

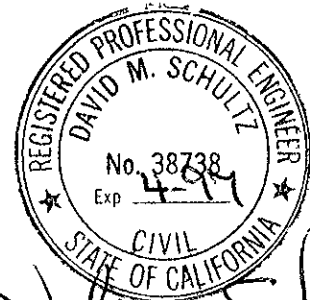
ENVIRONMENTAL
PROTECTION



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May 31, 1996

QUARTERLY GROUNDWATER MONITORING REPORT
MAY 17, 1996 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

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 17, 1996, 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 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 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 sample field log.

3.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by C&T 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 3510/8015, 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 and BTEX
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
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

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
EPA METHOD	5520C	5520BF

4.0 CONCLUSIONS AND RECOMMENDATIONS

High TPH-G and benzene concentrations (9,900 ppb and 2,100 ppb, respectively) continue to be detected in groundwater samples collected from monitoring well MW-1. The benzene concentration of 2,100 ppb exceeded the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water of 1 ppb. MTBE was detected in groundwater samples collected from monitoring well MW-1 at 120 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.

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,

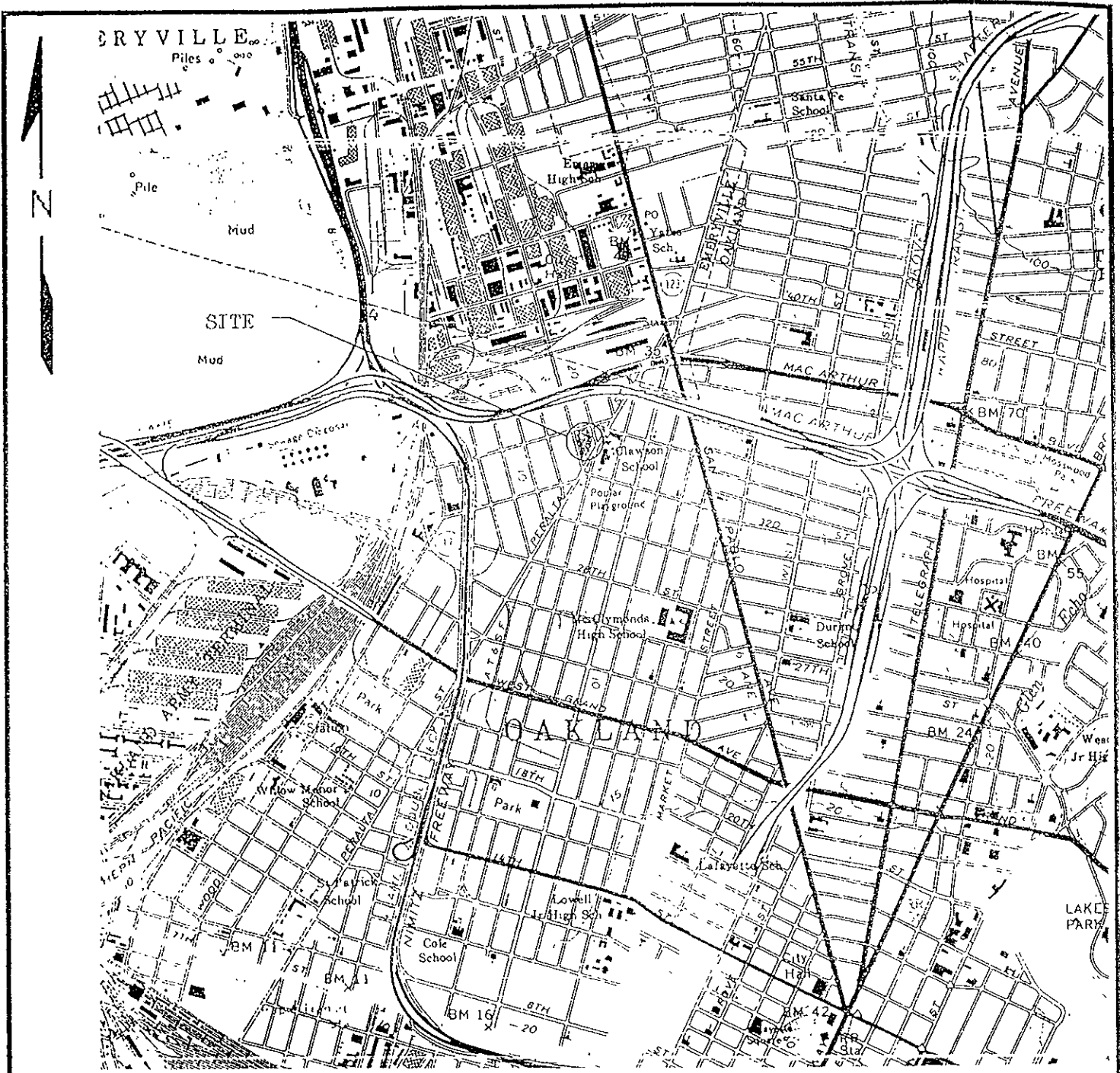
AQUA SCIENCE ENGINEERS, INC.



