aqua science engineers inc.

[redacted]

PROJECT REPORT
UNDERGROUND STORAGE TANK REMOVAL
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

TABLE OF CONTENTS

1.0 INTRODUCTION

This report documents the removal and related activities of the underground storage tank closure performed at Romak Iron Works located at 3250 Hollis Street, Oakland, California. As of the date of tank removal, the property is reportedly owned by Romak Iron Works of Oakland, California. The following tanks were removed from the site; two (2) 1,000 gallon unleaded gasoline underground storage tanks. The scope of services provided by Aqua Science Engineers, Inc. (ASE) is in accordance with ASE proposal No. 91-283 and includes the following tasks:

- o Obtain permits from the Alameda County Health Services Department and the Oakland Fire Department.
- o Remove and dispose of residual liquid from the tanks.
- o Remove and dispose of the underground storage tanks.
- o Sample the soil beneath the tanks.
- o Prepare a report of methods and findings.

2.0 PERMITS

The application for permits to remove the underground storage tanks were obtained from the Alameda County Health Services Department and the Oakland Fire Department. Copies of the permits and notification documents are contained in Appendix A.

3.0 MOBILIZATION

ASE mobilized for on-site work on January 15, 1992. Project personnel included: Craig Hertz- Project Manager, Steve De Hope- Construction Manager, David Prull- Senior Project Engineer, Field Personnel- Jeff Smith and Michael Dirk- Health and Safety Manager and Project Administration.

3.1 EXCAVATION

Prior to excavation, ASE inspected the tanks to confirm that only residual liquids remained, tested the Lower Explosive Limit of the vapor

within the tanks, then commenced to cut and remove the concrete cover over the tanks. The associated fill pipe and product supply pipe were disassembled and removed, and soil was excavated to expose the tanks on top and along two sides. Native material around the tank consisted of a layered medium brown clay with some medium and fine gravel to a depth of the 8 feet. Groundwater was not encountered during the tank removal.

Tank backfill material was classified as a light brown poorly graded sand. Excavated backfill material appeared discolored and there were odors of petroleum products in the area below the tank.

There were no obvious holes in the tank and there was no significant evidence of corrosion. Overspill protection devices were in place.

3.2 REMOVAL

ASE and Waste Oil Recovery Systems triple rinsed, pumped all liquids from the tank and transported the liquids to the Demenno Kerdoon recycling facility in Compton, California. A hazardous waste manifest is located in appendix B in this report.

Prior to tank removal on the morning of January 15, 1992, ASE inerted the tanks by adding dry ice at the rate of at least 1.5 pounds per 100 gallons of tank volume. The tank removal operations were witnessed by the Alameda County Health Services Department Inspector- Susan Hugo, the Oakland Fire Department Inspector- Marlon Brandle and Craig Hertz of ASE.

After verifying a safe LEL of the tank atmosphere, the vessel was removed from the excavation. The tank was constructed of 1/4" plate steel with welded seams. The tank was tar coated. No significant corrosion of the tank exterior was noted.

The tank was transported by a licensed hazardous waste hauler, Erickson, Inc., to the Erickson Tank Disposal Facility in Richmond, CA, on

the date of removal. Copies of the Hazardous Waste Manifest and Tank Disposal Certificate are contained in Appendix B.

4.0 SAMPLING AND ANALYSIS

Soil samples were collected from the excavation between 3:30 and 4:30 PM, by Project Engineer, Craig Hertz of ASE trained in sampling protocol by a registered civil engineer. Soil sampling was performed at the direction of the Alameda County Health Services Department Inspector Susan Hugo.

Soil samples were collected from the tank excavation wall in the native material below each end of the tank at approximately **8 feet below** grade. The sampling locations are shown on the site map in figure 1. A soil sample of the stockpiled material was collected by driving a 6-inch by 2-inch brass tube into the soil using a wooden mallet when necessary. The sample of stockpiled soil was taken as a composite of **four subsamples.** The four samples were composited as one sample at the laboratory. One sample was taken at the location of the dispensers. All soil samples were secured using aluminum foil, teflon caps and sealed with duct tape. All samples were put on ice and transported directly to the analyzing laboratory under chain of custody procedures.

The samples were submitted for analysis to the state certified laboratory, Chromalab, Inc. in San Ramon, California (510) 831-1788. The soil samples taken were analyzed for Total Petroleum Hydrocarbons as Gasoline (EPA 5030/8015), and BTEX (EPA 8020).

TABLE ONE:
SOIL SAMPLE RESULTS, TOTAL PETROLEUM HYDROCARBONS
GASOLINE & BENZENE, TOLUENE, ETHYLBENZENE, XYLENE

Sample NO.	TPH GASOLINE (PPM)	BENZENE (PPB)	TOLUENE (PPB)	ETHYL BENZENE (PPB)	TOTAL XYLENES (PPB)
AWEST	**2.7**	**13**	5.3	16	170
AEAST	**180**	**510**	270	120	17000
ASTKP	**850**	**770**	610	4900	60000
BNORTH	N.D.	N.D.	N.D.	N.D.	N.D.
BSOUTH	N.D.	N.D.	N.D.	N.D.	13
BSTKP	1.5	N.D.	N.D.	N.D.	150
3DISP1OF1	N.D.	N.D.	N.D.	N.D.	N.D.

ND - Non Detectable at analytical method limits
PPM - parts per million
PPB - parts per billion

In total, approximately 55 cubic yards of material were removed from the excavation and stockpiled.

Overexcavation and resampling was performed on January 16. Soil samples were collected from the tank excavation wall in the native material at approximately 9 feet below grade. The sampling locations are shown on the site map in figure 2 and the results are shown below in Table Two.

TABLE TWO:
SOIL SAMPLE RESULTS, TOTAL PETROLEUM HYDROCARBONS
GASOLINE & BENZENE, TOLUENE, ETHYLBENZENE, XYLENE

Sample NO.	TPH GASOLINE (PPM)	BENZENE (PPB)	TOLUENE (PPB)	ETHYL BENZENE (PPB)	TOTAL XYLENES (PPB)
OEXC-1A	11	120	7.2	99	400
OEXC-2B	1.0	78	13	16	56
OEXC-3C	N.D.	N.D.	N.D.	N.D.	N.D.
OEXC-4D	N.D.	N.D.	N.D.	N.D.	N.D.

ND - Non Detectable at analytical method limits
PPM - parts per million
PPB - parts per billion

In total, approximately 20 cubic yards of material were removed from the excavation and stockpiled.

