### Golder Associates Inc.

1451 Harbor Bay Pkwy., Suite 1000 Alameda, CA USA 94502 Telephone (510) 521-0400 Fax (510) 865-9618 ALCO HAZMAT

94 SEP 28 PN 3: 13



REPORT ON

REMOVAL OF UNDERGROUND STORAGE TANKS J&M INC. HAYWARD, CALIFORNIA

Prepared for:

J&M Inc. 3826 Depot Road Hayward, California 94543

Prepared by:

Golder Associates Inc. Alameda, California

Kent R. Reynolds

Senior Hydrogeologist

Diane L. Sarmiento, P.E. (CA #47804)

Senior Engineer

DISTRIBUTION

2 Copies - Alameda County Health Agency

1 Copy - Manuel Marques, Jr. - J&M Inc.

3 Copies - Golder Associates Inc.

September 1994

943-7017

### Table of Contents

Table of Cor	ntents	i
<u>SUBJECT</u>	PAG	E
INTRODUCT	TION	1
TANK: REMO	OVAL ACTIVITIES	1
Backfi		2 2 2
SAMPLING	AND CHEMICAL ANALYSIS	2
	L EXCAVATIONample Analytical Results	3
SUMMARY A	AND CONCLUSIONS	4
<u>LIST OF TAE</u> Table 1	SLES Summary of Soil Chemical Analysis Results	
LIST OF FIGI	<u>URES</u>	
Figure 1 Figure 2 Figure 3	Site Location Map Site Plot Plan Excavation and Soil Sampling Locations	
LIST OF APP	PENDICES	
Appendix A Appendix B Appendix C	Tank Removal Permits  Manifests for Disposal of Tanks and Tank Liquids  Laboratory Report - Soil Sampling Results	

### **INTRODUCTION**

This report documents activities related to the removal of two, underground, gasoline storage tanks (UST Nos. 3 and 4) from the J&M Inc. facility located at 3826 Depot Road in Hayward, California (Figure 1). Golder Associates Inc. (Golder) performed tank removal observation and sampling in accordance with the Closure Plan dated October 3, 1993 and submitted to the Alameda County Department of Environmental Health (ACDEH). The tanks were operated by J&M, Inc. the current owner and operator of the facility. The scope of Golder's services consisted of:

- Observing and documenting the activities of the tank removal contractor responsible for excavation, tank removal, additional soil excavation and coordinating tank disposal.
- Observing soil and tank conditions during removal.
- Sampling and analysis of soil following tank removal.
- Documenting the tank removal and preparing this report.

UST Nos. 3 and 4 were located beneath an asphalt paved area in the northeast portion of the J&M facility as shown on Figure 2. The tanks were removed on July 25, 1994. A copy of the permit to remove the tanks is included in Appendix A.

#### TANK REMOVAL ACTIVITIES

A.M.G. Pipeline Inc. performed the tank removal construction activities that consisted of:

- Excavation and stockpiling of the sand backfill around the tank.
- Placement of dry ice in the tank to remove flammable vapors from the tank prior to removal from the excavation.
- Removal and loading of the tank for transport and disposal.
- Excavation of additional soil from the bottom of the tank to a depth of approximately 9 feet below ground surface (bgs).

Prior to removal, a total of approximately 80 gallons of gasoline and water were removed from UST Nos. 3 and 4. Manifests for the liquid generated from the tank and disposal of the tanks are included in Appendix B.

### **OBSERVATIONS DURING TANK REMOVAL**

#### Backfill Soil and Groundwater Conditions

The top of the tank was approximately 2 feet below ground surface (bgs). Approximately 1.5 feet of gravel fill was observed below the asphalt covering the UST area. The backfill around the tank consisted of a moist, brown sand. The native soil exposed in the sidewalls of the tank excavation consisted of stiff to very stiff, dark gray to black clay to the maximum depth excavated, 10 feet bgs. The soil had a moderate petroleum odor from a depth of approximately 5 feet bgs to 10 feet bgs.

A few hours after removal of the tanks, groundwater was observed in the bottom of the excavation at a depth of approximately 7 feet. No floating, free-phase product or petroleum sheen was observed on the groundwater. Groundwater samples were not collected from the excavation due to possible cross-contamination as a result of soil mixing with groundwater during excavation.

### Tank Conditions

UST Nos. 3 and 4 were constructed of unwrapped steel with a capacity of approximately 1,000 and 550 gallons, respectively. After removal, the tanks were inspected for the presence of holes. No holes were observed in either UST. Both tanks had minor pitting and rust.

During the UST removal, a two-inch-diameter steel pipeline was observed along the northwest portion of the excavation. According to the site owner (Mr. Manuel Marques) the pipeline is believed to have previously conveyed diesel fuel from two former USTs, identified as UST Nos. 1 and 2 (Figure 2) to a former pump island located above UST Nos. 3 and 4.

### SAMPLING AND CHEMICAL ANALYSIS

Soil sampling and testing was conducted by Golder following the removal of the tanks. Mr. Jim Ferdinand of the Alameda County Fire Department and Ms. Eva Chu of the ACDEH were onsite during removal of the tanks. The soil sampling was observed by Ms. Chu. A total of three soil samples were collected. One sample was collected from the native soil underlying the south end of UST No. 4 (S-T2S-7); beneath the north end of UST No. 3 (S-TIN-7). Soil samples from the excavation were obtained from the backhoe bucket by scraping away the upper few inches and pushing a clean, 6-inch-long, brass tube into the soil. The ends of the tube were covered with teflon sheets and plastic caps. Each sample was labeled, sealed in a ziploc bag and placed in a cooler with ice. All three soil samples had a moderate petroleum odor.

All soil samples were submitted to Superior Analytical Laboratories in San Francisco, California for analysis of total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Test Methods 8015 (modified) and 8020, respectively and total lead (EPA Method 7421). The laboratory reports are included in Appendix C.

### **ADDITIONAL EXCAVATION**

Following the removal of the USTs, additional soil was excavated to remove TPH-affected soil. Approximately 70 cubic yards (yd³) of potentially TPH-affected soil was excavated and stockpiled adjacent to the excavation. The excavation was discontinued when it became apparent the extent of potentially affected soil was greater than expected. Three test pits (ET-1, ET-2 and ET-3) were subsequently excavated to evaluate the extent of TPH-affected soil. Figure 3 shows the location of the test pits and the approximate limits of the excavation. Test pits were excavated with a backhoe excavator and extended to a depth of approximately 5 feet. Soil samples were collected from the south and west edge of the excavation and from each of the test pits. Soil samples collected from the excavation and the test pits were initially analyzed for TPHg and BTEX. However, a review of the chromatograms identified the presence of heavier end hydrocarbons. Therefore, additional analysis was performed to quantify the concentration of hydrocarbons relative to a diesel standard (TPHd). The results of the analyses suggest hydrocarbons present in the excavation and test pit samples are more comparable to diesel. Table 1 provides a summary of the analytical results and the laboratory reports are included in Appendix C.

### Soil Sample Analytical Results

The chemical analysis results for soil samples (S-TIN-7, S-T1S-7 and S-T2S-7) collected beneath the former USTs indicate the presence of TPHg ranging from 210 to 550 milligrams per kilogram (mg/kg). BTEX was also detected in the UST closure samples with concentrations ranging from less than 1 mg/kg up to 26 mg/kg (xylene). Lead was detected at concentrations ranging from 4.2 mg/kg to 6.4 mg/kg. The reported concentrations of lead are likely indicative of naturally occurring lead in the soil at the site. Additional soil samples collected from north and west portions of the excavation and exploratory trenches ET-1 and ET-2 indicate the presence of TPH primarily in the diesel range. The concentrations of TPHd in soil ranged from 340 mg/kg, approximately 26 feet west of former USTs 3 and 4, to 1,600 mg/kg, 15 feet north of the former USTs. BTEX was also detected in samples collected from the excavation and exploratory trenches ET-1 and ET-2 at concentrations less than 1 mg/kg. Low levels of TPHg were also identified in soil samples collected form the north and west portions of the excavation and in exploratory trenches ET-1 and ET-2. However, as indicated above a review of the chromatograms indicate the hydrocarbons were comparable to hydrogarbons in the diesel range. The presence of TPHd in soil located north and west of former USTs 3 and 4 may be associated with the suspected former diesel product line.

### SUMMARY AND CONCLUSIONS

Our observations and the chemical analysis results associated with the tank removal indicate one or both of the USTs released petroleum hydrocarbons in the gasoline range including BTEX to soil. Petroleum hydrocarbons detected in soil samples collected from the additional excavation and test pits suggest a predominance of diesel range hydrocarbons possibly associated with the product line that reportedly conveyed diesel from former UST Nos. 1 and 2 to the pump island.

The results of the soil sampling suggest TPH-affected soil extends to the north and west of the test pits ET-1 and ET-2 and does not extend south of former UST No. 4. Observations made during the excavation suggest TPH-affected soil is also present along the eastern edge of the excavation.

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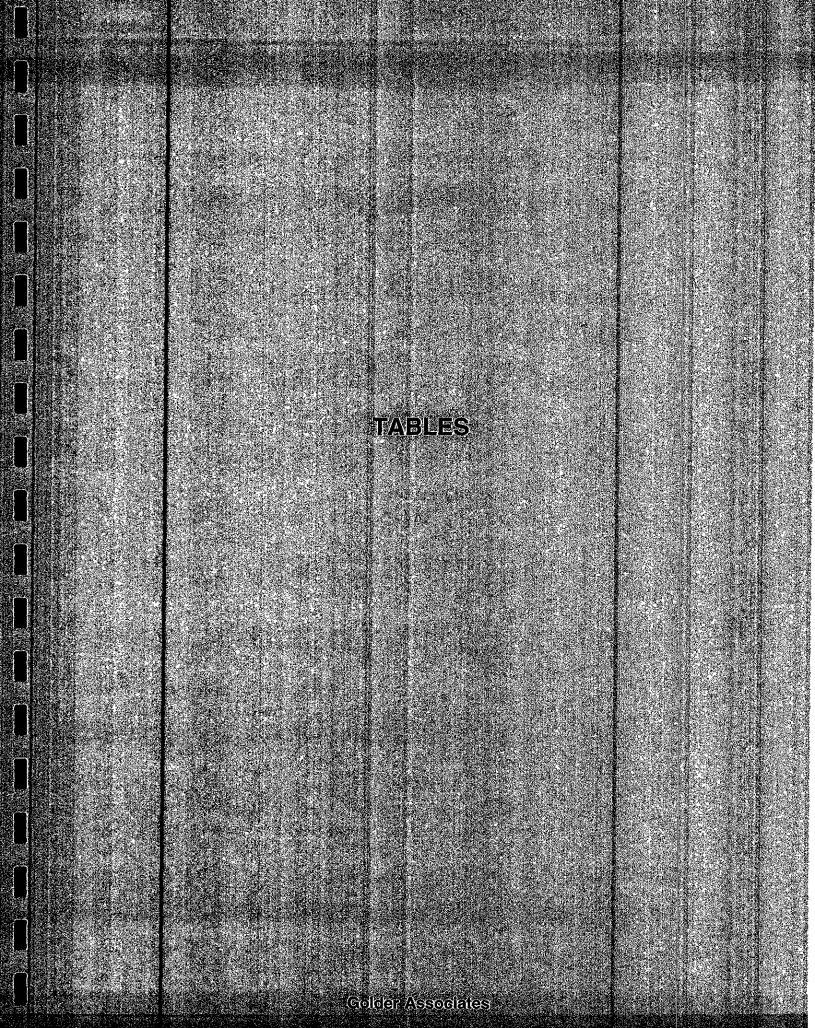