Scott T. Ferriman
Environmental Specialist

Attachments: Figures 1 and 2
Appendices A and B

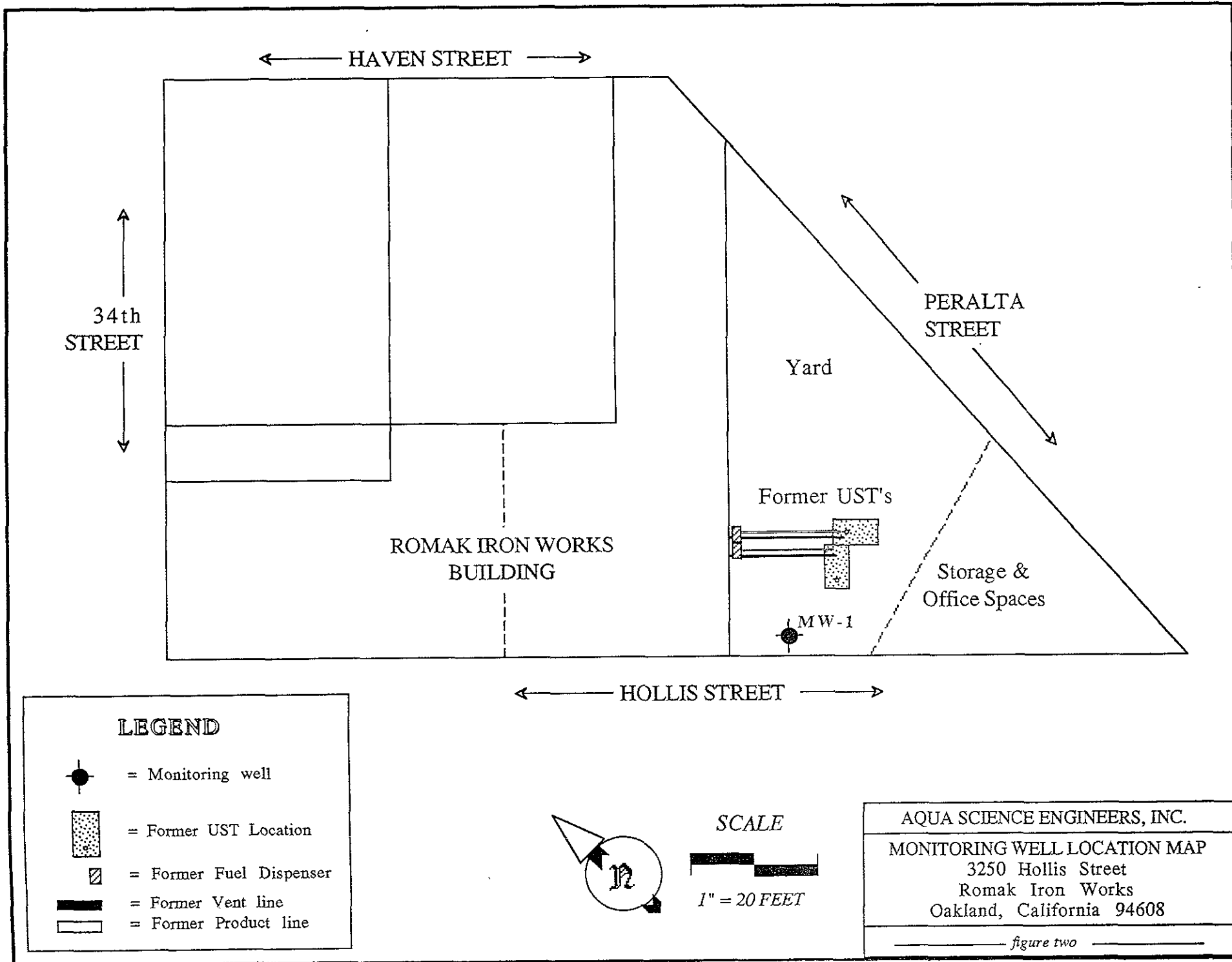
cc: Mr. Kevin Romak, Romak Iron Works
Ms. Susan Hugo, Alameda County Health Care Services Agency
Mr. Kevin Graves, California Regional Water Quality Control Board



SITE LOCATION MAP

Romak Iron Works
 3250 Hollis Street
 Oakland, California

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



APPENDIX A

Well Sampling Field Log



WELL SAMPLING FIELD LOG

Project Name and Address: Ramak Iron Works, Oakland, CA
 Job #: 2659 Date of sampling: 5-17-96
 Well Name: MW-1 Sampled by: SP
 Total depth of well (feet): 21.65 Well diameter (inches): 2"
 Depth to water before sampling (feet): 5.13
 Thickness of floating product if any: sheen
 Depth of well casing in water (feet): 16.52
 Number of gallons per well casing volume (gallons): 2.8
 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 Pailer
 Time Evacuation Began: 13:35 Time Evacuation Finished: 13:52
 Approximate volume of groundwater purged: 11
 Did the well go dry?: no After how many gallons: -
 Time samples were collected: 13:55
 Depth to water at time of sampling: 5.89
 Percent recovery at time of sampling: 95%
 Samples collected with: Dedicated Poly Pailer
 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 vials	HCl	Yes	TPH/BTEX/MTBE
↓	1	1 l Amber	-	↓	TPH
↓	1	1 l Amber	HCl	↓	O+G BF