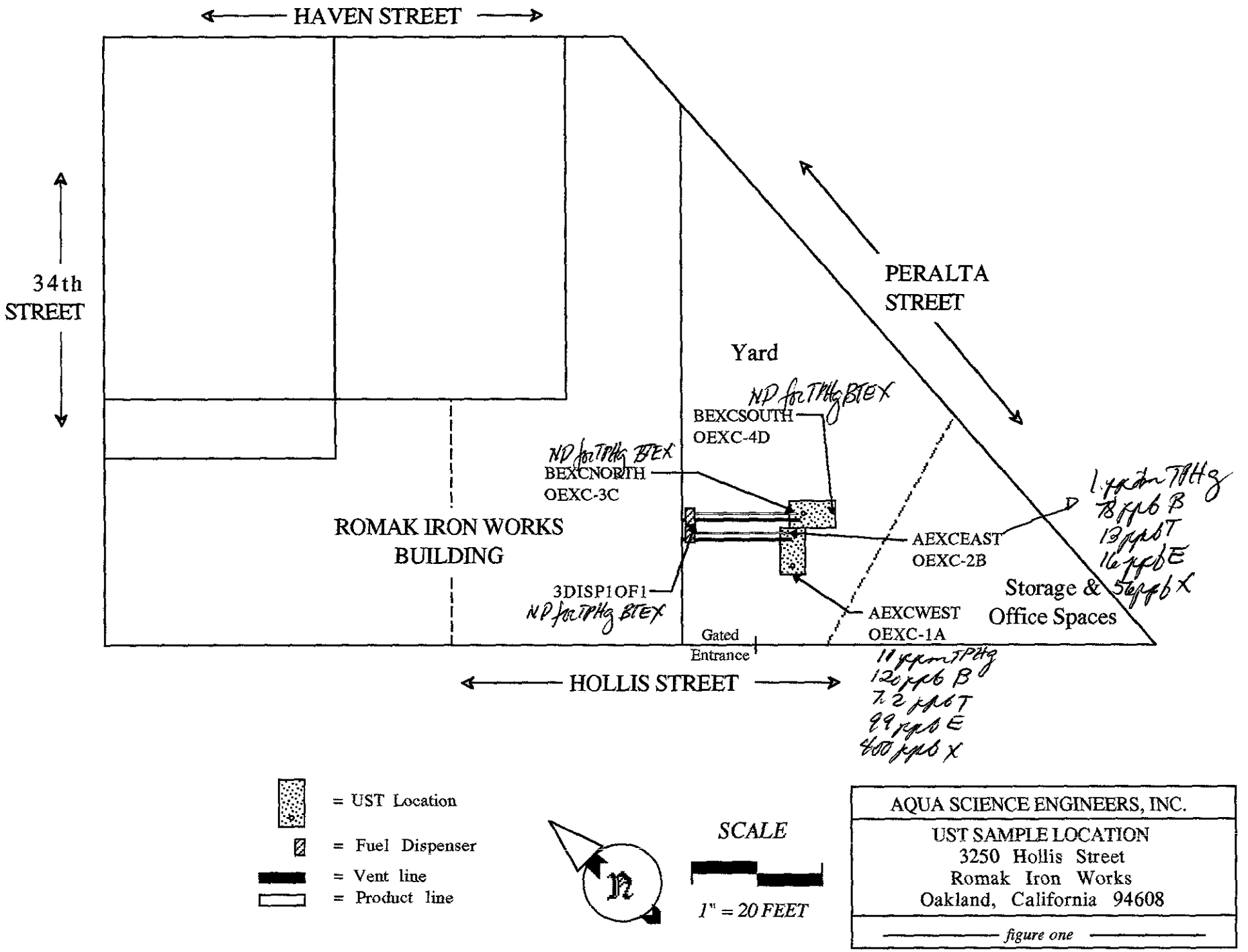
5.0 BACKFILLING AND RESURFACING

At the request of Danny Sutton, the purchasing agent of Romak Iron Works the tank pit was not backfilled and resurfaced. The excavated material and the clean imported backfill material is stockpiled next to the excavation.

6.0 DISCUSSION AND CONCLUSIONS

Two 1,000 gallon underground storage tanks last containing gasoline were removed from the site and transported as hazardous waste to the Erickson Facility in Richmond California, to be cleaned and disposed of as scrap metal.

Soil samples from the excavation showed detectable concentrations of petroleum hydrocarbons and BTEX. ASE mobilized on site the following day in order to overexcavate and resample the excavations. Laboratory Analysis revealed detectable concentrations of petroleum hydrocarbons and BTEX within the native soil after overexcavation. The native soil at this elevation appeared clean, dry, and free of petroleum odor. A copy of each of the certified laboratory results appear in Appendix C. An underground storage tank unauthorized release form was prepared by Aqua Science and filed with the Alameda County Health Services Department. A copy of this form is in Appendix D.


HAVEN STREET
34th STREET
PERALTA STREET
Yard
ND for TPHg BTEX
BEXCSOUTH
OEXC-4D
ND for TPHg BTEX
BEXCNORTH
OEXC-3C
ROMAK IRON WORKS BUILDING
AEXCEAST
OEXC-2B
1. ppm TPHg
78 ppb B
13 ppb T
16 ppb E
56 ppb X
3DISP1OF1
ND for TPHg BTEX
AEXCWEST
OEXC-1A
Storage & Office Spaces
Gated Entrance
HOLLIS STREET
11 ppm TPHg
120 ppb B
7.2 ppb T
99 ppb E
400 ppb X
= UST Location
= Fuel Dispenser
= Vent line
= Product line
N
SCALE
1" = 20 FEET
AQUA SCIENCE ENGINEERS, INC.
UST SAMPLE LOCATION
3250 Hollis Street
Romak Iron Works
Oakland, California 94608
figure one

APPENDIX A

PERMITS

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320

Project Specialist (print) SUSAN L-HUGO

ACCEPTED
DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, CA 94612
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially meet the requirements of State and local health laws. Changes to your plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction.

One copy of these accepted plans must be on the job and available to all contractors and craftsmen involved with the removal.

Any change or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspection Department to determine if such changes meet the requirements of State and local laws.

Notify this Department at least 48 hours prior to the following required inspections:

- ✓ Removal of Tank and Piping
- ✓ Sampling
- ✓ Final Inspection

Issuance of a permit to operate is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS.