Table 1
Summary of Soil Chemical Analysis Results
J & M Inc. Facility - Hayward, California

Sample I.D.	TPH-G	TPH-D	Benzene	Toluene	Ethylbenzene	Xylenes	Total Lead
S-T1N-7	210	NA	1.4	2.5	2.8	14	4.2
S-T1S-7	550	NA	1.5	2.1	7.1	26	5.9
S-T2S-7	370	NA	0.84	0.83	4.4	8.9	6.4
S-ET1(15)-5	37*	1600	0.013	0.12	0.083	0.57	NA
S-ET2(13)-5	65*	1700	0.041	0.17	0.11	0.84	NA
S-ET2(26)-5	38*	340	0.16	0.13	0.14	0.49	NA
S-ET3(11)-5	ND<1	NA	ND<.005	ND<.005	ND<.005	ND<.005	NA
S-ET3(17)-5	ND<1	NA	ND<.005	ND<.005	ND<.005	ND<.005	NA
	]						

### Notes:

All concentrations reported in milligrams per kilogram (mg/kg).

ND<1 = not detected at detection limit of 1 mg/kg.

TPH-G; TPH-D = Total petroleum hydrocarbons (TPH) as gasoline (G) or diesel (D).

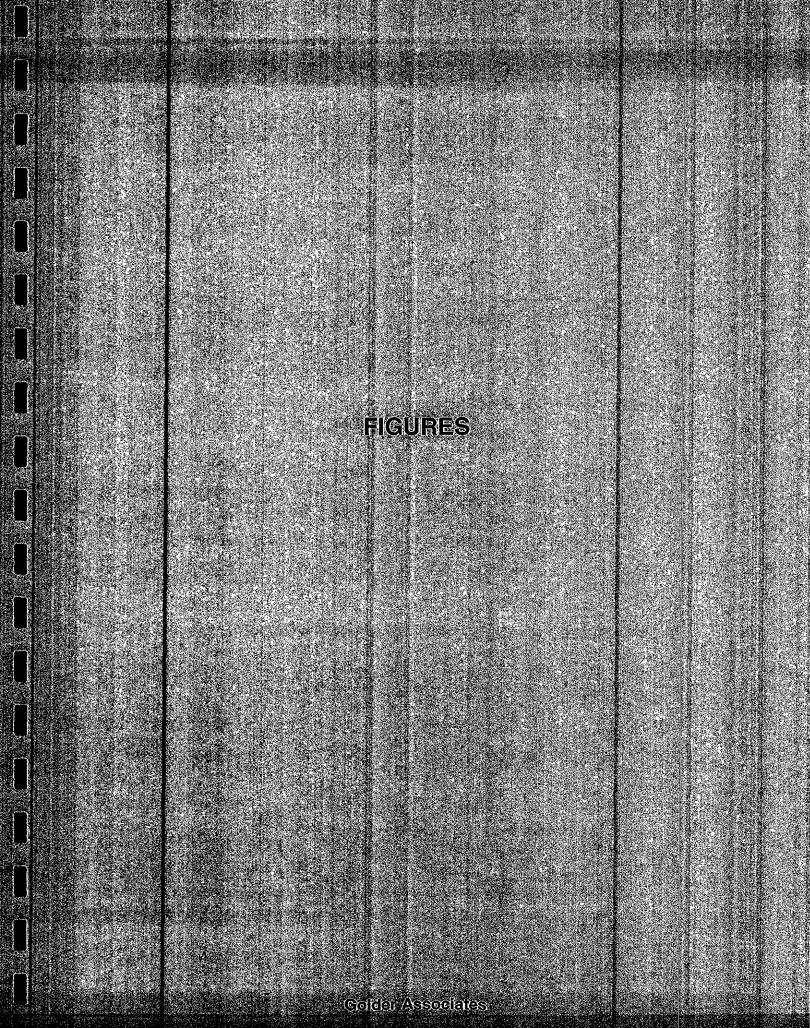
TPH-G and BTEX analyzed by EPA Method 5030/8015 modified and 8020.

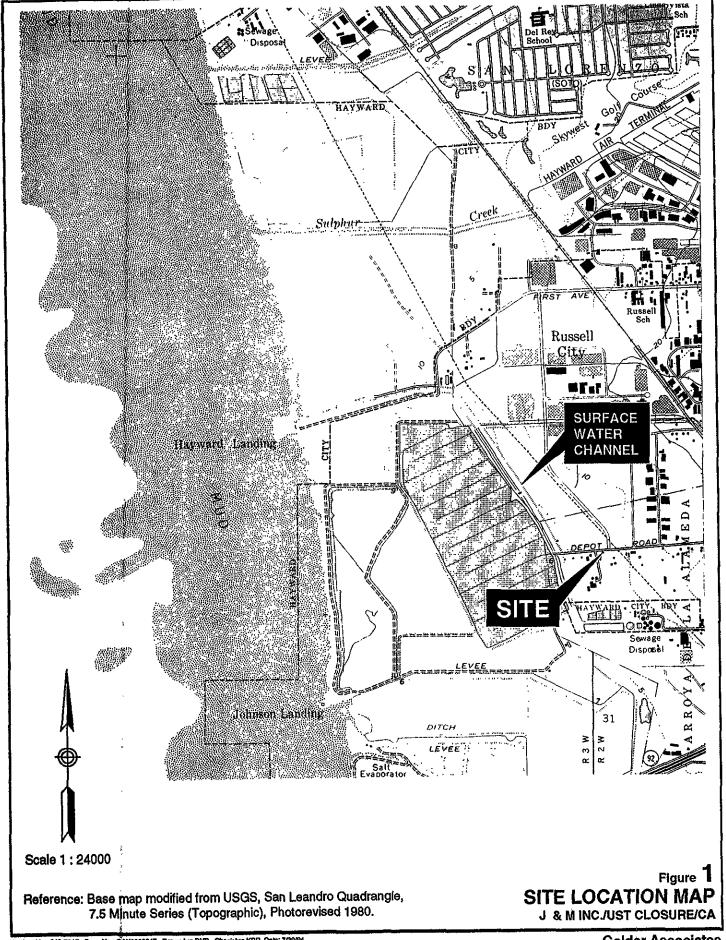
TPH-D analyzed by EPA method 3550/8015 modified.

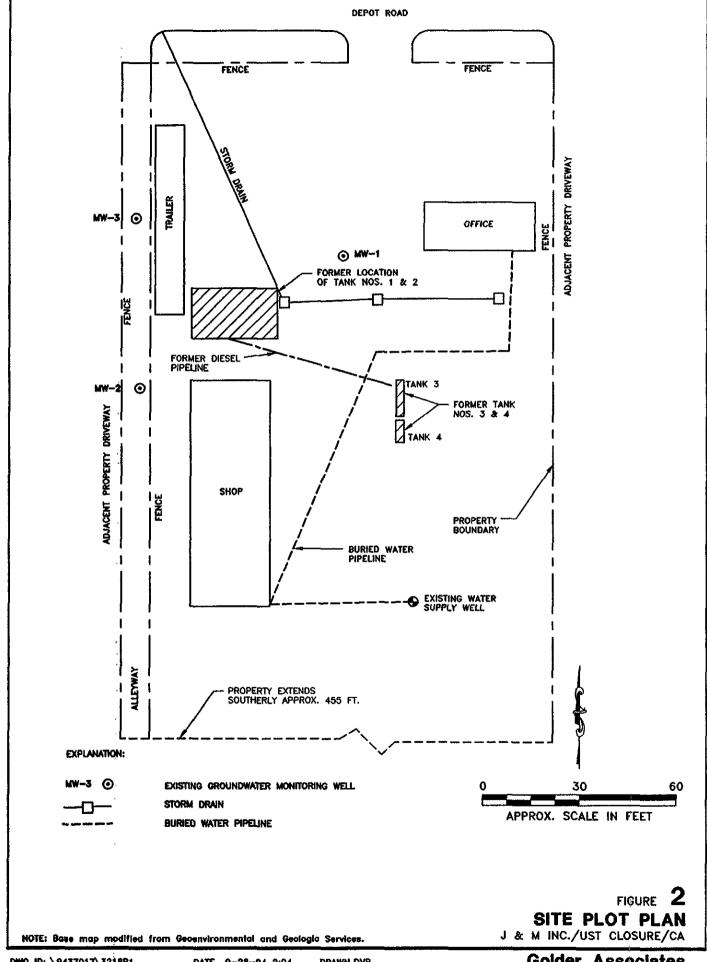
Total lead analyzed by EPA method 7421.

