LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

Underground Storage Tank Removal

Tulloch Construction Yard

Oakland, California

This report has been prepared for:

Tulloch Construction

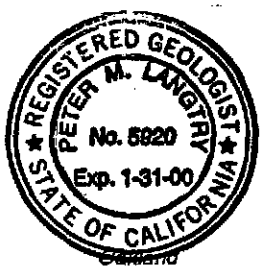
3428 Ettie Street, Oakland, California 94612

May 12, 1998

Project No. 517-34

John W. McCain
Environmental Engineer
Report Author

Peter M. Langtry, R.G., C.HG.
Associate Environmental
Geologist
Reviewer



Mountain View Pleasanton Oakland

129 Filbert Street Oakland, CA 94607-2531 Tel: 510-267-1970 Fax: 510-267-1972
E-mail: lowney@ix.netcom.com

Table Of Contents

Letter of transmittal

TITLE PAGE

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Purpose 1

1.2 Site Description and Background 1

1.3 Scope of Work 1

1.4 Project Personnel 2

2.0 UNDERGROUND STORAGE TANK REMOVAL 2

2.1 Pre-Removal Activities 2

2.2 Tank Removal 2

2.3 Confirmation Soil Sampling 3

2.3.1 Laboratory Analysis 3

TABLE 1. Analytical Results of Soil Samples 3

2.4 Stockpiled Soil 4

2.5 Excavation Pit / Ponded Water 4

2.5.1 Laboratory Analysis 4

TABLE 2. Analytical Results of Water Sample 5

3.0 CONCLUSIONS AND RECOMMENDATIONS 5

4.0 LIMITATIONS 6

FIGURE 1 - VICINITY MAP

FIGURE 2 - SITE PLAN

FIGURE 3 - SITE DETAIL MAP

APPENDIX A - MANIFESTS, INSPECTION REPORTS, AND TANK TEST RESULTS

APPENDIX B - SAMPLING PROTOCOL AND ANALYTICAL RESULTS

1.0 INTRODUCTION

1.1 Purpose

In accordance with your request, we have provided environmental engineering consulting and verification sampling services during the removal of an underground storage tank (UST) at the referenced site. The purpose of this investigation was to evaluate potential impacts of the UST on underlying soil quality and to observe contractor activities on a part-time basis. This report presents our findings, conclusions, and recommendations.

1.2 Site Description and Background

The site is located at 3428 Ettie Street in Oakland, as shown in Figures 1 and 2. A 4,000-gallon diesel UST was reportedly installed in approximately 1979.

1.3 Scope of Work

The scope of work performed during this investigation included the following:

- Part-time observation of tank removal activities performed by the contractor.
- Collection and laboratory analysis of confirmation soil-samples from the UST excavation sidewalls and from the on-site soil stockpile.
- Collection and laboratory analysis of samples of ponded water collected from in the UST excavation.
- Preparation of this report.

1.4 Project Personnel

Tank removal work was conducted at the site by Superior Underground Tank Service (SUTS), under the direction of on-site foreman, Mr. Jon Sutfin. SUTS is a licensed hazardous waste contractor operating out of San Ramon, California. Site activities were coordinated with Mr. Leroy Griffin of the Oakland Fire Services Agency, Office of Emergency Services (OFSA OES). Copies of available regulatory agency inspection reports are included in Appendix A.

2.0 UNDERGROUND STORAGE TANK REMOVAL

2.1 Pre-Removal Activities

A permit to remove the UST was obtained by SUTS from the OFSA OES. The tank was inerted with the addition of approximately 200 pounds of dry ice. Prior to removal, the lower explosive limit (LEL) and oxygen concentration in the tank were measured at 4 percent and 10.3 percent, respectively.

2.2 Tank Removal

The 4,000-gallon, single-walled steel tank was removed on March 3, 1998 in the presence of the OFSA OES inspector, Mr. Leroy Griffin. Prior to tank removal, backfill consisting of brown silty sand was excavated from around the tank and stockpiled on-site. No odors or staining were noted in the backfill or native soil below the tank. Ground water was encountered in the excavation at an approximate depth of 7 feet.

The tank was approximately 8 feet in diameter and 18 feet in length and the base of the UST was approximately 10 feet below grade. Inspection of the tank and piping upon removal indicated they were in good condition. No holes, deterioration, nor other

signs of leakage were observed. The tank was then transported by Ecology Control Industries / Erickson, Inc. for disposal at their facility in Richmond, California. Copies of the waste manifest and disposal certificate for the tank are included in Appendix A.