Please note changes made on page 5.
Susan L. Hugo
1/10/92

UNDERGROUND TANK CLOSURE PLAN

*** * * Complete according to attached instructions * * ***

1. Business Name Romak Iron Works

   Business Owner Kevin Romak

2. Site Address 3250 Hollis St.

   City Oakland Zip 94608 Phone (510) 658-0588

3. Mailing Address 3250 Hollis St.

   City Oakland Zip 94608 Phone (510) 658-0588

4. Land Owner Kevin Romak

   Address 3250 Hollis St. City, State Oakland, CA Zip 94608

5. Generator name under which tank will be manifested

   Romak Iron Works

   EPA I.D. No. under which tank will be manifested CAL000033897

rev 12/90

6. Contractor Aqua Science Engineers, Inc.

Address 1041 Shary Circle

City Concord Phone (510) 685-6700

License Type A ID# 487000

7. Consultant Aqua Science Engineers, Inc.

Address 1041 Shary Circle

City Concord Phone (510) 685-6700

8. Contact Person for Investigation

Name Craig Hertz Title Project Engineer

Phone (510) 685-6700

9. Number of tanks being closed under this plan 2

Length of piping being removed under this plan Less than 20 feet

Total number of tanks at facility 2

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled ** as hazardous waste

a) Product/Residual Sludge/Rinsate Transporter

Name Waste Oil Recovery EPA I.D. No. CAD000626515

Hauler License No. DOHS - 843 Cal Pud - 106399 License Exp. Date 4/92

Address 6401 Leona Street

City Oakland State Ca Zip 94605

b) Product/Residual Sludge/Rinsate Disposal Site

Name Demenno Kerdoon EPA I.D. No. CAT080013352

Address 2000 N. Alameda

City Compton State Ca Zip 90221

c) Tank and Piping Transporter

Name Erickson, Inc. EPA I.D. No. CAD009466392

Hauler License No. 0019 License Exp. Date 5/92

Address 255 Parr Blvd.

City Richmond State Ca Zip 94801

d) Tank and Piping Disposal Site

Name Erickson, Inc. EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City Richmond State Ca Zip 94801

11. Experienced Sample Collector

Name Craig Hertz

Company Aqua Science Engineers, Inc.

Address 1041 Shary Circle

City Concord State Ca Zip 94518 Phone (510) 685-6700

12. Laboratory

Name Chromalab, Inc.

Address 2239 Omega Road, #1

City San Ramon State Ca Zip 94583

State Certification No. E-694

13. Have tanks or pipes leaked in the past? Yes [ ] No [X]

If yes, describe. _____

14. **Describe methods to be used for rendering tank inert**

Tank will be inerted by introducing dry ice into the tank at a rate of at least 1.5 lbs of dry ice per 100 gallons of tank volume. LEL will be checked prior to actual tank pull.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. **It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.**

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, groundwater, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
1000 Gallons	Gasoline	Soil and/or groundwater if present.	2 feet below the bottom of the tank.
1000 Gallons	Gasoline	Soil and/or groundwater if present.	2 feet below the bottom of the tank.

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated) 50 yards	**Sampling Plan** Drive a 6" x 2" brass tube into the soil at each end of the tank, seal ends with aluminum foil and plastic caps, chill in cooler wih blue ice. Transport to the labratory under chain of custody procedures and sample for TPH-Gasoline and BTEX.

* Stockpiled Soil must be characterized depending on disposal method.

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. Chemical methods and associated detection limits to be used for analyzing samples

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
TPH-Gasoline	5030	GC-FID	1.0 ppm
BTEX	8020	8240	.005 ppm
Total Lead	AA		

17. Submit Site Health and Safety Plan (See Instructions)

[illegible] Compensation Certificate Copy

Name of Insurer Ohio Casualty Group

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. **Report any leaks or contamination to this office within 5 days of discovery.** The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) Aqua Science Engineers, Inc.

Signature Craig Neff

Date January 7, 1991

Signature of Site Owner or Operator

Name (please type) Kevin Romak

Signature [signature]

Date 1/8/92

rev 12/90

Excavation Permit granted _____ No. _____

CITY OF OAKLAND

Tank Permit

Permit to Excavate and Install, Repair, or Remove Inflammable Liquid Tanks. No. 9537

Oakland, California, January 13, 19 92

PERMISSION IS HEREBY GRANTED TO ~~xxxxxx~~ remove ~~xxxxxx~~ Gasoline tank and excavate commencing _____ feet inside property line

on the S/W side of 3250 Hollis Street Street Avenue _____ feet _____ of _____ Street Avenue

House No. 3250 Hollis Street Street Avenue Present Storage _____

Owner Romak Iron Works Address 3250 Hollis Street Phone 658-0588

Applicant Aqua Science Engineers, Inc. Address 1041 Shary Circle Concord 94518 Phone 685-6700

Dimensions of street (sidewalk) surface to be disturbed _____ X _____ Number of Tanks 2 Capacity 1000 Gallons, each.

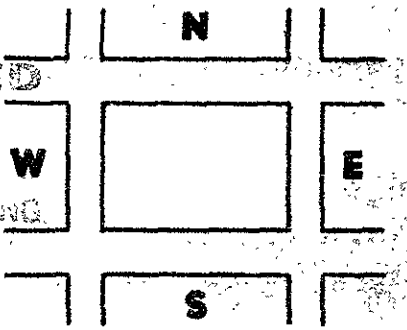
Remarks: _____

This Permit is granted in accordance with existing City Ordinances.
Owner hereby agrees to remove tanks on discontinuance of use or when notified by the City Authorities.
When installing, removing or repairing tanks, no open flame to be on or near premises.

Approved _____ Fire Marshal

Approved _____ Drainage Division Engineering Dept.

RECEIVED
JAN 14 1992
AQUA SCIENCE ENG.



EXCAVATING PERMIT

Issued in accordance with Ord. No. 278 CMS, Sec. 6-2.04

_____ square feet of digging or removal granted.

The receipt of $ _____ special deposit is hereby acknowledged.

GENERAL DEPOSIT.

BUREAU OF PERMITS AND LICENSES.

CERTIFICATE OF TANK AND EQUIPMENT INSPECTION

Inspected and passed on _____ 19 _____

By _____ Fire Marshal

Inspection Fee Paid - - - - - - - - - $120.00 ck#014346 rec#661780

Received by D. Clemons
FIRE PREVENTION BUREAU

NOTICE

Before Covering Tanks, Above Certificate Must Be Signed.

When ready for inspection notify Fire Prevention Bureau, 273-3851

THIS PERMIT MUST BE LEFT ON THE WORK AS AUTHORITY THEREFOR.