9437017.x1

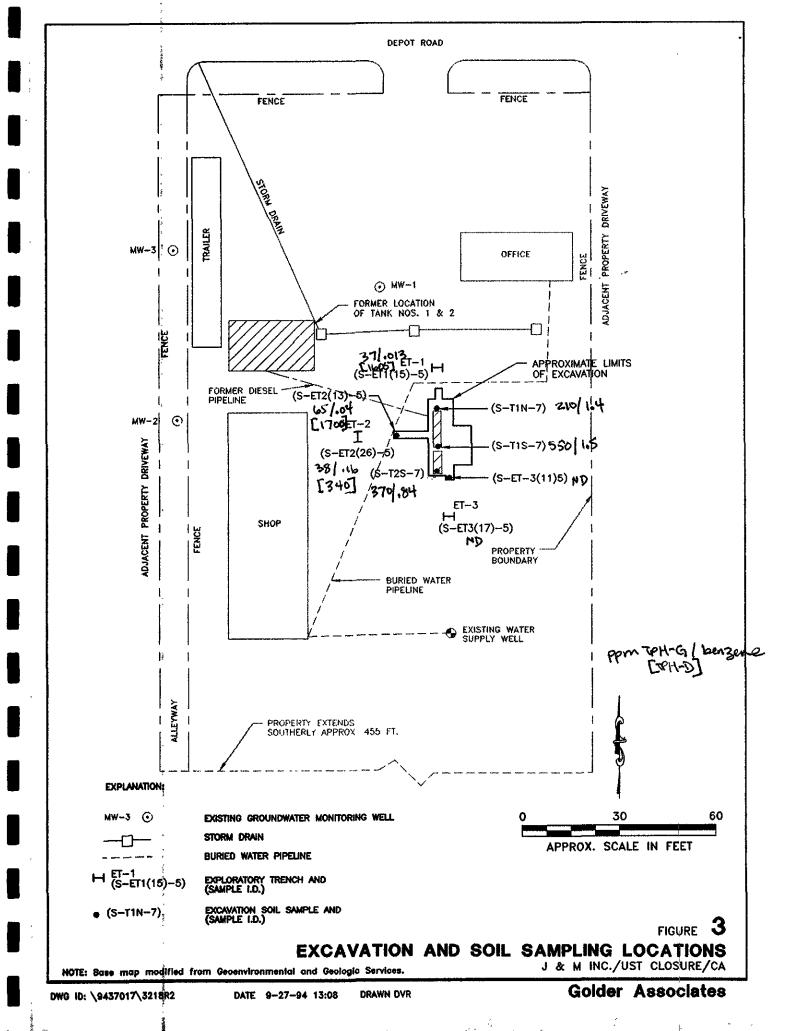
<sup>\*</sup> does not match gasoline standard - heavier hydrocarbons present. NA = not analyzed.







DATE 9-28-94 2:04 DRAWN DVR **Golder Associates** 



# APPENDIX-A

# **Tank Removal Permits**

DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 510/271-4320

UNDERGROUND TANK CLOSURE PLAN

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

l.	Business Name	J & M, INC.
		Manuel Marques, President
2.	Site Address	3826 Depot Road
	City <u>Hayward</u>	- 04E42 Phana /8/- 3434
2		Post Office Box 128
э.	City Hayward	Zip 94543 Phone 782-3434
4.	Land Owner Many	el Margues, Jr.
	Address P.O Box	128 City, State Hayward, CA Zip 94543
5.	Generator name u	der which tank will be manifestedJ & M, INC
		CAT. 9124 72836
	EPA I.D. No. und	er which tank will be manifested CAL 9124 72836

- 1 -

rev 3/92

6. Contractor A.M.G. Pipeline Inc
42536 Osegood Rd
Address 42350 05g0 Phone(510) 490-4432
License Type* A ID# A3739
*Effective January 1, 1992, Business and Professional Code Section 7058.7 requires prime contractors to also note Hazardous Waste Certification issued by the State Contractors License Board. Indicate that the certificate has been received, in addition, to holding the appropriate contractors license type.
7. Consultant GOLDER ASSOCIATES INC.
Address 1451 Harbor BAy Parkway, Suite 1000
City Alameda Phone (510)521-0400
8. Contact Person for Investigation  Name <u>Kent R. Reynolds</u> Title <u>Senior Hydrogeologist</u> Phone (510) 521-0400
9. Number of tanks being closed under this plan 2  Length of piping being removed under this plan 2 feet  Total number of tanks at facility 2
<ul><li>10. State Registered Hazardous Waste Transporters/Facilities (see instructions).</li><li>** Underground tanks are hazardous waste and must be handled ** as hazardous waste</li></ul>
a) Product/Residual Sludge/Rinsate Transporter
Name Evergreen Oil, Inc. EPA I.D. No. CAD980887418
Hauler License No. 0242 License Exp. Date 7/92
Address 6880 Smith Avenue
City Newark State CA Zip 94560
b) Product/Residual Sludge/Rinsate Disposal Site Name <u>Evergreen Oil, Inc.</u> EPA I.D. No. <u>CAD980887418</u>
Address 6880 Smith Avenue
City Newark State CA Zip 94560

c) Tank and Piping Transporter
Name Erickson, Inc. EPA I.D. No. CAD009466392
Hauler License No. 0019 License Exp. Date May 31, 1994
Address 255 Parr Blvd.
City Richmond State CA Zip 94801
d) Tank and Piping Disposal Site
Name <u>Erickson, Inc.</u> EPA I.D. No. <u>CAD009466392</u>
Address 255 Parr Blvd.
City Richmond State CA Zip 94801
1. Experienced Sample Collector
NameKent R. Reynolds
CompanyGolder Associates Inc.
Address 1451 Harbor Bay Parkway, Suite 1000
CityAlameda State CA Zip 94502 Phone (510) 521-0400
12. Laboratory
Name APPL, Inc.
Address 4203 West Swift Avenue
City Fresno State CA Zip 93722
State Certification No. 1312
13. Have tanks or pipes leaked in the past? Yes [ ] No [ $\chi$ ]
If yes, describe

14. Describe methods to be used for rendering tank inert

Dry Ice, LEL levels <15 02 levels <10

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	Location and	
Capacity	Use History (see instructions)	(tank contents, soil, ground- water, etc.)	Depth of Samples	
1,000 gal.	leaded gasoline	soil, groundwater soil, groundwater	each end of each tank at soil/water interface, or;	
	, -	If groundwater present in either or both pits- 1 sample of g.w. from each pit or if 2 tanks in same pit, 1 sample of g.w.	1 sample beneath each end of each tank a maximum of 2 feet below backfill contact w/ native soil no piping requiring sampling	

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) 250 yd <sup>3</sup>	plastic sheeting under and over until excavation sample analysis completed; if contaminated 1 sample per 50yds <sup>3</sup> or as required for offsite disposal; or 1 sample per 20yds <sup>3</sup> for onsite reuse. Sample analysis to include TPH-G and BTEX.

