓	TPH ₀
↓	1	1 e Amber	↓	↓	O + G BF

APPENDIX B

Analytical Report and Chain of Custody Form

CHROMALAB, INC.

Environmental Services (SDB)

February 14, 1997

Submission #: 9702064

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

Attn: Scott Ferriman

RE: Analysis for project ROMAK IRON WORKS, number 2657.

REPORTING INFORMATION

Samples were received cold and in good condition on February 7, 1997. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

Motor oil was found in sample MW-1.



Bruce Havlik
Chemist



Alex Tam
Semivolatiles Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

February 11, 1997

Submission #: 9702064

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: ROMAK IRON WORKS
Received: February 7, 1997


Project#: 2657

re: 1 sample for Oil and Grease analysis.
Method: 5520 B&F

Sampled: February 6, 1997 Matrix: WATER Extracted: February 10, 1997
Run#: 5240 Analyzed: February 10, 1997

Spl#	CLIENT SPL ID	OIL & GREASE (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
116975	MW-1	1.7	1.0	N.D.	103	1


Carolyn House
Extractions Supervisor


Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

February 14, 1997

Submission #: 9702064

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: ROMAK IRON WORKS
Received: February 7, 1997


Project#: 2657

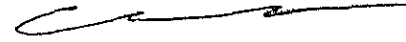
re: 1 sample for TPH - Diesel analysis.
Method: EPA 8015M

Sampled: February 6, 1997 Matrix: WATER Run#: 5294 Extracted: February 12, 1997
Analyzed: February 13, 1997

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
116975	MW-1	7000	50	N.D.	84.0	1

Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard. Estimated concentration due to overlapping fuel patterns.


Bruce Havlik
Chemist


Alex Tam
Semivolatiles Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

February 14, 1997

Submission #: 9702064

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: ROMAK IRON WORKS
Received: February 7, 1997

Project#: 2657

re: One sample for Gasoline, BTEX & MTBE analysis.
Method: EPA 8015M SW846 8020A Nov 1990

Client Sample ID: MW-1

Spl#: 116975

Matrix: WATER

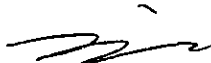
Sampled: February 6, 1997


Run#: 5318

Analyzed: February 14, 1997

<u>ANALYTE</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u> <u>(ug/L)</u>	<u>BLANK</u> <u>RESULT</u> <u>(ug/L)</u>	<u>BLANK SPIKE</u> <u>(%)</u>	<u>DILUTION</u> <u>FACTOR</u>
GASOLINE	16000	5000	N.D.	--	100
BENZENE	1200	50	N.D.	112	100
TOLUENE	170	50	N.D.	110	100
ETHYL BENZENE	660	50	N.D.	112	100
XYLENES	410	50	N.D.	115	100
MTBE	N.D.	500	N.D.	106	100

Note: Reporting limits increased due to matrix interference.


Kayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

064/116975

31962

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

SUBM #: 9702064 REP: MV
 CLIENT: ASE
 DUE: 02/14/97
 REF #: 31962

stody

DATE 2-6-97 PAGE 1 OF 1

SAMPLERS (SIGNATURE) _____ (PHONE NO.) _____

Scott T. Ferriman 510-820-9391

PROJECT NAME Ronak Iron Works NO. 2657

ADDRESS Oakland, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5-Day

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH- GASOLINE (EPA 5030/8015)	TPH- GASOLINE/BTEX ¹⁷⁸ (EPA 5030/8015-8020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or <u>REF</u>)	LOFT 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	2-6-97		water	5		X	X					X			

RELINQUISHED BY:
Scott T. Ferriman 02/06/97
 (signature) (time)
 Scott T. Ferriman 2-7-97
 (printed name) (date)
 Company- ASE, Inc

RECEIVED BY:
[Signature] 02/06/97
 (signature) (time)
[Signature] 2-7-97
 (printed name) (date)
 Company- Chromalab

RELINQUISHED BY:
[Signature] 2-7-97
 (signature) (time)
[Signature] 2-7-97
 (printed name) (date)
 Company- Chromalab

RECEIVED BY LABORATORY:
[Signature] 17:30
 (signature) (time)
[Signature] 2-7-97
 (printed name) (date)
 Company- Chromalab

COMMENTS: