

ENVIRONMENTAL
PROTECTION

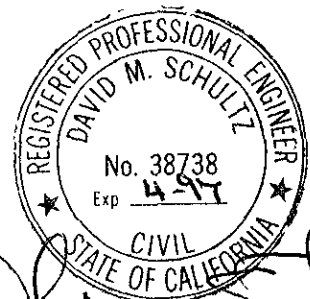
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August 14, 1996

QUARTERLY GROUNDWATER MONITORING REPORT
AUGUST 1, 1996 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



A handwritten signature in black ink, appearing to read 'David M. Schultz', written over the bottom right portion of the professional seal.

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 2, 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 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
08-01-96	11,000	5,100***	1,600	14	580	66	<50
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
EPA METHOD	5520C	5520BF

4.0 CONCLUSIONS

High TPH-G and benzene concentrations (11,000 ppb and 1,600 ppb, respectively) continue to be detected in groundwater samples collected from monitoring well MW-1. The benzene concentration of 1,600 ppb exceeded the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water of 1 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 at which 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 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.

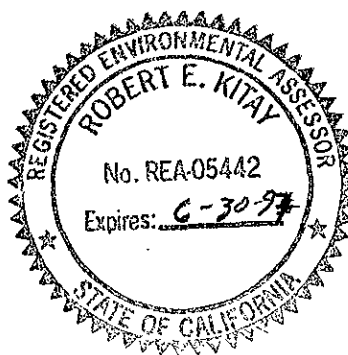
Aqua Science Engineers appreciates the opportunity to assist Romak Iron Works with its environmental needs. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