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	
			Soil (ppm)	Water (ppb)
TPH-G	5030	5030	.1	50
BLEX	5030	5030/8020	0.02	0.5
Total lead	7421	7421	5	3
	·			

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

18. Submit Worker's Compensation Certificate copy
Name of Insurer Unicare Insurance Company
(See Instructions)
19. Submit Plot Plan (See Instructions)
20. Enclose Deposit (See Instructions)
20. Enclose Deposit (Bot and State of S
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
I understand that any changes in design, materials or equipment will volu
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 understand that site and worker safety are solely the responsibility is not the property owner or his agent and that this responsibility is not
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) Tony Goncalves (A.M.G. Pipeline Inc)
Signature
Date September 30, 1993
Signature of Site Owner or Operator
Name (please type) Manuel Marques
Signature
The Albert of the state of the

# ALAMEDA COUNTY FIRE DEPARTMENT

FIRE MARSHAL'S OFFICE

**APPLICATION/PLANS APPROVAL:** 

APPLICATION# 94-190

### FIRE DEPARTMENT/PLANS APPLICATION

1426 164th Avenue San Leandro, CA 94578 510-670-5853 • FAX 510-276-5915 APPLICATION TYPE: \_\_\_\_\_\_ DATE REC'D: 6/23/94 BY: CATEGORY:\_ > PROJECT INFORMATION PROJECT ADDRESS: 3926 Oxpet Koull CROSS STREET: Caket Clud. CITY: Hayward ZIP: 94543 JOB PHONE: 510-782-3434 APN #:\_\_\_\_ \_\_\_\_\_ SDR #:\_\_\_\_\_ PM/TRACT MAP #: \_\_\_\_ **DESCRIPTION OF WORK/ACTIVITY:** Removal of 1-1,000 + 1-700 - willow to aline bloom Building PERMIT# ➤ APPLICANT NAME: Kent Regard. ( and r) PHONE # (H): 518-672-6058 (W): 510-521-0400

ADDRESS: 1451 Harter Bay Pkny Alanda, (A ZIP: 914 707 **→ OWNER** NAME: Manuel Margue: PHONE # (H): (W): 5/0-782-3434 ADDRESS: 3826 Dept 15001 1+490000 CA ZIP: 94543 ➤ CONTRACTOR NAME: A. M. Franka 2... PHONE # (H): (W): 510-490-4422 42536 "seed had From at A 710: (14539 CONTRACTOR'S LICENSE TYPE & NUMBER: A A 3739 > = APPLICANT TO FILL IN THESE SECTIONS APPLICANT'S SIGNATURE: \_\_\_\_\_ FOR OFFICE ONLY **FEES** Fees are due and payable by check or money order, made out to Alameda County Fire Department, upon submittal of plans and application. If additional fees are required, such shall be paid prior to issuance of a Certificate of Occupancy, project final, or a Fire Permit. BASE FEE REQUIRED: \$ 13000 \_\_\_\_ REC'D BY:\_\_ \$ \_\_\_\_\_ REC'D BY:\_\_ CONSULTANT'S FEE: \$ \_\_\_\_\_\_ REC'D BY:\_\_\_\_\_\_ DATE:\_\_\_\_ ADDITIONAL FEES: **APPROVALS** : ISSUED DATE: EXPIRATION DATE: FIRE PERMIT #: \_\_ DATE:\_\_\_\_\_ FEE:\_ PERMIT ISSUED BY:\_\_\_ BY:\_\_\_\_\_\_DATE: \_\_\_\_

