aqua science engineers inc.

August 27, 1992

9/27/92

FINAL REPORT
SAMPLING SERVICES AND TANK PIT CLOSURE
at
Romak Iron Works
3250 Hollis Street
Oakland, CA 94608

Prepared for:

Romak Iron Works
3250 Hollis Street
Oakland, CA 94608

Submitted by:
Aqua Science Engineers
1041 Shary Circle
Concord, CA 94518
(510) 685-6700

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

aqua science engineers inc.

August 27, 1992

Romak Iron works
3250 Hollis Street
Oakland, California 94608

ATTENTION: Mr. Kevin Romak

SUBJECT: Final Report
Romak Iron Works
Oakland, California

Dear Mr. Romak:

In accordance with a letter dated June 9, 1992, Aqua Science Engineers, Inc. (ASE) obtained samples from the two on-site soil piles that contained excavated soils from the previous tank pulling exercises that occurred in mid January 1992. Upon the direction of Romak Iron Works (Romak) personnel, ASE did not backfill the excavation with clean imported fill. Instead, it was decided and approved by local agencies that the contaminated soil would be aerated, and after sampling and analytical testing showed below detectable levels of petroleum hydrocarbons, the soil would be put back into the excavation pit and compacted. The soils were separated upon excavation and stockpiled in two separate piles - one that contained clean overburden soil, the other containing what would be classified as contaminated by petroleum hydrocarbons. Please see the attached drawing, Figure 1, for location of the soil piles, Soil Aeration Cells A & B. For a period of approximately 5 months, Romak personnel (trained by ASE personnel) aerated the soil by use of a tractor and disk. Soil that was being aerated was done in small lifts, the remaining soil was left covered.

aqua science engineers inc.

92 AUG 28 AM 9:31

August 27, 1992

Alameda County Department of
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

ATTENTION: Ms. Susan Hugo
Senior Hazardous Materials Specialist

SUBJECT: Final Report - Sampling Services and Tank Pit Closure
Romak Iron Works
Oakland, California

Dear Ms. Hugo:

Please find attached a copy of Aqua Science Engineers, Inc's. (ASE) Final Report regarding Sampling Services and Tank Pit Closure for Romak Iron Works in Oakland, California. This report details the aeration of the stockpiled soils excavated from the tank pit, the sampling and analysis of the soils, and the backfilling and compaction of the former tank pit.

If you have any questions or comments, please feel free to give us a call at (510) 685-6700.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Engineer

Attachment: Final Report

The soils of each soil aeration cell were sampled on [redacted] by ASE Project Engineer Mr. Craig Hertz. Each soil cell was divided by a grid, and four samples were collected from each. The samples, identified as 1A and 2B on the enclosed Chain of Custody forms, were composited in the lab prior to analysis. Please see Appendix A for Chain of Custody Forms.

Sampling protocol included the necessary quality control measures to assure sample integrity. Each sample was collected by driving a 6-inch by 2-inch brass tube into the soil, using a wooden mallet when necessary. All soil samples were secured using aluminum foil, teflon caps, and sealed with duct tape. All samples were immediately put on ice and transported directly to Priority Environmental Labs in Milpitas, California for analysis of Total Petroleum Hydrocarbons as Gasoline (EPA 5030/8015) and BTEX (EPA 8020). Analytical results are compiled and displayed in Appendix A.

Sample analytical results were obtained from the laboratory within 5 days and results revealed that soil aeration cell B was below Non Detectable (ND) levels; however, soil aeration cell A still had detectable levels of petroleum hydrocarbons thereby requiring continued soil aeration by Romak personnel.

Approximately 3 weeks after the initial sampling results were obtained, ASE personnel arrived at the subject site to once again sample soil aeration cell A. During this interval, the soil had been aerated further by Romak personnel. As in the previous sampling, ASE personnel collected four soil samples and delivered them to the laboratory. As the enclosed Chain of Custody form in Appendix A shows, the samples were collected and delivered on July 13, 1992, composited by the laboratory, and labeled RIW-3C. Analysis performed was as before, EPA 5030/8015, and 8020. Results of the analytical testing can also be found in Appendix A.