2.3 Confirmation Soil Sampling

Verification soil sampling was conducted under the direction of Mr. Leroy Griffin. Mr. Griffin's site inspection report regarding the tank removal is included in Appendix A. Two soil samples (Vent 6 1/2 and Fill 6 1/2) were collected from the native soil in the excavation sidewalls, approximately 6 1/2 feet below grade, at both ends of the tank. No soil sample was required by Mr. Griffin from beneath the former fuel dispenser since it was located at the east end of the UST. Native soil at the site consisted of dark gray and black, silty clay. Sampling locations are presented on Figure 3.

2.3.1 Laboratory Analyses

The soil samples were analyzed for total petroleum hydrocarbons (TPH) as diesel (TPHd) (EPA Test Method 8015M); benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Test Method 8020). Laboratory Analytical results are presented in Table 1 below.

TABLE 1. Analytical Results of Confirmation Soil Samples
(concentrations in ppm)

Sample	TPH Diesel	Benzene	Toluene	Ethylbenzene	Xylenes
Vent 6 ½	19	< 0.005	< 0.005	< 0.005	< 0.005
Fill 6 ½	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005
Composite of SS-1,2,3,4	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005

< Not detected above specified laboratory detection limit

As shown in Table 1, only low concentrations of TPHd [19 parts per million (ppm)] were detected in the soil sample collected from the excavation sidewall at the north end of the tank. Sampling protocol and copies of the laboratory reports and chain of custody documentation are presented in Appendix B.

2.4 Stockpiled Soil

A composite soil sample (Composite of SS-1,2,3,4) was collected from the stockpiled soil by Lowney Associates on March 3, 1998. The sample was a composite from four primary samples taken from the stockpile of approximately 100 cubic yards. As shown in Table 1, no petroleum hydrocarbons were detected above laboratory detection limits in the soil stockpile. Tulloch construction subsequently used this soil to backfill the excavation.

2.5 Excavation Pit / Ponded Water Sampling

After removal of the UST, groundwater collected in the bottom of the excavation pit at an approximate depth of 7 feet. A water sample was collected from the ponded water in the excavation pit by Lowney Associates on March 3, 1998. As requested by Tulloch Construction, a resampling of the water in the excavation pit was conducted by Lowney Associates on March 30, 1998.

2.5.1 Laboratory Analyses

Both water samples were analyzed for TPHd and BTEX compounds. Laboratory analytical results are presented in Table 2 below. Sampling protocol and copies of the laboratory report and chain of custody documentation are presented in Appendix B.

TABLE 2. Analytical Results of Water Sample
(concentrations in ppb)

Sample	Date	TPH Diesel	Benzene	Toluene	Ethylbenzene	Xylenes
GW-1	3/3/98	5700	< 0.5	< 0.5	< 0.5	< 0.5
GW-2	3/30/98	< 50	< 0.5	< 0.5	< 0.5	< 0.5

< Not detected above specified laboratory detection limit.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Upon removal, the UST was observed to be in good condition with no holes or deteriorated areas. Laboratory analysis of two verification soil samples collected from the excavation sidewalls detected only low concentrations of TPHd (19 ppm) in the soil sample collected from the north end (vent end) of the UST at a depth of approximately 6 ½ feet. No BTEX compounds were detected above the laboratory detection limits in either of the two samples collected.

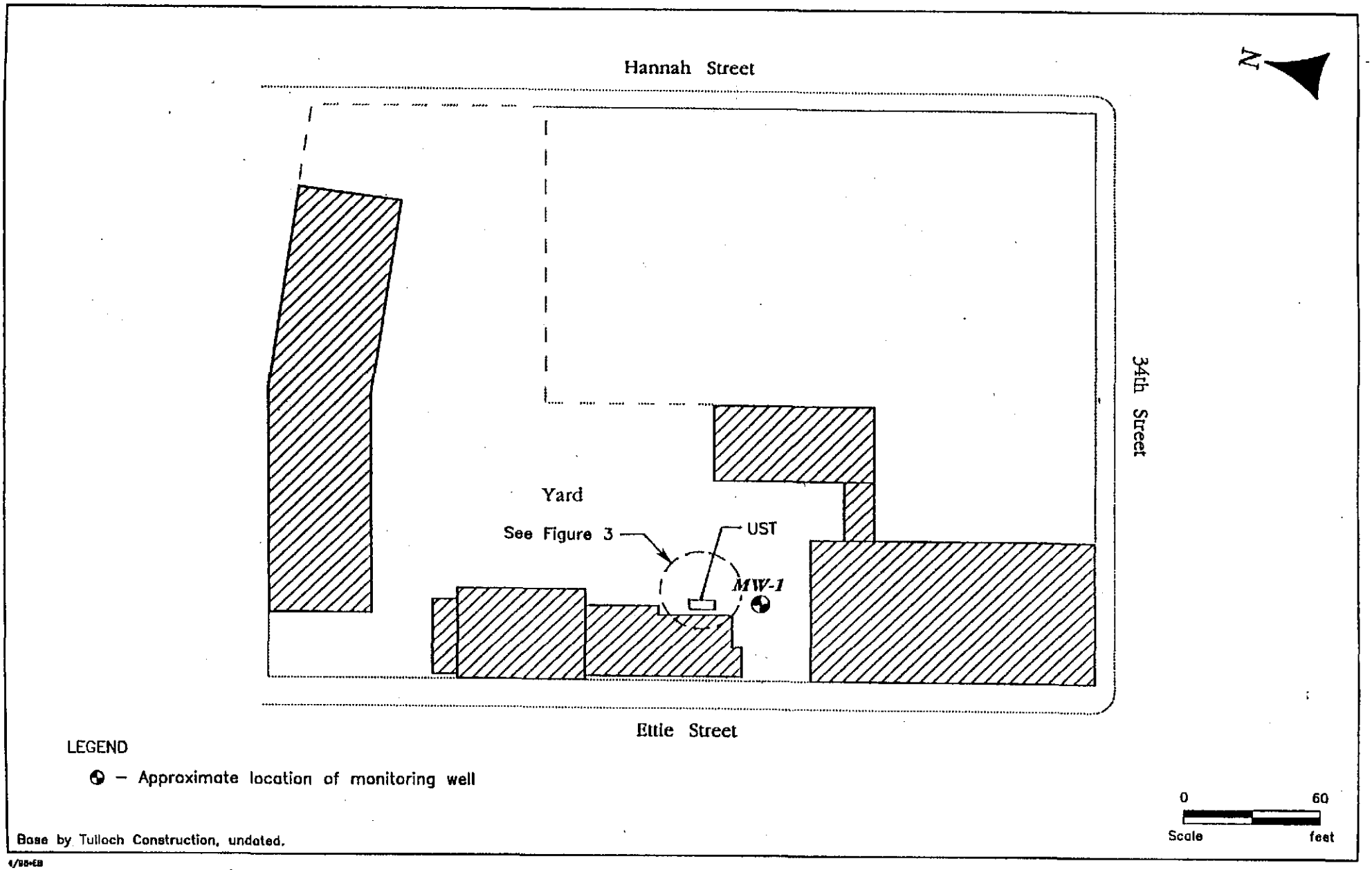
Laboratory analysis of the ponded water collected from the UST excavation on March 3, 1998, detected 5700 ppb TPHd. Resampling of the ponded water on March 30, 1998, did not detect TPHd or BTEX compounds above the laboratory detection limits.

Based on the field and analytical data, the soil and groundwater beneath the UST do not appear to be significantly impacted. No further work appears to be required at this time.

4.0 LIMITATIONS

This report was prepared for the use of Tulloch Construction to summarize UST removal activities at the referenced site. The information contained herein is based on intermittent observation of construction activities and information supplied by Tulloch Construction and others. We make no warranty, expressed or implied, except that our services have been performed in accordance with geoenvironmental engineering principles generally accepted at this time and location. The scope of work performed by Lowney Associates included only part time observation of UST removal activities. Thus, we make no guarantees regarding the quality or completeness of work performed by others.

* * * * * * * * * * * * *



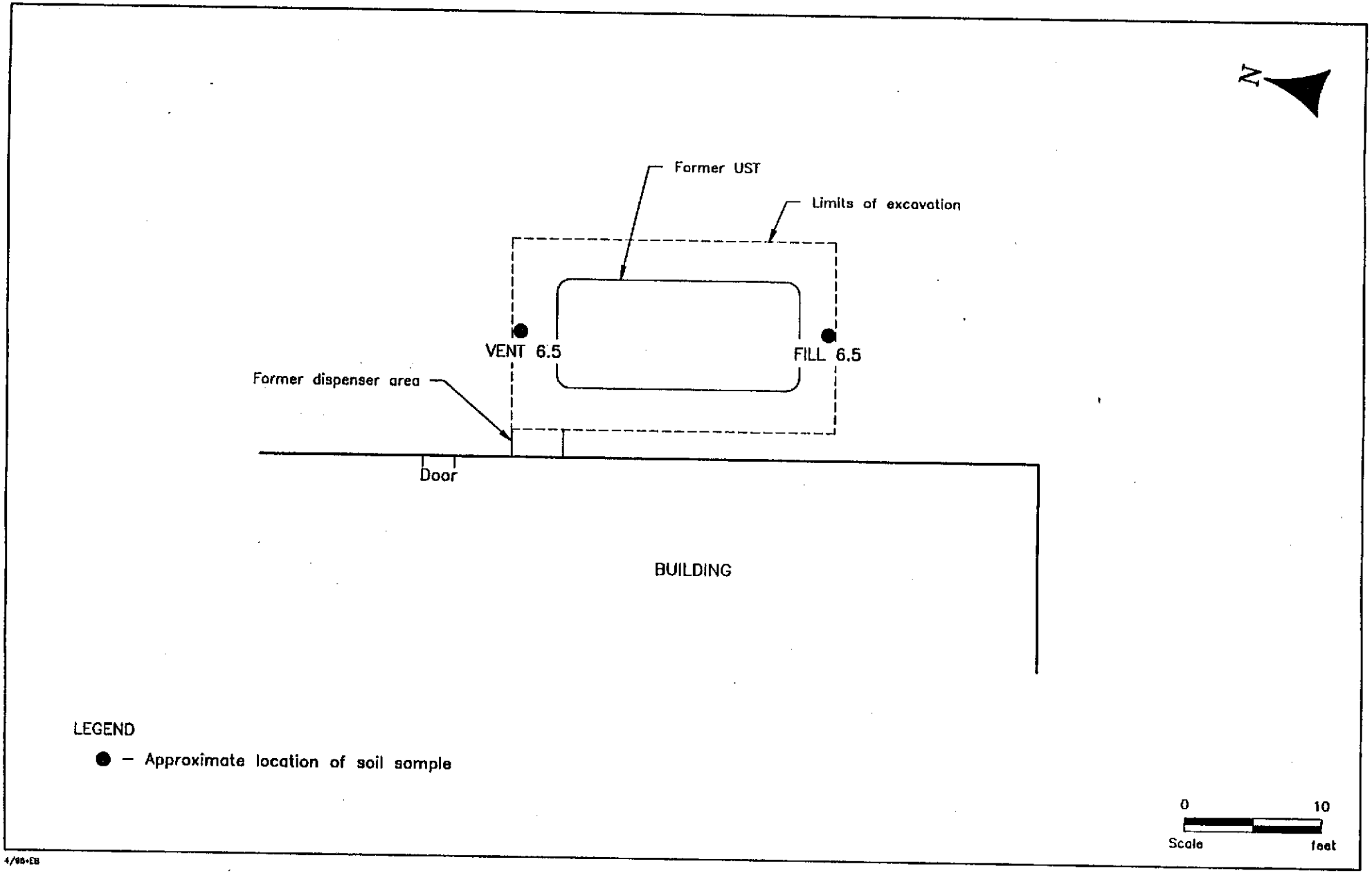
4/88-EB

SITE PLAN

TULLOCH YARD UST REMOVAL
Oakland, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 2
517-34



4/98•EB

SITE DETAIL MAP

TULLOCH YARD UST REMOVAL
Oakland, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 3
517-34

APPENDIX A

MANIFESTS, INPECTION REPORTS, AND TANK TEST RESULTS

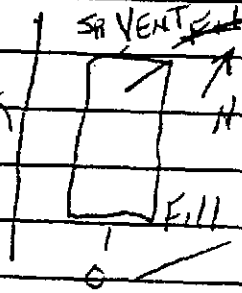
OAKLAND FIRE SERVICES AGENCY/OFFICE OF EMERGENCY SERVICES
HAZARDOUS MATERIALS UNIT
505 - 14th Street, Oakland, CA 94612 (510) 238-3938

HAZARDOUS MATERIALS INSPECTION REPORT

Site Number	Facility Name	Facility Address	Zip Code
916	Tulluch Const.	3428 Ettie	

Inspection Report

1) 4000 Gallon Diesel Tank Steel Wrap. Single wall
APPEARS to BE IN GOOD CONDITION, NO HOLES NOTED
Double WRAP ASPHALT



200 lb of dry ICE WAS USED to INERT tank

ONE monitoring WELL APPX 12'- from tank EXCAVATION

LEL + O_2
004 10.3

Ground WATER ENCOUNTER, SHEEN noted, NO SHEEN OR DISCOLARATION NOTED ON EXCAVATION SIDEWALL
POSSIBLE OVERFILL, NO ~~odor~~ odor present.
3 SAMPLES TAKEN 2 at EACH IN/+ 1 GW Appox 7 bgs
VENT @

No problems noted during Removal

Facility Contact/ Print Name:	Inspected By:	☑ Insp. Griffin 238-7759
		☐ Insp. Johnson 238-3804
Facility Contact/ Signature:		☐ Insp. Craford 238-7758
	3/3/98	☐ Insp. Gomez 238-7253
	Date:	

OAKLAND FIRE SERVICES AGENCY, OFFICE OF EMERGENCY SERVICES
UNIFORM UNDERGROUND TANK SYSTEM CLOSURE INSPECTION REPORT

Facility Name TULLOCH CONST Site ID. No. 915

Address 3428 ETTIE City OAKLAND Zip 94608

Project Contact JOHN SULFIN Contact Phone No.

Tank ID No.	21993		
Size	DIA 4000 GAL		
Construction Material	STEEL DOUBLE WRAP		
Single/Double Wall	SINGLE		
Backfill Type	SANDY SO		
Oxygen <10%	10.3		
LEL <20%	4		
Tank Condition	GOOD NO HOLES		
Soil/Groundwater Condition	SMALL SHEEN H_2O NONE SOIL		
Soil Sample Depth	7' BGS		
Number and Description of Soil/Groundwater Samples *(Indicate Sample Locations on Site Plan.)*	2 SOIL COMPOSITES (B.F) 1 GW H_2O		

Piping: ☑ Rinsed/Tested/Capped

Tank and Piping Transport: ☑ Shipped on Manifest

Sampling: ☐ Evidence Tape ☐ Chain of Custody; Pipeline Samples Taken (NONE

Rinsate: ☐ Shipped on Manifest ☑ Transporter Name Same as on Application ☑ Vehicle Hazwaste Certificate Current ☑ Samples Refrigerated ☐ Yes, ☐ No *(If no, explain why in Comments.)* ☑ Soil Stored on Bermed Plastic and Covered.

Disposition of Tank Contents DIESEL

Comments/Special Conditions NONE

Site Plan: ☑ Attached

Inspector L. GRIFFIN Agency OFSA/HM Date 3/3/98 Start Time 1030 Stop time

Signature of Contractor/Authorized Agent [signature] Date Page 1 of

(Undrgnd7)

FROM: ECOLOGY CONTROL IND. - RICH
225 PARR BLVD.
RICHMOND, CA 94801
(510) 235-1393

202253 TO: SUPERIOR UNDERGOUND TANK SVC
430 KEVIN CT
...
SAN RAMON, CA 94583

PLEAST REMIT TO
255 PARR BLVD.
RICHMOND, CA 94801

INVOICE NO.	20/971688 #2
INVOICE DATE	98/03/18
P.O. CONTRACT NO.	-
RELEASE NO.	-
TERMS	Net 30 Days

SITE: SUPERIOR UNDERGOUND TANK SVC [3428 ETTIE STREET, OAKLAND]

SALESPERSON	JOB END DATE	JOB DESCRIPTION
RUFFIN	98/03/11	T&D 1-4K STEEL DIESEL TANK. -

DESCRIPTION OF SERVICES		SHIFT	QUANTITY	UNIT	BILL RATE	*	EXTENDED AMOUNT
ID	Bid						
Per Bid Spec			0.00	BID	0.00		1,075.00
ID	Bid Subtotal						1,075.00
MISCELLANEOUS	Misc						
PAYMENT RECEIVED ON 3/5/98			1.00	EA	(1,075.00)		(1,075.00)
NOTE: CHECK NO. 31472							
MISCELLANEOUS	Misc Subtotal						(1,075.00)

TE: DELINQUENT ACCOUNTS
E SUBJECT TO A CHARGE OF
PER MONTH (ANNUAL 18%)

NON-TAXABLE SUB-TOTAL	TAXABLE SUB-TOTAL	TAX RATE	SALES TAX	
				0.00
				TOTAL INVOICE

SUBJECT TO HANDLING CHARGE
BJECT TO SALES TAX

Pioneers of Environmental Management Services Since 1942

CUSTOMER COPY

TELEPHONE
(510) 235-1393

CERTIFICATE

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 27191

CUSTOMER SUPERIOR UNDER

JOB NO. 71688

FOR: ERICKSON, INC. TANK NO. 21933

LOCATION: RICHMOND DATE: 98/03/16 TIME: 16:05

TEST METHOD VISUAL GASTECH/1314 SMPN LAST PRODUCT D

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 4000 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.
ERICKSON, INC. HAS THE APPROPRIATE PERMITS FOR, AND HAS ACCEPTED THE TANK SHIPPED TO US FOR PROCESSING.

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.

REPRESENTATIVE TITLE INSPECTOR

CP5995

Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6. 971688 Department of Toxic Substances Control, Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CA191330569 Manifest Document No. 43979 2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Tulloch Construction, Inc, 3428 Ettie Street, Oakland, CA 94608

A. State Manifest Document Number 96839790

4. Generator's Phone (510) 655 3400

B. State Generator's ID

5. Transporter 1 Company Name: ECI/Ericsons

6. US EPA ID Number: CAD009466392

C. State Transporter's ID

D. Transporter's Phone 510 235 1393

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: Ericson, Inc. 255 Parr Blvd. Richmond, CA. 94801

10. US EPA ID Number: CAD009466392

G. State Facility's ID CAD009466392

H. Facility's Phone (510)235-1393

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 Number
a. NON-RCRA Hazardous Waste Solid Waste Empty Storage Tank.	001	TP	03090	P	State 512; EPA/Other NONE
b.					State; EPA/Other
c.					State; EPA/Other
d.					State; EPA/Other

J. Additional Descriptions for Materials Listed Above: Qty. 1 Empty Storage Tank(s) #21993. Tank(s) have been inerted with 15 lbs. Dry Ice Per 1000 Gallon Capacity

K. Handling Codes for Wastes Listed Above: a. 01 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 B. Tulloch & Phone 510-655-3400

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: Brian Tulloch — Signature: Brian Tulloch — Month 03 Day 03 Year 98

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Edward E Silva Jr — Signature: Edward E Silva — Month 03 Day 03 Year 98

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: David Sato — Signature: Dave Sato — Month 03 Day 03 Year 98

DO NOT WRITE BELOW THIS LINE.

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

96839790

DTSC 8022A (1/95)
EPA 8700—22

TSDF SENDS THIS COPY TO DTSC WITHIN 30 DAYS. To: P.O. Box 3000, Sacramento, CA 95812

APPENDIX B

SAMPLING PROTOCOL AND ANALYTICAL RESULTS

The soil samples were collected using EPA approved methods. The sampling equipment was either steam cleaned or thoroughly cleaned with a tri-sodium phosphate solution and rinsed with distilled water. Soil samples were collected in clean brass liners, the ends covered with aluminum foil, fitted with plastic end caps, and taped air tight. All samples were immediately placed on ice and delivered under chain of custody documentation to Entech Analyticla Labs, Inc. of Sunnyvale, California. Entech Analytical Labs, Inc. is certified by the State of California as a Hazardous Waste Testing Laboratory and as an Approved Water and Waste Water Laboratory.

Entech Analytical Labs, Inc.

CA ELAP# 2224

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Attn: Peter Langtry
Lowney Associates
129 Filbert Street
Oakland, CA 94607

Date:	3/10/98
Date Received:	3/3/98
Date Analyzed:	3/5-3/6/98
Project Name:	Tulloch Const Yard
Job No.:	P8036
Sampled By:	Client

Certified Analytical Report

Soil Sample Analysis:

Test	*Vent 6 1/2*	*Fill 6 1/2*	*Composite of SS-1,2,3,4*	*Units*	*PQL*	*EPA Method #*
Sample Matrix	Soil	Soil	Soil			
Sample Date	3/3/98	3/3/98	3/3/98			
Sample Time						
Lab #	E4403	E4404	E4406			
DF-Diesel	1	1	1			
TPH-Diesel	**19**	**ND**	**ND**	mg/kg	1.0 mg/kg	8015M
DF-BTEX	1	1	1			
Benzene	**ND**	**ND**	**ND**	mg/kg	0.005 mg/kg	8020
Toluene	**ND**	**ND**	**ND**	mg/kg	0.005 mg/kg	8020
Ethyl Benzene	**ND**	**ND**	**ND**	mg/kg	0.005 mg/kg	8020
Xylenes	**ND**	**ND**	**ND**	mg/kg	0.005 mg/kg	8020

1. DLR=DF x PQL
2. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #2224)

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Entech Analytical Labs, Inc.

CA ELAP# 2224

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Attn: Peter Langtry
Lowney Associates
129 Filbert Street
Oakland, CA 94607

Date:	3/10/98
Date Received:	3/3/98
Date Analyzed:	3/5-3/9/98
Project Name:	Tulloch Const Yard
Job No.:	P8036
Sampled By:	Client

Certified Analytical Report

Water Sample Analysis:

Test	*GW-1*	*Units*	*PQL*	*EPA Method #*
Sample Matrix	Water			
Sample Date	3/398			
Sample Time				
Lab #	E4405			
DF-Diesel	1			
TPH-Diesel	**5,700**	µg/liter	50.0 µg/l	8015M
DF-BTEX	1			
Benzene	**ND**	µg/liter	0.5 µg/l	8020
Toluene	**ND**	µg/liter	0.5 µg/l	8020
Ethyl Benzene	**ND**	µg/liter	0.5 µg/l	8020
Xylenes	**ND**	µg/liter	0.5 µg/l	8020

1. DLR=DF x PQL
2. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #2224)

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG4980306
Matrix: Soil
Units: ug/kg

Date Analyzed: 03/06/98
Quality Control Sample: E4403

PARAMETER	Method #	MB ug/kg	SA ug/kg	SR ug/kg	SP ug/kg	SP % R	SPD ug/kg	SPD %R	RPD	QC LIMITS (ADVISORY) RPD	QC LIMITS (ADVISORY) %R
Benzene	8020	<5.0	80	ND	77	96	78	97	1.7	25	50-150
Toluene	8020	<5.0	80	ND	77	96	78	98	2.3	25	50-150
Ethyl Benzene	8020	<5.0	80	ND	76	96	78	98	2.4	25	50-150
Xylenes	8020	<5.0	240	ND	227	95	233	97	2.5	25	50-150
Gasoline	8015	<1000.00	1000	ND	810	81	810	81	0.0	25	50-150

Note: LCS and LCSD results reported for the following Parameters:
None

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

Definition of Terms:

na: Not Analyzed in QC batch
MB: Method Blank
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike % Recovery
NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG4980309
Matrix: Soil
Units: ug/kg

Date Analyzed: 03/09/98
Quality Control Sample: E4589

PARAMETER	Method #	MB ug/kg	SA ug/kg	SR ug/kg	SP ug/kg	SP % R	SPD ug/kg	SPD %R	RPD	QC LIMITS (ADVISORY) RPD	QC LIMITS (ADVISORY) %R
Benzene	8020	<5.0	80	ND	79	99	73	91	8.4	25	50-150
Toluene	8020	<5.0	80	ND	78	97	70	88	9.6	25	50-150
Ethyl Benzene	8020	<5.0	80	ND	78	97	70	88	10.5	25	50-150
Xylenes	8020	<5.0	240	ND	248	103	210	87	16.7	25	50-150
Gasoline	8015	<1000.00	1000	ND	840	84	780	78	7.4	25	50-150

Note: LCS and LCSD results reported for the following Parameters:
None

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike % Recovery
- NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

QC Batch #: DS980303
Matrix: Soil
Units: mg/Kg

Date analyzed: 03/05/98
Date extracted: 03/05/98
Quality Control Sample: E4404

PARAMETER	Method #	MB mg/Kg	SA mg/Kg	SR mg/Kg	SP mg/Kg	SP %R	SPD mg/Kg	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
Diesel	8015M	<1.0	25	ND	21	84	22	87	2.8	25	50-150

Note: LCS and LCSD results reported for the following Parameter:
None

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

Definition of Terms:

MB: Method Blank
na: Not Analyzed in QC batch
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike Duplicate % Recovery
NC: Not Calculated

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

405 Clyde Avenue
Mountain View, CA 94043
415-967-2365
415-967-2785 (fax)

129 Filbert Street
Oakland, CA 94607
510-267-1970
510-267-1972 (fax)

Fax Copy To: ☐

Project Name: Tulloch Const Yard

Job Number: P8036

Report To: Peter Langtry

Sampler (print): Brook Foster

Sampler (signature):

QC Requirements:

■ Level A (standard) ☐ Level B ☐ Level C ☐ Level D

Turnaround Requirements

- ☐ 10 working days
- ■ 5 working days
- ☐ 3 working days
- ☐ 48 hours
- ☐ 24 hours
- ☐ 2-5 hours (RUSH)

ANALYSES REQUESTED

Sample I.D.	Date	Time	Sample Matrix	# of Cont.	Laboratory I.D.	TPH Diesel (8015)	BTEX (8020)	Remarks
Vent G/2	3/3/98		Soil	1	E4403	✓	✓	
Fill G/2	3/3/98		Soil	1	E4404	✓	✓	
GW-1	3/3/98		H_2O	4	E4405	✓	✓	
COMPOSITE:								
SS-1,2,3,4	3/3/98		Soil	4	E4406	✓	✓	

Relinquished By: Date: 3/3/98 Time: 3:13

Relinquished By: Date: Time:

Relinquished By: Andy Lachel Date: 3/3/98 Time: 16:30

Received By: Andy Lachel Date: 3/3/98 Time: 3:13

Received By: Date: 3/3 Time: 4:35

Lab of Record:

Received by Lab: Date: Time:

PM Initials

Temperature

Entech Analytical Labs, Inc.