338.68 (6-67)

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000

REGULATION 8, RULE 40
Aeration of Contaminated Soil and Removal of Underground Storage Tanks

NOTIFICATION FORM

__X__ Removal or Replacement of Tanks
____ Excavation of Contaminated Soil

Grove

SITE INFORMATION

SITE ADDRESS 3250 Hollis Street

CITY, STATE Oakland, CA ZIP 94608

OWNER NAME Romak Iron Works

SPECIFIC LOCATION OF PROJECT South west entrance within the property lines

TANK REMOVAL

SCHEDULED STARTUP DATE 1/14/92

VAPORS REMOVED BY:

[ ] WATER WASH
[X] VAPOR FREEING (CO^2)
[ ] VENTILATION

CONTAMINATED SOIL EXCAVATION

SCHEDULED STARTUP DATE _____

STOCKPILES WILL BE COVERED? YES X NO ____

ALTERNATIVE METHOD OF AERATION (DESCRIBE BELOW):

_____
(MAY REQUIRE PERMIT)

CONTRACTOR INFORMATION

NAME Aqua Science Engineers, Inc CONT

ADDRESS 1041 Shary Circle PHON

CITY, STATE, ZIP Concord, CA 94518

CONSULTANT I
(IF APPLI

NAME N/A CON

ADDRESS _____ PHO

CITY, STATE, ZIP _____

ACKNOWLEDGMENT

Bay Area Air Quality Management District acknowledges receipt of your Tank Removal/Contaminated Soil Excavation Notification Form received on 1/8/92.

FOR OFFICE USE ONLY

DATE RECEIVED FAX 1/8/92 BY Blg (init.)

DATE POSTMARKED _____ BY _____ (init.)

CC: INSPECTOR NO. 524 DATE 1/13/92 BY Blg (init.)

UPDATE: CONTACT NAME _____ DATE _____ BY _____ (init.)

SAAQMD N # _____ DATA ENTRY 1/13/92

• See reverse for instructions

APPENDIX B

HAZARDOUS WASTE MANIFEST

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-91)
Please print or type. *Form designed for use on elite (12-pitch typewriter).*

See Instructions on Back of Page 6 and Front of Page 7

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CAL000038707 | Manifest Document No.: [illegible]
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

A. State Manifest Document Number: 90387004

3. Generator's Name and Mailing Address: RONAK IRON WORKS, 325 HOLLIS ST, OAKLAND CA 94608
4. Generator's Phone: 510 [redacted]

B. State Generator's ID

5. Transporter 1 Company Name: WASTE OIL RECOVERY
6. US EPA ID Number: CAD00826515

C. State Transporter's ID: 204452
D. Transporter's Phone: 510 [illegible]

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: DEMENNO KERDOON, 2000 N ALAMEDA, COMPTON CA
10. US EPA ID Number: CAT080013352

G. State Facility's ID
H. Facility's Phone: 213 537 7100

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. PETROLEUM OIL N.O.S. (WASTE OILS) COMBUSTIBLE LIQUID N.A. 1270	01	TT	±200	G	State 221 / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above: H_2O + WASTE MOTOR FUELS

K. Handling Codes for Wastes Listed Above: a. 01-R b. c. d.

15. Special Handling Instructions and Additional Information: WEAR GLOVES

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: DANNY QUINON FOR RONAK IRON WORKS | Signature: [signature] | Month Day Year: 01 15 92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: MONICA FALCON | Signature: [signature] | Month Day Year: 01 15 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name | Signature | Month Day Year

GENERATOR / TRANSPORTER / FACILITY

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

90387004

DHS 8022 A
EPA 8700—22
(Rev. 6-89) Previous editions are obsolete.

Do Not Write Below This Line

YELLOW: GENERATOR RETAINS

State of California—Health and Welfare Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-91)
Please print or type. Form designed for use on elite (12-pitch typewriter).

See Instructions on Back of Page 6 and Front of Page 7

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CAL000010238	7174176		

3. Generator's Name and Mailing Address
ROMAK IRON WORKS
3250 HOLLIS ST
OAKLAND, CA 94608
4. Generator's Phone 510-658-0588

A. State Manifest Document Number 90792022
B. State Generator's ID
C. State Transporter's ID 206710
D. Transporter's Phone 510-232-1292
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone (510) 235-1393

5. Transporter 1 Company Name	6. US EPA ID Number
ERICKSON INC	CAD009416172
7. Transporter 2 Company Name	8. US EPA ID Number

9. Designated Facility Name and Site Address	10. US EPA ID Number
Erickson, Inc. 255 Parr Blvd. Richmond, Ca. 94801	CAD009466172

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Empty Storage Tank NON-RCRA Hazardous Waste Solid.	01	CM	2470		State 512 EPA/Other
b.					State NONE EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Qty. 2 Empty Storage Tank (s) #7953, 7954
_____, _____. Tank (s) have been inerted with 15 lbs. Dry Ice per 1000 Gal. Capacity.

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
Keep away from sources of ignition. Always wear hardhats when working around U.S.T.'s 24 Hr. Contact Name KEVIN ROMAK & Phone #510-658-0588

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature]	01	11	92

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
KENNETH PHILLIPS	[signature]	01	11	92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature]			

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR
TRANSPORTER
FACILITY

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

90792022

DHS 8022 A
EPA 8700—22
(Rev. 6-89) Previous editions are obsolete.

Do Not Write Below This Line

YELLOW: GENERATOR RETAINS

DAY OR NIGHT
TELEPHONE
(510) 235-1393

CERTIFICATE

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 11687

CUSTOMER AQUA SCI

JOB NO. 77476

FOR: Erickson, Inc. TANK NO. 7953

LOCATION: Richmond DATE: 01/20/92 TIME: 10:02:17

TEST METHOD Visual Gastech/1314 SMPN LAST PRODUCT LG

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 1000 Gallon Tank CONDITION SAFE FOR FIRE

REMARKS: OXYGEN 20.9%

LOWER EXPLOSIVE LIMIT LESS THAN 0.1%

"ERICKSON INC. HEREBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS WASTE FACILITY."