# APPENDIXB

Manifests for Disposal of Tanks and Tank Liquids

rm Ap	ColiforniaEnvironmental Protection Agency proved OM\$ No. 2050-0039 (Expires 9-30-94) Int or type. Form designed for use on elite (12-pitch) typewriter.	See Instruction	ns on back of pag	· 6. 854	Sacramento, California
1	UNIFORM HAZARDOUS 1. Generate		Manifest Document No.	2. Page 1	Information in the shaded areas is not required by Federal law.
	WASTE MANIFEST	PHAPEBIC	31816171	of .	
	3. Generator's Name and Mailing Address  The TORice Tex 128  Herequire 6. 94543  4. Generator's Phone (18) 782-3434				
I	Test Office Trix 128			senikaselia	
1	4. Generator's Phone (1) 782-3434				
l	5. Transporter 1 Company Name	6. US EPA ID Number			
	Frickson Tuc.	CADICICALAK		igitziakozak	
	7. Transporter 2 Company Name	8. US EPA ID Number			
	, , ,	1			
	9. Designated Facility Name and Site Address	10. US EPA ID Number		Yettajjaya (d. 1213)	
	friel wh.fu.,			SHEALUICH ST	
	255 Jan Phyl,	LOUGH TO LEGICAL OF AL		ស្រុសមិនត្រូវ និង និងប្រ	
	Dichmend,CA: 91801	— <u> </u>	12. Containers	13. Total	14. Unit
	11. US DOT Description (including Proper Shipping Name, H	azard Class, and ID Number)	No. Type	Quantity	Wt/Vol 3 Wast Chills
	"NON-KORA Hazarrious Waste So	nid.			
	Waste Emily Storage Tank.		TIP CLOCO	1/151510	P
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	The state of the s				
	15. Special Handling Instructions and Additional Information				
	Keep away from sources of	iqmition. Always w	ear hardhats:	when workir	ng around
	Keep away from sources of U.G.S.T.'s 24 Hr. Contact I	vaine (Lanue 160)	US Phone 510	)782-34	34
l	<ol> <li>GENERATOR'S CERTIFICATION: I hereby declare that packed, marked, and labeled, and are in all respects in s</li> </ol>	the contents of the consignment are i	fully and accurately describ	ed above by proper s	shipping name and are classified, international laws.
۱	•				
	If I am a large quantity generator, I certify that I have economically proeficable and that I have selected the pr	acticable method of treatment, store	age, or disposal currently o	ovailable to me which	minimizes the present and future
	threat to human health and the environment, OR, if I are waste management method that is available to me and the	n a small quantity generator, I hav	e made a good faith effo	rt to minimize my was	ste generation and select the best
	Printed/Typed Name	Signature //	11/11-	$\overline{}$	Month Day Yes
	MANUEL MARQUES	Monu	of May	'ws!	07259
	17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature,	( )		Month Day Yea
	Havrine Kunce	Meure	u Bune	<u> </u>	1971315191
	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature			Month Day Yes
	Primary types trains	o.g.n.u.v.v			
	19. Discrepancy Indication Space				
		•			
	· ·	•			
	20. Facility Owner or Operator Certification of receipt of ha		anifest except as noted in I	tem 19.	T 44-24 5 5
	Printed/Typed Name *	Signature S	470		Month Day Yes
_	DAVID SATO	DIVE -	17		1011001
		DO NOT WRITE BELOV	v THIS LINE.		

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

JONATHON H. MGBRIDE DO NOT WRITE BELOW THIS LINE.

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

018/012

Printed/Typed Name

Z

### APPENDIX C

# Laboratory Report Soil Sampling Results

A member of ESSCON Environmental Support Service Consortium

GOLDER ASSOC. Attn: KENT REYNOLDS Project 943-7017 Reported 26-July-1994

**4** 002

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES by EPA SW-846 Methods 5030/8015M/8020.

Chronology				Laboratory	Number	r 58481	
Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #	
S-TIN-7 S-TIS-7 S-T2S-7	07/25/94	07/25/94 07/25/94 07/25/94	07/26/94 07/26/94 07/26/94	07/26/94 07/26/94 07/26/94		1 2 3	

Page 1 of 3

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GOLDER ASSOC.

Attn: KENT REYNOLDS

Project 943-7017 Reported 26-July-1994

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

Laboratory Number	Sample :	Identificat	tion	Matrix
58481- 1	S-TIN-7	······		Soil
58481- 2	S-TIS-7			Soil
58481- 3	S-T2S-7			Soil
	RESUL'	TS OF ANALY	YSIS	
Laboratory Number:	58481- 1	58481- 2	58481- 3	
Gasoline Range:	210	550	370	
Benzene:	1.4	1.5	0.84	
Toluene:	2.5	2.1	0.83	
Ethyl Benzene:	2.8	7.1	4.4	
Total Xylenes:	14	26	8.9	
Concentration:	mg/kg	mg/kg	mg/kg	
Surrogate % Reco	veries			
Trifluorotoluene (S		126	129	



A member of ESSCON Environmental Support Service Consortium

ANALYSI'S FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

Quality Assurance and Control Data - Soil

Laboratory Number 58481

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Gasoline_Range:	ND<1	1	111/94	55-139	17%
Benzene:	ND<.005	.005	88/100	67-141	13%
Toluene:	ND<.005	.005	89/85	67-141	5%
Ethyl Benzene:	ND<.005	.005	86/81	67-141	6%
Total Xylenes:	ND<.005	.005	94/90	67-141	4%

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/kg = Parts per million (ppm)

QC File No. 58481

Chille J. Jaques 7/26/99
Senior/Chemist
Account Manager

حجولهم مستعد المنا ومعرمان سان

Page 3 of 3

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GOLDER ASSOC.

Attn: KENT REYNOLDS

Project 943-7017 Reported 02-August-1994

ANALYSIS FOR TOTAL LEAD by EPA Method SW-846 7421

Chronology				Laboratory	Number	58481
Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
S-TIN-7		07/27/94		08/01/94		1.
S-TIS-7 S-T2S-7		07/27/94 07/27/94	08/01/94 08/01/94	08/01/94 08/01/94		2 3

Page 1 of 3
Certified Laboratories



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GOLDER ASSOC.