CA ELAP# 2224

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Attn: Peter Langtry
Lowney Associates
129 Filbert Street
Oakland, CA 94607

Date:	4/6/98
Date Received:	3/30/98
Date Analyzed:	4/2-4/6/98
Project Name:	Tulloch
Job No.:	517-34
Sampled By:	Client

Certified Analytical Report

Water Sample Analysis:

Test	*GW-2*	*Units*	*PQL*	*EPA Method #*
Sample Matrix	Water			
Sample Date	3/30/98			
Sample Time	11:00			
Lab #	E6165			
DF-Diesel	1			
TPH-Diesel	**ND**	µg/liter	50.0 µg/l	8015M
DF-BTEX	1			
Benzene	**ND**	µg/liter	0.5 µg/l	8020
Toluene	**ND**	µg/liter	0.5 µg/l	8020
Ethyl Benzene	**ND**	µg/liter	0.5 µg/l	8020
Xylenes	**ND**	µg/liter	0.5 µg/l	8020

1. DLR=DF x PQL
2. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #2224)

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: DW980401
Matrix: Water
Units: µg/L

Date analyzed: 04/06/98
Date extracted: 04/06/98
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
Diesel	8015M	<50.0	950	ND	1028	108	879	93	16	25	50-150

Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R) Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R) Spike Duplicate % Recovery
- NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG2980402
Matrix: Water
Units: ug/L

Date Analyzed: 04/02/98
Quality Control Sample: E6155

PARAMETER	Method #	MB ug/L	SA ug/L	SR ug/L	SP ug/L	**SP % R**	SPD ug/L	**SPD %R**	RPD	QC LIMITS (ADVISORY) RPD	%R
Benzene	8020	<0.50	40	ND	35	**87**	36	**90**	3.5	25	50-150
Toluene	8020	<0.50	40	ND	35	**87**	36	**90**	3.3	25	50-150
Ethyl Benzene	8020	<0.50	40	ND	35	**88**	37	**92**	5.3	25	50-150
Xylenes	8020	<0.50	120	ND	105	**87**	111	**92**	5.4	25	50-150
Gasoline	8015	<50.0	1000	ND	880	**88**	880	**88**	0.0	25	50-150

Note: LCS and LCSD results reported for the following Parameters:
None

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

Definition of Terms:

na: Not Analyzed in QC batch
MB: Method Blank
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike % Recovery
NC: Not Calculated

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:
- ☐ Mountain View Office, 405 Clyde Avenue, Mountain View, CA 94043, 415-967-2365
- ■ Oakland Office, 129 Filbert Street, Oakland, CA 94607, 510-267-1970

Fax Copy To:
- ☐ 415-967-2785 (fax)
- ■ 510-267-1972 (fax)

Project Name: Tulloch

Job Number: 517-34

Report To: Peter Langtry

Sampler (print): Brock Foster

Sampler (signature):

QC Requirements:
■ Level A (standard) ☐ Level B ☐ Level C ☐ Level D

Turnaround Requirements
- ☐ 10 working days
- ■ 5 working days
- ☐ 3 working days
- ☐ 48 hours
- ☐ 24 hours
- ☐ 2-3 hours (RUSH)

ANALYSES REQUESTED

Sample I.D.	Date	Time	Sample Matrix	# of Cont.	Laboratory I.D.	TPH-Diesel (8015)	BTEX (8020)	Remarks
GW-2	3/30/98	11:00	H_2O	4	E6165	✓	✓	

Relinquished By: Date: 3/30/98 Time: 12:15

Relinquished By: M Lotto #617 Date: 3/30/98 Time: 1440

Relinquished By: Date: Time:

Received By: M Lotto #617 Date: 3/30/98 Time: 1215

Received By: J. Duftmeyer Date: 3/30/98 Time: 2:43 pm

Lab of Record:

Received by Lab: Date: Time:

PM initials

Temperature