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissable concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

K. Brugger

REPRESENTATIVE TITLE

DAY OR NIGHT
TELEPHONE
(510) 235-1393

CERTIFICATE

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 11688

CUSTOMER AQUA SCI

JOB NO. 77476

FOR: Erickson, Inc. TANK NO. 7954

LOCATION: Richmond DATE: 01/20/92 TIME: 10:02:17

TEST METHOD Visual Gastech/1314 SMPN LAST PRODUCT LG

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 1000 Gallon Tank CONDITION SAFE FOR FIRE

REMARKS: OXYGEN 20.9%

LOWER EXPLOSIVE LIMIT LESS THAN 0.1%

"ERICKSON INC. HEREBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS WASTE FACILITY."

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissable concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

K. Hughes

REPRESENTATIVE TITLE INSPECTOR

APPENDIX C

LABORATORY ANALYSIS
and
CHAIN OF CUSTODY SHEET

aqua science engineers inc.

Aqua Science Engineers, Inc.
PO Box 535, San Ramon CA 94583
(415) 820-9391

Chain of Custody

DATE 1/15/92 PAGE 1 OF 1

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

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

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

Composite ASTKP1of4, ASTKP2of4, ASTKP3of4 and ASTKP4of4.
Composite all BSTKP Samples(4).

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
AEXCWEST	1/15	4:00	Soil	1		X														
AEXCEAST	1/15	4:00	Soil	1		X														
ASTKP1-4	1/15	4:00	Soil	4		X														
BEXCNORTH	1/15	4:00	Soil	1		X														
BEXCSOUTH	1/15	4:00	Soil	1		X														
BSTKP1-4	1/15	4:00	Soil	4		X														
3Disp1of1	1/15	4:00	Soil	1		X														

CHROMALAB FILE # 192110
ORDER # 3119

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:
Craig Hertz 2:45			Rafael A. Maglon
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)
Craig Hertz 1/16			Rafael A. Maglon 1/16/92
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)
Company- ASE	Company-	Company-	Company-

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

January 23, 1992 ChromaLab File No.: 0192110

AQUA SCIENCE ENGINEERS, INC.

Attn: Craig Hertz

RE: Seven soil samples for Gasoline/BTEX analysis

Project Name: ROMAK IRON WORKS8
Project Location: 3250 Hollis Street, Oakland, CA
Project Number: 2470
Date Sampled: Jan. 15, 1992 Date Submitted: Jan. 16, 1992
Date Extracted: Jan. 21-22, 1992 Date Analyzed: Jan. 22-23,1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
AEXCWEST	2.7	13	5.3	16	170
AEXCEAST	180	510	270	120	17000
ASTKP1-4*	850	770	610	4900	60000
BEXCNORTH	N.D.	N.D.	N.D.	N.D.	N.D.
BEXCSOUTH	N.D.	N.D.	N.D.	N.D.	13
BSTKP1-4*	1.5	N.D.	N.D.	N.D.	150
3DISP 1 of 1	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	96%	87%	96%	94%	96%
DUP. SPIKE RECOVERY	88%	79%	87%	84%	86%
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/8015	8020	8020	8020	8020

ChromaLab, Inc.

Mary Cappelli
Analytical Chemist

Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

KRUGER LAB FILE # 192118
ORDER # ~~2-11119~~ 5130

aqua science engineers inc. (415) 820-9391 1583

Chain of Custody

DATE 1-16-92 PAGE 1 OF 1

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

PROJECT NAME Romak Iron Works NO. 2470
ADDRESS 3250 Hollis St

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/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 B&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	
OEXC-1A	1-16	2:00	S	1		X															
OEXC-2B	1-16	2:15	S	1		X															
OEXC-3C	1-16	2:30	S	1		X															
OEXC-4D	1-16	2:45	S	1		X															

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:
(signature) Steve DeHaar (time) 9:00	(signature) Craig Hertz 9:00 (time)	(signature) Craig Hertz 11:01 (time)	(signature) Robert A. Markum 11:00 (time)
(printed name) Steve DeHaar (date) 1-17-92	(printed name) Craig Hertz 1/17/92 (date)	(printed name) Craig Hertz 1/17/92 (date)	(printed name) Robert A. Markum (date)
Company- ASE	Company- ASE	Company- ASE	Company- Chromalab

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

January 23, 1992 ChromaLab File No.: 0192118

AQUA SCIENCE ENGINEERS, INC.

Attn: Craig Hertz

RE: Four soil samples for Gasoline/BTEX analysis

Project Name: ROMAK IRON WORKS8
Project Location: 3250 Hollis Street, Oakland, CA
Project Number: 2470
Date Sampled: Jan. 15, 1992 Date Submitted: Jan. 16, 1992
Date Extracted: Jan. 22, 1992 Date Analyzed: Jan. 23, 1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
OEXC-1A	11	120	7.2	99	400
OEXC-2B	1.0	78	13	16	56
OEXC-3C	N.D.	N.D.	N.D.	N.D.	N.D.
OEXC-4D	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	96%	87%	96%	94%	96%
DUP. SPIKE RECOVERY	88%	79%	87%	84%	86%
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/8015	8020	8020	8020	8020

ChromaLab, Inc.

Mary Cappelli
Analytical Chemist

Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

APPENDIX D

UNDERGROUND STORAGE TANK
UNAUTHORIZED RELEASE FORM

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☒ NO

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I HAVE DISTRIBUTED THIS INFORMATION ACCORDING TO THE DISTRIBUTION SHOWN ON THE INSTRUCTION SHEET ON THE BACK PAGE OF THIS FORM.
SIGNED _____ DATE _____

REPORT DATE: 01 12 92 | CASE #:

REPORTED BY
NAME OF INDIVIDUAL FILING REPORT: Kevin Romak | PHONE: (510) 658-0588 | SIGNATURE: K. Romak
REPRESENTING ☒ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☐ OTHER _____
COMPANY OR AGENCY NAME: Romak Iron Works
ADDRESS: 3250 Hollis St. (STREET) Oakland (CITY) CA (STATE) 94608 (ZIP)

RESPONSIBLE PARTY
NAME: Romak Iron Works ☐ UNKNOWN | CONTACT PERSON: Kevin Romak | PHONE: (510) 658-0588
ADDRESS: 3250 Hollis St. (STREET) Oakland (CITY) CA (STATE) 94608 (ZIP)

SITE LOCATION
FACILITY NAME (IF APPLICABLE): Romak Iron Works | OPERATOR: Kevin Romak | PHONE: (510) 658-0588
ADDRESS: 3250 Hollis St. (STREET) Oakland (CITY) CA (COUNTY) 94608 (ZIP)
CROSS STREET: Peralta St.