Upon arrival of the results from the July 13 sampling, ASE found the soil aeration cell to be below detectable levels of contaminants, ND; therefore, the excavation pit could be backfilled with the aerated material. On August 5, 1992 ASE personnel Mr. Steve De Hope - Construction Supervisor, arrived on site and backfilled the excavation pit. Imported fill was delivered and incorporated with the existing soil to act as the fill. The soil was compacted, and a concrete cap was poured to match the existing surface.

ASE appreciates the opportunity to assist Romak Iron Works with their environmental needs. Should further assistance be required or questions or comments arise, please feel free to give us a call at (510) 685-6700.

Respectfully submitted,

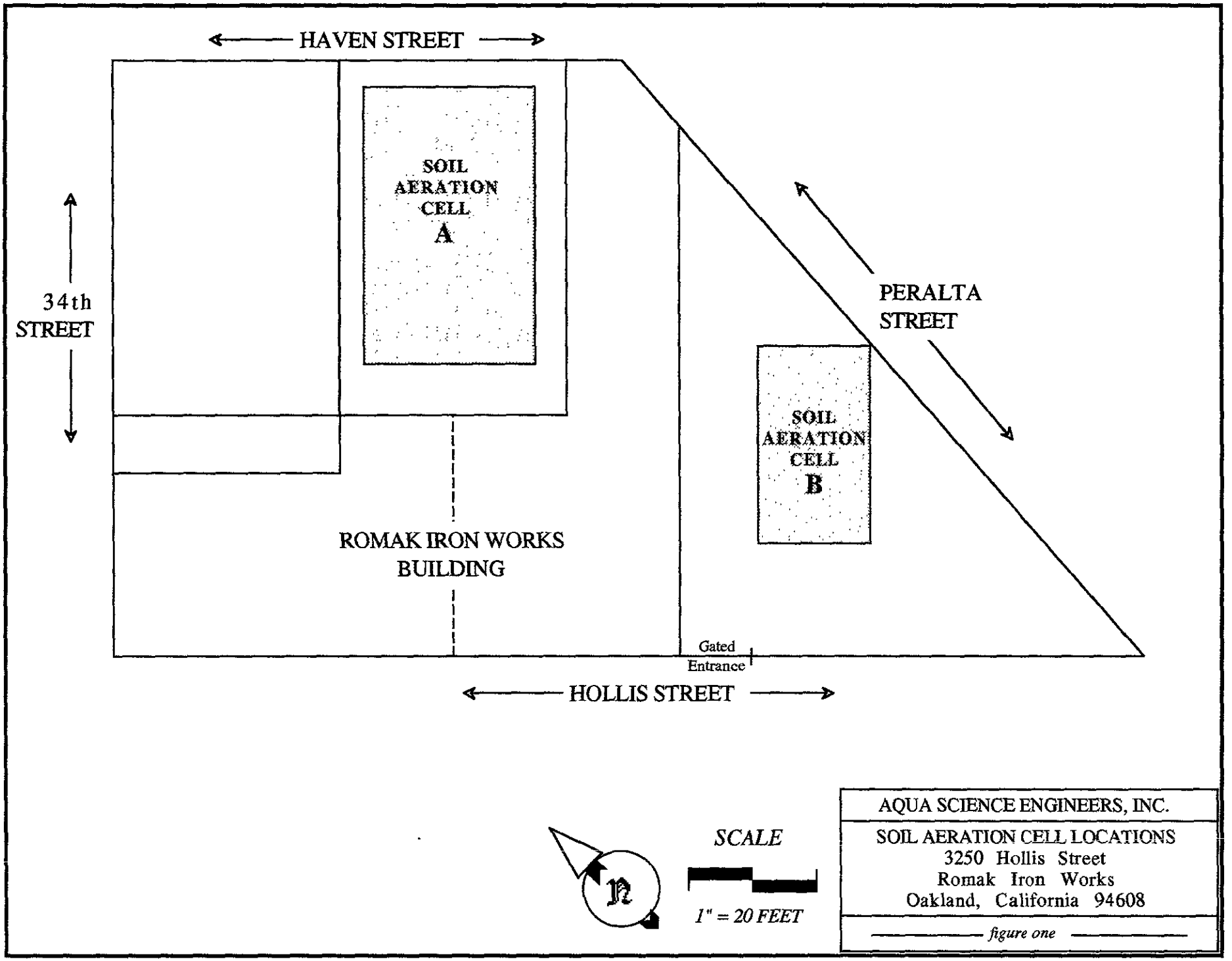
AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Engineer