Attn: KENT REYNOLDS

Project 943-7017 Reported 02-August-1994

#### ANALYSIS FOR TOTAL LEAD

Laboratory Number	Sample Identification	Matrix
58481- 1	S-TIN-7	Soil
58481- 2	S-TIS-7	Soil
58481- 3	S-T2S-7	Soil

RESULTS OF ANALYSIS

Laboratory Number: 58481-1 58481-2 58481-3

Total Lead (Pb): 4.2 5.9 6.4

Concentration: mg/Kg mg/Kg mg/Kg

Page 2 of 3

Certified Laboratories



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ANALYSIS FOR TOTAL LEAD
Quality Assurance and Control Data - Soil

Laboratory Number 58481

Compound		Method Blank (mg/Kg)	RL (mg/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)	
Total Lead	(Pb):	ND<0.5	0.5	104/97	75-125	7%	

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/Kg = Parts per million (ppm)

QC File No. 58481

Senior Chemist Account Manager

Page 3 of 3

Certified Laboratories

Chain of Custody and Analysis Request LAB JOB# 58481 Bill To: TURN AROUND TIME Superior Precision Analytical 72 Hrs. Same Day 1.555 Burke Street, Unit 1 Superior Precision Analytical Inc. San Francisco, CA 94124 P.O. Box 1545 48 Hrs. 24 Hrs. Fax: (415) 821-7123 Phone: (415) 647-2081 Martinez, California 94553 Contact: Rich / Cecitia 10 Day 5 Day Project No.: 943-7017 P.O. No. 58481 Superior MTZ Work Subcontracted to: **Analysis Request** of Containers Laboratory Sample ID COMMENTS \* USE THIS T.D. 0N. 1010 Co.A.\* T Please fax invoice or S 58481-1 quote ASAP TANK 2 Please fax results to Superior, San Francisco X Please fax results to our ctient (see attached COC) Lab - Please initial the following: Time Date Received By: Date Time Relinquished By: Organization: 2:00 Organization: Samples Stored in Ice: am/pm amipm Appropriate Containers: Date Time Received By: Time Date Reliquished By: Samples Preserved: Organization: Organization: VOAs without headspace: /- /o am/pm am/pm Comments: Time Received By: 4 Date Time Relinguished By: Laboratory: Organization: am/pm

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GOLDER ASSOC. Attn: KENT REYNOLDS Project 943-7017 Reported 03-August-1994

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES by EPA SW-846 Methods 5030/8015M/8020.

Chronology				Laboratory	Number	58491
Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
S-ET1(15)-5	07/26/94	07/27/94	07/29/94	07/29/94		1
S-ET2(13)-5		07/27/94	07/29/94	07/29/94		2
S-ET2(26)-5	07/26/94	07/27/94	07/30/94	07/30/94		3
S-ET3 (11) -5	07/26/94	07/27/94	08/03/94	08/03/94		4
S-ET3(17)-5	07/26/94	07/27/94	08/02/94	08/02/94		5



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GOLDER ASSOC.

Attn: KENT REYNOLDS

Project 943-7017 Reported 03-August-1994

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

Laboratory Number	Sample Identification	Matrix
58491- 1	S-ET1(15)-5	Soil
58491- 2	S-ET2(13)-5	Soil
58491- 3	S-ET2(26)-5	Soil
58491- 4	S-ET3(11)-5	Soil
58491- 5	S-ET3(17)-5	Soil

### RESULTS OF ANALYSIS

Laboratory Number:	58491- 1	58491- 2	58491- 3	58491- 4	58491- 5
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Gasoline Range:	37*	65*	38*	ND<1	ND<1
Benzene:	0.013	0.041	0.16	ND<.005	ND<.005
Toluene:	0.12	0.17	0.13	ND<.005	ND<.005
Ethyl Benzene:	0.083	0.11	0.14	ND<.005	ND<.005
Total Xylenes:	0.57	0.84	0.49	ND<.005	ND<.005
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Surrogate % Recov Trifluorotoluene (SS		89	104	116	135

<sup>\*</sup> Does not match typical gasoline pattern - heavier hydrocarbons present.

Page 2 of 3



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ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

Quality Assurance and Control Data - Soil

### Laboratory Number 58491

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)	
Gasoline_Range:	ND<1	1	124/122	55-139	2%	<del></del>
Benzene:	ND<.005	.005	90/90	67-141	0%	
Toluene:	ND<.005	.005	93/93	67-141	0%	
Ethyl Benzene:	ND<.005	.005	85/85	67-141	0%	
Total Xylenes:	ND<.005	.005	94/94	67-141	0%	

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/kg = Parts per million (ppm)

QC File No. 58491

Cillia & Joaquin 8/4/94 Senior Chemist

Senior Chemist Account Manager

Page 3 of 3 Certified Laboratories

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GOLDER ASSOC.

Attn: KENT REYNOLDS

Project 943-7017 Reported 10-August-1994

### TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY EPA METHOD 8015M

Chronology	Laboratory	Numbe	r 58541			
Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
S-ET1(15)-5		08/05/94	08/08/94	08/09/94		1
S-ET2(13)-5 S-ET2(26)-5		08/05/94 08/05/94	08/08/94 08/08/94	08/09/94 08/09/94		2 3



Golder Associates



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GOLDER ASSOC.

Attn: KENT REYNOLDS

Project 943-7017 Reported 10-August-1994

### TOTAL PETROLEUM HYDROCARBONS AS DIESEL

Laboratory Number	Sample	Matrix		
58541- 1	S-ET1(1	Soil Soil		
58541- 2 58541- 3	S-ET2 (1 S-ET2 (2	Soil		
		TS OF ANAI		
Laboratory Number:	58541- 1	58541- 2	58541- 3	
Diesel Range:	1600	1700	340	
Concentration:	mg/kg	mg/kg	mg/kg	

Page 2 of 3



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TOTAL PETROLEUM HYDROCARBONS AS DIESEL Quality Assurance and Control Data - Soil

Laboratory Number 58541

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)	
Diesel Range:	ND<10	10	79/86	50-150	8%	

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/kg = Parts per million (ppm)

QC File No. 58541

Senior themist Account Manager

Page 3 of 3

**Certified Laboratories**