IMPLEMENTING AGENCIES
LOCAL AGENCY / AGENCY NAME: Alameda County Health Agency | CONTACT PERSON: Susan Hugo | PHONE: (510) 658-0588
REGIONAL BOARD: San Francisco Bay Region | Eddy So | PHONE: (510) 658-0588

SUBSTANCES INVOLVED
(1) NAME: Unleaded Gasoline | QUANTITY LOST (GALLONS): _____ ☒ UNKNOWN
(2) _____ ☐ UNKNOWN

DISCOVERY/ABATEMENT
DATE DISCOVERED: 01 11 92 | HOW DISCOVERED: ☐ INVENTORY CONTROL ☐ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☒ TANK REMOVAL ☐ OTHER _____
DATE DISCHARGE BEGAN: __ __ __ __ __ __ ☒ UNKNOWN
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY): ☐ REMOVE CONTENTS ☒ CLOSE TANK & REMOVE ☐ REPAIR PIPING ☐ REPAIR TANK ☐ CLOSE TANK & FILL IN PLACE ☐ CHANGE PROCEDURE ☐ REPLACE TANK ☐ OTHER _____
HAS DISCHARGE BEEN STOPPED? ☒ YES ☐ NO IF YES, DATE 01 11 92

SOURCE/CAUSE
SOURCE OF DISCHARGE: ☐ TANK LEAK ☒ UNKNOWN ☐ PIPING LEAK ☐ OTHER
CAUSE(S): ☒ OVERFILL ☐ RUPTURE/FAILURE ☐ SPILL ☐ CORROSION ☐ UNKNOWN ☐ OTHER _____

CASE TYPE
CHECK ONE ONLY: ☒ UNDETERMINED ☐ SOIL ONLY ☐ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS
CHECK ONE ONLY:
☐ NO ACTION TAKEN ☐ PRELIMINARY SITE ASSESSMENT WORKPLAN SUBMITTED ☐ POLLUTION CHARACTERIZATION
☒ LEAK BEING CONFIRMED ☐ PRELIMINARY SITE ASSESSMENT UNDERWAY ☐ POST CLEANUP MONITORING IN PROGRESS
☐ REMEDIATION PLAN ☐ CASE CLOSED (CLEANUP COMPLETED OR UNNECESSARY) ☐ CLEANUP UNDERWAY

REMEDIAL ACTION
CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT)
☒ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ CONTAINMENT BARRIER (CB) ☐ NO ACTION REQUIRED (NA) ☐ TREATMENT AT HOOKUP (HU) ☐ VENT SOIL (VS)
☐ VACUUM EXTRACT (VE) ☐ OTHER (OT) _____

COMMENTS

HSC 6C (8/93)

1/8/92

HEALTH & SAFETY PLAN

for the

ROMAK IRON WORKS JOBSITE
3250 HOLLIS STREET
OAKLAND, CA 94608

prepared by

Aqua Science Engineers, Inc.
1041 Shary Circle
Concord, CA 94518
1 (800) 678-9391

AQUA SCIENCE ENGINEERS

signature page for

Romak Iron Works Jobsite

The below signed personnel have read this plan, understand it's content, and agree to follow the guidelines set forth.

Employee Name (print)	Signature	Date

AQUA SCIENCE ENGINEERS, INC.
HEALTH & SAFETY PLAN
for the
ROMAK IRON WORKS JOBSITE

A. GENERAL DESCRIPTION

Site: 3250 HOLLIS STREET, OAKLAND CALIFORNIA

Work Scope: AQUA SCIENCE ENGINEERS WILL REMOVE TWO 1,000 GALLON GASOLINE TANKS, HAVE THE TANKS DISPOSED OF ACCORDING TO THE STATE AND LOCAL REGULATIONS. BACKFILL THE EXCAVATION USING CLEAN IMPORTED SOIL AND CLEAN OVERBURDEN FROM THE EXCAVATION. RESURFACE THE EXCAVATION WITH ASPHALT AS PER CONTRACT.

SAFETY POLICY:

This Health and Safety Plan is written specifically for the Romak Iron Works jobsite, located at 3250 Hollis Street, Oakland California. All persons on site will follow OSHA safe operating practices as outlined in 29 CFR 1910 and 1926, as well as established guidelines from their respective companies or organizations.

Plan Prepared by: Michael D. Dirk Date: 1/8/92

Plan Approved by: David Prull Date: 1/8/92

Proposed Start Date: TO BE DETERMINED

Background Review Done? Complete: XXXXX
Preliminary:

Overall Hazard Level: Serious: Low: XXX
Moderate: XXX Unknown:

Project Organization:

Site Manager for A.S.E.: David Prull
A.S.E. Safety Officer: Michael Dirk
Other A.S.E Personnel: ~~Steve DeHope~~, Craig Hertz

B. SITE/WASTE CHARACTERISTICS

Waste Type(s): Solid: XXXX Sludge:
Liquid: Gas:

Characteristics: GASOLINE RESIDUALS, COMBUSTIBLE, TOXIC

Site Parameter: THE EXCAVATION PIT AS WELL AS ANY STOCKPILED MATERIAL ARE IDENTIFIED AS EXCLUSION ZONES. A MINIMUM BOUNDARY OF THREE FEET SURROUNDING BOTH IS TO BE MAINTAINED IN AS MUCH AS IS POSSIBLE.

C. HAZARD EVALUATION

CHEMICAL HAZARDS

Potential chemical hazards include skin and eye contact or inhalation exposure to potentially toxic concentrations of hydrocarbon vapors. The potential toxic compounds that may exist at the site are listed below, with descriptions of specific health effects of each. The list includes the primary potential toxic constituents that may be found in gasoline. (excerpted from NIOSH Pocket Guide to Chemical Hazards, June 1990).

1. BENZENE
a. Colorless, clear, highly flammable liquid with characteristic odor.
b. High exposure levels may cause acute restlessness, convulsions, depression, respiratory failure. *BENZENE IS A SUSPECTED CARCINOGEN.*
c. Permissible exposure level (PEL) for a time weighted average (TWA) over an eight hour period is 1.0 ppm.

2. TOLUENE
a. Colorless liquid with a benzene-like odor.
b. High exposure levels may cause fatigue, euphoria, confusion, dizziness. *TOLUENE IS LESS TOXIC THEN BENZENE.*
c. PEL for a ten hour TWA is 100 ppm.

3. XYLENE
a. Colorless, flammable liquid with aromatic odors.
b. high exposure levels may case dizziness, drowsiness, narcosis.
c. PEL for a ten hour TWA is 100 ppm.