APPENDIX B

Analytical Report and Chain of Custody Form

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1996

Submission #: 9605693

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

Attn: Scott Ferriman

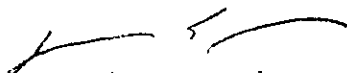
RE: Analysis for project ROMAK IRON WORKS, number 2657.


REPORTING INFORMATION

Samples were received cold and in good condition on May 17, 1996. 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.


Dennis Mayugba
Chemist


Alex Tam
Semivolatiles Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1996

Submission #: 9605693

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: ROMAK IRON WORKS
Received: May 17, 1996

Project#: 2657


re: One sample for Gasoline and BTEX compounds analysis.
Method: EPA 5030/8015M/8020

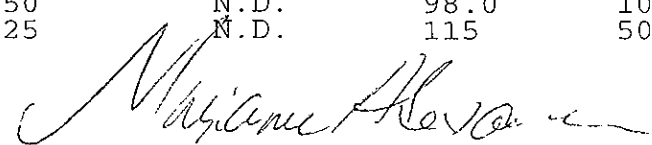
Client Sample ID: MW-1
Spl#: 85529
Sampled: May 17, 1996

Matrix: WATER
Run#: 1493

Analyzed: May 22, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	9900	100	N.D.	107	10
TOLUENE	6.0	5.0	N.D.	117	10
ETHYL BENZENE	560	5.0	N.D.	121	10
XYLENES	23	5.0	N.D.	120	10
MTBE	120	50	N.D.	98.0	10
BENZENE	2100	25	N.D.	115	50


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1996

Submission #: 9605693

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: ROMAK IRON WORKS
Received: May 17, 1996

Project#: 2657

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


Client Sample ID: MW-1
Spl#: 85529
Sampled: May 17, 1996

Matrix: WATER
Run#: 1477

Extracted: May 23, 1996
Analyzed: May 23, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/L)	<u>REPORTING</u> <u>LIMIT</u> (mg/L)	<u>BLANK</u> <u>RESULT</u> (mg/L)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
OIL & GREASE	1.1	1.0	N.D.	90.5	1


Carolyn House
Extractions Supervisor


Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1996

Submission #: 9605693

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: ROMAK IRON WORKS
Received: May 17, 1996

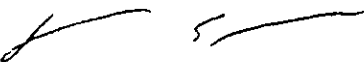
Project#: 2657

re: 1 sample for TPH - Diesel analysis.
Method: EPA 3510/8015M

Sampled: May 17, 1996 Matrix: WATER Extracted: May 22, 1996
Run#: 1474 Analyzed: May 23, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
85529	MW-1	1400	50	N.D.	85.5	1

Note: Hydrocarbon reported is in the late Diesel range, and does not match our Diesel standard.


Dennis Mayugba
Chemist


Alex Tam
Semivolatiles Supervisor

693/85529

27858

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 5-17-96 PAGE 1 OF 1

SAMPLERS (SIGNATURE) Scott T. Ferriman (PHONE NO.) 510-820-9391 PROJECT NAME Romak Iron Works NO. 2659
 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/MTBE (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 625/8250)	OIL & GREASE (EPA 5520 E&F Oil B&F)	LUFT METALS (5) (EPA 6010-7000)	TITLE 22 (CM 17) (EPA 6010-7000)	TCLP (EPA 1311/1310)	STLC- CM WET (EPA 1311/1310)	REACTIVITY	CORROSIVITY	IGTABILITY
MW-1	5-17-96	13:55	water	5		X	X					X							

SUBM #: 9605693 REP: MV
 CLIENT: ASE
 DUE: 05/24/96
 REF #: 27858

RELINQUISHED BY: <u>Scott T. Ferriman</u> (signature) (time) <u>14:55</u>	RECEIVED BY: <u>Gary Cook</u> (signature) (time) <u>14:55</u>	RELINQUISHED BY: <u>Gary Cook</u> (signature) (time) <u>15:50</u>	RECEIVED BY LABORATORY: <u>Chris Rowley</u> (signature) (time) <u>15:50</u>	COMMENTS:
Scott Ferriman 5-17-96 (printed name) (date)	Gary Cook 5/17/96 (printed name) (date)	Gary Cook 5/17/96 (printed name) (date)	Chris Rowley 5/17/96 (printed name) (date)	
Company- ASE, Inc.	Company- ChromaLab	Company- ChromaLab	Company- ChromaLab	