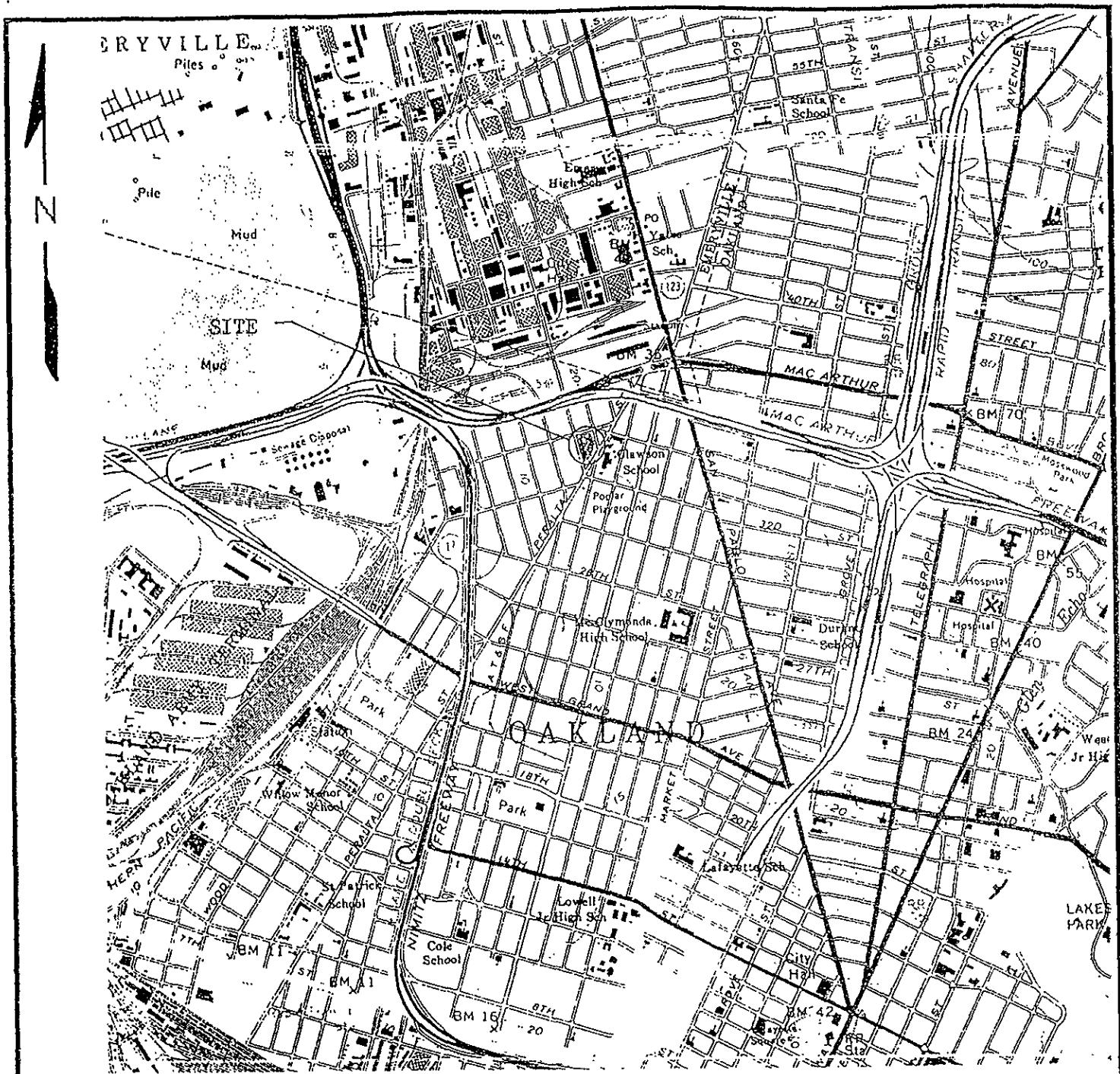


Robert E. Kitay, R.E.A.
Project Geologist



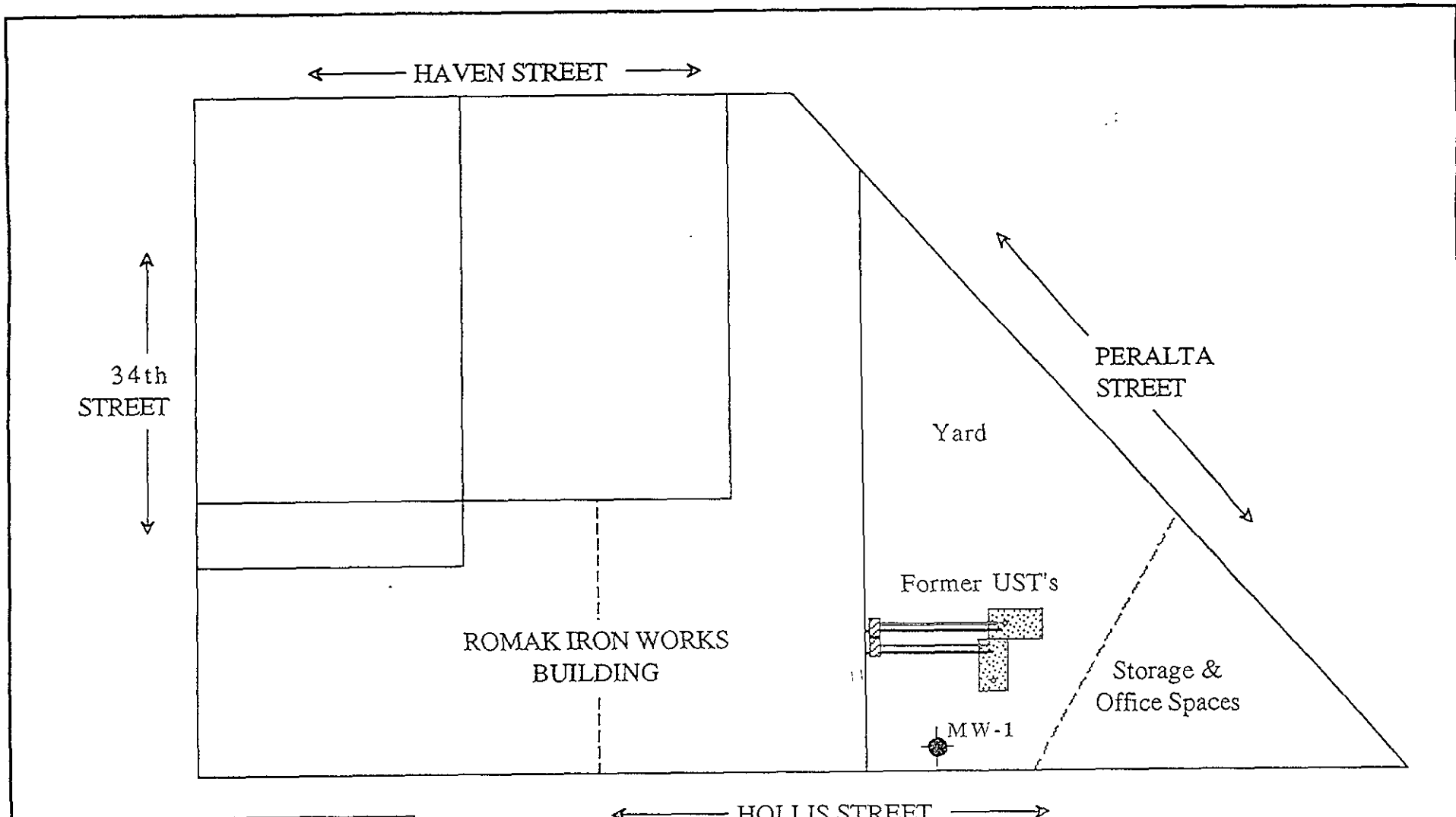
Attachments: Figures 1 and 2
Appendices A and B