4. ETHYLBENZENE
a. Clear, colorless, highly flammable liquid with characteristic odor.
b. High exposure levels may cause irritation to skin, nose and throat, constriction in chest, loss of consciousness, respiratory failure.
c. PEL for an eight hour TWA is 100 ppm.

5. LEAD
(Lead Arsenate)

a. Odorless, colorless solid with properties that vary depending upon specific compounds.
b. High exposure levels may cause nausea, diarrhea, inflamed mucous membranes, abdominal pains, weakness. *LEAD IS A SUSPECTED CARCINOGEN.*
c. PEL for an eight hour TWA is .05 milligrams per cubic meter (airborne).

ALL SUBSTANCES AS THEY EXIST ON SITE ARE EXPECTED TO BE STABLE.

Site Status: ACTIVE: XXX INACTIVE:

Site History: THE SITE IS CURRENTLY A STEEL FABRICATION FACILITY.

PHYSICAL HAZARDS

Under no circumstances will anyone enter the excavation pit or climb on any excavated material piles. Personnel shall otherwise maintain the maximum distance possible from the pit while performing their activities. On-site hazards include physical injuries due to the proximity of workers to engine-driven heavy equipment and tools. Equipment used during excavation may include a backhoe or other excavator, and a mechanical tamper or other equipment as part of the subsequent backfilling operations. Only trained personnel will operate machines, tools and equipment; all equipment will be kept clean and in good repair. Minimum safety apparel required around heavy equipment will include a hardhat and steel-toed boots. The parameter of the excavation will be sloped to create acceptable stable walls for personnel entry if needed. ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH OSHA GUIDELINES.

Daily inspections of the excavation, the adjacent areas, and protective systems are to be made by a qualified person while personnel are on site. Attention will be made to note if any evidence of potential cave-in exists.

1. USE SAFETY EQUIPMENT, MASK RESPIRATORS WITH NIOSH APPROVED C-21 CARTRIDGES FOR ORGANIC VAPORS, AS NECESSARY.

2. HAVE AT LEAST ONE DRY CHEMICAL MODEL PA-200 A-B-C FIRE EXTINGUISHER PRESENT.

3. HAVE 100 LBS GRANULAR SORBENT MATERIAL AVAILABLE FOR POTENTIAL SPILLAGE.

LEVEL OF PROTECTION

A contamination Reduction Zone (CRZ) will be maintained and adjusted as work proceeds and moves around the site. The workers on site will wear level 'D' protective clothing. (This protection level may be upgraded after on-site conclusions of data are completed). THE LEVEL OF PROTECTION FOR PERSONNEL WORKING IN THE AREA WILL BE UPGRADED IF; the organic vapor levels in the equipment operator's breathing zone exceeds 5 ppm above background levels continuously for more then five minutes. In this event, personnel protective equipment will include full face respirators with double-cartridge filters for organic vapors and particulates, in addition to hardhat, steel-toed boots and coveralls. Excavation will cease, equipment shutdown, and personnel will withdraw from the area if either 1.) the organic concentration in the operator's breathing zone exceeds 200 ppm for 5 minutes or 2.) the organic vapor concentration two feet above the excavation exceeds 2,000 ppm or 25% of the lower explosive limit. If work proceeds in an environment where organic vapor concentrations exceed 200 ppm, a self contained breathing apparatus or airline respirator will be utilized by the personnel.

Levels of Protective Clothing are defined on the following pages as described in the "EPA Standard Operating Safety Guidelines":

LEVEL A PROTECTION

Components:

1.) Pressure-demand, supplied air respirator that is MSHA and NIOSH approved. Respirators may be pressure demand, self contained breathing apparatus (SCBA), or pressure demand, airline respirator with an escape bottle for atmospheres with an extreme IDLH.

2.) Fully encapsulating chemical resistant suit.

3.) Inner, chemical resistant gloves.

4.) Disposable gloves and boot covers, worn over the fully encapsulating suit.

5.) 2-way radio communications is highly recommended.

LEVEL B PROTECTION

Components:

1.) Pressure-demand, supplied air respirator that is MSHA and NIOSH approved. Respirators may be pressure demand, self contained breathing apparatus (SCBA), or pressure demand, airline respirator with an escape bottle for atmospheres with an extreme IDLH.

2.) Chemical resistant clothing which includes overalls and long sleeved jacket or, hooded one or two piece chemical splash suit or disposable chemical resistant one piece suit..

3.) Outer chemical resistant gloves.

4.) Inner chemical resistant gloves.

5.) Chemical resistant, steel toed and shank boots.

6.) Disposable chemical resistant boot covers.

7.) Hardhat.

8.) 2-way radio communications is highly recommended.

LEVEL C PROTECTION

Components:

1.) Air purifying respirator, full face, with twin cartridge or cannister equipped filters, that are MSHA and NIOSH approved.

2.) Chemical resistant clothing which includes coveralls or, hooded one-piece or two-piece chemical splash suit or chemical resistant hood and apron; disposable chemical resistant coveralls.

3.) Outer chemical resistant gloves.

4.) Inner chemical resistant gloves.

5.) Chemical resistant, steel toed and shank boots.

6.) Disposable chemical resistant boot covers.

7.) Hardhat.

8.) 2-way radio communications is recommended.

LEVEL D PROTECTION

Components:

1.) Coveralls.

2.) Gloves.

3.) Leather boots, shoes or chemical resistant, with steel toe and shank.

4.) Safety glasses or chemical splash goggles.

5.) Hardhat or face shield.

COMBUSTIBLE GAS AND ORGANIC VAPOR MONITORING

Site personnel will monitor ambient levels of combustible gas vapors using a Thermo Environmental Instruments model 580A or a Gastech model GX-88 OVM. Volatile organic vapor levels greater then 5 ppm above background levels in the hot zone are not anticipated. If the OVM measurements do not decrease below 5 ppm, level 'C' protection will be required. The site Project Manager will be notified if organic vapor levels in the air samples exceed ambient concentrations.

A wetting agent or some form of dust control is recommended to reduce the airborne dust level and subsequent particulate hazard. HEPA respirator cartridges are also recommended as needed.

SITE ENTRY PROCEDURES

Any personnel entering the site will observe all conditions set forth by the owner of the property, including vehicle travel speeds, restricted areas and conduct.

Eating, drinking, smoking and other practices which increase the probability of hand-to-mouth transfer of contamination is prohibited in the work zone. All field personnel will be instructed to thoroughly wash their hands and face upon leaving the work area for breaks or cessation of day's activities. A first aid kit and at least one 20 pound A-B-C fire extinguisher will be available at the site.