Enclosures: Figure 1
Appendix A

cc: Ms. Susan Hugo, Alameda County Department of Environmental Health

Mr. Rich Heitt, Regional Water Quality Control Board, San Francisco Bay Region



AQUA SCIENCE ENGINEERS, INC.

SOIL AERATION CELL LOCATIONS
3250 Hollis Street
Romak Iron Works
Oakland, California 94608

figure one

APPENDIX A

Analytical Results
and
Chain of Custody Forms

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

June 29, 1992 PEL # 920650

AQUA SCIENCE ENGINEERS, INC.

Attn: Craig Hertz
Re: Two composited soil samples for Gasoline/BTEX analysis.

Project name: Romak -Oakland
Project location: 3250 Hollis St. -Oakland
Project number: 2470

Date sampled:June 23, 1992 Date submitted:June 26, 1992
Date extracted:June 26-27, 1992 Date analyzed:June 26-27, 1992

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
1A	1.0	N.D.	13	N.D.	83
1B	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	95.1%	99.7%	98.6%	87.9%	91.8%
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030 / 8015	8020	8020	8020	8020

David Duong
Laboratory Director

Aqua Science Engineers, Inc.
1041 Shary Circle, Concord, CA 94518
(510) 685-6700

Chain of Custody

DATE June 23, '92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
Craig Hertz (510) 685-6700

PROJECT NAME Romak - Oakland NO. 2470
ADDRESS 3250 Hollis Street, Oakland, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
Composite four soil samples labeled 1A. Composite four samples labeled 2B.

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 602/8020)	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)	PCB (EPA 608/8080)	PHENOLS (EPA 604/8040)	LUFT METALS (5) (EPA 6010+7000)	PRIORITY POLLUT. (13) (EPA 6010 ICP + 7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY		
1A	6/23	4:00	Soil	4		X																
2B	6/23	4:00	Soil	4		X																

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:	COMMENTS:
Craig Hertz 12:10			VICTOR DUONG	
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Craig Hertz 6/26			Victor Duong 12 05	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	Company- PRIORITY LAB 6/26/92	

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 16, 1992 PEL # 9207026

AQUA SCIENCE ENGINEERS, INC.

Attn: Craig Hertz
Re: One composited soil sample for Gasoline/BTEX analysis.

Project name: Romak -Oakland
Project location: 3250 Hollis St. -Oakland
Project number: 2470

Date sampled:July 13, 1992 Date submitted:July 16, 1992
Date extracted:July 16, 1992 Date analyzed:July 16, 1992

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
RIW-3C	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	90.3%	84.6%	88.5%	91.6%	97.4%
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030 / 8015	8020	8020	8020	8020

David Duong
Laboratory Director

PEL # 9207026

INV #

Custody

Aqua Science Engineers, Inc.
1041 Shary Circle, Concord, CA 94518
(510) 685-6700

DATE July 13, 92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
(510) 685-6700

PROJECT NAME Romak - Oakland NO. 2470

ADDRESS 3250 Hollis Street, Oakland

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 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 Fat or B&F)	PCB (EPA 608/8080)	PHENOLS (EPA 604/9040)	LUFT METALS (5) (EPA 6010+7000)	PRIORITY POLLUT. (13) (EPA 6010 ICP + 7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	
RIW-3C	7/13	10:00	Soil	4		X															

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:	COMMENTS:
Craig Hertz 8:45			8:45 AM	
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Craig Hertz 7/16			David Duane 7/16/92	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	Company- PEL	