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








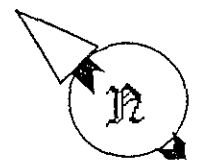
SITE LOCATION MAP	
Romak Iron Works 3250 Hollis Street Oakland, California	
Aqua Science Engineers	Figure 1

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




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

Well Sampling Field Log



WELL SAMPLING FIELD LOG

Project Name and Address: Romak Iron Works, Oakland, CA
 Job #: 2657 Date of sampling: 8-1-96
 Well Name: MW-1 Sampled by: SF
 Total depth of well (feet): 21.65 Well diameter (inches): 2"
 Depth to water before sampling (feet): 8.97
 Thickness of floating product if any: Sham
 Depth of well casing in water (feet): 12.68
 Number of gallons per well casing volume (gallons): 2.1
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 9
 Equipment used to purge the well: Dedicated Poly Bailor
 Time Evacuation Began: 10:12 Time Evacuation Finished: 10:32
 Approximate volume of groundwater purged: 9
 Did the well go dry?: no After how many gallons: -
 Time samples were collected: 10:35
 Depth to water at time of sampling: 9.02
 Percent recovery at time of sampling: 99%
 Samples collected with: Dedicated Poly Bailor
 Sample color: Clear Odor: Strong HE Odor
 Description of sediment in sample: none

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-1</u>	<u>3</u>	<u>40 ml VOAS</u>	<u>HEP</u>	<u>YES</u>	<u>TPHs / BTEX / MTBE</u>
<u>↓</u>	<u>1</u>	<u>1 L Amber</u>	<u>↓</u>	<u>↓</u>	<u>TPHO</u>
<u>↓</u>	<u>1</u>	<u>1 L Amber</u>	<u>↓</u>	<u>↓</u>	<u>046 BP</u>

APPENDIX B

Analytical Report and Chain of Custody Form

CHROMALAB, INC.

Environmental Services (SDB)

August 8, 1996

Submission #: 9608024

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ROMAK IRON WORKS
Received: August 2, 1996

Project#: 2657

re: One sample for Gasoline, BTEX & MTBE analysis.
Method: EPA 5030/8015M/8020

Client Sample ID: MW-1

Spl#: 93981


Sampled: August 1, 1996

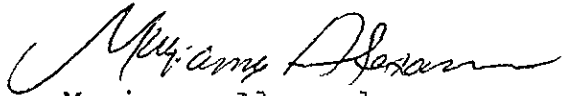
Matrix: WATER

Run#: 2468

Analyzed: August 6, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	11000	500	N.D.	104	10
BENZENE	1600	5.0	N.D.	120	10
TOLUENE	14	5.0	N.D.	116	10
ETHYL BENZENE	580	5.0	N.D.	103	10
XYLENES	66	5.0	N.D.	109	10
MTBE	N.D.	50	N.D.	107	10


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

August 9, 1996

Submission #: 9608024

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

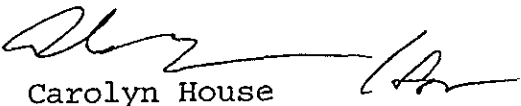
Project: ROMAK IRON WORKS
Received: August 2, 1996


Project#: 2657

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

Sampled: August 1, 1996 Matrix: WATER Extracted: August 9, 1996
Run#: 2530 Analyzed: August 9, 1996

Spl#	CLIENT SPL ID	OIL & GREASE (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
93981	MW-1	1.0	1.0	N.D.	96.0	1


Carolyn House
Extractions Supervisor


Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

August 9, 1996

Submission #: 9608024

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ROMAK IRON WORKS
Received: August 2, 1996

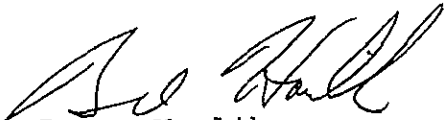
Project#: 2657


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

Sampled: August 1, 1996 Matrix: WATER Extracted: August 8, 1996
Run#: 2513 Analyzed: August 9, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
93981	MW-1	5100	51	N.D.	65.5	1

Note: Estimated concentration due to overlapping fuel patterns. Hydrocarbons in the gasoline range. Hydrocarbon reported in the Diesel range does not match our Diesel standard.


Bruce Havlik
Chemist


Alex Tam
Semivolatiles Supervisor