DECONTAMINATION PROCEDURES

If required, equipment and personnel decontamination areas will be designated by the Project Manager at the start of the project. To prevent the transfer of contamination from the work site into clean areas, all tools will be cleaned adequately prior to final removal from the work zone. Protective clothing such as Tyvek coveralls, latex gloves, boot covers, etc. will be changed on a daily basis or at the discretion of the Project Manager on site. All disposable protective clothing will be put into plastic bags and disposed of in a proper manner. All respirator cartridges will be discarded and replaced with fresh units on a daily basis, disposal will be in the same manner as the protective clothing. Excavated soils will be stockpiled in an area designated by the Project Manager, until chemical analysis has been performed on representative samples.

In the event of a medical emergency, the injured party will be taken through decontamination procedures, if possible. However, the procedures may be omitted when it may aggravate or cause further harm to the injured party. Member of the work team will accompany the injured party to the medical facility to advise on matters concerning chemical exposure.

Personnel Protection Level will be Level 'D'. Protective clothing levels may be upgraded in the event that on site conclusions determine a greater then anticipated danger to personnel.

SPECIAL CONDITIONS

Site Entry: NORMAL, NO SPECIAL CONDITIONS

Decontamination-

Personnel and Equipment: IF REQUIRED, PERSONNEL AND EQUIPMENT WILL BE DECONTAMINATED A PER USEPA STANDARD OPERATING SAFETY GUIDELINES. A SMALLER MODIFIED DECONTAMINATION LINE MAY BE USED DUE TO SPACE RESTRICTIONS.

Work Limitations (time, weather):

NONE ARE ANTICIPATED, HOWEVER, PERSONNEL WORKING ON SITE MAY EXPERIENCE ELEVATED TEMPERATURES DURING THE WORK DAY. IN THE EVENT THAT AMBIENT TEMPERATURES REACH OR EXCEED 80 DEGREES FAHRENHEIT, THE FOLLOWING GUIDELINES ARE RECOMMENDED.

1. Periods of work should be reduced to no less then one hour time frames and separated by breaks intended to reduce personnel stress due to reduced natural ventilation from wearing protective clothing.

2. All personnel wearing level C protective clothing or greater, will be subject to medical monitoring of body temperature after work periods, by the following guidelines;

a. Heart Rate (HR) should be measured by counting the radial pulse rate for 30 seconds and doubling count for the correct pulse rate. This should be done as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 110 beats per minute. If the HR is higher, the next work period should be shortened by 10 minutes, while the length of the rest period remains the same. If the HR is 100 beats per minute at the beginning of the next rest period, the following work period should be shortened by an additional 10 minutes.

b. Body temperatures should be measured orally with a clinical thermometer as soon as possible in each resting period. Oral Temperatures (OT) should not exceed 99 degrees Fahrenheit. If it does, the next work period should be reduced by 10 minutes while the length of the resting period remains the same. If the OT exceeds 99 degrees Fahrenheit at the beginning of the next work period, the following work period should be reduced by an additional 10 minutes. OT should be measured at the end of each rest period to ensure that the body's temperature has dropped below 99 degrees Fahrenheit.

Body Water Loss (BWL) from sweating, could result in dehydration and further complications and stress on personnel working in protective clothing under adverse weather conditions. It is strongly recommended that plenty of stress relief beverages be available on site to replace body fluids. Commercial drink mixes that provide electrolyte balancing solutions or water are adequate for replacing body fluids.

Alternate methods of heat stress reduction can be made available such as,

Portable showers or hose-down facilities,
Shelter cover to protect against direct sunlight,
Rotating teams of personnel wearing protective clothing,
Performing extremely arduous tasks early in the workday.

EMERGENCY INFORMATION

In the event of an injury or suspected chemical exposure, the first responsibility of the Project Manager will be to prevent any further injury. This objective will normally require an immediate stop to work until the situation is remedied. The Project Manager may order the evacuation of the work party. Other primary responsibilities in the event of an accident will be the first aid and decontamination of the injured team member(s). The injured party will be moved to a designated safe area and initial first aid will be rendered.

Employees are asked to make every effort and take personnel responsibility to prevent accidents involving machinery or any other aspect of the job, either by individual action or by notifying the Project Manager immediately of any unsafe condition that may exist.

In the event of an unexpected hazardous material discovery on site, the following actions will be taken by any employee involved;

1. The person having uncovered the unexpected material will notify the Project Manager and other workers of the danger. The site will be cleared of personnel if deemed necessary by the Project Manager. If site evacuation is required, appropriate local agencies such as the Fire Department or Health Department will be notified as well.

2. Immediate action will be taken to contain the hazardous material, provided the workers involved are properly attired with adequate protective clothing to avoid exposure.

3. Proper containment procedures will be determined for the hazardous material encountered prior to cleanup commencing. All personnel involved in the containment effort will be properly protected to prevent exposure. Backup personnel will be similarly protected while monitoring the work being done for any additional dangers.

4. The container(s) will be staged on site, away from the major activity areas and in such a way that if loss of containment occurs, the material will be withheld from further spread by a secondary containment berm or vessel.

5. The owner or agent controller of the property will be notified promptly of the incident and will be apprised as to the options available for proper disposal.

ACUTE EXPOSURE SYMPTOMS AND FIRST AID

EXPOSURE ROUTE	SYMPTOMS	FIRST AID
Skin	Dermatitis, itching redness, swelling	Wash immediately with soap and water contact ambulance if evacuation is needed.
Eyes	Irritation, watering	Flush with water, transport directly to emergency room, if necessary.
Inhalation	Vertigo, tremors	Move person to fresh air, cover source of exposure.
Ingestion	Nausea, vomiting	Call Poison Control Center, DO NOT INDUCE VOMITING, transport to medical facility.

Local Resources:

HEALTH AND SAFETY CONTACT FOR ASE:

Michael D. Dirk
Office: (415) 820-9391

Ambulance
Police : 911
Fire

POISON CONTROL: SF (415) 476-6600

Emergency Route to nearest Medical Facility:

Exit site, Travel south on Hollis Street
LEFT onto Peralta Street
RIGHT onto 34th Street
LEFT into emergency entrance just after
Andover Street and before Webster Street.

HOSPITAL IS NEAR THE CORNER OF 34th STREET AND WEBSTER STREET

Hospital: - MERRITT HOSPITAL
350 HAWTHORNE AVENUE, OAKLAND 420-6080